

## i5/OS System Administration Guide

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## i5/OS System Administration Guide

### [Introduction to WebSphere MQ](#)

This section introduces the WebSphere® MQ for i5/OS® Version 7.0 product from an administrator's perspective, and describes the basic concepts of WebSphere MQ and messaging.

### [Managing WebSphere MQ for i5/OS using CL commands](#)

### [Alternative ways of administering WebSphere MQ](#)

### [Work management](#)

### [Setting up security on i5/OS](#)

Security for WebSphere MQ for i5/OS is implemented using the WebSphere MQ Object Authority Manager (OAM) and i5/OS object level security.

### [The WebSphere MQ dead-letter queue handler](#)

### [Availability, backup, recovery, and restart](#)

### [Analyzing problems](#)

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This section provides reference information for the WebSphere MQ CL commands.

### [WebSphere MQ names and default objects](#)

### [Sample resource definitions](#)

### [Quiescing WebSphere MQ for i5/OS](#)

This section explains how to quiesce (end gracefully) WebSphere MQ for i5/OS

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## 1. Introduction to WebSphere MQ

This section introduces the WebSphere® MQ for i5/OS® Version 7.0 product from an administrator's perspective, and describes the basic concepts of WebSphere MQ and messaging.

It contains these topics:

- [WebSphere MQ and message queuing](#)
- [Messages and queues](#)
- [Objects](#)
- [System default objects](#)
- [Clients and servers](#)
- [Extending queue manager facilities](#)
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#### [WebSphere MQ and message queuing](#)

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#### [Objects](#)

#### [System default objects](#)

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#### [Extending queue manager facilities](#)


#### [Security](#)

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#### [Daylight saving time](#)

In versions of WebSphere MQ earlier than Version 7.0, the time change caused problems for WebSphere MQ for i5/OS because WebSphere MQ used timestamps based on the system clock to access data in the queue manager's journal. In WebSphere MQ Version 7.0 the timestamp includes additional information, so that log entries are unique, even if the system clock changes while WebSphere MQ is running.

**Parent topic:** [i5/OS System Administration Guide](#)

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## 1.1. WebSphere MQ and message queuing

WebSphere® MQ allows application programs to use **message queuing** to participate in message-driven processing. Application programs can communicate across different platforms by using the appropriate message queuing software products. For example, i5/OS® and z/OS® applications can communicate through WebSphere MQ for i5/OS and WebSphere MQ for z/OS respectively. The applications are shielded from the mechanics of the underlying communications.

WebSphere MQ products implement a common application programming interface known as the **message queue interface** (or MQI) whatever platform the applications are run on. This makes it easier for you to port application programs from one platform to another.

The MQI is described in detail in the [WebSphere MQ Application Programming Reference](#).

### [Time-independent applications](#)

### [Message-driven processing](#)

**Parent topic:** [Introduction to WebSphere MQ](#)

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### 1.1.1. Time-independent applications

With message queuing, the exchange of messages between the sending and receiving programs is independent of time. This means that the sending and receiving application programs are decoupled; the sender can continue processing without having to wait for the receiver to acknowledge receipt of the message. In fact, the target application does not even have to be running when the message is sent. It can retrieve the message after it is has been started.

**Parent topic:** [WebSphere MQ and message queuing](#)

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### 1.1.2. Message-driven processing

Upon arrival on a queue, messages can automatically start an application using a mechanism known as **triggering**. If necessary, the applications can be stopped when the message (or messages) have been processed.

**Parent topic:** [WebSphere MQ and message queuing](#)



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## 1.2. Messages and queues


Messages and queues are the basic components of a message queuing system.

### [What is a message?](#)

#### [What is a queue?](#)

A **queue** is a data structure used to store messages. The messages are put on the queue by application programs, or by a **queue manager** as part of its normal operation.

**Parent topic:** [Introduction to WebSphere MQ](#)

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### 1.2.1. What is a message?

A **message** is a string of bytes that is meaningful to the applications that use it. Messages are used for transferring information from one application program to another (or to different parts of the same application). The applications can be running on the same platform, or on different platforms.


WebSphere® MQ messages have two parts:

- **The application data**  
The content and structure of the application data is defined by the application programs that use them.
- **A message descriptor**  
The message descriptor identifies the message and contains additional control information such as the type of message, and the priority assigned to the message by the sending application.  
The format of the message descriptor is defined by WebSphere MQ. For a complete description of the message descriptor, see the [WebSphere MQ Application Programming Reference](#).

#### [Message lengths](#)

#### [How do applications send and receive messages?](#)

**Parent topic:** [Messages and queues](#)

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#### 1.2.1.1. Message lengths

The default maximum message length is 4 MB, although you can increase this to a maximum length of 100 MB (where 1 MB equals 1 048 576 bytes). In practice, the message length is limited by:

- The maximum message length defined for the receiving queue
- The maximum message length defined for the queue manager
- The maximum message length defined by the queue
- The maximum message length defined by either the sending or receiving application
- The amount of storage available for the message

It can take several messages to send all the information that an application requires.

**Parent topic:** [What is a message?](#)

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#### 1.2.1.2. How do applications send and receive messages?

Application programs send and receive messages using **MQI calls**.


For example, to put a message onto a queue, an application:

1. Connects to the queue manager by issuing an MQI MQCONN call
2. Opens the required queue by issuing an MQI MQOPEN call
3. Issues an MQI MQPUT call to put the message onto the queue  
**Note:** Another application can retrieve the message from the same queue by issuing an MQI MQGET call.
4. Closes the specified queue by issuing an MQI MQCLOSE call

5. Disconnects from the queue manager by issuing an MQI MQDISC call

For more information about MQI calls, see the [WebSphere MQ Application Programming Reference](#).

**Parent topic:** [What is a message?](#)

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## 1.2.2. What is a queue?

A **queue** is a data structure used to store messages. The messages are put on the queue by application programs, or by a **queue manager** as part of its normal operation.


Each queue is owned by a queue manager. The queue manager maintains the queues it owns and stores all the messages it receives onto the appropriate queues.

WebSphere® MQ supports queues over 2 GB in size; [Enabling large queues](#) discusses this in more detail. For information about planning the amount of storage you need for queues, visit the WebSphere MQ Web site for platform-specific performance reports: <http://www.ibm.com/software/integration/wmq/>

### [Predefined queues and dynamic queues](#)

#### [Retrieving messages from queues](#)

**Parent topic:** [Messages and queues](#)

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### 1.2.2.1. Predefined queues and dynamic queues

Queues can be characterized by the way that they are created:

- **Predefined queues** are created by an administrator using the appropriate WebSphere® MQ script (MQSC) commands. Predefined queues are permanent; they exist independently of the applications that use them and survive WebSphere MQ restarts.
- **Dynamic queues** are created when an application issues an OPEN request specifying the name of a **model queue**. The queue created is based on a *template queue definition*, which is the model queue. You can create a model queue using the MQSC DEFINE QMODEL command. The attributes of a model queue, for example the maximum number of messages that can be stored on it, are inherited by any dynamic queue that is created from it. Model queues have an attribute that specifies whether the dynamic queue is to be permanent or temporary. Permanent queues survive application and queue manager restarts; temporary queues are lost on restart.

For further information about MQSC, see [WebSphere MQ Script \(MQSC\) Command Reference](#).

**Parent topic:** [What is a queue?](#)

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### 1.2.2.2. Retrieving messages from queues

Suitably authorized applications can retrieve messages from a queue according to the following retrieval algorithms:

- First-in-first-out (FIFO)
- Message priority, as defined in the message descriptor. Messages that have the same priority are retrieved on a FIFO basis.
- A program request for a specific message.

The MQGET request from the application determines the method used.

**Parent topic:** [What is a queue?](#)

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## 1.3. Objects

Many of the tasks described in this book involve manipulating WebSphere® MQ **objects**.

In WebSphere MQ, the object types include queue managers, queues, process definitions, namelists, channels, client connection channels, listeners, services, and authentication information objects.

The manipulation or *administration* of objects includes:

- Starting and stopping queue managers.
- Creating objects, particularly queues, for applications.

- Working with channels to create communication paths to queue managers on other (remote) systems. This is described in detail in [WebSphere MQ Intercommunication](#).
- Creating *clusters* of queue managers to simplify the overall administration process, or to achieve workload balancing. This is described in detail in [WebSphere MQ Queue Manager Clusters](#).

This book contains detailed information about administration in the following chapters:

- [Managing WebSphere MQ for i5/OS using CL commands](#)
- [Alternative ways of administering WebSphere MQ](#)

You can also administer WebSphere MQ for i5/OS® from a Windows or Linux (x86 platform) machine using the WebSphere MQ Explorer.

### [Object names](#)

### [Managing objects](#)

### [Object attributes](#)

### [WebSphere MQ queue managers](#)

### [WebSphere MQ queues](#)

### [Administrative topic objects](#)

An *administrative topic object* is a WebSphere MQ object that allows you to assign specific, non-default attributes to topics.

### [Authentication information objects](#)

### [Channels](#)

### [Client connection channels](#)

*Client connection channels* are objects that provide a communication path from a WebSphere MQ client to a queue manager.

### [Clusters](#)


### [Listeners](#)

### [Namelists](#)

### [Process definitions](#)

### [Services](#)

**Parent topic:** [Introduction to WebSphere MQ](#)

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## 1.3.1. Object names


The naming convention adopted for WebSphere® MQ objects depends on the object.

Each instance of a queue manager is known by its name. This name must be unique within the network of interconnected queue managers, so that one queue manager can unambiguously identify the target queue manager to which any given message is sent.

For the other types of object, each object has a name associated with it and can be referenced by that name. These names must be unique within one queue manager and object type. For example, you can have a queue and a process with the same name, but you cannot have two queues with the same name.

In WebSphere MQ, names can have a maximum of 48 characters, with the exception of *channels* and *client connection channels* that have a maximum of 20 characters. For more information about names, see [WebSphere MQ object names](#).

**Parent topic:** [Objects](#)

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## 1.3.2. Managing objects

You can manage objects using the native i5/OS® menus.

You can create, alter, display, and delete objects using:

- WebSphere® MQ for i5/OS CL commands
- WebSphere MQ script (MQSC) commands, which can be typed in from a keyboard or read from a file
- Programmable command format (PCF) messages, which can be used in an automation program
- WebSphere MQ Administration Interface (MQAI) calls in a program

For more information about these methods, see [Alternative ways of administering WebSphere MQ](#).

You can also administer WebSphere MQ for i5/OS from a Windows machine using the WebSphere MQ Explorer (see [Using the WebSphere MQ Explorer with WebSphere MQ for i5/OS](#)).

Parent topic: [Objects](#)

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### 1.3.3. Object attributes

The properties of an object are defined by its attributes. Some you can specify, others you can only view. For example, the maximum message length that a queue can accommodate is defined by its *MaxMsgLength* attribute; you can specify this attribute when you create a queue. The *DefinitionType* attribute specifies how the queue was created; you can only display this attribute.

In WebSphere® MQ, there are three ways of referring to an attribute:

- Using its CL parameter name, for example, MAXMSGLEN
- Using its PCF name, for example, *MaxMsgLength*.
- Using its MQSC name, for example, MAXMSGL.

The formal name of an attribute is its PCF name. Because using the CL interface is an important part of this book, you are more likely to see the CL name in examples than the PCF name of a given attribute.

Parent topic: [Objects](#)

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### 1.3.4. WebSphere MQ queue managers

A *queue manager* provides queuing services to applications, and manages the queues that belong to it. It ensures that:

- Object attributes are changed according to the commands received.
- Special events such as trigger events or instrumentation events are generated when the appropriate conditions are met.
- Messages are put on the correct queue, as requested by the application making the MQPUT call. The application is informed if this cannot be done, and an appropriate reason code is given.

Each queue belongs to a single queue manager and is said to be a *local queue* to that queue manager.

The queue manager to which an application is connected is said to be the local queue manager for that application. For the application, the queues that belong to its local queue manager are local queues.

A *remote queue* is a queue that belongs to another queue manager.

A *remote queue manager* is any queue manager other than the local queue manager. A remote queue manager exists on a remote machine across the network, or on the same machine as the local queue manager.

WebSphere® MQ for i5/OS® supports multiple queue managers on the same machine.

A queue manager object can be used in some MQI calls. For example, you can inquire about the attributes of the queue manager object using the MQI call MQINQ.

**Note:** You cannot put messages on a queue manager object; messages are always put on queue objects, not on queue manager objects.

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### 1.3.5. WebSphere MQ queues

Queues are defined to WebSphere® MQ using:

- The native i5/OS® CRTMQMQ CL command
- The appropriate MQSC DEFINE command
- The PCF Create Queue command

**Note:** The WebSphere MQ process definition, channel, and namelist objects can be defined in a similar manner.

The commands specify the type of queue and its attributes. For example, a local queue object has attributes that specify what happens when applications reference that queue in MQI calls. Examples of attributes are:

- Whether applications can retrieve messages from the queue (GET enabled).
- Whether applications can put messages on the queue (PUT enabled).
- Whether access to the queue is exclusive to one application or shared between applications.
- The maximum number of messages that can be stored on the queue at the same time (maximum queue depth).
- The maximum length of messages that can be put on the queue.

For further details about defining queue objects, see the [WebSphere MQ Script \(MQSC\) Command Reference](#) or [WebSphere MQ Programmable Command Formats and Administration Interface](#).

[Using queue objects](#)[Specific local queue types and their uses](#)Parent topic: [Objects](#)

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### 1.3.5.1. Using queue objects

There are four types of queue object available in WebSphere® MQ. Each type of object can be manipulated by the product commands and is associated with real queues in different ways.

1. **Local queue object** A local queue object identifies a local queue belonging to the queue manager to which the application is connected. All queues are local queues in the sense that each queue belongs to a queue manager and, for that queue manager, the queue is a local queue.
2. **A remote queue object**  
A remote queue object identifies a queue belonging to another queue manager. This queue must be defined as a local queue to that queue manager. The information you specify when you define a remote queue object allows the local queue manager to find the remote queue manager, so that any messages destined for the remote queue go to the correct queue manager.  
Before applications can send messages to a queue on another queue manager, you must have defined a transmission queue and channels between the queue managers, **unless** you have grouped one or more queue managers together into a *cluster*. For more information about clusters, see [WebSphere MQ Queue Manager Clusters](#).
3. **An alias queue object**  
An alias queue allows applications to access a queue by referring to it indirectly in MQI calls. When an alias queue name is used in an MQI call, the name is resolved to the name of either a local or a remote queue at run time. This allows you to change the queues that applications use without changing the application in any way. You just change the alias queue definition to reflect the name of the new queue to which the alias resolves. An alias queue is not a queue, but an object that you can use to access another queue.
4. **A model queue object**  
A model queue defines a set of queue attributes that are used as a template for creating a dynamic queue. Dynamic queues are created by the queue manager when an application issues an MQOPEN request specifying a queue name that is the name of a model queue. The dynamic queue that is created in this way is a local queue whose attributes are taken from the model queue definition. The dynamic queue name can be specified by the application or the queue manager can generate the name and return it to the application.  
Dynamic queues defined in this way are either temporary queues, which do not survive product restarts, or permanent queues, which do.

Parent topic: [WebSphere MQ queues](#)

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### 1.3.5.2. Specific local queue types and their uses

WebSphere® MQ uses some local queues for specific purposes related to its operation. These are:

- **Application queues**  
This is a queue that is used by an application through the MQI. It can be a local queue on the queue manager to which an application is linked, or it can be a remote queue that is owned by another queue manager.  
Applications can put messages on local or remote queues. However, they can only get messages from a local queue.
- **Initiation queues**  
Initiation queues are queues that are used in triggering. A queue manager puts a trigger message on an initiation queue when a trigger event occurs. A trigger event is a logical combination of conditions that is detected by a queue manager. For example, a trigger event might be generated when the number of messages on a queue reaches a predefined depth. This event causes the queue manager to put a trigger message on a specified initiation queue. This trigger message is retrieved by a *trigger monitor*, a special application that monitors an initiation queue. The trigger monitor then starts up the application program that was specified in the trigger message.  
If a queue manager is to use triggering, at least one initiation queue must be defined for that queue manager.  
See [Working with triggering](#) for more information about triggering, see the [WebSphere MQ Application Programming Guide](#).
- **Transmission queues**  
Transmission queues are queues that temporarily stores messages that are destined for a remote queue manager. You must define at least one transmission queue for each remote queue manager to which the local queue manager is to send messages directly. These queues are also used in remote administration. For information about the use of transmission queues in distributed queuing, see [WebSphere MQ Intercommunication](#).
- **Cluster transmission queues**  
Each queue manager within a cluster has a cluster transmission queue called SYSTEM.CLUSTER.TRANSMIT.QUEUE. A definition of this queue is created by default on every queue manager on WebSphere MQ for AIX®, i5/OS®, HP-UX, Solaris, and Windows.  
A queue manager that is part of the cluster can send messages on the cluster transmission queue to any other queue manager that is in the same cluster.  
Cluster queue managers can communicate with queue managers that are not part of the cluster. To do this, the queue manager must define channels and a transmission queue to the other queue manager in the same way as in a traditional distributed-queuing environment.  
For more information on using clusters, see [WebSphere MQ Queue Manager Clusters](#).
- **Dead-letter queues**  
A dead-letter queue is a queue that stores messages that cannot be routed to their correct destinations. This occurs when, for example, the destination queue is full. The supplied dead-letter queue is called SYSTEM.DEAD.LETTER.QUEUE. These queues are sometimes referred to as undelivered-message queues.  
A dead-letter queue is defined by default when each queue manager is created. However, you **must** ensure that the queue manager on which this queue resides points to the dead-letter queue that it is going to use.  
The following command creates an undelivered-message queue on queue manager neptune.queue.manager:  

```
CRTMQM MQMNAME(neptune.queue.manager) UDLSMQQ(ANOTHERDLQ)
```
- **Command queues**  
The command queue, named SYSTEM.ADMIN.COMMAND.QUEUE, is a local queue to which suitably authorized applications can send WebSphere MQ commands for processing. These commands are then retrieved by a WebSphere MQ component called the command server. The command server validates the commands, passes the valid ones on for processing by the queue manager, and returns any responses to the appropriate reply-to queue. A command queue is created automatically for each queue manager when that queue manager is created.
- **Reply-to queues**

When an application sends a request message, the application that receives the message can send back a reply message to the sending application. This message is put on a queue, called a reply-to queue, which is normally a local queue to the sending application. The name of the reply-to queue is specified by the sending application as part of the message descriptor.

- **Event queues**

WebSphere MQ for i5/OS supports instrumentation events, which can be used to monitor queue managers independently of MQI applications. Instrumentation events can be generated in several ways, for example:


- An application attempting to put a message on a queue that is not available or does not exist.
- A queue becoming full.
- A channel being started.

When an instrumentation event occurs, the queue manager puts an event message on an event queue. This message can then be read by a monitoring application, which informs an administrator or initiate some remedial action if the event indicates a problem.


**Note:** Trigger events are quite different from instrumentation events in that trigger events are not caused by the same conditions, and do not generate event messages.

For more information about instrumentation events, see [Monitoring WebSphere MQ](#).

**Parent topic:** [WebSphere MQ queues](#)

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### 1.3.6. Administrative topic objects

An *administrative topic object* is a WebSphere® MQ object that allows you to assign specific, non-default attributes to topics.

A *topic* is defined by an application publishing or subscribing to a particular *topic string*. A topic string can specify a hierarchy of topics by separating them with a forward slash character (/). This can be visualized by a *topic tree*. For example, if an application publishes to the topic strings `/Sport/American Football` and `/Sport/Soccer`, a topic tree will be created that has a parent node `Sport` with two children, `American Football`, and `Soccer`.

Topics inherit their attributes from the first parent administrative node found in their topic tree. If there are no administrative topic nodes in a particular topic tree, then all topics will inherit their attributes from the base topic object, `SYSTEM.BASE.TOPIC`.


You can create an administrative topic object at any node in a topic tree by specifying that node's topic string in the `TOPICSTR` attribute of the administrative topic object. You can also define other attributes for the administrative topic node. For more information about these attributes, see the [WebSphere MQ Script \(MQSC\) Command Reference](#), or the [WebSphere MQ Programmable Command Formats and Administration Interface](#). Each administrative topic object will, by default, inherit its attributes from its closest parent administrative topic node.

Administrative topic objects can also be used to hide the full topic tree from application developers. If an administrative topic object named `FOOTBALL.US` is created for the topic `/Sport/American Football`, an application can publish or subscribe to the object named `FOOTBALL.US` instead of the string `/Sport/American Football` with the same result.


►If you enter a `#`, `+`, `/`, or `*` character within a topic string on a topic object, the character is treated as a normal character within the string, and is considered to be part of the topic string associated with an administrative topic object. ◀

For more information about administrative topic objects, see the [WebSphere MQ Publish/Subscribe User's Guide](#).

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### 1.3.7. Authentication information objects


The queue manager *authentication information object* forms part of WebSphere® MQ support for Secure Sockets Layer (SSL) security. It provides the definitions needed to check certificate revocation lists (CRLs) using LDAP servers. CRLs allow Certification Authorities to revoke certificates that can no longer be trusted.

This book introduces the **WRKMQMAUTI**, **DSPMQMAUTI**, **CRMQMAUTI**, **CPYMQMAUTI**, **CHGMQMAUTI**, and **DLTMQMAUTI** commands for use with the authentication information object. For an overview of SSL and the use of authentication information objects, see [WebSphere MQ Security](#).

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### 1.3.8. Channels

*Channels* are objects that provide a communication path from one queue manager to another. Channels are used in distributed message queuing to move messages from one queue manager to another. They shield applications from the underlying communications protocols. The queue managers exist on the same, or different, platforms. For queue managers to communicate with one another, you must define one channel object at the queue manager that is to send messages, and another, complementary one, at the queue manager that is to receive them.

Use the WebSphere® MQ for i5/OS® `CRMQMCHL` CL command, the MQSC command `DEFINE CHANNEL`, or the PCF command `Create Channel` to create a channel definition.

**Note:** Clustering automates some of these tasks for you.

For information on channels and how to use them, see [WebSphere MQ Intercommunication](#).

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### 1.3.9. Client connection channels

*Client connection channels* are objects that provide a communication path from a WebSphere® MQ client to a queue manager.

Client connection channels are used in distributed queuing to move messages between a queue manager and a client. They shield applications from the underlying communications protocols. The client might exist on the same, or different, platform to the queue manager.

For information on client connection channels and how to use them, see [WebSphere MQ Intercommunication](#) and [WebSphere MQ Clients](#).

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### 1.3.10. Clusters

In a traditional WebSphere® MQ network using distributed queuing, every queue manager is independent. If one queue manager needs to send messages to another queue manager it must have defined a transmission queue, a channel to the remote queue manager, and a remote queue definition for every queue to which it wants to send messages.

A *cluster* is a group of queue managers set up in such a way that the queue managers can communicate directly with one another over a single network, without the need for complex transmission queue, channel, and queue definitions.

For information about clusters, see [WebSphere MQ Queue Manager Clusters](#).

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### 1.3.11. Listeners

*Listener* objects are used to accept incoming network requests from remote queue managers, or client applications. Once accepted, a listener starts the associated receiver or server connection channels to allow the queue manager to receive messages.

An alternative to listener objects, are listener processes. Listener processes are started using the **STRMQMSR** control command. If you start a listener as a process, you do not inherit the benefits of listener objects, such as:

- You cannot guarantee the running environment of the listener.
- You cannot automatically startup, and shutdown, the listener with the queue manager.

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### 1.3.12. Namelists

A *namelist* is a WebSphere® MQ object that contains a list of other WebSphere MQ objects. Typically, namelists are used by applications such as trigger monitors, where they are used to identify a group of queues. The advantage of using a namelist is that it is maintained independently of applications; that is, it can be updated without stopping any of the applications that use it. Also, if one application fails, the namelist is not affected and other applications can continue using it.

Namelists are also used with queue manager clusters so that you can maintain a list of clusters referenced by more than one WebSphere MQ object.

Use the WebSphere MQ for i5/OS® CRTMQMNL CL command, the MQSC command DEFINE NAMELIST, or the PCF command Create Namelist to create a namelist definition.

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### 1.3.13. Process definitions

A *process definition object* defines an application that is to be started in response to a trigger event on a WebSphere® MQ queue manager. See the "Initiation queues" entry under [Specific local queue types and their uses](#) for more information.

The process definition attributes include the application ID, the application type, and data specific to the application.

Use the WebSphere MQ for i5/OS® CRTMQMPC CL command, the MQSC command DEFINE PROCESS, or the PCF command Create Process to create a process definition.

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### 1.3.14. Services

*Service* objects contain the definitions of one or more commands to be run when a queue manager is started, or stopped. By defining service objects an administrator can automate the starting and stopping of tasks, or certain objects associated with the queue manager.

Use the WebSphere® MQ for i5/OS® CRTMQMSVC CL command, the MQSC command DEFINE SERVICE, or the PCF command Create Service to create a service definition.

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## 1.4. System default objects

The *system default objects* are a set of object definitions that are created automatically whenever a queue manager is created. You can copy and modify any of these object definitions for use in applications at your installation.

Default object names have the stem SYSTEM.DEF; for example, the default local queue is SYSTEM.DEFAULT.LOCAL.QUEUE, and the default receiver channel is SYSTEM.DEF.RECEIVER. You cannot rename these objects; default objects of these names are required.

When you define an object, any attributes that you do not specify explicitly are copied from the appropriate default object. For example, if you define a local queue, those attributes that you do not specify are taken from the default queue SYSTEM.DEFAULT.LOCAL.QUEUE.

**Parent topic:** [Introduction to WebSphere MQ](#)

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## 1.5. Clients and servers

WebSphere® MQ supports client-server configurations for WebSphere MQ applications.

A *WebSphere MQ client* is a part of the WebSphere MQ product that is installed on a machine to accept MQI calls from applications and pass them to an *MQI server* machine. There they are processed by a queue manager. Typically, the client and server reside on different machines but they can also exist on the same machine.

**Note:** WebSphere MQ for i5/OS® acts as a Java client only.


An *MQI server* is a queue manager that provides queuing services to one or more clients. All the WebSphere MQ objects, for example queues, exist only on the queue manager machine, that is, on the MQI server machine. A server can support normal local WebSphere MQ applications as well.

For more information about creating channels for clients and servers, see [WebSphere MQ Intercommunication](#).

For information about client support in general, see [WebSphere MQ Clients](#).

### [WebSphere MQ applications in a client-server environment](#)

**Parent topic:** [Introduction to WebSphere MQ](#)

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### 1.5.1. WebSphere MQ applications in a client-server environment

When linked to a server, client WebSphere® MQ applications can issue most MQI calls in the same way as local applications. The client application issues an MQCONN call to connect to a specified queue manager. Any additional MQI calls that specify the connection handle returned from the connect request are then processed by this queue manager.

The advantages of a client are that:


- It is simple to set up
- It is simple to manage




- It has a low resource footprint

You must link your applications to the appropriate client libraries. See [WebSphere MQ Clients](#) for further information.

**Parent topic:** [Clients and servers](#)

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## 1.6. Extending queue manager facilities


The facilities provided by a queue manager can be extended by defining user exits.

### User exits

**Parent topic:** [Introduction to WebSphere MQ](#)

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### 1.6.1. User exits


User exits provide a way for you to insert your own code into a queue manager function. The user exits supported include:

- **Channel exits**  
These exits change the way that channels operate. Channel exits are described in [WebSphere MQ Intercommunication](#).
- **Data conversion exits**  
These exits create source code fragments that can be put into application programs to convert data from one format to another. Data conversion exits are described in the [WebSphere MQ Application Programming Guide](#).
- **The cluster workload exit**  
The function performed by this exit is defined by the provider of the exit. Call definition information is given in [WebSphere MQ Queue Manager Clusters](#). The exit is supported in the following environments: AIX®, i5/OS®, HP-UX, Solaris, Windows, and z/OS®

**Parent topic:** [Extending queue manager facilities](#)

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## 1.7. Security

In WebSphere® MQ for i5/OS® security is provided by the Object Authority Manager (OAM) component. See [Setting up security on i5/OS](#) for details of this component.

**Parent topic:** [Introduction to WebSphere MQ](#)

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## 1.8. Transactional support


An application program can group a set of updates into a *unit of work*. These updates are usually logically related and must all be successful for data integrity to be preserved. If one update succeeds while another fails, data integrity is lost.

A unit of work **commits** when it completes successfully. At this point all updates made within that unit of work are made permanent or irreversible. If the unit of work fails, all updates are instead *backed out*. *Syncpoint coordination* is the process by which units of work are either committed or backed out with integrity.


A *local* unit of work is one in which the only resources updated are those of the WebSphere® MQ queue manager. Here, syncpoint coordination is provided by the queue manager itself using a dual-phase commit process and the MQI calls MQBACK and MQCMIT.

WebSphere MQ for i5/OS® can support and participate in global units of work as a resource manager, coordinated by the i5/OS COMMIT and ROLLBACK commands.

**Parent topic:** [Introduction to WebSphere MQ](#)

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## 1.9. Daylight saving time

In versions of WebSphere® MQ earlier than Version 7.0, the time change caused problems for WebSphere MQ for i5/OS® because WebSphere MQ used timestamps based on the system clock to access data in the queue manager's journal. In WebSphere MQ Version 7.0 the timestamp includes additional information, so that log entries are unique, even if the system clock changes while WebSphere MQ is running.

**Parent topic:** [Introduction to WebSphere MQ](#)

#### Related information

[Migrating from MQ V5.1 or later](#)

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## 2. Managing WebSphere MQ for i5/OS using CL commands

WebSphere® MQ for i5/OS® provides three interfaces for administration:

- A set of fully featured i5/OS commands
- Provision for processing the WebSphere MQ script (MQSC) commands. This is a common interface used by all WebSphere MQ implementations on other platforms
- WebSphere MQ programmable command formats (PCF). This is a lower-level command interface, which can be used by applications to administer the product.

This chapter gives an overview of working with WebSphere MQ for i5/OS using the WebSphere MQ i5/OS commands, together with some suggested operations, as these commands are specific to i5/OS.

[WebSphere MQ applications](#)

[WebSphere MQ for i5/OS CL commands](#)

[Before you start](#)

[Starting a local queue manager](#)

Using the i5/OS command line to start a queue manager

[Creating WebSphere MQ objects](#)

[Working with local queues](#)


[Working with alias queues](#)

[Working with model queues](#)

[Working with triggering](#)

[Communicating between two systems](#)

**Parent topic:** [i5/OS System Administration Guide](#)

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### 2.1. WebSphere MQ applications

When you create or customize WebSphere® MQ applications, it is useful to keep a record of all WebSphere MQ definitions created. This record can be used for:

- Recovery purposes
- Maintenance
- Rolling out WebSphere MQ applications

You can do this by either:

- Creating CL programs to generate your WebSphere MQ definitions for the server, or
- Creating MQSC text files as SRC members to generate your WebSphere MQ definitions using the cross-platform WebSphere MQ command language. You are recommended to use SupportPac MS03 "WebSphere MQ - Save Queue Manager object definitions using PCFs" to generate the MQSC script file. You can download this SupportPac from the [WebSphere MQ SupportPac Web page](#).

For further details about defining queue objects, see [WebSphere MQ Script \(MQSC\) Command Reference](#) or [WebSphere MQ Programmable Command Formats and Administration Interface](#).

**Parent topic:** [Managing WebSphere MQ for i5/OS using CL commands](#)

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### 2.2. WebSphere MQ for i5/OS® CL commands

The commands can be grouped as follows:

- Authentication Information Commands
  - CHGMQMAUTI, Change WebSphere® MQ Authentication Information
  - CPYMQMAUTI, Copy WebSphere MQ Authentication Information
  - CRTMQMAUTI, Create WebSphere MQ Authentication Information
  - DLTMQMAUTI, Delete WebSphere MQ Authentication Information
  - DSPMQMAUTI, Display WebSphere MQ Authentication Information
  - WRKMQMAUTI, Work with WebSphere MQ Authentication Information
- Authority Commands
  - DSPMQMAUT, Display WebSphere MQ Object Authority
  - GRMQMAUT, Grant WebSphere MQ Object Authority
  - RFRMQMAUT, Refresh WebSphere MQ Object Authority
  - RVKMQMAUT, Revoke WebSphere MQ Object Authority
  - WRKMQMAUT, Work with WebSphere MQ Authority
  - WRKMQMAUTD, Work with WebSphere MQ Authority Data
- Broker Commands
  - ▶ The following commands do not perform any function and are only provided for compatibility with previous releases of WebSphere MQ.◀
  - CLRMQMBRK, Clear WebSphere MQ Broker
  - DLTMQMBRK, Delete WebSphere MQ Broker
  - DSPMQMBRK, Display WebSphere MQ Broker
  - ENDMQMBRK, End WebSphere MQ Broker
  - STRMQMBRK, Start WebSphere MQ Broker
- Channel Commands
  - CHGMQMCHL, Change WebSphere MQ Channel
  - CPYMQMCHL, Copy WebSphere MQ Channel
  - CRTMQMCHL, Create WebSphere MQ Channel
  - DLTMQMCHL, Delete WebSphere MQ Channel
  - DSPMQMCHL, Display WebSphere MQ Channel
  - ENDMQMCHL, End WebSphere MQ Channel
  - PNGMQMCHL, Ping WebSphere MQ Channel
  - RSTMQMCHL, Reset WebSphere MQ Channel
  - RSVMQMCHL, Resolve WebSphere MQ Channel
  - STRMQMCHL, Start WebSphere MQ Channel
  - STRMQMCHLI, Start WebSphere MQ Channel Initiator
  - WRKMQMCHL, Work with WebSphere MQ Channels
  - WRKMQMCHST, Work with WebSphere MQ Channel Status
- Cluster Commands
  - RFRMQMCL, Refresh WebSphere MQ Cluster
  - RSMMQMCLQM, Resume WebSphere MQ Cluster Queue Manager
  - RSTMQMCL, Reset WebSphere MQ Cluster
  - SPDMQMCLQM, Suspend WebSphere MQ Cluster Queue Manager
  - WRKMQMCL, Work with WebSphere MQ Clusters
  - WRKMQMCLQ, Work with WebSphere MQ Cluster Queues
- Command Server Commands
  - DSPMQMCSVR, Display WebSphere MQ Command Server
  - ENDMQMCSVR, End WebSphere MQ Command Server
  - STRMQMCSVR, Start WebSphere MQ Command Server
- Connection Commands
  - ENDMQMCONN, End WebSphere MQ Connection
  - WRKQMCONN, Work with WebSphere MQ Connections
- Data Conversion Exit Command
  - CVTMQMDTA, Convert WebSphere MQ Data Type
- Listener Commands
  - CHGMQMLSR, Change WebSphere MQ Listener Object
  - CPYMQMLSR, Copy WebSphere MQ Listener Object
  - CRTMQMLSR, Create WebSphere MQ Listener Object
  - DLTMQMLSR, Delete WebSphere MQ Listener Object
  - DSPMQMLSR, Display WebSphere MQ Listener Object
  - ENDMQMLSR, End WebSphere MQ Listener
  - STRMQMLSR, Start WebSphere MQ Listener
  - WRKMQMLSR, Work with WebSphere MQ Listeners
- Media Recovery Commands
  - RCDMQMIMG, Record WebSphere MQ Object Image
  - RCRMQMOBJ, Recreate WebSphere MQ Object
  - WRKMQMTRN, Work with WebSphere MQ Transactions
- Name Command
  - DSPMQMOBJN, Display WebSphere MQ Object Names

- Namelist Commands
  - CHGMQMNL, Change WebSphere MQ Namelist
  - CPYMQMNL, Copy WebSphere MQ Namelist
  - CRTMQMNL, Create WebSphere MQ Namelist
  - DLTMQMNL, Delete WebSphere MQ Namelist
  - DSPMQMNL, Display WebSphere MQ Namelist
  - WRKMQMNL, Work with WebSphere MQ Namelists
- Process Commands
  - CHGMQMPPRC, Change WebSphere MQ Process
  - CPYMQMPPRC, Copy WebSphere MQ Process
  - CRTMQMPPRC, Create WebSphere MQ Process
  - DLTMQMPPRC, Delete WebSphere MQ Process
  - DSPMQMPPRC, Display WebSphere MQ Process
  - WRKMQMPPRC, Work with WebSphere MQ Processes
- Queue Commands
  - CHGMQMQ, Change WebSphere MQ Queue
  - CLRMQMQ, Clear WebSphere MQ Queue
  - CPYMQMQ, Copy WebSphere MQ Queue
  - CRTMQMQ, Create WebSphere MQ Queue
  - DLTMQMQ, Delete WebSphere MQ Queue
  - DSPMQMQ, Display WebSphere MQ Queue
  - WRKMQMMSG, Work with WebSphere MQ Messages
  - WRKMQMQ, Work with WebSphere MQ Queues
  - WRKMQMST, Work with WebSphere MQ Queue Status
- Queue Manager Commands
  - CCTMQM, Connect to Message Queue Manager
  - CHGMQM, Change Message Queue Manager
  - CRTMQM, Create Message Queue Manager
  - DLTMQM, Delete Message Queue Manager
  - DSCMQM, Disconnect from Message Queue Manager
  - DSPMQM, Display Message Queue Manager
  - DSPMQMST, Display Message Queue Manager Status
  - ENDMQM, End Message Queue Manager
  - STRMQM, Start Message Queue Manager
  - STRMQMTRM, Start WebSphere MQ Trigger Monitor
  - WRKMQM, Work with Message Queue Manager
- Service Commands
  - CHGMQMSVC, Change WebSphere MQ Service
  - CPYMQMSVC, Copy WebSphere MQ Service
  - CRTMQMSVC, Create WebSphere MQ Service
  - DLTMQMSVC, Delete WebSphere MQ Service
  - DSPMQMSVC, Display WebSphere MQ Service
  - ENDMQMSVC, End WebSphere MQ Service
  - STRMQMSVC, Start WebSphere MQ Service
  - WRKMQMSVC, Work with WebSphere MQ Services
- Subscription Commands
  - CHGMQMSUB, Change WebSphere MQ Subscription
  - CPYMQMSUB, Copy WebSphere MQ Subscription
  - CRTMQMSUB, Create WebSphere MQ Subscription
  - DLTMQMSUB, Delete WebSphere MQ Subscription
  - DSPMQMSUB, Display WebSphere MQ Subscription
  - WRKMQMSUB, Work with WebSphere MQ Subscription
- Topic Commands
  - CHGMQMTOP, Change WebSphere MQ Topic
  - ►CLRMQMTOP, Clear WebSphere MQ Topic◀
  - CPYMQMTOP, Copy WebSphere MQ Topic
  - CRTMQMTOP, Create WebSphere MQ Topic
  - DLTMQMTOP, Delete WebSphere MQ Topic
  - DSPMQMTOP, Display WebSphere MQ Topic
  - WRKMQMTOP, Work with WebSphere MQ Topics
- Trace Command
  - TRCMQM, Trace WebSphere MQ Job
- WebSphere MQSC Commands
  - RUNMQSC, Run WebSphere MQSC Commands
  - STRMQMMQSC, Start WebSphere MQSC Commands
- WebSphere MQ Dead-Letter Queue Handler Command
  - STRMQMDLQ, Start WebSphere MQ Dead-Letter Queue Handler


- WebSphere MQ Route Information
  - DSPMQMRTE, Display WebSphere MQ Route Information
- WebSphere MQ Version Details
  - DSPMQMVER, Display WebSphere MQ Version

### General usage tips

**Parent topic:** [Managing WebSphere MQ for i5/OS using CL commands](#)

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## 2.2.1. General usage tips

Most groups of WebSphere® MQ commands, including those associated with queue managers, queues, topics, channels, namelists, process definitions, and authentication information objects can be accessed using the relevant **WRK\*** command.


The principal command in the set is **WRKMQM**. This command allows you, for example, to display a list of all the queue managers on the system, together with status information. Alternatively, you can process all queue-manager specific commands using various options against each entry.

From the **WRKMQM** command you can select specific areas of each queue manager, for example, working with channels, topics or queues, and from there select individual objects.

**Parent topic:** [WebSphere MQ for i5/OS CL commands](#)

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## 2.3. Before you start

Ensure that the WebSphere® MQ subsystem is running (using the command `STRSBS QMQM/QMQM`), and that the job queue associated with that subsystem is not held. By default, the WebSphere MQ subsystem and job queue are both named QMQM in library QMQM.

**Parent topic:** [Managing WebSphere MQ for i5/OS using CL commands](#)

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## 2.4. Starting a local queue manager

Using the i5/OS® command line to start a queue manager

You must:

1. Create a local queue manager by issuing the **CRMQM** command from an i5/OS command line.  
When you create a queue manager, you have the option of making that queue manager the default queue manager. The default queue manager (of which there can only be one) is the queue manager to which a CL command applies, if the queue manager name (MQMNAME) parameter is omitted.
2. Start a local queue manager by issuing the **STRMQM** command from an i5/OS command line.  
If the queue manager start up takes more than a few seconds WebSphere® MQ will show status messages intermittently detailing the start up progress. For more information on these messages see [WebSphere MQ Messages](#).

You can stop a queue manager by issuing the **ENDMQM** command from the i5/OS command line, and control a queue manager by issuing other WebSphere MQ commands from an i5/OS command line.


The principal commands are described later in this chapter.

Remote queue managers cannot be started remotely but must be created and started in their systems by local operators. An exception to this is where remote operating facilities (outside WebSphere MQ for i5/OS) exist to enable such operations.


The local queue administrator cannot stop a remote queue manager.

**Note:** As part of quiescing a WebSphere MQ system, you have to quiesce the active queue managers. This is described in [Quiescing WebSphere MQ for i5/OS](#).

**Parent topic:** [Managing WebSphere MQ for i5/OS using CL commands](#)

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## 2.5. Creating WebSphere MQ objects

The following tasks suggest various ways in which you can use WebSphere® MQ for i5/OS® from the command line.

There are two online methods to create WebSphere MQ objects, which are:

- Using a Create command, for example:  
**CRTMQMQ**  
Create MQM Queue
- Using a Work with MQM object command, followed by F6, for example:  
**WRKMQMQ**  
Work with MQM Queues

For a list of all commands see [The CL commands](#).

**Note:** All MQM commands can be submitted from the Message Queue Manager Commands menu. To display this menu, type GO CMDMQM on the command line and press the Enter key.

The system displays the prompt panel automatically when you select a command from this menu. To display the prompt panel for a command that you have typed directly on the command line, press F4 before pressing the Enter key.

#### [Examples of creating a local queue](#)

#### [Examples of creating a remote queue](#)

#### [Creating a transmission queue](#)

#### [Creating an initiation queue](#)

#### [Creating an alias queue](#)

#### [Creating a model queue](#)

#### [Altering queue manager attributes](#)

**Parent topic:** [Managing WebSphere MQ for i5/OS using CL commands](#)

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## 2.5.1. Examples of creating a local queue

To create a local queue from the command line, use:

- The Create MQM Queue (**CRTMQMQ**) command
- The Work with MQM Queues (**WRKMQMQ**) command, followed by F6

#### [Creating a local queue using the CRTMQMQ command](#)

#### [Creating a local queue using the WRKMQMQ command](#)

**Parent topic:** [Creating WebSphere MQ objects](#)

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### 2.5.1.1. Creating a local queue using the CRTMQMQ command

- Type **CRTMQMQ** on the command line and press the F4 key.
- On the Create MQM Queue panel, type the name of the queue that you want to create in the Queue name field. To specify a mixed case name, you enclose the name in apostrophes.
- Type \*LCL in the Queue type field.
- Specify a queue manager name, unless you are using the default queue manager, and press the Enter key. Further settings for a local queue are displayed (see [Figure 1](#)) with the fields containing the default values. You can overwrite any of these values with a new value. Scroll forward to see further fields. The options used for clusters are at the end of the list of options.
- When you have changed any values, press the Enter key to create the queue.

Figure 1. Create MQM Queue initial panel

```

Create MQM Queue (CRTMQMQ)

Type choices, press Enter.

Queue name . . . . . > TEST.QUEUE.LCL

Queue type . . . . . > *LCL          *ALS, *LCL, *MDL, *RMT
Message Queue Manager Name . . . MY.QUEUE.MANAGER

-----
Replace . . . . . *NO_          *NO, *YES
Text 'description' . . . . . ' '

-----
Put enabled . . . . . *YES_____ *SYSDFTQ, *NO, *YES
Default message priority . . . . 5_____ 0-9, *SYSDFTQ
Default message persistence . . *NO_____ *SYSDFTQ, *NO, *YES
Process name . . . . . ' '

```

```

Triggering enabled . . . . . *NO_____ *SYSDFTQ, *NO, *YES
Get enabled . . . . . *YES_____ *SYSDFTQ, *NO, *YES
Sharing enabled . . . . . *YES_____ *SYSDFTQ, *NO, *YES
More...
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
    
```

Parent topic: [Examples of creating a local queue](#)

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### 2.5.1.2. Creating a local queue using the WRKMQMQ command

1. Type **WRKMQMQ** on the command line.
2. Enter the name of a queue manager
3. If you want to display the prompt panel, press F4.  
 The prompt panel is useful to reduce the number of queues displayed, by specifying a generic queue name or queue type.
4. Press the Enter key and Figure 1 is displayed.

Figure 1. Work with MQM Queues panel

```

Work with MQ Queues

Queue Manager Name . . . : common

Type options, press Enter.
 2=Change  3=Copy  4=Delete  5=Display  8=Work status
12=Work with messages 13=Clear...

Opt  Name                                     Type  Depth  Jobs
-----
SYSTEM.ADMIN.CHANNEL.EVENT                *LCL   0      0
SYSTEM.ADMIN.COMMAND.QUEUE                 *LCL   0      0
SYSTEM.ADMIN.PERFM.EVENT                   *LCL   0      0
SYSTEM.ADMIN.QMGR.EVENT                    *LCL   1      0
SYSTEM.AUTH.DATA.QUEUE                     *LCL  29      1
SYSTEM.CHANNEL.INITQ                       *LCL   0      1
SYSTEM.CHANNEL.SYNCO                       *LCL   1      0
SYSTEM.CICS.INITIATION.QUEUE               *LCL   0      0
SYSTEM.CLUSTER.COMMAND.QUEUE               *LCL   0      1
More...

Parameters for options 2, 3, 4, 5, 12, 13, 14, 15, 16 or command
====>
F3=Exit F4=Prompt F5=Refresh F6=Create F7=Filter F9=Retrieve
F11=Change View F12=Cancel F16=Repeat find F17=Find F24=More keys
    
```

5. Press F6 to create a new queue; this takes you to the **CRTMQMQ** panel. See [Creating a local queue using the CRTMQMQ command](#) for instructions on how to create the queue.  
 When you have created the queue, the Work with MQM Queues panel is displayed again. The new queue is added to the list when you press F5=Refresh.

Parent topic: [Examples of creating a local queue](#)

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### 2.5.2. Examples of creating a remote queue

Use the CRTMQMQ panel to define the queue with queue type \*RMT, using one of the following online methods:

1. The **CRTMQMQ** command.
2. F6=Create on the **WRKMQMQ** panel.

The use of remote queues is described in detail in [WebSphere MQ Intercommunication](#).

This section describes how to define a remote queue for each of the three uses. We use the CRTMQMQ command in the examples; you can, of course, do the same thing from the WRKMQMQ panel.

#### [Creating a remote queue as a remote queue definition](#)

#### [Creating a remote queue as a queue manager alias](#)

#### [Creating a remote queue as an alias to a reply-to queue](#)

Parent topic: [Creating WebSphere MQ objects](#)

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### 2.5.2.1. Creating a remote queue as a remote queue definition

This is the most straightforward use of remote queues. It is used to direct messages to a local queue on a remote queue manager, through a transmission queue.


To create a remote queue for this use:

1. Type **CRTMQMQ** on the command line and press the F4 key.
2. Type the queue name in the `Queue name` field.
3. Type `*RMT` in the `Queue type` field.
4. Type the name of the local queue manager in the `Queue Manager Name` field.
5. Type the name of the local queue at the remote location in the `Remote queue` field.
6. Type the name of the queue manager at the remote location in the `Remote Message Queue Manager` field.
7. Optionally, type the name of the transmission queue to the remote location in the `Transmission queue` field.  
If you do not specify a transmission queue name, the transmission queue with the same name as the remote queue manager is used.

**Parent topic:** [Examples of creating a remote queue](#)

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### 2.5.2.2. Creating a remote queue as a queue manager alias


Queue manager alias definitions can be used to remap the queue manager name specified in the MQOPEN call. This enables you to alter the target queue manager without changing your applications.

See [WebSphere MQ Intercommunication](#) for further information.


To define a remote queue as a queue manager object:

1. Type **CRTMQMQ** on the command line and press the F4 key.
2. Type the queue name in the `Queue name` field.
3. Type `*RMT` in the `Queue type` field.
4. Type the name of the local queue manager in the `Queue Manager Name` field.
5. Type the name of the queue manager at the remote location in the `Remote Message Queue Manager` field.
6. Optionally, type the name of the transmission queue to the remote location in the `Transmission queue` field.  
If you do not specify a transmission queue name, the transmission queue with the same name as the remote queue manager is used.

**Parent topic:** [Examples of creating a remote queue](#)

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### 2.5.2.3. Creating a remote queue as an alias to a reply-to queue


An application can name a reply-to queue when it puts a message on a queue. The reply-to queue name is used by the application that gets the message from the queue to send reply messages. To define an alias to a reply-to queue, define a remote queue with the same name as the reply-to queue.

See [WebSphere MQ Intercommunication](#) for further information.


To create a remote queue as an alias to a reply-to queue:

1. Type **CRTMQMQ** on the command line and press the F4 key.
2. Type the queue name in the `Queue name` field.  
This must be the same as the reply-to queue named by the putting application.
3. Type `*RMT` in the `Queue type` field.
4. Type the name of the local queue manager in the `Queue Manager Name` field, unless you are using the default queue manager.
5. Type the queue name in the `Queue name` field.  
This is the name of the queue to which you want the reply-to messages sent.
6. Type the name of the queue manager at the remote location in the `Remote Message Queue Manager` field.  
This is the name of the queue manager to which you want the reply-to messages sent.
7. Optionally, type the name of the transmission queue to the remote location in the `Transmission queue` field.  
If you do not specify a transmission queue name, the transmission queue with the same name as the remote queue manager is used.

**Parent topic:** [Examples of creating a remote queue](#)

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## 2.5.3. Creating a transmission queue

A transmission queue is a local queue that is used to send messages to a remote queue manager, through a message channel, which provides a one-way link to the remote queue manager.

Each message channel has a transmission queue name specified at the sending end of the message channel.




**Note:** If you use clusters, you do not have to create a transmission queue.

To create a transmission queue:

1. Type **CRTMQMQ** on the command line and press the F4 key.
2. Type the queue name in the `Queue name` field.  
If you want to define a default transmission queue for all messages destined to a remote queue manager, the transmission queue name must be the same as the remote queue manager name.
3. Type `*LCL` in the `Queue type` field.
4. Type `*TMQ` in the `Usage` field.

**Parent topic:** [Creating WebSphere MQ objects](#)

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## 2.5.4. Creating an initiation queue

An initiation queue is a local queue on which the queue manager puts trigger messages in response to a trigger event, for example, a message arriving on a local queue. An initiation queue is a local queue and has no special settings that define it as an initiation queue.

For more information about triggering, see the [WebSphere MQ Application Programming Guide](#).

**Parent topic:** [Creating WebSphere MQ objects](#)

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## 2.5.5. Creating an alias queue


Use an alias queue object to access another queue on the local queue manager. Any messages put on the alias queue are redirected to the queue named in the alias queue definition.

**Note:** An alias queue cannot hold messages itself.

To create an alias queue:

1. Type **CRTMQMQ** on the command line and press the F4 key.
2. Type the queue name in the `Queue name` field.
3. Type `*ALS` in the `Queue type` field.
4. Type the name of the local queue manager in the `Queue Manager Name` field.
5. Type the name of the local queue that you want the queue name to resolve to in the `Target queue` field.

**Parent topic:** [Creating WebSphere MQ objects](#)

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## 2.5.6. Creating a model queue

Define a model queue with a set of attributes in the same way that you define a local queue. Type `*MDL` in the `Queue type` field.

Model queues and local queues have the same set of attributes, except that on model queues you can specify whether the dynamic queues created are temporary or permanent. (Permanent queues are maintained across queue manager restarts, temporary ones are not.)

**Parent topic:** [Creating WebSphere MQ objects](#)

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## 2.5.7. Altering queue manager attributes

To alter the attributes of the queue manager specified on the **CHGMQM** command, specifying the attributes and values that you want to change. For example, use the following options to alter the attributes of `jupiter.queue.manager`:

```
CHGMQM MQMNAME('jupiter.queue.manager') UDLMSGQ(ANOTHERDLQ) INHEVT(*YES)
```

This command changes the dead-letter queue used, and enables inhibit events.

**Parent topic:** [Creating WebSphere MQ objects](#)

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## 2.6. Working with local queues

This section contains examples of some of the commands that you can use to manage local, model, and alias queues. All the commands shown are also available using options from the WRKMQM command panel.

### [Defining a local queue](#)

### [Defining a dead-letter queue](#)

### [Displaying default object attributes](#)

### [Copying a local queue definition](#)

### [Changing local queue attributes](#)

### [Clearing a local queue](#)


### [Deleting a local queue](#)

Use the command DLTMQM to delete a local queue.

### [Enabling large queues](#)

WebSphere® MQ supports queues larger than 2 GB. See your operating system documentation for information on how to enable i5/OS® to support large files.

**Parent topic:** [Managing WebSphere MQ for i5/OS using CL commands](#)

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### 2.6.1. Defining a local queue

For an application, the local queue manager is the queue manager to which the application is connected. Queues that are managed by the local queue manager are said to be local to that queue manager.

Use the command CRTMQMQ QTYPE \*LCL to create a definition of a local queue and also to create the data structure that is called a queue. You can also modify the queue characteristics from those of the default local queue.

In this example, the queue we define, ORANGE.LOCAL.QUEUE, is specified to have these characteristics:

- It is enabled for gets, disabled for puts, and operates on a first-in-first-out (FIFO) basis.
- It is an *ordinary* queue, that is, it is not an initiation queue or a transmission queue, and it does not generate trigger messages.
- The maximum queue depth is 1000 messages; the maximum message length is 2000 bytes.


The following command does this on the default queue manager:

```
CRTMQMQ QNAME('orange.local.queue') QTYPE(*LCL)
      TEXT('Queue for messages from other systems')
      PUTENBL(*NO)
      GETENBL(*YES)
      TRGENBL(*NO)
      MSGDLYSEQ(*FIFO)
      MAXDEPTH(1000)
      MAXMSGLEN(2000)
      USAGE(*NORMAL)
```

#### Note:

1. USAGE \*NORMAL indicates that this queue is not a transmission queue.
2. If you already have a local queue on the same queue manager with the name orange.local.queue, this command fails. Use the REPLACE \*YES attribute, if you want to overwrite the existing definition of a queue, but see also [Changing local queue attributes](#).

**Parent topic:** [Working with local queues](#)

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### 2.6.2. Defining a dead-letter queue

Each queue manager must have a local queue to be used as a dead-letter queue so that messages that cannot be delivered to their correct destination can be stored for later retrieval. You must explicitly tell the queue manager about the dead-letter queue. You can do this by specifying a dead-letter queue on the **CRTMQM** command, or you can use the **CHGMQM** command to specify one later. You must also define the dead-letter queue before it can be used.


A sample dead-letter queue called SYSTEM.DEAD.LETTER.QUEUE is supplied with the product. This queue is automatically created when you create the queue manager. You can modify this definition if required. There is no need to rename it, although you can if you like.

A dead-letter queue has no special requirements except that:

- It must be a local queue
- Its MAXMSGL (maximum message length) attribute must enable the queue to accommodate the largest messages that the queue manager has to handle **plus** the size of the dead-letter header (MQDLH)

WebSphere® MQ provides a dead-letter queue handler that allows you to specify how messages found on a dead-letter queue are to be processed or removed. For further information, see [The WebSphere MQ dead-letter queue handler](#).

**Parent topic:** [Working with local queues](#)

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### 2.6.3. Displaying default object attributes

When you define a WebSphere® MQ object, it takes any attributes that you do not specify from the default object. For example, when you define a local queue, the queue inherits any attributes that you omit in the definition from the default local queue, which is called SYSTEM.DEFAULT.LOCAL.QUEUE. To see exactly what these attributes are, use the following command:

```
DSPMQMQ QNAME (SYSTEM.DEFAULT.LOCAL.QUEUE) MQMNAME (MYQUEUEMANAGER)
```

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### 2.6.4. Copying a local queue definition

You can copy a queue definition using the **CPYMQMQ** command. For example:

```
CPYMQMQ FROMQ ('orange.local.queue') TOQ ('magenta.queue') MQMNAME (MYQUEUEMANAGER)
```

This command creates a queue with the same attributes as our original queue orange.local.queue, rather than those of the system default local queue.


You can also use the CPYMQMQ command to copy a queue definition, but substituting one or more changes to the attributes of the original. For example:

```
CPYMQMQ FROMQ ('orange.local.queue') TOQ ('third.queue') MQMNAME (MYQUEUEMANAGER)
MAXMSGLEN (1024)
```

This command copies the attributes of the queue orange.local.queue to the queue third.queue, but specifies that the maximum message length on the new queue is to be 1024 bytes, rather than 2000.

**Note:** When you use the **CPYMQMQ** command, you copy the queue attributes only, not the messages on the queue.

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### 2.6.5. Changing local queue attributes

You can change queue attributes in two ways, using either the **CHGMQMQ** command or the **CPYMQMQ** command with the REPLACE \*YES attribute. In [Defining a local queue](#), we defined the queue orange.local.queue. Suppose, for example, you wanted to increase the maximum message length on this queue to 10 000 bytes.

- Using the **CHGMQMQ** command:

```
CHGMQMQ QNAME ('orange.local.queue') MQMNAME (MYQUEUEMANAGER) MAXMSGLEN (10000)
```

This command changes a single attribute, that of the maximum message length; all the other attributes remain the same.

- Using the **CRTMQMQ** command with the REPLACE \*YES option, for example:

```
CRTMQMQ QNAME ('orange.local.queue') QTYPE (*LCL) MQMNAME (MYQUEUEMANAGER)
MAXMSGLEN (10000) REPLACE (*YES)
```

This command changes not only the maximum message length, but all the other attributes, which are given their default values. The queue is now put enabled whereas previously it was put inhibited. Put enabled is the default, as specified by the queue SYSTEM.DEFAULT.LOCAL.QUEUE, unless you have changed it.

If you **decrease** the maximum message length on an existing queue, existing messages are not affected. Any new messages, however, must meet the new criteria.

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### 2.6.6. Clearing a local queue


To delete all the messages from a local queue called magenta.queue, use the following command:

```
CLRMQMQ QNAME ('magenta.queue') MQMNAME (MYQUEUEMANAGER)
```

You cannot clear a queue if:

- There are uncommitted messages that have been put on the queue under syncpoint.
- An application currently has the queue open.

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## 2.6.7. Deleting a local queue

Use the command DLTMQM to delete a local queue.

A queue cannot be deleted if it has uncommitted messages on it, or if it is in use.

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## 2.6.8. Enabling large queues

WebSphere® MQ supports queues larger than 2 GB. See your operating system documentation for information on how to enable i5/OS® to support large files.

The i5/OS Information Center can be found here: <http://publib.boulder.ibm.com/series/>

Some utilities might not be able to cope with files greater than 2 GB. Before enabling large file support, check your operating system documentation for information on restrictions on such support.

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## 2.7. Working with alias queues

An alias queue (sometimes known as a queue alias) provides a method of redirecting MQI calls. An alias queue is not a real queue but a definition that resolves to a real queue. The alias queue definition contains a target queue name, which is specified by the TGTQNAME attribute.

When an application specifies an alias queue in an MQI call, the queue manager resolves the real queue name at run time.


For example, an application has been developed to put messages on a queue called my.alias.queue. It specifies the name of this queue when it makes an MQOPEN request and, indirectly, if it puts a message on this queue. The application is not aware that the queue is an alias queue. For each MQI call using this alias, the queue manager resolves the real queue name, which could be either a local queue or a remote queue defined at this queue manager.

By changing the value of the TGTQNAME attribute, you can redirect MQI calls to another queue, possibly on another queue manager. This is useful for maintenance, migration, and load-balancing.

### [Defining an alias queue](#)

### [Using other commands with alias queues](#)

**Parent topic:** [Managing WebSphere MQ for i5/OS using CL commands](#)

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## 2.7.1. Defining an alias queue

The following command creates an alias queue:

```
CRTMQMQ QNAME('my.alias.queue') QTYPE(*ALS) TGTQNAME('yellow.queue')
MQMNAME(MYQUEUEMANAGER)
```

This command redirects MQI calls that specify my.alias.queue to the queue yellow.queue. The command does not create the target queue; the MQI calls fail if the queue yellow.queue does not exist at run time.

If you change the alias definition, you can redirect the MQI calls to another queue. For example:

```
CHGMQM QNAME('my.alias.queue') TGTQNAME('magenta.queue') MQMNAME(MYQUEUEMANAGER)
```

This command redirects MQI calls to another queue, magenta.queue.

You can also use alias queues to make a single queue (the target queue) appear to have different attributes for different applications. You do this by defining two aliases, one for each application. Suppose there are two applications:

- Application ALPHA can put messages on yellow.queue, but is not allowed to get messages from it.
- Application BETA can get messages from yellow.queue, but is not allowed to put messages on it.

You can do this using the following commands:

```
/* This alias is put enabled and get disabled for application ALPHA */
```

```

CRTMQMQ QNAME('alphas.alias.queue') QTYPE(*ALS)          TGTQNAME('yellow.queue')
PUTENBL(*YES) GETENBL(*NO) MQMNAME(MYQUEUEEMANAGER)

/* This alias is put disabled and get enabled for application BETA */


CRTMQMQ QNAME('betas.alias.queue') QTYPE(*ALS) TGTQNAME('yellow.queue')
PUTENBL(*NO) GETENBL(*YES) MQMNAME(MYQUEUEEMANAGER)

```


ALPHA uses the queue name `alphas.alias.queue` in its MQI calls; BETA uses the queue name `betas.alias.queue`. They both access the same queue, but in different ways.

You can use the REPLACE \*YES attribute when you define alias queues, in the same way that you use these attributes with local queues.

**Parent topic:** [Working with alias queues](#)

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## 2.7.2. Using other commands with alias queues

You can use the appropriate commands to display or change alias queue attributes. For example:

```

/* Display the alias queue's attributes */


DSPMQMQ QNAME('alphas.alias.queue') MQMNAME(MYQUEUEEMANAGER)

/* ALTER the base queue name, to which the alias resolves. */
/* FORCE = Force the change even if the queue is open. */


CHQMCMQ QNAME('alphas.alias.queue') TGTQNAME('orange.local.queue') FORCE(*YES)
MQMNAME(MYQUEUEEMANAGER)

```

**Parent topic:** [Working with alias queues](#)

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## 2.8. Working with model queues


A queue manager creates a *dynamic queue* if it receives an MQI call from an application specifying a queue name that has been defined as a model queue. The name of the new dynamic queue is generated by the queue manager when the queue is created. A *model queue* is a template that specifies the attributes of any dynamic queues created from it.

Model queues provide a convenient method for applications to create queues as they are required.


### [Defining a model queue](#)

### [Using other commands with model queues](#)

**Parent topic:** [Managing WebSphere MQ for i5/OS using CL commands](#)

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### 2.8.1. Defining a model queue

You define a model queue with a set of attributes in the same way that you define a local queue. Model queues and local queues have the same set of attributes, except that on model queues you can specify whether the dynamic queues created are temporary or permanent. (Permanent queues are maintained across queue manager restarts, temporary ones are not). For example:

```


CRTMQMQ QNAME('green.model.queue') QTYPE(*MDL) DFNTYPE(*PERMDYN)

```


This command creates a model queue definition. From the DFNTYPE attribute, the actual queues created from this template are permanent dynamic queues. The attributes not specified are automatically copied from the `SYSYSTEM.DEFAULT.MODEL.QUEUE` default queue.

You can use the REPLACE \*YES attribute when you define model queues, in the same way that you use them with local queues.

**Parent topic:** [Working with model queues](#)

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### 2.8.2. Using other commands with model queues

You can use the appropriate commands to display or alter a model queue's attributes. For example:

```

/* Display the model queue's attributes */

DSPMQMQ MQMNAME(MYQUEUEEMANAGER) QNAME('green.model.queue')

```

```

/* ALTER the model queue to enable puts on any */
/* dynamic queue created from this model. */

CHGMQM MQMNAME(MYQUEUEMANAGER) QNAME('blue.model.queue') PUTENBL(*YES)

```

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## 2.9. Working with triggering

WebSphere® MQ provides a facility for starting an application automatically when certain conditions on a queue are met. One example of the conditions is when the number of messages on a queue reaches a specified number. This facility is called *triggering* and is described in detail in the [WebSphere MQ Application Programming Guide](#).

[What is triggering?](#)

[What is the trigger monitor?](#)

[Altering the job submission attributes of the trigger monitor](#)

[Setting up objects for triggering](#)

Parent topic: [Managing WebSphere MQ for i5/OS using CL commands](#)

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### 2.9.1. What is triggering?

The queue manager defines certain conditions as constituting trigger events. If triggering is enabled for a queue and a trigger event occurs, the queue manager sends a trigger message to a queue called an initiation queue. The presence of the trigger message on the initiation queue indicates that a trigger event has occurred.

Trigger messages generated by the queue manager are not persistent. This has the effect of reducing logging (thereby improving performance), and minimizing duplicates during restart, so improving restart time.

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### 2.9.2. What is the trigger monitor?

►The program which processes the initiation queue is called a trigger-monitor application, and its function is to read the trigger message and take appropriate action, based on the information contained in the trigger message. Normally this action would be to start some other application to process the queue which caused the trigger message to be generated. From the point of view of the queue manager, there is nothing special about the trigger-monitor application - it is another application that reads messages from a queue (the initiation queue).◄

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### 2.9.3. Altering the job submission attributes of the trigger monitor

The trigger monitor supplied as command STRMQMTRM submits a job for each trigger message using the system default job description, QDFTJOBDD. This has limitations in that the submitted jobs are always called QDFTJOBDD and have the attributes of the default job description including the library list, \*SYSVAL. WebSphere® MQ provides a method for overriding these attributes. For example, it is possible to tailor the submitted jobs to have more meaningful job names as follows:

1. In the job description specify the description you want, for example logging values.
2. Specify the Environment Data of the process definition used in the triggering process:

```
CHGMQMPRC PRCNAME(MY_PROCESS) MQMNAME(MHA3) ENVDATA ('JOB(MYLIB/TRIGJOBDD)')
```

The Trigger Monitor now performs a SEMJOB using the specified description.

Figure 1. Display MQ Process panel

```

Display MQ Process

Queue manager name . . . . . > QmgrName

```

```

Process name . . . . . > ProcessName
Text 'description' . . . . . >
Application type . . . . . > *OS400
Application identifier . . . . . > LibName/PgmName

User data . . . . . >

Environment data . . . . . > USER(UserName) JOBNAME(JobName)
JOB(*LIBL/QDFTJOB) LOG( 4 00 *Sec1vl)

Last alter date . . . . . > 2005-05-01
Last alter time . . . . . > 11.44.29

F3=Exit  F12=Cancel  F21=Print

```

It is possible to override other attributes of the `SBMJOB` by specifying the appropriate keyword and value in the Environment Data of the process definition. The only exception to this is the `CMD` keyword because this attribute is filled by the trigger monitor. An example of the command to specify the Environment Data of the process definition where both the job name and description are to be altered follows:

```

CHGMQMPRC PRCNAME(MY_PROCESS) MQMNAME(MHA3) ENVDATA ('JOB(MYLIB/TRIGJOB)
JOB(TRIGGER)')

```

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## 2.9.4. Setting up objects for triggering

The following sections describe how to set up the required objects to support triggering on WebSphere® MQ.

[Defining an application queue for triggering](#)

[Defining an initiation queue](#)

[Creating a process definition](#)

[Displaying your process definition](#)

Parent topic: [Working with triggering](#)

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### 2.9.4.1. Defining an application queue for triggering

An application queue is a local queue that is used by applications for messaging, through the MQI. Triggering requires a number of queue attributes to be defined on the application queue. Triggering itself is enabled by the `TRGENBL` attribute.

In this example, a trigger event is to be generated when there are 100 messages of priority 5 or higher on the local queue `motor.insurance.queue`, as follows:

```

CRTMQMQ MQMNAME(MYQUEUEMANAGER) QNAME('motor.insurance.queue') QTYPE(*LCL)
PRCNAME('motor.insurance.quote.process') MAXMSGLEN(2000)
DFTMSGPST(*YES) INITQNAME('motor.ins.init.queue')
TRGENBL(*YES) TRGTYPE(*DEPTH) TRGDEPTH(100) TRGMSGPTY(5)

```

where the parameters are:

**MQMNAME (MYQUEUEMANAGER)**

The name of the queue manager.

**QNAME ('motor.insurance.queue')**

The name of the application queue being defined.

**PRCNAME ('motor.insurance.quote.process')**

The name of the application to be started by a trigger monitor program.

**MAXMSGLEN (2000)**

The maximum length of messages on the queue.

**DFTMSGPST (\*YES)**

Messages on this queue are persistent by default.

**INITQNAME ('motor.ins.init.queue')**

The name of the initiation queue on which the queue manager is to put the trigger message.

**TRGENBL (\*YES)**

The trigger attribute value.

**TRGTYPE (\*DEPTH)**

A trigger event is generated when the number of messages of the required priority (`TRGMSGPTY`) reaches the number specified in `TRGDEPTH`.


**TRGDEPTH (100)**

The number of messages required to generate a trigger event.

**TRGMSGPTY (5)**

The priority of messages that are to be counted by the queue manager in deciding whether to generate a trigger event. Only messages with priority 5 or higher are counted.

**Parent topic:** [Setting up objects for triggering](#)

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### 2.9.4.2. Defining an initiation queue

When a trigger event occurs, the queue manager puts a trigger message on the initiation queue specified in the application queue definition. Initiation queues have no special settings, but you can use the following definition of the local queue `motor.ins.init.queue` for guidance:

```
CRTMQMQ MQMNAME(MYQUEUEMANAGER) QNAME('motor.ins.init.queue') QTYPE(*LCL)
  GETENBL(*YES) SHARE(*NO) TRGTYPE(*NONE)
  MAXMSGL(2000)
  MAXDEPTH(1000)
```

**Parent topic:** [Setting up objects for triggering](#)

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### 2.9.4.3. Creating a process definition

Use the `CRTMQMPCRC` command to create a process definition. A process definition associates an application queue with the application that is to process messages from the queue. This is done through the `PRCNAME` attribute on the application queue `motor.insurance.queue`. The following command creates the required process, `motor.insurance.quote.process`, identified in this example:

```
CRTMQMPCRC MQMNAME(MYQUEUEMANAGER) PRCNAME('motor.insurance.quote.process')
  TEXT('Insurance request message processing')
  APPTYPE(*OS400) APPID(MQTEST/TESTPROG)
  USRDATA('open, close, 235')
```

where the parameters are:

**MQMNAME (MYQUEUEMANAGER)**

The name of the queue manager.

**PRCNAME ('motor.insurance.quote.process')**

The name of the process definition.

**TEXT ('Insurance request message processing')**

A description of the application program to which this definition relates. This text is displayed when you use the `DSPMQMPCRC` command. This can help you to identify what the process does. If you use spaces in the string, you must enclose the string in single quotation marks.

**APPTYPE (\*OS400)**

The type of application to be started.


**APPID (MQTEST/TESTPROG)**

The name of the application executable file, specified as a fully qualified file name.

**USRDATA ('open, close, 235')**

User-defined data, which can be used by the application.

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### 2.9.4.4. Displaying your process definition

Use the `DSPMQMPCRC` command to examine the results of your definition. For example:

```
MQMNAME(MYQUEUEMANAGER) DSPMQMPCRC('motor.insurance.quote.process')
```

You can also use the `CHGMQMPCRC` command to alter an existing process definition, and the `DLTMQMPCRC` command to delete a process definition.

**Parent topic:** [Setting up objects for triggering](#)

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## 2.10. Communicating between two systems

The following example illustrates how to set up two WebSphere® MQ for i5/OS® systems, using CL commands, so that they can communicate with one another.

The systems are called `SYSTEMA` and `SYSTEMB`, and the communications protocol used is TCP/IP.



Carry out the following procedure:

1. Create a queue manager on `SYSTEMA`, calling it `QMGR1`.

```
CRTMQM      MQMNAME(QMGR1) TEXT('System A - Queue +
           Manager 1') UDLMSGQ(SYSTEM.DEAD.LETTER.QUEUE)
```

2. Start this queue manager.

```
STRMQM      MQMNAME(QMGR1)
```

3. Define the WebSphere MQ objects on `SYSTEMA` that you need to send messages to a queue manager on `SYSTEMB`.

```
/* Transmission queue */
CRTMQMQ     QNAME(XMITQ.TO.QMGRB1) QTYPE(*LCL) +
           MQMNAME(QMGR1) TEXT('Transmission Queue +
           to QMGRB1') MAXDEPTH(5000) USAGE(*TMQ)

/* Remote queue that points to a queue called TARGETB */
/* TARGETB belongs to queue manager QMGRB1 on SYSTEMB */
CRTMQMQ     QNAME(TARGETB.ON.QMGRB1) QTYPE(*RMT) +
           MQMNAME(QMGR1) TEXT('Remote Q pointing +
           at Q TARGETB on QMGRB1 on Remote System +
           SYSTEMA to QMGRB1 on SYSTEMB') +
           RMTQNAME(TARGETB) +
           RMTMQMNAME(QMGRB1) TMQNAME(XMITQ.TO.QMGRB1)

/* TCP/IP sender channel to send messages to the queue manager on SYSTEMB*/
CRTMQMCHL   CHLNAME(QMGR1.TO.QMGRB1) CHLTYPE(*SDR) +
           MQMNAME(QMGR1) TRPTYPE(*TCP) +
           TEXT('Sender Channel From QMGR1 on +
           SYSTEMA to QMGRB1 on SYSTEMB') +
           CONNAME(SYSTEMB) TMQNAME(XMITQ.TO.QMGRB1)
```

4. Create a queue manager on `SYSTEMB`, calling it `QMGRB1`.

```
CRTMQM      MQMNAME(QMGRB1) TEXT('System B - Queue +
           Manager 1') UDLMSGQ(SYSTEM.DEAD.LETTER.QUEUE)
```

5. Start the queue manager on `SYSTEMB`.

```
STRMQM      MQMNAME(QMGRB1)
```

6. Define the WebSphere MQ objects that you need to receive messages from the queue manager on `SYSTEMA`.

```
/* Local queue to receive messages on */
CRTMQMQ     QNAME(TARGETB) QTYPE(*LCL) MQMNAME(QMGRB1) +
           TEXT('Sample Local Queue for QMGRB1')

/* Receiver channel of the same name as the sender channel on SYSTEMA */
CRTMQMCHL   CHLNAME(QMGR1.TO.QMGRB1) CHLTYPE(*RCVR) +
           MQMNAME(QMGRB1) TRPTYPE(*TCP) +
           TEXT('Receiver Channel from QMGR1 to +
           QMGRB1')
```

7. Finally, start a TCP/IP listener on `SYSTEMB` so that the channel can be started. This example uses the default port of 1414.

```
STRMQMLSR  MQMNAME(QMGRB1)
```

You are now ready to send test messages between `SYSTEMA` and `SYSTEMB`. Using one of the supplied samples, put a series of messages to your remote queue on `SYSTEMA`.


Start the channel on `SYSTEMA`, either by using the command **STRMQMCHL**, or by using the command **WRKMQMCHL** and entering a start request (Option 14) against the sender channel.

The channel should go to `RUNNING` status and the messages are sent to queue `TARGETB` on `SYSTEMB`.

Check your messages by issuing the command:

```
WRKMQMMSG  QNAME(TARGETB) MQMNAME(QMGRB1) .
```

**Parent topic:** [Managing WebSphere MQ for i5/OS using CL commands](#)

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### 3. Alternative ways of administering WebSphere MQ

You normally use i5/OS® CL commands to administer WebSphere® MQ for i5/OS. See [Managing WebSphere MQ for i5/OS using CL commands](#) for an overview of these commands.

Using CL commands is the preferred method of administering the system. However, you can use various other methods. This chapter gives an overview of those methods and includes the following topics:

- [Local and remote administration](#)
- [Administration using MQSC commands](#)
- [Administration using PCF commands](#)
- [Using the WebSphere MQ Explorer with WebSphere MQ for i5/OS](#)
- [Managing the command server for remote administration](#)

#### [Local and remote administration](#)

#### [Administration using MQSC commands](#)

#### [Administration using PCF commands](#)

#### [Using the WebSphere MQ Explorer with WebSphere MQ for i5/OS](#)

How to administer WebSphere MQ for i5/OS using the WebSphere MQ Explorer.

## [Managing the command server for remote administration](#)

### [Instrumentation events](#)

**Parent topic:** [i5/OS System Administration Guide](#)

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## 3.1. Local and remote administration

You administer WebSphere® MQ objects locally or remotely.

*Local administration* means carrying out administration tasks on any queue managers that you have defined on your local system. In WebSphere MQ, you can consider this as local administration because no WebSphere MQ channels are involved, that is, the communication is managed by the operating system. To perform this type of task, you must either log onto the remote system and issue the commands from there, or create a process that can issue the commands for you.

WebSphere MQ supports administration from a single point through what is known as *remote administration*. Remote administration consists of sending programmable command format (PCF) control messages to the SYSTEM.ADMIN.COMMAND.QUEUE on the target queue manager.

There are a number of ways of generating PCF messages. These are:

1. Writing a program using PCF messages. See [Administration using PCF commands](#).
2. Writing a program using the MQAI, which sends out PCF messages. See [Using the MQAI to simplify the use of PCFs](#).
3. Using the WebSphere MQ Explorer, available with WebSphere MQ for Windows, which allows you to use a graphical user interface (GUI) and generates the correct PCF messages. See [Using the WebSphere MQ Explorer with WebSphere MQ for i5/OS](#).
4. Use **STRMQMMQSC** to send commands indirectly to a remote queue manager. See [Administration using MQSC commands](#).

For example, you can issue a remote command to change a queue definition on a remote queue manager.

Some commands cannot be issued in this way, in particular, creating or starting queue managers and starting command servers. To perform this type of task, you must either log onto the remote system and issue the commands from there or create a process that can issue the commands for you.

**Parent topic:** [Alternative ways of administering WebSphere MQ](#)

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## 3.2. Administration using MQSC commands

You use WebSphere® MQ script (MQSC) commands to manage queue manager objects, including the queue manager itself, queues, process definitions, namelists, channels, client connection channels, listeners, services, topics and authentication information objects.

You issue MQSC commands to a queue manager using the STRMQMMQSC WebSphere MQ CL command. This is a batch method only, taking its input from a source physical file in the server library system. The default name for this source physical file is QMQSC.

WebSphere MQ for i5/OS® does not supply a source file called QMQSC. To process MQSC commands you need to create the QMQSC source file in a library of your choice, by issuing the following command:

```
CRTSRCPRF FILE(MYLIB/QMQSC) TEXT('WebSphere MQ - MQSC Source')
```

MQSC source is held in members within this source file. To work with the members enter the following command:

```
WRKMBRPDM MYLIB/QMQSC
```

You can now add new members and maintain existing ones

You can also enter MQSC commands interactively, by issuing RUNMQSC or:

1. Typing in the queue manager name and pressing the **Enter** key to access the **WRKMQM** results panel
2. Selecting **F23=More options** on this panel
3. Selecting option **26** against an active queue manager on the panel shown in [Figure 1](#)

To end such an MQSC session, type **end**.

*Figure 1. Work with queue managers results panel*

```

Work with queue managers

Type options, press Enter.
 21=Work with NameLists   22=Work with Jobs       23=Display logs
 24=Work with Authorities 25=Work with AuthInfo    26=MQSC ...

Opt  Name                Status  Default
----  ---                -
MICK                ACTIVE  NO
MIKE                ACTIVE  NO

                                           Bottom

Parameters or command
====>
F3=Exit   F4=Prompt   F5=Refresh  F6=Create   F9=Retrieve  F12=Cancel

```

F16=Repeat position to F17=Position to F23=More options F24=More keys

### MQSC command files

Parent topic: [Alternative ways of administering WebSphere MQ](#)

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## 3.2.1. MQSC command files

MQSC commands are written in human-readable form, that is, in EBCDIC text.

[Figure 1](#) is an extract from an MQSC command file showing an MQSC command (DEFINE QLOCAL) with its attributes.

[Figure 1](#). Extract from the MQSC command file, *myprog.in*

```

:
DEFINE QLOCAL(ORANGE.LOCAL.QUEUE) REPLACE +
DESCR(' ') +
PUT(ENABLED) +
DEFPRTY(0) +
DEFPSIST(NO) +
GET(ENABLED) +
MAXDEPTH(5000) +
MAXMSGL(1024) +
DEFSOPT(SHARED) +
NOHARDENBO +
USAGE(NORMAL) +
NOTRIGGER;
:

```

For portability among WebSphere® MQ environments, limit the line length in MQSC command files to 72 characters. The plus sign indicates that the command is continued on the next line.

Object attributes specified in MQSC are shown in this book in uppercase (for example, RQMNAME), although they are not case sensitive.

#### Note:

1. The format of an MQSC file does not depend on its location in the file system
2. MQSC attribute names are limited to eight characters.
3. MQSC commands are available on other platforms, including z/OS®.

The [WebSphere MQ Script \(MQSC\) Command Reference](#) contains a description of each MQSC command and its syntax.

Parent topic: [Administration using MQSC commands](#)

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## 3.3. Administration using PCF commands

The purpose of WebSphere® MQ programmable command format (PCF) commands is to allow administration tasks to be programmed into an administration program. In this way you can create queues and process definitions, and change queue managers, from a program.

PCF commands cover the same range of functions provided by MQSC commands. However, unlike MQSC commands, PCF commands and their replies are not in a text format that you can read.

You can write a program to issue PCF commands to any queue manager in the network from a single node. In this way, you can both centralize and automate administration tasks.

Each PCF command is a data structure that is embedded in the application data part of a WebSphere MQ message. Each command is sent to the target queue manager using the MQI function MQPUT in the same way as any other message. The command server on the queue manager receiving the message interprets it as a command message and runs the command. To get the replies, the application issues an MQGET call and the reply data is returned in another data structure. The application can then process the reply and act accordingly.

Briefly, these are some of the things the application programmer must specify to create a PCF command message:

#### Message descriptor

This is a standard WebSphere MQ message descriptor, in which:

- Message type (*MsgType*) is MQMT\_REQUEST.
- Message format (*Format*) is MQFMT\_ADMIN.

#### Application data

Contains the PCF message including the PCF header, in which:

- The PCF message type (*Type*) specifies MQCFT\_COMMAND.
- The command identifier specifies the command, for example, *Change Queue* (MQCMD\_CHANGE\_Q).

For a complete description of the PCF data structures and how to implement them, see [WebSphere MQ Programmable Command Formats and Administration Interface](#).

[Attributes in MQSC and PCF commands](#)[Escape PCFs](#)[Using the MQAI to simplify the use of PCFs](#)**Parent topic:** [Alternative ways of administering WebSphere MQ](#)

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### 3.3.1. Attributes in MQSC and PCF commands

Object attributes specified in MQSC commands are shown in this book in uppercase (for example, RQMNAME), although they are not case sensitive. MQSC attribute names are limited to eight characters.

Object attributes in PCF commands, which are not limited to eight characters, are shown in this book in italics. For example, the PCF equivalent of RQMNAME is *RemoteQMgrName*.

**Parent topic:** [Administration using PCF commands](#)

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### 3.3.2. Escape PCFs

Escape PCFs are PCF commands that contain MQSC commands within the message text. You can use PCFs to send commands to a remote queue manager. For more information about using escape PCFs, see [WebSphere MQ Programmable Command Formats and Administration Interface](#).

**Parent topic:** [Administration using PCF commands](#)

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### 3.3.3. Using the MQAI to simplify the use of PCFs

You can use the WebSphere® MQ Administration Interface (MQAI) to obtain easier programming access to PCF messages.

It performs administration tasks on a queue manager through the use of *data bags*. Data bags allow you to handle properties (or parameters) of objects in a way that is easier than using PCFs.

Use the MQAI to:

**Simplify the use of PCF messages**

The MQAI is an easy way to administer WebSphere MQ; you do not have to write your own PCF messages and this avoids the problems associated with complex data structures.

To pass parameters in programs that are written using MQI calls, the PCF message must contain the command and details of the string or integer data. To do this, several statements are needed in your program for every structure, and memory space must be allocated. This task is long and laborious.

On the other hand, programs written using the MQAI pass parameters into the appropriate data bag and only one statement is required for each structure. The use of MQAI data bags removes the need for you to handle arrays and allocate storage, and provides some degree of isolation from the details of the PCF.

**Handle error conditions more easily**

It is difficult to get return codes back from MQSC commands, but the MQAI makes it easier for the program to handle error conditions.

After you have created and populated your data bag, you can then send an administration command message to the command server of a queue manager, using the mqExecute call, which waits for any response messages. The mqExecute call handles the exchange with the command server and returns responses in a response bag.

For more information about using the MQAI and PCFs in general, see the [WebSphere MQ Programmable Command Formats and Administration Interface](#).

**Parent topic:** [Administration using PCF commands](#)

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## 3.4. Using the WebSphere MQ Explorer with WebSphere MQ for i5/OS

How to administer WebSphere® MQ for i5/OS® using the WebSphere MQ Explorer.

WebSphere MQ for Windows (x86 platform), and WebSphere MQ for Linux (x86 platform) provide an administration interface called the WebSphere MQ

Explorer to perform administration tasks as an alternative to using CL, control or MQSC commands.

The WebSphere MQ Explorer allows you to perform local or remote administration of your network from a computer running Windows (x86 platform), or Linux (x86 platform), by pointing the WebSphere MQ Explorer at the queue managers and clusters you are interested in. The platforms and levels of WebSphere MQ that can be administered using the WebSphere MQ Explorer are described in [Remote queue managers](#).

Using the online guidance, you can:

- Define and control various resources including queue managers, queues, channels, process definitions, client connection channels, listeners, topics, services, namelists, and clusters.
- Start or stop a queue manager and its associated processes.
- View queue managers and their associated objects on your workstation or from other workstations.
- Check the status of queue managers, clusters, and channels.

The configuration steps you must perform on remote WebSphere MQ queue managers to allow the WebSphere MQ Explorer to administer them are outlined in [Required definitions for administration](#).

### [What you can do with the WebSphere MQ Explorer](#)

#### [Required definitions for administration](#)

**Parent topic:** [Alternative ways of administering WebSphere MQ](#)

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## 3.4.1. What you can do with the WebSphere MQ Explorer

With the WebSphere® MQ Explorer, you can:

- Start and stop a queue manager (on your local machine only).
- Define, display, and alter the definitions of WebSphere MQ objects such as queues, topics and channels.
- Browse the messages on a queue.
- Start and stop a channel.
- View status information about a channel.
- View queue managers in a cluster.
- Check to see which applications, users, or channels have a particular queue open.
- Create a new queue manager cluster using the *Create New Cluster* wizard.
- Add a queue manager to a cluster using the *Add Queue Manager to Cluster* wizard.
- Manage the authentication information object, used with Secure Sockets Layer (SSL) channel security.

**Parent topic:** [Using the WebSphere MQ Explorer with WebSphere MQ for i5/OS](#)

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## 3.4.2. Required definitions for administration

Ensure that you have satisfied the following requirements before attempting to use the WebSphere® MQ Explorer to manage WebSphere MQ on a server machine. Check that:

1. A command server is running for **any** queue manager being administered, started on the server by the CL command STRMQMCSVR.
2. A suitable TCP/IP listener exists for every remote queue manager. This is the WebSphere MQ listener started by the STRMQMLSR command.
3. The server connection channel, called SYSTEM.ADMIN.SVRCONN, exists on every remote queue manager. You **must** create this channel yourself. It is mandatory for every remote queue manager being administered. Without it, remote administration is not possible.
4. Verify that the SYSTEM.MQEXPLORER.REPLY.MODEL queue exists.

For further information on the WebSphere MQ Explorer, see the [WebSphere MQ System Administration Guide](#) supplied with your WebSphere MQ for Windows product.

**Parent topic:** [Using the WebSphere MQ Explorer with WebSphere MQ for i5/OS](#)

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## 3.5. Managing the command server for remote administration

Each queue manager can have a command server associated with it. A command server processes any incoming commands from remote queue managers, or PCF commands from applications. It presents the commands to the queue manager for processing and returns a completion code or operator message depending on the origin of the command.

A command server is mandatory for all administration involving PCFs, the MQAI, and also for remote administration.

**Note:** For remote administration, you must ensure that the target queue manager is running. Otherwise, the messages containing commands cannot leave the queue manager from which they are issued. Instead, these messages are queued in the local transmission queue that serves the remote queue

manager. Avoid this situation if at all possible.

There are separate control commands for starting and stopping the command server. You can perform the operations described in the following sections using the WebSphere® MQ Explorer.

### [Starting the command server](#)

### [Displaying the status of the command server](#)

### [Stopping a command server](#)

**Parent topic:** [Alternative ways of administering WebSphere MQ](#)

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## 3.5.1. Starting the command server

To start the command server use this CL command:

```
STRMQMCSVR MQMNAME('saturn.queue.manager')
```

where `saturn.queue.manager` is the queue manager for which the command server is being started.

**Parent topic:** [Managing the command server for remote administration](#)

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## 3.5.2. Displaying the status of the command server

For remote administration, ensure that the command server on the target queue manager is running. If it is not running, remote commands cannot be processed. Any messages containing commands are queued in the target queue manager's command queue (SYSTEM.ADMIN.COMMAND.QUEUE).

To display the status of the command server for a queue manager, called here `saturn.queue.manager`, the CL command is:

```
DSPMQMCSVR MQMNAME('saturn.queue.manager')
```

Issue this command on the target machine. If the command server is running, the panel shown in [Figure 1](#) appears:

*Figure 1. Display MQM Command Server panel*

```

Display MQM Command Server (DSPMQMCSVR)

Queue manager name . . . . . > saturn.queue.manager
MQM Command Server Status. . . . > RUNNING

F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys

```

**Parent topic:** [Managing the command server for remote administration](#)

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## 3.5.3. Stopping a command server

To end a command server, the command, using the previous example is:

```
ENDMQMCSVR MQMNAME('saturn.queue.manager')
```

You can stop the command server in two different ways:

- For a controlled stop, use the ENDMQMCSVR command with the \*CNTRLD option, which is the default.
- For an immediate stop, use the ENDMQMCSVR command with the \*IMMED option.

**Note:** Stopping a queue manager also ends the command server associated with it (if one has been started).

**Parent topic:** [Managing the command server for remote administration](#)

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### 3.6. Instrumentation events

You can use WebSphere® MQ instrumentation events to monitor the operation of queue managers. See [Monitoring WebSphere MQ](#) for information about WebSphere MQ instrumentation events and how to use them.

**Parent topic:** [Alternative ways of administering WebSphere MQ](#)

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## 4. Work management

This chapter describes the way in which WebSphere® MQ handles work requests, and details the options available for prioritizing and controlling the jobs associated with WebSphere MQ.

### Warning

Do **not** alter WebSphere MQ work management objects unless you fully understand the concepts of i5/OS® and WebSphere MQ work management. Additional information regarding subsystems and job descriptions can be found under *Work Management* in the i5/OS Information Center, see <http://publib.boulder.ibm.com/iserries/>. Pay particular attention to the sections on "Job Starting and Routing" and "Batch Jobs".

WebSphere MQ for i5/OS incorporates the i5/OS UNIX environment and i5/OS threads. Do **not** make any changes to the objects in the Integrated File System (IFS).

During normal operations, a WebSphere MQ queue manager starts a number of batch jobs to perform different tasks. By default these batch jobs run in the QMQM subsystem that is created when WebSphere MQ is installed.

Work management refers to the process of tailoring WebSphere MQ tasks to obtain the optimum performance from your system, or to make administration simpler.

For example, you can:

- Change the run-priority of jobs to make one queue manager more responsive than another.
- Redirect the output of a number of jobs to a particular output queue.
- Make all jobs of a certain type run in a specific subsystem.
- Isolate errors to a subsystem.

Work management is carried out by creating or changing the job descriptions associated with the WebSphere MQ jobs. You can configure work management for:

- An entire WebSphere MQ installation
- Individual queue managers
- Individual jobs for individual queue managers

#### [Description of WebSphere MQ tasks](#)

This is a table of the WebSphere MQ jobs and a brief description of each.

#### [WebSphere MQ work management objects](#)

#### [How WebSphere MQ uses the work management objects](#)

**Parent topic:** [i5/OS System Administration Guide](#)

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### 4.1. Description of WebSphere MQ tasks

This is a table of the WebSphere MQ jobs and a brief description of each.

When a queue manager is running, you see some or all of the following batch jobs running under the QMQM user profile in the WebSphere® MQ subsystem. The jobs are described briefly in [Table 1](#).

► You can view all jobs connected to a queue manager using option 22 on the Work with Queue Manager (WRKMQM) panel. You can view listeners using the WRKMQLSR command. ◀

Table 1. WebSphere MQ tasks.

Job name	Function
AMQALMPX	The checkpoint processor that periodically takes journal checkpoints.
AMQZMUCO	Utility manager. This job executes critical queue manager utilities, for example the journal chain manager.
AMQZXMAO	The execution controller that is the first job started by the queue manager. It handles MQCONN requests, and starts agent processes to process WebSphere MQ API calls.
AMQZFUMA	Object authority manager (OAM).
AMQZLAAO	Queue manager agents that perform most of the work for applications that connect to the queue manager using MQCNO_STANDARD_BINDING.
AMQZLASO	Queue manager agent.
AMQZMUFO	Utility Manager
AMQZMGRO	Process controller. This job is used to start up and manage listeners and services.

AMQZMUR0	Utility manager. This job executes critical queue manager utilities, for example the journal chain manager.
AMQFQPUB	Queued publish/subscribe daemon.
AMQFCXBA	Broker worker job.
RUNMQBRK	Broker control job.
AMQRMPPA	Channel process pooling job.
AMQCRSTA	TCP/IP-invoked channel responder.
AMQCRS6B	LU62 receiver channel and client connection (see note).
AMQRRMFA	Repository manager for clusters.
AMQCLMAA	Non-threaded TCP/IP listener.
AMQPCSEA	PCF command processor that handles PCF and remote administration requests.
RUNMQTRM	▶Trigger monitor.◀
RUNMQDLQ	▶Dead letter queue handler.◀
RUNMQCHI	▶The channel initiator.◀
RUNMQCHL	▶Sender channel job that is started for each sender channel.◀
RUNMQLSR	▶Threaded TCP/IP listener.◀
AMQXSSVN	▶Shared memory servers.◀
AMQRCMLA	▶Channel MQSC and PCF command processor.◀
AMQZTRCN	▶Trace.◀

**Note:** The LU62 receiver job runs in the communications subsystem and takes its run-time properties from the routing and communications entries that are used to start the job. See [WebSphere MQ Intercommunication](#) for more details.

**Parent topic:** [Work management](#)

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## 4.2. WebSphere MQ work management objects

When WebSphere® MQ is installed, various objects are supplied in the QMQM library to assist with work management. These objects are the ones necessary for WebSphere MQ jobs to run in their own subsystem.

Sample job descriptions are provided for two of the WebSphere MQ batch jobs. If no specific job description is provided for a WebSphere MQ job, it runs with the default job description QMQMJOB0D.

The work management objects that are supplied when you install WebSphere MQ are listed in [Table 1](#) and the objects created for a queue manager are listed in [Table 2](#).

**Note:** The work management objects can be found in the QMQM library and the queue manager objects can be found in the queue manager library.

*Table 1. Work management objects*

Name	Type	Description
AMQALMPX	*JOB0D	The job description that is used by the checkpoint process
AMQZLAA0	*JOB0D	The job description that is used by the WebSphere MQ agent processes
AMQZLSA0	*JOB0D	The isolated bindings queue manager agent
AMQZXMA0	*JOB0D	The job description that is used by WebSphere MQ execution controllers
QMQM	*SBSD	The subsystem in which all WebSphere MQ jobs run
QMQM	*JOBQ	The job queue attached to the supplied subsystem
QMQMJOB0D	*JOB0D	The default WebSphere MQ job description, used if there is not a specific job description for a job
QMQMMSG	*MSGQ	The default message queue for WebSphere MQ jobs.
QMQMRUN20	*CLS	A class description for high priority WebSphere MQ jobs
QMQMRUN35	*CLS	A class description for medium priority WebSphere MQ jobs
QMQMRUN50	*CLS	A class description for low priority WebSphere MQ jobs

*Table 2. Work management objects created for a queue manager*

Name	Type	Description
AMQA000000	*JRNRCV	Local journal receiver
AMQAJRN	*JRN	Local journal
AMQJRNINF	*USRSPC	User space that is updated with the latest journal receivers required for startup and media recovery of a queue manager. This user space can be queried by an application to determine which journal receivers require archiving and which can be safely deleted.
AMQAJRNMSG	*MSGQ	Local journal message queue
AMQCRC6B	*PGM	Program to start the LU6.2 connection
AMQRFOLD	*FILE	Migrated queue manager channel definition file
QMQMMSG	*MSGQ	Queue manager message queue

**Parent topic:** [Work management](#)

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## 4.3. How WebSphere MQ uses the work management objects



**Warning**

Do not alter the job queue entry settings in the QMQM subsystem to limit the number of jobs allowed in the subsystem by priority. If you attempt to do this, you can stop essential WebSphere® MQ jobs from running after they are submitted and cause the queue manager startup to fail.

To understand how to configure work management, you must first understand how WebSphere MQ uses job descriptions.

The job description used to start the job controls many attributes of the job. For example:

- The job queue on which the job is queued and on which subsystem the job runs.
- The routing data used to start the job and class that the job uses for its run-time parameters.
- The output queue that the job uses for print files.

The process of starting a WebSphere MQ job can be considered in three steps:

1. WebSphere MQ selects a job description.

WebSphere MQ uses the following technique to determine which job description to use for a batch job:

- a. Look in the queue manager library for a job description with the same name as the job. See [Understanding WebSphere MQ queue manager library names](#) for further details about the queue manager library.
- b. Look in the queue manager library for the default job description QMQMJOBID.
- c. Look in the QMQM library for a job description with the same name as the job.
- d. Use the default job description, QMQMJOBID, in the QMQM library.

2. The job is submitted to the job queue.

Job descriptions supplied with WebSphere MQ have been set up, by default, to put jobs on to job queue QMQM in library QMQM. The QMQM job queue is attached to the supplied QMQM subsystem, so by default the jobs start running in the QMQM subsystem.

3. The job enters the subsystem and goes through the routing steps.

When the job enters the subsystem, the routing data specified on the job description is used to find routing entries for the job.

The routing data must match one of the routing entries defined in the QMQM subsystem, and this defines which of the supplied classes (QMQMRUN20, QMQMRUN35, or QMQMRUN50) is used by the job.

**Note:** If WebSphere MQ jobs do not appear to be starting, make sure that the subsystem is running and the job queue is not held,

If you have modified the WebSphere MQ work management objects, make sure everything is associated correctly. For example, if you specify a job queue other than QMQM/QMQM on the job description, make sure that an ADDJOBQE is performed for the subsystem, that is, QMQM.

You can create a job description for each job documented in [Table 1](#) using the following worksheet as an example:


What is the queue manager library name? _____		
Does job description AMQZXMA0 exist in the queue manager library?	Yes	No
Does job description QMQMJOBID exist in the queue manager library?	Yes	No
Does job description AMQZXMA0 exist in the QMQM library?	Yes	No
Does job description QMQMJOBID exist in the QMQM library?	Yes	No

If you answer No to all these questions, create a global job description QMQMJOBID in the QMQM library.

### [The WebSphere MQ message queue](#)

#### [Configuring work management](#)

Parent topic: [Work management](#)

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## 4.3.1. The WebSphere MQ message queue

A WebSphere® MQ message queue, QMQMMSG, is created in each queue manager library. Operating system messages are sent to this queue when queue manager jobs end and WebSphere MQ sends messages to the queue. For example, to report which journal receivers are needed at startup. Keep the number of messages in this message queue at a manageable size to make it easier to monitor.

### [Default system examples](#)

Parent topic: [How WebSphere MQ uses the work management objects](#)

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### 4.3.1.1. Default system examples

The following examples show how an unmodified WebSphere® MQ installation works when some of the standard jobs are submitted at queue manager startup time.

The first job that is started is the execution controller, AMQZXMA0.

1. Issue the **STRMQM** command for queue manager TESTQM.
2. WebSphere MQ searches the queue manager library QMTESTQM, firstly for job description AMQZXMA0, and then job description QMQMJOBID. Neither of these job descriptions exist, so WebSphere MQ looks for job description AMQZXMA0 in the product library QMQM. This job description exists, so it is used to submit the job.
3. The job description uses the WebSphere MQ default job queue, so the job is submitted to job queue QMQM/QMQM.
4. The routing data on the AMQZXMA0 job description is QMQMRUN20, so the system searches the subsystem routing entries for one that matches that data.


By default, the routing entry with sequence number 9900 has comparison data that matches QMQMRUN20, so the job is started with the class defined on that routing entry, which is also called QMQMRUN20.

- The QMQM/QMQMRUN20 class has run priority set to 20, so the AMQZXMA0 job runs in subsystem QMQM with the same priority as most interactive jobs on the system.

The next job that starts is the checkpoint process, AMQALMPX.

- WebSphere MQ searches the queue manager library QMTESTQM, firstly for job description AMQALPMX, and then job description QMQMJOB. Neither of these job descriptions exist, so WebSphere MQ looks for job descriptions AMQALMPX and QMQMJOB in the product library QMQM. Job description AMQALMPX does not exist but QMQMJOB does, so QMQMJOB is used to submit the job.  
**Note:** The QMQMJOB job description is always used for WebSphere MQ jobs that do not have their own job description.
- The job description uses the WebSphere MQ default job queue, so the job is submitted to job queue QMQM/QMQM.
- The routing data on the QMQMJOB job description is QMQMRUN35, so the system searches the subsystem routing entries for one that matches that data.  
By default, the routing entry with sequence number 9910 has comparison data that matches QMQMRUN35, so the job is started with the class defined on that routing entry, which is also called QMQMRUN35.
- The QMQM/QMQMRUN35 class has run priority set to 35, so the AMQALMPX job runs in subsystem QMQM with a lower priority than most interactive jobs on the system, but higher priority than most batch jobs.

**Parent topic:** [The WebSphere MQ message queue](#)

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## 4.3.2. Configuring work management

The preceding examples show how WebSphere® MQ job descriptions determine the run-time attributes of WebSphere MQ jobs.


The following examples show how you can change and create WebSphere MQ job descriptions to change the run-time attributes of WebSphere MQ jobs.

The key to the flexibility of WebSphere MQ work management lies in the two-tier way that WebSphere MQ searches for job descriptions:

- If you create or change job descriptions in a queue manager library, those changes override the global job descriptions in QMQM, but the changes are *local* and affect that particular queue manager alone.
- If you create or change global job descriptions in the QMQM library, those job descriptions affect all queue managers on the system, unless overridden locally for individual queue managers.

### Configuration examples

**Parent topic:** [How WebSphere MQ uses the work management objects](#)

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### 4.3.2.1. Configuration examples

- The following example increases the priority of channel control jobs for an individual queue manager.  
To make the repository manager and channel initiator jobs, AMQRRMFA and RUNMQCHI, run as quickly as possible for queue manager TESTQM, carry out the following steps:

- Create local duplicates of the QMQM/QMQMJOB job description with the names of the WebSphere® MQ processes that you want to control in the queue manager library. For example,

```
CRTDUPOBJ OBJ(QMQMJOB) FROMLIB(QMQM) OBJTYPE(*JOB) TOLIB(QMTESTQM)
NEWOBJ(RUNMQCHI)
CRTDUPOBJ OBJ(QMQMJOB) FROMLIB(QMQM) OBJTYPE(*JOB) TOLIB(QMTESTQM)
NEWOBJ(AMQRRMFA)
```

- Change the routing data parameter on the job description to ensure that the jobs use the QMQMRUN20 class.

```
CHGJOB JOB(QMTESTQM/RUNMQCHI) RTGDTA('QMQMRUN20')
CHGJOB JOB(QMTESTQM/AMQRRMFA) RTGDTA('QMQMRUN20')
```

The AMQRRMFA and RUNMQCHI jobs for queue manager TESTQM now:

- Use the new local job descriptions in the queue manager library
- Run with priority 20, because the QMQMRUN20 class is used when the jobs enter the subsystem.

- The following example defines a new run priority class for the QMQM subsystem.

- Create a duplicate class in the QMQM library, to allow other queue managers to access the class, by issuing the following command:

```
CRTDUPOBJ OBJ(QMQMRUN20) FROMLIB(QMQM) OBJTYPE(*CLS) TOLIB(QMQM)
NEWOBJ(QMQMRUN10)
```

- Change the class to have the new run priority by issuing the following command:

```
CHGCLS CLS(QMQM/QMQMRUN10) RUNPTY(10)
```

- Add the new class definition to the subsystem by issuing the following command:

```
ADDRTGE SBS(D(QMQM/QMQM) SEQNBR(8999) CMPVAL('QMQMRUN10')) PGM(QSYS/QCMD)
CLS(QMQM/QMQMRUN10)
```

**Note:** You can specify any numeric value for the routing sequence number, but the values must be in sequential order. This sequence number tells the subsystem the order in which routing entries are to be searched for a routing data match.

- Change the local or global job description to use the new priority class by issuing the following command:

```
CHGJOB JOB(QMQMlibname/QMQMJOB) RTGDTA('QMQMRUN10')
```

Now all the queue manager jobs associated with the QMLibraryname use a run priority of 10.

### 3. The following example runs a queue manager in its own subsystem

To make all the jobs for queue manager TESTQM run in the QBATCH subsystem, carry out the following steps:

- a. Create a local duplicate of the QMQM/QMQMJOB job description in the queue manager library with the command

```
CRTDUPOBJ OBJ(QMQMJOB) FROMLIB(QMQM) OBJTYPE(*JOB) TOLIB(QMTESTQM)
```

- b. Change the job queue parameter on the job description to ensure that the jobs use the QBATCH job queue.

```
CHGJOB JOB(QMTESTQM/QMQMJOB) JOBQ(*LIBL/QBATCH)
```

**Note:** The job queue is associated with the subsystem description. If you find that the jobs are staying on the job queue, verify that the job queue definition is defined on the SBS. Use the DSPSBS command for the subsystem and take option 6, "Job queue entries".

All jobs for queue manager TESTQM now:

- o Use the new local default job description in the queue manager library
- o Are submitted to job queue QBATCH.

To ensure that jobs are routed and prioritized correctly:

- o Either create routing entries for the WebSphere MQ jobs in subsystem QBATCH, or
- o Rely on a catch-all routing entry that calls QCMD, irrespective of what routing data is used. This option works only if the maximum active jobs option for job queue QBATCH is set to \*NOMAX. The system default is 1.

### 4. The following example creates another WebSphere MQ subsystem

- a. Create a duplicate subsystem in the QMQM library by issuing the following command:

```
CRTDUPOBJ OBJ(QMQM) FROMLIB(QMQM) OBJTYPE(*SBS) TOLIB(QMQM) NEWOBJ(QMQM2)
```

- b. Remove the QMQM job queue by issuing the following command:

```
RMVJOBQ SBS(QMQM/QMQM2) JOBQ(QMQM/QMQM)
```

- c. Create a new job queue for the subsystem by issuing the following command:

```
CRTJOBQ JOBQ(QMQM/QMQM2) TEXT('Job queue for MQSeries Queue Manager')
```

- d. Add a job queue entry to the subsystem by issuing the following command:

```
ADDJOBQ SBS(QMQM/QMQM2) JOBQ(QMQM/QMQM2) MAXACT(*NOMAX)
```

- e. Create a duplicate QMQMJOB in the queue manager library by issuing the following command:

```
CRTDUPOBJ OBJ(QMQMJOB) FROMLIB(QMQM) OBJTYPE(*JOB) TOLIB(QMlibraryname)
```

- f. Change the job description to use the new job queue by issuing the following command:

```
CHGJOB JOB(QMlibraryname/QMQMJOB) JOBQ(QMQM/QMQM2)
```

- g. Start the subsystem by issuing the following command:

```
STRSBS SBS(QMQM/QMQM2)
```

#### Note:

- a. You can specify the subsystem in any library. If for any reason the product is reinstalled, or the QMQM library is replaced, any changes you made are removed.
- b. All the queue manager jobs associated with the QMlibraryname now run under subsystem QMQM2.

### 5. The following example collects all output for a job type.

To collect all the checkpoint process, AMQALMPX, job logs for multiple queue managers onto a single output queue, carry out the following steps:

- a. Create an output queue, for example

```
CRTOUTQ OUTQ(MYLIB/CHKPTLOGS)
```

- b. Create a global duplicate of the QMQM/QMQMJOB job description, using the name of the WebSphere MQ process that you want to control, for example

```
CRTDUPOBJ OBJ(QMQMJOB) FROMLIB(QMQM) OBJTYPE(*JOB) NEWOBJ(AMQALMPX)
```

- c. Change the output queue parameter on the job description to point to your new output queue, and change the job logging level so that all messages are written to the job log.

```
CHGJOB JOB(QMQM/AMQALMPX) OUTQ(MYLIB/CHKPTLOGS) LOG(4 00 *SECLVL)
```

All WebSphere MQ AMQALMPX jobs, for all queue managers, use the new global AMQALMPX job description, providing that there are no local overriding job descriptions in the local queue manager library.

All job log spool files for these jobs are now written to output queue CHKPTLOGS in library MYLIB.

#### Note:

- a. The preceding example works only if the QJOBLOG, or any print file, has a value of \*JOB for its output queue parameter. In the preceding example, the QSYS/QPDJOBLOG file needs OUTQ set to \*JOB.
- b. To change a system print file, use the CHGPRTF command. For example:  

```
CHGPRTF PRTF(QJOBLOG) OUTQ(*JOB)
```

The \*JOB option indicates that your job descriptions must be used.
- c. You can send any spool files associated with the WebSphere MQ jobs to a particular output queue. However, verify that the print file being used has the appropriate value for the OUTQ parameter.

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## 5. Setting up security on i5/OS

Security for WebSphere® MQ for i5/OS® is implemented using the WebSphere MQ Object Authority Manager (OAM) and i5/OS object level security.

Security considerations that must be made when determining access authority to WebSphere MQ objects.

You need to consider the following points when setting up authorities to the users in your enterprise:

1. Grant and revoke authorities to the WebSphere MQ for i5/OS commands using the i5/OS **GRTOBJAUT** and **RVKOBJAUT** commands. In the QMQM library, certain noncommand (\*cmd) objects are set to have **\*PUBLIC** authority to **\*USE**. Do not change the authorities of these objects or use an authorization list to provide authority. Any incorrect authority might compromise WebSphere MQ functionality.

- During installation of WebSphere MQ for i5/OS, the following special user profiles are created:

#### QMQM

Is used primarily for internal product-only functions. However, it can be used to run trusted applications using MQCNO\_FASTPATH\_BINDINGS; see the [WebSphere MQ Application Programming Guide](#) for further information.

#### QMQMADM

Is used as a group profile for administrators of WebSphere MQ. The group profile gives access to CL commands and WebSphere MQ resources.

- If you are sending channel commands to remote queue managers, ensure that your user profile is a member of the group QMQMADM on the target system. For a list of PCF and MQSC channel commands, see [WebSphere MQ for i5/OS CL commands](#).
- The group set associated with a user is cached when the group authorizations are computed by the OAM.  
**Any changes made to a user's group memberships after the group set has been cached are not recognized until you restart the queue manager or execute RFRMQMAUT to refresh security.**
- Limit the number of users who have authority to work with commands that are particularly sensitive. These commands include:
  - Create Message Queue Manager (**CRTMQM**)
  - Delete Message Queue Manager (**DLTMQM**)
  - Start Message Queue Manager (**STRMQM**)
  - End Message Queue Manager (**ENDMQM**)
  - Start Command Server (**STRMQMCSVR**)
  - End Command Server (**ENDMQMCSVR**)
- Channel definitions contain a security exit program specification. Channel creation and modification requires special considerations. Details of security exits are given in [WebSphere MQ Intercommunication](#).
- The channel exit and trigger monitor programs can be substituted. The security of such replacements is the responsibility of the programmer.

#### Security considerations

Security considerations that must be made when determining access authority to WebSphere MQ objects.

#### The Object Authority Manager on i5/OS

The Object Authority Manager (OAM) manages users' authorizations to manipulate WebSphere MQ objects, including queues and process definitions. It also provides a command interface through which you can grant or revoke access authority to an object for a specific group of users. The decision to allow access to a resource is made by the OAM, and the queue manager follows that decision. If the OAM cannot make a decision, the queue manager prevents access to that resource.

#### WebSphere MQ authorities on i5/OS

To access WebSphere MQ objects, you need authority to issue the command and to access the object referenced. Administrators have access to all WebSphere MQ resources.

#### Understanding the authorization specification tables

#### Generic OAM profiles on i5/OS

Object authority manager (OAM) generic profiles enable you to set the authority a user has to many objects at once, rather than having to issue separate **GRTMQMAUT** commands against each individual object when it is created. Using generic profiles in the **GRTMQMAUT** command enables you to set a generic authority for all future objects created that fit that profile.

#### Specifying the installed authorization service on i5/OS

You can specify which authorization service component to use.

#### Working with and without authority profiles on i5/OS

Use this information to learn how to work with authority profiles and how to work without authority profiles.

#### Working with authority profiles

#### Object Authority Manager guidelines for i5/OS

Additional hints and tips for using the Object Authority Manager (OAM)

**Parent topic:** [i5/OS System Administration Guide](#)

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## 5.1. Security considerations

►Security considerations that must be made when determining access authority to WebSphere® MQ objects.◀

You need to consider the following points when setting up authorities to the users in your enterprise:

- Grant and revoke authorities to the WebSphere MQ for i5/OS® commands using the i5/OS **GRTOBJAUT** and **RVKOBJAUT** commands.  
In the **QMQM** library certain non command (\*cmd) objects are set to have **\*PUBLIC** authority to **\*USE**. Do not change the authorities of these objects or use an authorization list to provide authority. Any incorrect authority might break WebSphere MQ functionality.  
◀
- During installation of WebSphere MQ for i5/OS the following special user profiles are created:
 

#### QMQM


Is used primarily for internal product-only functions. However, it can be used to run trusted applications using MQCNO\_FASTPATH\_BINDINGS; see the [WebSphere MQ Application Programming Guide](#) for further information.

#### QMQMADM


Is used as a group profile for administrators of WebSphere MQ. The group profile gives access to CL commands and WebSphere MQ resources.  
►When using SBMJOB to submit programs that call WebSphere MQ commands, USER must not be set explicitly to QMQMADM. Instead, set USER to QMQM or another user profile that has QMQMADM specified as a group.◀
- If you are sending channel commands to remote queue managers, ensure that your user profile is a member of the group QMQMADM on the target system. For a list of PCF and MQSC channel commands, see [Channel command security](#).
- The group set associated with a user is cached when the group authorizations are computed by the OAM.  
**Any changes made to a user's group memberships after the group set has been cached are not recognized until you restart the queue manager or execute RFRMQMAUT to refresh security.**

5. Limit the number of users who have authority to work with commands that are particularly sensitive. These commands include:
  - o Create Message Queue Manager (**CRTMQM**)
  - o Delete Message Queue Manager (**DLTMQM**)
  - o Start Message Queue Manager (**STRMQM**)
  - o End Message Queue Manager (**ENDMQM**)
  - o Start Command Server (**STRMQMCSVR**)
  - o End Command Server (**ENDMQMCSVR**)
6. Channel definitions contain a security exit program specification. Channel creation and modification requires special considerations. Details of security exits is given in [WebSphere MQ Intercommunication](#).
7. The channel exit and trigger monitor programs can be substituted. The security of such replacements is the responsibility of the programmer.

**Parent topic:** [Setting up security on i5/OS](#)

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## 5.2. The Object Authority Manager on i5/OS

The Object Authority Manager (OAM) manages users' authorizations to manipulate WebSphere® MQ objects, including queues and process definitions. It also provides a command interface through which you can grant or revoke access authority to an object for a specific group of users. The decision to allow access to a resource is made by the OAM, and the queue manager follows that decision. If the OAM cannot make a decision, the queue manager prevents access to that resource.

Through the OAM you can control:


- Access to WebSphere MQ objects through the MQI. When an application program attempts to access an object, the OAM checks that the user profile making the request has the authorization for the operation requested.  
In particular, this means that queues, and the messages on queues, can be protected from unauthorized access.
- Permission to use PCF and MQSC commands.

Different groups of users can have different kinds of access authority to the same object. For example, for a specific queue, one group could perform both put and get operations; another group might be allowed only to browse the queue (MQGET with browse option). Similarly, some groups might have get and put authority to a queue, but not be allowed to alter or delete the queue.


WebSphere MQ for i5/OS® provides commands to grant, revoke, and display the authority that an application or user has to issue WebSphere MQ for i5/OS commands and perform operations on WebSphere MQ for i5/OS objects

### [Resources you can protect with the OAM](#)

**Parent topic:** [Setting up security on i5/OS](#)

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### 5.2.1. Resources you can protect with the OAM

Through the OAM you can control:


- Access to WebSphere® MQ objects through the MQI. When an application program attempts to access an object, the OAM checks that the user profile making the request has the authorization for the operation requested.  
In particular, this means that queues, and the messages on queues, can be protected from unauthorized access.
- Permission to use PCF and MQSC commands.

Different groups of users can have different kinds of access authority to the same object. For example, for a specific queue, one group could perform both put and get operations; another group might be allowed only to browse the queue (MQGET with browse option). Similarly, some groups might have get and put authority to a queue, but not be allowed to alter or delete the queue.


WebSphere MQ for i5/OS® provides commands to grant, revoke, and display the authority that an application or user has to do the following:

- Issue WebSphere MQ for i5/OS commands
- Perform operations on WebSphere MQ for i5/OS objects

**Parent topic:** [The Object Authority Manager on i5/OS](#)

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## 5.3. WebSphere MQ authorities on i5/OS

To access WebSphere® MQ objects, you need authority to issue the command and to access the object referenced. Administrators have access to all WebSphere MQ resources.

Access to WebSphere MQ objects is controlled by authorities to:

1. Issue the WebSphere MQ command
2. Access the WebSphere MQ objects referenced by the command

All WebSphere MQ for i5/OS® CL commands are shipped with an owner of QMQM, and the administration profile (QMQMADM) has \*USE rights with the

\*PUBLIC access set to \*EXCLUDE.

**Note:** ▶The QSRDUPER program is used by the WebSphere MQ for i5/OS licensed program install to duplicate Command (\*CMD) objects in QSYS. In i5/OS V5R4 and later, the QSRDUPER program was changed so that the default behavior is to create a proxy command rather than a duplicate of the original command. A proxy command redirects command execution to another command and has an attribute of PRX. If a proxy command by the same name as the command being copied exists in library QSYS, private authorities to the proxy command are not granted to the command in the product library. Attempts to prompt or run the proxy command in QSYS check the authority of the target command in the product library. Any changes in authority to \*CMD objects therefore need to be done in the product library (QMQM) and those in QSYS do not need to be modified. For example:

```
GRTOBJAUT OBJ(QMQM/DSPMQMQ) OBJTYPE(*CMD) USER(MQUSER) AUT(*USE)
```



Changes to the authority structure of some of the product's CL commands allows public use of these commands, if you have the required OAM authority to the WebSphere MQ objects to make these changes.

To be a WebSphere MQ administrator on i5/OS, you must be a member of the *QMQMADM* group. This group has properties like the properties of the *mqm* group on UNIX and Windows systems. In particular, the *QMQMADM* group is created when you install WebSphere MQ for i5/OS, and members of the *QMQMADM* group have access to all WebSphere MQ resources on the system. You also have access to all WebSphere MQ resources if you have \*ALLOBJ authority.

Administrators can use CL commands to administer WebSphere MQ. One of these commands is *GRTMQMAUT*, which is used to grant authorities to other users. Another command, *STRMQMMQSC*, enables an administrator to issue *MQSC* commands to a local queue manager.

### ▶Access authorities for WebSphere MQ objects on i5/OS◀

Access authorities required for running WebSphere MQ CL commands.

**Parent topic:** [Setting up security on i5/OS](#)

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## 5.3.1. Access authorities for WebSphere MQ objects on i5/OS

▶Access authorities required for running WebSphere® MQ CL commands.◀

WebSphere MQ for i5/OS® categorizes the product's CL commands into two groups:

### Group 1

Users must be in the *QMQMADM* user group, or have \*ALLOBJ authority, to process these commands. Users having either of these authorities can process all commands in all categories without requiring any extra authority.

**Note:** These authorities override any OAM authority.

These commands can be grouped as follows:

- Command Server Commands
  - ENDMQMCSVR, End WebSphere MQ Command Server
  - STRMQMCSVR, Start WebSphere MQ Command Server
- Dead-Letter Queue Handler Command
  - STRMQMDLQ, Start WebSphere MQ Dead-Letter Queue Handler
- ▶Listener Command◀
  - ENDMQMLSR, End WebSphere MQ listener
  - ▶STRMQMLSR, Start non-object listener◀
- ◀
- Media Recovery Commands
  - RCDMQMIMG, Record WebSphere MQ Object Image
  - RCRMQMOBJ, Re-create WebSphere MQ Object
  - WRKMQMTRN, Work with WebSphere MQ Transactions
- Queue Manager Commands
  - CRTMQM, Create Message Queue Manager
  - DLTMQM, Delete Message Queue Manager
  - ENDMQM, End Message Queue Manager
  - STRMQM, Start Message Queue Manager
- Security Commands
  - GRTMQMAUT, Grant WebSphere MQ Object Authority
  - RVKMMAUT, Revoke WebSphere MQ Object Authority
- Trace Command
  - TRCMQM, Trace WebSphere MQ Job
- Transaction Commands
  - RSVMQMTRN, Resolve WebSphere MQ Transaction
- Trigger Monitor Commands
  - STRMQMTRM, Start Trigger Monitor
- WebSphere MQSC Commands
  - RUNMQSC, Run WebSphere MQSC Commands
  - STRMQMMQSC, Start WebSphere MQSC Commands

### Group 2

The rest of the commands, for which two levels of authority are required:

- i5/OS authority to run the command. A WebSphere MQ administrator sets this using the **GRTOBJAUT** command to override the \*PUBLIC (\*EXCLUDE) restriction for a user or group of users.

For example:

```
GRTOBJAUT OBJ(DSPMQMQ) OBJTYPE(*CMD) USER(MQUSER) AUT(*USE)
```

- WebSphere MQ authority to manipulate the WebSphere MQ objects associated with the command, or commands, given the correct i5/OS authority in Step 1.

This authority is controlled by the user having the appropriate OAM authority for the required action, set by a WebSphere MQ administrator using the **GRTMQMAUT** command

For example:

```
CHGMQM *connect authority to the queue manager + *admchg authority to
the queue
```

The commands can be grouped as follows:

- Channel Commands

- o CHGMQMCHL, Change WebSphere MQ Channel
- o CPYMQMCHL, Copy WebSphere MQ Channel
- o CRTMQMCHL, Create WebSphere MQ Channel
- o DLTMQMCHL, Delete WebSphere MQ Channel
- o RSVMQMCHL, Resolve WebSphere MQ Channel

- Display commands

To process the DSP commands you must grant the user \*connect and \*admdsp authority to the queue manager, together with any specific option listed:

- o DSPMQM, Display Message Queue Manager
- o DSPMQMAUT, Display WebSphere MQ Object Authority
- o DSPMQMAUTI, Display WebSphere MQ Authentication Information – \*admdsp to the authentication information object
- o DSPMQMCHL, Display WebSphere MQ Channel – \*admdsp to the channel
- o DSPMQMCSVR, Display WebSphere MQ Command Server
- o DSPMQMNL, Display WebSphere MQ Namelist – \*admdsp to the namelist
- o DSPMQMOBJN, Display WebSphere MQ Object Names
- o DSPMQMPRC, Display WebSphere MQ Process – \*admdsp to the process
- o DSPMQMQ, Display WebSphere MQ Queue – \*admdsp to the queue
- o DSPMQMTOP, Display WebSphere MQ Topic – \*admdsp to the topic

- Work with commands

To process the WRK commands and display the options panel you must grant the user \*connect and \*admdsp authority to the queue manager, together with any specific option listed:

- o WRKMQM, Work with Message Queue Managers
- o WRKMQMAUT, Work with WebSphere MQ Object Authority
- o WRKMQMAUTD, Work with WebSphere MQ Object Authority Data
- o WRKMQMAUTI, Work with WebSphere MQ Authentication Information
  - \*admchg for the Change WebSphere MQ Authentication Information Object command.
  - \*admcpy for the Copy WebSphere MQ Authentication Information Object command.
  - \*admcrtr for the Create WebSphere MQ Authentication Information Object command.
  - \*admdlt for the Delete WebSphere MQ Authentication Information Object command.
  - \*admdsp for the Display WebSphere MQ Authentication Information Object command.



- o WRKMQMCHL, Work with WebSphere MQ Channel

▶ This requires the following authorities:

- \*admchg for the Change WebSphere MQ Channel command.
- \*admclr for the Clear WebSphere MQ Channel command.
- \*admcpy for the Copy WebSphere MQ Channel command.
- \*admcrtr for the Create WebSphere MQ Channel command.
- \*admdlt for the Delete WebSphere MQ Channel command.
- \*admdsp for the Display WebSphere MQ Channel command.
- ▶\*ctrl for the Start WebSphere MQ Channel command.◀
- ▶\*ctrl for the End WebSphere MQ Channel command.◀
- ▶\*ctrl for the Ping WebSphere MQ Channel command.◀
- ▶\*ctrlx for the Reset WebSphere MQ Channel command.◀
- ▶\*ctrlx for the Resolve WebSphere MQ Channel command.◀



- o WRKMQMCHST, Work with WebSphere MQ Channel Status

▶ This requires \*admdsp authority to the channel.◀

- o WRKMQMCL, Work with WebSphere MQ Clusters
- o WRKMQMCLQ, Work with WebSphere MQ Cluster Queues
- o WRKMQMCLQM, Work with WebSphere MQ Cluster Queue Manager
- o WRKMQMLSR, Work with WebSphere MQ Listener
- o WRKMQMMSG, Work with WebSphere MQ Messages  
This requires \*browse authority to the queue
- o WRKMQMNL, Work with WebSphere MQ Namelists  
This requires the following authorities:
  - \*admchg for the Change WebSphere MQ Namelist command.
  - \*admcpy for the Copy WebSphere MQ Namelist command.
  - \*admcrtr for the Create WebSphere MQ Namelist command.

- \*admdlt for the Delete WebSphere MQ Namelist command.
  - \*admdsp for the Display WebSphere MQ Namelist command.
- WRKMQMPRC, Work with WebSphere MQ Processes  
This requires the following authorities:
  - \*admchg for the Change WebSphere MQ Process command.
  - \*admcpy for the Copy WebSphere MQ Process command.
  - \*admcrct for the Create WebSphere MQ Process command.
  - \*admdlt for the Delete WebSphere MQ Process command.
  - \*admdsp for the Display WebSphere MQ Process command.
- WRKMQMQ, Work with WebSphere MQ queues  
This requires the following authorities:
  - \*admchg for the Change WebSphere MQ Queue command.
  - \*admclr for the Clear WebSphere MQ Queue command.
  - \*admcpy for the Copy WebSphere MQ Queue command.
  - \*admcrct for the Create WebSphere MQ Queue command.
  - \*admdlt for the Delete WebSphere MQ Queue command.
  - \*admdsp for the Display WebSphere MQ Queue command.
- WRKMQMQSTS, Work with WebSphere MQ Queue Status
- ►WRKMQMTOP, Work with WebSphere MQ Topics  
This requires the following authorities►
  - \*admchg for the Change WebSphere MQ Topic command.
  - \*admcpy for the Copy WebSphere MQ Topic command.
  - \*admcrct for the Create WebSphere MQ Topic command.
  - \*admdlt for the Delete WebSphere MQ Topic command.
  - \*admdsp for the Display WebSphere MQ Topic command.
- ◀
- ◀
- ►WRKMQMSUB, Work with WebSphere MQ Subscriptions◀
- Other Channel commands  
To process the channel commands you must grant the user the specific authorities listed:
  - ENDMQMCHL, End WebSphere MQ Channel  
This requires \*connect authority to the queue manager and \*allmqi authority to the transmission queue associated with the channel.
  - ►ENDMQLSR, End WebSphere MQ Listener  
This requires \*connect authority to the queue manager and \*ctrl authority to the named listener object.  
◀
  - PNGMQMCHL, Ping WebSphere MQ Channel  
This requires \*connect and \*inq authority to the queue manager.
  - RSTMQMCHL, Reset WebSphere MQ Channel  
This requires \*connect authority to the queue manager.
  - ►STRMQMCHL, Start WebSphere MQ Channel  
This requires \*connect authority to the queue manager and \*ctrl authority to the channel object.  
◀
  - STRMQMCHLI, Start WebSphere MQ Channel Initiator  
This requires \*connect and \*inq authority to the queue manager, and \*allmqi authority to the initiation queue associated with the transmission queue of the channel.
  - STRMQLSR, Start WebSphere MQ Listener  
►This requires \*connect authority to the queue manager and \*ctrl authority to the named listener object.◀
- Other commands:  
To process the following commands you must grant the user the specific authorities listed:
  - CCTMQM, Connect to Message Queue Manager  
This requires no WebSphere MQ object authority.
  - CHGMQM, Change Message Queue Manager  
This requires \*connect and \*admchg authority to the queue manager.
  - ►CHGMQMAUTI, Change WebSphere MQ Authentication Information  
This requires \*connect authority to the queue manager and \*admchg and \*admdsp authority to the authentication information object.  
◀
  - CHGMQMNL, Change WebSphere MQ Namelist  
This requires \*connect authority to the queue manager and \*admchg authority to the namelist.
  - CHGMQMPRC, Change WebSphere MQ Process  
This requires \*connect authority to the queue manager and \*admchg authority to the process.
  - CHGMQMQ, Change WebSphere MQ Queue  
This requires \*connect authority to the queue manager and \*admchg authority to the queue.
  - CLRMQMQ, Clear WebSphere MQ Queue  
This requires \*connect authority to the queue manager and ►\*admclr◀ authority to the queue.
  - ►CPYMQMAUTI, Copy WebSphere MQ Authentication Information  
This requires \*connect authority to the queue manager and \*admdsp authority to the authentication information object and \*admcrct authority to the authentication information object class.  
◀
  - CPYMQMNL, Copy WebSphere MQ Namelist  
This requires \*connect and \*admcrct authority to the queue manager.
  - CPYMQMPRC, Copy WebSphere MQ Process  
This requires \*connect and \*admcrct authority to the queue manager.
  - CPYMQMQ, Copy WebSphere MQ Queue  
This requires \*connect and \*admcrct authority to the queue manager.



- o **▶CRTMQMAUTI, Create WebSphere MQ Authentication Information**  
This requires \*connect authority to the queue manager and \*admdsp authority to the authentication information object and \*admcrct authority to the authentication information object class.  
◀
- o **CRTMQMNL, Create WebSphere MQ Namelist**  
This requires \*connect and \*admcrct authority to the queue manager and \*admdsp authority to the default namelist.
- o **CRTMQMPRC, Create WebSphere MQ Process**  
This requires \*connect and \*admcrct authority to the queue manager and \*admdsp authority to the default process.
- o **CRTMQMQ, Create WebSphere MQ Queue**  
This requires \*connect and \*admcrct authority to the queue manager and \*admdsp authority to the default queue.
- o **CVTMQMMDTA, Convert WebSphere MQ Data Type Command**  
This requires no WebSphere MQ object authority.
- o **▶DLTMQMAUTI, Delete WebSphere MQ Authentication Information**  
This requires \*connect authority to the queue manager and \*ctrlx authority to the authentication information object.  
◀
- o **DLTMQMNL, Delete WebSphere MQ Namelist**  
This requires \*connect authority to the queue manager and \*admdlt authority to the namelist.
- o **DLTMQMPRC, Delete WebSphere MQ Process**  
This requires \*connect authority to the queue manager and \*admdlt authority to the process.
- o **DLTMQMQ, Delete WebSphere MQ Queue**  
This requires \*connect authority to the queue manager and \*admdlt authority to the queue.
- o **DSCMQM, Disconnect from Message Queue Manager**  
This requires no WebSphere MQ object authority.
- o **RFRMQMAUT, Refresh Security**  
This requires \*connect authority to the queue manager.
- o **RFRMQMCL, Refresh Cluster**  
This requires \*connect authority to the queue manager.
- o **RSMMQMCLQM, Resume Cluster Queue Manager**  
This requires \*connect authority to the queue manager.
- o **RSTMQMCL, Reset Cluster**  
This requires \*connect authority to the queue manager.
- o **SPDMQMCLQM, Suspend Cluster Queue Manager**  
This requires \*connect authority to the queue manager.

#### ▶Access authorizations on i5/OS◀

Use this information to understand the access authorization commands.

#### ▶Using the access authorization commands on i5/OS◀


Use this information to learn about the access authorization commands, and use the command examples.

#### ▶Using the RVKMQMAUT command◀

#### ▶Using the DSPMQMAUT command◀

#### ▶Using the RFRMQMAUT command◀

Parent topic: [WebSphere MQ authorities on i5/OS](#)

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### 5.3.1.1. Access authorizations on i5/OS®

Use this information to understand the access authorization commands.

Authorizations defined by the AUT keyword on the **GRTMQMAUT** and **RVKMQMAUT** commands can be categorized as follows:

- Authorizations related to MQI calls
- Authorization-related administration commands
- Context authorizations
- General authorizations, that is, for MQI calls, for commands, or both

The following tables list the different authorities, using the AUT parameter for MQI calls, Context calls, MQSC and PCF commands, and generic operations.

Table 1. Authorizations for MQI calls

AUT	Description
*ALTUSR	Allow another user's authority to be used for MQOPEN and MQPUT1 calls.
*BROWSE	Retrieve a message from a queue by issuing an MQGET call with the BROWSE option.
*CONNECT	Connect the application to the specified queue manager by issuing an MQCONN call.
*GET	Retrieve a message from a queue by issuing an MQGET call.
*INQ	Make an inquiry on a specific queue by issuing an MQINQ call.
▶*PUB◀	▶Open a topic to publish a message using an MQPUT call.◀
*PUT	Put a message on a specific queue by issuing an MQPUT call.
▶*RESUME◀	▶Resume a subscription using an MQSUB call.◀
*SET	Set attributes on a queue from the MQI by issuing an MQSET call. If you open a queue for multiple options, you must be authorized for each of them.
▶*SUB◀	▶Create, Alter or Resume a subscription to a topic using an MQSUB call.◀

Table 2. Authorizations for context calls

AUT	Description
*PASSALL	Pass all context on the specified queue. All the context fields are copied from the original request.
*PASSID	Pass identity context on the specified queue. The identity context is the same as that of the request.
*SETALL	Set all context on the specified queue. This is used by special system utilities.
*SETID	Set identity context on the specified queue. This is used by special system utilities.


Table 3. Authorizations for MQSC and PCF calls

AUT	Description
*ADMCHG	Change the attributes of the specified object.
*ADMCLR	►Clear the specified object (PCF Clear object command only).◀
*ADMCR	Create objects of the specified type.
*ADMDEL	Delete the specified object.
*ADMDS	Display the attributes of the specified object.

Table 4. Authorizations for generic operations

AUT	Description
*ALL	Use all operations applicable to the object.
*ALLADM	Perform all administration operations applicable to the object.
*ALLMQI	Use all MQI calls applicable to the object.
*CTRL	Control startup and shutdown of channels, listeners, and services.
*CTRLX	Reset sequence number and resolve indoubt channels.

Parent topic: ►[Access authorities for WebSphere MQ objects on i5/OS](#)◀

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### 5.3.1.2. Using the access authorization commands on i5/OS

Use this information to learn about the access authorization commands, and use the command examples.

#### Using the GRMQMAUT command

If you have the required authorization, you can use the **GRMQMAUT** command to grant authorization of a user profile or user group to access a particular object. The following examples illustrate how the **GRMQMAUT** command is used:

1. **GRMQMAUT** OBJ(RED.LOCAL.QUEUE) OBJTYPE(\*LCLQ) USER(GROUPA) +  
AUT(\*BROWSE \*PUT) MQMNAME('saturn.queue.manager')

In this example:

- o RED.LOCAL.QUEUE is the object name.
- o \*LCLQ (local queue) is the object type.
- o GROUPA is the name of a user profile on the system whose authorizations are to change. This profile can be used as a group profile for other users.
- o \*BROWSE and \*PUT are the authorizations being granted to the specified queue.  
\*BROWSE adds authorization to browse messages on the queue (to issue MQGET with the browse option).  
\*PUT adds authorization to put (MQPUT) messages on the queue.
- o saturn.queue.manager is the queue manager name.

2. The following command grants to users JACK and JILL all applicable authorizations, to all process definitions, for the default queue manager.

```
GRMQMAUT OBJ(*ALL) OBJTYPE(*PRC) USER(JACK JILL) AUT(*ALL)
```

3. The following command grants user GEORGE authority to put a message on the queue ORDERS, on the queue manager TRENT.

```
GRMQMAUT OBJ(TRENT) OBJTYPE(*MQM) USER(GEORGE) AUT(*CONNECT) MQMNAME (TRENT)  
GRMQMAUT OBJ(ORDERS) OBJTYPE(*Q) USER(GEORGE) AUT(*PUT) MQMNAME (TRENT)
```

#### Using the RVKMQMAUT command

If you have the required authorization, you can use the **RVKMQMAUT** command to remove previously granted authorization of a user profile or user group to access a particular object. The following examples illustrate how the **RVKMQMAUT** command is used:

1. **RVKMQMAUT** OBJ(RED.LOCAL.QUEUE) OBJTYPE(\*LCLQ) USER(GROUPA) +  
AUT(\*PUT) MQMNAME('saturn.queue.manager')

The authority to put messages to the specified queue, that was granted in the previous example, is removed for GROUPA.

2. **RVKMQMAUT** OBJ(PAY\*) OBJTYPE(\*Q) USER(\*PUBLIC) AUT(\*GET) +  
MQMNAME (PAYROLLQM)

Authority to get messages from any queue whose name starts with the characters PAY, owned by queue manager PAYROLLQM, is removed from all users of the system unless they, or a group to which they belong, have been separately authorized.

#### Using the DSPMQMAUT command

The display MQM authority (**DSPMQMAUT**) command shows, for the specified object and user, the list of authorizations that the user has for the object. The following example illustrates how the command is used:

```
DSPMQMAUT OBJ(ADMINNL) OBJTYPE(*NMLIST) USER(JOE) OUTPUT(*PRINT) +  
MQMNAME (ADMINQM)
```


#### Using the RFRMQMAUT command

The refresh MQM security (**RFRMQMAUT**) command enables you to update the OAM's authorization group information immediately, reflecting changes

made at the operating system level, without needing to stop and restart the queue manager. The following example illustrates how the command is used:

```
RFRMQMAUT MQMNAME (ADMINQM)
```

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### 5.3.1.3. Using the RVKMQMAUT command

Provided that you have the required authorization, you can use the **RVKMQMAUT** command to remove previously granted authorization of a user profile or user group to access a particular object. The following examples illustrate how the **RVKMQMAUT** command is used:

1. 

```
RVKMQMAUT OBJ (RED.LOCAL.QUEUE) OBJTYPE (*LCLQ) USER (GROUPA) +
AUT (*PUT) MQMNAME ('saturn.queue.manager')
```


The authority to put messages to the specified queue, that was granted in the previous example, is removed for GROUPA.

2. 

```
RVKMQMAUT OBJ (PAY*) OBJTYPE (*Q) USER (*PUBLIC) AUT (*GET) +
MQMNAME (PAYROLLQM)
```

Authority to get messages from any queue whose name starts with the characters PAY, owned by queue manager PAYROLLQM, is removed from all users of the system unless they, or a group to which they belong, have been separately authorized.

**Parent topic:** [▶Access authorities for WebSphere MQ objects on i5/OS◀](#)

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### 5.3.1.4. Using the DSPMQMAUT command

The display MQM authority (**DSPMQMAUT**) command shows, for the specified object and user, the list of authorizations that the user has for the object. The following example illustrates how the command is used:

```
DSPMQMAUT OBJ (ADMINNL) OBJTYPE (*NMLIST) USER (JOE) OUTPUT (*PRINT) +
MQMNAME (ADMINQM)
```

**Parent topic:** [▶Access authorities for WebSphere MQ objects on i5/OS◀](#)

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### 5.3.1.5. Using the RFRMQMAUT command

The refresh MQM security (**RFRMQMAUT**) command enables you to update the OAM's authorization group information immediately, reflecting changes made at the operating system level, without needing to stop and restart the queue manager. The following example illustrates how the command is used:

```
RFRMQMAUT MQMNAME (ADMINQM)
```

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## 5.4. Understanding the authorization specification tables

The authorization specification tables starting in topic [Table 1](#) define precisely how the authorizations work and the restrictions that apply. The tables apply to these situations:

- Applications that issue MQI calls
- Administration programs that issue MQSC commands as escape PCFs
- Administration programs that issue PCF commands

In this section the information is presented as a set of tables that specify the following:

#### Action to be performed

MQI option, MQSC command, or PCF command.

#### Access control object

Queue, process definition, queue manager, namelist, channel, client connection channel, listener, service, or authentication information object.

#### Authorization required

Expressed as an MQZAO\_ constant.

In the tables, the constants prefixed by MQZAO\_ correspond to the keywords in the authorization list for the **GRTMQMAUT** and **RVKMQMAUT** commands for the particular entity. For example, MQZAO\_BROWSE corresponds to the keyword \*BROWSE; similarly, the keyword MQZAO\_SET\_ALL\_CONTEXT corresponds to the keyword \*SETALL and so on. These constants are defined in the header file cmqzc.h, which is supplied with the product.

[Authorization specification tables for i5/OS](#)

Use this information to determine what authorization is required to use particular API calls, and particular options of those calls, on queue objects, process objects, and queue manager objects.

### Administration authorizations

#### Authorizations for MQSC commands in escape PCFs on i5/OS

These authorizations allow a user to issue administration commands as an escape PCF message. These methods allow a program to send an administration command as a message to a queue manager, for execution on behalf of that user.

Parent topic: [Setting up security on i5/OS](#)

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## 5.4.1. Authorization specification tables for i5/OS

Use this information to determine what authorization is required to use particular API calls, and particular options of those calls, on queue objects, process objects, and queue manager objects.

The authorization specification tables starting in [Table 1](#) define precisely how the authorizations work and the restrictions that apply. The tables apply to these situations:

- Applications that issue MQI calls
- Administration programs that issue MQSC commands as escape PCFs
- Administration programs that issue PCF commands

In this section, the information is presented as a set of tables that specify the following data:

#### Action to be performed

MQI option, MQSC command, or PCF command.

#### Access control object

Queue, process definition, queue manager, namelist, channel, client connection channel, listener, service, or authentication information object.

#### Authorization required

Expressed as an MQZAO\_ constant.

In the tables, the constants prefixed by MQZAO\_ correspond to the keywords in the authorization list for the **GRTMQMAUT** and **RVKMQMAUT** commands for the particular entity. For example, MQZAO\_BROWSE corresponds to the keyword \*BROWSE; similarly, the keyword MQZAO\_SET\_ALL\_CONTEXT corresponds to the keyword \*SETALL, and so on. These constants are defined in the header file cmqzc.h, which is supplied with the product.

#### MQI authorizations

An application is allowed to issue specific MQI calls and options only if the user identifier under which it is running (or whose authorizations it is able to assume) has been granted the relevant authorization.

Four MQI calls require authorization checks: MQCONN, MQOPEN, MQPUT1, and MQCLOSE.

For MQOPEN and MQPUT1, the authority check is made on the name of the object being opened, and not on the name, or names, resulting after a name has been resolved. For example, an application can be granted authority to open an alias queue without having authority to open the base queue to which the alias resolves. The rule is that the check is carried out on the first definition encountered during the process of name resolution that is not a queue-manager alias, unless the queue-manager alias definition is opened directly; that is, its name appears in the *ObjectName* field of the object descriptor. Authority is always needed for the particular object being opened; in some cases additional queue-independent authority, obtained through an authorization for the queue-manager object, is required.

[Table 1](#), [Table 2](#), [Table 3](#), and [Table 4](#) summarize the authorizations needed for each call.

**Note:** These tables do not mention namelists, channels, client connection channels, listeners, services, or authentication information objects. This is because none of the authorizations apply to these objects, except for MQOO\_INQUIRE, for which the same authorizations apply as for the other objects.

Table 1. Security authorization needed for MQCONN calls

Authorization required for:	Queue object (1)	Process object	Queue manager object
MQCONN option	Not applicable	Not applicable	MQZAO_CONNECT

Table 2. Security authorization needed for MQOPEN calls

Authorization required for:	Queue object (1)	Process object	Queue manager object
MQOO_INQUIRE	MQZAO_INQUIRE (2)	MQZAO_INQUIRE (2)	MQZAO_INQUIRE (2)
MQOO_BROWSE	MQZAO_BROWSE	Not applicable	No check
MQOO_INPUT_*	MQZAO_INPUT	Not applicable	No check
MQOO_SAVE_ALL_CONTEXT (3)	MQZAO_INPUT	Not applicable	Not applicable
MQOO_OUTPUT (Normal queue) (4)	MQZAO_OUTPUT	Not applicable	Not applicable
MQOO_PASS_IDENTITY_CONTEXT (5)	MQZAO_PASS_IDENTITY_CONTEXT	Not applicable	No check
MQOO_PASS_ALL_CONTEXT (5, 6)	MQZAO_PASS_ALL_CONTEXT	Not applicable	No check
MQOO_SET_IDENTITY_CONTEXT (5, 6)	MQZAO_SET_IDENTITY_CONTEXT	Not applicable	MQZAO_SET_IDENTITY_CONTEXT (7)
MQOO_SET_ALL_CONTEXT (5, 8)	MQZAO_SET_ALL_CONTEXT	Not applicable	MQZAO_SET_ALL_CONTEXT (7)
MQOO_OUTPUT (Transmission queue) (9)	MQZAO_SET_ALL_CONTEXT	Not applicable	MQZAO_SET_ALL_CONTEXT (7)
MQOO_SET	MQZAO_SET	Not applicable	No check
MQOO_ALTERNATE_USER_AUTHORITY	(10)	(10)	MQZAO_ALTERNATE_USER_AUTHORITY (10, 11)

Table 3. Security authorization needed for MQPUT1 calls

Authorization required for:	Queue object (1)	Process object	Queue manager object
MQPMO_PASS_IDENTITY_CONTEXT	MQZAO_PASS_IDENTITY_CONTEXT (12)	Not applicable	No check
MQPMO_PASS_ALL_CONTEXT	MQZAO_PASS_ALL_CONTEXT (12)	Not applicable	No check
MQPMO_SET_IDENTITY_CONTEXT	MQZAO_SET_IDENTITY_CONTEXT (12)	Not applicable	MQZAO_SET_IDENTITY_CONTEXT (7)
MQPMO_SET_ALL_CONTEXT	MQZAO_SET_ALL_CONTEXT (12)	Not applicable	MQZAO_SET_ALL_CONTEXT (7)
(Transmission queue) (9)	MQZAO_SET_ALL_CONTEXT	Not applicable	MQZAO_SET_ALL_CONTEXT (7)
MQPMO_ALTERNATE_USER_AUTHORITY	(13)	Not applicable	MQZAO_ALTERNATE_USER_AUTHORITY (11)

Table 4. Security authorization needed for MQCLOSE calls

Authorization required for:	Queue object (1)	Process object	Queue manager object
MQCO_DELETE	MQZAO_DELETE (14)	Not applicable	Not applicable
MQCO_DELETE_PURGE	MQZAO_DELETE (14)	Not applicable	Not applicable


**Notes for the tables:**

- If a model queue is being opened:
  - MQZAO\_DISPLAY authority is needed for the model queue, in addition to the authority to open the model queue for the type of access for which you are opening.
  - MQZAO\_CREATE authority is not needed to create the dynamic queue.
  - The user identifier used to open the model queue is automatically granted all the queue-specific authorities (equivalent to MQZAO\_ALL) for the dynamic queue created.
- Either the queue, process, namelist, or queue manager object is checked, depending on the type of object being opened.
- MQOO\_INPUT\_\* must also be specified. This option is valid for a local, model, or alias queue.
- This check is performed for all output cases, except the case specified in note 2.
- MQOO\_OUTPUT must also be specified.
- MQOO\_PASS\_IDENTITY\_CONTEXT is also implied by this option.
- This authority is required for both the queue manager object and the particular queue.
- MQOO\_PASS\_IDENTITY\_CONTEXT, MQOO\_PASS\_ALL\_CONTEXT, and MQOO\_SET\_IDENTITY\_CONTEXT are also implied by this option.
- This check is performed for a local or model queue that has a *Usage* queue attribute of MQUS\_TRANSMISSION, and is being opened directly for output. It does not apply if a remote queue is being opened (either by specifying the names of the remote queue manager and remote queue, or by specifying the name of a local definition of the remote queue).
- At least one of MQOO\_INQUIRE (for any object type), or (for queues) MQOO\_BROWSE, MQOO\_INPUT\_\*, MQOO\_OUTPUT, or MQOO\_SET must also be specified. The check carried out is as for the other options specified, using the supplied alternate-user identifier for the specific-named object authority, and the current application authority for the MQZAO\_ALTERNATE\_USER\_IDENTIFIER check.
- This authorization allows any *AlternateUserId* to be specified.
- An MQZAO\_OUTPUT check is also carried out if the queue does not have a *Usage* queue attribute of MQUS\_TRANSMISSION.
- The check carried out is as for the other options specified, using the supplied alternate-user identifier for the named queue authority, and the current application authority for the MQZAO\_ALTERNATE\_USER\_IDENTIFIER check.
- The check is carried out only if both of the following are true:
  - A permanent dynamic queue is being closed and deleted.
  - The queue was not created by the MQOPEN that returned the object handle being used.
 Otherwise, there is no check.

**General notes:**

- The special authorization MQZAO\_ALL\_MQI includes all the following authorizations that are relevant to the object type:
  - MQZAO\_CONNECT
  - MQZAO\_INQUIRE
  - MQZAO\_SET
  - MQZAO\_BROWSE
  - MQZAO\_INPUT
  - MQZAO\_OUTPUT
  - MQZAO\_PASS\_IDENTITY\_CONTEXT
  - MQZAO\_PASS\_ALL\_CONTEXT
  - MQZAO\_SET\_IDENTITY\_CONTEXT
  - MQZAO\_SET\_ALL\_CONTEXT
  - MQZAO\_ALTERNATE\_USER\_AUTHORITY
- MQZAO\_DELETE (see note 14) and MQZAO\_DISPLAY are classed as administration authorizations. They are not therefore included in MQZAO\_ALL\_MQI.
- No check* means that no authorization checking is carried out.
- Not applicable* means that authorization checking is not relevant to this operation. For example, you cannot issue an MQPUT call to a process object.

**Parent topic:** [Understanding the authorization specification tables](#)

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## 5.4.2. Administration authorizations

These authorizations allow a user to issue administration commands. This can be an MQSC command as an escape PCF message or as a PCF command itself.

These methods allow a program to send an administration command as a message to a queue manager, for execution on behalf of that user.

**Parent topic:** [Understanding the authorization specification tables](#)

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### 5.4.3. Authorizations for MQSC commands in escape PCFs on i5/OS

These authorizations allow a user to issue administration commands as an escape PCF message. These methods allow a program to send an administration command as a message to a queue manager, for execution on behalf of that user.

This section summarizes the authorizations needed for each MQSC command contained in Escape PCF.

*Not applicable* means that authorization checking is not relevant to this operation.

The user ID under which the program that submits the command is running must also have the following authorities:

- MQZAO\_CONNECT authority to the queue manager
- DISPLAY authority on the queue manager in order to perform PCF commands
- Authority to issue the MQSC commands within the text of the Escape PCF command

#### ALTER object

Object	Authorization required
Queue	MQZAO_CHANGE
Topic	MQZAO_CHANGE
Process	MQZAO_CHANGE
Queue manager	MQZAO_CHANGE
Namelist	MQZAO_CHANGE
Authentication information	MQZAO_CHANGE
Channel	MQZAO_CHANGE
Client connection channel	MQZAO_CHANGE
Listener	MQZAO_CHANGE
Service	MQZAO_CHANGE

#### CLEAR object

Object	Authorization required
Queue	MQZAO_CLEAR
Topic	MQZAO_CLEAR
Process	Not applicable
Queue manager	Not applicable
Namelist	Not applicable
Authentication information	Not applicable
Channel	Not applicable
Client connection channel	Not applicable
Listener	Not applicable
Service	Not applicable

#### DEFINE object NOREPLACE (1)

Object	Authorization required
Queue	MQZAO_CREATE (2)
Topic	MQZAO_CREATE (2)
Process	MQZAO_CREATE (2)
Queue manager	Not applicable
Namelist	MQZAO_CREATE (2)
Authentication information	MQZAO_CREATE (2)
Channel	MQZAO_CREATE (2)
Client connection channel	MQZAO_CREATE (2)
Listener	MQZAO_CREATE (2)
Service	MQZAO_CREATE (2)

#### DEFINE object REPLACE (1, 3)

Object	Authorization required
Queue	MQZAO_CHANGE
Topic	MQZAO_CHANGE
Process	MQZAO_CHANGE
Queue manager	Not applicable
Namelist	MQZAO_CHANGE
Authentication information	MQZAO_CHANGE
Channel	MQZAO_CHANGE
Client connection channel	MQZAO_CHANGE
Listener	MQZAO_CHANGE
Service	MQZAO_CHANGE

#### DELETE object

Object	Authorization required
Queue	MQZAO_DELETE
Topic	MQZAO_DELETE
Process	MQZAO_DELETE
Queue manager	Not applicable
Namelist	MQZAO_DELETE
Authentication information	MQZAO_DELETE
Channel	MQZAO_DELETE
Client connection channel	MQZAO_DELETE
Listener	MQZAO_DELETE
Service	MQZAO_DELETE

**DISPLAY object**

Object	Authorization required
Queue	MQZAO_DISPLAY
Topic	MQZAO_DISPLAY
Process	MQZAO_DISPLAY
Queue manager	MQZAO_DISPLAY
Namelist	MQZAO_DISPLAY
Authentication information	MQZAO_DISPLAY
Channel	MQZAO_DISPLAY
Client connection channel	MQZAO_DISPLAY
Listener	
Service	

**PING CHANNEL**

Object	Authorization required
Queue	Not applicable
Topic	Not applicable
Process	Not applicable
Queue manager	Not applicable
Namelist	Not applicable
Authentication information	Not applicable
Channel	MQZAO_CONTROL
Client connection channel	Not applicable
Listener	Not applicable
Service	Not applicable

**RESET CHANNEL**

Object	Authorization required
Queue	Not applicable
Topic	Not applicable
Process	Not applicable
Queue manager	Not applicable
Namelist	Not applicable
Authentication information	Not applicable
Channel	MQZAO_CONTROL_EXTENDED
Client connection channel	Not applicable
Listener	Not applicable
Service	Not applicable

**RESOLVE CHANNEL**

Object	Authorization required
Queue	Not applicable
Topic	Not applicable
Process	Not applicable
Queue manager	Not applicable
Namelist	Not applicable
Authentication information	Not applicable
Channel	MQZAO_CONTROL_EXTENDED
Client connection channel	Not applicable
Listener	Not applicable
Service	Not applicable

**»START object«**

Object	Authorization required
Queue	Not applicable
Topic	Not applicable
Process	Not applicable
Queue manager	Not applicable
Namelist	Not applicable
Authentication information	Not applicable

Channel	MQZAO_CONTROL
Client connection channel	Not applicable
Listener	MQZAO_CONTROL
Service	MQZAO_CONTROL

◀  
**»STOP object◀**  
 ▶

Object	Authorization required
Queue	Not applicable
Topic	Not applicable
Process	Not applicable
Queue manager	Not applicable
Namelist	Not applicable
Authentication information	Not applicable
Channel	MQZAO_CONTROL
Client connection channel	Not applicable
Listener	MQZAO_CONTROL
Service	MQZAO_CONTROL

◀


**Note:**

1. For DEFINE commands, MQZAO\_DISPLAY authority is also needed for the LIKE object if one is specified, or on the appropriate SYSTEM.DEFAULT.xxx object if LIKE is omitted.
2. The MQZAO\_CREATE authority is not specific to a particular object or object type. Create authority is granted for all objects for a specified queue manager, by specifying an object type of QMGR on the **»GRTRMQMAUT◀** command.
3. This option applies if the object to be replaced already exists. If it does not, the check is as for DEFINE *object* NOREPLACE.

**Authorizations for PCF commands on i5/OS**

These authorizations allow a user to issue administration commands as PCF commands. These methods allow a program to send an administration command as a message to a queue manager, for execution on behalf of that user.

**Parent topic:** [Understanding the authorization specification tables](#)

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### 5.4.3.1. Authorizations for PCF commands on i5/OS

These authorizations allow a user to issue administration commands as PCF commands. These methods allow a program to send an administration command as a message to a queue manager, for execution on behalf of that user.

This section summarizes the authorizations needed for each PCF command.

*No check* means that no authorization checking is carried out; *Not applicable* means that authorization checking is not relevant to this operation.

The user ID under which the program that submits the command is running must also have the following authorities:

- MQZAO\_CONNECT authority to the queue manager
- DISPLAY authority on the queue manager in order to perform PCF commands

The special authorization MQZAO\_ALL\_ADMIN includes the following authorizations:

- MQZAO\_CHANGE
- MQZAO\_CLEAR
- MQZAO\_DELETE
- MQZAO\_DISPLAY
- MQZAO\_CONTROL
- MQZAO\_CONTROL\_EXTENDED

MQZAO\_CREATE is not included as it is not specific to a particular object or object type

**Change object**

Object	Authorization required
Queue	MQZAO_CHANGE
Topic	MQZAO_CHANGE
Process	MQZAO_CHANGE
Queue manager	MQZAO_CHANGE
Namelist	MQZAO_CHANGE
Authentication information	MQZAO_CHANGE
Channel	MQZAO_CHANGE
Client connection channel	MQZAO_CHANGE
Listener	MQZAO_CHANGE
Service	MQZAO_CHANGE

**Clear object**

--	--



Object	Authorization required
Queue	MQZAO_CLEAR
Topic	MQZAO_CLEAR
Process	Not applicable
Queue manager	Not applicable
Namelist	Not applicable
Authentication information	Not applicable
Channel	Not applicable
Client connection channel	Not applicable
Listener	Not applicable
Service	Not applicable

**Copy object (without replace) (1)**

Object	Authorization required
Queue	MQZAO_CREATE (2)
Topic	MQZAO_CREATE (2)
Process	MQZAO_CREATE (2)
Queue manager	Not applicable
NamelistMQZAO_CREATE	MQZAO_CREATE (2)
Authentication information	MQZAO_CREATE (2)
Channel	MQZAO_CREATE (2)
Client connection channel	MQZAO_CREATE (2)
Listener	MQZAO_CREATE (2)
Service	MQZAO_CREATE (2)

**Copy object (with replace) (1, 4)**

Object	Authorization required
Queue	MQZAO_CHANGE
Topic	MQZAO_CHANGE
Process	MQZAO_CHANGE
Queue manager	Not applicable
Namelist	MQZAO_CHANGE
Authentication information	MQZAO_CHANGE
Channel	MQZAO_CHANGE
Client connection channel	MQZAO_CHANGE
Listener	MQZAO_CHANGE
Service	MQZAO_CHANGE

**Create object (without replace) (3)**

Object	Authorization required
Queue	MQZAO_CREATE (2)
Topic	MQZAO_CREATE (2)
Process	MQZAO_CREATE (2)
Queue manager	Not applicable
Namelist	MQZAO_CREATE (2)
Authentication information	MQZAO_CREATE (2)
Channel	MQZAO_CREATE (2)
Client connection channel	MQZAO_CREATE (2)
Listener	MQZAO_CHANGE
Service	MQZAO_CHANGE

**Create object (with replace) (3, 4)**

Object	Authorization required
Queue	MQZAO_CHANGE
Topic	MQZAO_CHANGE
Process	MQZAO_CHANGE
Queue manager	Not applicable
Namelist	MQZAO_CHANGE
Authentication information	MQZAO_CHANGE
Channel	MQZAO_CHANGE
Client connection channel	MQZAO_CHANGE
Listener	MQZAO_CHANGE
Service	MQZAO_CHANGE

**Delete object**

Object	Authorization required
Queue	MQZAO_DELETE
Topic	MQZAO_DELETE
Process	MQZAO_DELETE
Queue manager	MQZAO_DELETE
Namelist	MQZAO_DELETE
Authentication information	MQZAO_DELETE
Channel	MQZAO_DELETE

Client connection channel	MQZAO_DELETE
Listener	MQZAO_DELETE
Service	MQZAO_DELETE

**Inquire object**

Object	Authorization required
Queue	MQZAO_DISPLAY
Topic	MQZAO_DISPLAY
Process	MQZAO_DISPLAY
Queue manager	MQZAO_DISPLAY
Namelist	MQZAO_DISPLAY
Authentication information	MQZAO_DISPLAY
Channel	MQZAO_DISPLAY
Client connection channel	MQZAO_DISPLAY
Listener	MQZAO_DISPLAY
Service	MQZAO_DISPLAY

**Inquire object names**

Object	Authorization required
Queue	No check
Topic	No check
Process	No check
Queue manager	No check
Namelist	No check
Authentication information	No check
Channel	No check
Client connection channel	No check
Listener	No check
Service	No check

**Ping Channel**

Object	Authorization required
Queue	Not applicable
Topic	Not applicable
Process	Not applicable
Queue manager	Not applicable
Namelist	Not applicable
Authentication information	Not applicable
Channel	MQZAO_CONTROL
Client connection channel	Not applicable
Listener	Not applicable
Service	Not applicable

**Reset Channel**

Object	Authorization required
Queue	Not applicable
Topic	Not applicable
Process	Not applicable
Queue manager	Not applicable
Namelist	Not applicable
Authentication information	Not applicable
Channel	MQZAO_CONTROL_EXTENDED
Client connection channel	Not applicable
Listener	Not applicable
Service	Not applicable

**Reset Queue Statistics**

Object	Authorization required
Queue	MQZAO_DISPLAY and MQZAO_CHANGE
Topic	Not applicable
Process	Not applicable
Queue manager	Not applicable
Namelist	Not applicable
Authentication information	Not applicable
Channel	Not applicable
Client connection channel	Not applicable
Listener	
Service	

**Resolve Channel**

Object	Authorization required
Queue	Not applicable
Topic	Not applicable

Process	Not applicable
Queue manager	Not applicable
Namelist	Not applicable
Authentication information	Not applicable
Channel	MQZAO_CONTROL_EXTENDED
Client connection channel	Not applicable
Listener	Not applicable
Service	Not applicable

**Start Channel**

Object	Authorization required
Queue	Not applicable
Topic	Not applicable
Process	Not applicable
Queue manager	Not applicable
Namelist	Not applicable
Authentication information	Not applicable
Channel	MQZAO_CONTROL
Client connection channel	Not applicable
Listener	Not applicable
Service	Not applicable


**Stop Channel**

Object	Authorization required
Queue	Not applicable
Topic	Not applicable
Process	Not applicable
Queue manager	Not applicable
Namelist	Not applicable
Authentication information	Not applicable
Channel	MQZAO_CONTROL
Client connection channel	Not applicable
Listener	Not applicable
Service	Not applicable

**Note:**

1. For Copy commands, MQZAO\_DISPLAY authority is also needed for the From object.
2. The MQZAO\_CREATE authority is not specific to a particular object or object type. Create authority is granted for all objects for a specified queue manager, by specifying an object type of QMGR on the **GRTMQAUT** command.
3. For Create commands, MQZAO\_DISPLAY authority is also needed for the appropriate SYSTEM.DEFAULT.\* object.
4. This option applies if the object to be replaced already exists. If it does not, the check is as for Copy or Create without replace.

**Parent topic:** [Authorizations for MQSC commands in escape PCFs on i5/OS](#)

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## 5.5. Generic OAM profiles on i5/OS

Object authority manager (OAM) generic profiles enable you to set the authority a user has to many objects at once, rather than having to issue separate **GRTMQAUT** commands against each individual object when it is created. Using generic profiles in the **GRTMQAUT** command enables you to set a generic authority for all future objects created that fit that profile.

The rest of this section describes the use of generic profiles in more detail:

- [Using wildcard characters](#)
- [Profile priorities](#)

### Using wildcard characters

What makes a profile generic is the use of special characters (wildcard characters) in the profile name. For example, the question mark (?) wildcard character matches any single character in a name. So, if you specify `ABC.?EF`, the authorization you give to that profile applies to any objects created with the names `ABC.DEF`, `ABC.CEF`, `ABC.BEF`, and so on.

The wildcard characters available are:

**?**

Use the question mark (?) instead of any single character. For example, `AB.?D` would apply to the objects `AB.CD`, `AB.ED`, and `AB.FD`.

**\***

Use the asterisk (\*) as:

- A *qualifier* in a profile name to match any one qualifier in an object name. A qualifier is the part of an object name delimited by a period. For example, in `ABC.DEF.GHI`, the qualifiers are `ABC`, `DEF`, and `GHI`. For example, `ABC.*.JKL` would apply to the objects `ABC.DEF.JKL`, and `ABC.GHI.JKL`. (Note that it would **not** apply to `ABC.JKL`; \* used in this context always indicates one qualifier.)
- A character within a qualifier in a profile name to match zero or more characters within the qualifier in an object name. For example, `ABC.DE*.JKL` would apply to the objects `ABC.DE.JKL`, `ABC.DEF.JKL`, and `ABC.DEGH.JKL`.

\*\*

Use the double asterisk (\*\*) **once** in a profile name as:

- The entire profile name to match all object names. For example, if you use the keyword `OBJTYPE (*PRC)` to identify processes, then use \*\* as the profile name, you change the authorizations for all processes.
- As either the beginning, middle, or ending qualifier in a profile name to match zero or more qualifiers in an object name. For example, `** .ABC` identifies all objects with the final qualifier `ABC`.

### Profile priorities

An important point to understand when using generic profiles is the priority that profiles are given when deciding what authorities to apply to an object being created. For example, suppose that you have issued the commands:

```
GRTMQMAUT OBJ (AB.* ) OBJTYPE (*Q) USER (FRED) AUT (*PUT) MQMNAME (MYQMGR)
GRTMQMAUT OBJ (AB.C*) OBJTYPE (*Q) USER (FRED) AUT (*GET) MQMNAME (MYQMGR)
```

The first gives put authority to all queues for the principal `FRED` with names that match the profile `AB.*`; the second gives get authority to the same types of queue that match the profile `AB.C*`.

Suppose that you now create a queue called `AB.CD`. According to the rules for wildcard matching, either `GRTMQMAUT` could apply to that queue. So, does it have put or get authority?

To find the answer, you apply the rule that, whenever multiple profiles can apply to an object, **only the most specific applies**. The way that you apply this rule is by comparing the profile names from left to right. Wherever they differ, a non-generic character is more specific than a generic character. So, in the example above, the queue `AB.CD` has **get** authority (`AB.C*` is more specific than `AB.*`).


When you are comparing generic characters, the order of *specificity* is:

1. ?
2. \*
3. \*\*

### [Using wildcard characters](#)

#### [Profile priorities](#)

Parent topic: [Setting up security on i5/OS](#)

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## 5.5.1. Using wildcard characters

What makes a profile generic is the use of special characters (wildcard characters) in the profile name. For example, the `?` wildcard character matches any single character in a name. So, if you specify `ABC.?EF`, the authorization you give to that profile applies to any objects created with the names `ABC.DEF`, `ABC.CEF`, `ABC.BEF`, and so on.

The wildcard characters available are:

?

Use the question mark (?) instead of any single character. For example, `AB.?D` would apply to the objects `AB.CD`, `AB.ED`, and `AB.FD`.

\*

Use the asterisk (\*) as:


- A *qualifier* in a profile name to match any one qualifier in an object name. A qualifier is the part of an object name delimited by a period. For example, in `ABC.DEF.GHI`, the qualifiers are `ABC`, `DEF`, and `GHI`. For example, `ABC.*.JKL` would apply to the objects `ABC.DEF.JKL`, and `ABC.GHI.JKL`. (Note that it would **not** apply to `ABC.JKL`; \* used in this context always indicates one qualifier.)
- A character within a qualifier in a profile name to match zero or more characters within the qualifier in an object name. For example, `ABC.DE*.JKL` would apply to the objects `ABC.DE.JKL`, `ABC.DEF.JKL`, and `ABC.DEGH.JKL`.

\*\*

Use the double asterisk (\*\*) **once** in a profile name as:

- The entire profile name to match all object names. For example, if you use the keyword `OBJTYPE (*PRC)` to identify processes, then use \*\* as the profile name, you change the authorizations for all processes.
- As either the beginning, middle, or ending qualifier in a profile name to match zero or more qualifiers in an object name. For example, `** .ABC` identifies all objects with the final qualifier `ABC`.

Parent topic: [Generic OAM profiles on i5/OS](#)

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## 5.5.2. Profile priorities

An important point to understand when using generic profiles is the priority that profiles are given when deciding what authorities to apply to an object being created. For example, suppose that you have issued the commands:

```
GRTMQMAUT OBJ (AB.* ) OBJTYPE (*Q) USER (FRED) AUT (*PUT) MQMNAME (MYQMGR)
GRTMQMAUT OBJ (AB.C*) OBJTYPE (*Q) USER (FRED) AUT (*GET) MQMNAME (MYQMGR)
```

The first gives put authority to all queues for the principal `FRED` with names that match the profile `AB.*`; the second gives get authority to the same types of queue that match the profile `AB.C*`.


Suppose that you now create a queue called AB.CD. According to the rules for wildcard matching, either GRMQMAUT could apply to that queue. So, does it have put or get authority?

To find the answer, you apply the rule that, whenever multiple profiles can apply to an object, **only the most specific applies**. The way that you apply this rule is by comparing the profile names from left to right. Wherever they differ, a non-generic character is more specific than a generic character. So, in the example above, the queue AB.CD has **get** authority (AB.C\* is more specific than AB.\*).


When you are comparing generic characters, the order of *specificity* is:

1. ?
2. \*
3. \*\*

**Parent topic:** [Generic OAM profiles on i5/OS](#)

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## 5.6. Specifying the installed authorization service on i5/OS


You can specify which authorization service component to use.

The parameter **Service Component name** on **GRMQMAUT** and **RVKMQMAUT** allows you to specify the name of the installed authorization service component.


Selecting **F24** on the initial panel, followed by **F9=All parameters** on the next panel of either command, allows you to specify either the installed authorization component (\*DFT) or the name of the required authorization service component specified in the Service stanza of the queue manager's qm.ini file.

**DSPMQMAUT** also has this extra parameter. This parameter allows you to search all the installed authorization components (\*DFT), or the specified authorization-service component name, for the specified object name, object type, and user

**Parent topic:** [Setting up security on i5/OS](#)

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## 5.7. Working with and without authority profiles on i5/OS

Use this information to learn how to work with authority profiles and how to work without authority profiles.

You can work with authority profiles, as explained in [Working with authority profiles](#), or without them, as explained here:

To work without authority profiles, use \*NONE as an Authority parameter on **GRMQMAUT** to create profiles without authority. This leaves any existing profiles unchanged.

On **RVKMQMAUT**, use \*REMOVE as an Authority parameter to remove an existing authority profile.

### Working with authority profiles

There are two commands associated with authority profiling:

- **WRKMQMAUT**
- **WRKMQMAUTD**

You can access these commands directly from the command line, or from the WRKMQM panel by:

1. Typing in the queue manager name and pressing the Enter key to access the **WRKMQM** results panel.
2. Selecting **F23=More options** on this panel.

Option 24 selects the results panel for the **WRKMQMAUT** command and option 25 selects the **WRKMQMAUTI** command, which is used with the SSL bindings layer.

### WRKMQMAUT

This command allows you to work with the authority data held in the authority queue.

**Note:** To run this command you must have \*connect and \*admdsp authority to the queue manager. However, to create or delete a profile, you need QMQMADM authority.

If you output the information to the screen, a list of authority profile names, together with their types, is displayed. If you print the output, you receive a detailed list of all the authority data, the registered users, and their authorities.

Entering an object or profile name on this panel, and pressing ENTER takes you to the results panel for **WRKMQMAUT**.

If you select **4=Delete**, you go to a new panel from which you can confirm that you want to delete all the user names registered to the generic authority profile name you specify. This option runs **RVKMQMAUT** with the option \*REMOVE for all the users, and applies **only** to generic profile names.

If you select **12=Work with profile** you go to the **WRKMQMAUTD** command results panel, as explained in [WRKMQMAUTD](#).

### WRKMQMAUTD

This command allows you to display all the users registered with a particular authority profile name and object type. To run this command you must have \*connect and \*admdsp authority to the queue manager. However, to grant, run, create, or delete a profile you need QMQMADM authority.

Selecting **F24=More keys** from the initial input panel, followed by option **F9=All Parameters** displays the Service Component Name as for **GRMQMAUT**

and **RVKMQMAUT**.

**Note:** The **F11=Display Object Authorizations** key toggles between the following types of authorities:

- Object authorizations
- Context authorizations
- MQI authorizations

The options on the screen are:

#### 2=Grant

Takes you to the **GRTMQMAUT** panel to add to the current authorities.

#### 3=Revoke

Takes you to the **RVKMQMAUT** panel to remove some of the current definitions

#### 4>Delete

Takes you to a panel that allows you to delete the authority data for specified users. This runs **RVKMQMAUT** with the option **\*REMOVE**.


#### 5=Display

Takes you to the existing **DSPMQMAUT** command

#### F6=Create

Takes you to the **GRTMQMAUT** panel that allows you to create a profile authority record.

**Parent topic:** [Setting up security on i5/OS](#)

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## 5.8. Working with authority profiles

There are two commands associated with authority profiling:

- **WRKMQMAUT**
- **WRKMQMAUTD**

You can access these commands directly from the command line, or from the **WRKMQM** panel by:


1. Typing in the queue manager name and pressing the **Enter** key to access the **WRKMQM** results panel
2. Selecting **F23=More options** on this panel

Option 24 selects the results panel for the **WRKMQMAUT** command (see [Figure 2](#)) and option 25 selects the **WRKMQMAUTI** command, which is used with the SSL bindings layer.

### [WRKMQMAUT](#)

### [WRKMQMAUTD](#)

**Parent topic:** [Setting up security on i5/OS](#)

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### 5.8.1. WRKMQMAUT

This command allows you to work with the authority data held in the authority queue. [Figure 1](#) shows the input panel for this command.

**Note:** To run this command you must have **\*connect** and **\*admdsp** authority to the queue manager. However, to create or delete a profile, you need **QMADM** authority.

If you output the information to the screen, a list of authority profile names, together with their types, is displayed. If you print the output, you receive a detailed list of all the authority data, the registered users, and their authorities.

*Figure 1. Work with MQM Authority panel – input display*

```

Work with MQ Authority (WRKMQMAUT)

Type choices, press Enter.

Object/Profile name . . . . . *ALL
Object type . . . . . *ALL      *Q, *PRC, *MQM, *NMLIST...
Output . . . . . *              *, *PRINT
Message Queue Manager name . . . *DFT

                                     Bottom

====> _____
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13= How to use this display
F24=More keys

```

Entering an object or profile name on this panel, and pressing **ENTER** takes you to the results panel for **WRKMQMAUT**, shown in [Figure 2](#).

Figure 2. Work with MQM Authority panel – results display

```

Work with MQ Authority

Queue Manager Name . . . : *DFT

Type options, press Enter.
 4=Delete 12=Work with profile

Opt   Authority Profile Name      Type
-----
SYSTEM.DEFAULT.NAMELIST          *NMLIST
SYSTEM.DEFAULT.PROCESS            *PRC
SYSTEM.DEFAULT.REMOTE.QUEUE       *Q
SYSTEM.MQSC.REPLY.QUEUE           *Q
SYSTEM.PENDING.DATA.QUEUE         *Q

====>
Bottom

F3=Exit  F4=Prompt  F5=Refresh  F6=Create  F9=Retrieve  F12=Cancel
F16=Repeat position to  F17=Position to  F21=Print
    
```

If you select 4=Delete, you go to a new panel from which you can confirm that you want to delete all the user names registered to the generic authority profile name you specify. This option runs **RVKMQMAUT** with the option \*REMOVE for all the users, and applies **only** to generic profile names.

If you select 12=Work with profile you go to the **WRKMQMAUTD** command results panel, as explained in [WRKMQMAUTD](#).

Parent topic: [Working with authority profiles](#)

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### 5.8.2. WRKMQMAUTD

This command allows you to display all the users registered with a particular authority profile name and object type. To run this command you must have \*connect and \*admsdp authority to the queue manager. However, to grant, run, create, or delete a profile you need QMQADM authority.

[Figure 1](#) shows the input panel of the **WRKMQMAUTD** command.

Figure 1. Work with MQM Authority Data input panel

```

Work with MQ Authority Data (WRKMQMAUTD)

Type choices, press Enter.

Object/Profile name . . . . .

Object type . . . . . *Q, *PRC, *MQM, *NMLIST...
User name . . . . . Name, *PUBLIC, *ALL
Message Queue Manager name . . .

====>
Bottom

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
    
```

Selecting F24=More keys from the initial input panel, followed by option F9=All Parameters displays the Service Component Name as for **GRTMQMAUT** and **RVKMQMAUT**.

[Figure 2](#) shows the results panel of the **WRKMQMAUTD** command.

Figure 2. Work with MQM Authority Data output panel

```

Work with MQ Authority Data

Queue Manager Name . . . : *DFT
Authority Profile Name : SYSTEM.DEFAULT.PROCESS
Object Type . . . . . : *PRC

Type options, press Enter.
 2=Grant 3=Revoke 4=Delete 5=Display

Opt  UserName  GET  BROWSE  PUT  CONNECT  INQ  SET  ALTUSR
-----
MQUSER  X          X          X          X          X
QMADM  X  X      X          X          X  X  X
    
```

```

====>
F3=Exit   F4=Prompt   F5=Refresh   F6=Create   F9=Retrieve
F11=Display Object Authorizations   F12=Cancel   F24=More keys

```

**Note:** The F11=Display Object Authorizations key toggles between the following types of authorities:

- Object authorizations
- Context authorizations
- MQI authorizations

The options on the screen are:

#### 2=Grant

Takes you to the **GRTMQMAUT** panel to add to the current authorities.

#### 3=Revoke

Takes you to the **RVKMQMAUT** panel to remove some of the current definitions

#### 4=Delete

Takes you to a panel that allows you to delete the authority data for specified users. This runs **RVKMQMAUT** with the option \*REMOVE.

#### 5=Display

Takes you to the existing **DSPMQMAUT** command

#### 6=Create

Takes you to the **GRTMQMAUT** panel that allows you to create a new profile authority record.

**Parent topic:** [Working with authority profiles](#)

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## 5.9. Object Authority Manager guidelines for i5/OS

Additional hints and tips for using the Object Authority Manager (OAM)

### Limit access to sensitive operations

Some operations are sensitive; limit them to privileged users. For example,

- Accessing some special queues, such as transmission queues or the command queue `SYSTEM.ADMIN.COMMAND.QUEUE`
- Running programs that use full MQI context options
- Creating and copying application queues

### Queue manager directories

The directories and libraries containing queues and other queue manager data are private to the product. Do not use standard operating system commands to grant or revoke authorizations to MQI resources.

### Queues

The authority to a dynamic queue is based on, but is not necessarily the same as, that of the model queue from which it is derived.

For alias queues and remote queues, the authorization is that of the object itself, not the queue to which the alias or remote queue resolves. It is possible to authorize a user profile to access an alias queue that resolves to a local queue to which the user profile has no access permissions.

Limit the authority to create queues to privileged users. If you do not, users can bypass the normal access control simply by creating an alias.

### Alternate-user authority

Alternate-user authority controls whether one user profile can use the authority of another user profile when accessing a WebSphere® MQ object. This technique is essential where a server receives requests from a program and the server wants to ensure that the program has the required authority for the request. The server might have the required authority, but it needs to know whether the program has the authority for the actions it has requested.

For example:

- A server program running under user profile `PAYSERV` retrieves a request message from a queue that was put on the queue by user profile `USER1`.
- When the server program gets the request message, it processes the request and puts the reply back into the reply-to queue specified with the request message.
- Instead of using its own user profile (`PAYSERV`) to authorize opening the reply-to queue, the server can specify some other user profile, in this case, `USER1`. In this example, you can use alternate-user authority to control whether `PAYSERV` is allowed to specify `USER1` as an alternate-user profile when it opens the reply-to queue.

The alternate-user profile is specified on the `AlternateUserId` field of the object descriptor.

**Note:** You can use alternate-user profiles on any WebSphere MQ object. Use of an alternate-user profile does not affect the user profile used by any other resource managers.

### Context authority

Context is information that applies to a particular message and is contained in the message descriptor, `MQMD`, which is part of the message.

For descriptions of the message descriptor fields relating to context, see the [WebSphere MQ Application Programming Reference](#).

For information about the context options, see the [WebSphere MQ Application Programming Guide](#).

### Remote security considerations

For remote security, consider:



**Put authority**

For security across queue managers, you can specify the put authority that is used when a channel receives a message sent from another queue manager. Specify the channel attribute PUTAUT as follows:

**DEF**

Default user profile. This is the QMQM user profile under which the message channel agent is running.

**CTX**

The user profile in the message context.

**Transmission queues**

Queue managers automatically put remote messages on a transmission queue; no special authority is required. However, putting a message directly on a transmission queue requires special authorization.

**Channel exits**

Channel exits can be used for added security.

For more information about remote security, see [WebSphere MQ Intercommunication](#).

**Protecting channels with SSL**

You can use SSL to protect channel commands.

The Secure Sockets Layer (SSL) protocol provides channel security, with protection against eavesdropping, tampering, and impersonation. WebSphere MQ support for SSL enables you to specify, on the channel definition, that a particular channel uses SSL security. You can also specify details of the security you want, such as the encryption algorithm you want to use.

SSL support in WebSphere MQ uses the queue manager *authentication information object* and various CL and MQSC commands and queue manager and channel parameters that define the SSL support required in detail.

The following CL commands support SSL:

**WRKMQMAUTI**

Work with the attributes of an authentication information object.

**CHGMQMAUTI**

Modify the attributes of an authentication information object.

**CRTMQMAUTI**

Create an authentication information object.

**CPYMQMAUTI**

Create an authentication information object by copying an existing one.

**DLTMQMAUTI**

Delete an authentication information object.

**DSPMQMAUTI**


Displays the attributes for a specific authentication information object.

For an overview of channel security using SSL, see [WebSphere MQ Security](#).

For details of PCF commands associated with SSL, see [WebSphere MQ Programmable Command Formats and Administration Interface](#).

[Queue manager directories](#)[Queues](#)[Alternate-user authority](#)[Context authority](#)[Remote security considerations](#)[Channel command security](#)

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## 5.9.1. Queue manager directories

The directories and libraries containing queues and other queue manager data are private to the product. Do not use standard operating system commands to grant or revoke authorizations to MQI resources.

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## 5.9.2. Queues

The authority to a dynamic queue is based on, but is not necessarily the same as, that of the model queue from which it is derived.

For alias queues and remote queues, the authorization is that of the object itself, not the queue to which the alias or remote queue resolves. It is possible to authorize a user profile to access an alias queue that resolves to a local queue to which the user profile has no access permissions.

Limit the authority to create queues to privileged users. If you do not, users can bypass the normal access control simply by creating an alias.

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### 5.9.3. Alternate-user authority

Alternate-user authority controls whether one user profile can use the authority of another user profile when accessing a WebSphere® MQ object. This is essential where a server receives requests from a program and the server wants to ensure that the program has the required authority for the request. The server might have the required authority, but it needs to know whether the program has the authority for the actions it has requested.


For example:

- A server program running under user profile PAYSERV retrieves a request message from a queue that was put on the queue by user profile USER1.
- When the server program gets the request message, it processes the request and puts the reply back into the reply-to queue specified with the request message.
- Instead of using its own user profile (PAYSERV) to authorize opening the reply-to queue, the server can specify some other user profile, in this case, USER1. In this example, you can use alternate-user authority to control whether PAYSERV is allowed to specify USER1 as an alternate-user profile when it opens the reply-to queue.

The alternate-user profile is specified on the *AlternateUserId* field of the object descriptor.

**Note:** You can use alternate-user profiles on any WebSphere MQ object. Use of an alternate-user profile does not affect the user profile used by any other resource managers.

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### 5.9.4. Context authority

Context is information that applies to a particular message and is contained in the message descriptor, MQMD, which is part of the message.

For descriptions of the message descriptor fields relating to context, see the [WebSphere MQ Application Programming Reference](#).

For information about the context options, see the [WebSphere MQ Application Programming Guide](#).

**Parent topic:** [Object Authority Manager guidelines for i5/OS](#)

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### 5.9.5. Remote security considerations

For remote security, consider:

#### Put authority

For security across queue managers you can specify the put authority that is used when a channel receives a message sent from another queue manager.

➤ This parameter is valid only for RCVR, RQSTR, or CLUSRCVR channel types. Specify the channel attribute PUTAUT as follows:

#### DEF

Default user profile. This is the QMQM user profile under which the message channel agent is running.

#### CTX

◀ The user profile in the message context.

#### Transmission queues

Queue managers automatically put remote messages on a transmission queue; no special authority is required for this. However, putting a message directly on a transmission queue requires special authorization.

#### Channel exits

Channel exits can be used for added security.

For more information about remote security, see [WebSphere MQ Intercommunication](#).

**Parent topic:** [Object Authority Manager guidelines for i5/OS](#)

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## 5.9.6. Channel command security

You can use SSL to protect channel commands.

### [Protecting channels with SSL](#)

**Parent topic:** [Object Authority Manager guidelines for i5/OS](#)

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### 5.9.6.1. Protecting channels with SSL

The Secure Sockets Layer (SSL) protocol provides out of the box channel security, with protection against eavesdropping, tampering, and impersonation. WebSphere® MQ support for SSL enables you to specify, on the channel definition, that a particular channel uses SSL security. You can also specify details of the kind of security you want, such as the encryption algorithm you want to use.

SSL support in WebSphere MQ uses the queue manager *authentication information object* and various CL and MQSC commands and queue manager and channel parameters that define the SSL support required in detail.

The following CL commands support SSL:

#### **WRKMQMAUTI**

Work with the attributes of an authentication information object.

#### **CHGMQMAUTI**

Modify the attributes of an authentication information object.

#### **CRMQMAUTI**

Create a new authentication information object.

#### **CPYMQMAUTI**

Create a new authentication information object by copying an existing one.

#### **DLTMQMAUTI**

Delete an authentication information object.

#### **DSPMQMAUTI**

Displays the attributes for a specific authentication information object.

For an overview of channel security using SSL, see [WebSphere MQ Security](#).

For details of PCF commands associated with SSL, see [WebSphere MQ Programmable Command Formats and Administration Interface](#).

**Parent topic:** [Channel command security](#)

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## 6. The WebSphere MQ dead-letter queue handler

A *dead-letter queue* (DLQ), sometimes referred to as an *undelivered-message queue*, is a holding queue for messages that cannot be delivered to their destination queues. Every queue manager in a network should have an associated DLQ.

**Note:** It is often preferable to avoid placing messages on a DLQ. For information about the use and avoidance of DLQs, see the [WebSphere MQ Application Programming Guide](#).

Queue managers, message channel agents, and applications can put messages on the DLQ. All messages on the DLQ must be prefixed with a *dead-letter header* structure, MQDLH. Messages put on the DLQ by a queue manager or by a message channel agent always have an MQDLH. Always supply an MQDLH to applications putting messages on the DLQ. The *Reason* field of the MQDLH structure contains a reason code that identifies why the message is on the DLQ.

In all WebSphere® MQ environments, there must be a routine that runs regularly to process messages on the DLQ. WebSphere MQ supplies a default routine, called the *dead-letter queue handler* (the DLQ handler), which you invoke using the STRMQMDLQ command. A user-written *rules table* supplies instructions to the DLQ handler, for processing messages on the DLQ. That is, the DLQ handler matches messages on the DLQ against entries in the rules table. When a DLQ message matches an entry in the rules table, the DLQ handler performs the action associated with that entry.

### [Invoking the DLQ handler](#)

### [The DLQ handler rules table](#)

### [Processing the rules table](#)

### [An example DLQ handler rules table](#)

**Parent topic:** [i5/OS System Administration Guide](#)

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## 6.1. Invoking the DLQ handler

Use the STRMQMDLQ command to invoke the DLQ handler. You can name the DLQ you want to process and the queue manager you want to use in two ways:

- As parameters to STRMQMDLQ from the command prompt. For example:  

```
STRMQMDLQ UDLMMSGQ(ABC1.DEAD.LETTER.QUEUE) SRCMBR(QRULE) SRCFILE(library/QTXTSRC)
MQMNAME(MY.QUEUE.MANAGER)
```
- In the rules table. For example:  

```
INPUTQ(ABC1.DEAD.LETTER.QUEUE)
```

**Note:** The rules table is a member within a source physical file that can take any name.


The above examples apply to the DLQ called ABC1.DEAD.LETTER.QUEUE, owned by the default queue manager.

If you do not specify the DLQ or the queue manager as shown above, the default queue manager for the installation is used along with the DLQ belonging to that queue manager.

The STRMQMDLQ command takes its input from the rules table.

You must be authorized to access both the DLQ itself, and any message queues to which messages on the DLQ are forwarded, in order to run the DLQ handler. You must also be authorized to assume the identity of other users, for the DLQ to put messages on queues with the authority of the user ID in the message context.

**Parent topic:** [The WebSphere MQ dead-letter queue handler](#)

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## 6.2. The DLQ handler rules table

The DLQ handler rules table defines how the DLQ handler is to process messages that arrive on the DLQ. There are two types of entry in a rules table:

- The first entry in the table, which is optional, contains *control data*.
- All other entries in the table are *rules* for the DLQ handler to follow. Each rule consists of a *pattern* (a set of message characteristics) that a message is matched against, and an *action* to be taken when a message on the DLQ matches the specified pattern. There must be at least one rule in a rules table.

Each entry in the rules table comprises one or more keywords.

### [Control data](#)

### [Rules \(patterns and actions\)](#)

### [Rules table conventions](#)

**Parent topic:** [The WebSphere MQ dead-letter queue handler](#)

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### 6.2.1. Control data

This section describes the keywords that you can include in a control-data entry in a DLQ handler rules table. Note the following:

- The default value for a keyword, if any, is underlined.
- The vertical line (|) separates alternatives. You can specify only one of these.
- All keywords are optional.

#### **INPUTQ (QueueName| ' )**

The name of the DLQ you want to process:

- Any UDLMMSGQ value (or \*DFT) you specify as a parameter to the STRMQMDLQ command overrides any INPUTQ value in the rules table.
- If you specify a blank UDLMMSGQ value as a parameter to the STRMQMDLQ command, the INPUTQ value in the rules table is used.
- If you specify a blank UDLMMSGQ value as a parameter to the STRMQMDLQ command, and a blank INPUTQ value in the rules table, the system default dead-letter queue is used.

#### **INPUTQM (QueueManagerName| ' )**

The name of the queue manager that owns the DLQ named on the INPUTQ keyword.

If you do not specify a queue manager, or you specify INPUTQM(' ') in the rules table, the system uses the default queue manager for the installation.

#### **RETRYINT (Interval| 60)**

The interval, in seconds, at which the DLQ handler should attempt to reprocess messages on the DLQ that could not be processed at the first attempt, and for which repeated attempts have been requested. By default, the retry interval is 60 seconds.

**WAIT (YES|NO|nnn)**

Whether the DLQ handler should wait for further messages to arrive on the DLQ when it detects that there are no further messages that it can process.

**YES**

Causes the DLQ handler to wait indefinitely.

**NO**

Causes the DLQ handler to terminate when it detects that the DLQ is either empty or contains no messages that it can process.

**nnn**


Causes the DLQ handler to wait for *nnn* seconds for new work to arrive before terminating, after it detects that the queue is either empty or contains no messages that it can process.

Specify WAIT (YES) for busy DLQs, and WAIT (NO) or WAIT (*nnn*) for DLQs that have a low level of activity. If the DLQ handler is allowed to terminate, re-invoke it using triggering.

You can supply the name of the DLQ as an input parameter to the STRMQMDLQ command, as an alternative to including control data in the rules table. If any value is specified both in the rules table and on input to the STRMQMDLQ command, the value specified on the STRMQMDLQ command takes precedence.

**Note:** If a control-data entry is included in the rules table, it **must** be the first entry in the table.

**Parent topic:** [The DLQ handler rules table](#)

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## 6.2.2. Rules (patterns and actions)

Here is an example rule from a DLQ handler rules table:

```
PERSIST (MQPER_PERSISTENT) REASON (MQRC_PUT_INHIBITED) +
ACTION (RETRY) RETRY (3)
```

This rule instructs the DLQ handler to make 3 attempts to deliver to its destination queue any persistent message that was put on the DLQ because MQPUT and MQPUT1 were inhibited.

This section describes the keywords that you can include in a rule. Note the following:


- The default value for a keyword, if any, is underlined. For most keywords, the default value is \* (asterisk), which matches any value.
- The vertical line (|) separates alternatives. You can specify only one of these.
- All keywords except ACTION are optional.

This section begins with a description of the pattern-matching keywords (those against which messages on the DLQ are matched). It then describes the action keywords (those that determine how the DLQ handler is to process a matching message).

### [The pattern-matching keywords](#)

### [The action keywords](#)

**Parent topic:** [The DLQ handler rules table](#)

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### 6.2.2.1. The pattern-matching keywords

The pattern-matching keywords are described below. Use them to specify values against which messages on the DLQ are matched. All pattern-matching keywords are optional.

**APPLIDAT (AppIdentityData|\*)**

The *AppIdentityData* value of the message on the DLQ, specified in the message descriptor, MQMD.

**APPLNAME (PutAppName|\*)**

The name of the application that issued the MQPUT or MQPUT1 call, as specified in the *PutAppName* field of the message descriptor, MQMD, of the message on the DLQ.

**APPLTYPE (PutAppType|\*)**

The *PutAppType* value specified in the message descriptor, MQMD, of the message on the DLQ.

**DESTQ (QueueName|\*)**

The name of the message queue for which the message is destined.

**DESTQM (QueueManagerName|\*)**

The queue manager name for the message queue for which the message is destined.

**FEEDBACK (Feedback|\*)**

When the *MsgType* value is MQMT\_REPORT, *Feedback* describes the nature of the report.

You can use symbolic names. For example, you can use the symbolic name MQFB\_COA to identify those messages on the DLQ that require confirmation of their arrival on their destination queues.

**FORMAT (Format|\*)**

The name that the sender of the message uses to describe the format of the message data.

**MSGTYPE (MsgType|\*)**

The message type of the message on the DLQ.

You can use symbolic names. For example, you can use the symbolic name MQMT\_REQUEST to identify those messages on the DLQ that require replies.

#### **PERSIST (Persistence|\*)**

The persistence value of the message. (The persistence of a message determines whether it survives restarts of the queue manager.)

You can use symbolic names. For example, you can use the symbolic name MQPER\_PERSISTENT to identify those messages on the DLQ that are persistent.

#### **REASON (ReasonCode|\*)**

The reason code that describes why the message was put to the DLQ.

You can use symbolic names. For example, you can use the symbolic name MQRC\_Q\_FULL to identify those messages placed on the DLQ because their destination queues were full.

#### **REPLYQ (QueueName|\*)**

The reply-to queue name specified in the message descriptor, MQMD, of the message on the DLQ.


#### **REPLYQM (QueueManagerName|\*)**

The queue manager name of the reply-to queue specified in the REPLYQ keyword.


#### **USERID (UserIdentifier|\*)**

The user ID of the user who originated the message on the DLQ, as specified in the message descriptor, MQMD.

Parent topic: [Rules \(patterns and actions\)](#)

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## 6.2.2.2. The action keywords

The action keywords are described below. Use them to describe how a matching message is processed.

### **ACTION (DISCARD|IGNORE|RETRY|FWD)**

The action taken for any message on the DLQ that matches the pattern defined in this rule.

#### **DISCARD**

Causes the message to be deleted from the DLQ.

#### **IGNORE**

Causes the message to be left on the DLQ.

#### **RETRY**

Causes the DLQ handler to try again to put the message on its destination queue.

#### **FWD**

Causes the DLQ handler to forward the message to the queue named on the FWDQ keyword.

You must specify the ACTION keyword. The number of attempts made to implement an action is governed by the RETRY keyword. The RETRYINT keyword of the control data controls the interval between attempts.

### **FWDQ (QueueName|&DESTQ|&REPLYQ)**

The name of the message queue to which the message is forwarded when you select the ACTION keyword.

#### **QueueName**

The name of a message queue. FWDQ(' ') is not valid.

#### **&DESTQ**

Take the queue name from the *DestQName* field in the MQDLH structure.

#### **&REPLYQ**

Take the queue name from the *ReplyToQ* field in the message descriptor, MQMD.

You can specify REPLYQ (?) in the message pattern to avoid error messages, when a rule specifying FWDQ (&REPLYQ) matches a message with a blank *ReplyToQ* field.

### **FWDQM (QueueManagerName|&DESTQM|&REPLYQM| ' )**

The queue manager of the queue to which a message is forwarded.

#### **QueueManagerName**

The queue manager name for the queue to which the message is forwarded when you select the ACTION (FWD) keyword.

#### **&DESTQM**

Take the queue manager name from the *DestQMGrName* field in the MQDLH structure.

#### **&REPLYQM**

Take the queue manager name from the *ReplyToQMGr* field in the message descriptor, MQMD.

, ,

FWDQM(' '), which is the default value, identifies the local queue manager.

### **HEADER (YES|NO)**

Whether the MQDLH should remain on a message for which ACTION (FWD) is requested. By default, the MQDLH remains on the message. The HEADER keyword is not valid for actions other than FWD.

### **PUTAUT (DEF|CTX)**

The authority with which messages should be put by the DLQ handler:

#### **DEF**

Puts messages with the authority of the DLQ handler itself.

#### **CTX**


Causes the messages to be put with the authority of the user ID in the message context. You must be authorized to assume the identity of other users, if you specify PUTAUT (CTX).

**RETRY (RetryCount|1)**

The number of times, in the range 1–999 999 999, to attempt an action (at the interval specified on the RETRYINT keyword of the control data).

**Note:** The count of attempts made by the DLQ handler to implement any particular rule is specific to the current instance of the DLQ handler; the count does not persist across restarts. If you restart the DLQ handler, the count of attempts made to apply a rule is reset to zero.

**Parent topic:** [Rules \(patterns and actions\)](#)

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### 6.2.3. Rules table conventions

The rules table must adhere to the following conventions regarding its syntax, structure, and contents:

- A rules table must contain at least one rule.
- Keywords can occur in any order.
- A keyword can be included once only in any rule.
- Keywords are not case sensitive.
- A keyword and its parameter value must be separated from other keywords by at least one blank or comma.
- Any number of blanks can occur at the beginning or end of a rule, and between keywords, punctuation, and values.
- Each rule must begin on a new line.
- For portability, the significant length of a line must not be greater than 72 characters.
- Use the plus sign (+) as the last non-blank character on a line to indicate that the rule continues from the first non-blank character in the next line. Use the minus sign (-) as the last non-blank character on a line to indicate that the rule continues from the start of the next line. Continuation characters can occur within keywords and parameters.

For example:

```
APPLNAME ('ABC+
D')
```

results in 'ABCD'.

```
APPLNAME ('ABC-
D')
```

results in 'ABC D'.

- Comment lines, which begin with an asterisk (\*), can occur anywhere in the rules table.
- Blank lines are ignored.
- Each entry in the DLQ handler rules table comprises one or more keywords and their associated parameters. The parameters must follow these syntax rules:
  - Each parameter value must include at least one significant character. The delimiting quotation marks in quoted values are not considered significant. For example, these parameters are valid:

FORMAT ('ABC')	3 significant characters
FORMAT (ABC)	3 significant characters
FORMAT ('A')	1 significant character
FORMAT (A)	1 significant character
FORMAT (' ')	1 significant character

These parameters are invalid because they contain no significant characters:

```
FORMAT (' ')
FORMAT ( )
FORMAT ()
FORMAT
```

- Wildcard characters are supported. You can use the question mark (?) in place of any single character, except a trailing blank. You can use the asterisk (\*) in place of zero or more adjacent characters. The asterisk (\*) and the question mark (?) are **always** interpreted as wildcard characters in parameter values.
- You cannot include wildcard characters in the parameters of these keywords: ACTION, HEADER, RETRY, FWDQ, FWDQM, and PUTAUT.
- Trailing blanks in parameter values, and in the corresponding fields in the message on the DLQ, are not significant when performing wildcard matches. However, leading and embedded blanks within strings in quotation marks are significant to wildcard matches.
- Numeric parameters cannot include the question mark (?) wildcard character. You can include the asterisk (\*) in place of an entire numeric parameter, but the asterisk cannot be included as part of a numeric parameter. For example, these are valid numeric parameters:

MSGTYPE (2)	Only reply messages are eligible
MSGTYPE (*)	Any message type is eligible
MSGTYPE ('**')	Any message type is eligible

However, MSGTYPE ('2\*\*') is not valid, because it includes an asterisk (\*) as part of a numeric parameter.

- Numeric parameters must be in the range 0–999 999 999. If the parameter value is in this range, it is accepted, even if it is not currently valid in the field to which the keyword relates. You can use symbolic names for numeric parameters.
- If a string value is shorter than the field in the MQDLH or MQMD to which the keyword relates, the value is padded with blanks to the length of the field. If the value, excluding asterisks, is longer than the field, an error is diagnosed. For example, these are all valid string values for an 8-character field:

'ABCDEFGH'	8 characters
'A*C*E*G*I'	5 characters excluding asterisks
'*A*C*E*G*I*K*M*O*'	8 characters excluding asterisks

- Strings that contain blanks, lowercase characters, or special characters other than period (.), forward slash (/), underscore (\_), and percent sign (%) must be enclosed in single quotation marks. Lowercase characters not enclosed in quotation marks are folded to uppercase. If the string includes a quotation, two single quotation marks must be used to denote both the beginning and the end of the quotation. When the length of the string is calculated, each occurrence of double quotation marks is counted as a single character.

Parent topic: [The DLQ handler rules table](#)

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### 6.3. Processing the rules table

The DLQ handler searches the rules table for a rule whose pattern matches a message on the DLQ. The search begins with the first rule in the table, and continues sequentially through the table. When a rule with a matching pattern is found, the rules table attempts the action from that rule. The DLQ handler increments the retry count for a rule by 1 whenever it attempts to apply that rule. If the first attempt fails, the attempt is repeated until the count of attempts made matches the number specified on the RETRY keyword. If all attempts fail, the DLQ handler searches for the next matching rule in the table.

This process is repeated for subsequent matching rules until an action is successful. When each matching rule has been attempted the number of times specified on its RETRY keyword, and all attempts have failed, ACTION (IGNORE) is assumed. ACTION (IGNORE) is also assumed if no matching rule is found.

#### Note:

1. Matching rule patterns are sought only for messages on the DLQ that begin with an MQDLH. Messages that do not begin with an MQDLH are reported periodically as being in error, and remain on the DLQ indefinitely.
2. All pattern keywords can default, so that a rule can consist of an action only. Note, however, that action-only rules are applied to all messages on the queue that have MQDLHs and that have not already been processed in accordance with other rules in the table.
3. The rules table is validated when the DLQ handler starts, and errors flagged at that time. (Error messages issued by the DLQ handler are described in [WebSphere MQ Messages](#).) You can make changes to the rules table at any time, but those changes do not come into effect until the DLQ handler is restarted.
4. The DLQ handler does not alter the content of messages, of the MQDLH, or of the message descriptor. The DLQ handler always puts messages to other queues with the message option MQPMO\_PASS\_ALL\_CONTEXT.
5. Consecutive syntax errors in the rules table might not be recognized, because the validation of the rules table is designed to eliminate the generation of repetitive errors.
6. The DLQ handler opens the DLQ with the MQOO\_INPUT\_AS\_Q\_DEF option.
7. Multiple instances of the DLQ handler can run concurrently against the same queue, using the same rules table. However, it is more usual for there to be a one-to-one relationship between a DLQ and a DLQ handler.

#### [Ensuring that all DLQ messages are processed](#)

Parent topic: [The WebSphere MQ dead-letter queue handler](#)

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### 6.3.1. Ensuring that all DLQ messages are processed

The DLQ handler keeps a record of all messages on the DLQ that have been seen but not removed. If you use the DLQ handler as a filter to extract a small subset of the messages from the DLQ, the DLQ handler still keeps a record of those messages on the DLQ that it did not process. Also, the DLQ handler cannot guarantee that new messages arriving on the DLQ will be seen, even if the DLQ is defined as first-in first-out (FIFO). If the queue is not empty, the DLQ is periodically re-scanned to check all messages.

For these reasons, try to ensure that the DLQ contains as few messages as possible. If messages that cannot be discarded or forwarded to other queues (for whatever reason) are allowed to accumulate on the queue, the workload of the DLQ handler increases and the DLQ itself is in danger of filling up.

► You can take specific measures to enable the DLQ handler to empty the DLQ. For example, try not to use ACTION (IGNORE), which leaves messages on the DLQ. (Remember that ACTION (IGNORE) is assumed for messages that are not explicitly addressed by other rules in the table.) Instead, for those messages that you would otherwise ignore, use an action that moves the messages to another queue. For example:

```
ACTION (FWD) FWDQ (IGNORED.DEAD.QUEUE) HEADER (YES)
```

Similarly, make the final rule in the table a catchall to process messages that have not been addressed by earlier rules in the table. For example, the final rule in the table could be something like this:

```
ACTION (FWD) FWDQ (REALLY.DEAD.QUEUE) HEADER (YES)
```

This causes messages that fall through to the final rule in the table to be forwarded to the queue `REALLY.DEAD.QUEUE`, where they can be processed manually. If you do not have such a rule, messages are likely to remain on the DLQ indefinitely.

Parent topic: [Processing the rules table](#)

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### 6.4. An example DLQ handler rules table

Here is an example rules table that contains a single control-data entry and several rules:

```
*****
*                               *
*       An example rules table for the STRMQMDLQ command       *
*                               *
* Control data entry
* -----
* If no queue manager name is supplied as an explicit parameter to
```



```

* STRMQMDLQ, use the default queue manager for the machine.
* If no queue name is supplied as an explicit parameter to STRMQMDLQ,
* use the DLQ defined for the local queue manager.
*
inputqm(' ') inputq(' ')

* Rules
* -----
* We include rules with ACTION (RETRY) first to try to
* deliver the message to the intended destination.

* If a message is placed on the DLQ because its destination
* queue is full, attempt to forward the message to its
* destination queue. Make 5 attempts at approximately
* 60-second intervals (the default value for RETRYINT).

REASON(MQRC_Q_FULL) ACTION(RETRY) RETRY(5)

* If a message is placed on the DLQ because of a put inhibited
* condition, attempt to forward the message to its
* destination queue. Make 5 attempts at approximately
* 60-second intervals (the default value for RETRYINT).

REASON(MQRC_PUT_INHIBITED) ACTION(RETRY) RETRY(5)

* The AAAA corporation is always sending messages with incorrect
* addresses. When we find a request from the AAAA corporation,
* we return it to the DLQ (DEADQ) of the reply-to queue manager
* (&REPLYQM).
* The AAAA DLQ handler attempts to redirect the message.

MSGTYPE(MQMT_REQUEST) REPLYQM(AAAA.*) +
  ACTION(FWD) FWDQ(DEADQ) FWDQM(&REPLYQM)

* The BBBB corporation never does things by half measures. If
* the queue manager BBBB.1 is unavailable, try to
* send the message to BBBB.2

DESTQM(bbbb.1) +
  action(fwd) fwdq(&DESTQ) fwdqm(bbbb.2) header(no)

* The CCCC corporation considers itself very security
* conscious, and believes that none of its messages
* will ever end up on one of our DLQs.
* Whenever we see a message from a CCCC queue manager on our
* DLQ, we send it to a special destination in the CCCC organization
* where the problem is investigated.

REPLYQM(CCCC.*) +
  ACTION(FWD) FWDQ(ALARM) FWDQM(CCCC.SYSTEM)

* Messages that are not persistent run the risk of being
* lost when a queue manager terminates. If an application
* is sending nonpersistent messages, it must be able
* to cope with the message being lost, so we can afford to
* discard the message.

PERSIST(MQPER_NOT_PERSISTENT) ACTION(DISCARD)


* For performance and efficiency reasons, we like to keep
* the number of messages on the DLQ small.
* If we receive a message that has not been processed by
* an earlier rule in the table, we assume that it
* requires manual intervention to resolve the problem.
* Some problems are best solved at the node where the
* problem was detected, and others are best solved where
* the message originated. We do not have the message origin,
* but we can use the REPLYQM to identify a node that has
* some interest in this message.
* Attempt to put the message onto a manual intervention
* queue at the appropriate node. If this fails,
* put the message on the manual intervention queue at
* this node.

REPLYQM('?*') +
  ACTION(FWD) FWDQ(DEADQ.MANUAL.INTERVENTION) FWDQM(&REPLYQM)

ACTION(FWD) FWDQ(DEADQ.MANUAL.INTERVENTION)

```

**Parent topic:** [The WebSphere MQ dead-letter queue handler](#)

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## ➤7. Availability, backup, recovery, and restart

WebSphere® MQ for i5/OS® uses the i5/OS journaling support to help its backup and restore strategy. You must be familiar with standard i5/OS backup and recovery methods, and with the use of journals and their associated journal receivers on i5/OS, before reading this section. For information on these topics, see *i5/OS Backup and Recovery*.

To understand the backup and recovery strategy, you first need to understand how WebSphere MQ for i5/OS organizes its data in the i5/OS file system and the integrated file system (IFS).

WebSphere MQ for i5/OS holds its data in an individual library for each queue manager ►instance◄, and in stream files in the IFS file system.

The queue manager specific libraries contain journals, journal receivers, and objects required to control the work management of the queue manager. The IFS directories and files contain WebSphere MQ configuration files, the descriptions of WebSphere MQ objects, and the data they contain.

Every change to these objects, that is recoverable across a system failure, is recorded in a journal *before* it is applied to the appropriate object. This has the effect that such changes can be recovered by replaying the information recorded in the journal.

► You can configure WebSphere MQ for i5/OS to use multiple queue manager instances on different servers to provide increased queue manager availability and speed up recovery in the case of a server or queue manager failure. ◀

### [WebSphere MQ for i5/OS journals](#)

### [Backups of WebSphere MQ for i5/OS data](#)

#### ► Multi-instance queue managers ◀

Multi-instance queue managers improve availability by automatically switching to a standby server if the active server fails. The active and standby servers host instances of the same queue manager; they share the same queue manager data. When the active instance fails, the standby must have an up to date local copy of the journal from the failed active instance. The standby queue manager merges the shared queue manager data with its local journal.

#### [Performance and disk failover considerations](#)


Use different auxiliary storage pools to improve performance and reliability.

#### [Using SAVLIB to save WebSphere MQ libraries](#)

Parent topic: [i5/OS System Administration Guide](#)

#### Related information

► [Multi-instance queue managers](#) ◀

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## 7.1. WebSphere MQ for i5/OS journals

► WebSphere® MQ for i5/OS® uses journals in its operation to control updates to local objects. Each queue manager library contains a journal for that queue manager, and the journal has the name `QMGLIB/AMQAJRN`, where `QMGLIB` is the name of the queue manager library, and `A` is a letter, `A` in the case of a single instance queue manager, that is unique to the queue manager instance. ◀

`QMGLIB` takes the name `QM`, followed by the name of the queue manager in a unique form. For example, a queue manager named `TEST` has a queue manager library named `QMTEST`. ► The queue manager library can be specified when creating a queue manager using the `CRTMQM` command. ◀

Journals have associated journal receivers that contain the information being journaled. The receivers are objects to which information can only be appended and will fill up eventually.

Journal receivers use up valuable disk space with out-of-date information. However, you can place the information in permanent storage to minimize this problem. One journal receiver is attached to the journal at any particular time. If the journal receiver reaches its predetermined threshold size, it is detached and replaced by a new journal receiver. You can specify the threshold of journal receivers when you create a queue manager using `CRTMQM` and the `THRESHOLD` parameter.

The journal receivers associated with the local WebSphere MQ for IBM i journal exist in each queue manager library, and adopt a naming convention as follows: ►

`AMQArnnnnn`

◀ where

► **A** ◀

► is a letter A–Z. It is `A` for single instance queue managers. It varies for different instances of a multi-instance queue manager. ◀

► **nnnnn** ◀

► is decimal 00000 to 99999 that is incremented by 1 for the next journal in the sequence. ◀

► **r** ◀

► is decimal 0 to 9, that is incremented by 1 each time a receiver is restored. ◀

The sequence of the journals is based on date. However, the naming of the next journal is based on the following rules:

1. `AMQArnnnnn` goes to `AMQAr(nnnnn+1)`, and `nnnnn` wraps when it reaches 99999. For example, ► `AMQA099999` ◀ goes to `AMQA000000`, and `AMQA999999` goes to ► `AMQA900000` ◀.
2. If a journal with a name generated by rule 1 already exists, the message `CPI70E3` is sent to the `QSYSOPR` message queue and automatic receiver switching stops.  
The currently-attached receiver continues to be used until you investigate the problem and manually attach a new receiver.
3. If no new name is available in the sequence (that is, all possible journal names are on the system) you need to do both of the following:
  - a. Delete journals no longer needed (see [Journal management](#)).
  - b. Record the journal changes into the latest journal receiver using (`RCDMQMIMG`) and then repeat the previous step. This allows the old journal receiver names to be reused.

The `AMQAJRN` journal uses the `MNGRCV(*SYSTEM)` option to enable the operating system to automatically change journal receivers when the threshold is reached. For more information on how the system manages receivers, see *IBM i Backup and Recovery*.

The journal receiver's default threshold value is 100,000 KB. You can set this to a larger value when you create the queue manager. The initial value of the `LogReceiverSize` attribute is written to the `LogDefaults` stanza of the `mqs.ini` file.

When a journal receiver extends beyond its specified threshold, the receiver is detached and a new journal receiver is created, inheriting attributes from the previous receiver. Changes to the `LogReceiverSize` or `LogASP` attributes after a queue manager has been created are ignored when the system automatically attaches a new journal receiver

See [Configuring WebSphere MQ](#) for further details on configuring the system.

If you need to change the size of journal receivers after the queue manager has been created, create a new journal receiver and set its owner to `QMQM` using

the following commands: ▶

```
CRTJRNRCV JRNRCV(QMGLIB/AMQArnnnnn) THRESHOLD(xxxxxx) +
TEXT('MQM LOCAL JOURNAL RECEIVER')
CHGOBJOWN OBJ(QMGLIB/AMQArnnnnn) OBJTYPE(*JRNRCV) NEWOWN(QMQM)
```

◀ where

**QMGLIB**

Is the name of your queue manager library

**A**

Is the instance identifier (usually A).

**rrnnnn**

Is the next journal receiver in the naming sequence described above

**xxxxxx**

Is the new receiver threshold (in KB)

**Note:** The maximum size of the receiver is governed by the operating system. To check this value look at the THRESHOLD keyword on the **CRTJRNRCV** command.

Now attach the new receiver to the **AMQAJRN** journal with the command:

```
CHGJRN JRN(QMGLIB/AMQAJRN) JRNRCV(QMGLIB/AMQArnnnnn)
```

See [Journal management](#) for details on how to manage these journal receivers.

[WebSphere MQ for i5/OS journal usage](#)

[Media images](#)

[Recovery from media images](#)

[Checkpoints](#)

Parent topic: [Availability, backup, recovery, and restart](#)

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### 7.1.1. WebSphere MQ for i5/OS journal usage

Persistent updates to message queues happen in two stages. The records representing the update are first written to the journal, then the queue file is updated.

The journal receivers can therefore become more up-to-date than the queue files. To ensure that restart processing begins from a consistent point, WebSphere® MQ uses checkpoints.

A checkpoint is a point in time when the record described in the journal is the same as the record in the queue. The checkpoint itself consists of the series of journal records needed to restart the queue manager. For example, the state of all transactions (that is, units of work) active at the time of the checkpoint.

Checkpoints are generated automatically by WebSphere MQ. They are taken when the queue manager starts and shuts down, and after a certain number of operations are logged.

You can force a queue manager to take a checkpoint by issuing the RCDMQMIMG command against all objects on a queue manager and displaying the results, as follows:

```
RCDMQMIMG OBJ(*ALL) OBJTYPE(*ALL) MQMNAME(<Q_MGR_NAME>) DSPJRNDTA(*YES)
```

As the queues handle further messages, the checkpoint record becomes inconsistent with the current state of the queues.

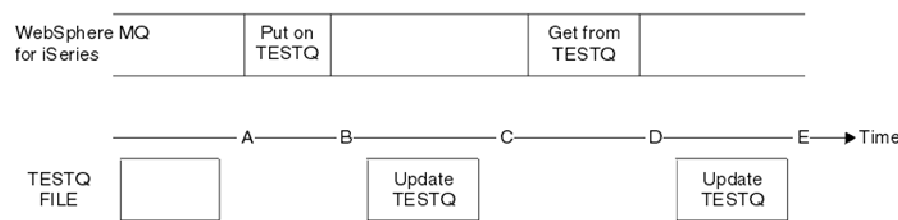
When WebSphere MQ is restarted, it locates the latest checkpoint record in the log. This information is held in the checkpoint file that is updated at the end of every checkpoint. The checkpoint record represents the most recent point of consistency between the log and the data. The data from this checkpoint is used to rebuild the queues as they existed at the checkpoint time. When the queues are recreated, the log is then played forward to bring the queues back to the state they were in before system failure or close down.

To understand how WebSphere MQ uses the journal, consider the case of a local queue called **TESTQ** in the queue manager **TEST**. This is represented by the IFS file:

```
/QIBM/UserData/mqm/qmgrs/TEST/queues
```

If a specified message is put on this queue, and then retrieved from the queue, the actions that take place are shown in Figure [Figure 1](#).

Figure 1. Sequence of events when updating MQM objects  
Journal entries



The five points, A through E, shown in the diagram represent points in time that define the following states:

**A**

The IFS file representation of the queue is consistent with the information contained in the journal.

**B**

A journal entry is written to the journal defining a `Put` operation on the queue.

**C**

The appropriate update is made to the queue.

**D**

A journal entry is written to the journal defining a `Get` operation from the queue.

**E**

The appropriate update is made to the queue.


The key to the recovery capabilities of WebSphere MQ for i5/OS® is that the user can save the IFS file representation of TESTQ as at time *A*, and subsequently recover the IFS file representation of TESTQ as at time *B*, by restoring the saved object and replaying the entries in the journal from time *A* onwards.

This strategy is used by WebSphere MQ for i5/OS to recover persistent messages after system failure. WebSphere MQ remembers a particular entry in the journal receivers, and ensures that on startup it replays the entries in the journals from this point onwards. This startup entry is periodically recalculated so that WebSphere MQ only has to perform the minimum necessary replay on the next startup.

WebSphere MQ provides individual recovery of objects. All persistent information relating to an object is recorded in the local WebSphere MQ for i5/OS journals. Any WebSphere MQ object that becomes damaged or corrupt can be completely rebuilt from the information held in the journal.

For more information on how the system manages receivers, see *i5/OS Backup and Recovery*.

**Parent topic:** [WebSphere MQ for i5/OS journals](#)

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## 7.1.2. Media images

A WebSphere® MQ object of long duration can represent a large number of journal entries, going back to the point at which it was created. To avoid this, WebSphere MQ for i5/OS® has the concept of a *media image* of an object.

This media image is a complete copy of the WebSphere MQ object recorded in the journal. If an image of an object is taken, the object can be rebuilt by replaying journal entries from this image onwards. The entry in the journal that represents the replay point for each WebSphere MQ object is referred to as its *media recovery entry*. WebSphere MQ keeps track of the:

- Media recovery entry for each queue manager object.
- Oldest entry from within this set (see error message AMQ7462 in [WebSphere MQ Messages](#) for details).

Images of the \*CTLG object and the \*MQM object are taken regularly because these objects are crucial to queue manager restart.

Images of other objects are taken when convenient. By default, images of **all** objects are taken when a queue manager is shut down using **ENDMQM** with parameter **ENDCCTJOB(\*YES)**. This operation can take a considerable amount of time for very large queue managers. If you need to shut down quickly, specify parameter **RCDMQMIMG(\*NO)** with **ENDCCTJOB(\*YES)**. In such cases, you are recommended to record a complete media image in the journals after the queue manager has been restarted, using the following command:

```
RCDMQMIMG OBJ(*ALL) OBJTYPE(*ALL) MQMNAME(<Q_MGR_NAME>)
```

WebSphere MQ automatically records an image of an object, if it finds a convenient point at which an object can be compactly described by a small entry in the journal. However, this might never happen for some objects, for example, queues that consistently contain large numbers of messages.

Rather than allow the date of the oldest media recovery entry to continue for an unnecessarily long period, use the WebSphere MQ command **RCDMQMIMG**, which enables you to take an image of selected objects manually.

**Parent topic:** [WebSphere MQ for i5/OS journals](#)

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## 7.1.3. Recovery from media images

WebSphere® MQ automatically recovers some objects from their media image if it is found that they are corrupt or damaged. In particular, this applies to the special \*MQM and \*CTLG objects as part of the normal queue manager startup. If any syncpoint transaction was incomplete at the time of the last shutdown of the queue manager, any queue affected is also recovered automatically, in order to complete the startup operation.

You must recover other objects manually, using the WebSphere MQ command **RCRMQOBJ**. This command replays the entries in the journal to recreate the WebSphere MQ object. Should a WebSphere MQ object become damaged, the only valid actions are to delete it or recreate it by this method. Note, however, that nonpersistent messages cannot be recovered in this fashion.

**Parent topic:** [WebSphere MQ for i5/OS journals](#)

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## 7.1.4. Checkpoints

As described above, checkpoints are taken at various times to provide a known consistent start point for recovery. The checkpoint process AMQALMPX is responsible for taking the checkpoint at the following points:

- Queue manager startup (STRMQM).
- Queue manager shutdown (ENDMQM).
- After a period of time has elapsed since the last checkpoint (the default period is 30 minutes) and a minimum number of log records have been written since the previous checkpoint (the default value is 100).
- After a number of log records have been written. The default value is 10 000.
- After the journal threshold size has been exceeded and a new journal receiver has been automatically created.
- When a full media image is taken with:

```
RCDMQMIMG OBJ(*ALL) OBJTYPE(*ALL) MQMNAME(<Q_MGR_NAME>) DSPJRNDTA(*YES)
```

Parent topic: [WebSphere MQ for i5/OS journals](#)

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## 7.2. Backups of WebSphere MQ for i5/OS® data

For each queue manager, there are two types of WebSphere® MQ backup to consider:

- Data and journal backup.  
To ensure that both sets of data are consistent, do this only after shutting down the queue manager.
- Journal backup.  
You can do this while the queue manager is active.

For both methods, you need to find the names of the queue manager IFS directory and the queue manager library. You can find these in the WebSphere MQ configuration file (mq5.ini). For more information, see [The QueueManager stanza](#).

Use the procedures below to do both types of backup:

### Data and journal backup of a particular queue manager

**Note: Do not use a save-while-active request when the queue manager is running. Such a request cannot complete unless all commitment definitions with pending changes are committed or rolled back. If this command is used when the queue manager is active, the channel connections might not end normally. Always use the procedure described below.**

1. Create an empty journal receiver, using the command:  

```
CHGJRN JRN(QMTEST/AMQAJRN) JRNRCV(*GEN)
```
2. Use the RCDMQMIMG command to record an MQM image for all WebSphere MQ objects, and then force a checkpoint using the command:  

```
RCDMQMIMG OBJ(*ALL) OBJTYPE(*ALL) DSPJRNDTA(*YES) MQMNAME(TEST)
```
3. End channels and ensure that the queue manager is not running. If your queue manager is running, stop it with the ENDMQM command.
4. Backup the queue manager library by issuing the following command:  

```
SAVLIB LIB(QMTEST)
```
5. Back up the queue manager IFS directories by issuing the following command:  

```
SAV DEV(...) OBJ('/QIBM/UserData/mqm/qmgrs/test')
```

### Journal backup of a particular queue manager

Because all relevant information is held in the journals, as long as you perform a full save at some time, partial backups can be performed by saving the journal receivers. These record all changes since the time of the full backup and are performed by issuing the following commands:

1. Create an empty journal receiver, using the command:  

```
CHGJRN JRN(QMTEST/AMQAJRN) JRNRCV(*GEN)
```
2. Use the RCDMQMIMG command to record an MQM image for all WebSphere MQ objects, and then force a checkpoint using the command:  

```
RCDMQMIMG OBJ(*ALL) OBJTYPE(*ALL) DSPJRNDTA(*YES) MQMNAME(TEST)
```
3. Save the journal receivers using the command:  

```
SAVOBJ OBJ(AMQ*) LIB(QMTEST) OBJTYPE(*JRNRCV) .....
```

A simple backup strategy is to perform a full backup of the WebSphere MQ libraries every week, and perform a daily journal backup. This, of course, depends on how you have set up your backup strategy for your enterprise.

### [Journal management](#)

#### [Restoring a complete queue manager \(data and journals\)](#)

#### [Restoring journal receivers for a particular queue manager](#)

Parent topic: [Availability, backup, recovery, and restart](#)

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## 7.2.1. Journal management

As part of your backup strategy, take care of your journal receivers. It is useful to remove journal receivers from the WebSphere® MQ libraries, in order to:

1. Release space; this applies to all journal receivers
2. Improve the performance when starting (STRMQM)
3. Improve the performance of recreating objects (RCRMQMOBJ)

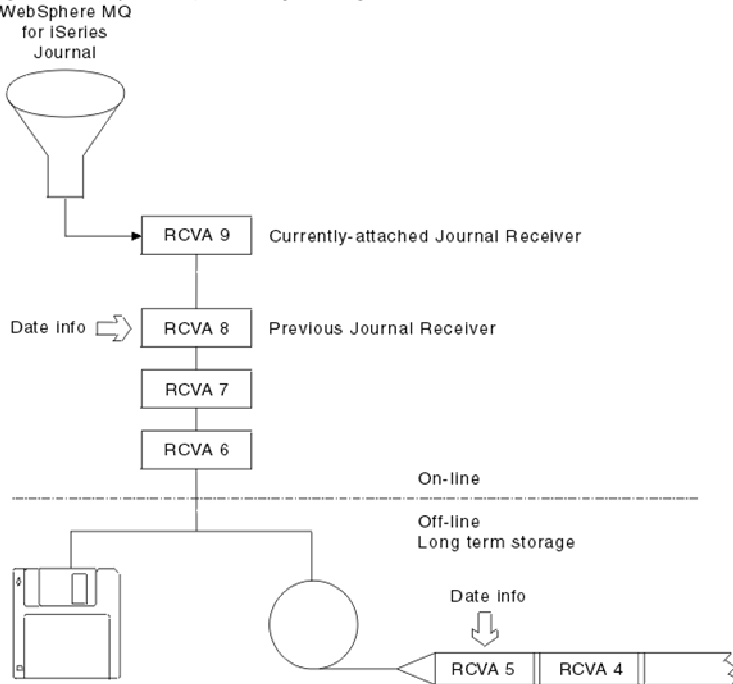
Before deleting a journal receiver, be sure that:

1. You have a backup copy.
2. You no longer need the journal receiver.

Journal receivers can be removed from the queue manager library *after* they have been detached from the journals and saved, provided that they are available for restoration if needed for a recovery operation.

The concept of journal management is shown in [Figure 1](#).

Figure 1. WebSphere MQ for i5/OS journaling



It is important to know how far back in the journals WebSphere MQ is likely to need to go, in order to determine when a journal receiver that has been backed up can be removed from the queue manager library, and when the backup itself can be discarded.

To help determine this time, WebSphere MQ issues two messages to the queue manager message queue (QMMSG in the queue manager library) when:

- It starts up
- It changes a local journal receiver
- You use RCDMQIMG to force a checkpoint

These messages are:

**AMQ7460**

Startup recovery point. This message defines the date and time of the startup entry from which WebSphere MQ replays the journal in the event of a startup recovery pass. If the journal receiver that contains this record is available in the WebSphere MQ libraries, this message also contains the name of the journal receiver containing the record.

**AMQ7462**

Oldest media recovery entry. This message defines the date and time of the oldest entry to use to recreate an object from its media image.

The journal receiver identified is the oldest one required. Any other WebSphere MQ journal receivers with older creation dates are no longer needed. If only stars are displayed, you need to restore backups from the date indicated to determine which is the oldest journal receiver.

When these messages are logged, WebSphere MQ also writes a user space object to the queue manager library that contains only one entry: the name of the oldest journal receiver that needs to be kept on the system. This user space is called AMQJRNINF, and the data is written in the format:

JJJJJJJJJLLLLLLLLLLLLLLLLLLLLYYYYMMDDHHMSSmmmm

where:

JJJJJJJJJ

Is the oldest receiver name that WebSphere MQ still needs.

LLLLLLLLLL

Is the journal receiver library name.

YYYY

Is the year of the oldest journal entry that WebSphere MQ needs.

MM

Is the month of the oldest journal entry that WebSphere MQ needs.

DD

Is the day of the oldest journal entry that WebSphere MQ needs.

HH

Is the hour of the oldest journal entry that WebSphere MQ needs.

SS

Is the seconds of the oldest journal entry that WebSphere MQ needs.

mmmm

Is the milliseconds of the oldest journal entry that WebSphere MQ needs.

When the oldest journal receiver has been deleted from the system, this user space contains asterisks (\*) for the journal receiver name.

**Note:** Periodically performing `RCDMQMIMG OBJ(*ALL) OBJTYPE(*ALL) DSPJRNDTA(*YES)` can save startup time for WebSphere MQ and reduce the number of local journal receivers you need to save and restore for recovery.

WebSphere MQ for i5/OS® does not refer to the journal receivers unless it is performing a recovery pass either for startup, or for recreating an object. If it finds that a journal it requires is not present, it issues message `AMQ7432` to the queue manager message queue (`QMCMMSG`), reporting the time and date of the journal entry it requires to complete the recovery pass.

If this happens, restore all journal receivers that were detached after this date from the backup, in order to allow the recovery pass to succeed.


Keep the journal receiver that contains the startup entry, and any subsequent journal receivers, available in the queue manager library.

Keep the journal receiver containing the oldest `Media Recovery Entry`, and any subsequent journal receivers, available at all times, and either present in the queue manager library or backed-up.

When you force a checkpoint:

- If the journal receiver named in `AMQ7460` is not advanced, this indicates that there is an incomplete unit of work that needs to be committed or rolled back.
- If the journal receiver named in `AMQ7462` is not advanced, this indicates that there are one or more damaged objects.

**Parent topic:** [Backups of WebSphere MQ for i5/OS data](#)

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## 7.2.2. Restoring a complete queue manager (data and journals)

If you need to recover one or more WebSphere® MQ queue managers from a backup, perform the following steps.

1. Quiesce the WebSphere MQ queue managers.
2. Locate your latest backup set, consisting of your most recent full backup and subsequently backed up journal receivers.
3. Perform a `RSTLIB` operation, from the full backup, to restore the WebSphere MQ data libraries to their state at the time of the full backup, by issuing the following commands:

```
RSTLIB LIB(QMQLIB1) .....
RSTLIB LIB(QMQLIB2) .....
```

If a journal receiver was partially saved in one journal backup, and fully saved in a subsequent backup, restore only the fully saved one. Restore journals individually, in chronological order.

4. Perform an `RST` operation to restore the WebSphere MQ IFS directories to the IFS file system, using the following command:

```
RST DEV(...) OBJ('/QIBM/UserData/mqm/qmgrs/testqm') ...
```

5. Start the message queue manager. This replays all journal records written since the full backup and restores all the WebSphere MQ objects to the consistent state at the time of the journal backup.


If you want to restore a complete queue manager on a different machine, use the procedure below to restore everything from the queue manager library. (We use `TEST` as the sample queue manager name.)

1. `CRMQM TEST`
2. `DLTLIB LIB(QMTEST)`
3. `RSTLIB SAVLIB(QMTEST) DEV(*SAVF) SAVF(QMGRLIBSAV)`
4. Delete the following IFS files:

```
/QIBM/UserData/mqm/qmgrs/TEST/QMQMCHKPT
/QIBM/UserData/mqm/qmgrs/TEST/qmanager/QMQMOBJCAT
/QIBM/UserData/mqm/qmgrs/TEST/qmanager/QMANAGER
/QIBM/UserData/mqm/qmgrs/TEST/queues/SYSTEM.AUTH.DATA.QUEUE/q
/QIBM/UserData/mqm/qmgrs/TEST/queues/SYSTEM.CHANNEL.INITQ/q
/QIBM/UserData/mqm/qmgrs/TEST/queues/SYSTEM.CLUSTER.COMMAND.QUEUE/q
/QIBM/UserData/mqm/qmgrs/TEST/queues/SYSTEM.CLUSTER.REPOSITORY.QUEUE/q
/QIBM/UserData/mqm/qmgrs/TEST/queues/SYSTEM.CLUSTER.TRANSMIT.QUEUE/q
/QIBM/UserData/mqm/qmgrs/TEST/queues/SYSTEM.PENDING.DATA.QUEUE/q
/QIBM/UserData/mqm/qmgrs/TEST/queues/SYSTEM.ADMIN.COMMAND.QUEUE/q
```

5. `STRMQM TEST`
6. `RCRMOBJ OBJ(*ALL) OBJTYPE(*ALL) MQMNAME(TEST)`

**Parent topic:** [Backups of WebSphere MQ for i5/OS data](#)

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## 7.2.3. Restoring journal receivers for a particular queue manager

The most common action is to restore a backed-up journal receiver to a queue manager library, if a receiver that has been removed is needed again for a subsequent recovery function.

This is a simple task, and requires the journal receivers to be restored using the standard i5/OS® `RSTOBJ` command:

```
RSTOBJ OBJ(QMQMDATA/AMQA000005) OBJTYPE(*JRNRVC) .....
```

A series of journal receivers might need to be restored, rather than a single receiver. For example, `AMQA000007` is the oldest receiver in the WebSphere® MQ libraries, and both `AMQA000005` and `AMQA000006` need to be restored.

In this case, restore the receivers individually in reverse chronological order. This is not always necessary, but is good practice. In severe situations, you might need to use the i5/OS command `WRKJRNA` to associate the restored journal receivers with the journal.

When restoring journals, the system automatically creates an attached journal receiver with a new name in the journal receiver sequence. However, the new name generated might be the same as a journal receiver you need to restore. Manual intervention is needed to overcome this problem; to create a new name journal receiver in sequence, and new journal before restoring the journal receiver.

For instance, consider the problem with saved journal AMQAJRN and the following journal receivers:

- AMQA000000
- AMQA100000
- AMQA200000
- AMQA300000
- AMQA400000
- AMQA500000
- AMQA600000
- AMQA700000
- AMQA800000
- AMQA900000

When restoring journal AMQAJRN to a queue manager library, the system automatically creates journal receiver AMQA000000. This automatically generated receiver conflicts with one of the existing journal receivers (AMQA000000) you want to restore, which you cannot restore.

The solution is:

1. Manually create the next journal receiver (see [WebSphere MQ for i5/OS journals](#)):


```
CRTJRNRCV JRNRCV(QMQRLIB/AMQA900001) THRESHOLD(XXXXX)
```

2. Manually create the journal with the above journal receiver:

```
CRTJRN JRN(QMGRLIB/AMQAJRN) MNGRCV(*SYSTEM) +
JRNRCV(QMGRLIB/AMQA900001) MSGQ(QMGRLIB/AMQAJRNMSG)
```

3. Restore the local journal receivers AMQA000000 to AMQA900000.

**Parent topic:** [Backups of WebSphere MQ for i5/OS data](#)

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## 7.3. Multi-instance queue managers

Multi-instance queue managers improve availability by automatically switching to a standby server if the active server fails. The active and standby servers host instances of the same queue manager; they share the same queue manager data. When the active instance fails, the standby must have an up to date local copy of the journal from the failed active instance. The standby queue manager merges the shared queue manager data with its local journal.

Configure the IBM i systems you are running multi-instance queue managers on so that, if the active queue manager instance fails, the journal it is using is available to the standby instance that takes over. You can design your own configuration and administration tasks to make the journal from the active instance available to the instance that takes over. Your design must ensure that the standby journal is synchronized with the active journal at the point of failure. You can adapt your design from one of two configurations that do maintain consistency. The configurations are described with examples in subsequent topics

1. Mirror the journal from the system that is running the active queue manager instance to the systems that are running standby instances.
2. Place the journal in an independent Auxiliary Storage Pool that is transferable from the system running the active instance to a standby instance.

The first solution requires no additional hardware or software as it uses Auxiliary Storage Pools. The second solution requires switchable independent ASPs. To automate a switchable independent ASP you must have IBM i clustering support that is available as a separately priced IBM i License Product 5761-SS1 Option 41.

For both solutions, the queue manager data must be placed on networked storage. The network file system must meet the minimum requirements for locking and detection of a broken connection that are described in [Components of a high availability solution](#).

### »Reliability and availability◀

Multi-instance queue managers aim to improve the availability of WebSphere MQ applications. Technological and physical constraints mean you need different solutions to meet the demands of disaster recovery, backing up queue managers and continuous operation.

### »Components of a high availability solution◀

You can construct a high availability solution using multi-instance queue managers and other components. Locate queue manager data on robust networked storage. Use journal replication or independent ASP storage for queue manager journals. Run applications as reconnectable clients, or applications configured as restartable queue manager services.

### »Fail over performance◀

The time it takes to detect a queue manager instance has failed, and then to resume processing on a standby can vary between tens of seconds to fifteen minutes or more depending on the configuration. Performance needs to be a major consideration in designing and testing a high availability solution.

### »Mirrored journal configuration for ASP◀

Configure a robust multi-instance queue manager using synchronous replication between mirrored journals.

### »Switched independent ASP journal configuration◀

You do not need to replicate an independent ASP journal to create a multi-instance queue manager configuration. You do need to automate a means to transfer the independent ASP from the active queue manager to the standby queue manager. There are alternative high availability solutions possible using an independent ASP, not all of which require using a multi-instance queue manager.

### »Deleting a multi-instance queue manager◀

Before you delete a multi-instance queue manager, stop remote journaling, and remove queue manager instances.

### »Backing up a multi-instance queue manager◀



The procedure shows you how to back up queue manager objects on the local server and the queue manager data on the network file server. Adapt the example to back up data for other queue managers.

► [Commands to set up multi-instance queue managers](#) ◀

WebSphere® MQ has commands to simplify configuring journal replication, adding new queue manager instances, and configuring queue managers to use independent ASP.

**Parent topic:** [Availability, backup, recovery, and restart](#)

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### 7.3.1. Reliability and availability

Multi-instance queue managers aim to improve the availability of WebSphere MQ applications. Technological and physical constraints mean you need different solutions to meet the demands of disaster recovery, backing up queue managers and continuous operation.

In configuring for reliability and availability you trade off a large number of factors, resulting in four distinct design points:

#### Disaster recovery

Optimized for recovery after a major disaster that destroys all your local assets.

Disaster recovery on IBM i is often based on geographic mirroring of independent ASPs.

#### Backup

Optimized for recovery after a localized failure, commonly a human error or some unforeseen technical problem.

WebSphere MQ provides backup queue managers to back up queue managers periodically. You could also use asynchronous replication of queue manager journals to improve the currency of the backup.

#### Availability

Optimized for restoring operations quickly giving the appearance of a nearly uninterrupted service following foreseeable technical failures such as a server or disk failure.

Recovery is typically measured in seconds, with detection sometimes taking longer than the recovery process. A multi-instance queue manager is designed to assist you in configuring for availability.

#### Continuous operation

Optimized for providing an uninterrupted service.

Continuous operation solutions have to solve the detection problem, and nearly always involve submitting the same work through more than one system and either using the first result, or if correctness is a major consideration, comparing at least two outcomes.

A multi-instance queue manager is designed to assist you in configuring for *availability*. One instance of the queue manager is active at a time. Switching over to a standby instance takes from a little less than ten seconds to a fifteen minutes or more, depending on how the system is configured, loaded and tuned. When you start a multi-instance queue manager, start two instances, using the **STRMQM** command with the option, **STANDBY (\*YES)**.

A multi-instance queue manager can give the appearance of a nearly uninterrupted service if used with reconnectable WebSphere MQ clients, which are able to continue processing without the application program necessarily being aware of a queue manager outage; see the topic [Automated client reconnection](#). You can also automatically restart server applications by configuring them as queue manager services; see [Services](#).

**Parent topic:** ► [Multi-instance queue managers](#) ◀

#### Related concepts

► [Backups of WebSphere MQ for i5/OS data](#) ◀

#### Related information

► [Geographic mirroring](#) ◀

► [High availability](#) ◀

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### 7.3.2. Components of a high availability solution

You can construct a high availability solution using multi-instance queue managers and other components. Locate queue manager data on robust networked storage. Use journal replication or independent ASP storage for queue manager journals. Run applications as reconnectable clients, or applications configured as restartable queue manager services.

A multi-instance queue manager reacts to the detection of queue manager failure by resuming the startup of another queue manager instance on another server. To complete its startup, the instance needs access to the shared queue manager data in networked storage. It also requires a local copy of the queue manager journal.

To create a high availability solution, you must manage the availability of the queue manager data and the currency of the remote queue manager journal. Design your WebSphere MQ applications to resume when a standby queue manager instance takes over. Build client applications as reconnectable clients, or deploy server applications as queue manager services to restart automatically when the queue manager resumes. Automatic client reconnect is not supported by WebSphere® MQ classes for Java.

#### Queue manager data

Place queue manager data onto networked storage that is shared, highly available and reliable, for example by using RAID level 1 disks or greater. The file system must meet the requirements for a shared file system for multi-instance queue managers. The requirements are described in [Requirements for shared file systems](#). The technote, [Testing, and support statement for WebSphere MQ multi-instance queue managers](#) lists the file systems that have been tested with IBM® i and other servers. It identifies the combination of file system and server that pass and the combinations that fail. A program is supplied with WebSphere MQ for i5/OS that you can use to check whether the file system meets these requirements. The program is called **AMQMFSCK**.

You can use IBM i NetServer to connect to the queue manager data on a network share. The share must be hosted either by IBM i or Windows; see [IBM i NetServer overview](#).

**Note:** At the time of writing, on IBM i, use NetServer to connect network files systems that can host queue manager data for multi-instance queue managers. See [Testing, and support statement for WebSphere MQ multi-instance queue managers](#) for the latest information about compatible network file systems.

### Queue manager journals

Configure the IBM i journals used by the queue manager instances so that the standby instance can restore its queue manager data. For uninterrupted service, you must restore the journals to their state when the active instance failed. Unlike backup or disaster recovery solutions, restoring journals to an earlier checkpoint is not sufficient.

You cannot physically share journals between multiple IBM i systems on shared networked storage. To restore queue manager journals to a consistent state at the point of failure, you have two options:

1. Transfer the physical journal that was local to the active queue manager instance at the time of failure to the new instance that has been activated. You can store journals on independent ASPs, which are transferable from one server to another.
2. Maintain a remote mirror of the local journal on the standby instance. You can set up multiple remote mirrors; see [Mirrored journal configuration for ASP](#).

The mirrored journal is a remote journal replica that has been kept in synchronization with the local journal belonging to the failed instance. You can keep the remote journals up to date, so no messages are lost or duplicated if the standby takes over. Use the `*SYNC` remote journaling option to keep an exact replica on an ASP. Alternatively you can opt for better performance, at the cost that remote journals are not always up to date. You might lose or duplicate messages if the standby takes over. Use the `*ASYNCR` to reduce the impact of remote journaling on the performance of the active queue manager instance.

Three configurations are starting points for designing how you manage the journals for a multi-instance queue manager,

1. Using synchronized journal replication (journal mirroring) from the active instance to the standby instances.
2. Journaling to an independent ASP. You can transfer the independent ASP that holds the queue manager journal from the active instance to the standby instance when it takes over. The transfer can be automated if you have IBM i clustering implemented.
3. Using synchronized secondary independent ASP mirrors.

See [Administrator > High Availability](#). Also, the IBM Redbooks® *IBM iSeries® Independent ASPs: A Guide to Moving Applications to IASPs, SG24-6802* and *Implementing PowerHA™ for IBM i, SG24-7405*. These references have more information about using IASPs to configure highly available storage on IBM i.

### Applications

Client applications can automatically reconnect to the queue manager when the standby queue manager resumes. Connect your client application to the queue manager using `MQCONN` and specify `MQCNO_RECONNECT_Q_MGR` in the `MQCNO` Options field. See, [High availability sample programs. Application recovery](#) has information about designing client applications for recovery.


To create a reconnectable JMS WebSphere MQ client, set the connection factory `CLIENTRECONNECTOPTIONS` property.

To start a server program automatically when the queue manager is started, define it as a service; see [Services](#). You might place the application on the independent ASP so it gets transferred to the server hosting the newly activated queue manager instance.

#### ►Creating a network share for queue manager data using NetServer◀

Create a network share on an IBM i server for storing queue manager data. Set up connections from two servers, which are going to host queue manager instances, to access the network share.

**Parent topic:** ►Multi-instance queue managers◀

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## 7.3.2.1. Creating a network share for queue manager data using NetServer

Create a network share on an IBM i server for storing queue manager data. Set up connections from two servers, which are going to host queue manager instances, to access the network share.

### Before you begin

- You require 3 IBM i servers for this task. The network share is defined on one of the servers, GAMMA. The other two servers, ALPHA and BETA, are to connect to GAMMA.
- The task is most easily performed, if you install WebSphere MQ on all three servers.
- Install the System i® Navigator; see [System i Navigator](#).

### About this task

- Create the queue manager directory on GAMMA and set the correct ownership and permissions for the user profiles `QMQM` and `QMQMADM`. The directory and permission are easily created by installing WebSphere MQ on GAMMA.
- Use System i Navigator to create a share to the queue manager data directory on GAMMA.
- Create directories on ALPHA and BETA that point to the share.

### Procedure

1. On GAMMA create the directory to host the queue manager data with the `QMQM` user profile as the owner, and `QMQMADM` as the primary group.

#### Tip:

A quick and reliable way to create the directory with the right permissions is to install WebSphere® MQ on GAMMA.

Later, if you do not want to run WebSphere MQ on GAMMA, uninstall WebSphere MQ. After uninstallation, the directory `/QIBM/UserData/mqm/qmgrs` remains on GAMMA with the owner `QMQM` user profile, and `QMQMADM` the primary group.

The task uses the `/QIBM/UserData/mqm/qmgrs` directory on GAMMA for the share.

2. Start the System i Navigator **Add connection** wizard and connect to the GAMMA system.
  - a. Double-click the **System i Navigator** icon on your Windows desktop.
  - b. Click **Yes** to create a connection.

- c. Follow the instructions in the **Add Connection** wizard and create a connection from the IBM® i system to GAMMA. The connection to GAMMA is added to **My Connections**.
3. Add a new file share on GAMMA.
    - a. In the System i Navigator window, click the **File Shares** folder in **My Connections/GAMMA/File Systems**.
    - b. In the My Tasks window, click **Manage i5/OS NetServer shares**. A new window, **i5/OS NetServer - GAMMA**, opens on your desktop and shows shared objects.
    - c. Right-click the **Shared Objects** folder > **File > New > File**. A new window, **i5/OS NetServer File Share - GAMMA**, opens.
    - d. Give the share a name, **WMQ** for example.
    - e. Set the access control to **Read/Write**.
    - f. Select the **Path name** by browsing to the **/QIBM/UserData/mqm/qmgrs** directory you created earlier, and click **OK**. The **i5/OS NetServer File Share - GAMMA** window closes, and **WMQ** is listed in the shared objects window.
  4. Right click **WMQ** in the shared objects window. Click **File > Permissions**. A window opens, **Qmgrs Permissions - GAMMA**, for the object **/QIBM/UserData/mqm/qmgrs**.
    - a. Check the following permissions for **QMOM**, if they are not already set:
      - Read
      - Write
      - Execute
      - Management
      - Existence
      - Alter
      - Reference
    - b. Check the following permissions for **QMOMADM**, if they are not already set:
      - Read
      - Write
      - Execute
      - Reference
    - c. Add other user profiles that you want to give permissions to **/QIBM/UserData/mqm/qmgrs**. For example, you might give the default user profile (**Public**) **Read** and **Execute** permissions to **/QIBM/UserData/mqm/qmgrs**.
  5. Check that all the user profiles that are granted access to **/QIBM/UserData/mqm/qmgrs** on GAMMA have the same password as they do on the servers that access GAMMA. In particular, ensure that the **QMOM** user profiles on other servers, which are going to access the share, have the same password as the **QMOM** user profile on GAMMA.
 

**Tip:** Click the **My Connections/GAMMA/Users and Groups** folder in the System i Navigator to set the passwords. Alternatively, use the **CHFUSRPRF** and **CHGPWD** commands.

## Results

Check you can access GAMMA from other servers using the share. If you are doing the other tasks, check you can access GAMMA from ALPHA and BETA using the path **/QNTC/GAMMA/WMQ**. If the **/QNTC/GAMMA** directory does not exist on ALPHA or BETA then you must create the directory. Depending on the NetServer domain, you might have to IPL ALPHA or BETA before creating the directory.

```
CRTDIR DIR('/QNTC/GAMMA')
```

When you have checked that you have access to **/QNTC/GAMMA/WMQ** from ALPHA or BETA, issuing the command, **CRTMQM MQMNAME('QM1') MQMDIRP('/QNTC/GAMMA/WMQ')** creates **/QIBM/UserData/mqm/qmgrs/QM1** on GAMMA.

### What to do next

Create a multi-instance queue manager by following the steps in either of the tasks, [Creating a multi-instance queue manager using journal mirroring and NetServer](#) or [Converting a single instance queue manager to a multi-instance queue manager using NetServer and journal mirroring](#).

**Parent topic:** [Components of a high availability solution](#)

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## 7.3.3. Fail over performance

The time it takes to detect a queue manager instance has failed, and then to resume processing on a standby can vary between tens of seconds to fifteen minutes or more depending on the configuration. Performance needs to be a major consideration in designing and testing a high availability solution.

There are advantages and disadvantages to weigh up in deciding whether to configure a multi-instance queue manager to use journal replication, or to use an independent ASP. Mirroring requires the queue manager to write synchronously to a remote journal. From a hardware point of view, this need not affect performance, but from a software perspective there is a greater pathlength involved in writing to a remote journal than just to a local journal, and this might be expected to reduce the performance of a running queue manager to some extent. The speed of light is a significant factor in the time it takes to synchronously update a geographically distant remote journal. As a rule of thumb, do not locate remote journals more than 250 meters away.

When the standby queue manager takes over, the delay in synchronizing its local journal from the remote journal maintained by the active instance before it failed, is typically small in comparison to the time it takes for IBM i to detect and transfer the independent ASP to the server running the standby instance of the queue manager. Independent ASP transfer times can be as much as ten to fifteen minutes rather than being completed in seconds. The independent ASP transfer time depends on the number of objects that need to be *varied-on* when the independent ASP is transferred to the standby system and the size of the access paths, or indices, that need to be merged.

However, transferring the journal is not the only factor influencing the time it takes for the standby instance to fully resume. You also need to consider the time it takes for the network file system to release the lock on queue manager data that signals to the standby instance to try to continue with its start-up, and also the time it takes to recover queues from the journal so that the instance is able to start processing messages again. These other sources of delay all add to the time it takes to start a standby instance. The total time to switch over is made up of the following components,

**Failure detection time**

The time it takes to release the lock on the queue manager data, and the standby instance to continue its startup process.

**Transfer time**

In the case of an HA cluster, the time it takes IBM i to transfer the independent ASP from the system hosting the active instance to the standby instance, and in the case of journal replication, the time it takes to update the local journal at the standby with the data from the remote replica.

**Restart time**

The time it takes for the newly active queue manager instance to rebuild its queues from the latest checkpoint in its restored journal and to resume processing messages.

**Note:**

If the standby instance that has taken over is configured to synchronously replicate to the previously active instance, the startup could be delayed. The new activated instance might be unable to replicate to its remote journal, if the remote journal is on the server that hosted the previously active instance, and the server has failed.

The default time to wait for a synchronous response is one minute. You can configure the maximum delay before the replication times out. Alternatively, you can configure standby instances to start using asynchronous replication to the failed active instance. Later you switch the to synchronous replication, when the failed instance is running on standby again. The same consideration applies to using synchronous independent ASP mirrors.

You can make separate baseline measurements for these components to help you assess the overall time to failover, and to factor into your decision which configuration approach to use. In making the best configuration decision you also need to consider how other applications on the same server will failover, and whether there are backup or disaster recovery processes that already use independent ASPs.

independent ASP transfer times can be shortened by tuning your cluster configuration:

1. User profiles across systems in the cluster should have the same GID and UID to eliminate the need for the vary-on process to change UIDs and GIDs.
2. Minimize the number of database objects in the system and basic user disk pools, as these need to be merged to create the cross-reference table for the disk-pool group.
3. Further performance tips can be found in the IBM Redbook, *Implementing PowerHA for IBM i, SG24-7405*.

A configuration using basic ASPs, journal mirroring, and a small configuration should switch over in the order of tens of seconds.

**Parent topic:** [Multi-instance queue managers](#)

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### 7.3.4. Mirrored journal configuration for ASP

Configure a robust multi-instance queue manager using synchronous replication between mirrored journals.

A mirrored queue manager configuration uses journals that are created in basic or independent auxiliary storage pools (ASP).

On IBM i, queue manager data is written to journals and to a file system. Journals contain the master copy of queue manager data. Journals are shared between systems using either synchronous or asynchronous journal replication. A mix of local and remote journals are required to restart a queue manager instance. Queue manager restart reads journal records from the mix of local and remote journals on the server, and the queue manager data on the shared network file system. The data in the file system speeds up restarting the queue manager. Checkpoints are stored in the file system, marking points of synchronisation between the file system and the journals. Journal records stored before the checkpoint are not required for typical queue manager restarts. However, the data in the file system might not be up to date, and journal records after the checkpoint are used to complete the queue manager restart. The data in the journals attached to the instance are kept up to date so that the restart can complete successfully.

But even the journal records might not be up to date, if the remote journal on the standby server was being asynchronously replicated, and the failure occurred before it was synchronized. In the event that you decide to restart a queue manager using a remote journal that is not synchronized, the standby queue manager instance might either reprocess messages that were deleted before the active instance failed, or not process messages that were received before the active instance failed.

Another, rare possibility, is that the file system contains the most recent checkpoint record, and an unsynchronized remote journal on the standby does not. In this case the queue manager does not restart automatically. You have a choice of waiting until the remote journal is synchronized, or cold starting the standby queue manager from the file system. Even though, in this case, the file system contains a more recent checkpoint of the queue manager data than the remote journal, it might not contain all the messages that were processed before the active instance failed. Some messages might be reprocessed, and some not processed, after a cold restart that is out of synchronization with the journals.

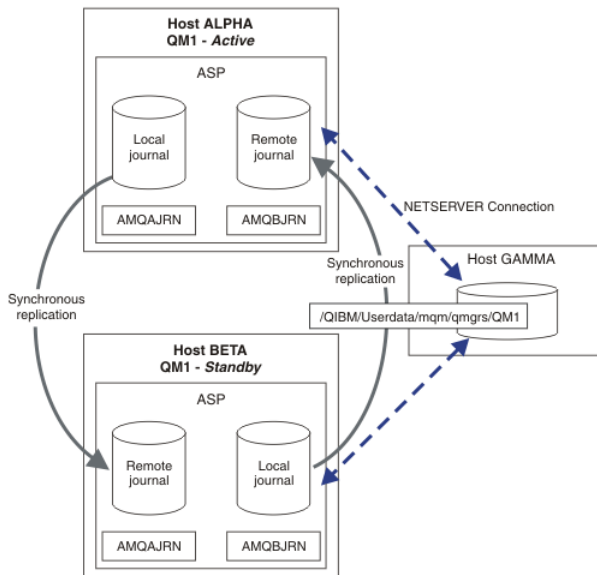
With a multi-instance queue manager, the file system is also used to control which instance of a queue manager is active, and which is the standby. The active instance acquires a lock to the queue manager data. The standby waits to acquire the lock, and when it does, it becomes the active instance. The lock is released by the active instance, if it ends normally. The lock is released by the file system if the file system detects the active instance has failed, or cannot access the file system. The file system must meet the requirements for detecting failure; see [Requirements for shared file systems](#). The technote, [Testing, and support statement for WebSphere® MQ multi-instance queue managers](#) lists the file systems that have been tested with IBM® i and other servers. It identifies the combination of file system and server that pass and the combinations that fail.

The architecture of multi-instance queue managers on IBM i provides automatic restart following server or queue manager failure. It also supports restoration of queue manager data following failure of the file system where the queue manager data is stored.

In [Figure 1](#), if ALPHA fails, you can manually restart QM1 on beta, using the mirrored journal. By adding the multi-instance queue manager capability to QM1, the standby instance of QM1 resumes automatically on BETA if the active instance on ALPHA fails. QM1 can also resume automatically if it is the server ALPHA that fails, not just the active instance of QM1. Once BETA becomes the host of the active queue manager instance, the standby instance can be started on ALPHA.

[Figure 1](#) shows a configuration that mirrors journals between two instances of a queue manager using NetServer to store queue manager data. You might expand the pattern to include more journals, and hence more instances. Follow the journal naming rules explained in the topic, [WebSphere MQ for i5/OS journals](#). Currently the number of running instances of a queue manager is limited to two, one is active and one is in standby.

*Figure 1. Mirror a queue manager journal*



The local journal for QM1 on host ALPHA is called AMQAJRN (or more fully, QMQM1/AMQAJRN) and on BETA the journal is QMQM1/AMQBJRN. Each local journal replicates to remote journals on all other instances of the queue manager. If the queue manager is configured with two instances, a local journal is replicated to one remote journal.

**\*SYNC or \*ASYNCR remote journal replication**

IBM i journals are mirrored using either synchronous (\*SYNC) or asynchronous (\*ASYNCR) journaling; see [Remote journal management](#).

The replication mode in [Figure 1](#) is \*SYNC, not \*ASYNCR. \*ASYNCR is faster, but if a failure occurs when the remote journal state is \*ASYNCPEND, the local and remote journal are not consistent. The remote journal must catch up with the local journal. If you choose \*SYNC, then the local system waits for the remote journal before returning from a call that requires a completed write. The local and remote journals generally remain consistent with one another. Only if the \*SYNC operation takes longer than a designated time<sup>1</sup>, and remote journaling is deactivated, do the journals get out of synchronization. An error is logged to the journal message queue and to QSYSOPR. The queue manager detects this message, writes an error to the queue manager error log, and deactivates remote replication of the queue manager journal. The active queue manager instance resumes without remote journaling to this journal. When the remote server is available again, you must manually reactivate synchronous remote journal replication. The journals are then resynchronized.

A problem with the \*SYNC/\*ASYNCR configuration illustrated in [Figure 1](#) is how the standby queue manager instance on BETA takes control. As soon as the queue manager instance on BETA writes its first persistent message, it attempts to update the remote journal on ALPHA. If the cause of control passing from ALPHA to BETA was the failure of ALPHA, and ALPHA is still down, remote journaling to ALPHA fails. BETA waits for ALPHA to respond, and then deactivates remote journaling and resumes processing messages with only local journaling. BETA has to wait a while to detect that ALPHA is down, causing a period of inactivity.

The choice between setting remote journaling to \*SYNC or \*ASYNCR is a trade-off. [Table 1](#) summarizes the trade-offs between using \*SYNC and \*ASYNCR journaling between a pair of queue managers:

*Table 1. Remote journaling options*

	Standby	*SYNC	*ASYNCR
Active			
*SYNC		1. Consistent switchover and failover 2. The standby instance does not resume immediately after failover. 3. Remote journaling must be available all the time 4. Queue manager performance depends on remote journaling	1. Consistent switchover and failover 2. Remote journaling must be switched to *SYNC when standby server available 3. Remote journaling must remain available after it has been restarted 4. Queue manager performance depends on remote journaling
*ASYNCR		1. Not a sensible combination	1. Some messages might be lost or duplicated after a failover or switchover 2. Standby instance need not be available all the time for the active instance to continue without delay. 3. Performance does not depend on remote journaling

**\*SYNC/\*ASYNCR**

The active queue manager instance uses \*SYNC journaling, and when the standby queue manager instance starts, it immediately tries to use \*SYNC journaling.

- The remote journal is transactionally consistent with the local journal of the active queue manager. If the queue manager is switched over to the standby instance, it can resume immediately. The standby instance normally resumes without any loss or duplication of messages. Messages are only lost or duplicated if remote journaling failed since the last checkpoint, and the previously active queue manager cannot be restarted.
- If the queue manager fails over to the standby instance, it might not be able to start immediately. The standby queue manager instance is activated with \*SYNC journaling. The cause of the failover might prevent remote journaling to the server hosting the standby instance. The queue manager waits until the problem is detected before processing any persistent messages. An error is logged to the journal message queue and to QSYSOPR. The queue manager detects this message, writes an error to the queue manager error log, and deactivates remote replication of the queue manager journal. The active queue manager instance resumes without remote journaling to this journal. When the remote server is available again, you must manually reactivate synchronous remote journal replication. The journals are then resynchronized.
- The server to which the remote journal is replicated must always be available to maintain the remote journal. The remote journal is typically replicated to the same server that hosts the standby queue manager. The server might become unavailable. An error is logged to the journal message queue and to QSYSOPR. The queue manager detects this message, writes an error to the queue manager error log, and deactivates remote replication of the queue manager journal. The active queue manager instance resumes without remote journaling to this journal. When the remote server is available again, you must manually reactivate synchronous remote journal replication. The journals are then resynchronized.

- Remote journaling is slower than local journaling, and substantially slower if the servers are separated by a large distance. The queue manager must wait for remote journaling, which reduces queue manager performance.

The `*SYNC/*SYNC` configuration between a pair of servers has the disadvantage of a delay in resuming the standby instance after failover. The `*SYNC/*ASYNC` configuration does not have this problem.

`*SYNC/*SYNC` does not guarantee no message loss after switchover or failover, as long as a remote journal is available. If you want to reduce the risk of message loss after failover or switchover you have two choices. Either stop the active instance if the remote journal becomes inactive, or create remote journals on more than one server.

#### `*SYNC/*ASYNC`

The active queue manager instance uses `*SYNC` journaling, and when the standby queue manager instance starts, it uses `*ASYNC` journaling. Shortly after the server hosting the new standby instance becomes available, the system operator must switch the remote journal on the active instance to `*SYNC`. When the operator switches remote journaling from `*ASYNC` to `*SYNC` the active instance pauses if the status of the remote journal is `*ASYNCPEND`. The active queue manager instance waits until remaining journal entries are transferred to the remote journal. When the remote journal has synchronized with the local journal, the new standby is transactionally consistent again with the new active instance. From the perspective of the management of multi-instance queue managers, in an `*SYNC/*ASYNC` configuration the IBM i system operator has an additional task. The operator must switch remote journaling to `*SYNC` in addition to restarting the failed queue manager instance.

- The remote journal is transactionally consistent with the local journal of the active queue manager. If the active queue manager instance is switched over, or fails over to the standby instance, the standby instance can then resume immediately. The standby instance normally resumes without any loss or duplication of messages. Messages are only lost or duplicated if remote journaling failed since the last checkpoint, and the previously active queue manager cannot be restarted.
- The system operator must switch remote journal from `*ASYNC` to `*SYNC` shortly after the system hosting the active instance becomes available again. The operator might wait for the remote journal to catch up before switching the remote journal to `*SYNC`. Alternatively the operator might switch the remote instance to `*SYNC` immediately, and force the active instance to wait until the standby instance journal has caught up. When remote journaling is set to `*SYNC`, the standby instance is generally transactionally consistent with the active instance. Messages are only lost or duplicated if remote journaling failed since the last checkpoint, and the previously active queue manager cannot be restarted.
- When the configuration has been restored from a switchover or failover, the server on which the remote journal is hosted must be available all the time.

Choose `*SYNC/*ASYNC` when you want the standby queue manager to resume quickly after a failover. You must restore the remote journal setting to `*SYNC` on the new active instance manually. The `*SYNC/*ASYNC` configuration matches the normal pattern of administering a pair of multi-instance queue managers. After one instance has failed, there is a time before the standby instance is restarted, during which the active instance cannot fail over.

#### `*ASYNC/*ASYNC`

Both the servers hosting the active and standby queue managers are configured to use `*ASYNC` remote journaling.

- When switchover or failover take place, the queue manager continues with the journal on the new server. The journal might not be synchronized when the switchover or failover takes place. Consequently messages might be lost or duplicated.
- The active instance runs, even if the server hosting the standby queue manager is not available. The local journal is replicated asynchronously with the standby server when it is available.
- The performance of the local queue manager is unaffected by remote journaling.

Choose `*ASYNC/*ASYNC` if performance is your principal requirement, and you are prepared to lose or duplicate some messages after failover or switchover.

#### `*ASYNC/*SYNC`

There is no reason to use this combination of options.

### Queue manager activation from a remote journal

Journals are either replicated synchronously or asynchronously. The remote journal might not be active, or it might be catching up with the local journal. The remote journal might be catching up, even if it is synchronously replicated, because it might have been recently activated. The rules that the queue manager applies to the state of the remote journal it uses during start-up are as follows.

- Standby startup fails if it must replay from the remote journal on the standby and the journal status is `*FAILED` or `*INACTPEND`.
- When activation of the standby begins, the remote journal status on the standby must be either `*ACTIVE` or `*INACTIVE`. If the state is `*INACTIVE`, it is possible for activation to fail, if not all the journal data has been replicated. The failure occurs if the queue manager data on the network file system has a more recent checkpoint record than present in the remote journal. The failure is unlikely to happen, as long as the remote journal is activated well within the default 30 minute maximum interval between checkpoints. If the standby queue manager does read a more recent checkpoint record from the file system, it does not start. You have a choice: Wait until the local journal on the active server can be restored, or cold start the standby queue manager. If you choose to cold start, the queue manager starts with no journal data, and relies on the consistency and completeness of the queue manager data in the file system. **Note:** If you cold start a queue manager, you run the risk of losing or duplicating messages after the last checkpoint. The message transactions were written to the journal, but some of the transactions might not have been written to the queue manager data in the file system. When you cold start a queue manager, a fresh journal is started, and transactions not written to the queue manager data in the file system are lost.
- The standby queue manager activation waits for the remote journal status on the standby to change from `*ASYNCPEND` or `*SYNCPEND` to `*ASYNC` or `*SYNC`. Messages are written to the job log of the execution controller periodically. **Note:** In this case activation is waiting on the remote journal local to the standby queue manager that is being activated. The queue manager also waits for a time before continuing without a remote journal. It waits when it tries to write synchronously to its remote journal (or journals) and the journal is not available.
- Activation stops if the journal status changes to `*FAILED` or `*INACTPEND`.

The names and states of the local and remote journals to be used in the activation are written to the queue manager error log.

#### ► [Creating a multi-instance queue manager using journal mirroring and NetServer](#) ◀

Create a multi-instance queue manager to run on two IBM i servers. The queue manager data is stored on a third IBM i server using NetServer. The queue manager journal is mirrored between the two servers using remote journaling. The `ADDMQMJRN` command is used to simplify creating the remote journals.

#### ► [Converting a single instance queue manager to a multi-instance queue manager using NetServer and journal mirroring](#) ◀

Convert a single instance queue manager to a multi-instance queue manager. Move the queue manager data to a network share connected by NetServer. Mirror the queue manager journal to a second IBM i server using remote journaling.

#### Parent topic: ► [Multi-instance queue managers](#) ◀

⚠ The designated time is 60 seconds on i5/OS Version 5 and in the range 1 - 3600 seconds on IBM i 6.1 onwards.

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### 7.3.4.1. Creating a multi-instance queue manager using journal mirroring and NetServer

Create a multi-instance queue manager to run on two IBM® i servers. The queue manager data is stored on a third IBM i server using NetServer. The queue manager journal is mirrored between the two servers using remote journaling. The **ADDQMJRN** command is used to simplify creating the remote journals.

#### Before you begin

1. The task requires three IBM i servers. Install WebSphere® MQ on two of them, ALPHA and BETA in the example. WebSphere MQ must be at least at version 7.0.1.1.
2. The third server is an IBM i server, connected by NetServer to ALPHA and BETA. It is used to share the queue manager data. It does not have to have a WebSphere MQ installation. It is useful to install WebSphere MQ on the server as a temporary step, to set up the queue manager directories and permissions.
3. Make sure that the **QMOM** user profile has the same password on all three servers.
4. Install IBM i NetServer; see [i5/OS® NetServer](#).

#### About this task

Perform the following steps to create the configuration shown in [Figure 1](#). The queue manager data is connected using IBM i NetServer.

- Create connections from ALPHA and BETA to the directory share on GAMMA that is to store the queue manager data. The task also sets up the necessary permissions, user profiles and passwords.
- Add Relational Database Entries (RDBE) to the IBM i systems that are going to run queue manager instances. The RDBE entries are used to connect to the IBM i systems used for remote journaling.
- Create the queue manager **QM1** on the IBM i server, ALPHA.
- Add the queue manager control information for **QM1** on the other IBM i server, BETA.
- Create remote journals on both the IBM i servers for both queue manager instances. Each queue manager writes to the local journal. The local journal is replicated to the remote journal. The command, **ADDQMJRN** simplifies adding the journals and the connections.
- Start the queue manager, permitting a standby instance.

#### Procedure

1. Do the task, [Creating a network share for queue manager data using NetServer](#).  
As a result, ALPHA and BETA have a share, `/QNTC/GAMMA/WMQ`, that points to `/QIBM/UserData/mqm/qmgrs` on GAMMA. The user profiles **QMOM** and **QMOMADM** have the necessary permissions, and **QMOM** has matching passwords on all three systems.

2. Add Relational Database Entries (RDBE) to the IBM i systems that are going to host queue manager instances.

- a. On ALPHA create the connection to BETA.

```
ADDRDBDIRE RDB(BETA) RMTLOCNAME(BETA *IP) RMTAUTMTH(*USRIDPWD)
```

- b. On BETA create the connections to ALPHA.

```
ADDRDBDIRE RDB(ALPHA) RMTLOCNAME(ALPHA *IP) RMTAUTMTH(*USRIDPWD)
```

3. Create the queue manager **QM1** on ALPHA, saving the queue manager data on GAMMA.

```
CRTMQM MQMNAME(QM1) UDLSMSGQ(SYSTEM.DEAD.LETTER.QUEUE)
MQMDIRP('/QNTC/GAMMA/WMQ')
```

The path, `/QNTC/GAMMA/WMQ`, uses NetServer to create the queue manager data in `/QIBM/UserData/mqm/qmgrs`.

4. Run **ADDQMJRN** on ALPHA. The command adds a remote journal on BETA for **QM1**.

```
ADDQMJRN MQMNAME(QM1) RMTJRNRDB(BETA)
```

**QM1** creates journal entries in its local journal on ALPHA when the active instance of **QM1** is on ALPHA. The local journal on ALPHA is replicated to the remote journal on BETA.

5. Use the command, **DSPF**, to inspect the WebSphere MQ configuration data created by **CRTMQM** for **QM1** on ALPHA.

The information is needed in the next step.

In this example, the following configuration is created in `/QIBM/UserData/mqm/mqs.ini` on ALPHA for **QM1**:

```
Name=QM1
Prefix=/QIBM/UserData/mqm
Library=QMOM1
Directory=QM1
DataPath=/QNTC/GAMMA/WMQ/QM1
```

6. Create a queue manager instance of **QM1** on BETA using the **ADDQMINF** command. Run the following command on BETA to modify the queue manager control information in `/QIBM/UserData/mqm/mqs.ini` on BETA.

```
ADDQMINF MQMNAME(QM1)
PREFIX('/QIBM/UserData/mqm')
MQMDIR(QM1)
MQMLIB(QMOM1)
DATAPATH('/QNTC/GAMMA/WMQ/QM1')
```

**Tip:** Copy and paste the configuration information. The queue manager stanza is the same on ALPHA and BETA.

7. Run **ADDQMJRN** on BETA. The command adds a local journal on BETA and a remote journal on ALPHA for **QM1**.

```
ADDQMJRN MQMNAME(QM1) RMTJRNRDB(ALPHA)
```

**QM1** creates journal entries in its local journal on BETA when the active instance of **QM1** is on BETA. The local journal on BETA is replicated to the remote journal on ALPHA.

**Note:** As an alternative, you might want to set up remote journaling from BETA to ALPHA using asynchronous journaling.

Use this command to set up asynchronous journaling from BETA to ALPHA, instead of the command in step 7.

```
ADDQMJRN MQMNAME(QM1) RMTJRNRDB(ALPHA) RMTJRNDLV(*ASYNC)
```

If the server or journaling on ALPHA is the source of the failure, BETA starts without waiting for new journal entries to be replicated to ALPHA.

Switch the replication mode to `*SYNC`, using the **CHGMQMJRN** command, when ALPHA is online again.

Use the information in [Mirrored journal configuration for ASP](#) to decide whether to mirror the journals synchronously, asynchronously, or a mixture of both. The default is to replicate synchronously, with a 60 second wait period for a response from the remote journal.

8. Verify that the journals on ALPHA and BETA are enabled and the status of remote journal replication is `*ACTIVE`.

- a. On ALPHA:

```
WRKQMQRN MQMNAME(QM1)
```

b. On BETA:

```
WRKMQMQRN MQMNAME(QM1)
```

9. Start the queue manager instances on ALPHA and BETA.

a. Start the first instance on ALPHA, making it the active instance. Enabling switching over to a standby instance.

```
STRMQM MQMNAME(QM1) STANDBY(*YES)
```

b. Start the second instance on BETA, making it the standby instance.

```
STRMQM MQMNAME(QM1) STANDBY(*YES)
```

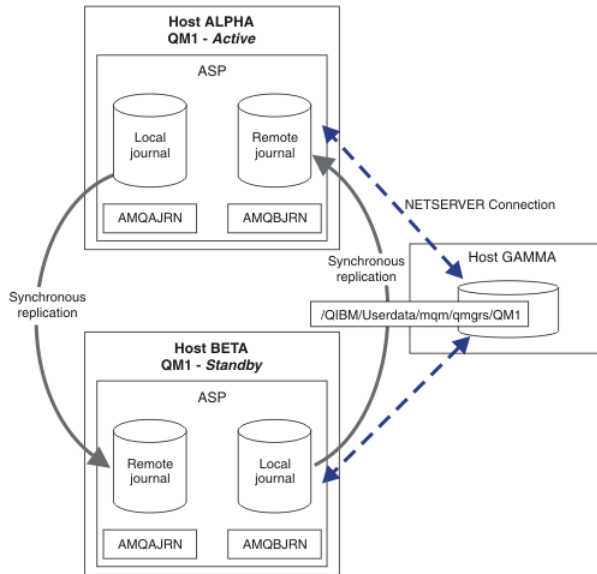
## Results

Use **WRKMQM** to check queue manager status:

1. The status of the queue manager instance on ALPHA should be \*ACTIVE.
2. The status of the queue manager instance on BETA should be \*STANDBY.

## Example

Figure 1. Mirrored journal configuration



## What to do next

- Verify that the active and standby instances switch over automatically. You can run the sample high availability sample programs to test the switch over; see [High availability sample programs](#). The sample programs are 'C' clients. You can run them from a Windows or Unix platform.
  1. Start the high availability sample programs.
  2. On ALPHA, end the queue manager requesting switch over:
 

```
ENDMQM MQMNAME(QM1) OPTION(*IMMED) ALSWITCH(*YES)
```
  3. Check that the instance of QM1 on BETA is active.
  4. Restart QM1 on ALPHA
 

```
STRMQM MQMNAME(QM1) STANDBY(*YES)
```
- Look at alternative high availability configurations:
  1. Use NetServer to place the queue manager data on a Windows server.
  2. Instead of using remote journaling to mirror the queue manager journal, store the journal on an independent ASP. Use IBM i clustering to transfer the independent ASP from ALPHA to BETA.

**Parent topic:** [Mirrored journal configuration for ASP](#)

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## 7.3.4.2. Converting a single instance queue manager to a multi-instance queue manager using NetServer and journal mirroring

Convert a single instance queue manager to a multi-instance queue manager. Move the queue manager data to a network share connected by NetServer. Mirror the queue manager journal to a second IBM® i server using remote journaling.

### Before you begin

1. The task requires three IBM i servers. The existing WebSphere® MQ installation, on the server ALPHA in the example, must be at least at version 7.0.1.1. ALPHA is running a queue manager called QM1 in the example.
2. Install WebSphere MQ on the second IBM i server, BETA in the example.
3. The third server is an IBM i server, connected by NetServer to ALPHA and BETA. It is used to share the queue manager data. It does not have to



have a WebSphere MQ installation. It is useful to install WebSphere MQ on the server as a temporary step, to set up the queue manager directories and permissions.

4. Make sure that the QMQM user profile has the same password on all three servers.
5. Install IBM i NetServer; see [i5/OS@ NetServer](#).

### About this task

Perform the following steps to convert a single instance queue manager to the multi-instance queue manager shown in [Figure 1](#). The single instance queue manager is deleted in the task, and then recreated, storing the queue manager data on the network share connected by NetServer. This procedure is more reliable than moving the queue manager directories and files to the network share using the **CPY** command.

- Create connections from ALPHA and BETA to the directory share on GAMMA that is to store the queue manager data. The task also sets up the necessary permissions, user profiles and passwords.
- Add Relational Database Entries (RDBE) to the IBM i systems that are going to run queue manager instances. The RDBE entries are used to connect to the IBM i systems used for remote journaling.
- Save the queue manager logs and definitions, stop the queue manager, and delete it.
- Recreate the queue manager, storing the queue manager data on the network share on GAMMA.
- Add the second instance of the queue manager to the other server.
- Create remote journals on both the IBM i servers for both queue manager instances. Each queue manager writes to the local journal. The local journal is replicated to the remote journal. The command, **ADDQMJRN** simplifies adding the journals and the connections.
- Start the queue manager, permitting a standby instance.

### Note:

In step 5 of the task, you delete the single instance queue manager, QM1. Deleting the queue manager deletes all the persistent messages on queues. For this reason, complete processing all the messages stored by the queue manager, before converting the queue manager. If processing all the messages is not possible, back up the queue manager library before step 5. Restore the queue manager library after step 6.

### Note:

In step 6 of the task, you recreate QM1. Although the queue manager has the same name, it has a different queue manager identifier. Queue manager clustering uses the queue manager identifier. To delete and recreate a queue manager in a cluster, you must first remove the queue manager from the cluster; see [Task 10: Removing a queue manager from a cluster](#). When you have recreated the queue manager, add it to the cluster. Although it has the same name as before, it appears to be a new queue manager to the other queue managers in the cluster.

### Procedure

1. Do the task, [Creating a network share for queue manager data using NetServer](#).

As a result, ALPHA and BETA have a share, /QNTC/GAMMA/WMQ, that points to /QIBM/UserData/mqm/qmgrs on GAMMA. The user profiles QMQM and QMQMADM have the necessary permissions, and QMQM has matching passwords on all three systems.

2. Add Relational Database Entries (RDBE) to the IBM i systems that are going to host queue manager instances.

- a. On ALPHA create the connection to BETA.

```
ADDRDBDIRE RDB(BETA) RMTLOCNAME(BETA *IP) RMTAUTMTH(*USRIDPWD)
```

- b. On BETA create the connections to ALPHA.

```
ADDRDBDIRE RDB(ALPHA) RMTLOCNAME(ALPHA *IP) RMTAUTMTH(*USRIDPWD)
```

3. Download and install the SupportPac, [MS03, WebSphere MQ - Save Queue Manager object definitions using PCFs \(SAVEQMGR\)](#).

The SupportPac installs the command **QSAVEQMGR**.

4. Create the scripts that recreate the queue manager objects.

```
QSAVEQMGR LCLQMGRNAM(QM1) FILENAME('*CURLIB/QMQSC(QM1)')
OUTPUT(*REPLACE) MAKEAUTH(*YES) AUTHFN('*CURLIB/QMAUT(QM1)')
```

5. Stop the queue manager and delete it.

```
ENDMQM MQMNAME(QM1) OPTION(*IMMED) ENDCCTJOB(*YES) RCDMQMING(*YES) TIMEOUT(15)
DLTMQM MQMNAME(QM1)
```

6. Create the queue manager QM1 on ALPHA, saving the queue manager data on GAMMA.

```
CRTMQM MQMNAME(QM1) UDLMSGQ(SYSTEM.DEAD.LETTER.QUEUE)
MQMDIRP('/QNTC/GAMMA/WMQ')
```

The path, /QNTC/GAMMA/WMQ, uses NetServer to create the queue manager data in /QIBM/UserData/mqm/qmgrs.

7. Recreate the queue manager objects for QM1 from the saved definitions.

```
STRMQMQSC SRCMBR(QM1) SRCFILE(*CURLIB/QMQSC) MQMNAME(QM1)
```

8. Apply the authorizations from the saved information.

- a. Compile the saved authorization program.

```
CRTCLPGM PGM(*CURLIB/QM1) SRCFILE(*CURLIB/QMAUT)
SRCMBR(QM1) REPLACE(*YES)
```

- b. Run the program to apply the authorizations.

```
CALL PGM(*CURLIB/QM1)
```

- c. Refresh the security information for QM1.

```
REFRMQAUT MQMNAME(QM1)
```

9. Run **ADDQMJRN** on ALPHA. The command adds a remote journal on BETA for QM1.

```
ADDQMJRN MQMNAME(QM1) RMTJRNDRB(BETA)
```

QM1 creates journal entries in its local journal on ALPHA when the active instance of QM1 is on ALPHA. The local journal on ALPHA is replicated to the remote journal on BETA.

10. Use the command, **DSPF**, to inspect the WebSphere MQ configuration data created by **CRTMQM** for QM1 on ALPHA.

The information is needed in the next step.

In this example, the following configuration is created in /QIBM/UserData/mqm/mqs.ini on ALPHA for QM1:

```
Name=QM1
Prefix=/QIBM/UserData/mqm
Library=QMQM1
Directory=QM1
DataPath=/QNTC/GAMMA/WMQ/QM1
```

11. Create a queue manager instance of QM1 on BETA using the **ADDQMINF** command. Run the following command on BETA to modify the queue manager control information in `/QIBM/UserData/mqm/mqs.ini` on BETA.

```
ADDQMINF MQMNAME(QM1)
PREFIX('/QIBM/UserData/mqm')
MQMDIR(QM1)
MQMLIB(QMQM1)
DATAPATH('/QNTC/GAMMA/WMQ/QM1')
```

**Tip:** Copy and paste the configuration information. The queue manager stanza is the same on ALPHA and BETA.

12. Run **ADDQMJRN** on BETA. The command adds a local journal on BETA and a remote journal on ALPHA for QM1.

```
ADDQMJRN MQMNAME(QM1) RMTJRNDB(ALPHA)
```

QM1 creates journal entries in its local journal on BETA when the active instance of QM1 is on BETA. The local journal on BETA is replicated to the remote journal on ALPHA.

**Note:** As an alternative, you might want to set up remote journaling from BETA to ALPHA using asynchronous journaling.

Use this command to set up asynchronous journaling from BETA to ALPHA, instead of the command in step 12.

```
ADDQMJRN MQMNAME(QM1) RMTJRNDB(ALPHA) RMTJRNDLV(*ASYNCR)
```

If the server or journaling on ALPHA is the source of the failure, BETA starts without waiting for new journal entries to be replicated to ALPHA.

Switch the replication mode to `*SYNCR`, using the **CHGMQJRN** command, when ALPHA is online again.

Use the information in [Mirrored journal configuration for ASP](#) to decide whether to mirror the journals synchronously, asynchronously, or a mixture of both. The default is to replicate synchronously, with a 60 second wait period for a response from the remote journal.

13. Verify that the journals on ALPHA and BETA are enabled and the status of remote journal replication is `*ACTIVE`.

- a. On ALPHA:

```
WRKMQMJRN MQMNAME(QM1)
```

- b. On BETA:

```
WRKMQMJRN MQMNAME(QM1)
```

14. Start the queue manager instances on ALPHA and BETA.

- a. Start the first instance on ALPHA, making it the active instance. Enabling switching over to a standby instance.

```
STRMQM MQMNAME(QM1) STANDBY(*YES)
```

- b. Start the second instance on BETA, making it the standby instance.

```
STRMQM MQMNAME(QM1) STANDBY(*YES)
```

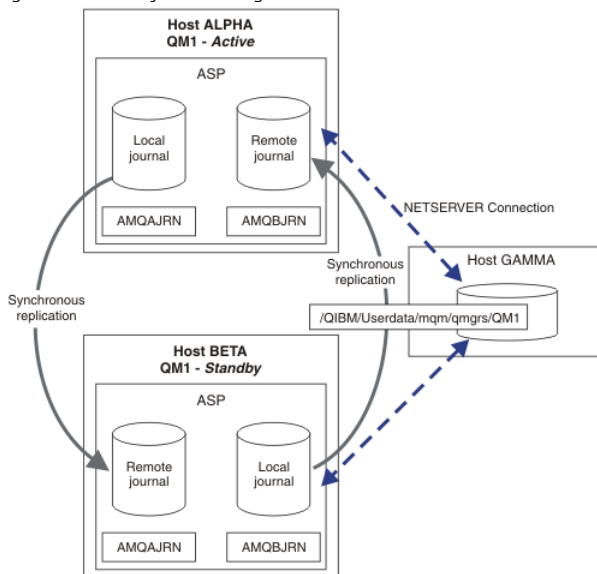
## Results

Use **WRKMQM** to check queue manager status:

- The status of the queue manager instance on ALPHA should be `*ACTIVE`.
- The status of the queue manager instance on BETA should be `*STANDBY`.

## Example

Figure 1. Mirrored journal configuration



## What to do next

- Verify that the active and standby instances switch over automatically. You can run the sample high availability sample programs to test the switch over; see [High availability sample programs](#). The sample programs are 'C' clients. You can run them from a Windows or Unix platform.
  - Start the high availability sample programs.
  - On ALPHA, end the queue manager requesting switch over:

```
ENDMQM MQMNAME(QM1) OPTION(*IMMED) ALSWITCH(*YES)
```
  - Check that the instance of QM1 on BETA is active.
  - Restart QM1 on ALPHA

```
STRMQM MQMNAME(QM1) STANDBY(*YES)
```
- Look at alternative high availability configurations:
  - Use NetServer to place the queue manager data on a Windows server.

2. Instead of using remote journaling to mirror the queue manager journal, store the journal on an independent ASP. Use IBM i clustering to transfer the independent ASP from ALPHA to BETA.

**Parent topic:** [▶Mirrored journal configuration for ASP◀](#)

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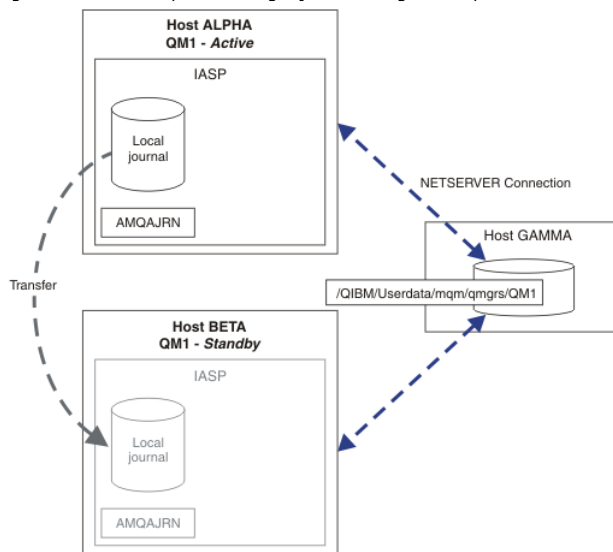
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### 7.3.5. Switched independent ASP journal configuration

You do not need to replicate an independent ASP journal to create a multi-instance queue manager configuration. You do need to automate a means to transfer the independent ASP from the active queue manager to the standby queue manager. There are alternative high availability solutions possible using an independent ASP, not all of which require using a multi-instance queue manager.

When using an independent ASP you do not need to mirror the queue manager journal. If you have installed cluster management, and the servers hosting the queue manager instances are in the same cluster resource group, then the queue manager journal can be transferred automatically to another server within a short distance of the active server, if the host running the active instance fails. You can also transfer the journal manually, as part of a planned switch, or you can write a command procedure to transfer the independent ASP programmatically.

Figure 1. Transfer a queue manager journal using an independent ASP



For multi-instance queue manager operation, queue manager data must be stored on a shared file system. The file system can be hosted on a variety of different platforms. You cannot store multi-instance queue manager data on an ASP or independent ASP.

The shared file system performs two roles in the configuration: The same queue manager data is shared between all instances of the queue manager. The file system must have a robust locking protocol that ensures only one instance of the queue manager has access to queue manager data once it has started. If the queue manager fails, or the communications to the file server breaks, then the file system must release the lock to the queue manager data held by the active instance that is no longer communicating with the file system. The standby queue manager instance can then gain read/write access to the queue manager data. The file system protocol must conform to a set of rules to work correctly with multi-instance queue managers; see [Queue manager data](#).

The locking mechanism serializes the start queue manager command and controls which instance of the queue manager is active. Once a queue manager becomes active, it rebuilds its queues from the local journal that you, or the HA cluster, has transferred to the standby server. Reconnectable clients that are waiting for reconnection to the same queue manager get reconnected, and any inflight transactions are backed out. Applications that are configured to start as queue manager services are started.

You need to ensure that the local journal from the failed active queue manager instance on the independent ASP is transferred to the server that hosts the newly activated standby queue manager instance, either by configuring the cluster resource manager, or transferring the independent ASP manually. Using independent ASPs does not preclude configuring remote journals and mirroring, if you decide to use independent ASP for backup and disaster recovery, and use remote journal mirroring for multi-instance queue manager configuration.

If you have chosen to use an independent ASP, there are alternative highly available configurations you might consider. The background to these solutions are described in [Independent ASPs and high availability](#).

1. Rather than use multi-instance queue managers, install and configure a single instance queue manager entirely on an independent ASP, and use IBM i high availability services to fail the queue manager over. You would probably need to augment the solution with a queue manager monitor to detect whether the queue manager has failed independently of the server. This is the basis of the solution provided in, [▶Supportpac MC41: Configuring WebSphere MQ for iSeries for High Availability◀](#).
2. Use independent ASPs and cross site mirroring (XSM) to mirror the independent ASP rather than switching the independent ASP on the local bus. This extends the geographic range of the independent ASP solution to as far as the time taken to write log records over a long distance allows.

#### ▶Creating a multi-instance queue manager using an independent ASP and NetServer◀

Create a multi-instance queue manager to run on two IBM® i servers. The queue manager data is stored on an IBM i server using NetServer. The queue manager journal is stored on an independent ASP. Use IBM i clustering or a manual procedure to transfer the independent ASP containing the queue manager journal to the other IBM i server.

#### ▶Independent ASPs and high availability◀

Independent ASPs enable applications and data to be moved between servers. The flexibility of independent ASPs means they are the basis for some IBM i high availability solutions. In considering whether to use an ASP or independent ASP for the queue manager journal, you should consider other high availability configuration based on independent ASPs.

**Parent topic:** [▶Multi-instance queue managers◀](#)

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### 7.3.5.1. Creating a multi-instance queue manager using an independent ASP and NetServer

Create a multi-instance queue manager to run on two IBM® i servers. The queue manager data is stored on an IBM i server using NetServer. The queue manager journal is stored on an independent ASP. Use IBM i clustering or a manual procedure to transfer the independent ASP containing the queue manager journal to the other IBM i server.

#### Before you begin

1. The task requires three IBM i servers. Install WebSphere® MQ on two of them, ALPHA and BETA in the example. WebSphere MQ must be at least at version 7.0.1.1.
2. The third server is an IBM i server, connected by NetServer to ALPHA and BETA. It is used to share the queue manager data. It does not have to have a WebSphere MQ installation. It is useful to install WebSphere MQ on the server as a temporary step, to set up the queue manager directories and permissions.
3. Make sure that the QMQM user profile has the same password on all three servers.
4. Install IBM i NetServer; see [i5/OS® NetServer](#).
5. Create procedures to transfer the independent ASP from the failed queue manager to the standby that is taking over. You might find some of the techniques in *SupportPac MC41: Configuring WebSphere MQ for iSeries® for High Availability* helpful in designing your independent ASP transfer procedures.

#### About this task

Perform the following steps to create the configuration shown in [Figure 1](#). The queue manager data is connected using IBM i NetServer.

- Create connections from ALPHA and BETA to the directory share on GAMMA that is to store the queue manager data. The task also sets up the necessary permissions, user profiles and passwords.
- Create the queue manager QM1 on the IBM i server, ALPHA.
- Add the queue manager control information for QM1 on the other IBM i server, BETA.
- Start the queue manager, permitting a standby instance.

#### Procedure

1. Do the task, [Creating a network share for queue manager data using NetServer](#).  
As a result, ALPHA and BETA have a share, /QNTC/GAMMA/WMQ, that points to /QIBM/UserData/mqm/qmgrs on GAMMA. The user profiles QMQM and QMQMADM have the necessary permissions, and QMQM has matching passwords on all three systems.

2. Create the queue manager QM1 on ALPHA, saving the queue manager data on GAMMA.

```
CRTMQM MQMNAME(QM1) UDLMSGQ(SYSTEM.DEAD.LETTER.QUEUE)
MQMDIRP('/QNTC/GAMMA/WMQ')
```

The path, /QNTC/GAMMA/WMQ, uses NetServer to create the queue manager data in /QIBM/UserData/mqm/qmgrs.

3. Use the command, **DSPF**, to inspect the WebSphere MQ configuration data created by **CRTMQM** for QM1 on ALPHA. The information is needed in the next step.

In this example, the following configuration is created in /QIBM/UserData/mqm/mqs.ini on ALPHA for QM1:

```
Name=QM1
Prefix=/QIBM/UserData/mqm
Library=QMQM1
Directory=QM1
DataPath=/QNTC/GAMMA/WMQ/QM1
```

4. Create a queue manager instance of QM1 on BETA using the **ADDQMINF** command. Run the following command on BETA to modify the queue manager control information in /QIBM/UserData/mqm/mqs.ini on BETA.

```
ADDQMINF MQMNAME(QM1)
PREFIX('/QIBM/UserData/mqm')
MQMDIR(QM1)
MQMLIB(QMQM1)
DATAPATH('/QNTC/GAMMA/WMQ/QM1')
```

**Tip:** Copy and paste the configuration information. The queue manager stanza is the same on ALPHA and BETA.

5. Start the queue manager instances on ALPHA and BETA.
  - a. Start the first instance on ALPHA, making it the active instance. Enabling switching over to a standby instance.

```
STRMQM MQMNAME(QM1) STANDBY(*YES)
```
  - b. Start the second instance on BETA, making it the standby instance.

```
STRMQM MQMNAME(QM1) STANDBY(*YES)
```

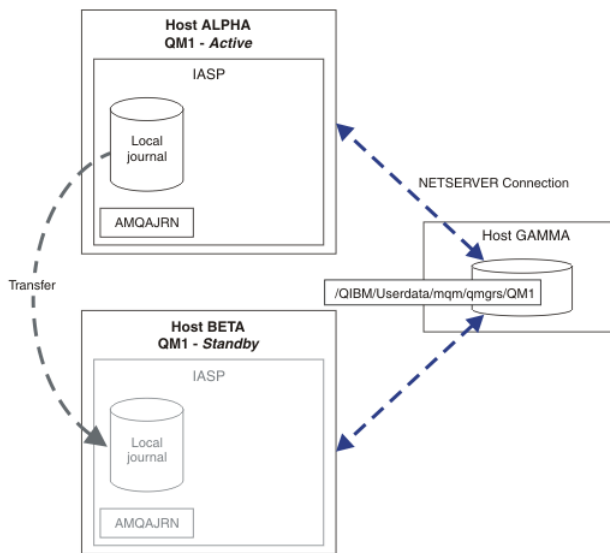
#### Results

Use **WRKMQM** to check queue manager status:

1. The status of the queue manager instance on ALPHA should be \*ACTIVE.
2. The status of the queue manager instance on BETA should be \*STANDBY.

#### Example

*Figure 1. Transfer a queue manager journal using an independent ASP*



### What to do next

- Verify that the active and standby instances switch over automatically. You can run the sample high availability sample programs to test the switch over; see [High availability sample programs](#). The sample programs are 'C' clients. You can run them from a Windows or Unix platform.
  - Start the high availability sample programs.
  - On ALPHA, end the queue manager requesting switch over:
 

```
ENDMQM MQMNAME(QM1) OPTION(*IMMED) ALSWITCH(*YES)
```
  - Check that the instance of QM1 on BETA is active.
  - Restart QM1 on ALPHA
 

```
STRMQM MQMNAME(QM1) STANDBY(*YES)
```
- Look at alternative high availability configurations:
  - Use NetServer to place the queue manager data on an IBM i server.
  - Instead of using an independent ASP to transfer the queue manager journal to the standby server, use remote journaling to mirror the journal onto the standby server.

**Parent topic:** [Switched independent ASP journal configuration](#)

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## 7.3.5.2. Independent ASPs and high availability

Independent ASPs enable applications and data to be moved between servers. The flexibility of independent ASPs means they are the basis for some IBM i high availability solutions. In considering whether to use an ASP or independent ASP for the queue manager journal, you should consider other high availability configuration based on independent ASPs.

Auxiliary storage pools (ASPs) are a building block of IBM i architecture. Disk units are grouped together to form a single ASP. By placing objects in different ASPs you can protect data in one ASP from being affected by disk failures in another ASP.

Every IBM i server has at least one *basic* ASP, known as the system ASP. It is designated as ASP1, and sometimes known as \*SYSBAS. You can configure up to 31 additional basic *user* ASPs that are indistinguishable from the system ASP from the application's point of view, because they share the same namespace. By using multiple basic ASPs to distribute applications over many disks you can improve performance and reduce recovery time. Using multiple basic ASPs can also provide some degree of isolation against disk failure, but it does not improve reliability overall.

Independent ASPs are a special type of ASP. They are often called independent disk pools. Independent disk pools are key component of IBM i high availability. You can store data and applications that regard themselves as independent from the current system to which they are connected on independent disk storage units. You can configure switchable or non-switchable independent ASPs. From an availability perspective you are generally only concerned with switchable independent ASPs, which can be transferred automatically from server to server. As a result you can move the applications and data on the independent ASP from server to server.

Unlike basic user ASPs, independent ASPs do not share the same namespace as the system ASP. Applications that work with user ASPs require changes to work with an independent ASP. You need to verify your software, and third-party software you use, works in an independent ASP environment.

When the independent ASP is attached to a different server the namespace of the independent ASP has to be combined with the namespace of the system ASP. This process is called *varying-on* the independent ASP. You can vary-on an independent ASP without IPLing the server. Clustering support is required to transfer independent ASPs automatically from one server to another.

### Building reliable solutions with independent ASPs

Journaling to an independent ASP, rather than journaling to an ASP and using journal replication, provides an alternative means to provide the standby queue manager with a copy of the local journal from the failed queue manager instance. To automatically transfer the independent ASP to another server you need to have installed and configured clustering support. There are a number of high-availability solutions for independent ASPs based on the cluster support, and low level disk mirroring, that you can combine with, or substitute for, using multi-instance queue managers.

The following list describes the components that are needed to build a reliable solution based on independent ASPs.

#### Journaling

Queue managers, and other applications, use local journals to write persistent data safely to disk to protect against loss of data in memory due to server failure. This is sometimes termed point-in-time consistency. It does not guarantee the consistency of multiple updates that take place over a period of time.

#### Commitment control

By using global transactions, you can coordinate updates to messages and databases so that the data written to the journal is consistent. It gives consistency over a period of time by using a two-phase commit protocol.

#### Switched disk

Switched disks are managed by the device cluster resource group (CRG) in an HA cluster. CRG switches independent ASPs automatically to a new server in the case of an unplanned outage. CRGs are geographically limited to the extent of the local IO bus.

By configuring your local journal on a switchable independent ASP, you can transfer the journal to a different server, and resume processing messages. No changes to persistent messages made without syncpoint control, or committed with syncpoint control, are lost, unless the independent ASP fails.

If you use both journaling and commitment control on switchable independent ASPs, you can transfer database journals and queue manager journals to a different server and resume processing transactions with no loss of consistency or committed transactions.

#### Cross-site mirroring (XSM)

XSM mirrors the primary independent ASP to a geographically remote secondary independent ASP across a TCP/IP network, and transfers control automatically in case of a failure. You have a choice of configuring a synchronous or asynchronous mirror. Synchronous mirroring reduces the performance of the queue manager because data is mirrored before the write operations on the production system complete, but it does guarantee the secondary independent ASP is up to date. Whereas if you use asynchronous mirroring you cannot guarantee that the secondary independent ASP is up to date. Asynchronous mirroring does maintain the consistency of the secondary independent ASP.

There are three XSM technologies.

##### Geographic mirroring

Geographic mirroring is an extension of clustering, enabling you to switch independent ASPs across a wide area. It has both synchronous and asynchronous modes. You can guarantee high availability only in synchronous mode, but the separation of independent ASPs might impact performance too much. You can combine geographic mirroring with switched disk to provide high availability locally and disaster recovery remotely.

##### Metro mirroring

Metro mirroring is a device level service that provides fast local synchronous mirroring over longer distances than the local bus. You can combine it with a multi-instance queue manager to give you high availability of the queue manager, and by having two copies of the independent ASP, high availability of the queue manager journal.

##### Global mirroring

Global mirroring is device level service that provides asynchronous mirroring, and is suitable for backing up and disaster recovery over longer distances, but is not a normal choice for high availability, because it only maintains point in time consistency rather than currency.

The key decision points you should consider are,

#### ASP or independent ASP?

You do not need to run a IBM i HA cluster to use multi-instance queue managers. You might choose independent ASPs, if you are already using independent ASPs, or you have availability requirements for other applications that require independent ASPs. It might be worth combining independent ASPs with multi-instance queue managers to replace queue manager monitoring as a means of detecting queue manager failure.

#### Availability?

What is the recovery time objective (RTO)? If you require the appearance of near uninterrupted behavior, then which solution has the quickest recovery time?

#### Journal availability?

How do you eliminate the journal as a single point of failure. You might adopt a hardware solution, using RAID 1 devices or better, or you might combine or use a software solution using replica journals or disk mirroring.


#### Distance?

How far apart are the active and standby queue manager instances. Can your users tolerate the performance degradation of replicating synchronously over distances greater than about 250 meters?

#### Skills?

There is work to be done to automate the administrative tasks involved in maintaining and exercising the solution regularly. The skills required to do the automation are different for the solutions based on ASPs and independent ASPs.

**Parent topic:** [►Switched independent ASP journal configuration◄](#)

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## 7.3.6. Deleting a multi-instance queue manager

Before you delete a multi-instance queue manager, stop remote journaling, and remove queue manager instances.

### Before you begin

1. In this example, two instances of the QM1 queue manager are defined on the servers ALPHA and BETA. ALPHA is the active instance and BETA is the standby. The queue manager data associated with the queue manager QM1 is stored on the IBM® i server GAMMA, using NetServer. See [Creating a multi-instance queue manager using journal mirroring and NetServer](#).
2. ALPHA and BETA must be connected so that any remote journals that are defined can be deleted by WebSphere® MQ.
3. Verify that the /QNTC directory and server directory file share can be accessed, using the system commands **EDTF** or **WRKLNK**

### About this task

Before you delete a multi-instance queue manager from a server using the **DLTMQM** command, remove any queue manager instances on other servers using the **RMVMQMINF** command.

When you remove a queue manager instance using the **RMVMQMINF** command, local and remote journals prefixed with AMQ, and associated with the instance, are deleted. Configuration information about the queue manager instance, local to the server, is also deleted.

Do not run the **RMVMQMINF** command on the server holding the remaining instance of the queue manager. Doing so prevents **DLTMQM** from working correctly.

Delete the queue manager using the **DLTMQM** command. Queue manager data is removed from the network share. Local and remote journals prefixed with **AMQ** and associated with the instance are deleted. **DLTMQM** also deletes configuration information about the queue manager instance, local to the server.

In the example, there are only two queue manager instances. WebSphere MQ supports a running multi-instance configuration that has one active queue manager instance and one standby instance. If you have created additional queue manager instances to use in running configurations, remove them, using the **RMVQMINF** command, before deleting the remaining instance.

#### Procedure

1. Run the **CHGMQMJRN RMTJRNSTS (\*INACTIVE)** command on each server to make remote journaling between the queue manager instances inactive.

- a. On ALPHA:

```
CHGMQMJRN MQMNAME ('QM1')
RMTJRNDRDB ('BETA') RMTJRNSTS (*INACTIVE)
```

- b. On BETA:

```
CHGMQMJRN MQMNAME ('QM1')
RMTJRNDRDB ('ALPHA') RMTJRNSTS (*INACTIVE)
```

2. Run the **ENDMQM** command on ALPHA, the active queue manager instance, to stop both instances of QM1.

```
ENDMQM MQMNAME (QM1) OPTION (*IMMED) INSTANCE (*ALL) ENDCCTJOB (*YES)
```

3. Run the **RMVQMINF** command on ALPHA to remove the queue manager resources for the instance from ALPHA and BETA.

```
RMVQMINF MQMNAME (QM1)
```

**RMVQMINF** removes the queue manager configuration information for QM1 from ALPHA. If the journal name is prefixed by **AMQ**, it deletes the local journal associated with QM1 from ALPHA. If the journal name is prefixed by **AMQ** and a remote journal has been created, it also removes the remote journal from BETA.

4. Run the **DLTMQM** command on BETA to delete QM1.

```
DLTMQM MQMNAME (QM1)
```

**DLTMQM** deletes the queue manager data from the network share on GAMMA. It removes the queue manager configuration information for QM1 from BETA. If the journal name is prefixed by **AMQ**, it deletes the local journal associated with QM1 from BETA. If the journal name is prefixed by **AMQ** and a remote journal has been created, it also removes the remote journal from ALPHA.

#### Results

**DLTMQM** and **RMVQMINF** delete the local and remote journals created by **CRTMQM** and **ADDMQJRN**. The commands also delete the journal receivers. The journals and journal receivers must follow the naming convention of having names starting with **AMQ**. **DLTMQM** and **RMVQMINF** remove the queue manager objects, queue manager data, and the queue manager configuration information from `mq5.ini`.

#### What to do next

An alternative approach is to issue the following commands after deactivating journaling in step 1 and before ending the queue manager instances. Or, if you have not followed the naming convention, you must delete the journals and journal receivers by name.

1. On ALPHA:

```
RMVQMJRN MQMNAME ('QM1') RMTJRNDRDB ('BETA')
```

2. On BETA:

```
RMVQMJRN MQMNAME ('QM1') RMTJRNDRDB ('ALPHA')
```

After deleting the journals, continue with the rest of the steps.

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### 7.3.7. Backing up a multi-instance queue manager

The procedure shows you how to back up queue manager objects on the local server and the queue manager data on the network file server. Adapt the example to back up data for other queue managers.

#### Before you begin

In this example, the queue manager data associated with the queue manager QM1 is stored on the IBM® i server called GAMMA, using NetServer. See [Creating a multi-instance queue manager using journal mirroring and NetServer](#). WebSphere® MQ is installed on the servers, ALPHA and BETA. The queue manager, QM1, is configured on ALPHA and BETA.

#### About this task

IBM i does not support saving data from a remote directory. Save the queue manager data on a remote file system using the backup procedures local to the file system server. In this task, the network file system is on an IBM i server, GAMMA. The queue manager data is backed up in a save file on GAMMA.

If the network file system was on Windows or Linux, you might store the queue manager data in a compressed file, and then save it. If you have a back-up system, such as Tivoli® Storage Manager, use it to back up the queue manager data.

#### Procedure

1. Create a save file on ALPHA for the queue manager library associated with QM1.

Use the queue manager library name to name the save file.

```
CRTSAVF FILE (QGPL/QMQM1)
```

2. Save the queue manager library in the save file on ALPHA.

```
SAVLIB LIB (QMQM1) DEV (*SAVF) SAVF (QGPL/QMQM1)
```

3. Create a save file for the queue manager data directory on GAMMA.

Use the queue manager name to name the save file.

```
CRTSAVF FILE (QGPL/QMDQM1)
```

- Save the copy of the queue manager data from the local directory on GAMMA.

```
SAV DEV ('/QSYS.LIB/QGPL.LIB/QMDQM1.FILE') OBJ ('/QIBM/Userdata/mqm/qmgrs/QM1')
```

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## 7.3.8. Commands to set up multi-instance queue managers

WebSphere® MQ has commands to simplify configuring journal replication, adding new queue manager instances, and configuring queue managers to use independent ASP.

The journal commands to create and manage local and remote journals are,

### ADDMQMJRN

With this command you can create named local and remote journals for a queue manager instance, and configure whether replication is synchronous or asynchronous, what the synchronous timeout is, and if the remote journal is to be activated immediately.

### CHGMQMJRN

The command modifies the timeout, status and delivery parameters affecting replica journals.

### RMVMQMJRN

Removes named *remote* journals from a queue manager instance.

### WRKMQMJRN

Lists the status of local and remote journals for a local queue manager instance.

Add and manage additional queue manager instances using the following commands, which modify the `mqc.ini` file.

### ADDMQMINF

The command uses information you extracted from the `mqc.ini` file with DSPMQMINF command to add a new queue manager instance on a different IBM® i server.

### RMVMQMINF

Remove a queue manager instance. Use this command either to remove an instance of an existing queue manager, or to remove the configuration information for a queue manager that has been deleted from a different server.

The **CRTMQM** command has three parameters to assist configuring a multi-instance queue manager,

### MQMDIRP(\*DFT|*directory-prefix*)

Use this parameter to select a mount point that is mapped to queue manager data on networked storage.

### ASP(\*SYSTEM|\*ASPDEV|*auxiliary-storage-pool-number*)

Specify *\*SYSTEM*, or an *auxiliary-storage-pool-number* to place the queue manager journal on the system or a basic user ASP. Select the *\*ASPDEV* option, and also set a device name using the **ASPDEV** parameter, to place the queue manager journal on an independent ASP.

### ASPDEV(\*ASP|*device-name*)

Specify a *device-name* of a primary or secondary independent ASP device. Selecting *\*ASP* has the same result as specifying **ASP** (*\*SYSTEM*).

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## 7.4. Performance and disk failover considerations

►Use different auxiliary storage pools to improve performance and reliability.◀

►If you use a large number of persistent messages or large messages in your applications, the time spent writing these message to disk becomes a significant factor in the performance of the system. ◀

Ensure that you have sufficient disk activation to cope with this possibility, or consider a separate Auxiliary Storage Pool (ASP) in which to hold your queue manager journal receivers.

You can specify which ASP your queue manager library and journals are stored on when you create your queue manager using the ASP parameter of **CRTMQM**. By default, the queue manager library and journals and IFS data are stored in the system ASP.

ASPs allow isolation of objects on one or more specific disk units. This can also reduce the loss of data because of a disk media failure. In most cases, only the data that is stored on disk units in the affected ASP is lost.

You are recommended to store the queue manager library and journal data in separate user ASPs to that of the root IFS file system to provide failover and reduce disk contention.

For more information, see *i5/OS® V4R4M0 Backup and Recovery*

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## 7.5. Using SAVLIB to save WebSphere MQ libraries

You cannot use `SAVLIB LIB(*ALLUSR)` to save the WebSphere® MQ libraries, because these libraries have names beginning with Q.

You can use `SAVLIB LIB(QM*)` to save all the queue manager libraries, but only if you are using a save device other than \*SAVF. For `DEV(*SAVF)`, you must use a SAVLIB command for each and every queue manager library on your system.

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## 8. Analyzing problems

This chapter suggests reasons for problems you might have with WebSphere® MQ for i5/OS®, to help you in problem determination. You usually start with a symptom, or set of symptoms, and trace them back to their cause.

Do not confuse problem determination with problem solving although the process of problem determination often enables you to solve a problem. For example, if you find that the cause of the problem is an error in an application program, you can solve the problem by correcting the error.

However, you might not always be able to solve a problem after determining its cause. For example:

- A performance problem might be caused by a limitation of your hardware.
- The cause of the problem might be in the WebSphere MQ for i5/OS code. If this happens, you need to contact your IBM® support center for a solution.

This chapter is divided into the following sections:

- [Preliminary checks](#)
- [Problem characteristics](#)
- [Determining problems with WebSphere MQ applications](#)
- [Obtaining diagnostic information](#)
- [Error logs](#)
- [Dead-letter queues](#)
- [First Failure Support Technology \(FFST\)](#)
- [Performance considerations](#)

### [Preliminary checks](#)

### [Problem characteristics](#)

### [Determining problems with WebSphere MQ applications](#)

### [Obtaining diagnostic information](#)

### [Error logs](#)


### [Dead-letter queues](#)

### [First Failure Support Technology \(FFST\)](#)

Describes the role of First Failure Support Technology (FFST).

### [Performance considerations](#)

**Parent topic:** [i5/OS System Administration Guide](#)

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## 8.1. Preliminary checks

Before you start problem determination in detail, it is worth considering the facts to see if there is something obvious with which to start your investigation. This approach to debugging can often save a lot of work by highlighting a simple error, or by narrowing down the range of possibilities.

The cause of your problem could be in any of the following:

- Hardware
- Operating system
- Related software, for example, a language compiler
- The network
- The WebSphere® MQ product
- Your WebSphere MQ application
- Other applications
- Site operating procedures

The sections that follow raise some fundamental questions that you need to consider.

As you go through the questions, make a note of anything that might be relevant to the problem. Even if your observations do not suggest a cause immediately, they could be useful later if you have to carry out a systematic problem determination exercise.

The following steps are intended to help you isolate the problem and are taken from the viewpoint of a WebSphere MQ application. Check all the suggestions at each stage.

1. Has WebSphere MQ for i5/OS® run successfully before?

**Yes**

Proceed to Step [2](#).

**No**

It is likely that you have not installed or set up WebSphere MQ correctly.

2. Has the WebSphere MQ application run successfully before?

**Yes**

Proceed to Step [3](#).

**No**

Consider the following:

- a. The application might have failed to compile or link, and fails if you attempt to invoke it. Check the output from the compiler or linker. Refer to the appropriate programming language reference manual, or the [WebSphere MQ Application Programming Guide](#), for information on how to build your application.
- b. Consider the logic of the application. For example, do the symptoms of the problem indicate that a function is failing and, therefore, that a piece of code is in error.

Check the following common programming errors:

- o Assuming that queues can be shared, when they are in fact exclusive.
- o Trying to access queues and data without the correct security authorization.
- o Passing incorrect parameters in an MQI call; if the wrong number of parameters is passed, no attempt can be made to complete the completion code and reason code fields, and the task is ended abnormally.
- o Failing to check return codes from MQI requests.
- o Using incorrect addresses.
- o Passing variables with incorrect lengths specified.
- o Passing parameters in the wrong order.
- o Failing to initialize `MsgId` and `CorrelId` correctly.

3. Has the WebSphere MQ application changed since the last successful run?

**Yes**

It is likely that the error lies in the new or modified part of the application. Check all the changes and see if you can find an obvious reason for the problem.

- a. Have all the functions of the application been fully exercised before? Could it be that the problem occurred when part of the application that had never been invoked before was used for the first time? If so, it is likely that the error lies in that part of the application. Try to find out what the application was doing when it failed, and check the source code in that part of the program for errors.
- b. If the program has run successfully before, check the current queue status and files that were being processed when the error occurred. It is possible that they contain some unusual data value that causes a rarely used path in the program to be invoked.
- c. The application received an unexpected MQI return code. For example:
  - o Does your application assume that the queues it accesses are shareable? If a queue has been redefined as exclusive, can your application deal with return codes indicating that it can no longer access that queue?
  - o Have any queue definition or security profiles been changed? An MQOPEN call could fail because of a security violation; can your application recover from the resulting return code?

Refer to the information in the [WebSphere MQ Application Programming Reference](#) for your programming language for a description of each return code.

- d. If you have applied any PTF to WebSphere MQ for i5/OS, check that you received no error messages when you installed the PTF.

**No**

Ensure that you have eliminated all the preceding suggestions and proceed to Step [4](#).

4. Has the server system remained unchanged since the last successful run?

**Yes**


Proceed to [Problem characteristics](#).

**No**

Consider all aspects of the system and review the appropriate documentation on how the change might have impacted the WebSphere MQ application. For example :

- Interfaces with other applications
- Installation of new operating system or hardware
- Application of PTFs
- Changes in operating procedures

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## 8.2. Problem characteristics

Perhaps the preliminary checks have enabled you to find the cause of the problem. If so, you can probably now resolve it, possibly with the help of other books in the WebSphere® MQ library, and in the libraries of other licensed programs.

If you have not yet found the cause, start to look at the problem in greater detail. Use the following questions as pointers to the problem. Answering the appropriate question, or questions, should lead you to the cause of the problem.

### [Can you reproduce the problem?](#)


[Is the problem intermittent?](#)[Problems with commands](#)[Does the problem affect all users of the WebSphere MQ for i5/OS application?](#)[Does the problem affect specific parts of the network?](#)[Does the problem occur only on WebSphere MQ](#)[Does the problem occur at specific times of the day?](#)[Have you failed to receive a response from a command?](#)**Parent topic:** [Analyzing problems](#) This build: January 26, 2011 11:39:32[Notices](#) | [Trademarks](#) | [Downloads](#) | [Library](#) | [Support](#) | [Feedback](#)

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## 8.2.1. Can you reproduce the problem?

If you can reproduce the problem, consider the conditions under which you do so:


- Is it caused by a command?  
Does the operation work if it is entered by another method? If the command works if it is entered on the command line, but not otherwise, check that the command server has not stopped, and that the queue definition of the `SYSTEM.ADMIN.COMMAND.QUEUE` has not been changed.
- Is it caused by a program? If so, does it fail in batch? Does it fail on all WebSphere® MQ for i5/OS® systems, or only on some?
- Can you identify any application that always seems to be running in the system when the problem occurs? If so, examine the application to see if it is in error.
- Does the problem occur with any queue manager, or when connected to one specific queue manager?
- Does the problem occur with the same type of object on any queue manager, or only one particular object? What happens after this object has been cleared or redefined?
- Is the problem independent of any message persistence settings?
- Does the problem occur only when syncpoints are used?
- Does the problem occur only when one or more queue-manager events are enabled?

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## 8.2.2. Is the problem intermittent?

An intermittent problem could be caused by failing to take into account the fact that processes can run independently of each other. For example, a program might issue an MQGET call, without specifying a wait option, before an earlier process has completed. You might also encounter this if your application tries to get a message from a queue while the call that put the message is in-doubt (that is, before it has been committed or backed out).

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## 8.2.3. Problems with commands

Be careful when including special characters, for example back slash (\) and double quote (") characters, in descriptive text for some commands. If you use either of these characters in descriptive text, precede them with a \, that is, enter \\ or \" if you want \ or " in your text.

Queue managers and their associated object names are case sensitive. By default, i5/OS® uses uppercase characters, unless you surround the name in quotes.

For example, `MYQUEUE` and `myqueue` translate to `MYQUEUE`, whereas `'myqueue'` translates to `myqueue`.

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## 8.2.4. Does the problem affect all users of the WebSphere® MQ for i5/OS® application?


If the problem affects only some users, look for differences in how the users configure their systems and queue manager settings.

Check the library lists and user profiles. Can the problem be circumvented by having \*ALLOBJ authority?

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## 8.2.5. Does the problem affect specific parts of the network?

You might be able to identify specific parts of the network that are affected by the problem (remote queues, for example). If the link to a remote message queue manager is not working, the messages cannot flow to a remote queue.


Check the following:

- Is the connection between the two systems available, and has the intercommunication component of WebSphere® MQ for i5/OS® started? Check that messages are reaching the transmission queue, the local queue definition of the transmission queue, and any remote queues.
- Have you made any network-related changes that might account for the problem or changed any WebSphere MQ for i5/OS definitions?
- Can you distinguish between a channel definition problem and a channel message problem? For example, redefine the channel to use an empty transmission queue. If the channel starts correctly, the definition is correctly configured.

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## 8.2.6. Does the problem occur only on WebSphere MQ

If the problem occurs only on this version of WebSphere® MQ, check the appropriate database on RETAIN®, or the [WebSphere MQ Support site](#), to ensure that you have applied all the relevant PTFs.

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## 8.2.7. Does the problem occur at specific times of the day?

If the problem occurs at specific times of day, it could be that it is dependent on system loading. Typically, peak system loading is at mid-morning and mid-afternoon, and so these are the times when load-dependent problems are most likely to occur. (If your WebSphere® MQ for i5/OS® network extends across more than one time zone, peak system loading might seem to occur at some other time of day.)

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## 8.2.8. Have you failed to receive a response from a command?

If you have issued a command but you have not received a response, consider the following questions:

- Is the command server running?
  - Work with the **DSPMQCSVR** command to check the status of the command server.
    - If the response to this command indicates that the command server is not running, use the **STRMQCSVR** command to start it.
    - If the response to the command indicates that the SYSTEM.ADMIN.COMMAND.QUEUE is not enabled for MQGET requests, enable the queue for MQGET requests.
- Has a reply been sent to the dead-letter queue?
  - The dead-letter queue header structure contains a reason or feedback code describing the problem. See the [WebSphere MQ Application Programming Reference](#) for information about the dead-letter queue header structure (MQDLH).
  - If the dead-letter queue contains messages, you can use the provided browse sample application (amqsbcg) to browse the messages using the MQGET call. The sample application steps through all the messages on a named queue for a named queue manager, displaying both the message descriptor and the message context fields for all the messages on the named queue.
- Has a message been sent to the error log?
  - See [Error logs](#) for further information.
- Are the queues enabled for put and get operations?
- Is the *WaitInterval* long enough?
  - If your MQGET call has timed out, a completion code of MQCC\_FAILED and a reason code of MQRC\_NO\_MSG\_AVAILABLE are returned. (See the [WebSphere MQ Application Programming Reference](#) for information about the *WaitInterval* field, and completion and reason codes from MQGET.)
- If you are using your own application program to put commands onto the SYSTEM.ADMIN.COMMAND.QUEUE, do you need to take a syncpoint?
  - Unless you have specifically excluded your request message from syncpoint, you need to take a syncpoint before attempting to receive reply messages.
- Are the MAXDEPTH and MAXMSGL attributes of your queues set sufficiently high?

- Are you using the `CorrelId` and `MsgId` fields correctly?  
Set the values of `MsgId` and `CorrelId` in your application to ensure that you receive all messages from the queue.


Try stopping the command server and then restarting it, responding to any error messages that are produced.

If the system still does not respond, the problem could be with either a queue manager or the whole of the WebSphere® MQ system. First try stopping individual queue managers to try and isolate a failing queue manager. If this does not reveal the problem, try stopping and restarting WebSphere MQ, responding to any messages that are produced in the error log.

If the problem still occurs after restart, contact your IBM® Support Center for help.

If you have still not identified the cause of the problem, see [Determining problems with WebSphere MQ applications](#).

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## 8.3. Determining problems with WebSphere MQ applications

This section discusses problems you might encounter with WebSphere® MQ applications, commands, and messages.


[Are some of your queues working?](#)

[Does the problem affect only remote queues?](#)

[Does the problem affect messages?](#)

[Unexpected messages are received when using distributed queues](#)

**Parent topic:** [Analyzing problems](#)

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### 8.3.1. Are some of your queues working?

If you suspect that the problem occurs with only a subset of queues, select the name of a local queue that you think is having problems.

1. Display the information about this queue, using WRKMQMST or DSPMQM.
2. Use the data displayed to do the following checks:
  - If CURDEPTH is at MAXDEPTH, the queue is not being processed. Check that all applications are running normally.
  - If CURDEPTH is not at MAXDEPTH, check the following queue attributes to ensure that they are correct:
    - If triggering is being used:
      - Is the trigger monitor running?
      - Is the trigger depth too big?
      - Is the process name correct?
    - Can the queue be shared? If not, another application could already have it open for input.
    - Is the queue enabled appropriately for GET and PUT?
  - If there are no application processes getting messages from the queue, determine why this is so (for example, because the applications need to be started, a connection has been disrupted, or because the MQOPEN call has failed for some reason).

If you cannot solve the problem, contact your IBM® support center for help.

**Parent topic:** [Determining problems with WebSphere MQ applications](#)

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### 8.3.2. Does the problem affect only remote queues?

If the problem affects only remote queues, check the following:

1. Check that the programs that should be putting messages to the remote queues have run successfully.
2. If you use triggering to start the distributed queuing process, check that the transmission queue has triggering set on. Also, check that the trigger monitor is running.
3. If necessary, start the channel manually. See [WebSphere MQ Intercommunication](#) for information about how to do this.
4. Check the channel with a PING command.

See [WebSphere MQ Intercommunication](#) for information about how to define channels.

**Parent topic:** [Determining problems with WebSphere MQ applications](#)

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### 8.3.3. Does the problem affect messages?

This section deals with message problems, including:

- [Messages do not appear on the queue](#)
- [Messages contain unexpected or corrupted information](#)
- [Unexpected messages are received when using distributed queues](#)

#### [Messages do not appear on the queue](#)

A list of things to consider if messages do not appear on queues when you are expecting them.

#### [Messages contain unexpected or corrupted information](#)

A list of points to consider if messages are corrupted or do not contain what you expected.

**Parent topic:** [Determining problems with WebSphere MQ applications](#)

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#### 8.3.3.1. Messages do not appear on the queue

A list of things to consider if messages do not appear on queues when you are expecting them.

If messages do not appear when you are expecting them, check for the following:

- Have you selected the correct queue manager, that is, the default queue manager or a named queue manager?
- Has the message been put on the queue successfully?
  - Has the queue been defined correctly, for example, is MAXMSGLEN sufficiently large?
  - Can applications put messages on the queue (is the queue enabled for putting)?
  - Is the queue already full? This could mean that an application was unable to put the required message on the queue.
- Can you get the message from the queue?
  - Do you need to take a syncpoint?
    - If messages are being put or retrieved within syncpoint, they are not available to other tasks until the unit of recovery has been committed.
  - Is your timeout interval long enough?
  - Are you waiting for a specific message that is identified by a message identifier or correlation identifier (*MsgId* or *CorrelId*)?
    - Check that you are waiting for a message with the correct *MsgId* or *CorrelId*. A successful MQGET call sets both these values to that of the message retrieved, so you might need to reset these values in order to get another message successfully.
    - Also check if you can get other messages from the queue.
  - Can other applications get messages from the queue?
  - Was the message you are expecting defined as persistent?
    - If not, and WebSphere® MQ for i5/OS® has been restarted, the message will have been lost.

If you cannot find anything wrong with the queue, and the queue manager itself is running, make the following checks on the process that you expected to put the message on to the queue:

- Did the application start?
  - If it should have been triggered, check that the correct trigger options were specified.
- Is a trigger monitor running?
- Was the trigger process defined correctly?
- Did it complete correctly?
  - Look for evidence of an abnormal end in the job log.
- Did the application commit its changes, or were they backed out?

If multiple transactions are serving the queue, they might occasionally conflict with one another. For example, one transaction might issue an MQGET call with a buffer length of zero to find out the length of the message, and then issue a specific MQGET call specifying the *MsgId* of that message. However, in the meantime, another transaction might have issued a successful MQGET call for that message, so the first application receives a completion code of MQRC\_NO\_MSG\_AVAILABLE. Applications that are expected to run in a multi-server environment must be designed to cope with this situation.

Consider that the message could have been received, but that your application failed to process it in some way. For example, did an error in the expected format of the message cause your program to reject it? If this is the case, refer to [Messages contain unexpected or corrupted information](#).

**Parent topic:** [Does the problem affect messages?](#)

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#### 8.3.3.2. Messages contain unexpected or corrupted information

A list of points to consider if messages are corrupted or do not contain what you expected.

If the information contained in the message is not what your application was expecting, or has been corrupted in some way, consider the following points:

- Has your application, or the application that put the message on to the queue, changed?


Ensure that all changes are simultaneously reflected on all systems that need to be aware of the change.

For example, a copyfile formatting the message might have been changed, in which case, re-compile both applications to pick up the changes. If one application has not been recompiled, the data appears corrupt to the other.

- Is an application sending messages to the wrong queue?
  - Check that the messages your application is receiving are not intended for an application servicing a different queue. If necessary, change your security definitions to prevent unauthorized applications from putting messages on to the wrong queues. ◀
  - If your application has used an alias queue, check that the alias points to the correct queue.
- Has the trigger information been specified correctly for this queue?
  - Check that your application should have been started, or should a different application have been started?
- Has the CCSID been set correctly, or is the message format incorrect because of data conversion.

If these checks do not enable you to solve the problem, check your application logic, both for the program sending the message, and for the program receiving it.

**Parent topic:** [Does the problem affect messages?](#)

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### 8.3.4. Unexpected messages are received when using distributed queues

If your application uses distributed queues, consider the following points:

- Has distributed queuing been correctly installed on both the sending and receiving systems?
- Are the links available between the two systems?
  - Check that both systems are available, and connected to WebSphere® MQ for i5/OS®. Check that the connection between the two systems is active.
- Is triggering set on in the sending system?
- Is the message you are waiting for a reply message from a remote system?
  - Check that triggering is activated in the remote system.
- Is the queue already full?
  - This could mean that an application was unable to put the required message on to the queue. If this is so, check if the message has been put onto the undelivered-message queue.
  - The dead-letter queue message header (dead-letter header structure) contains a reason or feedback code explaining why the message could not be put on to the target queue. See the [WebSphere MQ Application Programming Reference](#) or the [WebSphere MQ for i5/OS Application Programming Reference \(ILE/RPG\)](#), as appropriate, for information about the dead-letter header structure.
- Is there a mismatch between the sending and receiving queue managers?
  - For example, the message length could be longer than the receiving queue manager can handle.
- Are the channel definitions of the sending and receiving channels compatible?
  - For example, a mismatch in sequence number wrap stops the distributed queuing component. See [WebSphere MQ Intercommunication](#) for more information about distributed queuing.

**Parent topic:** [Determining problems with WebSphere MQ applications](#)

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## 8.4. Obtaining diagnostic information

You can find diagnostic information about WebSphere® MQ in the following places:

### User's job log

The job log records the commands processed by the job and the messages returned from running those commands.

Reviewing the job log of a user who experiences a problem, by issuing the DSPJOBLOG command, identifies the WebSphere MQ commands issued and the sequence of those commands.

### WebSphere MQ job log

WebSphere MQ specific jobs, for example, the command server and channel programs, run under the WebSphere MQ profile QMQM. If you have a problem in these areas, review these job logs by issuing the command `WRKSPPLF QMQM` to display them.

### System history log

Reviewing the history log, by issuing the DSPLOG command, displays information about the operation of the system and system status. This can be useful for identifying channel connection problems.

### i5/OS® message queue

It is useful to view messages sent to various i5/OS message queues using the DSPMSG command. Use the command `DSPMSG QSYSOPR` to check the system operator message queue, used for WebSphere MQ journaling messages, and job completion messages in particular.

### Error logs in the IFS

See [Error logs](#) for further information on using the error logs generated.

### Generation of FFSTs

See [First Failure Support Technology \(FFST\)](#) for further information on First Failure Support Technology™ and an example of a WebSphere MQ for i5/OS FFST report.

#### [Using WebSphere MQ for i5/OS trace](#)

#### [Formatting trace output](#)

**Parent topic:** [Analyzing problems](#)

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### 8.4.1. Using WebSphere MQ for i5/OS trace

Although you need to use certain traces on occasion, running the trace facility slows your systems.

You also need to consider to what destination you want your trace information sent.

**Note:**

1. To run the WebSphere® MQ for i5/OS® trace commands, you must have the appropriate authority.
2. Trace data is written to IFS only when trace is ended, with option \*OFF.
3. Trace data remains in the system until you delete it from the IFS.

**Trace usage**

Use the TRCMQM command to start and stop tracing and specify the type of trace that you require.

**Selective trace**

**Wrapping trace**

**Parent topic:** [Obtaining diagnostic information](#)

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#### 8.4.1.1. Trace usage

Use the TRCMQM command to start and stop tracing and specify the type of trace that you require.

There are two stages in using trace:

1. Decide whether you want early tracing. Early tracing lets you trace the creation and startup of queue managers. Note, however, that early trace can easily generate large amounts of trace, because it is implemented by tracing **all** jobs for **all** queue managers. To enable early tracing, use TRCMQM with the TRCEARLY parameter set to \*YES.
2. Start tracing WebSphere® MQ work using TRCMQM \*ON. To stop the trace, you have two options:
  - TRCMQM \*OFF, to stop collecting trace records for a queue manager. The trace records are written to files in the /QIBM/UserData/mqm/trace directory.
  - TRCMQM \*END, to stop collecting trace records for **all** queue managers and to disable early trace. This option ignores the value of the TRCEARLY parameter.

Specify the level of detail you want, using the TRCLEVEL parameter set to one of the following values:

**\*DFT**

For minimum-detail level for flow processing trace points.

**\*DETAIL**

For high-detail level for flow processing trace points.

**\*PARMS**

For default-detail level for flow processing trace points.

►Specify the type of trace output you want, using the OUTPUT parameter set to one of the following values:

**\*MQM**

Collect binary WebSphere MQ trace output in the directory specified by the TRCDIR parameter. This is the default value

**\*MQMFMT**

Collect formatted WebSphere MQ trace output in the directory specified by the TRCDIR parameter. This is the default value

**\*PEX**

Collect Performance Explorer (PEX) trace output

**\*ALL**

Collect both WebSphere MQ unformatted trace and PEX trace output

◀ **Parent topic:** [Using WebSphere MQ for i5/OS trace](#)

**Related information**

[Trace MQ \(TRCMQM\)](#)

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#### 8.4.1.2. Selective trace

You can reduce the amount of trace data being saved, improving run-time performance, using the command TRCMQM with F4=prompt, then F9 to customize



the TRCTYPE and EXCLUDE parameters:

#### TRCTYPE

Specifies the type of trace data to store in the trace file. If you omit this parameter, all trace points except those specified in EXCLUDE are enabled.

#### EXCLUDE

Specifies the type of trace data to **omit** from the trace file. If you omit this parameter, all trace points specified in TRCTYPE are enabled.

The options available on both TRCTYPE and EXCLUDE are:

#### \*ALL (TRCTYPE only)

All the trace data as specified by the following keywords is stored in the trace file.

#### trace-type-list

You can specify more than one option from the following keywords, but each option can appear only once.

#### \*API

Output data for trace points associated with the MQI and major queue manager components.

#### \*CMTRY

Output data for trace points associated with comments in the WebSphere® MQ components.

#### \*COMMS

Output data for trace points associated with data flowing over communications networks.

#### \*CSDATA

Output data for trace points associated with internal data buffers in common services.

#### \*CSFLOW

Output data for trace points associated with processing flow in common services.

#### \*LQMDATA

Output data for trace points associated with internal data buffers in the local queue manager.

#### \*LQMFLOW

Output data for trace points associated with processing flow in the local queue manager.

#### \*OTHDATA

Output data for trace points associated with internal data buffers in other components.

#### \*OTHFLOW

Output data for trace points associated with processing flow in other components.

#### \*RMTDATA

Output data for trace points associated with internal data buffers in the communications component.

#### \*RMTFLOW

Output data for trace points associated with processing flow in the communications component.

#### \*SVCDATA

Output data for trace points associated with internal data buffers in the service component.


#### \*SVCFLOW

Output data for trace points associated with processing flow in the service component.

#### \*VSNDATA

Output data for trace points associated with the version of WebSphere MQ running.

**Parent topic:** [Using WebSphere MQ for i5/OS trace](#)

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### 8.4.1.3. Wrapping trace

Use the MAXSTG parameter to wrap trace, and to specify the maximum size of storage to be used for the collected trace records. The options are:


#### \*DFT

Trace wrapping is **not** enabled. For each job, trace data is written to a file with the suffix .TRC until tracing is stopped.

#### maximum-K-bytes

Trace wrapping is enabled. When the trace file reaches its maximum size, it is renamed with the suffix .TRS, and a new trace file with suffix .TRC is opened. Any existing .TRS file is deleted. Specify a value in the range 1 through 16 000.

**Parent topic:** [Using WebSphere MQ for i5/OS trace](#)

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### 8.4.2. Formatting trace output

To format any trace output:

- Enter the QShell
- Enter the command

```
/QSYS.LIB/QMQM.LIB/DSPMQTRC.PGM [-t Format] [-h] [-s]
[-o OutputFileName] InputFileName
```

where:

**InputFileName**

Is a **required** parameter specifying the name of the file containing the unformatted trace. For example `/QIBM/UserData/mqm/trace/AMQ12345.TRC`.

**-t FormatTemplate**

Specifies the name of the template file containing details of how to display the trace. The default value is `/QIBM/ProdData/mqm/lib/amqtrc.fmt`.

**-h**

Omit header information from the report.

**-s**

Extract trace header and put to stdout.

**-o output\_filename**

The name of the file into which to write formatted data.

You can also specify `dspmqtrc *` to format all trace.

**Parent topic:** [Obtaining diagnostic information](#)

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## 8.5. Error logs


WebSphere® MQ uses a number of error logs to capture messages concerning the operation of WebSphere MQ itself, any queue managers that you start, and error data coming from the channels that are in use.

The location of the error logs depends on whether the queue manager name is known.


In the IFS:

- If the queue manager name is known and the queue manager is available, error logs are located in: 


```
/QIBM/UserData/mqm/qmgrs/qmname/errors
```


- If the queue manager is not available, error logs are located in:
 

```
/QIBM/UserData/mqm/errors
```

You can use the system utility EDTF to browse the errors directories and files. For example: 

```
EDTF '/QIBM/UserData/mqm/errors'
```



Alternatively, you can use option 23 against the queue manager from the WRKMQM panel.

### [Log files](#)

### [Early errors](#)

### [Operator messages](#)

### [An example WebSphere MQ error log](#)



**Parent topic:** [Analyzing problems](#)

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

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### 8.5.1. Log files

At installation time,  a `/QIBM/UserData/mqm/errors` subdirectory  is created in the IFS. The errors subdirectory can contain up to three error log files named:

- AMQERR01.LOG
- AMQERR02.LOG
- AMQERR03.LOG

After you have created a queue manager, three error log files are created when they are needed by the queue manager. These files have the same names  as the `/QIBM/UserData/mqm/errors` ones , that is AMQERR01, AMQERR02, and AMQERR03, and each has a capacity of 256 KB. The files are placed in the errors subdirectory of each queue manager that you create, that is `/QIBM/UserData/mqm/qmgrs/qmname/errors` .

As error messages are generated, they are placed in AMQERR01. When AMQERR01 gets bigger than 256 KB, it is copied to AMQERR02. Before the copy, AMQERR02 is copied to AMQERR03.LOG. The previous contents, if any, of AMQERR03 are discarded.

The latest error messages are thus always placed in AMQERR01, the other files being used to maintain a history of error messages.

All messages relating to channels are also placed in the appropriate queue manager's errors files, unless the name of their queue manager is unknown or the queue manager is unavailable. When the queue manager name is unavailable or its name cannot be determined, channel-related messages are placed in the `/QIBM/UserData/mqm/errors` subdirectory.

To examine the contents of any error log file, use your system editor, EDTF, to view the stream files in the IFS.

**Note:**

1. Do **not** change ownership of these error logs.

2. If any error log file is deleted, it is automatically re-created when the next error message is logged.

**Parent topic:** [Error logs](#)

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## 8.5.2. Early errors

There are a number of special cases where the error logs have not yet been established and an error occurs. WebSphere® MQ attempts to record any such errors in an error log. The location of the log depends on how much of a queue manager has been established.

If, because of a corrupt configuration file, for example, no location information can be determined, errors are logged to an errors directory that is created at installation time.

If both the WebSphere MQ configuration file and the DefaultPrefix attribute of the AllQueueManagers stanza are readable, errors are logged in the errors subdirectory of the directory identified by the DefaultPrefix attribute.

**Parent topic:** [Error logs](#)

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## 8.5.3. Operator messages

Operator messages identify normal errors, typically caused directly by users doing things like using parameters that are not valid on a command. Operator messages are national language enabled, with message catalogs installed in standard locations.

These messages are written to the joblog, if any. In addition, some operator messages are written to the AMQERR01.LOG file in the queue manager directory, and others to the /QIBM/UserData/mqm/errors directory copy of the error log.

**Parent topic:** [Error logs](#)

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## 8.5.4. An example WebSphere MQ error log

[Figure 1](#) shows a typical extract from a WebSphere® MQ error log.

*Figure 1. Extract from a WebSphere MQ error log*

```
*****Beginning of data*****
07/19/02 11:15:56 AMQ9411: Repository manager ended normally.

EXPLANATION:
Cause . . . . . : The repository manager ended normally.
Recovery . . . . : None.
Technical Description . . . . . : None.
-----
07/19/02 11:15:57 AMQ9542: Queue manager is ending.

EXPLANATION:
Cause . . . . . : The program will end because the queue manager is quiescing.
Recovery . . . . : None.
Technical Description . . . . . : None.
----- amqrimna.c : 773 -----
07/19/02 11:16:00 AMQ8004: WebSphere MQ queue manager 'mick' ended.
EXPLANATION:
Cause . . . . . : WebSphere MQ queue manager 'mick' ended.
Recovery . . . . : None.
Technical Description . . . . . : None.
-----
07/19/02 11:16:48 AMQ7163: WebSphere MQ job number 18429 started.

EXPLANATION:
Cause . . . . . : This job has started to perform work for Queue Manager
mick, The job's PID is 18429 the CCSID is 37. The job name is
582775/MQUSER/AMQZXA0.
Recovery . . . . : None
-----
07/19/02 11:16:49 AMQ7163: WebSphere MQ job number 18430 started.

EXPLANATION:
Cause . . . . . : This job has started to perform work for Queue Manager
mick, The job's PID is 18430 the CCSID is 0. The job name is
582776/MQUSER/AMQZFUMA.
Recovery . . . . : None
-----
07/19/02 11:16:49 AMQ7163: WebSphere MQ job number 18431 started.

EXPLANATION:
Cause . . . . . : This job has started to perform work for Queue Manager
mick, The job's PID is 18431 the CCSID is 37. The job name is
```

```

                    582777/MQUSER/AMQZXXMAX.
Recovery . . . . : None
-----
07/19/02 11:16:50 AMQ7163: WebSphere MQ job number 18432 started.

EXPLANATION:
Cause . . . . . : This job has started to perform work for Queue Manager
                    mick, The job's PID is 18432 the CCSID is 37. The job name is
                    582778/MQUSER/AMQALMPX.
Recovery . . . . : None
-----

```

Parent topic: [Error logs](#)

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## 8.6. Dead-letter queues

Messages that cannot be delivered for some reason are placed on the dead-letter queue. You can check whether the queue contains any messages by issuing an MQSC DISPLAY QUEUE command. If the queue contains messages, you can use the provided browse sample application (amqsbcg) to browse messages on the queue using the MQGET call. The sample application steps through all the messages on a named queue for a named queue manager, displaying both the message descriptor and the message context fields for all the messages on the named queue.

You must decide how to dispose of any messages found on the dead-letter queue, depending on the reasons for the messages being put on the queue.

Problems might occur if you do not associate a dead-letter queue with each queue manager. For more information about dead-letter queues, see [The WebSphere MQ dead-letter queue handler](#).

Parent topic: [Analyzing problems](#)

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## 8.7. First Failure Support Technology (FFST)

Describes the role of First Failure Support Technology (FFST™).

For i5/OS®, FFST information is recorded in a stream file in the `/QIBM/UserData/mqm/errors` directory.

These errors are normally severe, unrecoverable errors, and indicate either a configuration problem with the system or a WebSphere® MQ internal error.

The stream files are named `AMQnnnnn.mm.FDC`, where:

<code>nnnnn</code>	Is the ID of the process reporting the error
<code>mm</code>	Is a sequence number, normally 0

A copy of the failing job's job log is written to a file with the same name as the .FDC file. The file name ends with .JOB.

Some typical FFST data is shown in the following example.

```

-----
| WebSphere MQ First Failure Symptom Report
| =====
|
| Date/Time           :-- Mon January 28 2008 21:59:06 GMT
| UTC Time/Zone       :-- 1201539869.892015 0 GMT
| Host Name           :-- WINAS12B.HURSLEY.IBM.COM
| PIDS                :-- 5733A38
| LVLS                :-- 520
| Product Long Name   :-- WebSphere MQ for i5/OS
| Vendor              :-- IBM
| Probe Id            :-- XY353001
| Application Name     :-- MQM
| Component           :-- xehAS400ConditionHandler
| Build Date          :-- Feb 25 2008
| UserID              :-- 00000331 (MAYFCT)
| Program Name        :-- STRMQM_R MAYFCT
| Job Name            :-- 020100/MAYFCT/STRMQM_R
| Activation Group    :-- 101 (QMQM) (QMQM/STRMQM_R)
| Process             :-- 00001689
| Thread              :-- 00000001
| QueueManager        :-- TEST.AS400.OE.P
| Major Errorcode     :-- STOP
| Minor Errorcode     :-- OK
| Probe Type          :-- HALT6109
| Probe Severity      :-- 1
| Probe Description   :-- 0
| Arith1              :-- 1 1
| Comment1            :-- 00d0
|
-----

```

```

MQM Function Stack
lpiSPIMQConnect
zstMQConnect
ziiMQCONN
ziiClearUpAgent
xcsTerminate
xlsThreadInitialization
xcsConnectSharedMem

```

```

xstConnSetInSPbyHandle
xstConnSharedMemSet
xcsFFST

MQM Trace History
<-- xcsCheckProcess rc=xecP_E_INVALID_PID
--> xcsCheckProcess
<-- xcsCheckProcess rc=xecP_E_INVALID_PID
--> xlsThreadInitialization
--> xcsConnectSharedMem
--> xcsRequestThreadMutexSem
<-- xcsRequestThreadMutexSem rc=OK
--> xihGetConnSPDetailsFromList
<-- xihGetConnSPDetailsFromList rc=OK
--> xstCreateConnExtentList
<-- xstCreateConnExtentList rc=OK
--> xstConnSetInSPbyHandle
--> xstSerialiseSPList
--> xllSpinLockRequest
<-- xllSpinLockRequest rc=OK
<-- xstSerialiseSPList rc=OK
--> xstGetSetDetailsFromSPByHandle
<-- xstGetSetDetailsFromSPByHandle rc=OK
--> xstConnSharedMemSet
--> xstConnectExtent
--> xstAddConnExtentToList
<-- xstAddConnExtentToList rc=OK
<-- xstConnectExtent rc=OK
--> xcsBuildDumpPtr
--> xcsGetMem
<-- xcsGetMem rc=OK
<-- xcsBuildDumpPtr rc=OK
--> xcsBuildDumpPtr
<-- xcsBuildDumpPtr rc=OK
--> xcsBuildDumpPtr
<-- xcsBuildDumpPtr rc=OK
--> xcsBuildDumpPtr
<-- xcsBuildDumpPtr rc=OK
--> xcsFFST

```

```

Process Control Block
SPP:0000 :1aefSTRMQM_R MAYFCT 020100 :8bba0:0:6d E7C9C8D7 000004E0 00000699 00000000 XIHP...\..r...
SPP:0000 :1aefSTRMQM_R MAYFCT 020100 :8bbb0:1:6d 00000000 00000002 00000000 00000000 .....
SPP:0000 :1aefSTRMQM_R MAYFCT 020100 :8bbc0:2:6d 80000000 00000000 EC161F7C FC002DB0 .....@...¢
SPP:0000 :1aefSTRMQM_R MAYFCT 020100 :8bbd0:3:6d 80000000 00000000 EC161F7C FC002DB0 .....@...¢
SPP:0000 :1aefSTRMQM_R MAYFCT 020100 :8bbe0:4:6d 00000000 00000000 00000000 00000000 .....

```

```

Thread Control Block
SPP:0000 :1aefSTRMQM_R MAYFCT 020100 :1db0:20:6d E7C9C8E3 00001320 00000000 00000000 XIHT.....
SPP:0000 :1aefSTRMQM_R MAYFCT 020100 :1dc0:21:6d 00000001 00000000 00000000 00000000 .....
SPP:0000 :1aefSTRMQM_R MAYFCT 020100 :1dd0:22:6d 80000000 00000000 DD13C17B 81001000 .....A#a...
SPP:0000 :1aefSTRMQM_R MAYFCT 020100 :1de0:23:6d 00000000 00000046 00000002 00000001 .....
SPP:0000 :1aefSTRMQM_R MAYFCT 020100 :1df0:24:6d 00000000 00000000 00000000 00000000 .....

```

```

RecoveryIndex
SPP:0000 :1aefSTRMQM_R MAYFCT 020100 :2064:128:6d 00000000 ....


```

**Note:**

1. The MQM Trace History section is a log of the 200 most recent function trace statements, and is recorded in the FFST report regardless of any TRCMQM settings.
2. The queue manager details are recorded only for jobs that are connected to a queue manager subpool.
3. When the failing component is xehA5400ConditionHandler, additional data is logged in the errors directory giving extracts from the joblog relating to the exception condition.

The function stack and trace history are used by IBM® to assist in problem determination. In most cases there is little that the system administrator can do when an FFST report is generated, apart from raising problems through the IBM Support Center.

**Parent topic:** [Analyzing problems](#)

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## 8.8. Performance considerations

This section discusses:


- General design considerations; see [Application design considerations](#)
- Specific performance problems; see [Specific performance problems](#)

[Application design considerations](#)

[Number of threads in use](#)

[Specific performance problems](#)

**Parent topic:** [Analyzing problems](#)

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## 8.8.1. Application design considerations

There are a number of ways in which poor program design can affect performance. These can be difficult to detect because the program can appear to perform well, while impacting the performance of other tasks. Several problems specific to programs making WebSphere® MQ for i5/OS® calls are discussed in the following sections.

For more information about application design, see the [WebSphere MQ Application Programming Guide](#).

[Effect of message length](#)

[Effect of message persistence](#)


[Searching for a particular message](#)

[Queues that contain messages of different lengths](#)

[Frequency of syncpoints](#)

[Use of the MQPUT1 call](#)

**Parent topic:** [Performance considerations](#)

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### 8.8.1.1. Effect of message length

Although WebSphere® MQ for i5/OS® allows messages to hold up to 100 MB of data, the amount of data in a message affects the performance of the application that processes the message. To achieve the best performance from your application, send only the essential data in a message; for example, in a request to debit a bank account, the only information that might need to be passed from the client to the server application is the account number and the amount of the debit.

**Parent topic:** [Application design considerations](#)

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### 8.8.1.2. Effect of message persistence

Persistent messages are journaled. Journaling messages reduces the performance of your application, so use persistent messages for essential data only. If the data in a message can be discarded if the queue manager stops or fails, use a nonpersistent message.

**Parent topic:** [Application design considerations](#)

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### 8.8.1.3. Searching for a particular message

The MQGET call usually retrieves the first message from a queue. If you use the message and correlation identifiers (*MsgId* and *CorrelId*) in the message descriptor to specify a particular message, the queue manager has to search the queue until it finds that message. The use of the MQGET call in this way affects the performance of your application.

**Parent topic:** [Application design considerations](#)

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### 8.8.1.4. Queues that contain messages of different lengths

If the messages on a queue are of different lengths, to determine the size of a message, your application can use the MQGET call with the *BufferLength* field set to zero so that, even though the call fails, it returns the size of the message data. The application can then repeat the call, specifying the identifier of the message it measured in its first call and a buffer of the correct size. However, if there are other applications serving the same queue, you might find that the performance of your application is reduced because its second MQGET call spends time searching for a message that another application has retrieved in the time between your two calls.

If your application cannot use messages of a fixed length, another solution to this problem is to use the MQINQ call to find the maximum size of messages that the queue can accept, then use this value in your MQGET call. The maximum size of messages for a queue is stored in the *MaxMsgLen* attribute of the queue. This method might use large amounts of storage, however, because the value of this queue attribute can be the maximum allowed by WebSphere® MQ for i5/OS®, which might be greater than 2 GB.

**Parent topic:** [Application design considerations](#)

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### 8.8.1.5. Frequency of syncpoints

Programs that issue numerous MQPUT calls within syncpoint, without committing them, can cause performance problems. Affected queues can fill up with messages that are currently unusable, while other tasks might be waiting to get these messages. This has implications in terms of storage, and in terms of threads tied up with tasks that are attempting to get messages.

**Parent topic:** [Application design considerations](#)

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### 8.8.1.6. Use of the MQPUT1 call

Use the MQPUT1 call only if you have a single message to put on a queue. If you want to put more than one message, use the MQOPEN call, followed by a series of MQPUT calls and a single MQCLOSE call.

**Parent topic:** [Application design considerations](#)

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## 8.8.2. Number of threads in use

An application might require a large number of threads. Each queue manager process is allocated a maximum allowable number of threads.

If some applications are troublesome, it could be due to their design using too many threads. Consider whether the application takes into account this possibility and that it takes actions either to stop or to report this type of occurrence.

The maximum number of threads that i5/OS® allows is 4095. However, the default is 64. WebSphere® MQ makes available up to 63 threads to its processes.

**Parent topic:** [Performance considerations](#)

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## 8.8.3. Specific performance problems

This section discusses the problems of storage and poor performance.

### [Storage problems](#)

#### [Is your application or WebSphere MQ for i5/OS running slowly?](#)

**Parent topic:** [Performance considerations](#)

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### 8.8.3.1. Storage problems

If you receive the system message CPF0907. Serious storage condition may exist it is possible that you are filling up the space associated with the WebSphere® MQ for i5/OS® queue managers.

**Parent topic:** [Specific performance problems](#)

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### 8.8.3.2. Is your application or WebSphere MQ for i5/OS running slowly?

If your application is running slowly, this could indicate that it is in a loop, or waiting for a resource that is not available.

This could also be caused by a performance problem. Perhaps it is because your system is operating near the limits of its capacity. This type of problem is probably worst at peak system load times, typically at mid-morning and mid-afternoon. (If your network extends across more than one time zone, peak system load might seem to you to occur at some other time.)

If you find that performance degradation is not dependent on system loading, but happens sometimes when the system is lightly loaded, a poorly designed application program is probably to blame. This could manifest itself as a problem that only occurs when certain queues are accessed.

QTOTJOB and QADLTOTJ are system values worth investigating.

The following symptoms might indicate that WebSphere® MQ for i5/OS® is running slowly:

- If your system is slow to respond to MQSC commands.
- If repeated displays of the queue depth indicate that the queue is being processed slowly for an application with which you would expect a large amount of queue activity.
- Is MQ trace running?

Parent topic: [Specific performance problems](#)

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## 9. Configuring WebSphere MQ

This chapter explains how to change the behavior of queue managers to suit your installation's needs.

You change WebSphere® MQ configuration information by modifying the values specified on a set of configuration attributes (or parameters) that govern WebSphere MQ. You change these attributes by editing the **WebSphere MQ configuration files**.

This chapter:

- Describes the methods for configuring WebSphere MQ in [WebSphere MQ configuration files](#).
- Describes the attributes you can use to modify configuration information in [Attributes for changing WebSphere MQ configuration information](#).
- Describes the attributes you can use to modify queue manager configuration information in [Changing queue manager configuration information](#).
- Provides examples of mqs.ini and qm.ini files for WebSphere MQ for i5/OS® in [Example mqs.ini and qm.ini files](#).

[WebSphere MQ configuration files](#)


[Attributes for changing WebSphere MQ configuration information](#)

[Changing queue manager configuration information](#)

[API exits](#)

[Example mqs.ini and qm.ini files](#)

Parent topic: [i5/OS System Administration Guide](#)

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### 9.1. WebSphere MQ configuration files

You modify WebSphere® MQ configuration attributes within:

- A WebSphere MQ configuration file (**mqs.ini**) to effect changes on the node as a whole. There is one mqs.ini file for each WebSphere MQ installation.
- A queue manager configuration file (**qm.ini**) to effect changes for specific queue managers. There is one qm.ini file for each queue manager on the node.

Note that .ini files are stream files resident in the IFS.

►A configuration file (which can be referred to as a **stanza** file) contains one or more stanzas, which are groups of lines in the .ini file that together have a common function or define part of a system, for example, log functions and channel functions.◀


Any changes you make to a configuration file do not take effect until the next time the queue manager is started.

[Editing configuration files](#)

[The WebSphere MQ configuration file mqs.ini](#)

[Queue manager configuration files qm.ini](#)

Parent topic: [Configuring WebSphere MQ](#)

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### 9.1.1. Editing configuration files

Before editing a configuration file, back it up so that you have a copy you can revert to if the need arises.

You can edit configuration files either:

- Automatically, using commands that change the configuration of queue managers on the node
- Manually, using the EDTF CL editor

You can edit the default values in the WebSphere® MQ configuration files after installation.

If you set an incorrect value on a configuration file attribute, the value is ignored and an operator message is issued to indicate the problem. (The effect is the same as missing out the attribute entirely.)


When you create a new queue manager:

- Back up the WebSphere MQ configuration file
- Back up the new queue manager configuration file

#### [When do you need to edit a configuration file?](#)

#### [Configuration file priorities](#)

**Parent topic:** [WebSphere MQ configuration files](#)

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#### 9.1.1.1. When do you need to edit a configuration file?

You might need to edit a configuration file if, for example:

- You lose a configuration file; recover from backup if possible.
- You need to move one or more queue managers to a new directory.
- You need to change your default queue manager; this could happen if you accidentally delete the existing queue manager.
- You are advised to do so by your IBM® Support Center.

**Parent topic:** [Editing configuration files](#)

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#### 9.1.1.2. Configuration file priorities

The attribute values of a configuration file are set according to the following priorities:

- Parameters entered on the command line take precedence over values defined in the configuration files.
- Values defined in the qm.ini files take precedence over values defined in the mqs.ini file.

**Parent topic:** [Editing configuration files](#)

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### 9.1.2. The WebSphere MQ configuration file mqs.ini


The WebSphere® MQ configuration file, mqs.ini, contains information relevant to all the queue managers on a WebSphere MQ installation. It is created automatically during installation. In particular, the mqs.ini file is used to locate the data associated with each queue manager.

The mqs.ini file is stored in `/QIBM/UserData/mqm`

The mqs.ini file contains:

- The names of the queue managers
- The name of the default queue manager
- The location of the files associated with each queue manager
- Information identifying any API exits (see [API exits](#) for more information)

**Parent topic:** [WebSphere MQ configuration files](#)

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### 9.1.3. Queue manager configuration files qm.ini

A queue manager configuration file, qm.ini, contains information relevant to a specific queue manager. There is one queue manager configuration file for each queue manager. The qm.ini file is automatically created when the queue manager with which it is associated is created.


A qm.ini file is held in the <mqmdata directory>/QMNAME/qm.ini, where:

- <mqmdata directory> is /QIBM/UserData/mqm by default.
- QMNAME is the name of the queue manager to which the initialization file applies.

**Note:**

1. You can change the <mqmdata directory> in the mq5.ini file.
2. The queue manager name can be up to 48 characters in length. However, this does not guarantee that the name is valid or unique. Therefore, a directory name is generated based on the queue manager name. This process is known as **name transformation**. See [Understanding WebSphere MQ queue manager library names](#) for further information.

**Parent topic:** [WebSphere MQ configuration files](#)

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## 9.2. Attributes for changing WebSphere® MQ configuration information

The following groups of attributes appear in mq5.ini:

- [The AllQueueManagers stanza](#)
- [The DefaultQueueManager stanza](#)
- [The ExitProperties stanza](#)
- [The QueueManager stanza](#)

There are also two stanzas associated with API exits, ApiExitCommon and ApiExitTemplate. For details on using these, see [Configuring API exits](#).

**Note:** In the descriptions of the stanzas, the value underlined is the default value and the | symbol means *or*.


[The AllQueueManagers stanza](#)

[The DefaultQueueManager stanza](#)

[The ExitProperties stanza](#)

[The QueueManager stanza](#)

**Parent topic:** [Configuring WebSphere MQ](#)

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### 9.2.1. The AllQueueManagers stanza

The `AllQueueManagers` stanza can specify:

- The path to the qmgrs directory where the files associated with a queue manager are stored
- The path to the executable library
- The method for converting EBCDIC-format data to ASCII format

**DefaultPrefix=directory\_name**

The path to the qmgrs directory, below which the queue manager data is kept.

If you change the default prefix for the queue manager, you must replicate the directory structure that was created at installation time.

In particular, you must create the qmgrs structure. Stop WebSphere® MQ before changing the default prefix, and restart WebSphere MQ only after moving the structures to the new location and changing the default prefix.

As an alternative to changing the default prefix, you can use the environment variable MQSPREFIX to override the `DefaultPrefix` for the **CRTMQM** command.

**ConvEBCDICNewline=NL\_TO\_LF|TABLE|ISO**

EBCDIC code pages contain a newline (NL) character that is not supported by ASCII code pages, although some ISO variants of ASCII contain an equivalent.

Use the `ConvEBCDICNewline` attribute to specify the method WebSphere MQ is to use when converting the EBCDIC NL character into ASCII format.

**NL\_TO\_LF**

Convert the EBCDIC NL character (X'15') to the ASCII line feed character, LF (X'0A'), for all EBCDIC to ASCII conversions.

NL\_TO\_LF is the default.

**TABLE**

Convert the EBCDIC NL character according to the conversion tables used on i5/OS® for all EBCDIC to ASCII conversions.

Note that the effect of this type of conversion can vary from language to language .

**ISO**

Specify ISO if you want:

- ISO CCSIDs to be converted using the TABLE method
- All other CCSIDs to be converted using the NL\_TO\_CF method.


Possible ISO CCSIDs are shown in [Table 1](#).

*Table 1. List of possible ISO CCSIDs*

CCSID	Code Set
819	ISO8859-1
912	ISO8859-2
915	ISO8859-5
1089	ISO8859-6
813	ISO8859-7
916	ISO8859-8
920	ISO8859-9
1051	roman8

If the ASCII CCSID is not an ISO subset, ConvEBCDICNewline defaults to NL\_TO\_LF.

**Parent topic:** [Attributes for changing WebSphere MQ configuration information](#)

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## 9.2.2. The DefaultQueueManager stanza

The `DefaultQueueManager` stanza specifies the default queue manager for the node.

### **Name=default\_queue\_manager**

The default queue manager processes any commands for which a queue manager name is not explicitly specified. The `DefaultQueueManager` attribute is automatically updated if you create a new default queue manager. If you inadvertently create a new default queue manager and then want to revert to the original, you must alter the `DefaultQueueManager` attribute manually.

**Parent topic:** [Attributes for changing WebSphere MQ configuration information](#)

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## 9.2.3. The ExitProperties stanza

The `ExitProperties` stanza specifies configuration options used by queue manager exit programs.

### **CLWLMode=SAFE|FAST**

The cluster workload exit, CLWL, allows you to specify which cluster queue in the cluster is to be opened in response to an MQI call (MQOPEN, MQPUT, and so on). The CLWL exit runs either in FAST mode or SAFE mode depending on the value you specify on the CLWLMode attribute. If you omit the CLWLMode attribute, the cluster workload exit runs in SAFE mode.

#### **SAFE**

Run the CLWL exit in a separate process to the queue manager. This is the default.

If a problem arises with the user-written CLWL exit when running in SAFE mode, the following happens:

- The CLWL server process (amqzwa0) fails
- The queue manager restarts the CLWL server process
- The error is reported to you in the error log. If an MQI call is in progress, you receive notification in the form of a bad return code.

The integrity of the queue manager is preserved.

**Note:** Running the CLWL exit in a separate process might have a detrimental effect on performance.


#### **FAST**

Run the cluster exit inline in the queue manager process.

Specifying this option improves performance by avoiding the overheads associated with running in SAFE mode, but does so at the expense of queue manager integrity. Run the CLWL exit in FAST mode only if you are convinced that there are **no** problems with your CLWL exit, and you are particularly concerned about performance overheads.

If a problem arises when the CLWL exit is running in FAST mode, the queue manager fails and you run the risk of compromising the integrity of the queue manager.

**Parent topic:** [Attributes for changing WebSphere MQ configuration information](#)

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## 9.2.4. The QueueManager stanza

There is one `QueueManager` stanza for every queue manager. These attributes specify the queue manager name and the name of the directory containing the files associated with that queue manager. The name of the directory is based on the queue manager name, but is transformed if the queue manager name is not a valid file name.

See [Understanding WebSphere MQ queue manager library names](#) for more information about name transformation.

### **Name=queue\_manager\_name**

The name of the queue manager.

### **Prefix=prefix**

Where the queue manager files are stored. By default, this is the same as the value specified on the `DefaultPrefix` attribute of the `AllQueueManager` stanza in the `mqs.ini` file.


### **Directory=name**

The name of the subdirectory under the `<prefix>\QMGRS` directory where the queue manager files are stored. This name is based on the queue manager name, but can be transformed if there is a duplicate name, or if the queue manager name is not a valid file name.

### **Library=name**

The name of the library where i5/OS® objects pertinent to this queue manager, for example, journals and journal receivers, are stored. This name is based on the queue manager name, but can be transformed if there is a duplicate name, or if the queue manager name is not a valid library name.

**Parent topic:** [Attributes for changing WebSphere MQ configuration information](#)

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## 9.3. Changing queue manager configuration information

The following groups of attributes can appear in a `qm.ini` file particular to a given queue manager, or used to override values set in `mqs.ini`.

- [The Log stanza](#)
- [The Channels stanza](#)
- [The TCP stanza](#)

There is also a stanza associated with API exits, `ApiExitLocal`. For details on using this, see [Configuring API exits](#).

### [The Log stanza](#)

Parameters for configuring the log file.

### [The Channels stanza](#)

The `Channels` stanza contains information about the channels.

### [The queue manager error log stanza](#)

### [The TCP stanza](#)

Use these queue manager properties pages, or stanzas in the `qm.ini` file, to specify network protocol configuration parameters. They override the default attributes for channels.

**Parent topic:** [Configuring WebSphere MQ](#)

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### 9.3.1. The Log stanza

Parameters for configuring the log file.

The `Log` stanza specifies the log attributes for a particular queue manager. By default, these are inherited from the settings specified in the `LogDefaults` stanza in the `mqs.ini` file when the queue manager is created.

Only change attributes of this stanza if you want to configure a queue manager differently from others.

The values specified on the attributes in the `qm.ini` file are read when the queue manager is started. The file is created when the queue manager is created.

#### **LogBufferSize**

The journal buffer size, in bytes. Enter a number between 32 000 and 15 761 440. The default is 32 000.


#### **LogPath=library\_name**

The name of the library used to store journals and journal receivers for this queue manager.

#### **LogReceiverSize**

The journal receiver size, in kilobytes. The default is 100 000.

**Parent topic:** [Changing queue manager configuration information](#)

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### 9.3.2. The Channels stanza

The `Channels` stanza contains information about the channels.

#### **MaxChannels=100|number**

► The maximum number of channels allowed. For z/OS, the value must be between 1 and 9 999, with a default value of 200. For all other platforms, the value must be between 1 and 65 535, with a default value of 100. ◀

#### **MaxActiveChannels=MaxChannels\_value**

► The maximum number of channels allowed to be active at any time. The default is the value specified on the `MaxChannels` attribute. ◀

#### **MaxInitiators=3|number**

The maximum number of initiators. The default and maximum value is 3.

#### **MQIBINDTYPE=FASTPATH|STANDARD**

The binding for applications.

##### **FASTPATH**

Channels connect using MQCONNX FASTPATH. That is, there is no agent process.

##### **STANDARD**

Channels connect using STANDARD.

#### **ThreadedListener=NO|YES**

Whether to start RUNMQLSR (**YES**) or AMQCLMAA (**NO**) as a listener.

If you specify `ThreadedListener=YES`, all channels will run as threads of a single job. This limits the number of connections to the resources available to a single job.

If you specify `ThreadedListener=NO`, the non-threaded listener (AMQCLMAA) starts a new responder job (AMQCRSTA) for each inbound TCP/IP channel. The disadvantage of this technique is that it is not as fast to start a new AMQCRSTA job as it is to start a thread within a RUNMQLSR job, therefore connection times for a non-threaded listener are generally slower than those for a threaded listener.

#### **AdoptNewMCA=NO|SVR|SNDR|RCVR|CLUSRCVR|ALL|FASTPATH**

If WebSphere® MQ receives a request to start a channel, but finds that an `amqcrsta` process already exists for the same channel, the existing process must be stopped before the new one can start. The `AdoptNewMCA` attribute allows you to control the ending of an existing process and the startup of a new one for a specified channel type.

If you specify the `AdoptNewMCA` attribute for a given channel type, but the new channel fails to start because the channel is already running:

1. The new channel tries to end the previous one.
2. If the previous channel server does not end by the time the `AdoptNewMCATimeout` wait interval expires, the process (or the thread) for the previous channel server is ended.
3. If the previous channel server has not ended after step 2, and after the `AdoptNewMCATimeout` wait interval expires for a second time, WebSphere MQ ends the channel with a `CHANNEL IN USE` error.

You specify one or more values, separated by commas or blanks, from the following list:

##### **NO**

The `AdoptNewMCA` feature is not required. This is the default.

##### **SVR**

Adopt server channels

##### **SNDR**

Adopt sender channels

##### **RCVR**

Adopt receiver channels

##### **CLUSRCVR**

Adopt cluster receiver channels

##### **ALL**

Adopt all channel types, except for FASTPATH channels

##### **FASTPATH**

Adopt the channel if it is a FASTPATH channel. This happens only if the appropriate channel type is also specified, for example, `AdoptNewMCA=RCVR,SVR,FASTPATH`

**Attention!** The `AdoptNewMCA` attribute can behave in an unpredictable fashion with FASTPATH channels because of the internal design of the queue manager. Exercise great caution when enabling the `AdoptNewMCA` attribute for FASTPATH channels.

#### **AdoptNewMCATimeout=60|1–3600**

The amount of time, in seconds, that the new process waits for the old process to end. Specify a value, in seconds, in the range 1 to 3600. The default value is 60.

#### **AdoptNewMCACheck=QM|ADDRESS|NAME|ALL**

The `AdoptNewMCACheck` attribute allows you to specify the type checking required when enabling the `AdoptNewMCA` attribute. It is important for you to perform all three of the following checks, if possible, to protect your channels from being shut down, inadvertently or maliciously. At the very least check that the channel names match.

Specify one or more values, separated by commas or blanks, from the following:

##### **QM**

The listener process checks that the queue manager names match.

##### **ADDRESS**

The listener process checks the communications address, for example, the TCP/IP address.

##### **NAME**


The listener process checks that the channel names match.

##### **ALL**

The listener process checks for matching queue manager names, the communications address, and for matching channel names.

The default is `AdoptNewMCACheck=NAME, ADDRESS, QM`.

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### 9.3.3. The queue manager error log stanza

Use the `QMErrorLog` stanza in the `qm.ini` file to tailor the operation and contents of queue manager error logs.

#### **ErrorLogSize=***maxsize*

Specifies the size of the queue manager error log at which it is copied to the backup. *maxsize* must be between 1048576 and 2147483648 bytes. If **ErrorLogSize** is not specified, the default value of 262144 bytes (256 KB) is used.

#### **ExcludeMessage=***msgIds*

Specifies messages that are not to be written to the queue manager error log. *msgIds* contain a comma separated list of message IDs from the following:

- 7163 - Job started message (i5/OS® only)
- 7234 - Number of messages loaded
- 9001 - Channel program ended normally
- 9002 - Channel program started
- 9202 - Remote host not available
- 9208 - Error on receive from host
- 9209 - Connection closed
- 9228 - Cannot start channel responder
- 9508 - Cannot connect to queue manager
- 9524 - Remote queue manager unavailable
- 9528 - User requested closure of channel
- 9558 - Remote Channel is not available
- 9999 - Channel program ended abnormally

#### **SuppressMessage=***msgIds*

Specifies messages that will be written to the queue manager error log once only in a specified time interval. The time interval is specified by **SuppressInterval**. *msgIds* contain a comma separated list of message IDs from the following:


- 7163 - Job started message (i5/OS only)
- 7234 - Number of messages loaded
- 9001 - Channel program ended normally
- 9002 - Channel program started
- 9202 - Remote host not available
- 9208 - Error on receive from host
- 9209 - Connection closed
- 9228 - Cannot start channel responder
- 9508 - Cannot connect to queue manager
- 9524 - Remote queue manager unavailable
- 9528 - User requested closure of channel
- 9558 - Remote Channel is not available
- 9999 - Channel program ended abnormally

If the same message id is specified in both **SuppressMessage** and **ExcludeMessage**, the message is excluded.

#### **SuppressInterval=***length*

Specifies the time interval, in seconds, in which messages specified in **SuppressMessage** will be written to the queue manager error log once only. *length* must be between 1 and 86400 seconds. If **SuppressInterval** is not specified, the default value of 30 seconds is used.

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### 9.3.4. The TCP stanza

Use these queue manager properties pages, or stanzas in the `qm.ini` file, to specify network protocol configuration parameters. They override the default attributes for channels.

**Note:** Only attributes representing changes to the default values need to be specified.

#### TCP

The following attributes can be specified:

##### **Port=**1414|*port\_number*

The default port number, in decimal notation, for TCP/IP sessions. The default port number for WebSphere® MQ is 1414.

##### **KeepAlive=**NO|YES

Switch the KeepAlive function on or off. KeepAlive=YES causes TCP/IP to check periodically that the other end of the connection is still available. If it is not, the channel is closed.

##### **ListenerBacklog=**number

When receiving on TCP/IP, a maximum number of outstanding connection requests is set. This can be considered to be a *backlog* of requests waiting on the TCP/IP port for the listener to accept the request. The default listener backlog value for i5/OS® is 255; the maximum is 512. If the backlog reaches the value of 512, the TCP/IP connection is rejected and the channel cannot start.

For MCA channels, this results in the channel going into a RETRY state and retrying the connection at a later time.

For client connections, the client receives an MQRC\_Q\_MGR\_NOT\_AVAILABLE reason code from MQCONN and should retry the connection at a later time.

The `ListenerBacklog` attribute allows you to override the default number of outstanding requests for the TCP/IP listener.

#### ►Connect\_Timeout=number|0◀

- The number of seconds before an attempt to connect the socket times out. The default value of zero specifies that there is no connect timeout.◀

The following group of properties can be used to control the size of buffers used by TCP/IP. The values are passed directly to the TCP/IP layer of the operating system. Great care should be taken when using these properties. If the values are set incorrectly it can adversely affect the TCP/IP performance. For further information about how this affects performance refer to the TCP/IP documentation for your environment.


#### ►SvrSndBuffSize=number|32768◀

- The size in bytes of the TCP/IP send buffer used by the server end of a client-connection server-connection channel.◀

#### ►SvrRcvBuffSize=number|32768◀

- The size in bytes of the TCP/IP receive buffer used by the server end of a client-connection server-connection channel.◀

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## 9.4. API exits

API exits let you write code that changes the behavior of WebSphere® MQ API calls, such as MQPUT and MQGET, and then insert that code immediately before or immediately after those calls. The insertion is automatic; the queue manager drives the exit code at the registered points.

This chapter explains why you might want to use API exits, then describes what administration tasks are involved in enabling them. The sections are:

- [Why use API exits](#)
- [How you use API exits](#)
- [What happens when an API exit runs?](#)
- [Configuring API exits](#)

We give a brief introduction to writing API exits in [How to write an API exit](#). For detailed information about writing API exits, aimed at application programmers, see the [WebSphere MQ Application Programming Guide](#).

For detailed reference information about API exits, see the [WebSphere MQ System Administration Guide](#).


### [Why use API exits](#)

### [How you use API exits](#)

### [What happens when an API exit runs?](#)

### [Configuring API exits](#)

**Parent topic:** [Configuring WebSphere MQ](#)

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### 9.4.1. Why use API exits

There are many reasons why you might want to insert code that modifies the behavior of applications at the level of the queue manager. Each of your applications has a specific job to do, and its code should do that task as efficiently as possible. At a higher level, you might want to apply standards or business processes to a particular queue manager for **all** the applications that use that queue manager. It is more efficient to do this above the level of individual applications, and thus without having to change the code of each application affected.

Here are a few suggestions of areas in which API exits might be useful:

- For *security*, you can provide authentication, checking that applications are authorized to access a queue or queue manager. You can also police applications' use of the API, authenticating the individual API calls, or even the parameters they use.
- For *flexibility*, you can respond to rapid changes in your business environment without changing the applications that rely on the data in that environment. You could, for example, have API exits that respond to changes in interest rates, currency exchange rates, or the price of components in a manufacturing environment.
- For *monitoring* use of a queue or queue manager, you can trace the flow of applications and messages, log errors in the API calls, set up audit trails for accounting purposes, or collect usage statistics for planning purposes.

**Parent topic:** [API exits](#)

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### 9.4.2. How you use API exits

This section gives a brief overview of the tasks involved in setting up API exits.

### [How to configure WebSphere MQ for API exits](#)

#### [How to write an API exit](#)

**Parent topic:** [API exits](#)

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## 9.4.2.1. How to configure WebSphere MQ for API exits

You configure WebSphere® MQ to enable API exits by editing the configuration files, mqs.ini and qm.ini, and adding new stanzas that.

- Name the API exit
- Identify the module and entry point of the API exit code to run
- Optionally pass data with the exit
- Identify the sequence of this exit in relation to other exits

For detailed information on this configuration, see [Configuring API exits](#). For a description of how API exits run, see [What happens when an API exit runs?](#).

**Parent topic:** [How you use API exits](#)

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## 9.4.2.2. How to write an API exit

This section introduces writing API exits. For detailed information, aimed at application programmers, see the [WebSphere MQ Application Programming Guide](#).


You write your exits using the C programming language. To help you do so, we provide a sample exit, amqsaxe0, that generates trace entries to a named file. When you start writing exits, we recommend that you use this as your starting point.

Exits are available for every API call, as follows. Within API exits, these calls take the general form:

```
MQ_call_EXIT (parameters, context, ApiCallParameters)
```

where `call` is the API call name without the MQ suffix (PUT, GET, and so on), `parameters` control the function of the exit, `context` describes the context in which the API exit was called, and `ApiCallParameters` represent the parameters to the MQI call,

**Parent topic:** [How you use API exits](#)

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## 9.4.3. What happens when an API exit runs?

The API exit routines to run are identified in stanzas in mqs.ini and qm.ini. The definition of the routines can occur in three places:

1. `ApiExitCommon`, in the mqs.ini file, identifies routines, for the whole of WebSphere® MQ, applied when queue managers start up. These can be overridden by routines defined for individual queue managers.
2. `ApiExitTemplate`, in the mqs.ini file, identifies routines, for the whole of WebSphere MQ, copied to the `ApiExitLocal` set when a new queue manager is created.
3. `ApiExitLocal`, in the qm.ini file, identifies routines applicable to a particular queue manager.

When a new queue manager is created, the `ApiExitTemplate` definitions in mqs.ini are copied to the `ApiExitLocal` definitions in qm.ini for the new queue manager. When a queue manager is started, both the `ApiExitCommon` and `ApiExitLocal` definitions are used. The `ApiExitLocal` definitions replace the `ApiExitCommon` definitions if both identify a routine of the same name. The `Sequence` attribute, described in [Attributes for all stanzas](#) determines the order in which the routines defined in the stanzas run.

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## 9.4.4. Configuring API exits

This section tells you how to configure API exits.

You define your API exits in stanzas in the mqs.ini and qm.ini files. The sections below describe these stanzas, and the attributes within them that define the exit routines and the sequence in which they run. For guidance on the process of changing these stanzas, see [Changing the configuration information](#).

Stanzas in mqs.ini are:



**ApiExitCommon**

When any queue manager starts, the attributes in this stanza are read, and then overridden by the API exits defined in qm.ini.

**ApiExitTemplate**

When any queue manager is created, the attributes in this stanza are copied into the newly created qm.ini file under the ApiExitLocal stanza.

The stanza in qm.ini is:

**ApiExitLocal**

When the queue manager starts, API exits defined here override the defaults defined in mq5.ini.

[Attributes for all stanzas](#)[Sample stanzas](#)[Changing the configuration information](#)

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### 9.4.4.1. Attributes for all stanzas

All these stanzas have the following attributes:

**Name=ApiExit\_name**

The descriptive name of the API exit passed to it in the ExitInfoName field of the MQAXP structure.

This name must be unique, no longer than 48 characters, and contain only valid characters for the names of WebSphere® MQ objects (for example, queue names).

**Function=function\_name**

The name of the function entry point into the module containing the API exit code. This entry point is the MQ\_INIT\_EXIT function.

The length of this field is limited to MQ\_EXIT\_NAME\_LENGTH.

**Module=module\_name**

The module containing the API exit code.

If this field contains the full path name of the module it is used as is.

If this field contains just the module name, the module is located using the `ExitsDefaultPath` attribute in the `ExitPath` in qm.ini.

The length of this field is limited to the maximum path length the platform supports.

**Data=data\_name**

Data to be passed to the API exit in the ExitData field of the MQAXP structure.

If you include this attribute, leading and trailing blanks are removed, the remaining string is truncated to 32 characters, and the result is passed to the exit. If you omit this attribute, the default value of 32 blanks is passed to the exit.


The maximum length of this field is 32 characters.

**Sequence=sequence\_number**

The sequence in which this API exit is called relative to other API exits. An exit with a **low** sequence number is called before an exit with a **higher** sequence number. There is no need for the sequence numbering of exits to be contiguous; a sequence of 1, 2, 3 has the same result as a sequence of 7, 42, 1096. If two exits have the same sequence number, the queue manager decides which one to call first. You can tell which was called *after* the event by putting the time or a marker in ExitChainArea indicated by the ExitChainAreaPtr in MQAXP or by writing your own log file.

This attribute is an unsigned numeric value.

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### 9.4.4.2. Sample stanzas

Once you have created an exit as a service program, you must refer to it in the appropriate stanza in a configuration file using LIBRARY/PROGRAM syntax, as shown in the examples.

The mq5.ini file below contains the following stanzas:

**ApiExitTemplate**

This stanza defines an exit with the descriptive name `OurPayrollQueueAuditor`, module name `MYAUDIT`, and sequence number 2. A data value of 123 is passed to the exit.

**ApiExitCommon**

This stanza defines an exit with the descriptive name `MQPoliceman`, module name `MYSECURE`, and sequence number 1. The data passed is an instruction (`CheckEverything`).

```
mqs.ini


ApiExitTemplate:
  Name=OurPayrollQueueAuditor
  Sequence=2
  Function=EntryPoint
  Module=MYLIB/MYAUDIT
  Data=123
ApiExitCommon:
  Name=MQPoliceman
  Sequence=1
  Function=EntryPoint
  Module=MYLIB/MYSECURE
  Data=CheckEverything
```

The `qm.ini` file below contains an `ApiExitLocal` definition of an exit with the descriptive name `ClientApplicationAPIchecker`, module name `MYCHECK`, and sequence number 3.

```
qm.ini

ApiExitLocal:
  Name=ClientApplicationAPIchecker
  Sequence=3
  Function=EntryPoint
  Module=MYLIB/MYCHECK
  Data=9.20.176.20
```

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### 9.4.4.3. Changing the configuration information

The WebSphere® MQ configuration file, `mqs.ini`, contains information relevant to all the queue managers on a particular node.

A queue manager configuration file, `qm.ini`, contains information relevant to a specific queue manager. There is one queue manager configuration file for each queue manager, stored in its own subdirectory.

The configuration files are stored in the IFS, as follows:


```
/QIBM/UserData/mqm/mqs.ini
/QIBM/UserData/mqm/qmgrs/<queue-manager-name>/qm.ini
```

Before editing a configuration file, back it up so that you have a copy you can revert to if the need arises.

You can edit configuration files using the EDTF CL command.

If you set an incorrect value on a configuration file attribute, the value is ignored and an operator message is issued to indicate the problem. (The effect is the same as missing out the attribute entirely.)

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## 9.5. Example `mqs.ini` and `qm.ini` files

[Figure 1](#) shows an example of an `mqs.ini` file.

*Figure 1. Example of a WebSphere MQ configuration file*

```
*****#
#* Module Name: mqs.ini                                     *#
#* Type       : WebSphere MQ Configuration File           *#
#* Function   : Define WebSphere MQ resources for the node *#
#*                                                   *#
#* Notes     :                                           *#
#* 1) This is an example WebSphere MQ configuration file *#
#*                                                   *#
#* AllQueueManagers:                                     *#
#* The path to the qmgrs directory, below which queue manager *#
#* is stored                                           *#
#*                                                   *#
DefaultPrefix=/QIBM/UserData/mqm

QueueManager:
  Name=saturn.queue.manager
  Prefix=/QIBM/UserData/mqm
  Library=QMSATURN.Q
  Directory=saturn!queue!manager

QueueManager:
  Name=pluto.queue.manager
  Prefix=/QIBM/UserData/mqm
  Library=QMPLUTO.QU
  Directory=pluto!queue!manager
```

```
DefaultQueueManager:
  Name=saturn.queue.manager
```

[Figure 2](#) shows how groups of attributes might be arranged in a queue manager configuration file.

**Figure 2. Example queue manager configuration file**

```
#####
#* Module Name: qm.ini                                     *#
#* Type       : WebSphere MQ queue manager configuration file *#
#* Function   : Define the configuration of a single queue manager *#
#*          :                                           *#
#####
#* Notes     :                                           *#
#* 1) This file defines the configuration of the queue manager *#
#*          :                                           *#
#####
Log:
  LogPath=QMSATURN.Q
  LogReceiverSize=65536

CHANNELS:
  MaxChannels = 20           ; Maximum number of channels allowed.
                             ; Default is 100.
  MaxActiveChannels = 10    ; Maximum number of channels allowed to be
                             ; active at any time. The default is the
                             ; value of MaxChannels.

TCP:
  KeepAlive = Yes           ; TCP/IP entries.
                             ; Switch KeepAlive on.
  SvrSndBuffSize=20000     ; Size in bytes of the TCP/IP send buffer for each
                             ; channel instance. Default is 32768.
  SvrRcvBuffSize=20000     ; Size in bytes of the TCP/IP receive buffer for each
                             ; channel instance. Default is 32768.
  Connect_Timeout=10000    ; Number of seconds before an attempt to connect the
                             ; channel instance times out. Default is zero (no timeout).

QMErrorLog:
  ErrorLogSize = 262144
  ExcludeMessage = 7234
  SuppressMessage = 9001,9002,9202
  SuppressInterval = 30
```

#### Note:

1. WebSphere® MQ on the node uses the default locations for queue managers and the journals.
2. The queue manager saturn.queue.manager is the default queue manager for the node. The directory for files associated with this queue manager has been automatically transformed into a valid file name for the file system.
3. Because the WebSphere MQ configuration file is used to locate the data associated with queue managers, a nonexistent or incorrect configuration file can cause some or all WebSphere MQ commands to fail. Also, applications cannot connect to a queue manager that is not defined in the WebSphere MQ configuration file.

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## 10. Installable services and components

This chapter introduces the installable services and the functions and components associated with them. We document the interface to these functions so that you, or software vendors, can supply components.

The chapter includes:

- [Why installable services?](#)
- [Functions and components](#)
- [Initialization](#)
- [Configuring services and components](#)
- [Creating your own service component](#)

The installable services interface is described in [Installable services interface reference information](#).

[Why installable services?](#)

[Functions and components](#)

[Initialization](#)

[Configuring services and components](#)

[Creating your own service component](#)

[Authorization service](#)

[Installable services interface reference information](#)

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## 10.1. Why installable services?

The main reasons for providing WebSphere® MQ installable services are:

- To provide you with the flexibility of choosing whether to use components provided by WebSphere MQ for i5/OS®, or replace or augment them with others.
- To allow vendors to participate, by providing components that might use new technologies, without making internal changes to WebSphere MQ for i5/OS.
- To allow WebSphere MQ to exploit new technologies faster and cheaper, and so provide products earlier and at lower prices.

*Installable services* and *service components* are part of the WebSphere MQ product structure. At the center of this structure is the part of the queue manager that implements the function and rules associated with the Message Queue Interface (MQI). This central part requires a number of service functions, called *installable services*, in order to perform its work. The installable service available in WebSphere MQ for i5/OS is the authorization service.

Each installable service is a related set of functions implemented using one or more *service components*. Each component is invoked using a properly-architected, publicly-available interface. This enables independent software vendors and other third parties to provide installable components to augment or replace those provided by WebSphere MQ for i5/OS. [Table 1](#) summarizes support for the authorization service.

*Table 1. Authorization service components summary*

Supplied component	Function	Requirements
Object Authority Manager (OAM)	Provides authorization checking on commands and MQI calls. Users can write their own component to augment or replace the OAM.	(Appropriate platform authorization facilities are assumed)
DCE name service component <b>Note:</b> DCE is only supported on versions of WebSphere MQ earlier than V6.0.	<ul style="list-style-type: none"> <li>• Allows queue managers to share queues, or</li> <li>• User defined</li> </ul> <b>Note:</b> Shared queues must have their <i>scope</i> attribute set to CELL.	<ul style="list-style-type: none"> <li>• DCE is required for the supplied component, or</li> <li>• A third-party or user-written name manager</li> </ul>

**Parent topic:** [Installable services and components](#)

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## 10.2. Functions and components

Each service consists of a set of related functions. For example, the name service contains function for:

- Looking up a queue name and returning the name of the queue manager where the queue is defined
- Inserting a queue name into the service's directory
- Deleting a queue name from the service's directory

It also contains initialization and termination functions.

An installable service is provided by one or more service components. Each component can perform some or all of the functions that are defined for that service. The component is also responsible for managing any underlying resources or software that it needs to implement the service. Configuration files provide a standard way of loading the component and determining the addresses of the functional routines that it provides.

Services and components are related as follows:

- A service is defined to a queue manager by stanzas in a configuration file.
- Each service is supported by supplied code in the queue manager. Users cannot change this code and therefore cannot create their own services.
- Each service is implemented by one or more components; these can be supplied with the product or user-written. Multiple components for a service can be invoked, each supporting different facilities within the service.
- Entry points connect the service components to the supporting code in the queue manager.

[Entry-points](#)

[Return codes](#)

[Component data](#)

**Parent topic:** [Installable services and components](#)

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### 10.2.1. Entry-points

Each service component is represented by a list of the entry-point addresses of the routines that support a particular installable service. The installable service defines the function to be performed by each routine.

The ordering of the service components when they are configured defines the order in which entry-points are called in an attempt to satisfy a request for the service.

In the supplied header file `cmqzc.h`, the supplied entry points to each service have an MQZID\_ prefix.

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## 10.2.2. Return codes

Service components provide return codes to the queue manager to report on a variety of conditions. They report the success or failure of the operation, and indicate whether the queue manager is to proceed to the next service component. A separate *Continuation* parameter carries this indication.

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## 10.2.3. Component data

A single service component might require data to be shared between its various functions. Installable services provide an optional data area to be passed on each invocation of a given service component. This data area is for the exclusive use of the service component. It is shared by all the invocations of a given function, even if they are made from different address spaces or processes. It is guaranteed to be addressable from the service component whenever it is called. You must declare the size of this area in the *ServiceComponent* stanza.

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## 10.3. Initialization

When the component initialization routine is invoked, it must call the queue manager **MQZEP** function for each entry-point supported by the component. **MQZEP** defines an entry-point to the service. All the undefined exit points are assumed to be NULL.

[Primary initialization](#)

[Secondary initialization](#)

[Primary termination](#)

[Secondary termination](#)

Parent topic: [Installable services and components](#)

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### 10.3.1. Primary initialization

A component is always invoked with this option once, before it is invoked in any other way.

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### 10.3.2. Secondary initialization


A component can be invoked with this option on certain platforms. For example, it can be invoked once for each operating system process, thread, or task by which the service is accessed.

If secondary initialization is used:

- The component can be invoked more than once for secondary initialization. For each such call, a matching call for secondary termination is issued when the service is no longer needed.  
For authorization services this is the MQZ\_TERM\_AUTHORITY call.
- The entry points must be re-specified (by calling MQZEP) each time the component is called for primary and secondary initialization.
- Only one copy of component data is used for the component; there is not a different copy for each secondary initialization.
- The component is not invoked for any other calls to the service (from the operating system process, thread, or task, as appropriate) before secondary initialization has been carried out.

- The component must set the `Version` parameter to the same value for primary and secondary initialization.

**Parent topic:** [Initialization](#)

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### 10.3.3. Primary termination

The component is always started with this option once, when it is no longer required. No further calls are made to this component.

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### 10.3.4. Secondary termination

The component is started with this option, if it has been started for secondary initialization.

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## 10.4. Configuring services and components

Configure service components using the queue manager configuration files. Each service used must have a `Service` stanza, which defines the service to the queue manager.

For each component within a service, there must be a `ServiceComponent` stanza. This identifies the name and path of the module containing the code for that component.


The authorization service component, known as the Object Authority Manager (OAM), is supplied with the product. When you create a queue manager, the queue manager configuration file is automatically updated to include the appropriate stanzas for the authorization service and for the default component (the OAM).

The code for each service component is loaded into the queue manager when the queue manager is started, using dynamic binding, where this is supported on the platform.

#### [Service stanza format](#)

#### [Service component stanza format](#)

**Parent topic:** [Installable services and components](#)

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### 10.4.1. Service stanza format

The format of the `Service` stanza is:

```
Service:
  Name=<service_name>
  EntryPoints=<entries>
```

where:


**<service\_name>**

The name of the service. This is defined by the service.

**<entries>**

The number of entry-points defined for the service. This includes the initialization and termination entry points.

**Parent topic:** [Configuring services and components](#)

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## 10.4.2. Service component stanza format

The format of the `Service component` stanza is:

```
ServiceComponent :
  Service=<service_name>
  Name=<component_name>
  Module=<module_name>
  ComponentDataSize=<size>
```

where:

### <service\_name>

The name of the service. This must match the `Name` specified in a service stanza.

### <component\_name>

A descriptive name of the service component. This must be unique, and contain only the characters that are valid for the names of WebSphere® MQ objects (for example, queue names). This name occurs in operator messages generated by the service. We recommend that you use a name starting with a company trademark or similar distinguishing string.

### <module\_name>

The name of the module to contain the code for this component. Specify a full path name.


### <size>

The size in bytes of the component data area passed to the component on each call. Specify zero if no component data is required.

These two stanzas can appear in any order and the stanza keys under them can also appear in any order. For either of these stanzas, all the stanza keys must be present. If a stanza key is duplicated, the last one is used.

At startup time, the queue manager processes each service component entry in the configuration file in turn. It then loads the specified component module, invoking the entry-point of the component (which must be the entry-point for initialization of the component), passing it a configuration handle.

**Parent topic:** [Configuring services and components](#)

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## 10.5. Creating your own service component

To create your own service component:

- Ensure that the header file `cmqzo.h` is included in your program.
- Create the shared library by compiling the program and linking it with the shared libraries `libmqm*` and `libmqmzf*`.  
**Note:** Because the agent can run in a threaded environment, you must build the OAM to run in a threaded environment. This includes using the threaded versions of `libmqm` and `libmqmzf`.
- Add stanzas to the queue manager configuration file to define the service to the queue manager and to specify the location of the module. Refer to the individual chapters for each service, for more information.
- Stop and restart the queue manager to activate the component.

**Parent topic:** [Installable services and components](#)

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## 10.6. Authorization service

The authorization service is an installable service that enables queue managers to invoke authorization facilities, for example, checking that a user ID has authority to open a queue.

This service is a component of the WebSphere® MQ security enabling interface (SEI), which is part of the WebSphere MQ framework.

This chapter discusses:


- [Object authority manager \(OAM\)](#)
- [Configuring authorization service stanzas](#)
- [Authorization service interface](#)

### [Object authority manager \(OAM\)](#)

### [Configuring authorization service stanzas](#)

### [Authorization service interface](#)

**Parent topic:** [Installable services and components](#)

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### 10.6.1. Object authority manager (OAM)

The authorization service component supplied with the WebSphere® MQ products is called the Object Authority Manager (OAM). By default, the OAM is active and works with the control commands **WRKMQMAUT** (work with authority), **WRKMQMAUTD** (work with authority data), **DSPMQMAUT** (display object authority), **GRTMQMAUT** (grant object authority), **RVKMQMAUT** (revoke object authority), and **RFRMQMAUT** (refresh security).

The syntax of these commands and how to use them are described in the CL command help.

The OAM works with the *entity* of a principal or group.


When an MQI request is made or a command is issued, the OAM checks the authorization of the entity associated with the operation to see whether it can:

- Perform the requested operation.
- Access the specified queue manager resources.

The authorization service enables you to augment or replace the authority checking provided for queue managers by writing your own authorization service component.

### [Defining the service to the operating system](#)

**Parent topic:** [Authorization service](#)

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## 10.6.1.1. Defining the service to the operating system

The authorization service stanzas in the queue manager configuration file `qm.ini` define the authorization service to the queue manager. See [Configuring services and components](#) for information about the types of stanza.

**Parent topic:** [Object authority manager \(OAM\)](#)

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## 10.6.2. Configuring authorization service stanzas

On WebSphere® MQ for i5/OS®:

### Principal

Is an i5/OS system user profile.

### Group

Is an i5/OS system group profile.

Authorizations can be granted or revoked at the group level only. A request to grant or revoke a user's authority updates the primary group for that user.

Each queue manager has its own queue manager configuration file. For example, the default path and file name of the queue manager configuration file for queue manager QMNAME is `/Q/IBM/UserData/mqm/qmgrs/QMNAME/qm.ini`.

The *Service* stanza and the *ServiceComponent* stanza for the default authorization component are added to `qm.ini` automatically, but can be overridden by `WRKENVVAR`. Any other *ServiceComponent* stanzas must be added manually.

For example, the following stanzas in the queue manager configuration file define two authorization service components:

*Figure 1. WebSphere MQ for i5/OS authorization service stanzas in qm.ini*


```
Service:
  Name=AuthorizationService
  EntryPoints=7

ServiceComponent:
  Service=AuthorizationService
  Name=MQ.UNIX.authorization.service
  Module=QMOM/AMQZFU
  ComponentDataSize=0

ServiceComponent:
  Service=AuthorizationService
  Name=user.defined.authorization.service
  Module=LIBRARY/SERVICE PROGRAM NAME
  ComponentDataSize=96
```

The first service component stanza (`MQ.UNIX.authorization.service`) defines the default authorization service component, the OAM. If you remove this stanza and restart the queue manager, the OAM is disabled and no authorization checks are made.

**Parent topic:** [Authorization service](#)

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## 10.6.3. Authorization service interface



The authorization service provides the following entry points for use by the queue manager:

**MQZ\_AUTHENTICATE\_USER**

Authenticates a user ID and password, and can set identity context fields.

**MQZ\_CHECK\_AUTHORITY**

Checks whether an entity has authority to perform one or more operations on a specified object.

**MQZ\_COPY\_ALL\_AUTHORITY**

Copies all the current authorizations that exist for a referenced object to another object.

**MQZ\_DELETE\_AUTHORITY**

Deletes all authorizations associated with a specified object.

**MQZ\_ENUMERATE\_AUTHORITY\_DATA**

Retrieves all the authority data that matches the selection criteria specified.

**MQZ\_FREE\_USER**

Frees associated allocated resources.

**MQZ\_GET\_AUTHORITY**

Gets the authority that an entity has to access a specified object.

**MQZ\_GET\_EXPLICIT\_AUTHORITY**

Gets either the authority that a named group has to access a specified object (but without the additional authority of the **nobody** group) or the authority that the primary group of the named principal has to access a specified object.

**MQZ\_INIT\_AUTHORITY**

Initializes authorization service component.

**MQZ\_INQUIRE**

Queries the supported functionality of the authorization service.

**MQZ\_REFRESH\_CACHE**

Refresh all authorizations.

**MQZ\_SET\_AUTHORITY**

Sets the authority that an entity has to a specified object.

**MQZ\_TERM\_AUTHORITY**

Terminates authorization service component.


These entry points support the use of the Windows Security Identifier (NT SID).

These names are defined as **typedefs**, in the header file `cmqzc.h`, which can be used to prototype the component functions.

The initialization function (**MQZ\_INIT\_AUTHORITY**) must be the main entry point for the component. The other functions are invoked through the entry point address that the initialization function has added into the component entry point vector.

See [Creating your own service component](#) for more information.

Parent topic: [Authorization service](#)

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## 10.7. Installable services interface reference information

This section provides reference information for the installable services. It includes:

- [How the functions are shown](#)
- [MQZEP - Add component entry point](#)
- [MQZ\\_AUTHENTICATE\\_USER - Authenticate user](#)
- [MQZ\\_CHECK\\_AUTHORITY - Check authority](#)
- [MQZ\\_COPY\\_ALL\\_AUTHORITY - Copy all authority](#)
- [MQZ\\_DELETE\\_AUTHORITY - Delete authority](#)
- [MQZ\\_ENUMERATE\\_AUTHORITY\\_DATA - Enumerate authority data](#)
- [MQZ\\_FREE\\_USER - Free user](#)
- [MQZ\\_GET\\_AUTHORITY - Get authority](#)
- [MQZ\\_GET\\_EXPLICIT\\_AUTHORITY - Get explicit authority](#)
- [MQZ\\_INIT\\_AUTHORITY - Initialize authorization service](#)
- [MQZ\\_INQUIRE - Inquire authorization service](#)
- [MQZ\\_REFRESH\\_CACHE - Refresh all authorizations](#)
- [MQZ\\_SET\\_AUTHORITY - Set authority](#)
- [MQZ\\_TERM\\_AUTHORITY - Terminate authorization service](#)
- [MQZAC - Application context](#)
- [MQZAD - Authority data](#)
- [MQZED - Entity descriptor](#)
- [MQZFP - Free parameters](#)
- [MQZIC - Identity context](#)

The functions and data types are in alphabetic order within the group for each service type.

### [How the functions are shown](#)

[MQZEP – Add component entry point](#)[MQHCONFIG – Configuration handle](#)[PMOFUNC – Pointer to function](#)[MQZ\\_AUTHENTICATE\\_USER – Authenticate user](#)[MQZ\\_CHECK\\_AUTHORITY – Check authority](#)[MQZ\\_COPY\\_ALL\\_AUTHORITY – Copy all authority](#)[MQZ\\_DELETE\\_AUTHORITY – Delete authority](#)[MQZ\\_ENUMERATE\\_AUTHORITY\\_DATA – Enumerate authority data](#)[MQZ\\_FREE\\_USER – Free user](#)[MQZ\\_GET\\_AUTHORITY – Get authority](#)[MQZ\\_GET\\_EXPLICIT\\_AUTHORITY – Get explicit authority](#)[MQZ\\_INIT\\_AUTHORITY – Initialize authorization service](#)[MQZ\\_INQUIRE – Inquire authorization service](#)[MQZ\\_REFRESH\\_CACHE – Refresh all authorizations](#)[MQZ\\_SET\\_AUTHORITY – Set authority](#)[MQZ\\_TERM\\_AUTHORITY – Terminate authorization service](#)[MQZAC – Application context](#)[MQZAD – Authority data](#)[MQZED – Entity descriptor](#)[MQZFP – Free parameters](#)[MQZIC – Identity context](#)**Parent topic:** [Installable services and components](#) This build: January 26, 2011 11:39:46[Notices](#) | [Trademarks](#) | [Downloads](#) | [Library](#) | [Support](#) | [Feedback](#)

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## 10.7.1. How the functions are shown

For each function there is a description, including the function identifier (for MQZEP).

The *parameters* are shown listed in the order they must occur. They must all be present.

### [Parameters and data types](#)

**Parent topic:** [Installable services interface reference information](#) This build: January 26, 2011 11:39:46[Notices](#) | [Trademarks](#) | [Downloads](#) | [Library](#) | [Support](#) | [Feedback](#)


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### 10.7.1.1. Parameters and data types

Each parameter name is followed by its data type in parentheses. These are the elementary data types described in the [WebSphere MQ Application Programming Reference](#) manual.

The C language invocation is also given, after the description of the parameters.

**Parent topic:** [How the functions are shown](#) This build: January 26, 2011 11:39:46[Notices](#) | [Trademarks](#) | [Downloads](#) | [Library](#) | [Support](#) | [Feedback](#)

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## 10.7.2. MQZEP – Add component entry point


This function is invoked by a service component, during initialization, to add an entry point to the entry point vector for that service component.

### [Syntax](#)

### [Parameters](#)

### [C invocation](#)

**Parent topic:** [Installable services interface reference information](#)

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## 10.7.2.1. Syntax

**MQZEP** (*Hconfig*, *Function*, *EntryPoint*, *CompCode*, *Reason*)

**Parent topic:** [MQZEP – Add component entry point](#)

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## 10.7.2.2. Parameters

The MQZEP call has the following parameters.

### [Hconfig \(MQHCONFIG\) – input](#)

### [Function \(MQLONG\) – input](#)

### [EntryPoint \(PMQFUNC\) – input](#)

### [CompCode \(MQLONG\) – output](#)

### [Reason \(MQLONG\) – output](#)

**Parent topic:** [MQZEP – Add component entry point](#)

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### 10.7.2.2.1. Hconfig (MQHCONFIG) – input

Configuration handle.

This handle represents the component which is being configured for this particular installable service. It must be the same as the one passed to the component configuration function by the queue manager on the component initialization call.

**Parent topic:** [Parameters](#)

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### 10.7.2.2.2. Function (MQLONG) – input

Function identifier.

Valid values for this are defined for each installable service.

If MQZEP is called more than once for the same function, the last call made provides the entry point which is used.

**Parent topic:** [Parameters](#)

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### 10.7.2.2.3. EntryPoint (PMQFUNC) – input

Function entry point.

This is the address of the entry point provided by the component to perform the function.

The value NULL is valid, and indicates that the function is not provided by this component. NULL is assumed for entry points which are not defined using MQZEP.

**Parent topic:** [Parameters](#)

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### 10.7.2.2.4. CompCode (MQLONG) – output

Completion code.

It is one of the following:


#### **MQCC\_OK**

Successful completion.

#### **MQCC\_FAILED**

Call failed.

**Parent topic:** [Parameters](#)

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### 10.7.2.2.5. Reason (MQLONG) – output

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

#### **MQRC\_NONE**

(0, X'000') No reason to report.

If *CompCode* is MQCC\_FAILED:

#### **MQRC\_FUNCTION\_ERROR**

(2281, X'8E9') Function identifier not valid.

#### **MQRC\_HCONFIG\_ERROR**

(2280, X'8E8') Configuration handle not valid.

For more information on these reason codes, see the [WebSphere MQ Application Programming Reference](#).

**Parent topic:** [Parameters](#)

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## 10.7.2.3. C invocation

```
MQZEP (Hconfig, Function, EntryPoint, &CompCode, &Reason);
```

Declare the parameters as follows:

```
MQHCONFIG Hconfig; /* Configuration handle */
MQLONG Function; /* Function identifier */
PMQFUNC EntryPoint; /* Function entry point */
MQLONG CompCode; /* Completion code */
MQLONG Reason; /* Reason code qualifying CompCode */
```

**Parent topic:** [MQZEP – Add component entry point](#)

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## 10.7.3. MQHCONFIG – Configuration handle

The MQHCONFIG data type represents a configuration handle, that is, the component that is being configured for a particular installable service. A configuration handle must be aligned on its natural boundary.

**Note:** Applications must test variables of this type for equality only.

### [C declaration](#)

**Parent topic:** [Installable services interface reference information](#)

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## 10.7.3.1. C declaration

```
typedef void MQPOINTER MQHCONFIG;
```

**Parent topic:** [MQHCONFIG – Configuration handle](#)

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## 10.7.4. PMQFUNC – Pointer to function

Pointer to a function.

### [C declaration](#)

**Parent topic:** [Installable services interface reference information](#)

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## 10.7.4.1. C declaration

```
typedef void MQPOINTER PMQFUNC;
```

**Parent topic:** [PMQFUNC – Pointer to function](#)

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## 10.7.5. MQZ\_AUTHENTICATE\_USER – Authenticate user

This function is provided by a MQZAS\_VERSION\_5 authorization service component, and is invoked by the queue manager to authenticate a user, or to set identity context fields. It is invoked when WebSphere® MQ's user application context is established. This happens during connect calls at the point where the application's user context is initialized, and at each point where the application's user context is changed. Each time a connect call is made, the application's user context information is reacquired in the *IdentityContext* field.

The function identifier for this function (for MQZEP) is MQZID\_AUTHENTICATE\_USER.

### [Syntax](#)

### [Parameters](#)

### [C invocation](#)

**Parent topic:** [Installable services interface reference information](#)

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## 10.7.5.1. Syntax

**MQZ\_AUTHENTICATE\_USER** (*QMgrName*, *SecurityParms*, *ApplicationContext*,  
*IdentityContext*, *CorrelationPtr*, *ComponentData*, *Continuation*, *CompCode*, *Reason*)

**Parent topic:** [MQZ\\_AUTHENTICATE\\_USER – Authenticate user](#)

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## 10.7.5.2. Parameters

The MQZ\_AUTHENTICATE\_USER call has the following parameters.

[QMgrName \(MQCHAR48\) – input](#)

[SecurityParms \(MQCSP\) – input](#)

[ApplicationContext \(MQZAC\) – input](#)

[IdentityContext \(MQZIC\) – input/output](#)

[CorrelationPtr \(MOPTR\) – output](#)

[ComponentData \(MQBYTE×ComponentDataLength\) – input/output](#)

[Continuation \(MQLONG\) – output](#)

[CompCode \(MQLONG\) – output](#)

[Reason \(MQLONG\) – output](#)

**Parent topic:** [MQZ\\_AUTHENTICATE\\_USER – Authenticate user](#)

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### 10.7.5.2.1. QMgrName (MQCHAR48) – input

Queue manager name.

The name of the queue manager calling the component. This name is padded with blanks to the full length of the parameter; the name is not terminated by a null character.

The queue-manager name is passed to the component for information; the authorization service interface does not require the component to make use of it in any defined manner.

**Parent topic:** [Parameters](#)

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### 10.7.5.2.2. SecurityParms (MQCSP) – input

Security parameters.

Data relating to the user ID, password, and authentication type. If the *AuthenticationType* attribute of the MQCSP structure is specified as MQCSP\_AUTH\_USER\_ID\_AND\_PWD, both the user ID and password are compared against the equivalent fields in the *IdentityContext* (MQZIC) parameter to determine whether they match. For more information, see the [WebSphere MQ Application Programming Reference](#).

During an MQCONN MQI call this parameter contains null, or default values.

**Parent topic:** [Parameters](#)

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### 10.7.5.2.3. ApplicationContext (MQZAC) – input

Application context.

Data relating to the calling application. See [MQZAC – Application context](#) for details.

During every MQCONN or MQCONNX MQI call, the user context information in the MQZAC structure is reacquired.

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#### 10.7.5.2.4. IdentityContext (MQZIC) – input/output

Identity context.

On input to the authenticate user function, this identifies the current identity context. The authenticate user function can change this, at which point the queue manager adopts the new identity context. See [MQZIC – Identity context](#) for more details on the MQZIC structure.

**Parent topic:** [Parameters](#)

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#### 10.7.5.2.5. CorrelationPtr (MQPTR) – output

Correlation pointer.

Specifies the address of any correlation data. This pointer is subsequently passed on to other OAM calls.

**Parent topic:** [Parameters](#)

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#### 10.7.5.2.6. ComponentData (MQBYTE×ComponentDataLength) – input/output

Component data.

This data is kept by the queue manager on behalf of this particular component; any changes made to it by any of the functions provided by this component are preserved, and presented the next time one of this component's functions is called.

The length of this data area is passed by the queue manager in the *ComponentDataLength* parameter of the MQZ\_INIT\_AUTHORITY call.

**Parent topic:** [Parameters](#)

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#### 10.7.5.2.7. Continuation (MQLONG) – output

Continuation flag.

The following values can be specified:


##### **MQZCI\_DEFAULT**

Continuation dependent on other components.

##### **MQZCI\_STOP**

Do not continue with next component.

**Parent topic:** [Parameters](#)

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#### 10.7.5.2.8. CompCode (MQLONG) – output

Completion code.

It is one of the following:


##### **MQCC\_OK**

Successful completion.

##### **MQCC\_FAILED**

Call failed.

**Parent topic:** [Parameters](#)

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### 10.7.5.2.9. Reason (MQLONG) – output

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

#### MQRC\_NONE


(0, X'000') No reason to report.

If *CompCode* is MQCC\_FAILED:

#### MQRC\_SERVICE\_ERROR

(2289, X'8F1') Unexpected error occurred accessing service.

Parent topic: [Parameters](#)

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### 10.7.5.3. C invocation

```
MQZ_AUTHENTICATE_USER (QMgrName, SecurityParms, ApplicationContext,
                      IdentityContext, &CorrelationPtr, ComponentData,
                      &Continuation, &CompCode, &Reason);
```

The parameters passed to the service are declared as follows:

```
MQCHAR48  QMgrName;           /* Queue manager name */
MQCSP     SecurityParms;      /* Security parameters */
MQZAC     ApplicationContext; /* Application context */
MQZIC     IdentityContext;    /* Identity context */
MQPTR     CorrelationPtr;     /* Correlation pointer */
MQBYTE    ComponentData[n];   /* Component data */
MQLONG    Continuation;       /* Continuation indicator set by
                               component */
MQLONG    CompCode;           /* Completion code */
MQLONG    Reason;             /* Reason code qualifying CompCode */
```

Parent topic: [MQZ\\_AUTHENTICATE\\_USER – Authenticate user](#)

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### 10.7.6. MQZ\_CHECK\_AUTHORITY – Check authority

This function is provided by a MQZAS\_VERSION\_1 authorization service component, and is invoked by the queue manager to check whether an entity has authority to perform a particular action, or actions, on a specified object.


The function identifier for this function (for MQZEP) is MQZID\_CHECK\_AUTHORITY.

#### [Syntax](#)

#### [Parameters](#)

#### [C invocation](#)

Parent topic: [Installable services interface reference information](#)

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### 10.7.6.1. Syntax

**MQZ\_CHECK\_AUTHORITY** (*QMgrName*, *EntityName*, *EntityType*,

*ObjectName*, *ObjectType*, *Authority*, *ComponentData*, *Continuation*, *CompCode*, *Reason*)

Parent topic: [MQZ\\_CHECK\\_AUTHORITY – Check authority](#)

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## 10.7.6.2. Parameters

The MQZ\_CHECK\_AUTHORITY call has the following parameters.

[QMgrName \(MQCHAR48\) – input](#)

[EntityName \(MQCHAR12\) – input](#)

[EntityType \(MQLONG\) – input](#)

[ObjectName \(MQCHAR48\) – input](#)

[ObjectType \(MQLONG\) – input](#)

[Authority \(MQLONG\) – input](#)


[ComponentData \(MQBYTE×ComponentDataLength\) – input/output](#)

[Continuation \(MQLONG\) – output](#)

[CompCode \(MQLONG\) – output](#)

[Reason \(MQLONG\) – output](#)

**Parent topic:** [MQZ\\_CHECK\\_AUTHORITY – Check authority](#)

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### 10.7.6.2.1. QMgrName (MQCHAR48) – input

Queue manager name.

The name of the queue manager calling the component. This name is padded with blanks to the full length of the parameter; the name is not terminated by a null character.

The queue-manager name is passed to the component for information; the authorization service interface does not require the component to make use of it in any defined manner.

**Parent topic:** [Parameters](#)

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### 10.7.6.2.2. EntityName (MQCHAR12) – input

Entity name.

The name of the entity whose authorization to the object is to be checked. The maximum length of the string is 12 characters; if it is shorter than that it is padded to the right with blanks. The name is not terminated by a null character.

It is not essential for this entity to be known to the underlying security service. If it is not known, the authorizations of the special **nobody** group (to which all entities are assumed to belong) are used for the check. An all-blank name is valid and can be used in this way.

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### 10.7.6.2.3. EntityType (MQLONG) – input

Entity type.

The type of entity specified by *EntityName*. It is one of the following:

**MQZAET\_PRINCIPAL**

Principal.

**MQZAET\_GROUP**

Group.

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### 10.7.6.2.4. ObjectName (MQCHAR48) – input

Object name.

The name of the object to which access is required. The maximum length of the string is 48 characters; if it is shorter than that it is padded to the right with blanks. The name is not terminated by a null character.

If *ObjectType* is MQOT\_Q\_MGR, this name is the same as *QMgrName*.

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### 10.7.6.2.5. ObjectType (MQLONG) – input

Object type.

The type of entity specified by *ObjectName*. It is one of the following:

**MQOT\_AUTH\_INFO**

Authentication information.

**MQOT\_CHANNEL**

Channel.

**MQOT\_CLNTCONN\_CHANNEL**

Client connection channel.

**MQOT\_LISTENER**

Listener.

**MQOT\_NAMELIST**

Namelist.

**MQOT\_PROCESS**

Process definition.

**MQOT\_Q**

Queue.


**MQOT\_Q\_MGR**

Queue manager.

**MQOT\_SERVICE**

Service.

Parent topic: [Parameters](#)

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### 10.7.6.2.6. Authority (MQLONG) – input

Authority to be checked.

If one authorization is being checked, this field is equal to the appropriate authorization operation (MQZAO\_\* constant). If more than one authorization is being checked, it is the bitwise OR of the corresponding MQZAO\_\* constants.

The following authorizations apply to use of the MQI calls:

**MQZAO\_CONNECT**

Ability to use the MQCONN call.

**MQZAO\_BROWSE**

Ability to use the MQGET call with a browse option.

This allows the MQGMO\_BROWSE\_FIRST, MQGMO\_BROWSE\_MSG\_UNDER\_CURSOR, or MQGMO\_BROWSE\_NEXT option to be specified on the MQGET call.

**MQZAO\_INPUT**

Ability to use the MQGET call with an input option.

This allows the MQOO\_INPUT\_SHARED, MQOO\_INPUT\_EXCLUSIVE, or MQOO\_INPUT\_AS\_Q\_DEF option to be specified on the MQOPEN call.

**MQZAO\_OUTPUT**

Ability to use the MQPUT call.

This allows the MQOO\_OUTPUT option to be specified on the MQOPEN call.

#### **MQZAO\_INQUIRE**

Ability to use the MQINQ call.

This allows the MQOO\_INQUIRE option to be specified on the MQOPEN call.

#### **MQZAO\_SET**

Ability to use the MQSET call.

This allows the MQOO\_SET option to be specified on the MQOPEN call.

#### **MQZAO\_PASS\_IDENTITY\_CONTEXT**

Ability to pass identity context.

This allows the MQOO\_PASS\_IDENTITY\_CONTEXT option to be specified on the MQOPEN call, and the MQPMO\_PASS\_IDENTITY\_CONTEXT option to be specified on the MQPUT and MQPUT1 calls.

#### **MQZAO\_PASS\_ALL\_CONTEXT**

Ability to pass all context.

This allows the MQOO\_PASS\_ALL\_CONTEXT option to be specified on the MQOPEN call, and the MQPMO\_PASS\_ALL\_CONTEXT option to be specified on the MQPUT and MQPUT1 calls.

#### **MQZAO\_SET\_IDENTITY\_CONTEXT**

Ability to set identity context.

This allows the MQOO\_SET\_IDENTITY\_CONTEXT option to be specified on the MQOPEN call, and the MQPMO\_SET\_IDENTITY\_CONTEXT option to be specified on the MQPUT and MQPUT1 calls.

#### **MQZAO\_SET\_ALL\_CONTEXT**

Ability to set all context.

This allows the MQOO\_SET\_ALL\_CONTEXT option to be specified on the MQOPEN call, and the MQPMO\_SET\_ALL\_CONTEXT option to be specified on the MQPUT and MQPUT1 calls.

#### **MQZAO\_ALTERNATE\_USER\_AUTHORITY**

Ability to use alternate user authority.

This allows the MQOO\_ALTERNATE\_USER\_AUTHORITY option to be specified on the MQOPEN call, and the MQPMO\_ALTERNATE\_USER\_AUTHORITY option to be specified on the MQPUT1 call.

#### **MQZAO\_ALL\_MQI**

All of the MQI authorizations.

This enables all of the authorizations described above.

The following authorizations apply to administration of a queue manager:

#### **MQZAO\_CREATE**

Ability to create objects of a specified type.

#### **MQZAO\_DELETE**

Ability to delete a specified object.

#### **MQZAO\_DISPLAY**

Ability to display the attributes of a specified object.

#### **MQZAO\_CHANGE**

Ability to change the attributes of a specified object.

#### **MQZAO\_CLEAR**

Ability to delete all messages from a specified queue.

#### **MQZAO\_AUTHORIZE**

Ability to authorize other users for a specified object.

#### **MQZAO\_CONTROL**

Ability to start, stop, or ping a non-client channel object.

#### **MQZAO\_CONTROL\_EXTENDED**

Ability to reset a sequence number, or resolve an indoubt message on a non-client channel object.

#### **MQZAO\_ALL\_ADMIN**

All of the administration authorizations, other than MQZAO\_CREATE.

The following authorizations apply to both use of the MQI and to administration of a queue manager:


#### **MQZAO\_ALL**

All authorizations, other than MQZAO\_CREATE.

#### **MQZAO\_NONE**

No authorizations.

**Parent topic:** [Parameters](#)

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### 10.7.6.2.7. ComponentData (MQBYTE×ComponentDataLength) – input/output

Component data.

This data is kept by the queue manager on behalf of this particular component; any changes made to it by any of the functions provided by this component are preserved, and presented the next time one of this component's functions is called.

The length of this data area is passed by the queue manager in the *ComponentDataLength* parameter of the MQZ\_INIT\_AUTHORITY call.

**Parent topic:** [Parameters](#)

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### 10.7.6.2.8. Continuation (MQLONG) – output

Continuation indicator set by component.

The following values can be specified:

#### **MQZCI\_DEFAULT**

Continuation dependent on queue manager.

For MQZ\_CHECK\_AUTHORITY this has the same effect as MQZCI\_STOP.


#### **MQZCI\_CONTINUE**

Continue with next component.

#### **MQZCI\_STOP**

Do not continue with next component.

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### 10.7.6.2.9. CompCode (MQLONG) – output

Completion code.

It is one of the following:


#### **MQCC\_OK**

Successful completion.

#### **MQCC\_FAILED**

Call failed.

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### 10.7.6.2.10. Reason (MQLONG) – output

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

#### **MQRC\_NONE**

(0, X'000') No reason to report.

If *CompCode* is MQCC\_FAILED:

#### **MQRC\_NOT\_AUTHORIZED**

(2035, X'7F3') Not authorized for access.

#### **MQRC\_SERVICE\_ERROR**

(2289, X'8F1') Unexpected error occurred accessing service.

#### **MQRC\_SERVICE\_NOT\_AVAILABLE**

(2285, X'8ED') Underlying service not available.

For more information on these reason codes, see the [WebSphere MQ Application Programming Reference](#).

**Parent topic:** [Parameters](#)

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### 10.7.6.3. C invocation

```
MQZ_CHECK_AUTHORITY (QMgrName, EntityName, EntityType, ObjectName,
                    ObjectType, Authority, ComponentData,
                    &Continuation, &CompCode, &Reason);
```

The parameters passed to the service are declared as follows:

```
MQCHAR48 QMgrName;          /* Queue manager name */
MQCHAR12 EntityName;       /* Entity name */
MQLONG   EntityType;       /* Entity type */
MQCHAR48 ObjectName;       /* Object name */
MQLONG   ObjectType;       /* Object type */
MQLONG   Authority;        /* Authority to be checked */
MQBYTE   ComponentData[n]; /* Component data */
MQLONG   Continuation;     /* Continuation indicator set by
                             component */
MQLONG   CompCode;         /* Completion code */
MQLONG   Reason;          /* Reason code qualifying CompCode */
```

Parent topic: [MQZ\\_CHECK\\_AUTHORITY – Check authority](#)

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## 10.7.7. MQZ\_COPY\_ALL\_AUTHORITY – Copy all authority

This function is provided by an authorization service component. It is invoked by the queue manager to copy all of the authorizations that are currently in force for a reference object to another object.

The function identifier for this function (for MQZEP) is MQZID\_COPY\_ALL\_AUTHORITY.

### [Syntax](#)

### [Parameters](#)

### [C invocation](#)

Parent topic: [Installable services interface reference information](#)

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### 10.7.7.1. Syntax

```
MQZ_COPY_ALL_AUTHORITY (QMgrName, RefObjectName, ObjectName,
                       ObjectType, ComponentData, Continuation, CompCode, Reason)
```

Parent topic: [MQZ\\_COPY\\_ALL\\_AUTHORITY – Copy all authority](#)

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### 10.7.7.2. Parameters

The MQZ\_COPY\_ALL\_AUTHORITY call has the following parameters.

[QMgrName \(MQCHAR48\) – input](#)

[RefObjectName \(MQCHAR48\) – input](#)

[ObjectName \(MQCHAR48\) – input](#)

[ObjectType \(MQLONG\) – input](#)


[ComponentData \(MQBYTE×ComponentDataLength\) – input/output](#)

[Continuation \(MQLONG\) – output](#)


[CompCode \(MQLONG\) – output](#)

[Reason \(MQLONG\) – output](#)

**Parent topic:** [MQZ\\_COPY\\_ALL\\_AUTHORITY – Copy all authority](#)

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### 10.7.7.2.1. QMgrName (MQCHAR48) – input

Queue manager name.


The name of the queue manager calling the component. This name is padded with blanks to the full length of the parameter; the name is not terminated by a null character.

The queue-manager name is passed to the component for information; the authorization service interface does not require the component to make use of it in any defined manner.

**Parent topic:** [Parameters](#)

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### 10.7.7.2.2. RefObjectName (MQCHAR48) – input


Reference object name.

The name of the reference object, the authorizations for which are to be copied. The maximum length of the string is 48 characters; if it is shorter than that it is padded to the right with blanks. The name is not terminated by a null character.

**Parent topic:** [Parameters](#)

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### 10.7.7.2.3. ObjectName (MQCHAR48) – input


Object name.

The name of the object for which accesses are to be set. The maximum length of the string is 48 characters; if it is shorter than that it is padded to the right with blanks. The name is not terminated by a null character.

**Parent topic:** [Parameters](#)

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### 10.7.7.2.4. ObjectType (MQLONG) – input

Object type.

The type of object specified by *RefObjectName* and *ObjectName*. It is one of the following:

**MQOT\_AUTH\_INFO**

Authentication information.

**MQOT\_CHANNEL**

Channel.

**MQOT\_CLNTCONN\_CHANNEL**

Client connection channel.

**MQOT\_LISTENER**

Listener.

**MQOT\_NAMELIST**

Namelist.

**MQOT\_PROCESS**

Process definition.

**MQOT\_Q**

Queue.


**MQOT\_Q\_MGR**

Queue manager.

**MQOT\_SERVICE**

Service.

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### 10.7.7.2.5. ComponentData (MQBYTE×ComponentDataLength) – input/output

Component data.

This data is kept by the queue manager on behalf of this particular component; any changes made to it by any of the functions provided by this component are preserved, and presented the next time one of this component's functions is called.

The length of this data area is passed by the queue manager in the *ComponentDataLength* parameter of the MQZ\_INIT\_AUTHORITY call.

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### 10.7.7.2.6. Continuation (MQLONG) – output

Continuation indicator set by component.

The following values can be specified:

#### **MQZCI\_DEFAULT**

Continuation dependent on queue manager.

For MQZ\_COPY\_ALL\_AUTHORITY this has the same effect as MQZCI\_STOP.


#### **MQZCI\_CONTINUE**

Continue with next component.

#### **MQZCI\_STOP**

Do not continue with next component.

Parent topic: [Parameters](#)

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### 10.7.7.2.7. CompCode (MQLONG) – output

Completion code.

It is one of the following:


#### **MQCC\_OK**

Successful completion.

#### **MQCC\_FAILED**

Call failed.

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### 10.7.7.2.8. Reason (MQLONG) – output

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

#### **MQRC\_NONE**

(0, X'000') No reason to report.

If *CompCode* is MQCC\_FAILED:

#### **MQRC\_SERVICE\_ERROR**

(2289, X'8F1') Unexpected error occurred accessing service.

#### **MQRC\_SERVICE\_NOT\_AVAILABLE**

(2285, X'8ED') Underlying service not available.

**MQRC\_UNKNOWN\_REF\_OBJECT**

(2294, X'8F6') Reference object unknown.

For more information on these reason codes, see the [WebSphere MQ Application Programming Reference](#).Parent topic: [Parameters](#)

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**10.7.7.3. C invocation**

```
MQZ_COPY_ALL_AUTHORITY (QMgrName, RefObjectName, ObjectName, ObjectType,
                        ComponentData, &Continuation, &CompCode,
                        &Reason);
```

The parameters passed to the service are declared as follows:

```
MQCHAR48 QMgrName;           /* Queue manager name */
MQCHAR48 RefObjectName;      /* Reference object name */
MQCHAR48 ObjectName;        /* Object name */
MQLONG   ObjectType;        /* Object type */
MQBYTE   ComponentData[n];  /* Component data */
MQLONG   Continuation;      /* Continuation indicator set by
                             component */
MQLONG   CompCode;         /* Completion code */
MQLONG   Reason;          /* Reason code qualifying CompCode */
```

Parent topic: [MQZ\\_COPY\\_ALL\\_AUTHORITY – Copy all authority](#)

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**10.7.8. MQZ\_DELETE\_AUTHORITY – Delete authority**

This function is provided by an authorization service component, and is invoked by the queue manager to delete all of the authorizations associated with the specified object.

The function identifier for this function (for MQZEP) is MQZID\_DELETE\_AUTHORITY.

[Syntax](#)[Parameters](#)[C invocation](#)Parent topic: [Installable services interface reference information](#)

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**10.7.8.1. Syntax**

```
MQZ_DELETE_AUTHORITY (QMgrName, ObjectName, ObjectType,
                     ComponentData, Continuation, CompCode, Reason)
```

Parent topic: [MQZ\\_DELETE\\_AUTHORITY – Delete authority](#)

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**10.7.8.2. Parameters**

The MQZ\_DELETE\_AUTHORITY call has the following parameters.

[QMgrName \(MQCHAR48\) – input](#)[ObjectName \(MQCHAR48\) – input](#)[ObjectType \(MQLONG\) – input](#)[ComponentData \(MQBYTE×ComponentDataLength\) – input/output](#)



[Continuation \(MQLONG\) – output](#)[CompCode \(MQLONG\) – output](#)[Reason \(MQLONG\) – output](#)**Parent topic:** [MQZ\\_DELETE\\_AUTHORITY – Delete authority](#) This build: January 26, 2011 11:39:53[Notices](#) | [Trademarks](#) | [Downloads](#) | [Library](#) | [Support](#) | [Feedback](#)

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### 10.7.8.2.1. QMgrName (MQCHAR48) – input

Queue manager name.

The name of the queue manager calling the component. This name is padded with blanks to the full length of the parameter; the name is not terminated by a null character.

The queue-manager name is passed to the component for information; the authorization service interface does not require the component to make use of it in any defined manner.

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### 10.7.8.2.2. ObjectName (MQCHAR48) – input

Object name.

The name of the object for which accesses are to be deleted. The maximum length of the string is 48 characters; if it is shorter than that it is padded to the right with blanks. The name is not terminated by a null character.

If *ObjectType* is MQOT\_Q\_MGR, this name is the same as *QMgrName*.

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### 10.7.8.2.3. ObjectType (MQLONG) – input

Object type.

The type of entity specified by *ObjectName*. It is one of the following:

**MQOT\_AUTH\_INFO**

Authentication information.

**MQOT\_CHANNEL**

Channel.

**MQOT\_CLNTCONN\_CHANNEL**

Client connection channel.

**MQOT\_LISTENER**

Listener.

**MQOT\_NAMELIST**

Namelist.

**MQOT\_PROCESS**

Process definition.

**MQOT\_Q**


Queue.

**MQOT\_Q\_MGR**

Queue manager.

**MQOT\_SERVICE**

Service.

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#### 10.7.8.2.4. ComponentData (MQBYTE×ComponentDataLength) – input/output

Component data.

This data is kept by the queue manager on behalf of this particular component; any changes made to it by any of the functions provided by this component are preserved, and presented the next time one of this component's functions is called.

The length of this data area is passed by the queue manager in the *ComponentDataLength* parameter of the MQZ\_INIT\_AUTHORITY call.

**Parent topic:** [Parameters](#)

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#### 10.7.8.2.5. Continuation (MQLONG) – output

Continuation indicator set by component.

The following values can be specified:

##### **MQZCI\_DEFAULT**

Continuation dependent on queue manager.

For MQZ\_DELETE\_AUTHORITY this has the same effect as MQZCI\_STOP.


##### **MQZCI\_CONTINUE**

Continue with next component.

##### **MQZCI\_STOP**

Do not continue with next component.

**Parent topic:** [Parameters](#)

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#### 10.7.8.2.6. CompCode (MQLONG) – output

Completion code.

It is one of the following:


##### **MQCC\_OK**

Successful completion.

##### **MQCC\_FAILED**

Call failed.

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#### 10.7.8.2.7. Reason (MQLONG) – output

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

##### **MQRC\_NONE**

(0, X'000') No reason to report.

If *CompCode* is MQCC\_FAILED:

##### **MQRC\_SERVICE\_ERROR**

(2289, X'8F1') Unexpected error occurred accessing service.

##### **MQRC\_SERVICE\_NOT\_AVAILABLE**

(2285, X'8ED') Underlying service not available.

For more information on these reason codes, see the [WebSphere MQ Application Programming Reference](#).

**Parent topic:** [Parameters](#)

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### 10.7.8.3. C invocation

```
MQZ_DELETE_AUTHORITY (QMgrName, ObjectName, ObjectType, ComponentData,
                     &Continuation, &CompCode, &Reason);
```

The parameters passed to the service are declared as follows:

```
MQCHAR48 QMgrName;           /* Queue manager name */
MQCHAR48 ObjectName;        /* Object name */
MQLONG   ObjectType;        /* Object type */
MQBYTE   ComponentData[n];  /* Component data */
MQLONG   Continuation;      /* Continuation indicator set by
                             component */
MQLONG   CompCode;         /* Completion code */
MQLONG   Reason;          /* Reason code qualifying CompCode */
```

**Parent topic:** [MQZ\\_DELETE\\_AUTHORITY – Delete authority](#)

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### 10.7.9. MQZ\_ENUMERATE\_AUTHORITY\_DATA – Enumerate authority data

This function is provided by an MQZAS\_VERSION\_4 authorization service component, and is invoked repeatedly by the queue manager to retrieve all of the authority data that matches the selection criteria specified on the first invocation.

The function identifier for this function (for MQZEP) is MQZID\_ENUMERATE\_AUTHORITY\_DATA.

#### [Syntax](#)

#### [Parameters](#)

#### [C invocation](#)

**Parent topic:** [Installable services interface reference information](#)

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#### 10.7.9.1. Syntax

```
MQZ_ENUMERATE_AUTHORITY_DATA (QMgrName, StartEnumeration,
                               Filter, AuthorityBufferLength, AuthorityBuffer, AuthorityDataLength, ComponentData, Continuation, CompCode, Reason)
```

**Parent topic:** [MQZ\\_ENUMERATE\\_AUTHORITY\\_DATA – Enumerate authority data](#)

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#### 10.7.9.2. Parameters

The MQZ\_ENUMERATE\_AUTHORITY\_DATA call has the following parameters.

[QMgrName \(MQCHAR48\) – input](#)

[StartEnumeration \(MQLONG\) – input](#)

[Filter \(MQZAD\) – input](#)

[AuthorityBufferLength \(MQLONG\) – input](#)


[AuthorityBuffer \(MQZAD\) – output](#)

[AuthorityDataLength \(MQLONG\) – output](#)

[ComponentData \(MQBYTE×ComponentDataLength\) – input/output](#)

[Continuation \(MQLONG\) – output](#)

[CompCode \(MQLONG\) – output](#)

**Reason (MQLONG) – output****Parent topic:** [MQZ\\_ENUMERATE\\_AUTHORITY\\_DATA – Enumerate authority data](#) This build: January 26, 2011 11:39:53[Notices](#) | [Trademarks](#) | [Downloads](#) | [Library](#) | [Support](#) | [Feedback](#)


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ia13430\_**10.7.9.2.1. QMgrName (MQCHAR48) – input**

Queue manager name.

The name of the queue manager calling the component. This name is padded with blanks to the full length of the parameter; the name is not terminated by a null character.

The queue-manager name is passed to the component for information; the authorization service interface does not require the component to make use of it in any defined manner.

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ia13440\_**10.7.9.2.2. StartEnumeration (MQLONG) – input**

Flag indicating whether call should start enumeration.

This indicates whether the call should start the enumeration of authority data, or continue the enumeration of authority data started by a previous call to MQZ\_ENUMERATE\_AUTHORITY\_DATA. The value is one of the following:

**MQZSE\_START**


Start enumeration.

The call is invoked with this value to start the enumeration of authority data. The *Filter* parameter specifies the selection criteria to be used to select the authority data returned by this and successive calls.

**MQZSE\_CONTINUE**

Continue enumeration.

The call is invoked with this value to continue the enumeration of authority data. The *Filter* parameter is ignored in this case, and can be specified as the null pointer (the selection criteria are determined by the *Filter* parameter specified by the call that had *StartEnumeration* set to MQZSE\_START).

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ia13450\_**10.7.9.2.3. Filter (MQZAD) – input**

Filter.

If *StartEnumeration* is MQZSE\_START, *Filter* specifies the selection criteria to be used to select the authority data to return. If *Filter* is the null pointer, no selection criteria are used, that is, all authority data is returned. See [MQZAD – Authority data](#) for details of the selection criteria that can be used.


If *StartEnumeration* is MQZSE\_CONTINUE, *Filter* is ignored, and can be specified as the null pointer.

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ia13460\_**10.7.9.2.4. AuthorityBufferLength (MQLONG) – input**Length of *AuthorityBuffer*.

This is the length in bytes of the *AuthorityBuffer* parameter. The authority buffer must be big enough to accommodate the data to be returned.

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### 10.7.9.2.5. AuthorityBuffer (MQZAD) – output

Authority data.

This is the buffer in which the authority data is returned. The buffer must be big enough to accommodate an MQZAD structure, an MQZED structure, plus the longest entity name and longest domain name defined.

**Note:** This parameter is defined as an MQZAD, as the MQZAD always occurs at the start of the buffer. However, if the buffer is actually declared as an MQZAD, the buffer will be too small – it needs to be bigger than an MQZAD so that it can accommodate the MQZAD, MQZED, plus entity and domain names.

**Parent topic:** [Parameters](#)

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### 10.7.9.2.6. AuthorityDataLength (MQLONG) – output

Length of data returned in *AuthorityBuffer*.

This is the length of the data returned in *AuthorityBuffer*. If the authority buffer is too small, *AuthorityDataLength* is set to the length of the buffer required, and the call returns completion code MQCC\_FAILED and reason code MQRC\_BUFFER\_LENGTH\_ERROR.

**Parent topic:** [Parameters](#)

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### 10.7.9.2.7. ComponentData (MQBYTE×ComponentDataLength) – input/output

Component data.

This data is kept by the queue manager on behalf of this particular component; any changes made to it by any of the functions provided by this component are preserved, and presented the next time one of this component's functions is called.

The length of this data area is passed by the queue manager in the *ComponentDataLength* parameter of the MQZ\_INIT\_AUTHORITY call.

**Parent topic:** [Parameters](#)

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### 10.7.9.2.8. Continuation (MQLONG) – output

Continuation indicator set by component.

The following values can be specified:

#### **MQZCI\_DEFAULT**

Continuation dependent on queue manager.

For MQZ\_ENUMERATE\_AUTHORITY\_DATA this has the same effect as MQZCI\_CONTINUE.


#### **MQZCI\_CONTINUE**

Continue with next component.

#### **MQZCI\_STOP**

Do not continue with next component.

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### 10.7.9.2.9. CompCode (MQLONG) – output

Completion code.

It is one of the following:


#### **MQCC\_OK**

Successful completion.

**MQCC\_FAILED**

Call failed.

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**10.7.9.2.10. Reason (MQLONG) – output**

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

**MQRC\_NONE**

(0, X'000') No reason to report.

If *CompCode* is MQCC\_FAILED:

**MQRC\_BUFFER\_LENGTH\_ERROR**

(2005, X'7D5') Buffer length parameter not valid.

**MQRC\_NO\_DATA\_AVAILABLE**


(2379, X'94B') No data available.

**MQRC\_SERVICE\_ERROR**

(2289, X'8F1') Unexpected error occurred accessing service.

For more information on these reason codes, see the [WebSphere MQ Application Programming Reference](#).

Parent topic: [Parameters](#)

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**10.7.9.3. C invocation**

```
MQZ_ENUMERATE_AUTHORITY_DATA (QMgrName, StartEnumeration, &Filter,
                              AuthorityBufferLength,
                              &AuthorityBuffer,
                              &AuthorityDataLength, ComponentData,
                              &Continuation, &CompCode,
                              &Reason);
```


The parameters passed to the service are declared as follows:

```
MQCHAR48  QMgrName;           /* Queue manager name */
MQLONG    StartEnumeration;  /* Flag indicating whether call should
                              start enumeration */

MQZAD     Filter;            /* Filter */
MQLONG    AuthorityBufferLength; /* Length of AuthorityBuffer */
MQZAD     AuthorityBuffer;   /* Authority data */
MQLONG    AuthorityDataLength; /* Length of data returned in
                              AuthorityBuffer */

MQBYTE    ComponentData[n]; /* Component data */
MQLONG    Continuation;     /* Continuation indicator set by
                              component */
MQLONG    CompCode;         /* Completion code */
MQLONG    Reason;          /* Reason code qualifying CompCode */
```

Parent topic: [MQZ\\_ENUMERATE\\_AUTHORITY\\_DATA – Enumerate authority data](#)

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**10.7.10. MQZ\_FREE\_USER – Free user**

This function is provided by a MQZAS\_VERSION\_5 authorization service component, and is invoked by the queue manager to free associated allocated resource. It is invoked when an application has finished running under all user contexts, for example during an MQDISC MQI call.


The function identifier for this function (for MQZEP) is MQZID\_FREE\_USER.

[Syntax](#)

[Parameters](#)

[C invocation](#)

Parent topic: [Installable services interface reference information](#)

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### 10.7.10.1. Syntax

**MQZ\_FREE\_USER** (*QMgrName*, *FreeParms*, *ComponentData*, *Continuation*,  
*CompCode*, *Reason*)

**Parent topic:** [MQZ\\_FREE\\_USER – Free user](#)

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### 10.7.10.2. Parameters

The MQZ\_FREE\_USER call has the following parameters.

[QMgrName \(MQCHAR48\) – input](#)

[FreeParms \(MQZFP\) – input](#)


[ComponentData \(MQBYTE×ComponentDataLength\) – input/output](#)

[Continuation \(MQLONG\) – output](#)

[CompCode \(MQLONG\) – output](#)

[Reason \(MQLONG\) – output](#)

**Parent topic:** [MQZ\\_FREE\\_USER – Free user](#)

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#### 10.7.10.2.1. QMgrName (MQCHAR48) – input

Queue manager name.

The name of the queue manager calling the component. This name is padded with blanks to the full length of the parameter; the name is not terminated by a null character.

The queue-manager name is passed to the component for information; the authorization service interface does not require the component to make use of it in any defined manner.

**Parent topic:** [Parameters](#)

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#### 10.7.10.2.2. FreeParms (MQZFP) – input

Free parameters.

A structure containing data relating to the resource to be freed. See [MQZFP – Free parameters](#) for details.

**Parent topic:** [Parameters](#)

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#### 10.7.10.2.3. ComponentData (MQBYTE×ComponentDataLength) – input/output

Component data.

This data is kept by the queue manager on behalf of this particular component; any changes made to it by any of the functions provided by this component are preserved, and presented the next time one of this component's functions is called.

Parent topic: [Parameters](#)

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#### 10.7.10.2.4. Continuation (MQLONG) – output

Continuation flag.

The following values can be specified:

##### **MQZCI\_DEFAULT**

Continuation dependent on other components.

##### **MQZCI\_STOP**

Do not continue with next component.

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#### 10.7.10.2.5. CompCode (MQLONG) – output

Completion code.

It is one of the following:

##### **MQCC\_OK**

Successful completion.

##### **MQCC\_FAILED**

Call failed.

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#### 10.7.10.2.6. Reason (MQLONG) – output

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

##### **MQRC\_NONE**

(0, X'000') No reason to report.

If *CompCode* is MQCC\_FAILED:

##### **MQRC\_SERVICE\_ERROR**

(2289, X'8F1') Unexpected error occurred accessing service.

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#### 10.7.10.3. C invocation

```
MQZ_AUTHENTICATE_USER (QMgrName, SecurityParms, ApplicationContext,
                      IdentityContext, CorrelationPtr, ComponentData,
                      &Continuation, &CompCode, &Reason);
```

The parameters passed to the service are declared as follows:

```
MQCHAR48  QMgrName;           /* Queue manager name */
MQZFP     FreeParms;          /* Resource to be freed */
MQBYTE    ComponentData[n];  /* Component data */
MQLONG    Continuation;      /* Continuation indicator set by
                             component */
MQLONG    CompCode;          /* Completion code */
MQLONG    Reason;           /* Reason code qualifying CompCode */
```

Parent topic: [MQZ\\_FREE\\_USER – Free user](#)



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## 10.7.11. MQZ\_GET\_AUTHORITY – Get authority

This function is provided by a MQZAS\_VERSION\_1 authorization service component, and is invoked by the queue manager to retrieve the authority that an entity has to access the specified object.

The function identifier for this function (for MQZEP) is MQZID\_GET\_AUTHORITY.

### [Syntax](#)

### [Parameters](#)

### [C invocation](#)

**Parent topic:** [Installable services interface reference information](#)

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### 10.7.11.1. Syntax

**MQZ\_GET\_AUTHORITY** (*QMgrName*, *EntityName*, *EntityType*, *ObjectName*,  
*ObjectType*, *Authority*, *ComponentData*, *Continuation*, *CompCode*, *Reason*)

**Parent topic:** [MQZ\\_GET\\_AUTHORITY – Get authority](#)

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### 10.7.11.2. Parameters

The MQZ\_GET\_AUTHORITY call has the following parameters.

[QMgrName \(MQCHAR48\) – input](#)

[EntityName \(MQCHAR12\) – input](#)

[EntityType \(MOLONG\) – input](#)

[ObjectName \(MQCHAR48\) – input](#)

[ObjectType \(MOLONG\) – input](#)

[Authority \(MOLONG\) – output](#)

[ComponentData \(MOBYTE×ComponentDataLength\) – input/output](#)

[Continuation \(MOLONG\) – output](#)

[CompCode \(MOLONG\) – output](#)

[Reason \(MOLONG\) – output](#)

**Parent topic:** [MQZ\\_GET\\_AUTHORITY – Get authority](#)

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#### 10.7.11.2.1. QMgrName (MQCHAR48) – input

Queue manager name.

The name of the queue manager calling the component. This name is padded with blanks to the full length of the parameter; the name is not terminated by a null character.

The queue-manager name is passed to the component for information; the authorization service interface does not require the component to make use of it in any defined manner.

Parent topic: [Parameters](#)

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### 10.7.11.2.2. EntityName (MQCHAR12) – input

Entity name.

The name of the entity whose access to the object is to be retrieved. The maximum length of the string is 12 characters; if it is shorter than that it is padded to the right with blanks. The name is not terminated by a null character.

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### 10.7.11.2.3. EntityType (MQLONG) – input

Entity type.

The type of entity specified by *EntityName*. The following value can be specified:


#### **MQZAET\_PRINCIPAL**

Principal.

#### **MQZAET\_GROUP**

Group.

Parent topic: [Parameters](#)

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### 10.7.11.2.4. ObjectName (MQCHAR48) – input

Object name.

The name of the object for which the entity's authority is to be retrieved. The maximum length of the string is 48 characters; if it is shorter than that it is padded to the right with blanks. The name is not terminated by a null character.

If *ObjectType* is MQOT\_Q\_MGR, this name is the same as *QMgrName*.

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### 10.7.11.2.5. ObjectType (MQLONG) – input

Object type.

The type of entity specified by *ObjectName*. It is one of the following:

#### **MQOT\_AUTH\_INFO**

Authentication information.

#### **MQOT\_CHANNEL**

Channel.

#### **MQOT\_CLNTCONN\_CHANNEL**

Client connection channel.

#### **MQOT\_LISTENER**

Listener.

#### **MQOT\_NAMELIST**

Namelist.

#### **MQOT\_PROCESS**

Process definition.

#### **MQOT\_Q**

Queue.


#### **MQOT\_Q\_MGR**

Queue manager.


#### **MQOT\_SERVICE**

Service.

**Parent topic:** [Parameters](#)

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### 10.7.11.2.6. Authority (MQLONG) – output


Authority of entity.

If the entity has one authority, this field is equal to the appropriate authorization operation (MQZAO\_\* constant). If it has more than one authority, this field is the bitwise OR of the corresponding MQZAO\_\* constants.

**Parent topic:** [Parameters](#)

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### 10.7.11.2.7. ComponentData (MQBYTE×ComponentDataLength) – input/output

Component data.


This data is kept by the queue manager on behalf of this particular component; any changes made to it by any of the functions provided by this component are preserved, and presented the next time one of this component's functions is called.

The length of this data area is passed by the queue manager in the *ComponentDataLength* parameter of the MQZ\_INIT\_AUTHORITY call.

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### 10.7.11.2.8. Continuation (MQLONG) – output

Continuation indicator set by component.

The following values can be specified:

#### **MQZCI\_DEFAULT**

Continuation dependent on queue manager.

For MQZ\_GET\_AUTHORITY this has the same effect as MQZCI\_CONTINUE.


#### **MQZCI\_CONTINUE**

Continue with next component.


#### **MQZCI\_STOP**

Do not continue with next component.

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### 10.7.11.2.9. CompCode (MQLONG) – output

Completion code.

It is one of the following:


#### **MQCC\_OK**

Successful completion.

#### **MQCC\_FAILED**

Call failed.

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### 10.7.11.2.10. Reason (MQLONG) – output

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

#### **MQRC\_NONE**

(0, X'000') No reason to report.

If *CompCode* is MQCC\_FAILED:

#### **MQRC\_NOT\_AUTHORIZED**

(2035, X'7F3') Not authorized for access.

#### **MQRC\_SERVICE\_ERROR**

(2289, X'8F1') Unexpected error occurred accessing service.

#### **MQRC\_SERVICE\_NOT\_AVAILABLE**

(2285, X'8ED') Underlying service not available.

#### **MQRC\_UNKNOWN\_ENTITY**

(2292, X'8F4') Entity unknown to service.

For more information on these reason codes, see the [WebSphere MQ Application Programming Reference](#).

Parent topic: [Parameters](#)

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### 10.7.11.3. C invocation

```
MQZ_GET_AUTHORITY (QMgrName, EntityName, EntityType, ObjectName,
                  ObjectType, &Authority, ComponentData,
                  &Continuation, &CompCode, &Reason);
```

The parameters passed to the service are declared as follows:

```
MQCHAR48  QMgrName;           /* Queue manager name */
MQCHAR12  EntityName;        /* Entity name */
MQLONG    EntityType;        /* Entity type */
MQCHAR48  ObjectName;        /* Object name */
MQLONG    ObjectType;        /* Object type */
MQLONG    Authority;         /* Authority of entity */
MQBYTE    ComponentData[n]; /* Component data */
MQLONG    Continuation;      /* Continuation indicator set by
                             component */
MQLONG    CompCode;          /* Completion code */
MQLONG    Reason;            /* Reason code qualifying CompCode */
```

Parent topic: [MQZ\\_GET\\_AUTHORITY – Get authority](#)

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### 10.7.12. MQZ\_GET\_EXPLICIT\_AUTHORITY – Get explicit authority

This function is provided by a MQZAS\_VERSION\_1 authorization service component, and is invoked by the queue manager to retrieve the authority that a named group has to access a specified object (but without the additional authority of the **nobody** group), or the authority that the primary group of the named principal has to access a specified object.

The function identifier for this function (for MQZEP) is MQZID\_GET\_EXPLICIT\_AUTHORITY.

[Syntax](#)

[Parameters](#)

[C invocation](#)

Parent topic: [Installable services interface reference information](#)

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#### 10.7.12.1. Syntax

**MQZ\_GET\_EXPLICIT\_AUTHORITY** (*QMgrName, EntityName, EntityType, ObjectName, ObjectType, Authority, ComponentData, Continuation, CompCode, Reason*)

**Parent topic:** [MQZ\\_GET\\_EXPLICIT\\_AUTHORITY – Get explicit authority](#)

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## 10.7.12.2. Parameters

The MQZ\_GET\_EXPLICIT\_AUTHORITY call has the following parameters.

[QMgrName \(MQCHAR48\) – input](#)

[EntityName \(MQCHAR12\) – input](#)

[EntityType \(MQLONG\) – input](#)

[ObjectName \(MQCHAR48\) – input](#)

[ObjectType \(MQLONG\) – input](#)

[Authority \(MQLONG\) – output](#)

[ComponentData \(MBYTE×ComponentDataLength\) – input/output](#)

[Continuation \(MQLONG\) – output](#)

[CompCode \(MQLONG\) – output](#)

[Reason \(MQLONG\) – output](#)

**Parent topic:** [MQZ\\_GET\\_EXPLICIT\\_AUTHORITY – Get explicit authority](#)

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### 10.7.12.2.1. QMgrName (MQCHAR48) – input

Queue manager name.

The name of the queue manager calling the component. This name is padded with blanks to the full length of the parameter; the name is not terminated by a null character.

The queue-manager name is passed to the component for information; the authorization service interface does not require the component to make use of it in any defined manner.

**Parent topic:** [Parameters](#)

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### 10.7.12.2.2. EntityName (MQCHAR12) – input

Entity name.

The name of the entity whose access to the object is to be retrieved. The maximum length of the string is 12 characters; if it is shorter than that it is padded to the right with blanks. The name is not terminated by a null character.

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### 10.7.12.2.3. EntityType (MQLONG) – input

Entity type.

The type of entity specified by *EntityName*. The following value can be specified:


**MQZAET\_PRINCIPAL**

Principal.

#### **MQZAET\_GROUP**

Group.

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### 10.7.12.2.4. ObjectName (MQCHAR48) – input

Object name.

The name of the object for which the entity's authority is to be retrieved. The maximum length of the string is 48 characters; if it is shorter than that it is padded to the right with blanks. The name is not terminated by a null character.

If *ObjectType* is MQOT\_Q\_MGR, this name is the same as *QMgrName*.

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### 10.7.12.2.5. ObjectType (MQLONG) – input

Object type.

The type of entity specified by *ObjectName*. It is one of the following:

#### **MQOT\_AUTH\_INFO**

Authentication information.

#### **MQOT\_CHANNEL**

Channel.

#### **MQOT\_CLNTCONN\_CHANNEL**

Client connection channel.

#### **MQOT\_LISTENER**

Listener.

#### **MQOT\_NAMELIST**

Namelist.

#### **MQOT\_PROCESS**

Process definition.

#### **MQOT\_Q**

Queue.


#### **MQOT\_Q\_MGR**

Queue manager.

#### **MQOT\_SERVICE**

Service.

**Parent topic:** [Parameters](#)

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### 10.7.12.2.6. Authority (MQLONG) – output

Authority of entity.

If the entity has one authority, this field is equal to the appropriate authorization operation (MQZAO\_\* constant). If it has more than one authority, this field is the bitwise OR of the corresponding MQZAO\_\* constants.

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### 10.7.12.2.7. ComponentData (MQBYTE×ComponentDataLength) – input/output

Component data.

This data is kept by the queue manager on behalf of this particular component; any changes made to it by any of the functions provided by this component are preserved, and presented the next time one of this component's functions is called.

The length of this data area is passed by the queue manager in the *ComponentDataLength* parameter of the MQZ\_INIT\_AUTHORITY call.

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### 10.7.12.2.8. Continuation (MQLONG) – output

Continuation indicator set by component.

The following values can be specified:

#### **MQZCI\_DEFAULT**

Continuation dependent on queue manager.

For MQZ\_GET\_EXPLICIT\_AUTHORITY this has the same effect as MQZCI\_CONTINUE.


#### **MQZCI\_CONTINUE**

Continue with next component.

#### **MQZCI\_STOP**

Do not continue with next component.

**Parent topic:** [Parameters](#)

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### 10.7.12.2.9. CompCode (MQLONG) – output

Completion code.

It is one of the following:


#### **MQCC\_OK**

Successful completion.

#### **MQCC\_FAILED**

Call failed.

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### 10.7.12.2.10. Reason (MQLONG) – output

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

#### **MQRC\_NONE**

(0, X'000') No reason to report.

If *CompCode* is MQCC\_FAILED:

#### **MQRC\_NOT\_AUTHORIZED**

(2035, X'7F3') Not authorized for access.

#### **MQRC\_SERVICE\_ERROR**

(2289, X'8F1') Unexpected error occurred accessing service.

#### **MQRC\_SERVICE\_NOT\_AVAILABLE**


(2285, X'8ED') Underlying service not available.

#### **MQRC\_UNKNOWN\_ENTITY**

(2292, X'8F4') Entity unknown to service.

For more information on these reason codes, see the [WebSphere MQ Application Programming Reference](#).

**Parent topic:** [Parameters](#)

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### 10.7.12.3. C invocation

```
MQZ_GET_EXPLICIT_AUTHORITY (QMgrName, EntityName, EntityType,
                             ObjectName, ObjectType, &Authority,
                             ComponentData, &Continuation,
                             &CompCode, &Reason);
```

The parameters passed to the service are declared as follows:

```
MQCHAR48  QMgrName;           /* Queue manager name */
MQCHAR12  EntityName;        /* Entity name */
MQLONG    EntityType;        /* Entity type */
MQCHAR48  ObjectName;        /* Object name */
MQLONG    ObjectType;        /* Object type */
MQLONG    Authority;         /* Authority of entity */
MQBYTE    ComponentData[n];  /* Component data */
MQLONG    Continuation;      /* Continuation indicator set by
                             component */
MQLONG    CompCode;          /* Completion code */
MQLONG    Reason;            /* Reason code qualifying CompCode */
```

**Parent topic:** [MQZ\\_GET\\_EXPLICIT\\_AUTHORITY – Get explicit authority](#)

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### 10.7.13. MQZ\_INIT\_AUTHORITY – Initialize authorization service

This function is provided by an authorization service component, and is invoked by the queue manager during configuration of the component. It is expected to call MQZEP in order to provide information to the queue manager.

The function identifier for this function (for MQZEP) is MQZID\_INIT\_AUTHORITY.

#### [Syntax](#)

#### [Parameters](#)

#### [C invocation](#)

**Parent topic:** [Installable services interface reference information](#)

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### 10.7.13.1. Syntax

```
MQZ_INIT_AUTHORITY (Hconfig, Options, QMgrName, ComponentDataLength,
                    ComponentData, Version, CompCode, Reason)
```

**Parent topic:** [MQZ\\_INIT\\_AUTHORITY – Initialize authorization service](#)

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### 10.7.13.2. Parameters

The MQZ\_INIT\_AUTHORITY call has the following parameters.

#### [Hconfig \(MQHCONFIG\) – input](#)

#### [Options \(MQLONG\) – input](#)

#### [QMgrName \(MQCHAR48\) – input](#)


#### [ComponentDataLength \(MQLONG\) – input](#)

#### [ComponentData \(MQBYTE×ComponentDataLength\) – input/output](#)

#### [Version \(MQLONG\) – input/output](#)

#### [CompCode \(MQLONG\) – output](#)




**Reason (MQLONG) – output****Parent topic:** [MQZ\\_INIT\\_AUTHORITY – Initialize authorization service](#) This build: January 26, 2011 11:39:56[Notices](#) | [Trademarks](#) | [Downloads](#) | [Library](#) | [Support](#) | [Feedback](#)

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ia13950\_**10.7.13.2.1. Hconfig (MQHCONFIG) – input**

Configuration handle.

This handle represents the particular component being initialized. It is to be used by the component when calling the queue manager with the MQZEP function.

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ia13960\_**10.7.13.2.2. Options (MQLONG) – input**

Initialization options.


It is one of the following:

**MQZIO\_PRIMARY**

Primary initialization.

**MQZIO\_SECONDARY**

Secondary initialization.

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ia13970\_**10.7.13.2.3. QMgrName (MQCHAR48) – input**

Queue manager name.

The name of the queue manager calling the component. This name is padded with blanks to the full length of the parameter; the name is not terminated by a null character.

The queue-manager name is passed to the component for information; the authorization service interface does not require the component to make use of it in any defined manner.


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ia13980\_**10.7.13.2.4. ComponentDataLength (MQLONG) – input**

Length of component data.

Length in bytes of the *ComponentData* area. This length is defined in the component configuration data.

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ia13990\_**10.7.13.2.5. ComponentData (MQBYTE×ComponentDataLength) – input/output**

Component data.

This is initialized to all zeroes before calling the component's primary initialization function. This data is kept by the queue manager on behalf of this particular component; any changes made to it by any of the functions (including the initialization function) provided by this component are preserved, and presented the next time one of this component's functions is called.

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### 10.7.13.2.6. Version (MQLONG) – input/output

Version number.

On input to the initialization function, this identifies the *highest* version number that the queue manager supports. The initialization function must change this, if necessary, to the version of the interface which *it* supports. If on return the queue manager does not support the version returned by the component, it calls the component's MQZ\_TERM\_AUTHORITY function and makes no further use of this component.

The following values are supported:

#### **MQZAS\_VERSION\_1**

Version 1.

#### **MQZAS\_VERSION\_2**

Version 2.

#### **MQZAS\_VERSION\_3**

Version 3.


#### **MQZAS\_VERSION\_4**

Version 4.

#### **MQZAS\_VERSION\_5**

Version 5.

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### 10.7.13.2.7. CompCode (MQLONG) – output

Completion code.

It is one of the following:

#### **MQCC\_OK**

Successful completion.

#### **MQCC\_FAILED**

Call failed.

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### 10.7.13.2.8. Reason (MQLONG) – output

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

#### **MQRC\_NONE**

(0, X'000') No reason to report.

If *CompCode* is MQCC\_FAILED:

#### **MQRC\_INITIALIZATION\_FAILED**


(2286, X'8EE') Initialization failed for an undefined reason.

#### **MQRC\_SERVICE\_NOT\_AVAILABLE**

(2285, X'8ED') Underlying service not available.

For more information on these reason codes, see the [WebSphere MQ Application Programming Reference](#).

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### 10.7.13.3. C invocation

```
MQZ_INIT_AUTHORITY (Hconfig, Options, QMgrName, ComponentDataLength,
                   ComponentData, &Version, &CompCode,
                   &Reason);
```

The parameters passed to the service are declared as follows:

```
MQHCONFIG  Hconfig;           /* Configuration handle */
MQLONG    Options;           /* Initialization options */
MQCHAR48  QMgrName;         /* Queue manager name */
MQLONG    ComponentDataLength; /* Length of component data */
MQBYTE    ComponentData[n];  /* Component data */
MQLONG    Version;          /* Version number */
MQLONG    CompCode;         /* Completion code */
MQLONG    Reason;           /* Reason code qualifying CompCode */
```

**Parent topic:** [MQZ\\_INIT\\_AUTHORITY – Initialize authorization service](#)

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### 10.7.14. MQZ\_INQUIRE – Inquire authorization service

This function is provided by a MQZAS\_VERSION\_5 authorization service component, and is invoked by the queue manager to query the supported functionality. Where multiple service components are used, service components are called in reverse order to the order they were installed in.


The function identifier for this function (for MQZEP) is MQZID\_INQUIRE.

#### [Syntax](#)

#### [Parameters](#)

#### [C invocation](#)

**Parent topic:** [Installable services interface reference information](#)

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#### 10.7.14.1. Syntax

##### MQZ\_INQUIRE

```
(QMgrName, SelectorCount, Selectors, IntAttrCount, IntAttrs, CharAttrLength, CharAttrs, SelectorReturned, ComponentData,
 Continuation, CompCode, Reason)
```

**Parent topic:** [MQZ\\_INQUIRE – Inquire authorization service](#)

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#### 10.7.14.2. Parameters

The MQZ\_INQUIRE call has the following parameters.

[QMGrName \(MQCHAR48\) – input](#)

[SelectorCount \(MQLONG\) – input](#)

[Selectors \(MQLONG×SelectorCount\) – input](#)

[IntAttrCount \(MQLONG\) – input](#)

[IntAttrs \(MQLONG×IntAttrCount\) – output](#)

[CharAttrCount \(MQLONG\) – input](#)

[CharAttrs \(MQLONG×CharAttrCount\) – output](#)

[SelectorReturned \(MQLONG×SelectorCount\) – input](#)


[ComponentData \(MQBYTE×ComponentDataLength\) – input/output](#)

[Continuation \(MQLONG\) – output](#)

[CompCode \(MQLONG\) – output](#)

### [Reason \(MQLONG\) – output](#)

**Parent topic:** [MQZ\\_INQUIRE – Inquire authorization service](#)

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### 10.7.14.2.1. QMgrName (MQCHAR48) – input

Queue manager name.

The name of the queue manager calling the component. This name is padded with blanks to the full length of the parameter; the name is not terminated by a null character.

The queue-manager name is passed to the component for information; the authorization service interface does not require the component to make use of it in any defined manner.

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### 10.7.14.2.2. SelectorCount (MQLONG) – input

Number of selectors.

The number of selectors supplied in the Selectors parameter.

The value must be between zero and 256.

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### 10.7.14.2.3. Selectors (MQLONG×SelectorCount) – input

Selectors.

Array of selectors. Each selector identifies a required attribute and must be of one of the following types:


- MQIACF\_\* (integer)
- MQCACF\_\* (character)

Selectors can be specified in any order. The number of selectors in the array is indicated by the SelectorCount parameter.

Integer attributes identified by selectors are returned in the IntAttrs parameter in the same order as they appear in Selectors.

Character attributes identified by selectors are returned in the CharAttrs parameter in the same order as they appear in Selectors.

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### 10.7.14.2.4. IntAttrCount (MQLONG) – input

Number of integer attributes.

The number of integer attributes supplied in the IntAttrs parameter.

The value must be between zero and 256.

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### 10.7.14.2.5. IntAttrs (MQLONG×IntAttrCount) – output

Integer attributes.

Array of integer attributes. The integer attributes are returned in the same order as the corresponding integer selectors in the Selectors array.

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### 10.7.14.2.6. CharAttrCount (MQLONG) – input

Length of the character attributes buffer.

The length in bytes of the CharAttrs parameter.

The value must at least sum of the lengths of the requested character attributes. If no character attributes are requested, zero is a valid value.

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### 10.7.14.2.7. CharAttrs (MQLONG×CharAttrCount) – output

Character attributes buffer.

Buffer containing character attributes, concatenated together. The character attributes are returned in the same order as the corresponding character selectors in the Selectors array.

The length of the buffer is given by the CharAttrCount parameter.

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### 10.7.14.2.8. SelectorReturned (MQLONG×SelectorCount) – input

Selector returned.

Array of values identifying which attributes have been returned from the set requested for by the selectors in the Selectors parameter. The number of values in this array is indicated by the SelectorCount parameter. Each value in the array relates to the selector from the corresponding position in the Selectors array. Each value is one of the following:

#### **MQZSL\_RETURNED**


The attribute requested by the corresponding selector in the Selectors parameter has been returned.

#### **MQZSL\_NOT\_RETURNED**

The attribute requested by the corresponding selector in the Selectors parameter has not been returned.

The array is initialized with all values as *MQZSL\_NOT\_RETURNED*. When an authorization service component returns an attribute, it sets the appropriate value in the array to *MQZSL\_RETURNED*. This allows any other authorization service components, to which the inquire call is made, to identify which attributes have already been returned.

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### 10.7.14.2.9. ComponentData (MQBYTE×ComponentDataLength) – input/output

Component data.

This data is kept by the queue manager on behalf of this particular component; any changes made to it by any of the functions provided by this component are preserved, and presented the next time one of this component's functions is called.

The length of this data area is passed by the queue manager in the *ComponentDataLength* parameter of the MQZ\_INIT\_AUTHORITY call.

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### 10.7.14.2.10. Continuation (MQLONG) – output

Continuation flag.

The following values can be specified:


**MQZCI\_DEFAULT**

Continuation dependent on other components.

**MQZCI\_STOP**

Do not continue with next component.

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### 10.7.14.2.11. CompCode (MQLONG) – output

Completion code.

It is one of the following:

**MQCC\_OK**

Successful completion.


**MQCC\_WARNING**

Partial completion.

**MQCC\_FAILED**

Call failed.

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### 10.7.14.2.12. Reason (MQLONG) – output

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

**MQRC\_NONE**

(0, X'000') No reason to report.

If *CompCode* is MQCC\_WARNING:

**MQRC\_CHAR\_ATTRS\_TOO\_SHORT**

Not enough space for character attributes.

**MQRC\_INT\_COUNT\_TOO\_SMALL**

Not enough space for integer attributes.

If *CompCode* is MQCC\_FAILED:

**MQRC\_SELECTOR\_COUNT\_ERROR**

Number of selectors is not valid.

**MQRC\_SELECTOR\_ERROR**

Attribute selector not valid.

**MQRC\_SELECTOR\_LIMIT\_EXCEEDED**

Too many selectors specified.

**MQRC\_INT\_ATTR\_COUNT\_ERROR**

Number of integer attributes is not valid.

**MQRC\_INT\_ATTRS\_ARRAY\_ERROR**

Integer attributes array not valid.

**MQRC\_CHAR\_ATTR\_LENGTH\_ERROR**

Number of character attributes is not valid.

**MQRC\_CHAR\_ATTRS\_ERROR**

Character attributes string is not valid.

**MQRC\_SERVICE\_ERROR**

(2289, X'8F1') Unexpected error occurred accessing service.

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### 10.7.14.3. C invocation

```
MQZ_INQUIRE (QMGrName, SelectorCount, Selectors, IntAttrCount,
             &IntAttrs, CharAttrLength, &CharAttrs,
             SelectorReturned, ComponentData, &Continuation,
             &CompCode, &Reason);
```

The parameters passed to the service are declared as follows:

```
MQCHAR48  QMGrName;           /* Queue manager name */
MQLONG    SelectorCount;      /* Selector count */
MQLONG    Selectors[n];       /* Selectors */
MQLONG    IntAttrCount;       /* IntAttrs count */
MQLONG    IntAttrs[n];        /* Integer attributes */
MQLONG    CharAttrCount;      /* CharAttrs count */
MQLONG    CharAttrs[n];       /* Character attributes */
MQLONG    SelectorReturned[n]; /* Selector returned */
MQBYTE    ComponentData[n];   /* Component data */
MQLONG    Continuation;       /* Continuation indicator set by
                               component */
MQLONG    CompCode;           /* Completion code */
MQLONG    Reason;             /* Reason code qualifying CompCode */
```

Parent topic: [MQZ\\_INQUIRE – Inquire authorization service](#)

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### 10.7.15. MQZ\_REFRESH\_CACHE – Refresh all authorizations

This function is provided by an MQZAS\_VERSION\_3 authorization service component, and is invoked by the queue manager to refresh the list of authorizations held internally by the component.

The function identifier for this function (for MQZEP) is MQZID\_REFRESH\_CACHE (8L).

[Syntax](#)

[Parameters](#)

[C invocation](#)

Parent topic: [Installable services interface reference information](#)

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#### 10.7.15.1. Syntax

**MQZ\_REFRESH\_CACHE**

(QMGrName, ComponentData, Continuation, CompCode, Reason)

Parent topic: [MQZ\\_REFRESH\\_CACHE – Refresh all authorizations](#)

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#### 10.7.15.2. Parameters

**QMGrName (MQCHAR48) – input**

Queue manager name.

The name of the queue manager calling the component. This name is padded with blanks to the full length of the parameter; the name is not terminated by a null character.

The queue-manager name is passed to the component for information; the authorization service interface does not require the component to make use of it in any defined manner.

**ComponentData (MQBYTE×ComponentDataLength) – input/output**

Component data.

This data is kept by the queue manager on behalf of this particular component; any changes made to it by any of the functions provided by this component are preserved, and presented the next time one of this component's functions is called.

The length of this data area is passed by the queue manager in the *ComponentDataLength* parameter of the MQZ\_INIT\_AUTHORITY call.

#### **Continuation (MQLONG) – output**

Continuation indicator set by component.

The following values can be specified:

##### **MQZCI\_DEFAULT**

Continuation dependent on queue manager.

For MQZ\_REFRESH\_CACHE this has the same effect as MQZCI\_CONTINUE.

##### **MQZCI\_CONTINUE**

Continue with next component.

##### **MQZCI\_STOP**

Do not continue with next component.

#### **CompCode (MQLONG) – output**

Completion code.

It is one of the following:

##### **MQCC\_OK**

Successful completion.

##### **MQCC\_FAILED**

Call failed.

#### **Reason (MQLONG) – output**

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

##### **MQRC\_NONE**

(0, X'000') No reason to report.


If *CompCode* is MQCC\_FAILED:

##### **MQRC\_SERVICE\_ERROR**

(2289, X'8F1') Unexpected error occurred accessing service.

For more information on this reason code, see the [WebSphere MQ Application Programming Reference](#) book.

**Parent topic:** [MQZ\\_REFRESH\\_CACHE – Refresh all authorizations](#)

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### 10.7.15.3. C invocation

```
MQZ_REFRESH_CACHE (QMgrName, ComponentData,  
                  &Continuation, &CompCode, &Reason);
```

Declare the parameters as follows:

```
MQCHAR48  QMgrName;          /* Queue manager name */  
MQBYTE    ComponentData[n]; /* Component data */  
MQLONG    Continuation;     /* Continuation indicator set by  
                             component */  
MQLONG    CompCode;         /* Completion code */  
MQLONG    Reason;           /* Reason code qualifying CompCode */
```

**Parent topic:** [MQZ\\_REFRESH\\_CACHE – Refresh all authorizations](#)

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### 10.7.16. MQZ\_SET\_AUTHORITY – Set authority

This function is provided by a MQZAS\_VERSION\_1 authorization service component, and is invoked by the queue manager to set the authority that an entity has to access the specified object.

The function identifier for this function (for MQZEP) is MQZID\_SET\_AUTHORITY.

**Note:** This function overrides any existing authorities. To preserve any existing authorities you must set them again with this function.


[Syntax](#)

[Parameters](#)

[C invocation](#)

**Parent topic:** [Installable services interface reference information](#)



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### 10.7.16.1. Syntax

**MQZ\_SET\_AUTHORITY** (*QMgrName*, *EntityName*, *EntityType*, *ObjectName*,  
*ObjectType*, *Authority*, *ComponentData*, *Continuation*, *CompCode*, *Reason*)

**Parent topic:** [MQZ\\_SET\\_AUTHORITY – Set authority](#)

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### 10.7.16.2. Parameters

The MQZ\_SET\_AUTHORITY call has the following parameters.

[QMgrName \(MQCHAR48\) – input](#)

[EntityName \(MQCHAR12\) – input](#)

[EntityType \(MQLONG\) – input](#)

[ObjectName \(MQCHAR48\) – input](#)

[ObjectType \(MQLONG\) – input](#)

[Authority \(MQLONG\) – input](#)


[ComponentData \(MBYTE×ComponentDataLength\) – input/output](#)

[Continuation \(MQLONG\) – output](#)

[CompCode \(MQLONG\) – output](#)

[Reason \(MQLONG\) – output](#)

**Parent topic:** [MQZ\\_SET\\_AUTHORITY – Set authority](#)

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#### 10.7.16.2.1. QMgrName (MQCHAR48) – input

Queue manager name.

The name of the queue manager calling the component. This name is padded with blanks to the full length of the parameter; the name is not terminated by a null character.

The queue-manager name is passed to the component for information; the authorization service interface does not require the component to make use of it in any defined manner.

**Parent topic:** [Parameters](#)

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#### 10.7.16.2.2. EntityName (MQCHAR12) – input

Entity name.

The name of the entity whose access to the object is to be set. The maximum length of the string is 12 characters; if it is shorter than that it is padded to the right with blanks. The name is not terminated by a null character.

**Parent topic:** [Parameters](#)

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### 10.7.16.2.3. EntityType (MQLONG) – input

Entity type.

The type of entity specified by *EntityName*. The following value can be specified:


**MQZAET\_PRINCIPAL**

Principal.

**MQZAET\_GROUP**

Group.

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### 10.7.16.2.4. ObjectName (MQCHAR48) – input

Object name.

The name of the object to which access is required. The maximum length of the string is 48 characters; if it is shorter than that it is padded to the right with blanks. The name is not terminated by a null character.

If *ObjectType* is MQOT\_Q\_MGR, this name is the same as *QMgtName*.

Parent topic: [Parameters](#)

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### 10.7.16.2.5. ObjectType (MQLONG) – input

Object type.

The type of entity specified by *ObjectName*. It is one of the following:

**MQOT\_AUTH\_INFO**

Authentication information.

**MQOT\_CHANNEL**

Channel.

**MQOT\_CLNTCONN\_CHANNEL**

Client connection channel.

**MQOT\_LISTENER**

Listener.

**MQOT\_NAMELIST**

Namelist.

**MQOT\_PROCESS**

Process definition.

**MQOT\_Q**

Queue.


**MQOT\_Q\_MGR**

Queue manager.

**MQOT\_SERVICE**

Service.

Parent topic: [Parameters](#)

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### 10.7.16.2.6. Authority (MQLONG) – input

Authority to be checked.

If one authorization is being set, this field is equal to the appropriate authorization operation (MQZAO\_\* constant). If more than one authorization is being set, it is the bitwise OR of the corresponding MQZAO\_\* constants.

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### 10.7.16.2.7. ComponentData (MQBYTE×ComponentDataLength) – input/output

Component data.

This data is kept by the queue manager on behalf of this particular component; any changes made to it by any of the functions provided by this component are preserved, and presented the next time one of this component's functions is called.

The length of this data area is passed by the queue manager in the *ComponentDataLength* parameter of the MQZ\_INIT\_AUTHORITY call.

**Parent topic:** [Parameters](#)

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### 10.7.16.2.8. Continuation (MQLONG) – output

Continuation indicator set by component.

The following values can be specified:

#### **MQZCI\_DEFAULT**

Continuation dependent on queue manager.

For MQZ\_SET\_AUTHORITY this has the same effect as MQZCI\_STOP.


#### **MQZCI\_CONTINUE**

Continue with next component.

#### **MQZCI\_STOP**

Do not continue with next component.

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### 10.7.16.2.9. CompCode (MQLONG) – output

Completion code.

It is one of the following:


#### **MQCC\_OK**

Successful completion.

#### **MQCC\_FAILED**

Call failed.

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### 10.7.16.2.10. Reason (MQLONG) – output

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

#### **MQRC\_NONE**

(0, X'000') No reason to report.

If *CompCode* is MQCC\_FAILED:

#### **MQRC\_NOT\_AUTHORIZED**

(2035, X'7F3') Not authorized for access.

#### **MQRC\_SERVICE\_ERROR**

(2289, X'8F1') Unexpected error occurred accessing service.

#### **MQRC\_SERVICE\_NOT\_AVAILABLE**

(2285, X'8ED') Underlying service not available.

**MQRC\_UNKNOWN\_ENTITY**

(2292, X'8F4') Entity unknown to service.

For more information on these reason codes, see the [WebSphere MQ Application Programming Reference](#).

Parent topic: [Parameters](#)

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**10.7.16.3. C invocation**

```
MQZ_SET_AUTHORITY (QMgrName, EntityName, EntityType, ObjectName,
                  ObjectType, Authority, ComponentData,
                  &Continuation, &CompCode, &Reason);
```

The parameters passed to the service are declared as follows:

```
MQCHAR48 QMgrName;          /* Queue manager name */
MQCHAR12 EntityName;        /* Entity name */
MQLONG   EntityType;        /* Entity type */
MQCHAR48 ObjectName;        /* Object name */
MQLONG   ObjectType;        /* Object type */
MQLONG   Authority;         /* Authority to be checked */
MQBYTE   ComponentData[n]; /* Component data */
MQLONG   Continuation;     /* Continuation indicator set by
                             component */
MQLONG   CompCode;         /* Completion code */
MQLONG   Reason;          /* Reason code qualifying CompCode */
```

Parent topic: [MQZ\\_SET\\_AUTHORITY – Set authority](#)

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**10.7.17. MQZ\_TERM\_AUTHORITY – Terminate authorization service**

This function is provided by an authorization service component, and is invoked by the queue manager when it no longer requires the services of this component. The function must perform any cleanup required by the component.


The function identifier for this function (for MQZEP) is MQZID\_TERM\_AUTHORITY.

[Syntax](#)

[Parameters](#)

[C invocation](#)

Parent topic: [Installable services interface reference information](#)

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**10.7.17.1. Syntax**

```
MQZ_TERM_AUTHORITY (Hconfig, Options, QMgrName, ComponentData,
                   CompCode, Reason)
```

Parent topic: [MQZ\\_TERM\\_AUTHORITY – Terminate authorization service](#)

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**10.7.17.2. Parameters**

The MQZ\_TERM\_AUTHORITY call has the following parameters.

[Hconfig \(MQHCONFIG\) – input](#)

[Options \(MQLONG\) – input](#)

[QMgrName \(MQCHAR48\) – input](#)


[ComponentData \(MQBYTE×ComponentDataLength\) – input/output](#)[CompCode \(MQLONG\) – output](#)[Reason \(MQLONG\) – output](#)**Parent topic:** [MQZ\\_TERM\\_AUTHORITY – Terminate authorization service](#) This build: January 26, 2011 11:39:58[Notices](#) | [Trademarks](#) | [Downloads](#) | [Library](#) | [Support](#) | [Feedback](#)

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### 10.7.17.2.1. Hconfig (MQHCONFIG) – input

Configuration handle.

This handle represents the particular component being terminated.

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### 10.7.17.2.2. Options (MQLONG) – input

Termination options.


It is one of the following:

**MQZTO\_PRIMARY**

Primary termination.

**MQZTO\_SECONDARY**

Secondary termination.

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### 10.7.17.2.3. QMgrName (MQCHAR48) – input

Queue manager name.

The name of the queue manager calling the component. This name is padded with blanks to the full length of the parameter; the name is not terminated by a null character.

The queue-manager name is passed to the component for information; the authorization service interface does not require the component to make use of it in any defined manner.

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### 10.7.17.2.4. ComponentData (MQBYTE×ComponentDataLength) – input/output

Component data.

This data is kept by the queue manager on behalf of this particular component; any changes made to it by any of the functions provided by this component are preserved, and presented the next time one of this component's functions is called.

The length of this data area is passed by the queue manager in the *ComponentDataLength* parameter on the MQZ\_INIT\_AUTHORITY call.

When the MQZ\_TERM\_AUTHORITY call has completed, the queue manager discards this data.

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### 10.7.17.2.5. CompCode (MQLONG) – output

Completion code.

It is one of the following:


#### **MQCC\_OK**

Successful completion.

#### **MQCC\_FAILED**

Call failed.

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### 10.7.17.2.6. Reason (MQLONG) – output

Reason code qualifying *CompCode*.

If *CompCode* is MQCC\_OK:

#### **MQRC\_NONE**

(0, X'000') No reason to report.

If *CompCode* is MQCC\_FAILED:

#### **MQRC\_SERVICE\_NOT\_AVAILABLE**


(2285, X'8ED') Underlying service not available.

#### **MQRC\_TERMINATION\_FAILED**

(2287, X'8FF') Termination failed for an undefined reason.

For more information on these reason codes, see the [WebSphere MQ Application Programming Reference](#).

**Parent topic:** [Parameters](#)

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### 10.7.17.3. C invocation

```
MQZ_TERM_AUTHORITY (Hconfig, Options, QMgrName, ComponentData,
                    &CompCode, &Reason);
```

The parameters passed to the service are declared as follows:

```
MQHCONFIG  Hconfig;           /* Configuration handle */
MQLONG     Options;          /* Termination options */
MQCHAR48   QMgrName;        /* Queue manager name */
MQBYTE     ComponentData[n]; /* Component data */
MQLONG     CompCode;        /* Completion code */
MQLONG     Reason;          /* Reason code qualifying CompCode */
```

**Parent topic:** [MQZ\\_TERM\\_AUTHORITY – Terminate authorization service](#)

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### 10.7.18. MQZAC – Application context

The MQZAC structure is used on the MQZ\_AUTHENTICATE\_USER call for the *ApplicationContext* parameter. This parameter specifies data related to the calling application.

#### [Fields](#)

#### [C declaration](#)

**Parent topic:** [Installable services interface reference information](#)

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## 10.7.18.1. Fields

[StrucId \(MQCHAR4\)](#)

[Version \(MQLONG\)](#)

[ProcessId \(MQPID\)](#)

[ThreadId \(MOTID\)](#)

[ApplName \(MQCHAR28\)](#)

[UserID \(MQCHAR12\)](#)

[EffectiveUserID \(MQCHAR12\)](#)


[Environment \(MQLONG\)](#)

[CallerType \(MQLONG\)](#)

[AuthenticationType \(MQLONG\)](#)

[BindType \(MQLONG\)](#)

**Parent topic:** [MQZAC – Application context](#)

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### 10.7.18.1.1. StrucId (MQCHAR4)

Structure identifier.

The value is:


#### **MQZAC\_STRUC\_ID**

Identifier for application context structure.

For the C programming language, the constant MQZAC\_STRUC\_ID\_ARRAY is also defined; this has the same value as MQZAC\_STRUC\_ID, but is an array of characters instead of a string.

This is an input field to the service.

**Parent topic:** [Fields](#)

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### 10.7.18.1.2. Version (MQLONG)

Structure version number.

The value is:

#### **MQZAC\_VERSION\_1**

Version-1 application context structure.


The following constant specifies the version number of the current version:

#### **MQZAC\_CURRENT\_VERSION**

Current version of application context structure.

This is an input field to the service.

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### 10.7.18.1.3. ProcessId (MQPID)

Process identifier.

The process identifier of the application.

Parent topic: [Fields](#)

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#### 10.7.18.1.4. ThreadId (MQTID)

Thread identifier.

The thread identifier of the application.

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#### 10.7.18.1.5. ApplName (MQCHAR28)

Application name.

The application name.

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#### 10.7.18.1.6. UserID (MQCHAR12)

User identifier.

For UNIX systems the application's real user ID. For Windows the application's user ID. For i5/OS® systems the user profile that the application job was created under. (i5/OS: when a profile swap is done with the QWTSETP API in the application job the current user profile is returned).

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#### 10.7.18.1.7. EffectiveUserID (MQCHAR12)

Effective user identifier.

For UNIX systems the application's effective user ID. For Windows this field is all blank. For i5/OS® systems the application job's current user profile.

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#### 10.7.18.1.8. Environment (MQLONG)

Environment.

This field specifies the environment from which the call was made.

The value is one of the following:

**MQXE\_COMMAND\_SERVER**

Command server.

**MQXE\_MQSC**

**runmqsc** command interpreter.

**MQXE\_MCA**

Message channel agent

**MQXE\_OTHER**

Undefined environment



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### 10.7.18.1.9. CallerType (MQLONG)

Caller Type.

This field specifies the type of program that made the call.

The value is one of the following:

#### **MQXACT\_EXTERNAL**

The call is external to the queue manager.

#### **MQXACT\_INTERNAL**

The call is internal to the queue manager.

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### 10.7.18.1.10. AuthenticationType (MQLONG)

Authentication Type.

This field specifies the type of authentication being performed.

The value is one of the following:

#### **MQZAT\_INITIAL\_CONTEXT**

The authentication call is due to user context being initialized. This value is used during an **MQCONN** or **MQCONNX** call.

#### **MQZAT\_CHANGE\_CONTEXT**

The authentication call is due to the user context being changed. This value is used when the MCA changes the user context.

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### 10.7.18.1.11. BindType (MQLONG)

Bind Type.

This field specifies the type of binding in use.

The value is one of the following:

#### **MQCNO\_FASTPATH\_BINDING**

Fastpath binding.

#### **MQCNO\_SHARED\_BINDING**

Shared binding.

#### **MQCNO\_ISOLATED\_BINDING**

Isolated binding.

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## 10.7.18.2. C declaration


```
typedef struct tagMQZAC MQZAC;
struct tagMQZAC {
    MQCHAR4      StrucId;           /* Structure identifier */
    MQLONG       Version;          /* Structure version number */
    MQPID        ProcessId;        /* Process identifier */
    MQTID        ThreadId;         /* Thread identifier */
    MQCHAR28     ApplName;         /* Application name */
    MQCHAR12     UserID;           /* User identifier */
}
```

```

MQCHAR12 EffectiveUserID; /* Effective user identifier */
MQLONG Environment; /* Environment */
MQLONG CallerType; /* Caller type */
MQLONG AuthenticationType; /* Authentication type */
MQLONG BindType; /* Bind type */
};

```

**Parent topic:** [MQZAC – Application context](#)

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## 10.7.19. MQZAD – Authority data


The MQZAD structure is used on the MQZ\_ENUMERATE\_AUTHORITY\_DATA call for two parameters:

- MQZAD is used for the *Filter* parameter which is input to the call. This parameter specifies the selection criteria that are to be used to select the authority data returned by the call.
- MQZAD is also used for the *AuthorityBuffer* parameter which is output from the call. This parameter specifies the authorizations for one combination of profile name, object type, and entity.

### [Fields](#)

### [C declaration](#)

**Parent topic:** [Installable services interface reference information](#)

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## 10.7.19.1. Fields

### [StrucId \(MQCHAR4\)](#)

### [Version \(MQLONG\)](#)

### [ProfileName \(MQCHAR48\)](#)

### [ObjectType \(MQLONG\)](#)


### [Authority \(MQLONG\)](#)

### [EntityDataPtr \(PMQZED\)](#)

### [EntityType \(MQLONG\)](#)

### [Options \(MQAUTHOPT\)](#)

**Parent topic:** [MQZAD – Authority data](#)

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### 10.7.19.1.1. StrucId (MQCHAR4)

Structure identifier.

The value is:


#### **MQZAD\_STRUC\_ID**

Identifier for authority data structure.

For the C programming language, the constant MQZAD\_STRUC\_ID\_ARRAY is also defined; this has the same value as MQZAD\_STRUC\_ID, but is an array of characters instead of a string.

This is an input field to the service.

**Parent topic:** [Fields](#)

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### 10.7.19.1.2. Version (MQLONG)

Structure version number.

The value is:

#### **MQZAD\_VERSION\_1**

Version-1 authority data structure.


The following constant specifies the version number of the current version:

#### **MQZAD\_CURRENT\_VERSION**

Current version of authority data structure.

This is an input field to the service.

**Parent topic:** [Fields](#)

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### 10.7.19.1.3. ProfileName (MQCHAR48)

Profile name.

For the *Filter* parameter, this field is the profile name whose authority data is required. If the name is entirely blank up to the end of the field or the first null character, authority data for all profile names is returned.

For the *AuthorityBuffer* parameter, this field is the name of a profile that matches the specified selection criteria.

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### 10.7.19.1.4. ObjectType (MQLONG)

Object type.

For the *Filter* parameter, this field is the object type for which authority data is required. If the value is MQOT\_ALL, authority data for all object types is returned.

For the *AuthorityBuffer* parameter, this field is the object type to which the profile identified by *ProfileName* applies.

The value is one of the following; for the *Filter* parameter, the value MQOT\_ALL is also valid:

#### **MQOT\_AUTH\_INFO**

Authentication information.

#### **MQOT\_CHANNEL**

Channel.

#### **MQOT\_CLNTCONN\_CHANNEL**

Client connection channel.

#### **MQOT\_LISTENER**

Listener.

#### **MQOT\_NAMELIST**

Namelist.

#### **MQOT\_PROCESS**

Process definition.

#### **MQOT\_Q**

Queue.


#### **MQOT\_Q\_MGR**

Queue manager.

#### **MQOT\_SERVICE**

Service.

**Parent topic:** [Fields](#)

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### 10.7.19.1.5. Authority (MQLONG)

Authority.

For the *Filter* parameter, this field is ignored.

For the *AuthorityBuffer* parameter, this field represents the authorizations that the entity has to the objects identified by *ProfileName* and *ObjectType*. If the entity has only one authority, the field is equal to the appropriate authorization value (MQZAO\_\* constant). If the entity has more than one authority, the field is the bitwise OR of the corresponding MQZAO\_\* constants.

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### 10.7.19.1.6. EntityDataPtr (PMQZED)

Address of MQZED structure identifying an entity.

For the *Filter* parameter, this field points to an MQZED structure that identifies the entity whose authority data is required. If *EntityDataPtr* is the null pointer, authority data for all entities is returned.

For the *AuthorityBuffer* parameter, this field points to an MQZED structure that identifies the entity whose authority data has been returned.

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### 10.7.19.1.7. EntityType (MQLONG)

Entity type.

For the *Filter* parameter, this field specifies the entity type for which authority data is required. If the value is MQZAET\_NONE, authority data for all entity types is returned.

For the *AuthorityBuffer* parameter, this field specifies the type of the entity identified by the MQZED structure pointed to by *EntityDataPtr*.

The value is one of the following; for the *Filter* parameter, the value MQZAET\_NONE is also valid:


#### **MQZAET\_PRINCIPAL**

Principal.

#### **MQZAET\_GROUP**

Group.

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### 10.7.19.1.8. Options (MQAUTHOPT)

Options.

This field specifies options that give control over the profiles that are displayed.

One of the following must be specified:

#### **MQAUTHOPT\_NAME\_ALL\_MATCHING**

Displays all profiles

#### **MQAUTHOPT\_NAME\_EXPLICIT**

Displays profiles that have exactly the same name as specified in the *ProfileName* field.

In addition, one of the following must also be specified:

#### **MQAUTHOPT\_ENTITY\_SET**

Display all profiles used to calculate the cumulative authority that the entity has to the object specified by *ProfileName*. The *ProfileName* field must not contain any wildcard characters.


- If the specified entity is a principal, for each member of the set {entity, groups} the most applicable profile that applies to the object is displayed.
- If the specified entity is a group, the most applicable profile from the group that applies to the object is displayed.
- If this value is specified, then the values of *ProfileName*, *ObjectType*, *EntityType*, and the entity name specified in the *EntityDataPtr* MQZED structure, must all be non-blank.

If you have specified *MQAUTHOPT\_NAME\_ALL\_MATCHING*, you can also specify the following:

#### **MQAUTHOPT\_ENTITY\_EXPLICIT**

Displays profiles that have exactly the same entity name as the entity name specified in the *EntityDataPtr* MQZED structure.

**Parent topic:** [Fields](#)

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### 10.7.19.2. C declaration

```
typedef struct tagMQZAD MQZAD;
struct tagMQZAD {
    MQCHAR4   StructId;           /* Structure identifier */
    MQLONG    Version;           /* Structure version number */
    MQCHAR48  ProfileName;       /* Profile name */
    MQLONG    ObjectType;        /* Object type */
    MQLONG    Authority;         /* Authority */
    PMQZED    EntityDataPtr;     /* Address of MQZED structure identifying an
                                   entity */
    MQLONG    EntityType;        /* Entity type */
    MQAUTHOPT Options;          /* Options */
};
```

**Parent topic:** [MQZAD – Authority data](#)

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### 10.7.20. MQZED – Entity descriptor

The MQZED structure describes the information that is passed to the MQZAS\_VERSION\_2 authorization service calls.

[Fields](#)

[C declaration](#)

**Parent topic:** [Installable services interface reference information](#)

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#### 10.7.20.1. Fields

[StrucId \(MQCHAR4\)](#)

[Version \(MQLONG\)](#)


[EntityNamePtr \(PMQCHAR\)](#)

[EntityDomainPtr \(PMQCHAR\)](#)

[SecurityId \(MQBYTE40\)](#)

[CorrelationPtr \(MQPTR\)](#)

**Parent topic:** [MQZED – Entity descriptor](#)

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##### 10.7.20.1.1. StrucId (MQCHAR4)

Structure identifier.

The value is:


**MQZED\_STRUC\_ID**

Identifier for entity descriptor structure.

For the C programming language, the constant MQZED\_STRUC\_ID\_ARRAY is also defined; this has the same value as MQZED\_STRUC\_ID, but is an array of characters instead of a string.

This is an input field to the service.

**Parent topic:** [Fields](#)

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### 10.7.20.1.2. Version (MQLONG)

Structure version number.

The value is:

#### **MQZED\_VERSION\_1**

Version-1 entity descriptor structure.


The following constant specifies the version number of the current version:

#### **MQZED\_CURRENT\_VERSION**

Current version of entity descriptor structure.

This is an input field to the service.

**Parent topic:** [Fields](#)

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### 10.7.20.1.3. EntityNamePtr (PMQCHAR)

Address of entity name.

This is a pointer to the name of the entity whose authorization is to be checked.

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### 10.7.20.1.4. EntityDomainPtr (PMQCHAR)

Address of entity domain name.

This is a pointer to the name of the domain containing the definition of the entity whose authorization is to be checked.

**Parent topic:** [Fields](#)

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### 10.7.20.1.5. SecurityId (MQBYTE40)

Security identifier.

This is the security identifier whose authorization is to be checked.

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### 10.7.20.1.6. CorrelationPtr (MQPTR)

Correlation pointer.

This facilitates the passing of correlational data between the authenticate user function and other appropriate OAM functions.

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## 10.7.20.2. C declaration

```
typedef struct tagMQZED MQZED;
struct tagMQZED {
    MQCHAR4    StrucId;           /* Structure identifier */
    MQLONG     Version;          /* Structure version number */
    PMQCHAR    EntityNamePtr;    /* Address of entity name */
    PMQCHAR    EntityDomainPtr;  /* Address of entity domain name */
    MQBYTE40   SecurityId;       /* Security identifier */
    MQPTR      CorrelationPtr;   /* Address of correlation data */
}
```

**Parent topic:** [MQZED – Entity descriptor](#)

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## 10.7.21. MQZFP – Free parameters

The MQZFP structure is used on the MQZ\_FREE\_USER call for the *FreeParms* parameter. This parameter specifies data related to resource to be freed.

[Fields](#)

[C declaration](#)

**Parent topic:** [Installable services interface reference information](#)

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## 10.7.21.1. Fields

[StrucId \(MQCHAR4\)](#)

[Version \(MQLONG\)](#)

[Reserved \(MQBYTE8\)](#)

[CorrelationPtr \(MQPTR\)](#)

**Parent topic:** [MQZFP – Free parameters](#)

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### 10.7.21.1.1. StrucId (MQCHAR4)

Structure identifier.

The value is:


**MQZFP\_STRUC\_ID**

Identifier for free parameters structure.

For the C programming language, the constant MQZFP\_STRUC\_ID\_ARRAY is also defined; this has the same value as MQZFP\_STRUC\_ID, but is an array of characters instead of a string.

This is an input field to the service.

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### 10.7.21.1.2. Version (MQLONG)

Structure version number.

The value is:

#### **MQZFP\_VERSION\_1**

Version-1 free parameters structure.


The following constant specifies the version number of the current version:

#### **MQZFP\_CURRENT\_VERSION**

Current version of free parameters structure.

This is an input field to the service.

**Parent topic:** [Fields](#)

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### 10.7.21.1.3. Reserved (MQBYTE8)

Reserved field.

The initial value is null.

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### 10.7.21.1.4. CorrelationPtr (MQPTR)

Correlation pointer.

Address of correlation data relating to the resource to be freed.

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### 10.7.21.2. C declaration

```
typedef struct tagMQZFP MQZFP;
struct tagMQZFP {
    MQCHAR4    StrucId;           /* Structure identifier */
    MQLONG     Version;          /* Structure version number */
    MQBYTE8    Reserved;         /* Reserved field */
    MQPTR      CorrelationPtr;   /* Address of correlation data */
};
```

**Parent topic:** [MQZFP – Free parameters](#)

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## 10.7.22. MQZIC – Identity context

The MQZIC structure is used on the MQZ\_AUTHENTICATE\_USER call for the *IdentityContext* parameter.


The MQZIC structure contains identity context information, that identifies the user of the application that first put the message on a queue:

- The queue manager fills the UserIdentifier field with a name that identifies the user, the way that the queue manager can do this depends on the environment in which the application is running.
- The queue manager fills the AccountingToken field with a token or number that it determined from the application that put the message.
- Applications can use the AppIdentityData field for any extra information that they want to include about the user (for example, an encrypted password).


Suitably authorized applications may set the identity context using the MQZ\_AUTHENTICATE\_USER function.

A Windows systems security identifier (SID) is stored in the AccountingToken field when a message is created under WebSphere® MQ for Windows. The SID can be used to supplement the UserIdentifier field and to establish the credentials of a user.



[Fields](#)[C declaration](#)**Parent topic:** [Installable services interface reference information](#) This build: January 26, 2011 11:40:01[Notices](#) | [Trademarks](#) | [Downloads](#) | [Library](#) | [Support](#) | [Feedback](#)© Copyright IBM Corporation 1999, 2009. All Rights Reserved.  
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## 10.7.22.1. Fields

[StrucId \(MQCHAR4\)](#)[Version \(MOLONG\)](#)[UserIdentifier \(MQCHAR12\)](#)[AccountingToken \(MOBYTE32\)](#)[AppIdentityData \(MQCHAR32\)](#)**Parent topic:** [MQZIC – Identity context](#) This build: January 26, 2011 11:40:01[Notices](#) | [Trademarks](#) | [Downloads](#) | [Library](#) | [Support](#) | [Feedback](#)© Copyright IBM Corporation 1999, 2009. All Rights Reserved.  
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### 10.7.22.1.1. StrucId (MQCHAR4)

Structure identifier.


The value is:

**MQZIC\_STRUC\_ID**

Identifier for identity context structure.

For the C programming language, the constant MQZIC\_STRUC\_ID\_ARRAY is also defined; this has the same value as MQZIC\_STRUC\_ID, but is an array of characters instead of a string.

This is an input field to the service.

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### 10.7.22.1.2. Version (MQLONG)

Structure version number.

The value is:

**MQZIC\_VERSION\_1**


Version-1 identity context structure.

The following constant specifies the version number of the current version:

**MQZIC\_CURRENT\_VERSION**

Current version of identity context structure.

This is an input field to the service.

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### 10.7.22.1.3. UserIdentifier (MQCHAR12)

User identifier.


This is part of the **identity context** of the message.

*UserIdentifier* specifies the user identifier of the application that originated the message. The queue manager treats this information as character data, but does not define the format of it. For more information on the *UserIdentifier* field, see [WebSphere MQ Application Programming Reference](#).

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#### 10.7.22.1.4. AccountingToken (MQBYTE32)

Accounting token.


This is part of the **identity context** of the message.

*AccountingToken* allows an application to cause work done as a result of the message to be appropriately charged. The queue manager treats this information as a string of bits and does not check its content. For more information on the *AccountingToken* field, see [WebSphere MQ Application Programming Reference](#).

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#### 10.7.22.1.5. ApplIdentityData (MQCHAR32)

Application data relating to identity.


This is part of the **identity context** of the message.

*ApplIdentityData* is information that is defined by the application suite that can be used to provide additional information about the origin of the message. For example, it could be set by applications running with suitable user authority to indicate whether the identity data is trusted. For more information on the *ApplIdentityData* field, see [WebSphere MQ Application Programming Reference](#).

**Parent topic:** [Fields](#)

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#### 10.7.22.2. C declaration

```
typedef struct tagMQZED MQZED;
struct tagMQZED {
    MQCHAR4    StructId;           /* Structure identifier */
    MQLONG    Version;           /* Structure version number */
    MQCHAR12   UserIdentifier;    /* User identifier */
    MQBYTE32   AccountingToken;  /* Accounting token */
    MQCHAR32   ApplIdentityData; /* Application data relating to identity */
};
```

**Parent topic:** [MQZIC – Identity context](#)

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### 11. The CL commands

This section provides reference information for the WebSphere® MQ CL commands.

**Parent topic:** [i5/OS System Administration Guide](#)

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#### 11.1. Add Queue Manager Information (ADDMQMINF)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Add Message Queue Manager Information (ADDMQMINF) command adds configuration information for a queue manager. This command may be used,

for example, to create a secondary queue manager instance by adding a reference to shared queue manager data.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i>	Required, Positional 1
<a href="#">PREFIX</a>	Queue Manager Prefix	<i>Character value</i>	Required, Positional 2
<a href="#">MQMDIR</a>	Queue Manager Directory	<i>Character value</i>	Required, Positional 3
<a href="#">MQMLIB</a>	Queue Manager Library	<i>Name</i>	Required, Positional 4
<a href="#">DATAPATH</a>	Queue Manager Data Path	<i>Character value</i>	Optional, Positional 5

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager to add information for.

#### ***queue-manager-name***

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)

### Queue Manager Prefix (PREFIX)

Specifies the prefix for the queue manager filesystem, for example, '/QIBM/UserData/mqm'

The possible values are:

#### ***queue-manager-directory-prefix***

The prefix for the queue manager filesystem.

[Top](#)

### Queue Manager Directory (MQMDIR)

Specifies the directory name for the queue manager filesystem. In most cases this will be the same as the queue manager name, unless the directory name has been modified to cater for characters that are not allowed in directory names, or to avoid a clash with an existing directory name.

The possible values are:

#### ***queue-manager-directory-name***

The prefix for the queue manager filesystem. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)

### Queue Manager Library (MQMLIB)

Specifies the library to be used by the queue manager.

The possible values are:

#### ***library name***

Specify the library to be used by the queue manager.

[Top](#)

### Queue Manager Data Path (DATAPATH)

Specifies the fully qualified directory path for the queue manager data. This parameter is optional and if specified, overrides the prefix and directory name for the queue managers data files. Typically this parameter could be used to reference queue data stored on a networked filesystem, such as NFSv4.

The possible values are:

#### ***queue-manager-data-path***

Specify the data path to be used by the queue manager.

[Top](#)

## Examples

None

[Top](#)

## Error messages

Unknown

[Top](#)

## 11.2. Add Queue Manager Journal (ADDMQMJRN)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Add Queue Manager Journals command (ADDMQMJRN) adds a journal to a queue manager. This command can be used, for example, to configure remote journal replication for a backup or multi-instance queue manager.

[Top](#)

### Parameters

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 1
<a href="#">JRN</a>	Queue Manager Journal	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">RMTJRNRDB</a>	Remote Relational Database	Character value	Optional, Positional 3
<a href="#">RMTJRNSTS</a>	Remote Journal Status	<b>*ACTIVE</b> , *INACTIVE	Optional, Positional 4
<a href="#">RMTJRNDLV</a>	Remote Journal Delivery	<b>*SYNC</b> , *ASYNCR	Optional, Positional 5
<a href="#">RMTJRNTIMO</a>	Remote Journal Sync. Timeout	1-3600, <b>*DFT</b>	Optional, Positional 6

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### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager associated with the journal.

#### **queue-manager-name**

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

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### Queue Manager Journal (JRN)

Specifies the journal name to create.

The possible values are:

#### **\*DFT**

The journal name is chosen by the system. If a local journal already exists for the queue manager on this system - the existing local journal name is used, otherwise a unique name is generated of the format AMQxJRN where x is a character in the range 'A - Z'.

#### **journal-name**

Specify the name of the journal. The name can contain up to 10 characters. Journal receiver names will be derived from this journal name by truncating at the 4th character (or at the last character if the journal name is shorter than 4 characters) and appending zeroes. If the local queue manager library already contains a local journal, its name must match that supplied. Only one local journal can exist in a queue manager library. DLTMQM will not remove journal artifacts from a queue manager library unless they are prefixed with "AMQ".

[Top](#)

### Remote Relational Database (RMTJRNRDB)

Specifies the name of the relational database directory entry that contains the remote location name of the target system. Use the WRKRDBDIRE command to locate and existing entry or configure a new relational database directory entry for the target system.

#### **relational-database-directory-entry**

Specify the name of the relational database directory entry. The name can contain up to 18 characters.

[Top](#)

### Remote Journal Status (RMTJRNSTS)

Specifies whether the remote journal is ready to receive journal entries from the queue managers local journal.

The possible values are:

#### **\*ACTIVE**

The remote journal is ready to receive journal entries from the local queue manager journal. Replication of journal entries starts with the oldest local journal receiver required to perform a full media recovery and queue manager restart. If these recovery points do not exist, replication starts with the currently attached local journal receiver.

#### **\*INACTIVE**

The remote journal is not ready to receive journal entries from the local queue manager journal.

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### Remote Journal Delivery (RMTJRNDLV)

Specifies whether the journal entries are replicated synchronously or asynchronously when the remote journal is activated. Note that this parameter is ignored when RMTJRNSTS(\*INACTIVE) is specified.

The possible values are:

**\*SYNC**

The remote journal is replicated synchronously with the local queue manager journal.

**\*ASYNC**

The remote journal is replicated asynchronously with the local queue manager journal.

[Top](#)

### Remote Journal Sync. Timeout (RMTJRNTIMO)

Specifies the maximum amount of time in seconds to wait for a response from the remote system when using synchronous replication with remote journaling. If a response is not received from the remote system within the timeout period, the remote journal environment will automatically be inactivated. Note that this parameter is ignored when RMTJRNDLV(\*ASYNC) or RMTJRNSTS(\*INACTIVE) are specified.

The possible values are:

**\*DEF**

The system uses the default value of 60 seconds to wait for a response from the remote system.

**1-3600**

Specify the maximum number of seconds to wait for a response from the remote system. Note that this option is only available on IBM i V6R1M0 and later operating systems.

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### Examples

None

[Top](#)

### Error messages

Unknown

[Top](#)

## 11.3. Connect MQ (CCTMQM)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Connect Message Queue Manager (CCTMQM) command does not perform any function and is only provided for compatibility with previous releases of WebSphere MQ and MQSeries.

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### Parameters

None

[Top](#)

### Examples

None

[Top](#)

### Error messages

Unknown

[Top](#)

## 11.4. Change Message Queue Manager (CHGMQM)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Change Message Queue Manager (CHGMQM) command changes the specified attributes of the local queue manager.

[Top](#)

### Parameters

--	--	--	--

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Key, Positional 1
<a href="#">FORCE</a>	Force	<b>*NO</b> , *YES	Optional, Positional 2
<a href="#">TEXT</a>	Text 'description'	<i>Character value</i> , *BLANK, <b>*SAME</b>	Optional, Positional 3
<a href="#">TRGITV</a>	Trigger interval	0-999999999, <b>*SAME</b>	Optional, Positional 4
<a href="#">UDLMSGQ</a>	Undelivered message queue	<i>Character value</i> , *NONE, <b>*SAME</b>	Optional, Positional 5
<a href="#">DFTTMO</a>	Default transmission queue	<i>Character value</i> , *NONE, <b>*SAME</b>	Optional, Positional 6
<a href="#">MAXHDL</a>	Maximum handle limit	0-999999999, <b>*SAME</b>	Optional, Positional 7
<a href="#">MAXUMSG</a>	Maximum uncommitted messages	1-999999999, <b>*SAME</b>	Optional, Positional 8
<a href="#">AUTEVT</a>	Authorization events enabled	<b>*SAME</b> , *YES, *NO	Optional, Positional 9
<a href="#">INHEVT</a>	Inhibit events enabled	<b>*SAME</b> , *YES, *NO	Optional, Positional 10
<a href="#">LCLERREVT</a>	Local error events enabled	<b>*SAME</b> , *YES, *NO	Optional, Positional 11
<a href="#">RMTERREVT</a>	Remote error events enabled	<b>*SAME</b> , *YES, *NO	Optional, Positional 12
<a href="#">PFREVT</a>	Performance events enabled	<b>*SAME</b> , *YES, *NO	Optional, Positional 13
<a href="#">STRSTPEVT</a>	Start and stop events enabled	<b>*SAME</b> , *YES, *NO	Optional, Positional 14
<a href="#">CHAD</a>	Automatic Channel Definition	<b>*SAME</b> , *YES, *NO	Optional, Positional 15
<a href="#">CHADEV</a>	Auto Chan. Def. events enabled	<b>*SAME</b> , *YES, *NO	Optional, Positional 16
<a href="#">CHADEXIT</a>	Auto Chan. Def. exit program	Single values: <b>*SAME</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 17
	Qualifier 1: Auto Chan. Def. exit program	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	
<a href="#">MAXMSG</a>	Max message length	32768-104857600, <b>*SAME</b>	Optional, Positional 18
<a href="#">CCSID</a>	Coded Character Set	<i>Integer</i> , <b>*SAME</b>	Optional, Positional 19
<a href="#">CLWLDATA</a>	Cluster workload exit data	<i>Character value</i> , <b>*SAME</b> , *NONE	Optional, Positional 20
<a href="#">CLWLEXIT</a>	Cluster workload exit	Single values: <b>*SAME</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 21
	Qualifier 1: Cluster workload exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	
<a href="#">CLWLEN</a>	Cluster workload exit length	0-999999999, <b>*SAME</b>	Optional, Positional 22
<a href="#">REPOS</a>	Repository name	<i>Character value</i> , *NONE, <b>*SAME</b>	Optional, Positional 23
<a href="#">REPOSNL</a>	Repository name list	<i>Character value</i> , *NONE, <b>*SAME</b>	Optional, Positional 24
<a href="#">SSLCRLNL</a>	SSL CRL Namelist	<i>Character value</i> , *NONE, <b>*SAME</b>	Optional, Positional 25
<a href="#">SSLKEYR</a>	SSL Key Repository	<i>Character value</i> , *NONE, <b>*SAME</b> , *SYSTEM	Optional, Positional 26
<a href="#">SSLKEYRPWD</a>	SSL Repository Password	<i>Character value</i> , *NONE, <b>*SAME</b>	Optional, Positional 27
<a href="#">SSLRSTCNT</a>	SSL key reset count	0-999999999, <b>*SAME</b> , *NONE	Optional, Positional 28
<a href="#">IPADDRV</a>	IP protocol	<b>*SAME</b> , *IPV4, *IPV6	Optional, Positional 29
<a href="#">CLWLMRUC</a>	Cluster workload channels	0-999999999, <b>*SAME</b>	Optional, Positional 30
<a href="#">CLWLUSEQ</a>	Cluster workload queue use	<b>*SAME</b> , *LOCAL, *ANY	Optional, Positional 31
<a href="#">LOGGEREVT</a>	Log recovery events enabled	<b>*SAME</b> , *YES, *NO	Optional, Positional 32
<a href="#">CHLEVT</a>	Channel events enabled	<b>*SAME</b> , *YES, *NO, *EXCEPTION	Optional, Positional 33
<a href="#">SSLEVT</a>	SSL events enabled	<b>*SAME</b> , *YES, *NO	Optional, Positional 34
<a href="#">SCHINIT</a>	Channel initiator control	<b>*SAME</b> , *QMGR, *MANUAL	Optional, Positional 35
<a href="#">SCMDSERV</a>	Command server control	<b>*SAME</b> , *QMGR, *MANUAL	Optional, Positional 36
<a href="#">MONQ</a>	Queue Monitoring	<b>*SAME</b> , *NONE, *OFF, *LOW, *MEDIUM, *HIGH	Optional, Positional 37
<a href="#">MONCHL</a>	Channel Monitoring	<b>*SAME</b> , *NONE, *OFF, *LOW, *MEDIUM, *HIGH	Optional, Positional 38
<a href="#">MONACLS</a>	Cluster Sender Monitoring	<b>*SAME</b> , *QMGR, *NONE, *LOW, *MEDIUM, *HIGH	Optional, Positional 39

<a href="#">STATMQI</a>	Queue Manager Statistics	<b>*SAME</b> , *OFF, *ON	Optional, Positional 40
<a href="#">STATQ</a>	Queue Statistics	<b>*SAME</b> , *NONE, *OFF, *ON	Optional, Positional 41
<a href="#">STATCHL</a>	Channel Statistics	<b>*SAME</b> , *NONE, *OFF, *LOW, *MEDIUM, *HIGH	Optional, Positional 42
<a href="#">STATACLS</a>	Cluster Sender Statistics	<b>*SAME</b> , *QMGR, *NONE, *LOW, *MEDIUM, *HIGH	Optional, Positional 43
<a href="#">STATINT</a>	Statistics Interval	1-604800, <b>*SAME</b>	Optional, Positional 44
<a href="#">ACCTMQI</a>	MQI Accounting	<b>*SAME</b> , *OFF, *ON	Optional, Positional 45
<a href="#">ACCTQ</a>	Queue Accounting	<b>*SAME</b> , *NONE, *OFF, *ON	Optional, Positional 46
<a href="#">ACCTINT</a>	Accounting Interval	1-604800, <b>*SAME</b>	Optional, Positional 47
<a href="#">ACCTCONO</a>	Accounting Override	<b>*SAME</b> , *ENABLED, *DISABLED	Optional, Positional 48
<a href="#">ROUTEREC</a>	Trace Route Recording	<b>*SAME</b> , *MSG, *QUEUE, *DISABLED	Optional, Positional 49
<a href="#">ACTIVREC</a>	Activity Recording	<b>*SAME</b> , *MSG, *QUEUE, *DISABLED	Optional, Positional 50
<a href="#">MAXPROPLEN</a>	Maximum Property Data Length	0-104857600, <b>*SAME</b> , *ANY	Optional, Positional 51
<a href="#">MARKINT</a>	Message mark-browse interval	0-999999999, <b>*SAME</b> , *ANY	Optional, Positional 52
<a href="#">PSRTYCNT</a>	PubSub max msg retry count	0-999999999, <b>*SAME</b>	Optional, Positional 53
<a href="#">PSNPMMSG</a>	PubSub NPM msg	<b>*SAME</b> , *DISCARD, *KEEP	Optional, Positional 54
<a href="#">PSNPMRES</a>	PubSub NPM msg response	<b>*SAME</b> , *NORMAL, *SAFE, *DISCARD, *KEEP	Optional, Positional 55
<a href="#">PSSYNCP</a>	PubSub syncpoint	<b>*SAME</b> , *YES, *IFPER	Optional, Positional 56
<a href="#">PSMODE</a>	Pubsub Engine Control	<b>*SAME</b> , *ENABLED, *DISABLED, *COMPATIBLE	Optional, Positional 57
<a href="#">TREELIFE</a>	Topic Tree Life Time	0-604000, <b>*SAME</b>	Optional, Positional 58
<a href="#">CFGEVT</a>	Configuration events enabled	<b>*SAME</b> , *YES, *NO	Optional, Positional 59
<a href="#">CMDEVT</a>	Command events enabled	<b>*SAME</b> , *YES, *NO, *NODSP	Optional, Positional 60

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)**Force (FORCE)**

Specifies whether the command should be forced to complete if both of the following are true:

- DFTTMQ is specified.
- An application has a remote queue open, the resolution of which will be affected by this change.

The possible values are:

**\*NO**

The command fails if an open remote queue will be affected.

**\*YES**

The command is forced to complete.

[Top](#)**Text 'description' (TEXT)**

Specifies the text that briefly describes the queue manager definition.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The text is set to a blank string.

**description**

Specify no more than 64 characters enclosed in apostrophes.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)

**Trigger interval (TRGITV)**

Specifies the trigger time interval, expressed in milliseconds, to be used with queues that have TRGTYPE(\*FIRST) specified.

When TRGTYPE(\*FIRST) is specified the arrival of a message on a previously empty queue causes a trigger message to be generated. Any further messages that arrive on the queue within the specified interval will not cause a further trigger message to be generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**interval-value**

Specify a value in the range 0 through 999999999.

[Top](#)

**Undelivered message queue (UDLMSGQ)**

Specifies the name of the local queue that is to be used for undelivered messages. Messages are put on this queue if they cannot be routed to their correct destination.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

There is no undelivered-message queue. The attribute is set to a blank string.

**undelivered-message-queue-name**

Specify the name of a local queue that is to be used as the undelivered-message queue.

[Top](#)

**Default transmission queue (DFTTMQ)**

Specifies the name of the local transmission queue that is to be used as the default transmission queue. Messages transmitted to a remote queue manager are put on the default transmission queue if there is no transmission queue defined for their destination.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

There is no default transmission queue. The attribute is set to a blank string.

**default-transmission-queue-name**

Specify the name of a local transmission queue that is to be used as the default transmission queue.

[Top](#)

**Maximum handle limit (MAXHDL)**

Specifies the maximum number of handles that any one job can have open at the same time.

The possible values are:

**\*SAME**

The attribute is unchanged.

**maximum-handle-limit**

Specify a value in the range 0 through 999999999.

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**Maximum uncommitted messages (MAXUMSG)**

Specifies the maximum number of uncommitted messages. That is:

- The number of messages that can be retrieved, plus
- The number of messages that can be put, plus
- Any trigger and report messages generated within this unit of work, under any one syncpoint.

This limit does not apply to messages that are retrieved or put outside syncpoint.

The possible values are:

**\*SAME**

The attribute is unchanged.

**maximum-uncommitted-messages**

Specify a value in the range 1 through 999999999.



[Top](#)**Authorization events enabled (AUTEVT)**

Specifies whether authorization (Not Authorized) events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Authorization events are not generated.

**\*YES**

Authorization events are generated.

[Top](#)**Inhibit events enabled (INHEVT)**

Specifies whether inhibit events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Inhibit events are not generated.

**\*YES**

Inhibit events are generated.

[Top](#)**Local error events enabled (LCLERREVT)**

Specifies whether local error events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Local error events are not generated.

**\*YES**

Local error events are generated.

[Top](#)**Remote error events enabled (RMTERREVT)**

Specifies whether remote error events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Remote error events are not generated.

**\*YES**

Remote error events are generated.

[Top](#)**Performance events enabled (PFREVT)**

Specifies whether performance events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Performance events are not generated.

**\*YES**

Performance events are generated.

[Top](#)**Start and stop events enabled (STRSTPEVT)**

Specifies whether start and stop events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Start and stop events are not generated.

**\*YES**

Start and stop events are generated.

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**Automatic Channel Definition (CHAD)**

Specifies whether receiver and server-connection channels are automatically defined.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Receiver and server-connection channels are not automatically defined.

**\*YES**

Receiver and server-connection channels are automatically defined.

[Top](#)

**Auto Chan. Def. events enabled (CHADEV)**

Specifies whether automatic channel definition events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Automatic channel definition events are not generated.

**\*YES**

Automatic channel definition events are generated.

[Top](#)

**Auto Chan. Def. exit program (CHADEXIT)**

Specifies the entry point of the program to be called as the automatic channel-definition exit.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No automatic channel definition exit is invoked.

***channel-definition-exit-name***

Specify the name of the channel definition exit program.

***library-name***

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified and the values \*LIBL and \*CURLIB are not permitted.

[Top](#)

**Maximum Message Length (MAXMSGL)**

Specifies the maximum message length of messages (in bytes) allowed on queues for this queue manager.

The possible values are:

**\*SAME**

The attribute is unchanged.

***maximum-message-length***

Specify a value in bytes, in the range 32 KB through 100 MB.

[Top](#)

**Coded Character Set (CCSID)**

The coded character set identifier for the queue manager.

The CCSID is the identifier used with all character string fields defined by the API. It does not apply to application data carried in the text of messages unless the CCSID in the message descriptor is set to the value MQCCSI\_Q\_MGR when the message is put to a queue.

If you use this keyword to change the CCSID, applications that are running when the change is applied continue to use the original CCSID. You must stop and restart all running applications before you continue. This includes the command server and channel programs. You are recommended to stop and restart the queue manager after making the change to achieve this.

The possible values are:

**\*SAME**

The attribute is unchanged.

**number**

Specify a value in the range 1 through 65535. The value must represent a coded character set identifier (CCSID) that is recognised by the system.

[Top](#)

**Cluster Workload Exit Data (CLWLDATA)**

Specifies the cluster workload exit data (maximum length 32 characters).

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The cluster workload exit data is not specified.

**cluster-workload-exit-data**

This is passed to the cluster-workload exit when it is called.

[Top](#)

**Cluster Workload Exit (CLWLEXIT)**

Specifies the entry point of the program to be called as the cluster-workload exit.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No cluster-workload exit is invoked.

**cluster-workload-exit**

You must specify a fully-qualified name, when you specify a cluster-workload exit. In this instance, the libraries defined as \*LIBL and \*CURLIB are not permitted.

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**Cluster Workload Exit Data Length (CLWLLEN)**

The maximum number of bytes of message data that is passed to the cluster workload exit.

The possible values are:

**\*SAME**

The attribute is unchanged.

**cluster-workload-exit-data-length**

Specify a value in bytes, in the range 0 through 999999999.

[Top](#)

**Repository name (REPOS)**

The name of a cluster for which this queue manager is to provide a repository manager service.

If the parameter REPOSNL is non-blank this parameter must be blank.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

A cluster is not specified.

**clustername**

The maximum length is 48 characters conforming to the rules for naming WebSphere MQ objects.

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**Repository name list (REPOSNL)**

The name of a namelist of clusters for which this queue manager is to provide a repository manager service.

If the parameter REPOS is non-blank this parameter must be blank.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

A namelist of clusters is not specified.

**namelist**

The name of the namelist.

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### SSL CRL Namelist (SSLCRLNL)

The name of a namelist of authinfo objects which this queue manager uses to check certificate status.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

A namelist of authinfo objects is not specified.

***namelist***

The name of the namelist.

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### SSL Key Repository (SSLKEYR)

The location of a key repository for this queue manager.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*SYSTEM**

The queue manager uses the \*SYSTEM key repository. Setting the SSLKEYR repository to this value causes the queue manager to be registered as an application to Digital Certificate Manager. You can assign any client or server certificate in the \*SYSTEM store to the queue manager through Digital Certificate Manager. If you specify this value you are not required to set the key repository password (SSLKEYRPWD).

**\*NONE**

A key repository is not specified.

***filename***

The location of the key repository. If you specify this value you must ensure the key repository contains a correctly labelled digital certificate and also set the key repository password (SSLKEYRPWD) to enable channels to access the key repository. See the WebSphere MQ Security manual for more details.

[Top](#)

### SSL Repository Password (SSLKEYRPWD)

The password of a key repository for this queue manager.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

A key repository password is not specified.

***password***

The password of the repository.

[Top](#)

### SSL key reset count (SSLRSTCNT)

Specifies when SSL channel MCAs that initiate communication reset the secret key used for encryption on the channel. The value represents the total number of unencrypted bytes that are sent and received on the channel before the secret key is renegotiated. The number of bytes includes control information sent by the message channel agent.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Secret key renegotiation is disabled.

***key-reset-byte-count***

Specify a value in bytes, in the range 0 through 999999999. A value of 0 indicates that secret key renegotiation is disabled.

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### IP protocol (IPADDRV)

The IP protocol to use for channel connections.

This attribute is only relevant for systems enabled for both IPv4 and IPv6. The attribute affects channels with TRPTYPE defined as TCP when the CONNAME is defined as a hostname that resolves to both an IPv4, and an IPv6 address, and one of the following is true:

- LOCLADDR is not specified.
- LOCLADDR also resolves to both an IPv4 and an IPv6 address.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*IPV4**

The IPv4 stack is used.

**\*IPV6**

The IPv6 stack is used.

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### Cluster workload channels (CLWLMRUC)

Specifies the maximum number of most-recently-used cluster channels, to be considered for use by the cluster workload choice algorithm.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### **maximum-cluster-workload-channels**

Specify a value in the range 0 through 999999999.

[Top](#)

### Cluster workload queue use (CLWLUSEQ)

Specifies the behaviour of an MQPUT when the target queue has both a local instance and at least one remote cluster instance. If the put originates from a cluster channel then this attribute does not apply. This value is used for queues whose CLWLUSEQ value is \*QMGR.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### **\*LOCAL**

The local queue will be the sole target of the MQPUT.

#### **\*ANY**

The queue manager will treat such a local queue as another instance of the cluster queue for the purposes of workload distribution.

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### Log recovery events enabled (LOGGEREVT)

Specifies whether log recovery events are generated.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### **\*NO**

Log recovery events are not generated.

#### **\*YES**

Log recovery events are generated.

[Top](#)

### Channel events enabled (CHLEVT)

Specifies whether channel events are generated.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### **\*NO**

Channel events are not generated.

#### **\*EXCEPTION**

Exception channel events are generated.

Only the following channel events are generated:

- MQRC\_CHANNEL\_ACTIVATED
- MQRC\_CHANNEL\_CONV\_ERROR
- MQRC\_CHANNEL\_NOT\_ACTIVATED
- MQRC\_CHANNEL\_STOPPED

The channel events are issued with the following reason qualifiers:

- MQRQ\_CHANNEL\_STOPPED\_ERROR
- MQRQ\_CHANNEL\_STOPPED\_RETRY
- MQRQ\_CHANNEL\_STOPPED\_DISABLED
- MQRC\_CHANNEL\_STOPPED\_BY\_USER

#### **\*YES**

All channel events are generated.

In addition to those generated by \*EXCEPTION the following channel events are also generated:

- MQRC\_CHANNEL\_STARTED
- MQRC\_CHANNEL\_STOPPED
  - with the following reason qualifier:
    - MQRQ\_CHANNEL\_STOPPED\_OK

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### SSL events enabled (SSLEVT)

Specifies whether SSL events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

SSL events are not generated.

**\*YES**

SSL events are generated.

The following event is generated:

- MQRC\_CHANNEL\_SSL\_ERROR

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### Channel initiator control (SCHINIT)

Specifies the channel initiator control.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

Start and stop the channel initiator with the queue manager.

**\*MANUAL**

Do not automatically start the channel initiator with the queue manager.

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### Command server control (SCMDSERV)

Specifies the command server control.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

Start and stop the command server with the queue manager.

**\*MANUAL**

Do not automatically start the command server with the queue manager.

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### Queue Monitoring (MONQ)

Controls the collection of online monitoring data for queues.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Online monitoring data for queues is disabled regardless of the setting of the MONQ queue attribute.

**\*OFF**

Monitoring data collection is turned off for queues specifying \*QMGR in the MONQ queue attribute.

**\*LOW**

Monitoring data collection is turned on with a low ratio of data collection for queues specifying \*QMGR in the MONQ queue attribute.

**\*MEDIUM**

Monitoring data collection is turned on with a moderate ratio of data collection for queues specifying \*QMGR in the MONQ queue attribute.

**\*HIGH**

Monitoring data collection is turned on with a high ratio of data collection for queues specifying \*QMGR in the MONQ queue attribute.

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### Channel Monitoring (MONCHL)

Controls the collection of online monitoring data for channels.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Online monitoring data for channels is disabled regardless of the setting of the MONCHL channel attribute.

**\*OFF**

Monitoring data collection is turned off for channels specifying 'QMGR' in the MONCHL queue attribute.

**\*LOW**

Monitoring data collection is turned on with a low ratio of data collection for channels specifying \*QMGR in the MONCHL channel attribute.

**\*MEDIUM**

Monitoring data collection is turned on with a moderate ratio of data collection for channels specifying \*QMGR in the MONCHL channel attribute.

**\*HIGH**

Monitoring data collection is turned on with a high ratio of data collection for channels specifying \*QMGR in the MONCHL channel attribute.

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### Cluster Sender Monitoring (MONACLS)

Controls the collection of online monitoring data for auto-defined cluster sender channels. The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Online monitoring data for auto-defined cluster sender channels is disabled.

**\*QMGR**

The collection of Online Monitoring Data is inherited from the setting of the MONCHL attribute in the QMGR object.

**\*LOW**

Monitoring data collection is turned on with a low ratio of data collection for auto-defined cluster sender channels.

**\*MEDIUM**

Monitoring data collection is turned on with a moderate ratio of data collection for auto-defined cluster sender channels.

**\*HIGH**

Monitoring data collection is turned on with a high ratio of data collection for auto-defined cluster sender channels.

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### Queue Manager Statistics (STATMQI)

Controls the collection of statistics monitoring information for the queue manager. The possible values are:

**\*SAME**

The attribute is unchanged.

**\*OFF**

Data collection for MQI statistics is disabled.

**\*ON**

Data collection for MQI statistics is enabled.

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### Queue Statistics (STATQ)

Controls the collection of statistics data for queues. The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Data collection for queue statistics is disabled for all queues regardless of the setting of the STATQ queue attribute.

**\*OFF**

Statistics data collection is turned off for queues specifying \*QMGR in the STATQ queue attribute.

**\*ON**

Statistics data collection is turned on for queues specifying \*QMGR in the STATQ queue attribute.

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### Channel Statistics (STATCHL)

Controls the collection of statistics data for channels. The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Data collection for channel statistics is disabled for all channels regardless of the setting of the STATCHL channel attribute.

**\*OFF**

Statistics data collection is turned off for channels specifying \*QMGR in the STATCHL channel attribute.

**\*LOW**

Statistics data collection is turned on with a low ratio of data collection for channels specifying \*QMGR in the STATCHL channel attribute.

**\*MEDIUM**

Statistics data collection is turned on with a moderate ratio of data collection for channels specifying \*QMGR in the STATCHL channel attribute.

**\*HIGH**

Statistics data collection is turned on with a high ratio of data collection for channels specifying \*QMGR in the STATCHL channel attribute.

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### Cluster Sender Statistics (STATACLS)

Controls the collection of statistics data for auto-defined cluster sender channels. The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Statistics data collection for auto-defined cluster sender channels is disabled.

**\*LOW**

Statistics data collection for auto-defined cluster sender channels is enabled with a low ratio of data collection.

**\*MEDIUM**

Statistics data collection for auto-defined cluster sender channels is enabled with a moderate ratio of data collection.

**\*HIGH**

Statistics data collection for auto-defined cluster sender channels is enabled with a high ratio of data collection.

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### Statistics Interval (STATINT)

How often (in seconds) statistics monitoring data is written to the monitoring Queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

***statistics-interval***

Specify a value in the range 1 through 604800.

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### MQI Accounting (ACCTMQI)

Controls the collection of accounting information for MQI data. The possible values are:

**\*SAME**

The attribute is unchanged.

**\*OFF**

API accounting data collection is switched off.

**\*ON**

API accounting data collection is switched on.

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### Queue Accounting (ACCTQ)

Controls the collection of accounting information for queues. The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Accounting data collection for queues is disabled and may not be overridden using the queue attribute ACCTQ.

**\*OFF**

Accounting data collection is turned off for queues specifying \*QMGR in the ACCTQ queue attribute.

**\*ON**

Accounting data collection is turned on for queues specifying \*QMGR in the ACCTQ queue attribute.

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### Accounting Interval (ACCTINT)

After how long in seconds, intermediate accounting records are written.

The possible values are:

**\*SAME**

The attribute is unchanged.

***accounting-interval***

Specify a value in the range 1 through 604800.

[Top](#)

### Accounting Override (ACCTCONO)

Whether applications can override the setting of the ACCTMQI and the ACCTQ values in the QMGR attribute. The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ENABLED**

Application may override the setting of the ACCTMQI and ACCTQ QMGR attributes using the Options field in the MQCNO structure on the MQCONN api call.

**\*DISABLED**

Application may not override the setting of the ACCTMQI and ACCTQ QMGR attributes using the Options field in the MQCNO structure on the MQCONN api



call.

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### Trace Route Recording (ROUTEREC)

Controls the recording of trace route information.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*MSG**

Reply put to destination specified by the message.

**\*QUEUE**

Reply put to fixed name queue.

**\*DISABLED**

No appending to trace route messages allowed.

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### Activity Recording (ACTIVREC)

Controls the generation of activity reports.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*MSG**

Report put to destination specified by the message.

**\*QUEUE**

Report put to fixed name queue.

**\*DISABLED**

No activity reports are generated.

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### Maximum Property Data Length (MAXPROPLEN)

Specifies a maximum length for property data.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ANY**

There is no limit on the length of property data.

**max-property-data-length**

Specify a value in bytes, in the range 0 through 104857600 (ie: 10 MB).

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### Message mark-browse interval (MARKINT)

An approximate time interval in milliseconds, for which messages that have been marked-browsed by a call to MQGET with the get message option MQGMO\_MARK\_BROWSE\_CO\_OP are expected to remain marked-browsed.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ANY**

Messages will remain marked-browsed indefinitely.

**A time interval**

A time interval expressed in milliseconds, in the range 0 through 999999999.

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### PubSub max msg retry count (PSRTCNT)

The number of retries when processing (under syncpoint) a failed command message.

The possible values are:

**\*SAME**

The attribute is unchanged.

**Retry count**

Specify a value in the range 0 through 999999999.

[Top](#)

### PubSub NPM msg (PSNPMMSG)

Whether to discard (or keep) a undelivered input message

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*DISCARD**

Non-persistent input messages may be discarded if they cannot be processed.

**\*KEEP**

Non-persistent input messages will not be discarded if they cannot be processed. In this situation the queued pubsub daemon will continue to retry processing the message. Subsequent input messages are not processed until the message is successfully processed.

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### PubSub NPM msg response (PSNPMRES)

Controls the behavior of undelivered response messages

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NORMAL**

Non-persistent responses that cannot be placed on the reply queue are put on the dead letter queue. If they cannot be placed on the dead letter queue then they are discarded.

**\*SAFE**

Non-persistent responses which cannot be placed on the reply queue are put on the dead letter queue. If the response cannot be placed on the dead letter queue then the message will be rolled back and then retried. Subsequent messages are not processed until the message is delivered.

**\*DISCARD**

Non-persistent responses are not placed on the reply queue but are discarded.

**\*KEEP**

Non-persistent responses that cannot be delivered will be rolled back and the delivery retried. Subsequent messages are not processed until the message is delivered.

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### PubSub syncpoint (PSSYNCP)

Whether only persistent (or all) messages should be processed under syncpoint

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*IFPER**

This makes the queued pubsub daemon receive non-persistent messages outside syncpoint. If the daemon receives a publication outside syncpoint, the daemon forwards the publication to subscribers known to it outside syncpoint.

**\*YES**

This makes the queued pubsub daemon receive all messages under syncpoint.

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### Pubsub Engine Control (PSMODE)

Pubsub Engine Control.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ENABLED**

The publish/subscribe engine and the queued publish/subscribe interface are running. It is therefore possible to publish/subscribe by using the application programming interface, the queues that are being monitored by the queued publish/subscribe interface, or both.

**\*DISABLED**

The publish/subscribe engine and the queued publish/subscribe interface are not running. It is not possible to publish/subscribe by using the application programming interface. Any publish/subscribe messages put to the queues that are monitored by the queued publish/subscribe interface will not be acted upon.

**\*COMPATIBLE**

The publish/subscribe engine is running. It is possible to publish/subscribe by using the application programming interface. The queued publish/subscribe interface is not running. Any publish/subscribe messages put to the queues that are monitored by the queued publish/subscribe interface will not be acted upon. Use this for compatibility with Websphere Business Integration Message Broker V6, or earlier versions, using this queue manager, because Websphere Business Integration Message Broker needs to read the same queues from which the queued publish/subscribe interface would normally read.

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### Topic Tree Life Time (TREELIFE)

Specifies a lifetime in seconds of non-administrative topics. Non-administrative topics are those created when an application publishes to, or subscribes on, a topic string that does not exist as an administrative node. When this non-administrative node no longer has any active subscriptions, this parameter determines how long the queue manager will wait before removing that node. Only non-administrative topics that are in use by a durable subscription remain after the queue manager is recycled.

The possible values are:

**\*SAME**

The attribute is unchanged.

**tree-life-time**

Specify a value in seconds, in the range 0 through 604000. A value of 0 means that non-administrative topics are not removed by the queue manager.

[Top](#)

**Configuration events enabled (CFGEVT)**

Specifies whether configuration events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Configuration events are not generated.

**\*YES**

Configuration events are generated. After setting this value, issue MQSC REFRESH QMGR TYPE(CONFIGEV) commands for all objects to bring the queue manager configuration up-to-date.

[Top](#)

**Command events enabled (CMDEVT)**

Specifies whether command events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Command events are not generated.

**\*YES**

Command events are generated for all successful commands.

**\*NODSP**

Command events are generated for all successful commands, other than DISPLAY commands.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

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**11.5. Change MQ AuthInfo object (CHGMQMAUTI)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Change MQ AuthInfo object (CHGMQMAUTI) command changes the specified attributes of an existing MQ authentication information object.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">AENAME</a>	AuthInfo name	Character value	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 2
<a href="#">AUTHTYPE</a>	AuthInfo type	*CRLLDAP, *OCSP	Optional, Positional 3
<a href="#">CONNAME</a>	Connection name	Character value, <b>*SAME</b>	Optional, Positional 4
<a href="#">TEXT</a>	Text 'description'	Character value, <b>*SAME</b> , *NONE	Optional, Positional 5
<a href="#">USERNAME</a>	User name	Character value, <b>*SAME</b> , *NONE	Optional, Positional 6
<a href="#">PASSWORD</a>	User password	Character value, <b>*SAME</b> , *NONE	Optional, Positional 7
<a href="#">OCSPURL</a>	OCSP Responder URL	Character value, <b>*SAME</b>	Optional, Positional 8

[Top](#)**AuthInfo name (AINAME)**

The name of the authentication information object to change.

The possible values are:

***authentication-information-name***

Specify the name of the authentication information object. The maximum string length is 48 characters.

[Top](#)**Message Queue Manager name (MQMNAME)**

The name of the queue manager.

The possible values are:

***\*DFT***

Use the default queue manager.

***queue-manager-name***

The name of an existing message queue manager. The maximum string length is 48 characters.

[Top](#)**AuthInfo type (AUTHTYPE)**

The type of the authentication information object. There is no default value

The possible values are:

***\*CRLLDAP***

The type of the authentication information object is CRLLDAP.

***\*OCSP***

The type of the authentication information objects is OCSPURL.

[Top](#)**Connection name (CONNAME)**

The DNS name or IP address of the host on which the LDAP server is running, together with an optional port number. The default port number is 389. No default is provided for the DNS name or IP address.

This field is only valid for CRLLDAP authentication information objects.

The possible values are:

***\*SAME***

The connection name remains unchanged from the original authentication information object.

***connection-name***

Specify the fully qualified DNS name or IP address of the host together with an optional port number. The maximum string length is 264 characters.

[Top](#)**Text 'description' (TEXT)**

A short text description of the authentication information object.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

***\*SAME***

The text string is unchanged.

***\*NONE***

The text is set to a blank string.

***description***

The string length can be up to 64 characters enclosed in apostrophes.

[Top](#)**User name (USERNAME)**

The distinguished name of the user that is binding to the directory. The default user name is blank.

This field is only valid for CRLLDAP authentication information objects.

The possible values are:

***\*SAME***

The user name is unchanged.

***\*NONE***

The user name is blank.

***LDAP-user-name***

Specify the distinguished name of the LDAP user. The maximum string length is 1024 characters.

[Top](#)

### User password (PASSWORD)

The password for the LDAP user.

This field is only valid for CRLLDAP authentication information objects.

The possible values are:

#### **\*SAME**

The password is unchanged.

#### **\*NONE**

The password is blank.

#### **LDAP-password**

The LDAP user password. The maximum string length is 32 characters.

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### OCSP Responder URL (OCSPURL)

The URL of the OCSP Responder used to check for certificate revocation. This must be an HTTP URL containing the host name and port number of the OCSP Responder. If the OCSP Responder is using port 80, which is the default for HTTP, then the port number may be omitted.

This field is only valid for OCSP authentication information objects.

The possible values are:

#### **\*SAME**

The OCSP Responder URL is unchanged.

#### **OCSP-Responder-URL**

The OCSP Responder URL. The maximum string length is 256 characters.

[Top](#)

### Examples

None

[Top](#)

### Error messages

Unknown

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## 11.6. Change MQ Channel (CHGMQMCHL)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Change MQ Channel (CHGMQMCHL) command changes the specified attributes of an existing MQ channel definition.

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### Parameters

Keyword	Description	Choices	Notes
<a href="#">CHLNAME</a>	Channel name	Character value	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 2
<a href="#">CHLTYPE</a>	Channel type	*RCVR, *SDR, *SVR, *RQSTR, *SVRCN, *CLUSSDR, *CLUSRCVR, *CLTCN	Optional, Key, Positional 3
<a href="#">TRPTYPE</a>	Transport type	*LU62, *TCP, <b>*SAME</b>	Optional, Positional 4
<a href="#">TEXT</a>	Text 'description'	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 5
<a href="#">TGTQMNAME</a>	Target Queue Manager	Character value, *NONE, <b>*SAME</b>	Optional, Positional 6
<a href="#">CONNAME</a>	Connection name	Character value, *NONE, <b>*SAME</b>	Optional, Positional 7
<a href="#">TPNAME</a>	Transaction Program Name	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 8
<a href="#">MODENAME</a>	Mode Name	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 9
<a href="#">TMQNAME</a>	Transmission queue	Character value, <b>*SAME</b>	Optional, Positional 10
<a href="#">MCANAME</a>	Message channel agent	Single values: <b>*SAME</b> , *NONE	Optional,

		Other values: <i>Qualified object name</i>	Positional 11
	Qualifier 1: Message channel agent	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
<a href="#">MCAUSRID</a>	Message channel agent user ID	<i>Character value, *NONE, *PUBLIC, *SAME</i>	Optional, Positional 12
<a href="#">MCATYPE</a>	Message channel agent Type	<i>*PROCESS, *THREAD, *SAME</i>	Optional, Positional 13
<a href="#">BATCHINT</a>	Batch Interval	<i>0-999999999, *SAME</i>	Optional, Positional 14
<a href="#">BATCHSIZE</a>	Batch size	<i>1-9999, *SAME</i>	Optional, Positional 15
<a href="#">DSCITY</a>	Disconnect interval	<i>0-999999, *SAME</i>	Optional, Positional 16
<a href="#">SHORTTMR</a>	Short retry interval	<i>0-999999999, *SAME</i>	Optional, Positional 17
<a href="#">SHORTRTY</a>	Short retry count	<i>0-999999999, *SAME</i>	Optional, Positional 18
<a href="#">LONGTMR</a>	Long retry interval	<i>0-999999999, *SAME</i>	Optional, Positional 19
<a href="#">LONGRTY</a>	Long retry count	<i>0-999999999, *SAME</i>	Optional, Positional 20
<a href="#">SCYEXIT</a>	Security exit	Single values: <i>*SAME, *NONE</i> Other values: <i>Qualified object name</i>	Optional, Positional 21
	Qualifier 1: Security exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
<a href="#">CSCYEXIT</a>	Security exit	<i>Character value, *SAME, *NONE</i>	Optional, Positional 22
<a href="#">SCYUSRDATA</a>	Security exit user data	<i>Character value, *SAME, *NONE</i>	Optional, Positional 23
<a href="#">SNDEXIT</a>	Send exit	Single values: <i>*SAME, *NONE</i> Other values (up to 10 repetitions): <i>Qualified object name</i>	Optional, Positional 24
	Qualifier 1: Send exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
<a href="#">CSNDEXIT</a>	Send exit	Single values: <i>*SAME, *NONE</i> Other values (up to 10 repetitions): <i>Character value</i>	Optional, Positional 25
<a href="#">SNDUSRDATA</a>	Send exit user data	Values (up to 10 repetitions): <i>Character value, *SAME, *NONE</i>	Optional, Positional 26
<a href="#">RCVEXIT</a>	Receive exit	Single values: <i>*SAME, *NONE</i> Other values (up to 10 repetitions): <i>Qualified object name</i>	Optional, Positional 27
	Qualifier 1: Receive exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
<a href="#">CRCVEXIT</a>	Receive exit	Single values: <i>*SAME, *NONE</i> Other values (up to 10 repetitions): <i>Character value</i>	Optional, Positional 28
<a href="#">RCVUSRDATA</a>	Receive exit user data	Values (up to 10 repetitions): <i>Character value, *SAME, *NONE</i>	Optional, Positional 29
<a href="#">MSGEXIT</a>	Message exit	Single values: <i>*SAME, *NONE</i> Other values (up to 10 repetitions): <i>Qualified object name</i>	Optional, Positional 30
	Qualifier 1: Message exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
<a href="#">MSGUSRDATA</a>	Message exit user data	Values (up to 10 repetitions): <i>Character value, *SAME, *NONE</i>	Optional, Positional 31
<a href="#">MSGRTYEXIT</a>	Message retry exit	Single values: <i>*SAME, *NONE</i> Other values: <i>Qualified object name</i>	Optional, Positional 32
	Qualifier 1: Message retry exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
<a href="#">MSGRTYDATA</a>	Message retry exit data	<i>Character value, *SAME, *NONE</i>	Optional, Positional 33
<a href="#">MSGRTYNBR</a>	Number of message retries	<i>0-999999999, *SAME</i>	Optional, Positional 34
<a href="#">MSGRTYITV</a>	Message retry interval	<i>0-999999999, *SAME</i>	Optional, Positional 35
<a href="#">CVTMSG</a>	Convert message	<i>*YES, *NO, *SAME</i>	Optional, Positional 36
<a href="#">PUTAUT</a>	Put authority	<i>*DFT, *CTX, *SAME</i>	Optional, Positional 37
<a href="#">SEQNUMWRAP</a>	Sequence number wrap	<i>100-999999999, *SAME</i>	Optional, Positional 38
<a href="#">MAXMSGLEN</a>	Maximum message length	<i>0-104857600, *SAME</i>	Optional, Positional 39
<a href="#">HRTBTINTVL</a>	Heartbeat interval	<i>0-999999999, *SAME</i>	Optional, Positional 40
<a href="#">NPMSPEED</a>	Non Persistent Message Speed	<i>*FAST, *NORMAL, *SAME</i>	Optional, Positional 41
<a href="#">CLUSTER</a>	Cluster Name	<i>Character value, *NONE, *SAME</i>	Optional, Positional 42
<a href="#">CLUSNL</a>	Cluster Name List	<i>Character value, *NONE, *SAME</i>	Optional, Positional 43
<a href="#">NETPRTY</a>	Network Connection Priority	<i>0-9, *SAME</i>	Optional, Positional 44
<a href="#">SSLCIPH</a>	SSL CipherSpec	<i>Character value, *NULL_MD5', *NULL_SHA', *RC4_MD5_EXPORT', *RC4_MD5_US', *RC4_SHA_US', *RC2_MD5_EXPORT', *DES_SHA_EXPORT', *TRIPLE_DES_SHA_US', *AES_SHA_US'</i>	Optional, Positional 45

		'*TLS_RSA_WITH_NULL_MD5', '*TLS_RSA_WITH_NULL_SHA', '*TLS_RSA_EXPORT_WITH_RC4_40_MD5', '*TLS_RSA_WITH_RC4_128_MD5', '*TLS_RSA_WITH_RC4_128_SHA', '*TLS_RSA_EXPORT_WITH_RC2_40_MD5', '*TLS_RSA_WITH_DES_CBC_SHA', '*TLS_RSA_WITH_3DES_EDE_CBC_SHA', '*TLS_RSA_WITH_AES_128_CBC_SHA', '*TLS_RSA_WITH_AES_256_CBC_SHA', *NONE, <b>*SAME</b>	
<a href="#">SSLCAUTH</a>	SSL Client Authentication	*REQUIRED, *OPTIONAL, <b>*SAME</b>	Optional, Positional 46
<a href="#">SSLPEER</a>	SSL Peer name	Character value, *NONE, <b>*SAME</b>	Optional, Positional 47
<a href="#">LOCLADDR</a>	Local communication address	Character value, *NONE, <b>*SAME</b>	Optional, Positional 48
<a href="#">BATCHHB</a>	Batch Heartbeat Interval	0-999999999, <b>*SAME</b>	Optional, Positional 49
<a href="#">USERID</a>	Task user identifier	Character value, *NONE, <b>*SAME</b>	Optional, Positional 50
<a href="#">PASSWORD</a>	Password	Character value, *NONE, <b>*SAME</b>	Optional, Positional 51
<a href="#">KAINT</a>	Keep Alive Interval	0-99999, <b>*SAME</b> , *AUTO	Optional, Positional 52
<a href="#">COMPHDR</a>	Header Compression	Values (up to 2 repetitions): *NONE, *SYSTEM, <b>*SAME</b>	Optional, Positional 53
<a href="#">COMPMMSG</a>	Message Compression	Single values: *ANY Other values (up to 4 repetitions): *NONE, *RLE, *ZLIBHIGH, *ZLIBFAST, <b>*SAME</b>	Optional, Positional 54
<a href="#">MONCHL</a>	Channel Monitoring	*QMGR, *OFF, *LOW, *MEDIUM, *HIGH, <b>*SAME</b>	Optional, Positional 55
<a href="#">STATCHL</a>	Channel Statistics	*QMGR, *OFF, *LOW, *MEDIUM, *HIGH, <b>*SAME</b>	Optional, Positional 56
<a href="#">CLWLRANK</a>	Cluster Workload Rank	0-9, <b>*SAME</b>	Optional, Positional 57
<a href="#">CLWLPRTY</a>	Cluster Workload Priority	0-9, <b>*SAME</b>	Optional, Positional 58
<a href="#">CLWLWGHT</a>	Cluster Channel Weight	1-99, <b>*SAME</b>	Optional, Positional 59
<a href="#">SHARECNV</a>	Sharing Conversations	0-999999999, <b>*SAME</b>	Optional, Positional 60
<a href="#">PROPCTL</a>	Property Control	*COMPAT, *NONE, *ALL, <b>*SAME</b>	Optional, Positional 61
<a href="#">MAXINST</a>	Maximum Instances	0-999999999, <b>*SAME</b>	Optional, Positional 62
<a href="#">MAXINSTC</a>	Maximum Instances Per Client	0-999999999, <b>*SAME</b>	Optional, Positional 63
<a href="#">CLNTWGHT</a>	Client Channel Weight	0-99, <b>*SAME</b>	Optional, Positional 64
<a href="#">AFFINITY</a>	Connection Affinity	*PREFERRED, *NONE, <b>*SAME</b>	Optional, Positional 65

[Top](#)**Channel name (CHLNAME)**

Specifies the name of the channel definition.

The possible values are:

**channel-name**

Specify the channel name.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

**message-queue-manager-name**

The name of a message queue manager.

[Top](#)**Channel type (CHLTYPE)**

Specifies the type of the channel being changed.

The possible values are:

**\*SDR**

Sender channel

**\*SVR**

Server channel

**\*RCVR**

Receiver channel

**\*RQSTR**

Requester channel

**\*SVRCN**

Server-connection channel

**\*CLUSSDR**

Cluster-sender channel

**\*CLUSRCVR**

Cluster-receiver channel

**\*CLTCN**

Client-connection channel

[Top](#)**Transport type (TRPTYPE)**

Specifies the transmission protocol.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*LU62**

SNA LU 6.2.

**\*TCP**

Transmission Control Protocol / Internet Protocol (TCP/IP).

[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the channel definition.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The text is set to a blank string.

**description**

Specify no more than 64 characters enclosed in apostrophes.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).[Top](#)**Target Queue Manager (TGTMQMNAME)**

Specifies the name of the target queue manager.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The name of the target queue manager for a client connection channel (CHLTYPE) \*CLTCN is unspecified.

**message-queue-manager-name**

The name of the target message queue manager for a client connection channel (CHLTYPE) \*CLTCN.

For other channel types this parameter must not be specified.

[Top](#)**Connection name (CONNAME)**

Specifies the name of the machine to connect.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The connection name is blank.

**connection-name**

Specify the connection name as required by the transmission protocol:

- For \*LU62, specify the name of the CSI object.
- For \*TCP, specify either the host name, or the network address of the remote machine (or the local machine for cluster-receiver channels). This can be followed by an optional port number enclosed in parentheses.  
If a connection name is not specified for cluster-receiver channels a connection name is automatically generated, assuming the default port and using the current IP address of the system.  
Where a port is not specified the default port 1414 is assumed.



For cluster-receiver channels the connection name relates to the local queue manager, and for other channels it relates to the target queue manager.

This parameter is required for channels with channel type (CHLTYPE) of \*SDR, \*RQSTR, \*CLTCN and \*CLUSDR. It is optional for \*SVR and \*CLUSRCVR channels, and is not valid for \*RCVR or \*SVRCN channels.

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### Transaction Program Name (TPNAME)

This parameter is valid for channels with a TRPTYPE defined as LU 6.2 only.

This parameter must be set to the SNA transaction program name, unless the CONNAME contains a side-object name in which case it must be set to blanks. The name is taken instead from the CPI-C Communications Side Object.

This parameter is not valid for channels with a CHLTYPE defined as \*RCVR.

The possible values are:

**\*SAME**

The value of this attribute does not change.

**\*NONE**

No transaction program name is specified.

**\*BLANK**

The transaction program name is taken from CPI-C Communications Side Object. The side object name must be specified in the CONNAME parameter.

***transaction-program-name***

Specify the SNA transaction program name.

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### Mode Name (MODENAME)

This parameter is valid for channels with a TRPTYPE defined as LU 6.2. If TRPTYPE is not defined as LU 6.2 the data is ignored and no error message is issued.

If specified, the value must be set to the SNA mode name, unless the CONNAME contains a side-object name, in which case it must be set to blanks. The name is then taken from the CPI-C Communications Side Object.

This parameter is not valid for channels with CHLTYPE defined as \*RCVR or \*SVRCONN.

The possible values are:

**\*SAME**

The value of this attribute does not change.

**\*NONE**

No mode name is specified.

**\*BLANK**

Name will be taken from the CPI-C Communications Side Object. This must be specified in the CONNAME parameter.

***SNA-mode-name***

Specify the SNA Mode Name

[Top](#)

### Transmission queue (TMQNAME)

Specifies the name of the transmission queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

***transmission-queue-name***

Specify the name of the transmission queue. A transmission queue name is required if the CHLTYPE is defined as \*SDR or \*SVR.

For other channel types this parameter must not be specified.

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### Message channel agent (MCANAME)

This parameter is reserved and should not be used.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The MCA program name is blank.

This parameter cannot be specified if the CHLTYPE is defined as \*RCVR, \*SVRCN, or \*CLTCN.

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### Message channel agent user ID (MCAUSRID)

Specifies the message channel agent user identifier which is to be used by the message channel agent for authorization to access MQ resources, including (if

PUTAUT is \*DFT) authorization to put the message to the destination queue for receiver or requester channels.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The message channel agent uses its default user identifier.

**\*PUBLIC**

Uses the public authority.

***mca-user-identifier***

Specify the user identifier to be used.

This parameter cannot be specified for a channel type (CHLTYPE) of \*CLTCN.

[Top](#)

### Message channel agent Type (MCATYPE)

Specifies whether the message channel agent program should run as a thread or as a process.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*PROCESS**

The message channel agent runs as a separate process.

**\*THREAD**

The message channel agent runs as a separate thread.

This parameter can only be specified for channels with CHLTYPE defined as \*SDR, \*SVR, \*RQSTR, \*CLUSSDR or \*CLUSRCVR.

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### Batch Interval (BATCHINT)

The minimum amount of time, in milliseconds, that a channel will keep a batch open.

The batch is terminated by which ever of the following occurs first: BATCHSZ messages have been sent, or the transmission queue is empty and BATCHINT is exceeded.

The default value is 0, which means that the batch is terminated as soon as the transmission queue becomes empty (or the BATCHSZ limit is reached).

The value must be in the range 0 through 999999999.

This parameter is valid for channels with CHLTYPE defined as \*SDR, \*SVR, \*CLUSSDR, or \*CLUSRCVR.

The possible values are:

**\*SAME**

The value of this attribute does not change.

***batch-interval***

Specify a value ranging from 0 through 999999999

[Top](#)

### Batch size (BATCHSIZE)

Specifies the maximum number of messages that can be sent down a channel before a checkpoint is taken.

The possible values are:

**\*SAME**

The attribute is unchanged.

***batch-size***

Specify a value ranging from 1 through 9999.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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### Disconnect interval (DSCITV)

Specifies the disconnect interval, which defines the maximum number of seconds that the channel waits for messages to be put on a transmission queue before closing the channel.

The possible values are:

**\*SAME**

The attribute is unchanged.

***disconnect-interval***

Specify a value ranging from 0 through 999999.

This parameter cannot be specified for channel types (CHLTYPE) \*RCVR, \*RQSTR or \*CLTCN.

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### Short retry interval (SHORTTMR)

Specifies the short retry wait interval for a sender, server or cluster channel (\*SDR, \*SVR, \*CLUSSDR or \*CLUSRCVR) that is started automatically by the channel initiator. This defines the interval between attempts to establish a connection to the remote machine.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### ***short-retry-interval***

Specify a value ranging from 0 through 999999999.

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### Short retry count (SHORTRTY)

Specifies the short retry count for a sender, server or cluster channel (\*SDR, \*SVR, \*CLUSSDR or \*CLUSRCVR) that is started automatically by the channel initiator. This defines the maximum number of attempts that are made to establish a connection to the remote machine, at intervals specified by SHORTTMR, before the (normally longer) LONGRTY and LONGTMR are used.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### ***short-retry-count***

Specify a value ranging from 0 through 999999999. A value of 0 means that no retries are allowed.

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### Long retry interval (LONGTMR)

Specifies the long retry wait interval for a sender, server or cluster channel (\*SDR, \*SVR, \*CLUSSDR or \*CLUSRCVR) that is started automatically by the channel initiator. It defines the interval in seconds between attempts to establish a connection to the remote machine, after the count specified by SHORTRTY has been exhausted.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### ***long-retry-interval***

Specify a value in the range 0 through 999999999.

**Note:** For implementation reasons, the maximum retry interval that can be used is 999999; values exceeding this are treated as 999999.

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### Long retry count (LONGRTY)

Specifies the long retry count for a sender, server or cluster channel (\*SDR, \*SVR, \*CLUSSDR or \*CLUSRCVR) that is started automatically by the channel initiator. This defines the maximum number of further attempts that are made to connect to the remote machine, at intervals specified by LONGTMR, after the count specified by SHORTRTY has been exhausted. An error message is logged if the connection is not established after the defined number of attempts.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### ***long-retry-count***

Specify a value in the range 0 through 999999999. A value of 0 means that no retries are allowed.

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### Security exit (SCYEXIT)

Specifies the name of the program to be called as the security exit. If a nonblank name is defined, the exit is invoked at the following times:

- Immediately after establishing a channel.  
Before any messages are transferred, the exit is given the opportunity to instigate security flows to validate connection authorization.
- On receipt of a response to a security message flow.  
Any security message flows received from the remote processor on the remote machine are passed to the exit.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### **\*NONE**

The security exit program is not invoked.

#### ***security-exit-name***

Specify the name of the security exit program.

#### ***library-name***

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

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### Security exit (CSCYEXIT)

Specifies the name of the program to be called as the client security exit. If a nonblank name is defined, the exit is invoked at the following times:

- Immediately after establishing a channel.  
Before any messages are transferred, the exit is given the opportunity to instigate security flows to validate connection authorization.
- On receipt of a response to a security message flow.  
Any security message flows received from the remote processor on the remote machine are passed to the exit.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The client security exit program is not invoked.

***security-exit-name***

Specify the name of the client security exit program.

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### Security exit user data (SCYUSRDATA)

Specifies a maximum of 32 characters of user data that is passed to the security exit program.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The user data for the security exit program is not specified.

***security-exit-user-data***

Specify the user data for the security exit.

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### Send exit (SNDEXIT)

Specifies the entry point of the program to be called as the send exit. If a nonblank name is defined, the exit is invoked immediately before data is sent out on the network. The exit is given the complete transmission buffer before it is transmitted; the contents of the buffer can be modified as required.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The send exit program is not invoked.

***send-exit-name***

Specify the name of the send exit program.

***library-name***

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

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### Send exit (CSNDEXIT)

Specifies the entry point of the program to be called as the client send exit. If a nonblank name is defined, the exit is invoked immediately before data is sent out on the network. The exit is given the complete transmission buffer before it is transmitted; the contents of the buffer can be modified as required.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The client send exit program is not invoked.

***send-exit-name***

Specify the name of the client send exit program.

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### Send exit user data (SNDUSRDATA)

Specifies a maximum of 32 characters of user data that is passed to the send exit program.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The user data for the send exit program is not specified.

***send-exit-user-data***

Specify the user data for the send exit program.

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### Receive exit (CRCVEXIT)

Specifies the entry point of the program to be called as the client receive exit. If a nonblank name is defined, the exit is invoked before data received from the network is processed. The complete transmission buffer is passed to the exit and the contents of the buffer can be modified as required.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The client receive exit program is not invoked.

***receive-exit-name***

Specify the name of the client receive exit program.

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### Receive exit (RCVEXIT)

Specifies the entry point of the program to be called as the receive exit. If a nonblank name is defined, the exit is invoked before data received from the network is processed. The complete transmission buffer is passed to the exit and the contents of the buffer can be modified as required.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The receive exit program is not invoked.

***receive-exit-name***

Specify the name of the receive exit program.

***library-name***

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

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### Receive exit user data (RCVUSRDATA)

Specifies a maximum of 32 characters of user data that is passed to the receive exit program.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The user data for the receive exit program is not specified.

***receive-exit-user-data***

Specify a maximum of 32 characters of user data for the receive exit.

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### Message exit (MSGEXIT)

Specifies the entry point of the program to be called as the message exit. If a nonblank name is defined, the exit is invoked immediately after a message has been retrieved from the transmission queue. The exit is given the entire application message and message descriptor for modification.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The message exit program is not invoked.

***message-exit-name***

Specify the name of the message exit program.

***library-name***

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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### Message exit user data (MSGUSRDATA)

Specifies user data that is passed to the message exit program.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The user data for the message exit program is not specified.

**message-exit-user-data**

Specify a maximum of 32 characters of user data that is passed to the message exit program.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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**Message retry exit (MSGRTYEXIT)**

Specifies the entry point of the program to be called as the message retry exit.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The message retry exit program is not invoked.

**message-retry-exit-name**

Specify the name of the message retry exit program.

**library-name**

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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**Message retry exit data (MSGRTYDATA)**

Specifies user data that is passed to the message retry exit program.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The user data for the message retry exit program is not specified.

**message-retry-exit-user-data**

Specify a maximum of 32 characters of user data that is passed to the message retry exit program.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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**Number of message retries (MSGRTYNBR)**

Specifies the number of times the channel will retry before it decides it cannot deliver the message.

This parameter is used by the channel as an alternative to a message retry exit when MSGRTYEXIT is defined as \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

**message-retry-number**

Specify a value ranging from 0 through 999999999. A value of 0 indicates no retries will be performed.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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**Message retry interval (MSGRTYITV)**

Specifies the minimum interval of time that must pass before the channel can retry the MQPUT operation. This time is in milliseconds.

This parameter is used by the channel as an alternative to a message retry exit when MSGRTYEXIT is defined as \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

**message-retry-number**

Specify a value ranging from 0 through 999999999. A value of 0 indicates that the retry will be performed as soon as possible.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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**Convert message (CVTMSG)**

Specifies whether the application data in the message should be converted before the message is transmitted.

The possible values are:

**\*SAME**

The value of this attribute does not change.

**\*YES**

The application data in the message is converted before sending.

**\*NO**

The application data in the message is not converted before sending.

This parameter cannot be specified for channel types (CHLTYPE) \*RCVR, \*RQSTR, \*CLTCN or \*SVRCN.

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**Put authority (PUTAUT)**

Specifies whether the user identifier in the context information associated with a message is used to establish authority to put the message on the destination queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*DFT**

No authority check is made before the message is put on the destination queue.

**\*CTX**

The user identifier in the message context information is used to establish authority to put the message.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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**Sequence number wrap (SEQNUMWRAP)**

Specifies the maximum message sequence number. When the maximum is reached, sequence numbers wrap to start again at 1.

**Note:** The maximum message sequence number is not negotiable; the local and remote channels must wrap at the same number.

The possible values are:

**\*SAME**

The attribute is unchanged.

***sequence-number-wrap-value***

Specify a value ranging from 100 through 999999999.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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**Maximum message length (MAXMSGLEN)**

Specifies the maximum message length that can be transmitted on the channel. This is compared with the value for the remote channel and the actual maximum is the lower of the two values.

The possible values are:

**\*SAME**

The attribute is unchanged.

***maximum-message-length***

Specify a value ranging from 0 through 104857600. A value of 0 indicates that the maximum length is unlimited.

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**Heartbeat interval (HRTBTINTVL)**

Specifies the time, in seconds, between heartbeat flows passed from the sending MCA when there are no messages on the transmission queue. The heartbeat exchange gives the receiving MCA the opportunity to quiesce the channel. This applies only to sender, server, cluster sender and cluster receiver (\*SDR, \*SVR, \*CLUSSDR and \*CLUSRCVR) channels.

The possible values are:

**\*SAME**

The attribute is unchanged.

***heart-beat-interval***

Specify a value ranging from 0 through 999999999. A value of 0 means that no heartbeat exchanges are to take place.

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**Non Persistent Message Speed (NPMSPEED)**

Specifies whether the channel supports fast non persistent messages.

The possible values are:

**\*SAME**

The value of this attribute does not change.

**\*FAST**

The channel supports fast non persistent messages.

**\*NORMAL**

The channel does not support fast non persistent messages.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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### Cluster Name (CLUSTER)

The name of the cluster to which the channel belongs. The maximum length is 48 characters conforming to the rules for naming MQ objects.

This parameter is valid only for \*CLUSSDR and \*CLUSRCVR channels. If the CLUSNL parameter is non-blank, this parameter must be blank.

The possible values are:

#### **\*SAME**

The value of this attribute does not change.

#### **\*NONE**

No cluster name is specified.

#### ***cluster-name***

The name of the cluster to which the channel belongs. The maximum length is 48 characters conforming to the rules for naming MQ objects.

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### Cluster Name List (CLUSNL)

The name of the namelist that specifies a list of clusters to which the channel belongs

This parameter is valid only for \*CLUSSDR and \*CLUSRCVR channels. If the CLUSTER parameter is non-blank, this parameter must be blank.

The possible values are:

#### **\*SAME**

The value of this attribute does not change.

#### **\*NONE**

No cluster namelist is specified.

#### ***cluster-name-list***

The name of the namelist specifying a list of clusters to which the channel belongs. The maximum length is 48 characters conforming to the rules for naming MQ objects.

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### Network Connection Priority (NETPRTY)

The priority for the network connection. Distributed queuing chooses the path with the highest priority if there are multiple paths available. The value must be in the range between 0 and 9 where 0 is the lowest priority.

This parameter is valid only for \*CLUSRCVR channels.

The possible values are:

#### **\*SAME**

The value of this attribute does not change.

#### ***network-connection-priority***

Specify a value ranging from 0 through 9 where 0 is the lowest priority.

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### SSL CipherSpec (SSLCIPH)

SSLCIPH specifies the CipherSpec used in SSL channel negotiation. The possible values are:

#### **\*SAME**

The value of this attribute does not change.

#### ***cipherspec***

The name of the CipherSpec.

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### SSL Client Authentication (SSLCAUTH)

SSLCAUTH specifies whether the channel carries out client authentication over SSL. The parameter is used only for channels with SSLCIPH specified.

The possible values are:

#### **\*SAME**

The value of this attribute does not change.

#### **\*REQUIRED**

Client authentication is required.

#### **\*OPTIONAL**

Client authentication is optional.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*CLTCN or \*CLUSSDR.

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### SSL Peer name (SSLPEER)

SSLPEER specifies the X500 peer name used in SSL channel negotiation. The possible values are:

#### **\*SAME**

The value of this attribute does not change.

#### **x500peername**

The X500 peer name to use.

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### Local communication address (LOCLADDR)

Specifies the local communication address for the channel.

This parameter is only valid for \*SDR, \*SVR, \*RQSTR, \*CLUSSDR, \*CLUSRCVR and \*CLTCN channels.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### **\*NONE**

The connection is blank.

#### **local-address**

Only valid for transport type TCP/IP. Specify the optional IP address and optional port or port range used for outbound TCP/IP communications. The format is LOCLADDR([ip-addr][low-port[,high-port]]).

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### Batch Heartbeat Interval (BATCHEB)

The time in milliseconds used to determine whether batch heartbeating occurs on this channel. Batch heartbeating allows channels to determine whether the remote channel instance is still active before going indoubt. A batch heartbeat will occur if a channel MCA has not communicated with the remote channel within the specified time.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### **batch-heartbeat-interval**

Specify a value ranging from 0 through 999999999. A value of 0 indicates that batch heartbeating is not to be used.

This parameter cannot be specified for channel types (CHLTYPE) \*RCVR, \*RQSTR, \*CLTCN or \*SVRCN.

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### Task user identifier (USERID)

This is used by the message channel agent when attempting to initiate a secure LU 6.2 session with a remote message channel agent.

This parameter is valid only for channels with a channel type (CHLTYPE) of \*SDR, \*SVR, \*RQSTR, \*CLTCN or \*CLUSSDR.

Although the maximum length of the attribute is 12 characters, only the first 10 characters are used.

The possible values are:

#### **\*SAME**

The value of this attribute does not change.

#### **\*NONE**

No user identifier is specified.

#### **user-identifier**

Specify the task user identifier.

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### Password (PASSWORD)

This is used by the message channel agent when attempting to initiate a secure LU 6.2 session with a remote message channel agent.

This parameter is valid only for channels with a channel type (CHLTYPE) of \*SDR, \*SVR, \*RQSTR, \*CLTCN or \*CLUSSDR.

Although the maximum length of the attribute is 12 characters, only the first 10 characters are used.

The possible values are:

#### **\*SAME**

The value of this attribute does not change.

#### **\*NONE**

No password is specified.

#### **password**

Specify the password.

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### Keep Alive Interval (KAINT)

Specifies the keep alive timing interval for this channel.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*AUTO**

The keep alive interval is calculated based upon the negotiated heartbeat value as follows:

- If the negotiated HBINT is greater than 0, keep alive interval is set to that value plus 60 seconds.
- If the negotiated HBINT is 0, the value used is that specified by the KEEPALIVEOPTIONS statement in the TCP profile configuration data set.

***keep-alive-interval***

Specify a value ranging from 0 through 99999.

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## Header Compression (COMPHDR)

The list of header data compression techniques supported by the channel.

For channel types sender, server, cluster sender, cluster receiver and client connection (\*SDR, \*SVR, \*CLUSSDR, \*CLUSRCVR and \*CLTCN) the values specified are in order of preference with the first compression technique supported by the remote end of the channel being used.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No header data compression is performed.

**\*SYSTEM**

Header data compression is performed.

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## Message Compression (COMPMSG)

The list of message data compression techniques supported by the channel.

For channel types sender, server, cluster sender, cluster receiver and client connection (\*SDR, \*SVR, \*CLUSSDR, \*CLUSRCVR and \*CLTCN) the values specified are in order of preference with the first compression technique supported by the remote end of the channel being used.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No message data compression is performed.

**\*RLE**

Message data compression is performed using run-length encoding.

**\*ZLIBFAST**

Message data compression is performed using the zlib compression technique. A fast compression time is preferred.

**\*ZLIBHIGH**

Message data compression is performed using the zlib compression technique. A high level of compression is preferred.

**\*ANY**

Any compression technique supported by the queue manager can be used. This option is only valid for channel types receiver, requester and server connection (\*RCVR, \*RQSTR and \*SVRCN).

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## Channel Monitoring (MONCHL)

Controls the collection of online monitoring data.

Online monitoring data is not collected when the queue manager attribute MONCHL is set to \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

The collection of online monitoring data is inherited from the setting of the queue manager attribute MONCHL.

**\*OFF**

Online Monitoring Data collection for this channel is switched off.

**\*LOW**

Monitoring data collection is turned on with a low ratio of data collection.

**\*MEDIUM**

Monitoring data collection is turned on with a moderate ratio of data collection.

**\*HIGH**

Monitoring data collection is turned on with a high ratio of data collection.

This parameter cannot be specified for a channel type (CHLTYPE) of \*CLTCN.

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### Channel Statistics (STATCHL)

Controls the collection of statistics data.

Statistics data is not collected when the queue manager attribute STATCHL is set to \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

Statistics data collection is based upon the setting of the queue manager attribute STATCHL.

**\*OFF**

Statistics data collection for this channel is switched off.

**\*LOW**

Statistics data collection is turned on with a low ratio of data collection.

**\*MEDIUM**

Statistics data collection is turned on with a moderate ratio of data collection.

**\*HIGH**

Statistics data collection is turned on with a high ratio of data collection.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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### Cluster Workload Rank (CLWLRANK)

Specifies the cluster workload rank of the channel.

The possible values are:

**\*SAME**

The attribute is unchanged.

***cluster-workload-rank***

The cluster workload rank of the channel in the range 0 through 9.

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### Cluster Workload Priority (CLWLPRTY)

Specifies the cluster workload priority of the channel.

The possible values are:

**\*SAME**

The attribute is unchanged.

***cluster-workload-priority***

The cluster workload priority of the channel in the range 0 through 9.

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### Cluster Channel Weight (CLWLWGHT)

Specifies the cluster workload weight of the channel.

The possible values are:

**\*SAME**

The attribute is unchanged.

***cluster-workload-weight***

The cluster workload weight of the channel in the range 1 through 99.

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### Sharing Conversations (SHARECNV)

Specifies the maximum the number of conversations which can be shared over a particular TCP/IP client channel instance (socket).

This parameter is valid for channels with CHLTYPE defined as \*CLTCN or \*SVRCN.

The possible values are:

**\*SAME**

The attribute is unchanged.

**0**

Specifies no sharing of conversations over a TCP/IP socket. The channel instance runs in a mode prior to that of WebSphere MQ Version 7.0, with regard to:

- Administrator stop-quiesce
- Heartbeating
- Read ahead

**1**

Specifies no sharing of conversations over a TCP/IP socket. Client heartbeating and read ahead are available, whether in an MQGET call or not, and channel quiescing is more controllable.

**shared-conversations**

The number of shared conversations in the range 2 through 999999999.

This parameter is only valid for client-connection and server-connection channels.

**Note:** If the client-connection SHARECNV value does not match the server-connection SHARECNV value, the lower of the two values is used.

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**Property Control (PROPCTL)**

Specifies what happens to properties of messages when the message is about to be sent to a V6 or prior queue manager (a queue manager that does not understand the concept of a property descriptor).

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*COMPAT**

If the message contains a property with a prefix of "mcd.", "jms.", "usr." or "mqext." then all optional message properties, except those in the message descriptor (or extension) will be placed in one or more MQRFH2 headers in the message data before the message is sent to the remote queue manager.

**\*NONE**

All properties of the message, except those in the message descriptor (or extension), will be removed from the message before the message is sent to the remote queue manager.

**\*ALL**

All properties of the message will be included with the message when it is sent to the remote queue manager. The properties, except those in the message descriptor (or extension), will be placed in one or more MQRFH2 headers in the message data.

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**Maximum Instances (MAXINST)**

Specifies the maximum number of clients that can simultaneously connect to the queue manager via this server-connection channel object.

This attribute is valid only for server-connection channels.

The possible values are:

**\*SAME**

The attribute is unchanged.

**maximum-instances**

The maximum number of simultaneous instances of the channel in the range 0 through 999999999.

A value of zero prevents all client access. If the value is reduced below the number of instances of the server connection channel currently running, the running channels will not be affected, but new instances will not be able to start until sufficient existing ones have ceased to run.

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**Maximum Instances Per Client (MAXINSTC)**

Specifies the maximum number of simultaneous instances of an individual server-connection channel which can be started from a single client.

In this context, multiple client connections originating from the same remote network address are considered to be a single client.

This attribute is valid only for server-connection channels.

The possible values are:

**\*SAME**

The attribute is unchanged.

**maximum-instances-per-client**

The maximum number of simultaneous instances of the channel which can be in the started from a single client in the range 0 through 999999999.

A value of zero prevents all client access. If the value is reduced below the number of instances of the server connection channel currently running from individual clients, the running channels will not be affected, but new instances will not be able to start until sufficient existing ones have ceased to run.

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**Client Channel Weight (CLNTWGHT)**

The client channel weighting attribute is used so client channel definitions can be selected at random based on their weighting when more than one suitable definition is available.

The possible values are:

**\*SAME**

The attribute is unchanged.

**client-channel-weight**

The client channel weight in the range 0 through 99.

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**Connection Affinity (AFFINITY)**

The channel affinity attribute is used so client applications that connect multiple times using the same queue manager name can choose whether to use the same client channel definition for each connection.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*PREFERRED**

The first connection in a process reading a CCDT creates a list of applicable definitions based on the weighting with any applicable CLNTWGHT(0) definitions first and in alphabetical order. Each connection in the process attempts to connect using the first definition in the list. If a connection is unsuccessful the next definition is used. Unsuccessful non CLNTWGHT(0) definitions are moved to the end of the list. CLNTWGHT(0) definitions remain at the start of the list and are selected first for each connection.

**\*NONE**

The first connection in a process reading a CCDT creates a list of applicable definitions. All connections in a process select an applicable definition based on the weighting with any applicable CLNTWGHT(0) definitions selected first in alphabetical order.

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## Examples

None

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## Error messages

Unknown

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## 11.7. Change Queue Manager Journal (CHGMQMJRN)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Change Queue Manager Journal command (CHGMQMJRN) changes a queue manager journal. This command can be used, for example, to change the type of remote journal replication used for a backup or multi-instance queue manager.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 1
<a href="#">JRN</a>	Queue Manager Journal	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">RMTJRNRDB</a>	Remote Relational Database	Character value	Optional, Positional 3
<a href="#">RMTJRNSTS</a>	Remote Journal Status	<b>*ACTIVE</b> , *INACTIVE	Optional, Positional 4
<a href="#">RMTJRNDLV</a>	Remote Journal Delivery	<b>*SYNC</b> , *ASYNCR	Optional, Positional 5
<a href="#">RMTJRNTIMO</a>	Remote Journal Sync. Timeout	1-3600, <b>*DFT</b>	Optional, Positional 6

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### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager associated with the journal.

**queue-manager-name**

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)

### Queue Manager Journal (JRN)

Specifies the journal name to create.

The possible values are:

**\*DFT**

The journal name is chosen by the system. If a local journal already exists for the queue manager on this system - the existing local journal name is used, otherwise a unique name is generated of the format AMQxJRN where x is a character in the range 'A - Z'.

**journal-name**

Specify the name of the journal. The name can contain up to 10 characters. Journal receiver names will be derived from this journal name by truncating at the 4th character (or at the last character if the journal name is shorter than 4 characters) and appending zeroes. If the local queue manager library already contains a local journal, its name must match that supplied. Only one local journal can exist in a queue manager library. DLTMQM will not remove journal artifacts from a queue manager library unless they are prefixed with "AMQ".

[Top](#)**Remote Relational Database (RMTJRNDB)**

Specifies the name of the relational database directory entry that contains the remote location name of the target system. Use the WRKRDBDIRE command to locate and existing entry or configure a new relational database directory entry for the target system.

**relational-database-directory-entry**

Specify the name of the relational database directory entry. The name can contain up to 18 characters.

[Top](#)**Remote Journal Status (RMTJRNSTS)**

Specifies whether the remote journal is ready to receive journal entries from the queue managers local journal.

The possible values are:

**\*ACTIVE**

The remote journal is ready to receive journal entries from the local queue manager journal. Replication of journal entries starts with the oldest local journal receiver required to perform a full media recovery and queue manager restart. If these recovery points do not exist, replication starts with the currently attached local journal receiver.

**\*INACTIVE**

The remote journal is not ready to receive journal entries from the local queue manager journal.

[Top](#)**Remote Journal Delivery (RMTJRNDLV)**

Specifies whether the journal entries are replicated synchronously or asynchronously when the remote journal is activated. Note that this parameter is ignored when RMTJRNSTS(\*INACTIVE) is specified.

The possible values are:

**\*SYNC**

The remote journal is replicated synchronously with the local queue manager journal.

**\*ASYNC**

The remote journal is replicated asynchronously with the local queue manager journal.

[Top](#)**Remote Journal Sync. Timeout (RMTJRNTIMO)**

Specifies the maximum amount of time in seconds to wait for a response from the remote system when using synchronous replication with remote journaling. If a response is not received from the remote system within the timeout period, the remote journal environment will automatically be inactivated. Note that this parameter is ignored when RMTJRNDLV(\*ASYNC) or RMTJRNSTS(\*INACTIVE) are specified.

The possible values are:

**\*DFT**

The system uses the default value of 60 seconds to wait for a response from the remote system.

**1-3600**

Specify the maximum number of seconds to wait for a response from the remote system. Note that this option is only available on IBM i V6R1M0 and later operating systems.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.8. Change MQ Listener (CHGMQMSLR)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Change MQ Listener (CHGMQMSLR) command changes the specified attributes of an existing MQ listener definition.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">LSRNAME</a>	Listener name	Character value	Required, Key,

			Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 2
<a href="#">TEXT</a>	Text 'description'	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 3
<a href="#">CONTROL</a>	Listener control	<b>*SAME</b> , *MANUAL, *QMGR, *STARTONLY	Optional, Positional 4
<a href="#">PORT</a>	Port number	0-65535, <b>*SAME</b>	Optional, Positional 5
<a href="#">IPADDR</a>	IP Address	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 6
<a href="#">BACKLOG</a>	Listener backlog	0-999999999, <b>*SAME</b>	Optional, Positional 7

[Top](#)**Listener name (LSRNAME)**

The name of the listener definition to be changed.

The possible values are:

***listener-name***

Specify the name of the listener definition. The maximum length of the string is 48 bytes.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

***queue-manager-name***

The name of a message queue manager.

[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the listener definition.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The text is set to a blank string.

***description***

Specify no more than 64 characters enclosed in apostrophes.

[Top](#)**Listener control (CONTROL)**

Whether the listener starts automatically when the queue manager is started.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*MANUAL**

The listener is not automatically started or stopped.

**\*QMGR**

The listener is started and stopped as the queue manager is started and stopped.

**\*STARTONLY**

The listener is started as the queue manager is started, but is not automatically stopped when the queue manager is stopped.

[Top](#)**Port number (PORT)**

The port number to be used by the listener.

The possible values are:

**\*SAME**

The attribute is unchanged.

***port-number***

The port number to be used.

[Top](#)

**IP Address (IPADDR)**

The IP address to be used by the listener.

The possible values are:

**\*SAME**

The attribute is unchanged.

**ip-addr**

The IP address to be used.

[Top](#)

**Listener backlog (BACKLOG)**

The number of concurrent connection requests the listener supports.

The possible values are:

**\*SAME**

The attribute is unchanged.

**backlog**

The number of concurrent connection requests supported.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.9. Change MQ Namelist (CHGMQML)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Change MQ Namelist (CHGMQML) command changes a list of names in the namelist specified on the selected local queue manager.

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">NAMELIST</a>	Namelist	Character value	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, *DFT	Optional, Key, Positional 2
<a href="#">TEXT</a>	Text 'description'	Character value, *BLANK, *SAME	Optional, Positional 3
<a href="#">NAMES</a>	List of Names	Values (up to 256 repetitions): Character value, *BLANKS, *SAME, *NONE	Optional, Positional 4

[Top](#)

**Namelist (NAMELIST)**

The name of the namelist to be changed.

**namelist**

Specify the name of the namelist. The maximum length of the string is 48 bytes.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

The default queue manager is used.

**message-queue-manager-name**

Specify the name of the queue manager.



[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the namelist.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

**\*SAME**

The attribute is unchanged.

**description**

Specify no more than 64 characters enclosed in apostrophes.

[Top](#)**List of Names (NAMES)**

List of names. This is the list of names to be created. The names can be of any type, but must conform to the rules for naming MQ objects.

**\*SAME**

The attribute is unchanged.

**namelist**

The list to create. An empty list is valid.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.10. Change MQ Process (CHGMQMPRC)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Change MQ Process (CHGMQMPRC) command changes the specified attributes of an existing MQ process definition.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">PRCNAME</a>	Process name	Character value	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 2
<a href="#">TEXT</a>	Text 'description'	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 3
<a href="#">APPTYPE</a>	Application type	Integer, <b>*SAME</b> , *CICS, *MVS, *IMS, *OS2, *DOS, *UNIX, *QMGR, *OS400, *WINDOWS, *CICS_VSE, *WINDOWS_NT, *VMS, *NSK, *VOS, *IMS_BRIDGE, *XCF, *CICS_BRIDGE, *NOTES_AGENT, *BROKER, *JAVA, *DQM	Optional, Positional 4
<a href="#">APPID</a>	Application identifier	Character value, <b>*SAME</b>	Optional, Positional 5
<a href="#">USRDATA</a>	User data	Character value, <b>*SAME</b> , *NONE	Optional, Positional 6
<a href="#">ENVDATA</a>	Environment data	Character value, <b>*SAME</b> , *NONE	Optional, Positional 7

[Top](#)**Process name (PRCNAME)**

The name of the process definition to be changed.

The possible values are:

**process-name**

Specify the name of the process definition. The maximum length of the string is 48 bytes.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

***queue-manager-name***

The name of a message queue manager.

[Top](#)

### Text 'description' (TEXT)

Specifies text that briefly describes the process definition.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The text is set to a blank string.

***description***

Specify no more than 64 characters enclosed in apostrophes.

[Top](#)

### Application type (APPTYPE)

The type of application started.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*CICS**

Represents a CICS/400 application.

**\*MVS**

Represents an MVS application.

**\*IMS**

Represents an IMS application.

**\*OS2**

Represents an OS/2 application.

**\*DOS**

Represents a DOS application.

**\*UNIX**

Represents a UNIX application.

**\*QMGR**

Represents a queue manager.

**\*OS400**

Represents an i5/OS application.

**\*WINDOWS**

Represents a Windows application.

**\*CICS\_VSE**

Represents a CICS/VSE application.

**\*WINDOWS\_NT**

Represents a Windows NT application.

**\*VMS**

Represents a VMS application.

**\*NSK**

Represents a Tandem/NSK application.

**\*VOS**

Represents a VOS application.

**\*IMS\_BRIDGE**

Represents an IMS bridge application.

**\*XCF**

Represents an XCF application.

**\*CICS\_BRIDGE**

Represents a CICS bridge application.

**\*NOTES\_AGENT**

Represents a Lotus Notes application.

**\*BROKER**

Represents a broker application.

**\*JAVA**

Represents a Java application.

**\*DQM**

Represents a DQM application.

**user-value**

User-defined application type in the range 65536 through 999999999.

[Top](#)

### Application identifier (APPID)

Application identifier. This is the name of the application to be started, on the platform for which the command is processing. It is typically a program name and library name.

The possible values are:

**\*SAME**

The attribute is unchanged.

**application-id**

The maximum length is 256 characters.

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### User data (USRDATA)

A character string that contains user information pertaining to the application, as defined by APPID, to start.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The user data is blank.

**user-data**

Specify up to 128 characters of user data.

[Top](#)

### Environment data (ENVDATA)

A character string that contains environment information pertaining to the application, as defined by APPID, to start.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The environment data is blank.

**environment-data**

The maximum length is 128 characters.

[Top](#)

### Examples

None

[Top](#)

### Error messages

Unknown

[Top](#)

## 11.11. Change MQ Queue (CHGMQM)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Change MQ Queue (CHGMQM) command changes the specified attributes of an existing MQ queue.

[Top](#)

### Parameters

Keyword	Description	Choices	Notes
<a href="#">QNAME</a>	Queue name	<i>Character value</i>	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Key, Positional 2

<b>QTYPE</b>	Queue type	Character value	Optional, Positional 3
<b>FORCE</b>	Force	<b>*NO</b> , *YES	Optional, Positional 4
<b>TEXT</b>	Text 'description'	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 5
<b>PUTENBL</b>	Put enabled	<b>*SAME</b> , *NO, *YES	Optional, Positional 6
<b>DFTPTY</b>	Default message priority	0-9, <b>*SAME</b>	Optional, Positional 7
<b>DFTMSGPST</b>	Default message persistence	<b>*SAME</b> , *NO, *YES	Optional, Positional 8
<b>PRCNAME</b>	Process name	Character value, *NONE, <b>*SAME</b>	Optional, Positional 9
<b>TRGENBL</b>	Triggering enabled	<b>*SAME</b> , *NO, *YES	Optional, Positional 10
<b>GETENBL</b>	Get enabled	<b>*SAME</b> , *NO, *YES	Optional, Positional 11
<b>SHARE</b>	Sharing enabled	<b>*SAME</b> , *NO, *YES	Optional, Positional 12
<b>DFTSHARE</b>	Default share option	<b>*SAME</b> , *NO, *YES	Optional, Positional 13
<b>MSGDLYSEQ</b>	Message delivery sequence	<b>*SAME</b> , *PTY, *FIFO	Optional, Positional 14
<b>HDNBKTCNT</b>	Harden backout count	<b>*SAME</b> , *NO, *YES	Optional, Positional 15
<b>TRGTYPE</b>	Trigger type	<b>*SAME</b> , *FIRST, *ALL, *DEPTH, *NONE	Optional, Positional 16
<b>TRGDEPTH</b>	Trigger depth	1-999999999, <b>*SAME</b>	Optional, Positional 17
<b>TRGMSGPTY</b>	Trigger message priority	0-9, <b>*SAME</b>	Optional, Positional 18
<b>TRGDATA</b>	Trigger data	Character value, *NONE, <b>*SAME</b>	Optional, Positional 19
<b>RTNITY</b>	Retention interval	0-999999999, <b>*SAME</b>	Optional, Positional 20
<b>MAXDEPTH</b>	Maximum queue depth	0-999999999, <b>*SAME</b>	Optional, Positional 21
<b>MAXMSGLN</b>	Maximum message length	0-104857600, <b>*SAME</b>	Optional, Positional 22
<b>BKTHLD</b>	Backout threshold	0-999999999, <b>*SAME</b>	Optional, Positional 23
<b>BKQNAME</b>	Backout requeue name	Character value, *NONE, <b>*SAME</b>	Optional, Positional 24
<b>INITQNAME</b>	Initiation queue	Character value, *NONE, <b>*SAME</b>	Optional, Positional 25
<b>USAGE</b>	Usage	<b>*SAME</b> , *NORMAL, *TMQ	Optional, Positional 26
<b>DFNTYPE</b>	Definition type	<b>*SAME</b> , *TEMPDYN, *PERMDYN	Optional, Positional 27
<b>TGTONAME</b>	Target object	Character value, <b>*SAME</b>	Optional, Positional 28
<b>RMTQNAME</b>	Remote queue	Character value, <b>*SAME</b> , *NONE	Optional, Positional 29
<b>RMTQMNAME</b>	Remote Message Queue Manager	Character value, <b>*SAME</b>	Optional, Positional 30
<b>TMONAME</b>	Transmission queue	Character value, *NONE, <b>*SAME</b>	Optional, Positional 31
<b>HIGHTHLD</b>	Queue depth high threshold	0-100, <b>*SAME</b>	Optional, Positional 32
<b>LOWTHLD</b>	Queue depth low threshold	0-100, <b>*SAME</b>	Optional, Positional 33
<b>FULLEVT</b>	Queue full events enabled	<b>*SAME</b> , *NO, *YES	Optional, Positional 34
<b>HIGHEVT</b>	Queue high events enabled	<b>*SAME</b> , *NO, *YES	Optional, Positional 35
<b>LOWEVT</b>	Queue low events enabled	<b>*SAME</b> , *NO, *YES	Optional, Positional 36
<b>SRVITY</b>	Service interval	0-999999999, <b>*SAME</b>	Optional, Positional 37
<b>SRVEVT</b>	Service interval events	<b>*SAME</b> , *HIGH, *OK, *NONE	Optional, Positional 38
<b>DISTLIST</b>	Distribution list support	<b>*SAME</b> , *NO, *YES	Optional, Positional 39
<b>CLUSTER</b>	Cluster Name	Character value, <b>*SAME</b> , *NONE	Optional, Positional 40
<b>CLUSNL</b>	Cluster Name List	Character value, *NONE, <b>*SAME</b>	Optional, Positional 41
<b>DEFBIND</b>	Default Binding	<b>*SAME</b> , *OPEN, *NOTFIXED	Optional, Positional 42
<b>CLWLKANK</b>	Cluster Workload Rank	0-9, <b>*SAME</b>	Optional, Positional 43
<b>CLWLPRTY</b>	Cluster Workload Priority	0-9, <b>*SAME</b>	Optional, Positional 44
<b>CLWLUSEQ</b>	Cluster workload queue use	<b>*SAME</b> , *QMGR, *LOCAL, *ANY	Optional,

			Positional 45
<a href="#">MONQ</a>	Queue Monitoring	<b>*SAME</b> , *QMGR, *OFF, *LOW, *MEDIUM, *HIGH	Optional, Positional 46
<a href="#">STATO</a>	Queue Statistics	<b>*SAME</b> , *QMGR, *OFF, *ON	Optional, Positional 47
<a href="#">ACCTO</a>	Queue Accounting	<b>*SAME</b> , *QMGR, *OFF, *ON	Optional, Positional 48
<a href="#">NPMCLASS</a>	Non Persistent Message Class	<b>*SAME</b> , *NORMAL, *HIGH	Optional, Positional 49
<a href="#">MSGREADAHD</a>	Message Read Ahead	<b>*SAME</b> , *DISABLED, *NO, *YES	Optional, Positional 50
<a href="#">DFTPUTRESP</a>	Default Put Response	<b>*SAME</b> , *SYNC, *ASYN	Optional, Positional 51
<a href="#">PROPCTL</a>	Property Control	<b>*SAME</b> , *COMPAT, *NONE, *ALL, *FORCE	Optional, Positional 52
<a href="#">TARGTYPE</a>	Target Type	<b>*SAME</b> , *QUEUE, *TOPIC	Optional, Positional 53

[Top](#)**Queue name (QNAME)**

The name of the queue to be changed.

The possible values are:

**queue-name**

Specify the name of the queue.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)**Queue type (QTYPE)**

Specifies the type of queue that is to be changed.

The possible values are:

**\*ALS**

An alias queue.

**\*LCL**

A local queue.

**\*RMT**

A remote queue.

**\*MDL**

A model queue.

[Top](#)**Force (FORCE)**

Specifies whether the command should be forced to complete when conditions are such that completing the command affects an open queue. The conditions depend on the type of the queue that is being changed:

**Alias Queue**

The TGTQNAME keyword is specified with a queue name and an application has the alias queue open.

**Local Queue**

Either of the following conditions indicate that a local queue will be affected:

- SHARE(\*NO) is specified and more than one application has the local queue open for input.
- The USAGE attribute is changed and one or more applications has the local queue open, or, there are one or more messages on the queue. (The USAGE attribute should not normally be changed while there are messages on the queue; the format of messages changes when they are put on a transmission queue.)

**Remote Queue**

Either of the following conditions indicate that a remote queue will be affected:

- The TMQNAME keyword is specified with a transmission-queue name (or \*NONE) and an application with the remote queue open will be affected by this change.
- Any of the RMTQNAME, RMTMQMNAME or TMQNAME keywords is specified with a queue or queue manager name, and one or more applications has a queue open that resolves through this definition as a queue manager alias.

**Note:** FORCE(\*YES) is not required if this definition is in use as a reply-to queue definition only.

The possible values are:

**\*NO**

The command fails if the relevant conditions are true.

**\*YES**

The command is forced to complete successfully even if the relevant conditions are true.

[Top](#)

**Text 'description' (TEXT)**

Specifies text that briefly describes the queue definition.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The text is set to a blank string.

**description**

Specify no more than 64 characters enclosed in apostrophes.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)

**Put enabled (PUTENBL)**

Specifies whether messages can be put on the queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Messages cannot be added to the queue.

**\*YES**

Messages can be added to the queue by authorized applications.

[Top](#)

**Default message priority (DFTPTY)**

Specifies the default priority of messages put on the queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

**priority-value**

Specify a value ranging from 0 through 9, where 9 is the highest priority.

[Top](#)

**Default message persistence (DFTMSGPST)**

Specifies the default for message-persistence on the queue. Message persistence determines whether messages are preserved across restarts of the queue manager.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

By default, messages are lost across a restart of the queue manager.

**\*YES**

By default, messages are preserved across a restart of the queue manager.

[Top](#)

**Process name (PRCNAME)**

Specifies the local name of the MQ process that identifies the application that should be started when a trigger event occurs.

The process does not have to be available when the queue is created, but it must be available for a trigger event to occur.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The process name is blank.

**process-name**

Specify the name of the MQ process.

[Top](#)**Triggering enabled (TRGENBL)**

Specifies whether trigger messages are written to the initiation queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Triggering is not enabled. Trigger messages are not written to the initiation queue.

**\*YES**

Triggering is enabled. Trigger messages are written to the initiation queue.

[Top](#)**Get enabled (GETENBL)**

Specifies whether applications are to be permitted to get messages from this queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Applications cannot retrieve messages from the queue.

**\*YES**

Suitably authorized applications can retrieve messages from the queue.

[Top](#)**Sharing enabled (SHARE)**

Specifies whether multiple instances of applications can open this queue for input simultaneously.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Only a single application instance can open the queue for input.

**\*YES**

More than one application instance can open the queue for input.

[Top](#)**Default share option (DFTSHARE)**

Specifies the default share option for applications opening this queue for input.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

By default, the open request is for exclusive use of the queue for input.

**\*YES**

By default, the open request is for shared use of the queue for input.

[Top](#)**Message delivery sequence (MSGDLYSEQ)**

Specifies the message delivery sequence.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*PTY**

Messages are delivered in first-in-first-out (FIFO) order within priority.

**\*FIFO**

Messages are delivered in FIFO order regardless of priority.

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**Harden backout count (HDNBKTCNT)**

Specifies whether the count of backed out messages is saved (hardened) across restarts of the message queue manager.

**Note:** On WebSphere MQ for i5/OS the count is ALWAYS hardened, regardless of the setting of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

The backout count is not hardened.

**\*YES**

The backout count is hardened.

[Top](#)

**Trigger type (TRGTYPE)**

Specifies the condition that initiates a trigger event. When the condition is true, a trigger message is sent to the initiation queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*FIRST**

When the number of messages on the queue goes from 0 to 1.

**\*ALL**

Every time a message arrives on the queue.

**\*DEPTH**

When the number of messages on the queue equals the value of the TRGDEPTH attribute.

**\*NONE**

No trigger messages are written.

[Top](#)

**Trigger depth (TRGDEPTH)**

Specifies, for TRIGTYPE(\*DEPTH), the number of messages that initiate a trigger message to the initiation queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

***depth-value***

Specify a value ranging from 1 through 999999999.

[Top](#)

**Trigger message priority (TRGMSGPTY)**

Specifies the minimum priority that a message must have before it can produce, or be counted for, a trigger event.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

***priority-value***

Specify a value ranging from 0 through 9, where 9 is the highest priority.

[Top](#)

**Trigger data (TRGDATA)**

Specifies up to 64 characters of user data that the queue manager includes in the trigger message. This data is made available to the monitoring application that processes the initiation queue, and to the application started by the monitor.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No trigger data is specified.

***trigger-data***

Specify up to 64 characters enclosed in apostrophes. For a transmission queue you can use this parameter to specify the name of the channel to be started.



**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)

### Retention interval (RTNITV)

Specifies the retention interval. This interval is the number of hours for which the queue might be needed, based on the date and time when the queue was created.

This information is available to a housekeeping application or an operator and can be used to determine when a queue is no longer required.

**Note:** The message queue manager does not delete queues, nor does it prevent your queues from being deleted if their retention interval has not expired. It is your responsibility to take any required action.

The possible values are:

**\*SAME**

The attribute is unchanged.

***interval-value***

Specify a value ranging from 0 through 999999999.

[Top](#)

### Maximum queue depth (MAXDEPTH)

Specifies the maximum number of messages allowed on the queue. However, other factors can cause the queue to be treated as full; for example, it appears to be full if there is no storage available for a message.

**Note:** If this value is subsequently reduced by using the CHGMQM command, any messages that are on the queue remain intact even if they cause the new maximum to be exceeded.

The possible values are:

**\*SAME**

The attribute is unchanged.

***depth-value***

Specify a value ranging from 0 through 999999999.

[Top](#)

### Maximum message length (MAXMSGLEN)

Specifies the maximum length for messages on the queue.

**Note:** If this value is subsequently reduced by using the CHGMQM command, any messages that are on the queue remain intact even if they exceed the new maximum length.

Applications might use the value of this attribute to determine the size of buffer they need to retrieve messages from the queue. Therefore change the value only if you know this will not cause an application to operate incorrectly.

The possible values are:

**\*SAME**

The attribute is unchanged.

***length-value***

Specify a value ranging from 0 through 100 MB in bytes. The default is 4MB.

[Top](#)

### Backout threshold (BKTTHLD)

Specifies the backout threshold.

Applications running inside of WebSphere Application Server and those that use the WebSphere MQ Application Server Facilities will use this attribute to determine if a message should be backed out. For all other applications, apart from allowing this attribute to be queried, the queue manager takes no action based on the value of the attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

***threshold-value***

Specify a value ranging from 0 through 999999999.

[Top](#)

### Backout requeue name (BKTQNAME)

Specifies the backout-queue name.

Applications running inside of WebSphere Application Server and those that use the WebSphere MQ Application Server Facilities will use this attribute to determine where messages that have been backed out should go. For all other applications, apart from allowing this attribute to be queried, the queue manager takes no action based on the value of the attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No backout queue is specified.

***backout-queue-name***

Specify the backout queue name.

[Top](#)

**Initiation queue (INITQNAME)**

Specifies the name of the initiation queue.

**Note:** The initiation queue must be on the same instance of a message queue manager.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No initiation queue is specified.

***initiation-queue-name***

Specify the initiation queue name.

[Top](#)

**Usage (USAGE)**

Specifies whether the queue is for normal usage, or for transmitting messages to a remote message queue manager.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NORMAL**

Normal usage (the queue is not a transmission queue)

**\*TMQ**

The queue is a transmission queue that is used to hold messages destined for a remote message queue manager. If the queue is intended for use in situations where a transmission queue name is not explicitly specified, the queue name must be the same as the name of the remote message queue manager. For further information, see WebSphere MQ Intercommunication.

[Top](#)

**Definition type (DFNTYPE)**

Specifies the type of dynamic queue definition that is created when an application issues an MQOPEN API call with the name of this model queue specified in the object descriptor.

**Note:** This parameter only applies to a model queue definition.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*TEMPDYN**

A temporary dynamic queue is created. This value should not be specified with a DEFMSGPST value of \*YES.

**\*PERMDYN**

A permanent dynamic queue is created.

[Top](#)

**Target object (TGTQNAME)**

Specifies the name of the object for which this queue is an alias.

The object can be a local or remote queue, a topic or a message queue manager.

**Note:** The target object does not need to exist at this time but it must exist when a process attempts to open the alias queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

***target-object-name***

Specify the name of the target object.

[Top](#)

**Remote queue (RMTQNAME)**

Specifies the name of the remote queue. That is, the local name of the remote queue as defined on the queue manager specified by RMTQMNAME.

If this definition is used for a queue manager alias definition, RMTQNAME must be blank when the open occurs.

If this definition is used for a reply-to alias, this name is the name of the queue that is to be the reply-to queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No remote-queue name is specified (that is, the name is blank). This can be used if the definition is a queue manager alias definition.

**remote-queue-name**

Specify the name of the queue at the remote queue manager.

**Note:** The name is not checked to ensure that it contains only those characters normally allowed for queue names.

[Top](#)

**Remote Message Queue Manager (RMTMQMNAME)**

Specifies the name of the remote queue manager on which the queue RMTQNAME is defined.

If an application opens the local definition of a remote queue, RMTMQMNAME must not be the name of the connected queue manager. If TMQNAME is blank there must be a local queue of this name, which is to be used as the transmission queue.

If this definition is used for a queue manager alias, RMTMQMNAME is the name of the queue manager, which can be the name of the connected queue manager. Otherwise, if TMQNAME is blank, when the queue is opened there must be a local queue of this name, with USAGE(\*TMQ) specified, which is to be used as the transmission queue.

If this definition is used for a reply-to alias, this name is the name of the queue manager that is to be the reply-to queue manager.

The possible values are:

**\*SAME**

The attribute is unchanged.

**remote-queue-manager-name**

Specify the name of the remote queue manager.

**Note:** Ensure this name contains only those characters normally allowed for queue manager names.

[Top](#)

**Transmission queue (TMQNAME)**

Specifies the local name of the transmission queue to be used for messages destined for the remote queue, for either a remote queue or for a queue manager alias definition.

If TMQNAME is blank, a queue with the same name as RMTMQMNAME is used as the transmission queue.

This attribute is ignored if the definition is being used as a queue manager alias and RMTMQMNAME is the name of the connected queue manager.

It is also ignored if the definition is used as a reply-to queue alias definition.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No specific transmission queue name is defined for this remote queue. The value of this attribute is set to all blanks.

**transmission-queue-name**

Specify the transmission queue name.

[Top](#)

**Queue depth high threshold (HIGHTHLD)**

Specifies the threshold against which the queue depth is compared to generate a queue depth high event.

The possible values are:

**\*SAME**

The attribute is unchanged.

**threshold-value**

Specify a value ranging from 0 through 100. This value is used as a percentage of the maximum queue depth (MAXDEPTH parameter).

[Top](#)

**Queue depth low threshold (LOWTHLD)**

Specifies the threshold against which the queue depth is compared to generate a queue depth low event.

The possible values are:

**\*SAME**

The attribute is unchanged.

**threshold-value**

Specify a value ranging from 0 through 100. This value is used as a percentage of the maximum queue depth (MAXDEPTH parameter).

[Top](#)

**Queue full events enabled (FULLEVT)**

Specifies whether queue full events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Queue full events are not generated.

**\*YES**

Queue full events are generated.

[Top](#)

### Queue high events enabled (HIGHEVT)

Specifies whether queue depth high events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Queue depth high events are not generated.

**\*YES**

Queue depth high events are generated.

[Top](#)

### Queue low events enabled (LOWEVT)

Specifies whether queue depth low events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Queue depth low events are not generated.

**\*YES**

Queue depth low events are generated.

[Top](#)

### Service interval (SRVITV)

Specifies the service interval. This interval is used for comparison to generate service interval high and service interval OK events.

The possible values are:

**\*SAME**

The attribute is unchanged.

**interval-value**

Specify a value ranging from 0 through 999999999. The value is in units of milliseconds.

[Top](#)

### Service interval events (SRVEVT)

Specifies whether service interval high or service interval OK events are generated.

A service interval high event is generated when a check indicates that no messages have been retrieved from the queue for the time indicated by the SRVITV parameter as a minimum.

A service interval OK event is generated when a check indicates that messages have been retrieved from the queue within the time indicated by the SRVITV parameter.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*HIGH**

Service interval high events are generated.

**\*OK**

Service interval OK events are generated.

**\*NONE**

No service interval events are generated.

[Top](#)

### Distribution list support (DISTLIST)

Specifies whether the queue supports distribution lists.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

The queue will not support distribution lists.

**\*YES**

The queue will support distribution lists.

[Top](#)

**Cluster Name (CLUSTER)**

The name of the cluster to which the queue belongs.

Changes to this parameter do not affect instances of the queue that are already open.

This parameter cannot be set for dynamic, transmission, SYSTEM.CHANNEL.xx, SYSTEM.CLUSTER.xx or SYSTEM.COMMAND.xx queues.

The possible values are:

**\*SAME**

The attribute is unchanged.

**cluster-name**

Only one of the resultant values of CLUSTER or CLUSNL can be non-blank; you cannot specify a value for both.

[Top](#)

**Cluster Name List (CLUSNL)**

The name of the namelist which specifies a list of clusters to which the queue belongs. Changes to this parameter do not affect instances of the queue that are already open.

This parameter cannot be set for dynamic, transmission, SYSTEM.CHANNEL.xx, SYSTEM.CLUSTER.xx or SYSTEM.COMMAND.xx queues.

The possible values are:

**\*SAME**

The attribute is unchanged.

**namelist-name**

Only one of the resultant values of CLUSTER or CLUSNL can be non-blank; you cannot specify a value for both.

[Top](#)

**Default Binding (DEFBIND)**

Specifies the binding to be used when the application specifies MQOO\_BIND\_AS\_Q\_DEF on the MQOPEN call and the queue is a cluster queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*OPEN**

The queue handle is bound to a specific instance of the cluster queue when the queue is opened.

**\*NOTFIXED**

The queue handle is not bound to any particular instance of the cluster queue. This allows the queue manager to select a specific queue instance when the message is put using MQPUT and to change that selection subsequently if necessary.

The MQPUT1 call always behaves as if NOTFIXED had been specified.

[Top](#)

**Cluster Workload Rank (CLWLRANK)**

Specifies the cluster workload rank of the queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

**cluster-workload-rank**

Specify a value ranging from 0 through 9.

[Top](#)

**Cluster Workload Priority (CLWLPRTY)**

Specifies the cluster workload priority of the queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

**cluster-workload-priority**

Specify a value ranging from 0 through 9.

[Top](#)

### Cluster workload queue use (CLWLUSEQ)

Specifies the behaviour of an MQPUT when the target queue has both a local instance and at least one remote cluster instance. If the put originates from a cluster channel then this attribute does not apply.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

The value is inherited from the Queue Manager CLWLUSEQ attribute.

**\*LOCAL**

The local queue will be the sole target of the MQPUT.

**\*ANY**

The queue manager will treat such a local queue as another instance of the cluster queue for the purposes of workload distribution.

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### Queue Monitoring (MONQ)

Controls the collection of Online Monitoring Data.

Online Monitoring Data is not collected when the queue manager attribute MONQ is set to \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

The collection of online monitoring data is inherited from the setting of the queue manager attribute MONQ.

**\*OFF**

Online monitoring data collection for this queue is switched off.

**\*LOW**

Monitoring data collection is turned on with a low ratio of data collection.

**\*MEDIUM**

Monitoring data collection is turned on with a moderate ratio of data collection.

**\*HIGH**

Monitoring data collection is turned on with a high ratio of data collection.

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### Queue Statistics (STATQ)

Controls the collection of statistics data.

Online monitoring data is not collected when the queue manager attribute STATQ is set to \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

Statistics data collection is based upon the setting of the queue manager attribute STATQ.

**\*OFF**

Statistics data collection for this queue is switched off.

**\*ON**

Statistics data collection is switched on for this queue.

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### Queue Accounting (ACCTQ)

Controls the collection of accounting data.

Accounting data is not collected when the queue manager attribute ACCTQ is set to \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

Accounting data collection is based upon the setting of the queue manager attribute ACCTQ.

**\*OFF**

Accounting data collection for this queue is switched off.

**\*ON**

Accounting data collection is switched on for this queue.

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### Non Persistent Message Class (NPMCLASS)

Specifies the level of reliability for non-persistent messages put to this queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NORMAL**

Non-persistent messages put to this queue are only lost following a failure, or a queue manager shutdown. Non-persistent message put to this queue will be discarded in the event of a queue manager restart.

**\*HIGH**

Non-persistent messages put to this queue are not discarded in the event of a queue manager restart. Non-persistent messages put to this queue may still be lost in the event of a failure.

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### Message Read Ahead (MSGREADAHD)

Specifies whether non persistent messages are sent to the client ahead of an application requesting them.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*DISABLED**

Read ahead is disabled for this queue. Messages are not sent to the client ahead of an application requesting them regardless of whether read ahead is requested by the client application.

**\*NO**

Non-persistent messages are not sent to the client ahead of an application requesting them. A maximum of one non-persistent message can be lost if the client ends abnormally.

**\*YES**

Non-persistent messages are sent to the client ahead of an application requesting them. Non-persistent messages can be lost if the client ends abnormally or if the client application does not consume all the messages it is sent.

[Top](#)

### Default Put Response (DFTPUTRESP)

The default put response type (DFTPUTRESP) attribute specifies the type of response required for MQPUT and MQPUT1 calls when applications specify the MQPMO\_RESPONSE\_AS\_Q\_DEF option.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*SYNC**

Specifying this value ensures that the put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are issued as if MQPMO\_SYNC\_RESPONSE had been specified instead. Fields in the MQMD and MQPMO are returned by the queue manager to the application. This is the default value supplied with WebSphere MQ, but your installation might have changed it.

**\*ASYNC**

Specifying this value ensures that the put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are always issued as if MQPMO\_ASYNC\_RESPONSE had been specified instead. Some fields in the MQMD and MQPMO are not returned by the queue manager to the application; but an improvement in performance may be seen for messages put in a transaction or any non-persistent messages.

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### Property Control (PROPCTL)

Specifies what happens to properties of messages that are retrieved from queues using the MQGET call when the MQGMO\_PROPERTIES\_AS\_Q\_DEF option is specified.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*COMPAT**

If the message contains a property with a prefix of "mcd.", "jms.", "usr." or "mqext." then all message properties are delivered to the application in an MQRFH2 header. Otherwise all properties of the message, except those contained in the message descriptor (or extension), are discarded and are no longer accessible to the application.

**\*NONE**

All properties of the message, except those contained in the message descriptor (or extension), are discarded and are no longer accessible to the application.

**\*ALL**

All properties of the message, except those contained in the message descriptor (or extension), are contained in one or more MQRFH2 headers in the message data.

**\*FORCE**

Properties are always returned in the message data in an MQRFH2 header regardless of whether the application specifies a message handle.

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### Target Type (TARGTYPE)

Specifies the type of object to which the alias resolves.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QUEUE**

Queue object.

**\*TOPIC**

Topic object.

[Top](#)

## Examples

None

[Top](#)

## Error messages

Unknown

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## 11.12. Change MQ Subscription (CHGMQMSUB)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Change MQ Subscription (CHGMQMSUB) command changes the specified attributes of an existing MQ subscription.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">SUBID</a>	Subscription identifier	Character value, <b>*SAME</b>	Optional, Key, Positional 2
<a href="#">SUBNAME</a>	Subscription name	Character value, <b>*SAME</b>	Optional, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 3
<a href="#">TOPICSTR</a>	Topic string	Character value, *NONE, <b>*SAME</b>	Optional, Positional 4
<a href="#">TOPICOBJ</a>	Topic object	Character value, *NONE, <b>*SAME</b>	Optional, Positional 5
<a href="#">DEST</a>	Destination	Character value, <b>*SAME</b>	Optional, Positional 6
<a href="#">DESTMQM</a>	Destination Queue Manager	Character value, *NONE, <b>*SAME</b>	Optional, Positional 7
<a href="#">DESTCRLID</a>	Destination Correlation Id	Character value, *NONE, <b>*SAME</b>	Optional, Positional 8
<a href="#">PUBACCT</a>	Publish Accounting Token	Character value, *NONE, <b>*SAME</b>	Optional, Positional 9
<a href="#">PUBAPPID</a>	Publish Application Id	Character value, *NONE, <b>*SAME</b>	Optional, Positional 10
<a href="#">SUBUSER</a>	Subscription User Id	Character value, <b>*SAME</b>	Optional, Positional 11
<a href="#">USERDATA</a>	Subscription User Data	Character value, *NONE, <b>*SAME</b>	Optional, Positional 12
<a href="#">SELECTOR</a>	Selector String	Character value, *NONE, <b>*SAME</b>	Optional, Positional 13
<a href="#">PSPROP</a>	PubSub Property	<b>*SAME</b> , *NONE, *COMPAT, *RFH2, *MSGPROP	Optional, Positional 14
<a href="#">DESTCLASS</a>	Destination Class	<b>*SAME</b> , *MANAGED, *PROVIDED	Optional, Positional 15
<a href="#">VARUSER</a>	Variable User	<b>*SAME</b> , *ANY, *FIXED	Optional, Positional 16
<a href="#">REQONLY</a>	Request Publications	<b>*SAME</b> , *YES, *NO	Optional, Positional 17
<a href="#">PUBPTY</a>	Publish Priority	0-9, <b>*SAME</b> , *ASPUB, *ASQDEF	Optional, Positional 18
<a href="#">WSHEMA</a>	Wildcard Schema	<b>*SAME</b> , *CHAR, *TOPIC	Optional, Positional 19
<a href="#">EXPIRY</a>	Expiry Time	0-999999999, <b>*SAME</b> , *UNLIMITED	Optional, Positional 20

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### Subscription identifier (SUBID)

The subscription identifier of the subscription to be changed.

The possible values are:

**subscription-identifier**



Specify the 48 character hexadecimal string representing the 24 byte subscription identifier.

[Top](#)

### Subscription name (SUBNAME)

The name of the subscription to be changed.

The possible values are:

#### ***subscription-name***

Specify a maximum of 256 bytes for the subscription name.

**Note:** Subscription names of greater than 256 bytes can be specified using MQSC.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the Queue Manager.

The possible values are:

#### ***\*DFT***

Use the default Queue Manager.

#### ***queue-manager-name***

The name of a Queue Manager.

[Top](#)

### Topic string (TOPICSTR)

Specifies the topic string associated with this subscription.

The possible values are:

#### ***topic-string***

Specify a maximum of 256 bytes for the topic string.

**Note:** Topic strings of greater than 256 bytes can be specified using MQSC.

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### Topic object (TOPICOBJ)

Specifies the topic object associated with this subscription.

The possible values are:

#### ***\*SAME***

The attribute is unchanged.

#### ***topic-object***

Specify the name of the topic object.

[Top](#)

### Destination (DEST)

Specifies the destination queue for messages published to this subscription.

The possible values are:

#### ***\*SAME***

The attribute is unchanged.

#### ***destination-queue***

Specify the name of the destination queue.

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### Destination Queue Manager (DESTMQM)

Specifies the destination queue manager for messages published to this subscription.

The possible values are:

#### ***\*SAME***

The attribute is unchanged.

#### ***\*NONE***

No destination queue manager is specified.

#### ***destination-queue***

Specify the name of the destination queue manager.

[Top](#)

### Destination Correlation Id (DESTCRLID)

Specifies the correlation identifier for messages published to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Messages are placed on the destination with a correlation identifier of MQCI\_NONE.

***correlation-identifier***

Specify the 48 character hexadecimal string representing the 24 byte correlation identifier.

[Top](#)

### **Publish Accounting Token (PUBACCT)**

Specifies the accounting token for messages published to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Messages are placed on the destination with an accounting token of MQACT\_NONE.

***publish-accounting-token***

Specify the 64 character hexadecimal string representing the 32 byte publish accounting token.

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### **Publish Application Id (PUBAPPID)**

Specifies the publish application identity for messages published to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No publish application identifier is specified.

***publish-application-identifier***

Specify the publish application identifier.

[Top](#)

### **Subscription User Id (SUBUSER)**

Specifies the user profile that owns this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

***user-profile***

Specify the user profile.

[Top](#)

### **Subscription User Data (USERDATA)**

Specifies the user data associated with the subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No user data is specified.

***user-data***

Specify a maximum of 256 bytes for user data.

**Note:** User data of greater than 256 bytes can be specified using MQSC.

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### **Selector String (SELECTOR)**

Specifies the SQL 92 selector string to be applied to messages published on the named topic to select whether they are eligible for this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No selection string is specified.

***selection-string***

Specify a maximum of 256 bytes for selection string.

**Note:** Selection strings of greater than 256 bytes can be specified using MQSC.

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### PubSub Property (PSPROP)

Specifies the manner in which publish / subscribe related message properties are added to messages sent to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Publish / subscribe properties are not added to the message.

**\*COMPAT**

Publish / subscribe properties are added to the message to maintain compatibility with WebSphere MQ V6.0 Publish / Subscribe.

**\*RFH2**

Publish / subscribe properties are added to the message within an RFH Version 2 header.

**\*MSGPROP**

Publish / subscribe properties are added as message properties.

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### Destination Class (DESTCLASS)

Specifies whether this is a managed subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*MANAGED**

The destination is managed.

**\*PROVIDED**

The destination is a queue.

[Top](#)

### Variable User (VARUSER)

Specifies whether user profiles other than the creator of the subscription can connect to it (subject to topic and destination authority checks).

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ANY**

Any user profiles can connect to the subscription.

**\*FIXED**

Only the user profile that created the subscription can connect to it.

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### Request Publications (REQONLY)

Specifies whether the subscriber will poll for updates via MQSUBRQ API, or whether all publications are delivered to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*YES**

Publications are only delivered to this subscription in response to an MQSUBRQ API.

**\*NO**

All publications on the topic are delivered to this subscription.

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### Publish Priority (PUBPTY)

Specifies the priority of the message sent to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*AS PUB**

The priority of the message sent to this subscription is taken from that supplied in the published message.

**\*ASQDEF**

The priority of the message sent to this subscription is taken from the default priority of the queue defined as the destination.

**priority-value**

Specify a priority ranging from 0 through 9.

[Top](#)

### Wildcard Schema (WSHEMA)

Specifies the schema to be used when interpreting wild card characters in the topic string.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*TOPIC**

Wildcard characters represent portions of the topic hierarchy.

**\*CHAR**

Wildcard characters represent portions of strings.

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### Expiry Time (EXPIRY)

Specifies the expiry time of the subscription. After a subscription's expiry time has elapsed, it becomes eligible to be discarded by the queue manager and will receive no further publications.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*UNLIMITED**

The subscription does not expire.

**expiry-time**

Specify an expiry time in tenths of a second ranging from 0 through 999999999.

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### Examples

None

[Top](#)

### Error messages

Unknown

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## 11.13. Change MQ Service (CHGMQMSVC)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Change MQ Service (CHGMQMSVC) command changes the specified attributes of an existing MQ service definition.

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### Parameters

Keyword	Description	Choices	Notes
<a href="#">SVCNAME</a>	Service name	Character value	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 2
<a href="#">TEXT</a>	Text 'description'	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 3
<a href="#">STRCMD</a>	Start program	Single values: <b>*SAME</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 4
	Qualifier 1: Start program	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	
<a href="#">STRARG</a>	Start program arguments	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 5
<a href="#">ENDCMD</a>	End program	Single values: <b>*SAME</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 6
	Qualifier 1: End program	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	
<a href="#">ENDARG</a>	End program arguments	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 7
<a href="#">STDOUT</a>	Standard output	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 8
<a href="#">STDERR</a>	Standard error	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 9

<a href="#">TYPE</a>	Service type	<b>*SAME</b> , *CMD, *SVR	Optional, Positional 10
<a href="#">CONTROL</a>	Service control	<b>*SAME</b> , *MANUAL, *QMGR, *STARTONLY	Optional, Positional 11

[Top](#)**Service name (SVCNAME)**

The name of the service definition to be changed.

The possible values are:

**service-name**

Specify the name of the service definition. The maximum length of the string is 48 bytes.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

The name of a message queue manager.

[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the service definition.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The text is set to a blank string.

**description**

Specify no more than 64 characters enclosed in apostrophes.

[Top](#)**Start program (STRCMD)**

The name of the program to run.

The possible values are:

**\*SAME**

The attribute is unchanged.

**start-command**

The name of the start command executable.

[Top](#)**Start program arguments (STRARG)**

The arguments passed to the program at startup.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

No arguments are passed to the start command.

**start-command-arguments**

The arguments passed to the start command.

[Top](#)**End program (ENDCMD)**

The name of the executable to run when the service is requested to stop.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

No end command is executed.

**end-command**

The name of the end command executable.

[Top](#)**End program arguments (ENDARG)**

The arguments passed to the end program when the service is requested to stop.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

No arguments are passed to the end command.

**end-command-arguments**

The arguments passed to the end command.

[Top](#)**Standard output (STDOUT)**

The path to a file to which the standard output of the service program is redirected.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The standard output is discarded.

**stdout-path**

The standard output path.

[Top](#)**Standard error (STDERR)**

The path to a file to which the standard error of the service program is redirected.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The standard error is discarded.

**stderr-path**

The standard error path.

[Top](#)**Service type (TYPE)**

Mode in which to run service.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*CMD**

When started the command is executed but no status is collected or displayed.

**\*SVR**

The status of the executable started will be monitored and displayed.

[Top](#)**Service control (CONTROL)**

Whether the service should be started automatically at queue manager start.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*MANUAL**

The service is automatically started or stopped.

**\*QMGR**

The service is started and stopped as the queue manager is started and stopped.

**\*STARTONLY**

The service is started as the queue manager is started, but will not be requested to stop when the queue manager is stopped.

[Top](#)

**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.14. Change MQ Topic (CHGMQMTOP)****Where allowed to run:** All environments (\*ALL)**Threadsafe:** Yes[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Change MQ Topic (CHGMQMTOP) command changes the specified attributes of an existing MQ topic object.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">TOPNAME</a>	Topic name	<i>Character value</i>	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Key, Positional 2
<a href="#">TEXT</a>	Text 'description'	<i>Character value, *BLANK, *SAME</i>	Optional, Positional 3
<a href="#">TOPICSTR</a>	Topic string	<i>Character value, *BLANK, *SAME</i>	Optional, Positional 4
<a href="#">DURSUB</a>	Durable subscriptions	<i>*SAME, *ASPARENT, *YES, *NO</i>	Optional, Positional 5
<a href="#">MGDDURMDL</a>	Durable model queue	<i>Character value, *NONE, *SAME</i>	Optional, Positional 6
<a href="#">MGDNDURMDL</a>	Non-durable model queue	<i>Character value, *NONE, *SAME</i>	Optional, Positional 7
<a href="#">PUBENBL</a>	Publish	<i>*SAME, *ASPARENT, *YES, *NO</i>	Optional, Positional 8
<a href="#">SUBENBL</a>	Subscribe	<i>*SAME, *ASPARENT, *YES, *NO</i>	Optional, Positional 9
<a href="#">DFTPTY</a>	Default message priority	0-9, <i>*SAME, *ASPARENT</i>	Optional, Positional 10
<a href="#">DFTMSGPST</a>	Default message persistence	<i>*SAME, *ASPARENT, *YES, *NO</i>	Optional, Positional 11
<a href="#">DFTPUTRESP</a>	Default Put Response	<i>*SAME, *ASPARENT, *SYNC, *ASYN</i>	Optional, Positional 12
<a href="#">WILDCARD</a>	Wildcard behaviour	<i>*SAME, *PASSTHRU, *BLOCK</i>	Optional, Positional 13
<a href="#">PMSGDLV</a>	Persistent message delivery	<i>*SAME, *ASPARENT, *ALL, *ALLDUR, *ALLAVAIL</i>	Optional, Positional 14
<a href="#">NMSGDLV</a>	Non-persistent message deliver	<i>*SAME, *ASPARENT, *ALL, *ALLDUR, *ALLAVAIL</i>	Optional, Positional 15

[Top](#)**Topic name (TOPNAME)**

The name of the topic object to be changed.

The possible values are:

***topic-name***

Specify the name of the topic object. The maximum length of the string is 48 bytes.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the Queue Manager.

The possible values are:

***\*DFT***

Use the default Queue Manager.

***queue-manager-name***

The name of a Queue Manager.

[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the topic object.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The text is set to a blank string.

***description***

Specify no more than 64 characters enclosed in apostrophes.

[Top](#)

### Topic string (TOPICSTR)

Specifies the topic string represented by this topic object definition.

The possible values are:

**\*SAME**

The attribute is unchanged.

***topic-string***

Specify a maximum of 256 bytes for the topic string.

**Note:** Topic strings of greater than 256 bytes can be specified using MQSC.

[Top](#)

### Durable subscriptions (DURSUB)

Specifies whether applications are permitted to make durable subscriptions on this topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

Whether durable subscriptions can be made on this topic is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*YES**

Durable subscriptions can be made on this topic.

**\*NO**

Durable subscriptions cannot be made on this topic.

[Top](#)

### Durable model queue (MGDDURMDL)

Specifies the name of the model queue to be used for durable subscriptions which request the queue manager manage the destination of publications.

The possible values are:

**\*SAME**

The attribute is unchanged.

***durable-model-queue***

Specify the name of the model queue.

[Top](#)

### Non-durable model queue (MGDNDURMDL)

Specifies the name of the model queue to be used for non-durable subscriptions which request the queue manager manage the destination of publications.

The possible values are:

**\*SAME**

The attribute is unchanged.

***non-durable-model-queue***

Specify the name of the model queue.

[Top](#)

### Publish (PUBENBL)

Specifies whether messages can be published to the topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

Whether messages can be published to this topic is based on the setting of the first parent administrative node found in the topic tree relating to this topic.



**\*YES**

Messages can be published to the topic.

**\*NO**

Messages cannot be published to the topic.

[Top](#)

**Subscribe (SUBENBL)**

Specifies whether applications are to be permitted to subscribe to this topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

Whether applications can subscribe to this topic is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*YES**

Subscriptions can be made to this topic.

**\*NO**

Applications cannot subscribe to this topic.

[Top](#)

**Default message priority (DFTPTY)**

Specifies the default priority of messages published to the topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

The default priority is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**priority-value**

Specify a value ranging from 0 through 9.

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**Default message persistence (DFTMSGPST)**

Specifies the message persistence to be used when applications specify the MQPER\_PERSISTENCE\_AS\_TOPIC\_DEF option.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

The default persistence is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*YES**

Messages on this queue survive a restart of the queue manager.

**\*NO**

Messages on this queue are lost across a restart of the queue manager.

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**Default Put Response (DFTPUTRESP)**

Specifies the type of response required for MQPUT and MQPUT1 calls when applications specify the MQPMO\_RESPONSE\_AS\_Q\_DEF option.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

The default response type is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*SYNC**

Specifying this value ensures that the put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are issued as if MQPMO\_SYNC\_RESPONSE had been specified instead. Fields in the MQMD and MQPMO are returned by the queue manager to the application.

**\*ASYNCR**

Specifying this value ensures that the put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are always issued as if MQPMO\_ASYNC\_RESPONSE had been specified instead. Some fields in the MQMD and MQPMO are not returned by the queue manager to the application. An improvement in performance may be seen for messages put in a transaction or any non-persistent messages.

[Top](#)

**Wildcard behaviour (WILDCARD)**

Specifies the behaviour of wildcard subscriptions with respect to this topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*PASSTHRU**

Subscriptions made to a wildcarded topic less specific than the topic string at this topic object will receive publications made to this topic and to topic strings more specific than this topic.

**\*BLOCK**

Subscriptions made to a wildcarded topic less specific than the topic string at this topic object will not receive publications made to this topic or to topic strings more specific than this topic.

[Top](#)

**Persistent message delivery (PMSGDLV)**

Specifies the delivery mechanism for persistent messages published to this topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

The delivery mechanism used is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*ALL**

Persistent messages must be delivered to all subscribers, irrespective of durability for the MQPUT call to report success. If a delivery failure to any subscriber occurs, no other subscribers receive the message and the MQPUT call fails.

**\*ALLDUR**

Persistent messages must be delivered to all durable subscribers. Failure to deliver a persistent message to any non-durable subscribers does not return an error to the MQPUT call. If a delivery failure to a durable subscriber occurs, no subscribers receive the message and the MQPUT call fails.

**\*ALLAVAIL**

Persistent messages are delivered to all subscribers that can accept the message. Failure to deliver the message to any subscriber does not prevent other subscribers from receiving the message.

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**Non-persistent message delivery (NPMSGDLV)**

Specifies the delivery mechanism for non-persistent messages published to this topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

The delivery mechanism used is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*ALL**

Non-persistent messages must be delivered to all subscribers, irrespective of durability for the MQPUT call to report success. If a delivery failure to any subscriber occurs, no other subscribers receive the message and the MQPUT call fails.

**\*ALLDUR**

Non-persistent messages must be delivered to all durable subscribers. Failure to deliver a persistent message to any non-durable subscribers does not return an error to the MQPUT call. If a delivery failure to a durable subscriber occurs, no subscribers receive the message and the MQPUT call fails.

**\*ALLAVAIL**

Non-persistent messages are delivered to all subscribers that can accept the message. Failure to deliver the message to any subscriber does not prevent other subscribers from receiving the message.

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**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.15. Clear MQ Pub/Sub Broker (CLRMQMBRK)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Clear WebSphere MQ broker (CLRMQMBRK) command does not perform any function and is only provided for compatibility with previous releases of WebSphere MQ.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i>	Required, Positional 1
<a href="#">BRKPARENT</a>	Break Parent link	<b>*NO</b> , *YES	Optional, Positional 2
<a href="#">CHILDMQM</a>	Child Message Queue Manager	<i>Character value</i>	Optional, Positional 3

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## Examples

None

[Top](#)

## Error messages

Unknown

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## 11.16. Clear MQ Queue (CLRMQM)

**Where allowed to run:** All environments (\*ALL)**Threadsafe:** Yes[Parameters](#)[Examples](#)[Error messages](#)

The Clear MQ Queue (CLRMQM) command deletes all of the messages from a local queue.

The command fails if the queue contains uncommitted messages, or if an application has the queue open.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">QNAME</a>	Queue name	<i>Character value</i>	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 2

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### Queue name (QNAME)

The name of the queue to be cleared.

The possible values are:

**queue-name**

Specify the name of the queue.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)

## Examples

None

[Top](#)

## Error messages

Unknown

[Top](#)

### 11.17. Clear MQ Topic String (CLRMQMTOP)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Clear MQ Topic String (CLRMQMTOP) command clears the specified topic string.

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#### Parameters

Keyword	Description	Choices	Notes
<a href="#">TOPICSTR</a>	Topic string	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">CLRTYPE</a>	Clear type	<b>*RETAINED</b>	Optional, Positional 3

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#### Topic string (TOPICSTR)

The topic string to be cleared.

The possible values are:

##### **topic-string**

Specify a maximum of 256 bytes for the topic string.

**Note:** Topic strings of greater than 256 bytes can be specified using MQSC.

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#### Message Queue Manager name (MQMNAME)

Specifies the name of the Queue Manager.

The possible values are:

##### **\*DFT**

Use the default Queue Manager.

##### **queue-manager-name**

The name of a Queue Manager.

[Top](#)

#### Clear type (CLRTYPE)

The type of clear topic string to be performed.

The value must be:

##### **\*RETAINED**

Remove the retained publication from the specified topic string.

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#### Examples

None

[Top](#)

#### Error messages

Unknown

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### 11.18. Copy MQ AuthInfo object (CPYMQMAUTI)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Copy MQ AuthInfo object (CPYMQMAUTI) command creates an authentication information object of the same type and, for attributes not specified in the command, with the same attribute values as an existing object.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">FROMAI</a>	From AuthInfo name	<i>Character value</i>	Required, Key, Positional 1
<a href="#">TOAI</a>	To AuthInfo name	<i>Character value</i>	Required, Key, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Key, Positional 3
<a href="#">AUTHTYPE</a>	AuthInfo type	*CRLLDAP, *OCSP	Optional, Positional 4
<a href="#">CONNAME</a>	Connection name	<i>Character value, *SAME</i>	Optional, Positional 5
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 6
<a href="#">TEXT</a>	Text 'description'	<i>Character value, *SAME, *NONE</i>	Optional, Positional 7
<a href="#">USERNAME</a>	User name	<i>Character value, *SAME, *NONE</i>	Optional, Positional 8
<a href="#">PASSWORD</a>	User password	<i>Character value, *SAME, *NONE</i>	Optional, Positional 9
<a href="#">OCSPURL</a>	OCSP Responder URL	<i>Character value, *SAME</i>	Optional, Positional 10

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### From AuthInfo name (FROMAI)

The name of an existing authentication information object to provide values for the attributes not specified in this command.

The possible values are:

#### ***authentication-information-name***

Specify the name of the authentication information object. The maximum string length is 48 characters.

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### To AuthInfo name (TOAI)

The name of the new authentication information object to create.

If an authentication information object with this name already exists, REPLACE(\*YES) must be specified.

The possible values are:

#### ***authentication-information-name***

Specify the name of the authentication information object. The maximum string length is 48 characters.

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### Message Queue Manager name (MQMNAME)

The name of the queue manager.

The possible values are:

#### **\*DFT**

Use the default queue manager.

#### ***queue-manager-name***

The name of an existing message queue manager. The maximum string length is 48 characters.

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### AuthInfo type (AUTHTYPE)

The type of the authentication information object. There is no default value

The possible values are:

#### **\*CRLLDAP**

The type of the authentication information object is CRLLDAP.

#### **\*OCSP**

The type of the authentication information objects is OCSPURL.

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### Connection name (CONNAME)

The DNS name or IP address of the host on which the LDAP server is running, together with an optional port number. The default port number is 389. No default is provided for the DNS name or IP address.

This field is only valid for CRLLDAP authentication information objects.

The possible values are:

#### **\*SAME**

The connection name remains unchanged from the original authentication information object.

**connection-name**

Specify the fully qualified DNS name or IP address of the host together with an optional port number. The maximum string length is 264 characters.

[Top](#)

**Replace (REPLACE)**

Specifies whether the new authentication information object should replace an existing authentication information object with the same name.

The possible values are:

**\*NO**

This definition does not replace any existing authentication information object with the same name. The command fails if the named authentication information object already exists.

**\*YES**

Replace an existing authentication information object. A new object is created if the named authentication information object does not exist.

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**Text 'description' (TEXT)**

A short text description of the authentication information object.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

**\*SAME**

The text string is unchanged.

**\*NONE**

The text is set to a blank string.

**description**

The string length can be up to 64 characters enclosed in apostrophes.

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**User name (USERNAME)**

The distinguished name of the user that is binding to the directory. The default user name is blank.

This field is only valid for CRLLDAP authentication information objects.

The possible values are:

**\*SAME**

The user name is unchanged.

**\*NONE**

The user name is blank.

**LDAP-user-name**

Specify the distinguished name of the LDAP user. The maximum string length is 1024 characters.

[Top](#)

**User password (PASSWORD)**

The password for the LDAP user.

This field is only valid for CRLLDAP authentication information objects.

The possible values are:

**\*SAME**

The password is unchanged.

**\*NONE**

The password is blank.

**LDAP-password**

The LDAP user password. The maximum string length is 32 characters.

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**OCSP Responder URL (OCSPURL)**

The URL of the OCSP Responder used to check for certificate revocation. This must be an HTTP URL containing the host name and port number of the OCSP Responder. If the OCSP Responder is using port 80, which is the default for HTTP, then the port number may be omitted.

This field is only valid for OCSP authentication information objects.

The possible values are:

**\*SAME**

The OCSP Responder URL is unchanged.

**OCSP-Responder-URL**

The OCSP Responder URL. The maximum string length is 256 characters.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.19. Copy MQ Channel (CPYMQMCHL)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Copy MQ Channel (CPYMQMCHL) command creates a new MQ channel definition of the same type and, for attributes not specified in the command, with the same attribute values as an existing channel definition.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">FROMCHL</a>	From channel	Character value	Required, Key, Positional 1
<a href="#">TOCHL</a>	To channel	Character value	Required, Key, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 3
<a href="#">CHLTYPE</a>	Channel type	*RCVR, *SDR, *SVR, *RQSTR, *SVRCN, *CLUSSDR, *CLUSRCVR, *CLTCN	Optional, Key, Positional 4
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 5
<a href="#">TRPTYPE</a>	Transport type	*LU62, *TCP, <b>*SAME</b>	Optional, Positional 6
<a href="#">TEXT</a>	Text 'description'	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 7
<a href="#">TGTQMNAME</a>	Target Queue Manager	Character value, *NONE, <b>*SAME</b>	Optional, Positional 8
<a href="#">CONNAME</a>	Connection name	Character value, *NONE, <b>*SAME</b>	Optional, Positional 9
<a href="#">TPNAME</a>	Transaction Program Name	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 10
<a href="#">MODENAME</a>	Mode Name	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 11
<a href="#">TMQNAME</a>	Transmission queue	Character value, <b>*SAME</b>	Optional, Positional 12
<a href="#">MCANAME</a>	Message channel agent	Single values: <b>*SAME</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 13
	Qualifier 1: Message channel agent	Name	
	Qualifier 2: Library	Name, <b>*CURLIB</b>	
<a href="#">MCAUSRID</a>	Message channel agent user ID	Character value, *NONE, *PUBLIC, <b>*SAME</b>	Optional, Positional 14
<a href="#">MCATYPE</a>	Message channel agent Type	*PROCESS, *THREAD, <b>*SAME</b>	Optional, Positional 15
<a href="#">BATCHINT</a>	Batch Interval	0-999999999, <b>*SAME</b>	Optional, Positional 16
<a href="#">BATCHSIZE</a>	Batch size	1-9999, <b>*SAME</b>	Optional, Positional 17
<a href="#">DSCITY</a>	Disconnect interval	0-999999, <b>*SAME</b>	Optional, Positional 18
<a href="#">SHORTTMR</a>	Short retry interval	0-999999999, <b>*SAME</b>	Optional, Positional 19
<a href="#">SHORTRTY</a>	Short retry count	0-999999999, <b>*SAME</b>	Optional, Positional 20
<a href="#">LONGTMR</a>	Long retry interval	0-999999999, <b>*SAME</b>	Optional, Positional 21
<a href="#">LONGRTY</a>	Long retry count	0-999999999, <b>*SAME</b>	Optional, Positional 22
<a href="#">SCYEXIT</a>	Security exit	Single values: <b>*SAME</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 23
	Qualifier 1: Security exit	Name	
	Qualifier 2: Library	Name, <b>*CURLIB</b>	
<a href="#">CSCYEXIT</a>	Security exit	Character value, <b>*SAME</b> , *NONE	Optional, Positional 24
<a href="#">SCYUSRDATA</a>	Security exit user data	Character value, <b>*SAME</b> , *NONE	Optional,

			Positional 25
<a href="#">SNDEXIT</a>	Send exit	Single values: <b>*SAME</b> , *NONE Other values (up to 10 repetitions): <i>Qualified object name</i>	Optional, Positional 26
	Qualifier 1: Send exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*CURLIB</b>	
<a href="#">CSNDEXIT</a>	Send exit	Single values: <b>*SAME</b> , *NONE Other values (up to 10 repetitions): <i>Character value</i>	Optional, Positional 27
<a href="#">SNDUSRDATA</a>	Send exit user data	Values (up to 10 repetitions): <i>Character value</i> , <b>*SAME</b> , *NONE	Optional, Positional 28
<a href="#">RCVEXIT</a>	Receive exit	Single values: <b>*SAME</b> , *NONE Other values (up to 10 repetitions): <i>Qualified object name</i>	Optional, Positional 29
	Qualifier 1: Receive exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*CURLIB</b>	
<a href="#">CRCVEXIT</a>	Receive exit	Single values: <b>*SAME</b> , *NONE Other values (up to 10 repetitions): <i>Character value</i>	Optional, Positional 30
<a href="#">RCVUSRDATA</a>	Receive exit user data	Values (up to 10 repetitions): <i>Character value</i> , <b>*SAME</b> , *NONE	Optional, Positional 31
<a href="#">MSGEXIT</a>	Message exit	Single values: <b>*SAME</b> , *NONE Other values (up to 10 repetitions): <i>Qualified object name</i>	Optional, Positional 32
	Qualifier 1: Message exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*CURLIB</b>	
<a href="#">MSGUSRDATA</a>	Message exit user data	Values (up to 10 repetitions): <i>Character value</i> , <b>*SAME</b> , *NONE	Optional, Positional 33
<a href="#">MSGRTYEXIT</a>	Message retry exit	Single values: <b>*SAME</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 34
	Qualifier 1: Message retry exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*CURLIB</b>	
<a href="#">MSGRTYDATA</a>	Message retry exit data	<i>Character value</i> , <b>*SAME</b> , *NONE	Optional, Positional 35
<a href="#">MSGRTYNBR</a>	Number of message retries	0-999999999, <b>*SAME</b>	Optional, Positional 36
<a href="#">MSGRTYITV</a>	Message retry interval	0-999999999, <b>*SAME</b>	Optional, Positional 37
<a href="#">CVTMSG</a>	Convert message	*YES, *NO, <b>*SAME</b>	Optional, Positional 38
<a href="#">PUTAUT</a>	Put authority	*DFT, *CTX, <b>*SAME</b>	Optional, Positional 39
<a href="#">SEQNUMWRAP</a>	Sequence number wrap	100-999999999, <b>*SAME</b>	Optional, Positional 40
<a href="#">MAXMSGLEN</a>	Maximum message length	0-104857600, <b>*SAME</b>	Optional, Positional 41
<a href="#">HRTBTINTVL</a>	Heartbeat interval	0-999999999, <b>*SAME</b>	Optional, Positional 42
<a href="#">NPMSPEED</a>	Non Persistent Message Speed	*FAST, *NORMAL, <b>*SAME</b>	Optional, Positional 43
<a href="#">CLUSTER</a>	Cluster Name	<i>Character value</i> , *NONE, <b>*SAME</b>	Optional, Positional 44
<a href="#">CLUSNL</a>	Cluster Name List	<i>Character value</i> , *NONE, <b>*SAME</b>	Optional, Positional 45
<a href="#">NETPRTY</a>	Network Connection Priority	0-9, <b>*SAME</b>	Optional, Positional 46
<a href="#">SSLCIPH</a>	SSL CipherSpec	<i>Character value</i> , '*NULL_MD5', '*NULL_SHA', '*RC4_MD5_EXPORT', '*RC4_MD5_US', '*RC4_SHA_US', '*RC2_MD5_EXPORT', '*DES_SHA_EXPORT', '*TRIPLE_DES_SHA_US', '*AES_SHA_US', '*TLS_RSA_WITH_NULL_MD5', '*TLS_RSA_WITH_NULL_SHA', '*TLS_RSA_EXPORT_WITH_RC4_40_MD5', '*TLS_RSA_WITH_RC4_128_MD5', '*TLS_RSA_WITH_RC4_128_SHA', '*TLS_RSA_EXPORT_WITH_RC2_40_MD5', '*TLS_RSA_WITH_DES_CBC_SHA', '*TLS_RSA_WITH_3DES_EDE_CBC_SHA', '*TLS_RSA_WITH_AES_128_CBC_SHA', '*TLS_RSA_WITH_AES_256_CBC_SHA', *NONE, <b>*SAME</b>	Optional, Positional 47
<a href="#">SSLCAUTH</a>	SSL Client Authentication	*REQUIRED, *OPTIONAL, <b>*SAME</b>	Optional, Positional 48
<a href="#">SSLPEER</a>	SSL Peer name	<i>Character value</i> , *NONE, <b>*SAME</b>	Optional, Positional 49
<a href="#">LOCLADDR</a>	Local communication address	<i>Character value</i> , *NONE, <b>*SAME</b>	Optional, Positional 50
<a href="#">BATCHEB</a>	Batch Heartbeat Interval	0-999999999, <b>*SAME</b>	Optional, Positional 51
<a href="#">USERID</a>	Task user identifier	<i>Character value</i> , *NONE, <b>*SAME</b>	Optional, Positional 52
<a href="#">PASSWORD</a>	Password	<i>Character value</i> , *NONE, <b>*SAME</b>	Optional, Positional 53
<a href="#">KAINT</a>	Keep Alive Interval	0-99999, <b>*SAME</b> , *AUTO	Optional, Positional 54
<a href="#">COMPHDR</a>	Header Compression	Values (up to 2 repetitions): *NONE, *SYSTEM, <b>*SAME</b>	Optional, Positional 55
<a href="#">COMPMSG</a>	Message Compression	Single values: *ANY Other values (up to 4 repetitions): *NONE, *RLE, *ZLIBHIGH, *ZLIBFAST, <b>*SAME</b>	Optional, Positional 56
<a href="#">MONCHL</a>	Channel Monitoring	*QMGR, *OFF, *LOW, *MEDIUM, *HIGH, <b>*SAME</b>	Optional, Positional 57
<a href="#">STATCHL</a>	Channel Statistics	*QMGR, *OFF, *LOW, *MEDIUM, *HIGH, <b>*SAME</b>	Optional,



			Positional 58
<a href="#">CLWLANK</a>	Cluster Workload Rank	0-9, <b>*SAME</b>	Optional, Positional 59
<a href="#">CLWLPRTY</a>	Cluster Workload Priority	0-9, <b>*SAME</b>	Optional, Positional 60
<a href="#">CLWLWGHT</a>	Cluster Channel Weight	1-99, <b>*SAME</b>	Optional, Positional 61
<a href="#">SHARECNV</a>	Sharing Conversations	0-999999999, <b>*SAME</b>	Optional, Positional 62
<a href="#">PROPCTL</a>	Property Control	*COMPAT, *NONE, *ALL, <b>*SAME</b>	Optional, Positional 63
<a href="#">MAXINST</a>	Maximum Instances	0-999999999, <b>*SAME</b>	Optional, Positional 64
<a href="#">MAXINSTC</a>	Maximum Instances Per Client	0-999999999, <b>*SAME</b>	Optional, Positional 65
<a href="#">CLNTWGHT</a>	Client Channel Weight	0-99, <b>*SAME</b>	Optional, Positional 66
<a href="#">AFFINITY</a>	Connection Affinity	*PREFERRED, *NONE, <b>*SAME</b>	Optional, Positional 67

[Top](#)**From channel (FROMCHL)**

Specifies the name of the existing channel definition that contains values for the attributes that are not specified in this command.

The possible values are:

**from-channel-name**

Specify the name of the source MQ channel.

[Top](#)**To channel (TOCHL)**

Specifies the name of the new channel definition. The name can contain a maximum of 20 characters. Channel names must be unique. If a channel definition with this name already exists, REPLACE(\*YES) must be specified.

The possible values are:

**to-channel-name**

Specify the name of MQ channel being created.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

**message-queue-manager-name**

The name of a message queue manager.

[Top](#)**Channel type (CHLTYPE)**

Specifies the type of the channel being copied.

The possible values are:

**\*SDR**

Sender channel

**\*SVR**

Server channel

**\*RCVR**

Receiver channel

**\*RQSTR**

Requester channel

**\*SVRCN**

Server-connection channel

**\*CLUSSDR**

Cluster-sender channel

**\*CLUSRCVR**

Cluster-receiver channel

**\*CLTCN**

Client-connection channel

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### Replace (REPLACE)

Specifies whether the new channel definition replaces an existing channel definition with the same name.

The possible values are:

#### **\*NO**

Do not replace the existing channel definition. The command fails if the named channel definition already exists.

#### **\*YES**

Replace the existing channel definition. If there is no definition with the same name a new definition is created.

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### Transport type (TRPTYPE)

Specifies the transmission protocol.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### **\*LU62**

SNA LU 6.2.

#### **\*TCP**

Transmission Control Protocol / Internet Protocol (TCP/IP).

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### Text 'description' (TEXT)

Specifies text that briefly describes the channel definition.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### **\*BLANK**

The text is set to a blank string.

#### **description**

Specify no more than 64 characters enclosed in apostrophes.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

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### Target Queue Manager (TGTMQMNAME)

Specifies the name of the target queue manager.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### **\*NONE**

The name of the target queue manager for a client connection channel (CHLTYPE) \*CLTCN is unspecified.

#### **message-queue-manager-name**

The name of the target message queue manager for a client connection channel (CHLTYPE) \*CLTCN.

For other channel types this parameter must not be specified.

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### Connection name (CONNAME)

Specifies the name of the machine to connect.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### **\*NONE**

The connection name is blank.

#### **connection-name**

Specify the connection name as required by the transmission protocol:

- For \*LU62, specify the name of the CSI object.
- For \*TCP, specify either the host name, or the network address of the remote machine (or the local machine for cluster-receiver channels). This can be followed by an optional port number enclosed in parentheses.  
If a connection name is not specified for cluster-receiver channels a connection name is automatically generated, assuming the default port and using the current IP address of the system.  
Where a port is not specified the default port 1414 is assumed.

For cluster-receiver channels the connection name relates to the local queue manager, and for other channels it relates to the target queue manager.

This parameter is required for channels with channel type (CHLTYPE) of \*SDR, \*RQSTR, \*CLTCN and \*CLUSDR. It is optional for \*SVR and \*CLUSRCVR channels, and is not valid for \*RCVR or \*SVRCN channels.

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### Transaction Program Name (TPNAME)

This parameter is valid for channels with a TRPTYPE defined as LU 6.2 only.

This parameter must be set to the SNA transaction program name, unless the CONNAME contains a side-object name in which case it must be set to blanks. The name is taken instead from the CPI-C Communications Side Object.

This parameter is not valid for channels with a CHLTYPE defined as \*RCVR.

The possible values are:

**\*SAME**

The value of this attribute does not change.

**\*NONE**

No transaction program name is specified.

**\*BLANK**

The transaction program name is taken from CPI-C Communications Side Object. The side object name must be specified in the CONNAME parameter.

***transaction-program-name***

Specify the SNA transaction program name.

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### Mode Name (MODENAME)

This parameter is valid for channels with a TRPTYPE defined as LU 6.2. If TRPTYPE is not defined as LU 6.2 the data is ignored and no error message is issued.

If specified, the value must be set to the SNA mode name, unless the CONNAME contains a side-object name, in which case it must be set to blanks. The name is then taken from the CPI-C Communications Side Object.

This parameter is not valid for channels with CHLTYPE defined as \*RCVR or \*SVRCONN.

The possible values are:

**\*SAME**

The value of this attribute does not change.

**\*NONE**

No mode name is specified.

**\*BLANK**

Name will be taken from the CPI-C Communications Side Object. This must be specified in the CONNAME parameter.

***SNA-mode-name***

Specify the SNA Mode Name

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### Transmission queue (TMQNAME)

Specifies the name of the transmission queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

***transmission-queue-name***

Specify the name of the transmission queue. A transmission queue name is required if the CHLTYPE is defined as \*SDR or \*SVR.

For other channel types this parameter must not be specified.

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### Message channel agent (MCANAME)

This parameter is reserved and should not be used.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The MCA program name is blank.

This parameter cannot be specified if the CHLTYPE is defined as \*RCVR, \*SVRCN, or \*CLTCN.

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### Message channel agent user ID (MCAUSRID)

Specifies the message channel agent user identifier which is to be used by the message channel agent for authorization to access MQ resources, including (if PUTAUT is \*DFT) authorization to put the message to the destination queue for receiver or requester channels.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The message channel agent uses its default user identifier.

**\*PUBLIC**

Uses the public authority.

***mca-user-identifier***

Specify the user identifier to be used.

This parameter cannot be specified for a channel type (CHLTYPE) of \*CLTCN.

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**Message channel agent Type (MCATYPE)**

Specifies whether the message channel agent program should run as a thread or as a process.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*PROCESS**

The message channel agent runs as a separate process.

**\*THREAD**

The message channel agent runs as a separate thread.

This parameter can only be specified for channels with CHLTYPE defined as \*SDR, \*SVR, \*RQSTR, \*CLUSDR or \*CLUSRCVR.

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**Batch Interval (BATCHINT)**

The minimum amount of time, in milliseconds, that a channel will keep a batch open.

The batch is terminated by which ever of the following occurs first: BATCHSZ messages have been sent, or the transmission queue is empty and BATCHINT is exceeded.

The default value is 0, which means that the batch is terminated as soon as the transmission queue becomes empty (or the BATCHSZ limit is reached).

The value must be in the range 0 through 999999999.

This parameter is valid for channels with CHLTYPE defined as \*SDR, \*SVR, \*CLUSDR, or \*CLUSRCVR.

The possible values are:

**\*SAME**

The value of this attribute does not change.

***batch-interval***

Specify a value ranging from 0 through 999999999

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**Batch size (BATCHSIZE)**

Specifies the maximum number of messages that can be sent down a channel before a checkpoint is taken.

The possible values are:

**\*SAME**

The attribute is unchanged.

***batch-size***

Specify a value ranging from 1 through 9999.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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**Disconnect interval (DSCITV)**

Specifies the disconnect interval, which defines the maximum number of seconds that the channel waits for messages to be put on a transmission queue before closing the channel.

The possible values are:

**\*SAME**

The attribute is unchanged.

***disconnect-interval***

Specify a value ranging from 0 through 999999.

This parameter cannot be specified for channel types (CHLTYPE) \*RCVR, \*RQSTR or \*CLTCN.

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**Short retry interval (SHORTTMR)**

Specifies the short retry wait interval for a sender, server or cluster channel (\*SDR, \*SVR, \*CLUSDR or \*CLUSRCVR) that is started automatically by the

channel initiator. This defines the interval between attempts to establish a connection to the remote machine.

The possible values are:

**\*SAME**

The attribute is unchanged.

***short-retry-interval***

Specify a value ranging from 0 through 999999999.

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### Short retry count (SHORTRTY)

Specifies the short retry count for a sender, server or cluster channel (\*SDR, \*SVR, \*CLUSDR or \*CLUSRCVR) that is started automatically by the channel initiator. This defines the maximum number of attempts that are made to establish a connection to the remote machine, at intervals specified by SHORTTMR, before the (normally longer) LONGRTY and LONGTMR are used.

The possible values are:

**\*SAME**

The attribute is unchanged.

***short-retry-count***

Specify a value ranging from 0 through 999999999. A value of 0 means that no retries are allowed.

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### Long retry interval (LONGTMR)

Specifies the long retry wait interval for a sender, server or cluster channel (\*SDR, \*SVR, \*CLUSDR or \*CLUSRCVR) that is started automatically by the channel initiator. It defines the interval in seconds between attempts to establish a connection to the remote machine, after the count specified by SHORTRTY has been exhausted.

The possible values are:

**\*SAME**

The attribute is unchanged.

***long-retry-interval***

Specify a value in the range 0 through 999999999.

**Note:** For implementation reasons, the maximum retry interval that can be used is 999999; values exceeding this are treated as 999999.

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### Long retry count (LONGRTY)

Specifies the long retry count for a sender, server or cluster channel (\*SDR, \*SVR, \*CLUSDR or \*CLUSRCVR) that is started automatically by the channel initiator. This defines the maximum number of further attempts that are made to connect to the remote machine, at intervals specified by LONGTMR, after the count specified by SHORTRTY has been exhausted. An error message is logged if the connection is not established after the defined number of attempts.

The possible values are:

**\*SAME**

The attribute is unchanged.

***long-retry-count***

Specify a value in the range 0 through 999999999. A value of 0 means that no retries are allowed.

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### Security exit (SCYEXIT)

Specifies the name of the program to be called as the security exit. If a nonblank name is defined, the exit is invoked at the following times:

- Immediately after establishing a channel.  
Before any messages are transferred, the exit is given the opportunity to instigate security flows to validate connection authorization.
- On receipt of a response to a security message flow.  
Any security message flows received from the remote processor on the remote machine are passed to the exit.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The security exit program is not invoked.

***security-exit-name***

Specify the name of the security exit program.

***library-name***

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

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### Security exit (CSCYEXIT)

Specifies the name of the program to be called as the client security exit. If a nonblank name is defined, the exit is invoked at the following times:

- Immediately after establishing a channel.

Before any messages are transferred, the exit is given the opportunity to instigate security flows to validate connection authorization.

- On receipt of a response to a security message flow.

Any security message flows received from the remote processor on the remote machine are passed to the exit.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The client security exit program is not invoked.

***security-exit-name***

Specify the name of the client security exit program.

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### Security exit user data (SCYUSRDATA)

Specifies a maximum of 32 characters of user data that is passed to the security exit program.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The user data for the security exit program is not specified.

***security-exit-user-data***

Specify the user data for the security exit.

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### Send exit (SNDEXIT)

Specifies the entry point of the program to be called as the send exit. If a nonblank name is defined, the exit is invoked immediately before data is sent out on the network. The exit is given the complete transmission buffer before it is transmitted; the contents of the buffer can be modified as required.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The send exit program is not invoked.

***send-exit-name***

Specify the name of the send exit program.

***library-name***

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

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### Send exit (CSNDEXIT)

Specifies the entry point of the program to be called as the client send exit. If a nonblank name is defined, the exit is invoked immediately before data is sent out on the network. The exit is given the complete transmission buffer before it is transmitted; the contents of the buffer can be modified as required.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The client send exit program is not invoked.

***send-exit-name***

Specify the name of the client send exit program.

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### Send exit user data (SNDUSRDATA)

Specifies a maximum of 32 characters of user data that is passed to the send exit program.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The user data for the send exit program is not specified.

***send-exit-user-data***

Specify the user data for the send exit program.

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### Receive exit (RCVEXIT)

Specifies the entry point of the program to be called as the receive exit. If a nonblank name is defined, the exit is invoked before data received from the

network is processed. The complete transmission buffer is passed to the exit and the contents of the buffer can be modified as required.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The receive exit program is not invoked.

***receive-exit-name***

Specify the name of the receive exit program.

***library-name***

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

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### Receive exit (CRCVEXIT)

Specifies the entry point of the program to be called as the client receive exit. If a nonblank name is defined, the exit is invoked before data received from the network is processed. The complete transmission buffer is passed to the exit and the contents of the buffer can be modified as required.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The client receive exit program is not invoked.

***receive-exit-name***

Specify the name of the client receive exit program.

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### Receive exit user data (RCVUSRDATA)

Specifies a maximum of 32 characters of user data that is passed to the receive exit program.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The user data for the receive exit program is not specified.

***receive-exit-user-data***

Specify a maximum of 32 characters of user data for the receive exit.

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### Message exit (MSGEXIT)

Specifies the entry point of the program to be called as the message exit. If a nonblank name is defined, the exit is invoked immediately after a message has been retrieved from the transmission queue. The exit is given the entire application message and message descriptor for modification.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The message exit program is not invoked.

***message-exit-name***

Specify the name of the message exit program.

***library-name***

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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### Message exit user data (MSGUSRDATA)

Specifies user data that is passed to the message exit program.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The user data for the message exit program is not specified.

***message-exit-user-data***

Specify a maximum of 32 characters of user data that is passed to the message exit program.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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### Message retry exit (MSGRTYEXIT)

Specifies the entry point of the program to be called as the message retry exit.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The message retry exit program is not invoked.

***message-retry-exit-name***

Specify the name of the message retry exit program.

***library-name***

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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### Message retry exit data (MSGRTYDATA)

Specifies user data that is passed to the message retry exit program.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The user data for the message retry exit program is not specified.

***message-retry-exit-user-data***

Specify a maximum of 32 characters of user data that is passed to the message retry exit program.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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### Number of message retries (MSGRTYNBR)

Specifies the number of times the channel will retry before it decides it cannot deliver the message.

This parameter is used by the channel as an alternative to a message retry exit when MSGRTYEXIT is defined as \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

***message-retry-number***

Specify a value ranging from 0 through 999999999. A value of 0 indicates no retries will be performed.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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### Message retry interval (MSGRTYITV)

Specifies the minimum interval of time that must pass before the channel can retry the MQPUT operation. This time is in milliseconds.

This parameter is used by the channel as an alternative to a message retry exit when MSGRTYEXIT is defined as \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

***message-retry-number***

Specify a value ranging from 0 through 999999999. A value of 0 indicates that the retry will be performed as soon as possible.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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### Convert message (CVTMSG)

Specifies whether the application data in the message should be converted before the message is transmitted.

The possible values are:

**\*SAME**

The value of this attribute does not change.

**\*YES**

The application data in the message is converted before sending.

**\*NO**



The application data in the message is not converted before sending.

This parameter cannot be specified for channel types (CHLTYPE) \*RCVR, \*RQSTR, \*CLTCN or \*SVRCN.

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### Put authority (PUTAUT)

Specifies whether the user identifier in the context information associated with a message is used to establish authority to put the message on the destination queue.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### **\*DFT**

No authority check is made before the message is put on the destination queue.

#### **\*CTX**

The user identifier in the message context information is used to establish authority to put the message.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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### Sequence number wrap (SEQNUMWRAP)

Specifies the maximum message sequence number. When the maximum is reached, sequence numbers wrap to start again at 1.

**Note:** The maximum message sequence number is not negotiable; the local and remote channels must wrap at the same number.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### ***sequence-number-wrap-value***

Specify a value ranging from 100 through 999999999.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

[Top](#)

### Maximum message length (MAXMSGLEN)

Specifies the maximum message length that can be transmitted on the channel. This is compared with the value for the remote channel and the actual maximum is the lower of the two values.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### ***maximum-message-length***

Specify a value ranging from 0 through 104857600. A value of 0 indicates that the maximum length is unlimited.

[Top](#)

### Heartbeat interval (HRTBTINTVL)

Specifies the time, in seconds, between heartbeat flows passed from the sending MCA when there are no messages on the transmission queue. The heartbeat exchange gives the receiving MCA the opportunity to quiesce the channel. This applies only to sender, server, cluster sender and cluster receiver (\*SDR, \*SVR, \*CLUSSDR and \*CLUSRCVR) channels.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### ***heart-beat-interval***

Specify a value ranging from 0 through 999999999. A value of 0 means that no heartbeat exchanges are to take place.

[Top](#)

### Non Persistent Message Speed (NPMSPEED)

Specifies whether the channel supports fast non persistent messages.

The possible values are:

#### **\*SAME**

The value of this attribute does not change.

#### **\*FAST**

The channel supports fast non persistent messages.

#### **\*NORMAL**

The channel does not support fast non persistent messages.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

[Top](#)

### Cluster Name (CLUSTER)

The name of the cluster to which the channel belongs. The maximum length is 48 characters conforming to the rules for naming MQ objects.

This parameter is valid only for \*CLUSSDR and \*CLUSRCVR channels. If the CLUSNL parameter is non-blank, this parameter must be blank.

The possible values are:

**\*SAME**

The value of this attribute does not change.

**\*NONE**

No cluster name is specified.

***cluster-name***

The name of the cluster to which the channel belongs. The maximum length is 48 characters conforming to the rules for naming MQ objects.

[Top](#)

### Cluster Name List (CLUSNL)

The name of the namelist that specifies a list of clusters to which the channel belongs

This parameter is valid only for \*CLUSSDR and \*CLUSRCVR channels. If the CLUSTER parameter is non-blank, this parameter must be blank.

The possible values are:

**\*SAME**

The value of this attribute does not change.

**\*NONE**

No cluster namelist is specified.

***cluster-name-list***

The name of the namelist specifying a list of clusters to which the channel belongs. The maximum length is 48 characters conforming to the rules for naming MQ objects.

[Top](#)

### Network Connection Priority (NETPRTY)

The priority for the network connection. Distributed queuing chooses the path with the highest priority if there are multiple paths available. The value must be in the range between 0 and 9 where 0 is the lowest priority.

This parameter is valid only for \*CLUSRCVR channels.

The possible values are:

**\*SAME**

The value of this attribute does not change.

***network-connection-priority***

Specify a value ranging from 0 through 9 where 0 is the lowest priority.

[Top](#)

### SSL CipherSpec (SSLCIPH)

SSLCIPH specifies the CipherSpec used in SSL channel negotiation. The possible values are:

**\*SAME**

The value of this attribute does not change.

***cipherspec***

The name of the CipherSpec.

[Top](#)

### SSL Client Authentication (SSLCAUTH)

SSLCAUTH specifies whether the channel carries out client authentication over SSL. The parameter is used only for channels with SSLCIPH specified.

The possible values are:

**\*SAME**

The value of this attribute does not change.

**\*REQUIRED**

Client authentication is required.

**\*OPTIONAL**

Client authentication is optional.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*CLTCN or \*CLUSSDR.

[Top](#)

### SSL Peer name (SSLPEER)

SSLPEER specifies the X500 peer name used in SSL channel negotiation. The possible values are:

**\*SAME**

The value of this attribute does not change.

**x500peername**

The X500 peer name to use.

[Top](#)

**Local communication address (LOCLADDR)**

Specifies the local communication address for the channel.

This parameter is only valid for \*SDR, \*SVR, \*RQSTR, \*CLUSSDR, \*CLUSRCVR and \*CLTCN channels.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The connection is blank.

**local-address**

Only valid for transport type TCP/IP. Specify the optional IP address and optional port or port range used for outbound TCP/IP communications. The format is LOCLADDR([ip-addr][low-port[,high-port]]).

[Top](#)

**Batch Heartbeat Interval (BATCHEB)**

The time in milliseconds used to determine whether batch heartbeating occurs on this channel. Batch heartbeating allows channels to determine whether the remote channel instance is still active before going indoubt. A batch heartbeat will occur if a channel MCA has not communicated with the remote channel within the specified time.

The possible values are:

**\*SAME**

The attribute is unchanged.

**batch-heartbeat-interval**

Specify a value ranging from 0 through 999999999. A value of 0 indicates that batch heartbeating is not to be used.

This parameter cannot be specified for channel types (CHLTYPE) \*RCVR, \*RQSTR, \*CLTCN or \*SVRCN.

[Top](#)

**Task user identifier (USERID)**

This is used by the message channel agent when attempting to initiate a secure LU 6.2 session with a remote message channel agent.

This parameter is valid only for channels with a channel type (CHLTYPE) of \*SDR, \*SVR, \*RQSTR, \*CLTCN or \*CLUSSDR.

Although the maximum length of the attribute is 12 characters, only the first 10 characters are used.

The possible values are:

**\*SAME**

The value of this attribute does not change.

**\*NONE**

No user identifier is specified.

**user-identifier**

Specify the task user identifier.

[Top](#)

**Password (PASSWORD)**

This is used by the message channel agent when attempting to initiate a secure LU 6.2 session with a remote message channel agent.

This parameter is valid only for channels with a channel type (CHLTYPE) of \*SDR, \*SVR, \*RQSTR, \*CLTCN or \*CLUSSDR.

Although the maximum length of the attribute is 12 characters, only the first 10 characters are used.

The possible values are:

**\*SAME**

The value of this attribute does not change.

**\*NONE**

No password is specified.

**password**

Specify the password.

[Top](#)

**Keep Alive Interval (KAINT)**

Specifies the keep alive timing interval for this channel.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*AUTO**

The keep alive interval is calculated based upon the negotiated heartbeat value as follows:

- If the negotiated HBINT is greater than 0, keep alive interval is set to that value plus 60 seconds.
- If the negotiated HBINT is 0, the value used is that specified by the KEEPALIVEOPTIONS statement in the TCP profile configuration data set.

***keep-alive-interval***

Specify a value ranging from 0 through 99999.

[Top](#)

**Header Compression (COMPHDR)**

The list of header data compression techniques supported by the channel.

For channel types sender, server, cluster sender, cluster receiver and client connection (\*SDR, \*SVR, \*CLUSDR, \*CLUSRCVR and \*CLTCN) the values specified are in order of preference with the first compression technique supported by the remote end of the channel being used.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No header data compression is performed.

**\*SYSTEM**

Header data compression is performed.

[Top](#)

**Message Compression (COMPMSG)**

The list of message data compression techniques supported by the channel.

For channel types sender, server, cluster sender, cluster receiver and client connection (\*SDR, \*SVR, \*CLUSDR, \*CLUSRCVR and \*CLTCN) the values specified are in order of preference with the first compression technique supported by the remote end of the channel being used.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No message data compression is performed.

**\*RLE**

Message data compression is performed using run-length encoding.

**\*ZLIBFAST**

Message data compression is performed using the zlib compression technique. A fast compression time is preferred.

**\*ZLIBHIGH**

Message data compression is performed using the zlib compression technique. A high level of compression is preferred.

**\*ANY**

Any compression technique supported by the queue manager can be used. This option is only valid for channel types receiver, requester and server connection (\*RCVR, \*RQSTR and \*SVRCN).

[Top](#)

**Channel Monitoring (MONCHL)**

Controls the collection of online monitoring data.

Online monitoring data is not collected when the queue manager attribute MONCHL is set to \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

The collection of online monitoring data is inherited from the setting of the queue manager attribute MONCHL.

**\*OFF**

Online Monitoring Data collection for this channel is switched off.

**\*LOW**

Monitoring data collection is turned on with a low ratio of data collection.

**\*MEDIUM**

Monitoring data collection is turned on with a moderate ratio of data collection.

**\*HIGH**

Monitoring data collection is turned on with a high ratio of data collection.

This parameter cannot be specified for a channel type (CHLTYPE) of \*CLTCN.

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**Channel Statistics (STATCHL)**

Controls the collection of statistics data.

Statistics data is not collected when the queue manager attribute STATCHL is set to \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

Statistics data collection is based upon the setting of the queue manager attribute STATCHL.

**\*OFF**

Statistics data collection for this channel is switched off.

**\*LOW**

Statistics data collection is turned on with a low ratio of data collection.

**\*MEDIUM**

Statistics data collection is turned on with a moderate ratio of data collection.

**\*HIGH**

Statistics data collection is turned on with a high ratio of data collection.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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### Cluster Workload Rank (CLWLRRANK)

Specifies the cluster workload rank of the channel.

The possible values are:

**\*SAME**

The attribute is unchanged.

***cluster-workload-rank***

The cluster workload rank of the channel in the range 0 through 9.

[Top](#)

### Cluster Workload Priority (CLWLPRTY)

Specifies the cluster workload priority of the channel.

The possible values are:

**\*SAME**

The attribute is unchanged.

***cluster-workload-priority***

The cluster workload priority of the channel in the range 0 through 9.

[Top](#)

### Cluster Channel Weight (CLWLWGHT)

Specifies the cluster workload weight of the channel.

The possible values are:

**\*SAME**

The attribute is unchanged.

***cluster-workload-weight***

The cluster workload weight of the channel in the range 1 through 99.

[Top](#)

### Sharing Conversations (SHARECNV)

Specifies the maximum the number of conversations which can be shared over a particular TCP/IP client channel instance (socket).

This parameter is valid for channels with CHLTYPE defined as \*CLTCN or \*SVRCN.

The possible values are:

**\*SAME**

The attribute is unchanged.

**0**

Specifies no sharing of conversations over a TCP/IP socket. The channel instance runs in a mode prior to that of WebSphere MQ Version 7.0, with regard to:

- Administrator stop-quietse
- Heartbeating
- Read ahead

**1**

Specifies no sharing of conversations over a TCP/IP socket. Client heartbeating and read ahead are available, whether in an MQGET call or not, and channel quiescing is more controllable.

***shared-conversations***

The number of shared conversations in the range 2 through 999999999.

This parameter is only valid for client-connection and server-connection channels.

**Note:** If the client-connection SHARECNV value does not match the server-connection SHARECNV value, the lower of the two values is used.

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### Property Control (PROPCTL)

Specifies what happens to properties of messages when the message is about to be sent to a V6 or prior queue manager (a queue manager that does not understand the concept of a property descriptor).

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### **\*COMPAT**

If the message contains a property with a prefix of "mcd.", "jms.", "usr." or "mqext." then all optional message properties, except those in the message descriptor (or extension) will be placed in one or more MQRFH2 headers in the message data before the message is sent to the remote queue manager.

#### **\*NONE**

All properties of the message, except those in the message descriptor (or extension), will be removed from the message before the message is sent to the remote queue manager.

#### **\*ALL**

All properties of the message will be included with the message when it is sent to the remote queue manager. The properties, except those in the message descriptor (or extension), will be placed in one or more MQRFH2 headers in the message data.

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### Maximum Instances (MAXINST)

Specifies the maximum number of clients that can simultaneously connect to the queue manager via this server-connection channel object.

This attribute is valid only for server-connection channels.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### ***maximum-instances***

The maximum number of simultaneous instances of the channel in the range 0 through 99999999.

A value of zero prevents all client access. If the value is reduced below the number of instances of the server connection channel currently running, the running channels will not be affected, but new instances will not be able to start until sufficient existing ones have ceased to run.

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### Maximum Instances Per Client (MAXINSTC)

Specifies the maximum number of simultaneous instances of an individual server-connection channel which can be started from a single client.

In this context, multiple client connections originating from the same remote network address are considered to be a single client.

This attribute is valid only for server-connection channels.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### ***maximum-instances-per-client***

The maximum number of simultaneous instances of the channel which can be in the started from a single client in the range 0 through 99999999.

A value of zero prevents all client access. If the value is reduced below the number of instances of the server connection channel currently running from individual clients, the running channels will not be affected, but new instances will not be able to start until sufficient existing ones have ceased to run.

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### Client Channel Weight (CLNTWGHT)

The client channel weighting attribute is used so client channel definitions can be selected at random based on their weighting when more than one suitable definition is available.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### ***client-channel-weight***

The client channel weight in the range 0 through 99.

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### Connection Affinity (AFFINITY)

The channel affinity attribute is used so client applications that connect multiple times using the same queue manager name can choose whether to use the same client channel definition for each connection.

The possible values are:

#### **\*SAME**

The attribute is unchanged.

#### \*PREFERRED

The first connection in a process reading a CCDT creates a list of applicable definitions based on the weighting with any applicable CLNTWGHT(0) definitions first and in alphabetical order. Each connection in the process attempts to connect using the first definition in the list. If a connection is unsuccessful the next definition is used. Unsuccessful non CLNTWGHT(0) definitions are moved to the end of the list. CLNTWGHT(0) definitions remain at the start of the list and are selected first for each connection.

#### \*NONE

The first connection in a process reading a CCDT creates a list of applicable definitions. All connections in a process select an applicable definition based on the weighting with any applicable CLNTWGHT(0) definitions selected first in alphabetical order.

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## Examples

None

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## Error messages

Unknown

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## 11.20. Copy MQ Listener (CPYMQMLSR)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Copy MQ Listener (CPYMQMLSR) command creates an MQ listener definition of the same type and, for attributes not specified in the command, with the same attribute values as an existing listener definition.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">FROMLSR</a>	From Listener	Character value	Required, Key, Positional 1
<a href="#">TOLSR</a>	To Listener	Character value	Required, Key, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 3
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 4
<a href="#">TEXT</a>	Text 'description'	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 5
<a href="#">CONTROL</a>	Listener control	<b>*SAME</b> , *MANUAL, *QMGR, *STARTONLY	Optional, Positional 6
<a href="#">PORT</a>	Port number	0-65535, <b>*SAME</b>	Optional, Positional 7
<a href="#">IPADDR</a>	IP Address	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 8
<a href="#">BACKLOG</a>	Listener backlog	0-999999999, <b>*SAME</b>	Optional, Positional 9

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### From Listener (FROMLSR)

Specifies the name of the existing listener definition to provide values for the attributes not specified in this command.

The possible values are:

#### **from-listener-name**

Specify the name of the source MQ listener.

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### To Listener (TOLSR)

Specifies the name of the new listener definition to be created. The name can contain a maximum of 48 characters.

If a listener definition with this name already exists, REPLACE(\*YES) must be specified.

The possible values are:

#### **to-listener-name**

Specify the name of the new listener being created.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

***queue-manager-name***

The name of a message queue manager.

[Top](#)

### Replace (REPLACE)

Specifies whether the new listener definition will replace an existing listener definition with the same name.

The possible values are:

**\*NO**

This definition does not replace any existing listener definition with the same name. The command fails if the named listener definition already exists.

**\*YES**

Replace the existing listener definition. If there is no definition with the same name, a new definition is created.

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### Text 'description' (TEXT)

Specifies text that briefly describes the listener definition.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The text is set to a blank string.

***description***

Specify no more than 64 characters enclosed in apostrophes.

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### Listener control (CONTROL)

Whether the listener starts automatically when the queue manager is started.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*MANUAL**

The listener is not automatically started or stopped.

**\*QMGR**

The listener is started and stopped as the queue manager is started and stopped.

**\*STARTONLY**

The listener is started as the queue manager is started, but is not automatically stopped when the queue manager is stopped.

[Top](#)

### Port number (PORT)

The port number to be used by the listener.

The possible values are:

**\*SAME**

The attribute is unchanged.

***port-number***

The port number to be used.

[Top](#)

### IP Address (IPADDR)

The IP address to be used by the listener.

The possible values are:

**\*SAME**

The attribute is unchanged.

***ip-addr***

The IP address to be used.

[Top](#)



**Listener backlog (BACKLOG)**

The number of concurrent connection requests the listener supports.

The possible values are:

**\*SAME**

The attribute is unchanged.

**backlog**

The number of concurrent connection requests supported.

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**Examples**

None

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**Error messages**

Unknown

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**11.21. Copy MQ Namelist (CPYMQMNL)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Copy MQ Namelist (CPYMQMNL) command copies an MQ namelist.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">FROMNL</a>	From Namelist	Character value	Required, Key, Positional 1
<a href="#">TONL</a>	To Namelist	Character value	Required, Key, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 3
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 4
<a href="#">TEXT</a>	Text 'description'	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 5
<a href="#">NAMES</a>	List of Names	Values (up to 256 repetitions): Character value, *BLANKS, <b>*SAME</b> , *NONE	Optional, Positional 6

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**From Namelist (FROMNL)**

Specifies the name of the existing namelist, to provide values for the attributes not specified in this command.

**from-namelist**

Specify the name of the source namelist.

[Top](#)

**To Namelist (TONL)**

The name of the new namelist to be created. The name can contain a maximum of 48 characters.

If a namelist with this name already exists, REPLACE(\*YES) must be specified.

**to-namelist**

Specify the name of the MQ namelist being created.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

The default queue manager is used.

**message-queue-manager-name**

Specify the name of the queue manager.

[Top](#)

## Replace (REPLACE)

Specifies whether the new namelist should replace an existing namelist with the same name.

### **\*NO**

Do not replace the existing namelist. The command fails if the named namelist already exists.

### **\*YES**

Replace the existing namelist. If there is no namelist with the same name, a new namelist is created.

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## Text 'description' (TEXT)

Specifies text that briefly describes the namelist.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

### **\*SAME**

The attribute is unchanged.

### **description**

Specify no more than 64 characters enclosed in apostrophes.

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## List of Names (NAMES)

List of names. This is the list of names to be created. The names can be of any type, but must conform to the rules for naming MQ objects.

### **\*SAME**

The attribute is unchanged.

### **namelist**

The list to create. An empty list is valid.

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## Examples

None

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## Error messages

Unknown

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## 11.22. Copy MQ Process (CPYMQMPPRC)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Copy MQ Process (CPYMQMPPRC) command creates an MQ process definition of the same type and, for attributes not specified in the command, with the same attribute values as an existing process definition.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">FROMPRC</a>	From process	Character value	Required, Key, Positional 1
<a href="#">TOPRC</a>	To process	Character value	Required, Key, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 3
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 4
<a href="#">TEXT</a>	Text 'description'	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 5
<a href="#">APPTYPE</a>	Application type	Integer, <b>*SAME</b> , *CICS, *MVS, *IMS, *OS2, *DOS, *UNIX, *QMGR, *OS400, *WINDOWS, *CICS_VSE, *WINDOWS_NT, *VMS, *NSK, *VOS, *IMS_BRIDGE, *XCF, *CICS_BRIDGE, *NOTES_AGENT, *BROKER, *JAVA, *DQM	Optional, Positional 6
<a href="#">APPID</a>	Application identifier	Character value, <b>*SAME</b>	Optional, Positional 7
<a href="#">USRDATA</a>	User data	Character value, <b>*SAME</b> , *NONE	Optional, Positional 8
<a href="#">ENVDATA</a>	Environment data	Character value, <b>*SAME</b> , *NONE	Optional,

Positional 9

[Top](#)**From process (FROMPRC)**

Specifies the name of the existing process definition to provide values for the attributes not specified in this command.

The possible values are:

***from-process-name***

Specify the name of the source MQ process.

[Top](#)**To process (TOPRC)**

The name of the new process definition to be created. The name can contain a maximum of 48 characters.

If a process definition with this name already exists, REPLACE(\*YES) must be specified.

The possible values are:

***to-process-name***

Specify the name of the MQ process being created.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

***queue-manager-name***

The name of a message queue manager.

[Top](#)**Replace (REPLACE)**

Specifies whether the new process definition should replace an existing process definition with the same name.

The possible values are:

**\*NO**

This definition does not replace any existing process definition with the same name. The command fails if the named process definition already exists.

**\*YES**

Replace the existing process definition. If there is no definition with the same name, a new definition is created.

[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the process definition.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The text is set to a blank string.

***description***

Specify no more than 64 characters enclosed in apostrophes.

[Top](#)**Application type (APPTYPE)**

The type of application started.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*CICS**

Represents a CICS/400 application.

**\*MVS**

Represents an MVS application.

**\*IMS**

Represents an IMS application.

**\*OS2**

Represents an OS/2 application.

**\*DOS**

Represents a DOS application.

**\*UNIX**

Represents a UNIX application.

**\*QMGR**

Represents a queue manager.

**\*OS400**

Represents an i5/OS application.

**\*WINDOWS**

Represents a Windows application.

**\*CICS\_VSE**

Represents a CICS/VSE application.

**\*WINDOWS\_NT**

Represents a Windows NT application.

**\*VMS**

Represents a VMS application.

**\*NSK**

Represents a Tandem/NSK application.

**\*VOS**

Represents a VOS application.

**\*IMS\_BRIDGE**

Represents an IMS bridge application.

**\*XCF**

Represents an XCF application.

**\*CICS\_BRIDGE**

Represents a CICS bridge application.

**\*NOTES\_AGENT**

Represents a Lotus Notes application.

**\*BROKER**

Represents a broker application.

**\*JAVA**

Represents a Java application.

**\*DQM**

Represents a DQM application.

***user-value***

User-defined application type in the range 65536 through 999999999.

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### Application identifier (APPID)

Application identifier. This is the name of the application to be started, on the platform for which the command is processing. It is typically a program name and library name.

The possible values are:

**\*SAME**

The attribute is unchanged.

***application-id***

The maximum length is 256 characters.

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### User data (USRDATA)

A character string that contains user information pertaining to the application, as defined by APPID, to start.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The user data is blank.

***user-data***

Specify up to 128 characters of user data.

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### Environment data (ENVDATA)

A character string that contains environment information pertaining to the application, as defined by APPID, to start.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The environment data is blank.

**environment-data**

The maximum length is 128 characters.

[Top](#)

**Examples**

None

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**Error messages**

Unknown

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**11.23. Copy MQ Queue (CPYMQMQ)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Copy MQ Queue (CPYMQMQ) command creates a queue definition of the same type and, for attributes not specified in the command, with the same attribute values as an existing queue definition.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">FROMQ</a>	From queue name	Character value	Required, Key, Positional 1
<a href="#">TOQ</a>	To queue name	Character value	Required, Key, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 3
<a href="#">QTYPE</a>	Queue type	Character value	Optional, Positional 4
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 5
<a href="#">TEXT</a>	Text 'description'	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 6
<a href="#">PUTENBL</a>	Put enabled	<b>*SAME</b> , *NO, *YES	Optional, Positional 7
<a href="#">DFTPTY</a>	Default message priority	0-9, <b>*SAME</b>	Optional, Positional 8
<a href="#">DFTMSGPST</a>	Default message persistence	<b>*SAME</b> , *NO, *YES	Optional, Positional 9
<a href="#">PRCNAME</a>	Process name	Character value, *NONE, <b>*SAME</b>	Optional, Positional 10
<a href="#">TRGENBL</a>	Triggering enabled	<b>*SAME</b> , *NO, *YES	Optional, Positional 11
<a href="#">GETENBL</a>	Get enabled	<b>*SAME</b> , *NO, *YES	Optional, Positional 12
<a href="#">SHARE</a>	Sharing enabled	<b>*SAME</b> , *NO, *YES	Optional, Positional 13
<a href="#">DFTSHARE</a>	Default share option	<b>*SAME</b> , *NO, *YES	Optional, Positional 14
<a href="#">MSGDLYSEQ</a>	Message delivery sequence	<b>*SAME</b> , *PTY, *FIFO	Optional, Positional 15
<a href="#">HDNBKTCNT</a>	Harden backout count	<b>*SAME</b> , *NO, *YES	Optional, Positional 16
<a href="#">TRGTYPE</a>	Trigger type	<b>*SAME</b> , *FIRST, *ALL, *DEPTH, *NONE	Optional, Positional 17
<a href="#">TRGDEPTH</a>	Trigger depth	1-999999999, <b>*SAME</b>	Optional, Positional 18
<a href="#">TRGMSGPTY</a>	Trigger message priority	0-9, <b>*SAME</b>	Optional, Positional 19
<a href="#">TRGDATA</a>	Trigger data	Character value, *NONE, <b>*SAME</b>	Optional, Positional 20
<a href="#">RTNITY</a>	Retention interval	0-999999999, <b>*SAME</b>	Optional, Positional 21
<a href="#">MAXDEPTH</a>	Maximum queue depth	0-999999999, <b>*SAME</b>	Optional, Positional 22
<a href="#">MAXMSGLEN</a>	Maximum message length	0-104857600, <b>*SAME</b>	Optional, Positional 23
<a href="#">BKTHLD</a>	Backout threshold	0-999999999, <b>*SAME</b>	Optional,

			Positional 24
<a href="#">BKQNAME</a>	Backout requeue name	<i>Character value, *NONE, *SAME</i>	Optional, Positional 25
<a href="#">INITQNAME</a>	Initiation queue	<i>Character value, *NONE, *SAME</i>	Optional, Positional 26
<a href="#">USAGE</a>	Usage	<i>*SAME, *NORMAL, *TMQ</i>	Optional, Positional 27
<a href="#">DFNTYPE</a>	Definition type	<i>*SAME, *TEMPDYN, *PERMDYN</i>	Optional, Positional 28
<a href="#">TGQNAME</a>	Target object	<i>Character value, *SAME</i>	Optional, Positional 29
<a href="#">RMTQNAME</a>	Remote queue	<i>Character value, *SAME, *NONE</i>	Optional, Positional 30
<a href="#">RMTQMNAME</a>	Remote Message Queue Manager	<i>Character value, *SAME</i>	Optional, Positional 31
<a href="#">TMQNAME</a>	Transmission queue	<i>Character value, *NONE, *SAME</i>	Optional, Positional 32
<a href="#">HIGHTHLD</a>	Queue depth high threshold	0-100, <i>*SAME</i>	Optional, Positional 33
<a href="#">LOWTHLD</a>	Queue depth low threshold	0-100, <i>*SAME</i>	Optional, Positional 34
<a href="#">FULLEVT</a>	Queue full events enabled	<i>*SAME, *NO, *YES</i>	Optional, Positional 35
<a href="#">HIGHEVT</a>	Queue high events enabled	<i>*SAME, *NO, *YES</i>	Optional, Positional 36
<a href="#">LOWEVT</a>	Queue low events enabled	<i>*SAME, *NO, *YES</i>	Optional, Positional 37
<a href="#">SRVITY</a>	Service interval	0-999999999, <i>*SAME</i>	Optional, Positional 38
<a href="#">SRVEVT</a>	Service interval events	<i>*SAME, *HIGH, *OK, *NONE</i>	Optional, Positional 39
<a href="#">DISTLIST</a>	Distribution list support	<i>*SAME, *NO, *YES</i>	Optional, Positional 40
<a href="#">CLUSTER</a>	Cluster Name	<i>Character value, *SAME, *NONE</i>	Optional, Positional 41
<a href="#">CLUSNL</a>	Cluster Name List	<i>Character value, *NONE, *SAME</i>	Optional, Positional 42
<a href="#">DEFBIND</a>	Default Binding	<i>*SAME, *OPEN, *NOTFIXED</i>	Optional, Positional 43
<a href="#">CLWLRANK</a>	Cluster Workload Rank	0-9, <i>*SAME</i>	Optional, Positional 44
<a href="#">CLWLPRTY</a>	Cluster Workload Priority	0-9, <i>*SAME</i>	Optional, Positional 45
<a href="#">CLWLUSEQ</a>	Cluster workload queue use	<i>*SAME, *QMGR, *LOCAL, *ANY</i>	Optional, Positional 46
<a href="#">MONQ</a>	Queue Monitoring	<i>*SAME, *QMGR, *OFF, *LOW, *MEDIUM, *HIGH</i>	Optional, Positional 47
<a href="#">STATO</a>	Queue Statistics	<i>*SAME, *QMGR, *OFF, *ON</i>	Optional, Positional 48
<a href="#">ACCTO</a>	Queue Accounting	<i>*SAME, *QMGR, *OFF, *ON</i>	Optional, Positional 49
<a href="#">NPMCLASS</a>	Non Persistent Message Class	<i>*SAME, *NORMAL, *HIGH</i>	Optional, Positional 50
<a href="#">MSGREADAHD</a>	Message Read Ahead	<i>*SAME, *DISABLED, *NO, *YES</i>	Optional, Positional 51
<a href="#">DFTPUTRESP</a>	Default Put Response	<i>*SAME, *SYNC, *ASYN</i>	Optional, Positional 52
<a href="#">PROPCTL</a>	Property Control	<i>*SAME, *COMPAT, *NONE, *ALL, *FORCE</i>	Optional, Positional 53
<a href="#">TARGTYPE</a>	Target Type	<i>*SAME, *QUEUE, *TOPIC</i>	Optional, Positional 54

[Top](#)**From queue name (FROMQ)**

Specifies the name of the existing queue definition, to provide values for the attributes not specified in this command.

The possible values are:

**from-queue-name**

Specify the name of the source queue.

[Top](#)**To queue name (TOQ)**

Specifies the name of the new queue definition. The name can contain a maximum of 48 characters. Queue name and type combinations must be unique; if a queue definition already exists with the name and type of the new queue, REPLACE(\*YES) must be specified.

**Note:** The field length is 48 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

The possible values are:

**to-queue-name**

Specify the name of the queue being created.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)**Queue type (QTYPE)**

Specifies the type of queue that is to be copied.

The possible values are:

**\*ALS**

An alias queue.

**\*LCL**

A local queue.

**\*RMT**

A remote queue.

**\*MDL**

A model queue.

[Top](#)**Replace (REPLACE)**

Specifies whether the new queue will replace an existing queue definition with the same name and type.

The possible values are:

**\*NO**

Do not replace the existing queue definition. The command fails if the named queue already exists.

**\*YES**

Replace the existing queue definition with the attributes of the FROMQ and the specified attributes.

The command fails if an application has the queue open or the USAGE attribute is changed.

**Note:** If the queue is a local queue, and a queue with the same name already exists, any messages already on that queue are retained.

[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the object.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The text is set to a blank string.

**description**

Specify no more than 64 characters enclosed in apostrophes.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)**Put enabled (PUTENBL)**

Specifies whether messages can be put on the queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Messages cannot be added to the queue.

**\*YES**

Messages can be added to the queue by authorized applications.

[Top](#)**Default message priority (DFTPTY)**

Specifies the default priority of messages put on the queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

**priority-value**

Specify a value ranging from 0 through 9, where 9 is the highest priority.

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### Default message persistence (DFTMSGPST)

Specifies the default for message-persistence on the queue. Message persistence determines whether messages are preserved across restarts of the queue manager.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

By default, messages are lost across a restart of the queue manager.

**\*YES**

By default, messages are preserved across a restart of the queue manager.

[Top](#)

### Process name (PRCNAME)

Specifies the local name of the MQ process that identifies the application that should be started when a trigger event occurs.

The process does not have to be available when the queue is created, but it must be available for a trigger event to occur.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

The process name is blank.

**process-name**

Specify the name of the MQ process.

[Top](#)

### Triggering enabled (TRGENBL)

Specifies whether trigger messages are written to the initiation queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Triggering is not enabled. Trigger messages are not written to the initiation queue.

**\*YES**

Triggering is enabled. Trigger messages are written to the initiation queue.

[Top](#)

### Get enabled (GETENBL)

Specifies whether applications are to be permitted to get messages from this queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Applications cannot retrieve messages from the queue.

**\*YES**

Suitably authorized applications can retrieve messages from the queue.

[Top](#)

### Sharing enabled (SHARE)

Specifies whether multiple instances of applications can open this queue for input simultaneously.

The possible values are:



**\*SAME**

The attribute is unchanged.

**\*NO**

Only a single application instance can open the queue for input.

**\*YES**

More than one application instance can open the queue for input.

[Top](#)

**Default share option (DFTSHARE)**

Specifies the default share option for applications opening this queue for input.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

By default, the open request is for exclusive use of the queue for input.

**\*YES**

By default, the open request is for shared use of the queue for input.

[Top](#)

**Message delivery sequence (MSGDLYSEQ)**

Specifies the message delivery sequence.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*PTY**

Messages are delivered in first-in-first-out (FIFO) order within priority.

**\*FIFO**

Messages are delivered in FIFO order regardless of priority.

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**Harden backout count (HDNBKTCNT)**

Specifies whether the count of backed out messages is saved (hardened) across restarts of the message queue manager.

**Note:** On WebSphere MQ for i5/OS the count is ALWAYS hardened, regardless of the setting of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

The backout count is not hardened.

**\*YES**

The backout count is hardened.

[Top](#)

**Trigger type (TRGTYPE)**

Specifies the condition that initiates a trigger event. When the condition is true, a trigger message is sent to the initiation queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*FIRST**

When the number of messages on the queue goes from 0 to 1.

**\*ALL**

Every time a message arrives on the queue.

**\*DEPTH**

When the number of messages on the queue equals the value of the TRGDEPTH attribute.

**\*NONE**

No trigger messages are written.

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**Trigger depth (TRGDEPTH)**

Specifies, for TRIGTYPE(\*DEPTH), the number of messages that initiate a trigger message to the initiation queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**depth-value**

Specify a value ranging from 1 through 999999999.

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**Trigger message priority (TRGMSGPTY)**

Specifies the minimum priority that a message must have before it can produce, or be counted for, a trigger event.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**priority-value**

Specify a value ranging from 0 through 9, where 9 is the highest priority.

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**Trigger data (TRGDATA)**

Specifies up to 64 characters of user data that the queue manager includes in the trigger message. This data is made available to the monitoring application that processes the initiation queue, and to the application started by the monitor.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No trigger data is specified.

**trigger-data**

Specify up to 64 characters enclosed in apostrophes. For a transmission queue you can use this parameter to specify the name of the channel to be started.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

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**Retention interval (RTNITV)**

Specifies the retention interval. This interval is the number of hours for which the queue might be needed, based on the date and time when the queue was created.

This information is available to a housekeeping application or an operator and can be used to determine when a queue is no longer required.

**Note:** The message queue manager does not delete queues, nor does it prevent your queues from being deleted if their retention interval has not expired. It is your responsibility to take any required action.

The possible values are:

**\*SAME**

The attribute is unchanged.

**interval-value**

Specify a value ranging from 0 through 999999999.

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**Maximum queue depth (MAXDEPTH)**

Specifies the maximum number of messages allowed on the queue. However, other factors can cause the queue to be treated as full; for example, it appears to be full if there is no storage available for a message.

**Note:** If this value is subsequently reduced by using the CHGMQM command, any messages that are on the queue remain intact even if they cause the new maximum to be exceeded.

The possible values are:

**\*SAME**

The attribute is unchanged.

**depth-value**

Specify a value ranging from 0 through 999999999.

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**Maximum message length (MAXMSGLEN)**

Specifies the maximum length for messages on the queue.

**Note:** If this value is subsequently reduced by using the CHGMQM command, any messages that are on the queue remain intact even if they exceed the new maximum length.

Applications might use the value of this attribute to determine the size of buffer they need to retrieve messages from the queue. Therefore change the value only if you know this will not cause an application to operate incorrectly.

The possible values are:

**\*SAME**

The attribute is unchanged.

***length-value***

Specify a value ranging from 0 through 100 MB in bytes. The default is 4MB.

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### Backout threshold (BKTTHLD)

Specifies the backout threshold.

Applications running inside of WebSphere Application Server and those that use the WebSphere MQ Application Server Facilities will use this attribute to determine if a message should be backed out. For all other applications, apart from allowing this attribute to be queried, the queue manager takes no action based on the value of the attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

***threshold-value***

Specify a value ranging from 0 through 999999999.

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### Backout requeue name (BKTQNAME)

Specifies the backout-queue name.

Applications running inside of WebSphere Application Server and those that use the WebSphere MQ Application Server Facilities will use this attribute to determine where messages that have been backed out should go. For all other applications, apart from allowing this attribute to be queried, the queue manager takes no action based on the value of the attribute.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No backout queue is specified.

***backout-queue-name***

Specify the backout queue name.

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### Initiation queue (INITQNAME)

Specifies the name of the initiation queue.

**Note:** The initiation queue must be on the same instance of a message queue manager.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No initiation queue is specified.

***initiation-queue-name***

Specify the initiation queue name.

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### Usage (USAGE)

Specifies whether the queue is for normal usage, or for transmitting messages to a remote message queue manager.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NORMAL**

Normal usage (the queue is not a transmission queue)

**\*TMQ**

The queue is a transmission queue that is used to hold messages destined for a remote message queue manager. If the queue is intended for use in situations where a transmission queue name is not explicitly specified, the queue name must be the same as the name of the remote message queue manager. For further information, see WebSphere MQ Intercommunication.

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### Definition type (DFNTYPE)

Specifies the type of dynamic queue definition that is created when an application issues an MQOPEN API call with the name of this model queue specified in

the object descriptor.

**Note:** This parameter only applies to a model queue definition.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*TEMPDYN**

A temporary dynamic queue is created. This value should not be specified with a DEFMSGPST value of \*YES.

**\*PERMDYN**

A permanent dynamic queue is created.

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### Target object (TGTQNAME)

Specifies the name of the object for which this queue is an alias.

The object can be a local or remote queue, a topic or a message queue manager.

**Note:** The target object does not need to exist at this time but it must exist when a process attempts to open the alias queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

***target-object-name***

Specify the name of the target object.

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### Remote queue (RMTQNAME)

Specifies the name of the remote queue. That is, the local name of the remote queue as defined on the queue manager specified by RMTMQMNAME.

If this definition is used for a queue manager alias definition, RMTQNAME must be blank when the open occurs.

If this definition is used for a reply-to alias, this name is the name of the queue that is to be the reply-to queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No remote-queue name is specified (that is, the name is blank). This can be used if the definition is a queue manager alias definition.

***remote-queue-name***

Specify the name of the queue at the remote queue manager.

**Note:** The name is not checked to ensure that it contains only those characters normally allowed for queue names.

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### Remote Message Queue Manager (RMTMQMNAME)

Specifies the name of the remote queue manager on which the queue RMTQNAME is defined.

If an application opens the local definition of a remote queue, RMTMQMNAME must not be the name of the connected queue manager. If TMQNAME is blank there must be a local queue of this name, which is to be used as the transmission queue.

If this definition is used for a queue manager alias, RMTMQMNAME is the name of the queue manager, which can be the name of the connected queue manager. Otherwise, if TMQNAME is blank, when the queue is opened there must be a local queue of this name, with USAGE(\*TMQ) specified, which is to be used as the transmission queue.

If this definition is used for a reply-to alias, this name is the name of the queue manager that is to be the reply-to queue manager.

The possible values are:

**\*SAME**

The attribute is unchanged.

***remote-queue-manager-name***

Specify the name of the remote queue manager.

**Note:** Ensure this name contains only those characters normally allowed for queue manager names.

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### Transmission queue (TMQNAME)

Specifies the local name of the transmission queue to be used for messages destined for the remote queue, for either a remote queue or for a queue manager alias definition.

If TMQNAME is blank, a queue with the same name as RMTMQMNAME is used as the transmission queue.

This attribute is ignored if the definition is being used as a queue manager alias and RMTMQMNAME is the name of the connected queue manager.

It is also ignored if the definition is used as a reply-to queue alias definition.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No specific transmission queue name is defined for this remote queue. The value of this attribute is set to all blanks.

***transmission-queue-name***

Specify the transmission queue name.

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### Queue depth high threshold (HIGHTHLD)

Specifies the threshold against which the queue depth is compared to generate a queue depth high event.

The possible values are:

**\*SAME**

The attribute is unchanged.

***threshold-value***

Specify a value ranging from 0 through 100. This value is used as a percentage of the maximum queue depth (MAXDEPTH parameter).

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### Queue depth low threshold (LOWTHLD)

Specifies the threshold against which the queue depth is compared to generate a queue depth low event.

The possible values are:

**\*SAME**

The attribute is unchanged.

***threshold-value***

Specify a value ranging from 0 through 100. This value is used as a percentage of the maximum queue depth (MAXDEPTH parameter).

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### Queue full events enabled (FULLEVT)

Specifies whether queue full events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Queue full events are not generated.

**\*YES**

Queue full events are generated.

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### Queue high events enabled (HIGHEVT)

Specifies whether queue depth high events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Queue depth high events are not generated.

**\*YES**

Queue depth high events are generated.

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### Queue low events enabled (LOWEVT)

Specifies whether queue depth low events are generated.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

Queue depth low events are not generated.

**\*YES**

Queue depth low events are generated.

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### Service interval (SRVITV)

Specifies the service interval. This interval is used for comparison to generate service interval high and service interval OK events.

The possible values are:

**\*SAME**

The attribute is unchanged.

***interval-value***

Specify a value ranging from 0 through 999999999. The value is in units of milliseconds.

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### Service interval events (SRVEVT)

Specifies whether service interval high or service interval OK events are generated.

A service interval high event is generated when a check indicates that no messages have been retrieved from the queue for the time indicated by the SRVITV parameter as a minimum.

A service interval OK event is generated when a check indicates that messages have been retrieved from the queue within the time indicated by the SRVITV parameter.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*HIGH**

Service interval high events are generated.

**\*OK**

Service interval OK events are generated.

**\*NONE**

No service interval events are generated.

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### Distribution list support (DISTLIST)

Specifies whether the queue supports distribution lists.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NO**

The queue will not support distribution lists.

**\*YES**

The queue will support distribution lists.

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### Cluster Name (CLUSTER)

The name of the cluster to which the queue belongs.

Changes to this parameter do not affect instances of the queue that are already open.

This parameter cannot be set for dynamic, transmission, SYSTEM.CHANNEL.xx, SYSTEM.CLUSTER.xx or SYSTEM.COMMAND.xx queues.

The possible values are:

**\*SAME**

The attribute is unchanged.

***cluster-name***

Only one of the resultant values of CLUSTER or CLUSNL can be non-blank; you cannot specify a value for both.

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### Cluster Name List (CLUSNL)

The name of the namelist which specifies a list of clusters to which the queue belongs. Changes to this parameter do not affect instances of the queue that are already open.

This parameter cannot be set for dynamic, transmission, SYSTEM.CHANNEL.xx, SYSTEM.CLUSTER.xx or SYSTEM.COMMAND.xx queues.

The possible values are:

**\*SAME**

The attribute is unchanged.

***namelist-name***

Only one of the resultant values of CLUSTER or CLUSNL can be non-blank; you cannot specify a value for both.

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### Default Binding (DEFBIND)

Specifies the binding to be used when the application specifies MQOO\_BIND\_AS\_Q\_DEF on the MQOPEN call and the queue is a cluster queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*OPEN**

The queue handle is bound to a specific instance of the cluster queue when the queue is opened.

**\*NOTFIXED**

The queue handle is not bound to any particular instance of the cluster queue. This allows the queue manager to select a specific queue instance when the message is put using MQPUT and to change that selection subsequently if necessary.

The MQPUT1 call always behaves as if NOTFIXED had been specified.

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### Cluster Workload Rank (CLWLRANK)

Specifies the cluster workload rank of the queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

***cluster-workload-rank***

Specify a value ranging from 0 through 9.

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### Cluster Workload Priority (CLWLPRTY)

Specifies the cluster workload priority of the queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

***cluster-workload-priority***

Specify a value ranging from 0 through 9.

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### Cluster workload queue use (CLWLUSEQ)

Specifies the behaviour of an MQPUT when the target queue has both a local instance and at least one remote cluster instance. If the put originates from a cluster channel then this attribute does not apply.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

The value is inherited from the Queue Manager CLWLUSEQ attribute.

**\*LOCAL**

The local queue will be the sole target of the MQPUT.

**\*ANY**

The queue manager will treat such a local queue as another instance of the cluster queue for the purposes of workload distribution.

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### Queue Monitoring (MONQ)

Controls the collection of Online Monitoring Data.

Online Monitoring Data is not collected when the queue manager attribute MONQ is set to \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

The collection of online monitoring data is inherited from the setting of the queue manager attribute MONQ.

**\*OFF**

Online monitoring data collection for this queue is switched off.

**\*LOW**

Monitoring data collection is turned on with a low ratio of data collection.

**\*MEDIUM**

Monitoring data collection is turned on with a moderate ratio of data collection.

**\*HIGH**

Monitoring data collection is turned on with a high ratio of data collection.

[Top](#)

### Queue Statistics (STATQ)

Controls the collection of statistics data.

Online monitoring data is not collected when the queue manager attribute STATQ is set to \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

Statistics data collection is based upon the setting of the queue manager attribute STATQ.

**\*OFF**

Statistics data collection for this queue is switched off.

**\*ON**

Statistics data collection is switched on for this queue.

[Top](#)

### Queue Accounting (ACCTQ)

Controls the collection of accounting data.

Accounting data is not collected when the queue manager attribute ACCTQ is set to \*NONE.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QMGR**

Accounting data collection is based upon the setting of the queue manager attribute ACCTQ.

**\*OFF**

Accounting data collection for this queue is switched off.

**\*ON**

Accounting data collection is switched on for this queue.

[Top](#)

### Non Persistent Message Class (NPMCLASS)

Specifies the level of reliability for non-persistent messages put to this queue.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NORMAL**

Non-persistent messages put to this queue are only lost following a failure, or a queue manager shutdown. Non-persistent message put to this queue will be discarded in the event of a queue manager restart.

**\*HIGH**

Non-persistent messages put to this queue are not discarded in the event of a queue manager restart. Non-persistent messages put to this queue may still be lost in the event of a failure.

[Top](#)

### Message Read Ahead (MSGREADAHD)

Specifies whether non persistent messages are sent to the client ahead of an application requesting them.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*DISABLED**

Read ahead is disabled for this queue. Messages are not sent to the client ahead of an application requesting them regardless of whether read ahead is requested by the client application.

**\*NO**

Non-persistent messages are not sent to the client ahead of an application requesting them. A maximum of one non-persistent message can be lost if the client ends abnormally.

**\*YES**

Non-persistent messages are sent to the client ahead of an application requesting them. Non-persistent messages can be lost if the client ends abnormally or if the client application does not consume all the messages it is sent.

[Top](#)

### Default Put Response (DFTPUTRESP)

The default put response type (DFTPUTRESP) attribute specifies the type of response required for MQPUT and MQPUT1 calls when applications specify the MQPMO\_RESPONSE\_AS\_Q\_DEF option.

The possible values are:

**\*SAME**

The attribute is unchanged.



**\*SYNC**

Specifying this value ensures that the put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are issued as if MQPMO\_SYNC\_RESPONSE had been specified instead. Fields in the MQMD and MQPMO are returned by the queue manager to the application. This is the default value supplied with WebSphere MQ, but your installation might have changed it.

**\*ASYNC**

Specifying this value ensures that the put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are always issued as if MQPMO\_ASYNC\_RESPONSE had been specified instead. Some fields in the MQMD and MQPMO are not returned by the queue manager to the application; but an improvement in performance may be seen for messages put in a transaction or any non-persistent messages.

[Top](#)**Property Control (PROPCTL)**

Specifies what happens to properties of messages that are retrieved from queues using the MQGET call when the MQGMO\_PROPERTIES\_AS\_Q\_DEF option is specified.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*COMPAT**

If the message contains a property with a prefix of "mcd.", "jms.", "usr." or "mqext." then all message properties are delivered to the application in an MQRFH2 header. Otherwise all properties of the message, except those contained in the message descriptor (or extension), are discarded and are no longer accessible to the application.

**\*NONE**

All properties of the message, except those contained in the message descriptor (or extension), are discarded and are no longer accessible to the application.

**\*ALL**

All properties of the message, except those contained in the message descriptor (or extension), are contained in one or more MQRFH2 headers in the message data.

**\*FORCE**

Properties are always returned in the message data in an MQRFH2 header regardless of whether the application specifies a message handle.

[Top](#)**Target Type (TARGTYPE)**

Specifies the type of object to which the alias resolves.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*QUEUE**

Queue object.

**\*TOPIC**

Topic object.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.24. Copy MQ Subscription (CPYMQMSUB)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Copy MQ Subscription (CPYMQMSUB) command creates an MQ subscription of the same type and, for attributes not specified in the command, with the same attribute values as an existing subscription.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">FROMSUBID</a>	From subscription identifier	Character value, <b>*SAME</b>	Optional, Key, Positional 3
<a href="#">FROMSUB</a>	From subscription	Character value, <b>*SAME</b>	Optional, Key, Positional 2
<a href="#">TOSUB</a>	To subscription	Character value	Required, Key,

			Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 4
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 5
<a href="#">TOPICSTR</a>	Topic string	Character value, *NONE, <b>*SAME</b>	Optional, Positional 6
<a href="#">TOPICOBJ</a>	Topic object	Character value, *NONE, <b>*SAME</b>	Optional, Positional 7
<a href="#">DEST</a>	Destination	Character value, *NONE, <b>*SAME</b>	Optional, Positional 8
<a href="#">DESTMQM</a>	Destination Queue Manager	Character value, *NONE, <b>*SAME</b>	Optional, Positional 9
<a href="#">DESTCRRID</a>	Destination Correlation Id	Character value, *NONE, <b>*SAME</b>	Optional, Positional 10
<a href="#">PUBACCT</a>	Publish Accounting Token	Character value, *NONE, <b>*SAME</b>	Optional, Positional 11
<a href="#">PUBAPPID</a>	Publish Application Id	Character value, *NONE, <b>*SAME</b>	Optional, Positional 12
<a href="#">SUBUSER</a>	Subscription User Id	Character value, *CURRENT, <b>*SAME</b>	Optional, Positional 13
<a href="#">USERDATA</a>	Subscription User Data	Character value, *NONE, <b>*SAME</b>	Optional, Positional 14
<a href="#">SELECTOR</a>	Selector String	Character value, *NONE, <b>*SAME</b>	Optional, Positional 15
<a href="#">PSPROP</a>	PubSub Property	<b>*SAME</b> , *NONE, *COMPAT, *RFH2, *MSGPROP	Optional, Positional 16
<a href="#">DESTCLASS</a>	Destination Class	<b>*SAME</b> , *MANAGED, *PROVIDED	Optional, Positional 17
<a href="#">SUBSCOPE</a>	Subscription Scope	<b>*SAME</b> , *ALL, *QMGR	Optional, Positional 18
<a href="#">VARUSER</a>	Variable User	<b>*SAME</b> , *ANY, *FIXED	Optional, Positional 19
<a href="#">REQONLY</a>	Request Publications	<b>*SAME</b> , *YES, *NO	Optional, Positional 20
<a href="#">PUBPTY</a>	Publish Priority	0-9, <b>*SAME</b> , *ASPUB, *ASQDEF	Optional, Positional 21
<a href="#">WSHEMA</a>	Wildcard Schema	<b>*SAME</b> , *CHAR, *TOPIC	Optional, Positional 22
<a href="#">EXPIRY</a>	Expiry Time	0-999999999, <b>*SAME</b> , *UNLIMITED	Optional, Positional 23

[Top](#)**From subscription identifier (FROMSUBID)**

Specifies the subscription identifier of the existing subscription to provide values for the attributes not specified in this command.

The possible values are:

**from-subscription-identifier**

Specify the 48 character hexadecimal string representing the 24 byte subscription identifier.

[Top](#)**From subscription (FROMSUB)**

Specifies the name of the existing subscription to provide values for the attributes not specified in this command.

The possible values are:

**from-subscription-name**

Specify a maximum of 256 bytes for the subscription name.

**Note:** Subscription names of greater than 256 bytes can be specified using MQSC.

[Top](#)**To subscription (TOSUB)**

The name of the new subscription to be created.

**Note:** Subscription names of greater than 256 bytes can be specified using MQSC.

If a subscription with this name already exists, REPLACE(\*YES) must be specified.

The possible values are:

**to-subscription-name**

Specify a maximum of 256 bytes for name of the MQ subscription being created.

**Note:** Subscription names of greater than 256 bytes can be specified using MQSC.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the Queue Manager.

The possible values are:

**\*DFT**

Use the default Queue Manager.

***queue-manager-name***

The name of a Queue Manager.

[Top](#)

### Replace (REPLACE)

Specifies whether the new subscription should replace an existing subscription with the same name.

The possible values are:

**\*NO**

This subscription does not replace any existing subscription with the same name or subscription identifier. The command fails if the subscription already exists.

**\*YES**

Replace the existing subscription. If there is no subscription with the same name or subscription identifier, a new subscription is created.

[Top](#)

### Topic string (TOPICSTR)

Specifies the topic string associated with this subscription.

The possible values are:

***topic-string***

Specify a maximum of 256 bytes for the topic string.

**Note:** Topic strings of greater than 256 bytes can be specified using MQSC.

[Top](#)

### Topic object (TOPICOBJ)

Specifies the topic object associated with this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

***topic-object***

Specify the name of the topic object.

[Top](#)

### Destination (DEST)

Specifies the destination queue for messages published to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

***destination-queue***

Specify the name of the destination queue.

[Top](#)

### Destination Queue Manager (DESTMQM)

Specifies the destination queue manager for messages published to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No destination queue manager is specified.

***destination-queue***

Specify the name of the destination queue manager.

[Top](#)

### Destination Correlation Id (DESTRRLID)

Specifies the correlation identifier for messages published to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Messages are placed on the destination with a correlation identifier of MQCI\_NONE.

**correlation-identifier**

Specify the 48 character hexadecimal string representing the 24 byte correlation identifier.

[Top](#)**Publish Accounting Token (PUBACCT)**

Specifies the accounting token for messages published to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Messages are placed on the destination with an accounting token of MQACT\_NONE.

**publish-accounting-token**

Specify the 64 character hexadecimal string representing the 32 byte publish accounting token.

[Top](#)**Publish Application Id (PUBAPPID)**

Specifies the publish application identity for messages published to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No publish application identifier is specified.

**publish-application-identifier**

Specify the publish application identifier.

[Top](#)**Subscription User Id (SUBUSER)**

Specifies the user profile that owns this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*CURRENT**

The current user profile is the owner of the new subscription.

**user-profile**

Specify the user profile.

[Top](#)**Subscription User Data (USERDATA)**

Specifies the user data associated with the subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No user data is specified.

**user-data**

Specify a maximum of 256 bytes for user data.

**Note:** User data of greater than 256 bytes can be specified using MQSC.

[Top](#)**Selector String (SELECTOR)**

Specifies the SQL 92 selector string to be applied to messages published on the named topic to select whether they are eligible for this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

No selection string is specified.

**selection-string**

Specify a maximum of 256 bytes for selection string.

**Note:** Selection strings of greater than 256 bytes can be specified using MQSC.

[Top](#)

### PubSub Property (PSPROP)

Specifies the manner in which publish / subscribe related message properties are added to messages sent to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*NONE**

Publish / subscribe properties are not added to the message.

**\*COMPAT**

Publish / subscribe properties are added to the message to maintain compatibility with WebSphere MQ V6.0 Publish / Subscribe.

**\*RFH2**

Publish / subscribe properties are added to the message within an RFH Version 2 header.

**\*MSGPROP**

Publish / subscribe properties are added as message properties.

[Top](#)

### Destination Class (DESTCLASS)

Specifies whether this is a managed subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*MANAGED**

The destination is managed.

**\*PROVIDED**

The destination is a queue.

[Top](#)

### Subscription Scope (SUBSCOPE)

Specifies whether this subscription should be forwarded (as a proxy subscription) to other brokers, so that the subscriber will receive messages published at those other brokers.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ALL**

The subscription will be forwarded to all queue managers directly connected via a publish / subscribe collective or hierarchy.

**\*QMGR**

The subscription will only forward messages published on the topic within this queue manager.

[Top](#)

### Variable User (VARUSER)

Specifies whether user profiles other than the creator of the subscription can connect to it (subject to topic and destination authority checks).

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ANY**

Any user profiles can connect to the subscription.

**\*FIXED**

Only the user profile that created the subscription can connect to it.

[Top](#)

### Request Publications (REQONLY)

Specifies whether the subscriber will poll for updates via MQSUBRQ API, or whether all publications are delivered to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*YES**

Publications are only delivered to this subscription in response to an MQSUBRQ API.

**\*NO**

All publications on the topic are delivered to this subscription.

[Top](#)

**Publish Priority (PUBPTY)**

Specifies the priority of the message sent to this subscription.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*AS PUB**

The priority of the message sent to this subscription is taken from that supplied in the published message.

**\*ASQDEF**

The priority of the message sent to this subscription is taken from the default priority of the queue defined as the destination.

**priority-value**

Specify a priority ranging from 0 through 9.

[Top](#)

**Wildcard Schema (WSHEMA)**

Specifies the schema to be used when interpreting wild card characters in the topic string.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*TOPIC**

Wildcard characters represent portions of the topic hierarchy.

**\*CHAR**

Wildcard characters represent portions of strings.

[Top](#)

**Expiry Time (EXPIRY)**

Specifies the expiry time of the subscription. After a subscription's expiry time has elapsed, it becomes eligible to be discarded by the queue manager and will receive no further publications.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*UNLIMITED**

The subscription does not expire.

**expiry-time**

Specify an expiry time in tenths of a second ranging from 0 through 999999999.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.25. Copy MQ Service (CPYMQMSVC)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Copy MQ Service (CPYMQMSVC) command creates an MQ service definition of the same type and, for attributes not specified in the command, with the same attribute values as an existing service definition.

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">FROMSVC</a>	From Service	Character value	Required, Key, Positional 1
<a href="#">TOSVC</a>	To Service	Character value	Required, Key, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 3
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional,

			Positional 4
<a href="#">TEXT</a>	Text 'description'	<i>Character value</i> , *BLANK, <b>*SAME</b>	Optional, Positional 5
<a href="#">STRCMD</a>	Start program	Single values: <b>*SAME</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 6
	Qualifier 1: Start program	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	
<a href="#">STRARG</a>	Start program arguments	<i>Character value</i> , *BLANK, <b>*SAME</b>	Optional, Positional 7
<a href="#">ENDCMD</a>	End program	Single values: <b>*SAME</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 8
	Qualifier 1: End program	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	
<a href="#">ENDARG</a>	End program arguments	<i>Character value</i> , *BLANK, <b>*SAME</b>	Optional, Positional 9
<a href="#">STDOUT</a>	Standard output	<i>Character value</i> , *BLANK, <b>*SAME</b>	Optional, Positional 10
<a href="#">STDERR</a>	Standard error	<i>Character value</i> , *BLANK, <b>*SAME</b>	Optional, Positional 11
<a href="#">TYPE</a>	Service type	<b>*SAME</b> , *CMD, *SVR	Optional, Positional 12
<a href="#">CONTROL</a>	Service control	<b>*SAME</b> , *MANUAL, *QMGR, *STARTONLY	Optional, Positional 13

[Top](#)**From Service (FROMSVC)**

Specifies the name of the existing service definition to provide values for the attributes not specified in this command.

The possible values are:

**from-service-name**

Specify the name of the source service.

[Top](#)**To Service (TOSVC)**

The name of the new service definition to be created. The name can contain a maximum of 48 characters.

If a service definition with this name already exists, REPLACE(\*YES) must be specified.

The possible values are:

**to-service-name**

Specify the name of the service being created.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

The name of a message queue manager.

[Top](#)**Replace (REPLACE)**

Specifies whether the new service definition should replace an existing service definition with the same name.

The possible values are:

**\*NO**

This definition does not replace any existing service definition with the same name. The command fails if the named service definition already exists.

**\*YES**

Replace the existing service definition. If there is no definition with the same name, a new definition is created.

[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the service definition.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The text is set to a blank string.

***description***

Specify no more than 64 characters enclosed in apostrophes.

[Top](#)

**Start program (STRCMD)**

The name of the program to run.

The possible values are:

**\*SAME**

The attribute is unchanged.

***start-command***

The name of the start command executable.

[Top](#)

**Start program arguments (STRARG)**

The arguments passed to the program at startup.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

No arguments are passed to the start command.

***start-command-arguments***

The arguments passed to the start command.

[Top](#)

**End program (ENDCMD)**

The name of the executable to run when the service is requested to stop.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

No end command is executed.

***end-command***

The name of the end command executable.

[Top](#)

**End program arguments (ENDARG)**

The arguments passed to the end program when the service is requested to stop.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

No arguments are passed to the end command.

***end-command-arguments***

The arguments passed to the end command.

[Top](#)

**Standard output (STDOUT)**

The path to a file to which the standard output of the service program is redirected.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The standard output is discarded.

***stdout-path***

The standard output path.

[Top](#)

**Standard error (STDERR)**

The path to a file to which the standard error of the service program is redirected.



The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The standard error is discarded.

***stderr-path***

The standard error path.

[Top](#)

### Service type (TYPE)

Mode in which to run service.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*CMD**

When started the command is executed but no status is collected or displayed.

**\*SVR**

The status of the executable started will be monitored and displayed.

[Top](#)

### Service control (CONTROL)

Whether the service should be started automatically at queue manager start.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*MANUAL**

The service is automatically started or stopped.

**\*QMGR**

The service is started and stopped as the queue manager is started and stopped.

**\*STARTONLY**

The service is started as the queue manager is started, but will not be requested to stop when the queue manager is stopped.

[Top](#)

### Examples

None

[Top](#)

### Error messages

Unknown

[Top](#)

## 11.26. Copy MQ Topic (CPYMQMTOP)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Copy MQ Topic (CPYMQMTOP) command creates an MQ topic object of the same type and, for attributes not specified in the command, with the same attribute values as an existing topic object.

[Top](#)

### Parameters

Keyword	Description	Choices	Notes
<a href="#">FROMTOP</a>	From topic	Character value	Required, Key, Positional 1
<a href="#">TOTOP</a>	To topic	Character value	Required, Key, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 3
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 4
<a href="#">TEXT</a>	Text 'description'	Character value, *BLANK, <b>*SAME</b>	Optional, Positional 5
<a href="#">TOPICSTR</a>	Topic string	Character value, *BLANK, <b>*SAME</b>	Optional,

			Positional 6
<a href="#">DURSUB</a>	Durable subscriptions	<b>*SAME</b> , *ASPARENT, *YES, *NO	Optional, Positional 7
<a href="#">MGDDURMDL</a>	Durable model queue	Character value, *NONE, <b>*SAME</b>	Optional, Positional 8
<a href="#">MGDNDURMDL</a>	Non-durable model queue	Character value, *NONE, <b>*SAME</b>	Optional, Positional 9
<a href="#">PUBENBL</a>	Publish	<b>*SAME</b> , *ASPARENT, *YES, *NO	Optional, Positional 10
<a href="#">SUBENBL</a>	Subscribe	<b>*SAME</b> , *ASPARENT, *YES, *NO	Optional, Positional 11
<a href="#">DFTPTY</a>	Default message priority	0-9, <b>*SAME</b> , *ASPARENT	Optional, Positional 12
<a href="#">DFTMSGPST</a>	Default message persistence	<b>*SAME</b> , *ASPARENT, *YES, *NO	Optional, Positional 13
<a href="#">DFTPUTRESP</a>	Default Put Response	<b>*SAME</b> , *ASPARENT, *SYNC, *ASYN	Optional, Positional 14
<a href="#">WILDCARD</a>	Wildcard behaviour	<b>*SAME</b> , *PASSTHRU, *BLOCK	Optional, Positional 15
<a href="#">PMSGDLV</a>	Persistent message delivery	<b>*SAME</b> , *ASPARENT, *ALL, *ALLDUR, *ALLAVAIL	Optional, Positional 16
<a href="#">NPMMSGDLV</a>	Non-persistent message deliver	<b>*SAME</b> , *ASPARENT, *ALL, *ALLDUR, *ALLAVAIL	Optional, Positional 17

[Top](#)**From topic (FROMTOP)**

Specifies the name of the existing topic object to provide values for the attributes not specified in this command.

The possible values are:

**from-topic-name**

Specify the name of the source MQ topic.

[Top](#)**To topic (TOTOP)**

The name of the new topic object to be created. The name can contain a maximum of 48 characters.

If a topic object with this name already exists, REPLACE(\*YES) must be specified.

The possible values are:

**to-topic-name**

Specify the name of the MQ topic being created.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the Queue Manager.

The possible values are:

**\*DFT**

Use the default Queue Manager.

**queue-manager-name**

The name of a Queue Manager.

[Top](#)**Replace (REPLACE)**

Specifies whether the new topic object should replace an existing topic object with the same name.

The possible values are:

**\*NO**

This object does not replace any existing topic object with the same name. The command fails if the named topic object already exists.

**\*YES**

Replace the existing topic object. If there is no object with the same name, a new object is created.

[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the topic object.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*BLANK**

The text is set to a blank string.

**description**

Specify no more than 64 characters enclosed in apostrophes.

[Top](#)

**Topic string (TOPICSTR)**

Specifies the topic string represented by this topic object definition.

The possible values are:

**topic-string**

Specify a maximum of 256 bytes for the topic string.

**Note:** Topic strings of greater than 256 bytes can be specified using MQSC.

[Top](#)

**Durable subscriptions (DURSUB)**

Specifies whether applications are permitted to make durable subscriptions on this topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

Whether durable subscriptions can be made on this topic is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*YES**

Durable subscriptions can be made on this topic.

**\*NO**

Durable subscriptions cannot be made on this topic.

[Top](#)

**Durable model queue (MGDDURMDL)**

Specifies the name of the model queue to be used for durable subscriptions which request the queue manager manage the destination of publications.

The possible values are:

**\*SAME**

The attribute is unchanged.

**durable-model-queue**

Specify the name of the model queue.

[Top](#)

**Non-durable model queue (MGDNDURMDL)**

Specifies the name of the model queue to be used for non-durable subscriptions which request the queue manager manage the destination of publications.

The possible values are:

**\*SAME**

The attribute is unchanged.

**non-durable-model-queue**

Specify the name of the model queue.

[Top](#)

**Publish (PUBENBL)**

Specifies whether messages can be published to the topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

Whether messages can be published to this topic is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*YES**

Messages can be published to the topic.

**\*NO**

Messages cannot be published to the topic.

[Top](#)

**Subscribe (SUBENBL)**

Specifies whether applications are to be permitted to subscribe to this topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

Whether applications can subscribe to this topic is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*YES**

Subscriptions can be made to this topic.

**\*NO**

Applications cannot subscribe to this topic.

[Top](#)

### Default message priority (DFTPTY)

Specifies the default priority of messages published to the topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

The default priority is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**priority-value**

Specify a value ranging from 0 through 9.

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### Default message persistence (DFTMSGPST)

Specifies the message persistence to be used when applications specify the MQPER\_PERSISTENCE\_AS\_TOPIC\_DEF option.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

The default persistence is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*YES**

Messages on this queue survive a restart of the queue manager.

**\*NO**

Messages on this queue are lost across a restart of the queue manager.

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### Default Put Response (DFTPUTRESP)

Specifies the type of response required for MQPUT and MQPUT1 calls when applications specify the MQPMO\_RESPONSE\_AS\_Q\_DEF option.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

The default response type is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*SYNC**

Specifying this value ensures that the put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are issued as if MQPMO\_SYNC\_RESPONSE had been specified instead. Fields in the MQMD and MQPMO are returned by the queue manager to the application.

**\*ASYNC**

Specifying this value ensures that the put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are always issued as if MQPMO\_ASYNC\_RESPONSE had been specified instead. Some fields in the MQMD and MQPMO are not returned by the queue manager to the application. An improvement in performance may be seen for messages put in a transaction or any non-persistent messages.

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### Wildcard behaviour (WILDCARD)

Specifies the behaviour of wildcard subscriptions with respect to this topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*PASSTHRU**

Subscriptions made to a wildcarded topic less specific than the topic string at this topic object will receive publications made to this topic and to topic strings more specific than this topic.

**\*BLOCK**

Subscriptions made to a wildcarded topic less specific than the topic string at this topic object will not receive publications made to this topic or to topic strings more specific than this topic.

[Top](#)

**Persistent message delivery (PMSGDLV)**

Specifies the delivery mechanism for persistent messages published to this topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

The delivery mechanism used is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*ALL**

Persistent messages must be delivered to all subscribers, irrespective of durability for the MQPUT call to report success. If a delivery failure to any subscriber occurs, no other subscribers receive the message and the MQPUT call fails.

**\*ALLDUR**

Persistent messages must be delivered to all durable subscribers. Failure to deliver a persistent message to any non-durable subscribers does not return an error to the MQPUT call. If a delivery failure to a durable subscriber occurs, no subscribers receive the message and the MQPUT call fails.

**\*ALLAVAIL**

Persistent messages are delivered to all subscribers that can accept the message. Failure to deliver the message to any subscriber does not prevent other subscribers from receiving the message.

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**Non-persistent message delivery (NPMSGDLV)**

Specifies the delivery mechanism for non-persistent messages published to this topic.

The possible values are:

**\*SAME**

The attribute is unchanged.

**\*ASPARENT**

The delivery mechanism used is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*ALL**

Non-persistent messages must be delivered to all subscribers, irrespective of durability for the MQPUT call to report success. If a delivery failure to any subscriber occurs, no other subscribers receive the message and the MQPUT call fails.

**\*ALLDUR**

Non-persistent messages must be delivered to all durable subscribers. Failure to deliver a persistent message to any non-durable subscribers does not return an error to the MQPUT call. If a delivery failure to a durable subscriber occurs, no subscribers receive the message and the MQPUT call fails.

**\*ALLAVAIL**

Non-persistent messages are delivered to all subscribers that can accept the message. Failure to deliver the message to any subscriber does not prevent other subscribers from receiving the message.

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**Examples**

None

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**Error messages**

Unknown

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**11.27. Create Message Queue Manager (CRTMQM)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Create Message Queue Manager (CRTMQM) command creates a local queue manager that can be started with the Start Message Queue Manager (STRMQM) command.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i>	Required, Positional 1
<a href="#">TEXT</a>	Text 'description'	<i>Character value, *BLANK</i>	Optional, Positional 2
<a href="#">TRGITV</a>	Trigger interval	0-999999999, <b>999999999</b>	Optional, Positional 3
<a href="#">UDLMSGQ</a>	Undelivered message queue	<i>Character value, *NONE</i>	Optional, Positional 4
<a href="#">DFTTMO</a>	Default transmission queue	<i>Character value, *NONE</i>	Optional, Positional 5
<a href="#">MAXHDL</a>	Maximum handle limit	0-999999999, <b>256</b>	Optional,

			Positional 6
<a href="#">MAXUMSG</a>	Maximum uncommitted messages	1-999999999, <b>10000</b>	Optional, Positional 7
<a href="#">DFTOMGR</a>	Default Queue Manager	*YES, <b>*NO</b>	Optional, Positional 8
<a href="#">MQMLIB</a>	Queue Manager Library	Name, <b>*AUTO</b>	Optional, Positional 9
<a href="#">MQMDIRP</a>	Data Directory Prefix	Character value, <b>*DFT</b>	Optional, Positional 10
<a href="#">ASP</a>	ASP Number	1-32, <b>*SYSTEM</b> , *ASPDEV	Optional, Positional 11
<a href="#">ASPDEV</a>	ASP device	Character value, *ASP	Optional, Positional 12
<a href="#">THRESHOLD</a>	Journal receiver threshold	100000-1000000000, <b>*DFT</b> , *MIN, *MAX	Optional, Positional 13
<a href="#">JRNBUFSIZ</a>	Journal buffer size	32000-15761440, <b>*DFT</b>	Optional, Positional 14

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

**queue-manager-name**

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the queue manager definition.

The possible values are:

**\*BLANK**

No text is specified.

**description**

Specify no more than 64 characters enclosed in apostrophes.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)**Trigger interval (TRGITV)**

Specifies the trigger time interval, expressed in milliseconds, for use with queues that have TRGTYPE(\*FIRST) specified.

When the arrival of a message on a queue causes a trigger message to be put on the initiation queue, then any message that arrives on the same queue within the specified interval does not cause another trigger message to be put on the initiation queue.

The possible values are:

**999999999**

The trigger time interval is 999999999 milliseconds.

**interval-value**

Specify a value in milliseconds, in the range 0 through 999999999.

[Top](#)**Undelivered message queue (UDLMSGQ)**

Specifies the name of the local queue that is to be used for undelivered messages. Messages are put on this queue if they cannot be routed to their correct destination.

The possible values are:

**\*NONE**

There is no undelivered-message queue. The attribute is set to a blank string.

**undelivered-message-queue-name**

Specify the name of a local queue that is to be used as the undelivered-message queue.

[Top](#)**Default transmission queue (DFTTMQ)**

Specifies the name of the local transmission queue that is to be used as the default transmission queue. Messages transmitted to a remote queue manager are put on the default transmission queue if there is no transmission queue defined for their destination.

The possible values are:

**\*NONE**

There is no default transmission queue. The attribute is set to a blank string.

**default-transmission-queue-name**

Specify the name of a local transmission queue that is to be used as the default transmission queue.

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### Maximum handle limit (MAXHDL)

Specifies the maximum number of handles that any one job can have open at the same time.

The possible values are:

#### **256**

The default number of open handles is 256.

#### **maximum-handle-limit**

Specify a value in the range 0 through 999999999.

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### Maximum uncommitted messages (MAXUMSG)

Specifies the maximum number of uncommitted messages. That is:

- The number of messages that can be retrieved, plus
- The number of messages that can be put on a queue, plus
- Any trigger messages generated within this unit of work,

under any one syncpoint. This limit does not apply to messages that are retrieved or put outside syncpoint.

The possible values are:

#### **10000**

The default value is 10000 uncommitted messages.

#### **maximum-uncommitted-messages**

Specify a value in the range 1 through 999999999.

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### Default Queue Manager (DFTQMGR)

Specifies whether the queue manager being created is the default queue manager.

The possible values are:

#### **\*NO**

The queue manager is not to be the default queue manager.

#### **\*YES**

The queue manager is to be the default queue manager.

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### Queue Manager Library (MQMLIB)

Specifies the library to be used by the queue manager.

The possible values are:

#### **\*AUTO**

The library to be used by the queue manager is chosen automatically.

#### **library name**

Specify the library to be used by the queue manager.

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### Data Directory Prefix (MQMDIRP)

Specifies the data directory prefix to be used by the queue manager. The queue manager creates a directory here to store its data files, principally message data residing on queues.

The possible values are:

#### **\*DFT**

The default data directory prefix is '/QIBM/UserData/mqm'.

#### **directory-prefix**

Specify the data directory prefix to be used by the queue manager. This directory prefix may be located in a filesystem either in a local disk pool or in a networked filesystem e.g. NFS.

The queue manager directory can be placed into an independent auxiliary storage pool by setting the data directory prefix accordingly. For example specifying MQMDIRP('/MYASPDEV/QIBM/UserData/mqm/qmgrs') would store queue manager data in the MYASPDEV device.

The queue manager library, journals and journal receivers can be placed into an independent auxiliary storage pool by setting the ASP and ASPDEV parameters.

Independent auxiliary storage pools can be switched between systems to increase the availability of a queue manager. Please refer to the WebSphere MQ documentation on configuring a queue manager for high availability.

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### ASP Number (ASP)

Specifies the auxiliary storage pool from which the system allocates storage for the queue manager library, journal and journal receivers.

Note that the auxiliary storage pool identified in this parameter will not be utilized for the queue manager data files which are located in the integrated file system (IFS). To allocate queue manager data files in a specific auxiliary storage pool refer to the MQMDIRP parameter.

The possible values are:

**\*SYSTEM**

The system auxiliary storage pool (ASP 1) provides the storage for the queue manager library, journal and journal receivers.

**\*ASPDEV**

Storage for the queue manager library, journal and journal receivers is allocated from the primary or secondary ASP specified for the ASPDEV parameter.

**auxiliary-storage-pool-number**

Specify a value in the range 1 through 32 to specify the number of the system or basic user ASP to provide storage for the queue manager library, journal and journal receivers.

Independent auxiliary storage pools can be switched between systems to increase the availability of a queue manager. Please refer to the WebSphere MQ documentation on configuring a queue manager for high availability.

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### ASP device (ASPDEV)

Specifies the auxiliary storage pool (ASP) device name where storage is allocated for the queue manager library, journal and journal receivers.

Note that the auxiliary storage pool device name identified in this parameter will not be utilized for the queue manager data files which are located in the integrated file system (IFS). To allocate queue manager data files in a specific auxiliary storage pool refer to the MQMDIRP parameter.

The possible values are:

**\*ASP**

The storage for the queue manager library, journal and journal receivers is allocated from the system or basic user ASP specified for the ASP parameter.

**device-name**

Specify the name of a primary or secondary ASP device. The storage for the queue manager library, journal and journal receivers is allocated from the primary or secondary ASP. The primary or secondary ASP must have already been activated (by varying on the ASP device) and have a status of 'Available'.

Independent auxiliary storage pools can be switched between systems to increase the availability of a queue manager. Please refer to the WebSphere MQ documentation on configuring a queue manager for high availability.

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### Journal receiver threshold (THRESHOLD)

Specifies the threshold in kilobytes for the queue managers journal receivers.

The possible values are:

**\*DFT**

Use the default threshold of 100000 KB.

**threshold-value**

Specify a value in the range 100000 through 1000000000 in kilobytes (KB) of storage. Each 1000 KB specifies 1024000 bytes of storage space. When the size of the space for the journal receiver is larger than the size specified by this value, a message is sent to the identified message queue if appropriate, and journaling continues.

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### Journal buffer size (JRNBUSIZ)

Specifies the journal buffer size in bytes

The possible values are:

**\*DFT**

Use the default journal buffer size of 32000 bytes.

**journal-buffer-size**

Specify a value in bytes, in the range 32000 through 15761440.

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### Examples

None

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### Error messages

Unknown

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## 11.28. Create MQ AuthInfo object (CRTMQMAUTI)

**Where allowed to run:** All environments (\*ALL)

[Parameters](#)



**Threadsafe:** Yes

[Examples](#)  
[Error messages](#)

The Create MQ AuthInfo object (CRTMQMAUTI) command creates a new authentication information object, specifying those attributes that are different from the system default.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">AENAME</a>	AuthInfo name	Character value	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, *DFT	Required, Key, Positional 2
<a href="#">AUTHTYPE</a>	AuthInfo type	*CRLLDAP, *OCSP	Required, Key, Positional 3
<a href="#">CONNAME</a>	Connection name	Character value, *SYSDFTAI	Optional, Positional 4
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 5
<a href="#">TEXT</a>	Text 'description'	Character value, <b>*SYSDFTAI</b> , *NONE	Optional, Positional 6
<a href="#">USERNAME</a>	User name	Character value, <b>*SYSDFTAI</b> , *NONE	Optional, Positional 7
<a href="#">PASSWORD</a>	User password	Character value, <b>*SYSDFTAI</b> , *NONE	Optional, Positional 8
<a href="#">OCSPURL</a>	OCSP Responder URL	Character value	Optional, Positional 9

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### AuthInfo name (AENAME)

The name of the new authentication information object to create.

The possible values are:

#### **authentication-information-name**

Specify the name of the authentication information object. The maximum string length is 48 characters.

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### Message Queue Manager name (MQMNAME)

The name of the queue manager.

The possible values are:

#### **\*DFT**

Use the default queue manager.

#### **queue-manager-name**

The name of an existing message queue manager. The maximum string length is 48 characters.

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### AuthInfo type (AUTHTYPE)

The type of the authentication information object. There is no default value

The possible values are:

#### **\*CRLLDAP**

The type of the authentication information object is CRLLDAP.

#### **\*OCSP**

The type of the authentication information objects is OCSPURL.

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### Connection name (CONNAME)

The DNS name or IP address of the host on which the LDAP server is running, together with an optional port number. The default port number is 389. No default is provided for the DNS name or IP address.

This field is only valid for CRLLDAP authentication information objects.

The possible values are:

#### **\*SYSDFTAI**

The connection name is set to the system default value in SYSTEM.DEFAULT.AUTHINFO.CRLLDAP.

#### **connection-name**

Specify the fully qualified DNS name or IP address of the host together with an optional port number. The maximum string length is 264 characters.

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### Replace (REPLACE)

If an authentication information object with the same name already exists, this specifies whether it is replaced.

The possible values are:

#### **\*NO**

This definition does not replace any existing authentication information object with the same name. The command fails if the named authentication information object already exists.

#### **\*YES**

Replace an existing authentication information object. A new object is created if the named authentication information object does not exist.

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### Text 'description' (TEXT)

A short text description of the authentication information object.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

#### **\*SYSDFTAI**

The text string is set to the system default value in SYSTEM.DEFAULT.AUTHINFO.CRLLDAP.

#### **\*NONE**

The text is set to a blank string.

#### **description**

The string length can be up to 64 characters enclosed in apostrophes.

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### User name (USERNAME)

The distinguished name of the user that is binding to the directory. The default user name is blank.

This field is only valid for CRLLDAP authentication information objects.

The possible values are:

#### **\*SYSDFTAI**

The user name is set to the system default value in SYSTEM.DEFAULT.AUTHINFO.CRLLDAP.

#### **\*NONE**

The user name is blank.

#### **LDAP-user-name**

Specify the Distinguished name of the LDAP user. The maximum string length is 1024 characters.

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### User password (PASSWORD)

The password for the LDAP user.

This field is only valid for CRLLDAP authentication information objects.

The possible values are:

#### **\*SYSDFTAI**

The password is set to the system default value in SYSTEM.DEFAULT.AUTHINFO.CRLLDAP.

#### **\*NONE**

The password is blank.

#### **LDAP-password**

The LDAP user password. The maximum string length is 32 characters.

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### OCSP Responder URL (OCSPURL)

The URL of the OCSP Responder used to check for certificate revocation. This must be an HTTP URL containing the host name and port number of the OCSP Responder. If the OCSP Responder is using port 80, which is the default for HTTP, then the port number may be omitted.

This field is only valid for OCSP authentication information objects.

The possible values are:

#### **\*SYSDFTAI**

The OCSP Responder URL is set to the system default value in SYSTEM.DEFAULT.AUTHINFO.CRLLDAP.

#### **OCSP-Responder-URL**

The OCSP Responder URL. The maximum string length is 256 characters.

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### Examples

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.29. Create MQ Channel (CRTMQMCHL)****Where allowed to run:** All environments (\*ALL)**Threadsafe:** Yes[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Create MQ Channel (CRTMQMCHL) command creates a new MQ channel definition, specifying those attributes that are to be different from the default values.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">CHLNAME</a>	Channel name	<i>Character value</i>	Required, Key, Positional 1
<a href="#">CHLTYPE</a>	Channel type	*RCVR, *SDR, *SVR, *RQSTR, *SVRCN, *CLUSSDR, *CLUSRCVR, *CLTCN	Required, Key, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Key, Positional 3
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 4
<a href="#">TRPTYPE</a>	Transport type	*LU62, *TCP, <b>*SYSDFTCHL</b>	Optional, Positional 5
<a href="#">TEXT</a>	Text 'description'	<i>Character value</i> , *BLANK, <b>*SYSDFTCHL</b>	Optional, Positional 6
<a href="#">TGTQMNAME</a>	Target Queue Manager	<i>Character value</i> , *NONE, <b>*SYSDFTCHL</b>	Optional, Positional 7
<a href="#">CONNAME</a>	Connection name	<i>Character value</i> , *NONE, <b>*SYSDFTCHL</b>	Optional, Positional 8
<a href="#">TPNAME</a>	Transaction Program Name	<i>Character value</i> , *BLANK, <b>*SYSDFTCHL</b>	Optional, Positional 9
<a href="#">MODENAME</a>	Mode Name	<i>Character value</i> , *BLANK, <b>*SYSDFTCHL</b>	Optional, Positional 10
<a href="#">TMQNAME</a>	Transmission queue	<i>Character value</i> , <b>*SYSDFTCHL</b>	Optional, Positional 11
<a href="#">MCANAME</a>	Message channel agent	Single values: <b>*SYSDFTCHL</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 12
	Qualifier 1: Message channel agent	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*CURLIB</b>	
<a href="#">MCAUSRID</a>	Message channel agent user ID	<i>Character value</i> , *NONE, *PUBLIC, <b>*SYSDFTCHL</b>	Optional, Positional 13
<a href="#">MCATYPE</a>	Message channel agent Type	*PROCESS, *THREAD, <b>*SYSDFTCHL</b>	Optional, Positional 14
<a href="#">BATCHINT</a>	Batch Interval	0-999999999, <b>*SYSDFTCHL</b>	Optional, Positional 15
<a href="#">BATCHSIZE</a>	Batch size	1-9999, <b>*SYSDFTCHL</b>	Optional, Positional 16
<a href="#">DSCITY</a>	Disconnect interval	0-999999, <b>*SYSDFTCHL</b>	Optional, Positional 17
<a href="#">SHORTTMR</a>	Short retry interval	0-999999999, <b>*SYSDFTCHL</b>	Optional, Positional 18
<a href="#">SHORTRTY</a>	Short retry count	0-999999999, <b>*SYSDFTCHL</b>	Optional, Positional 19
<a href="#">LONGTMR</a>	Long retry interval	0-999999999, <b>*SYSDFTCHL</b>	Optional, Positional 20
<a href="#">LONGRTY</a>	Long retry count	0-999999999, <b>*SYSDFTCHL</b>	Optional, Positional 21
<a href="#">SCYEXIT</a>	Security exit	Single values: <b>*SYSDFTCHL</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 22
	Qualifier 1: Security exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*CURLIB</b>	
<a href="#">CSCYEXIT</a>	Security exit	<i>Character value</i> , <b>*SYSDFTCHL</b> , *NONE	Optional, Positional 23
<a href="#">SCYUSRDATA</a>	Security exit user data	<i>Character value</i> , <b>*SYSDFTCHL</b> , *NONE	Optional, Positional 24
<a href="#">SNDEXIT</a>	Send exit	Single values: <b>*SYSDFTCHL</b> , *NONE Other values (up to 10 repetitions): <i>Qualified object name</i>	Optional, Positional 25
	Qualifier 1: Send exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*CURLIB</b>	
<a href="#">CSNDEXIT</a>	Send exit	Single values: <b>*SYSDFTCHL</b> , *NONE Other values (up to 10 repetitions): <i>Character value</i>	Optional, Positional 26
<a href="#">SNDUSRDATA</a>	Send exit user data	Values (up to 10 repetitions): <i>Character value</i> , <b>*SYSDFTCHL</b>	Optional,

		*NONE	Positional 27
<a href="#">RCVEXIT</a>	Receive exit	Single values: <b>*SYSDFTCHL</b> , *NONE Other values (up to 10 repetitions): <i>Qualified object name</i>	Optional, Positional 28
	Qualifier 1: Receive exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*CURLIB</b>	
<a href="#">CRCVEXIT</a>	Receive exit	Single values: <b>*SYSDFTCHL</b> , *NONE Other values (up to 10 repetitions): <i>Character value</i>	Optional, Positional 29
<a href="#">RCVUSRDATA</a>	Receive exit user data	Values (up to 10 repetitions): <i>Character value</i> , <b>*SYSDFTCHL</b> , *NONE	Optional, Positional 30
<a href="#">MSGEXIT</a>	Message exit	Single values: <b>*SYSDFTCHL</b> , *NONE Other values (up to 10 repetitions): <i>Qualified object name</i>	Optional, Positional 31
	Qualifier 1: Message exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*CURLIB</b>	
<a href="#">MSGUSRDATA</a>	Message exit user data	Values (up to 10 repetitions): <i>Character value</i> , <b>*SYSDFTCHL</b> , *NONE	Optional, Positional 32
<a href="#">MSGRTYEXIT</a>	Message retry exit	Single values: <b>*SYSDFTCHL</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 33
	Qualifier 1: Message retry exit	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*CURLIB</b>	
<a href="#">MSGRTYDATA</a>	Message retry exit data	<i>Character value</i> , <b>*SYSDFTCHL</b> , *NONE	Optional, Positional 34
<a href="#">MSGRTYNBR</a>	Number of message retries	0-999999999, <b>*SYSDFTCHL</b>	Optional, Positional 35
<a href="#">MSGRTYITV</a>	Message retry interval	0-999999999, <b>*SYSDFTCHL</b>	Optional, Positional 36
<a href="#">CVTMSG</a>	Convert message	*YES, *NO, <b>*SYSDFTCHL</b>	Optional, Positional 37
<a href="#">PUTAUT</a>	Put authority	*DFT, *CTX, <b>*SYSDFTCHL</b>	Optional, Positional 38
<a href="#">SEQNUMWRAP</a>	Sequence number wrap	100-999999999, <b>*SYSDFTCHL</b>	Optional, Positional 39
<a href="#">MAXMSGLEN</a>	Maximum message length	0-104857600, <b>*SYSDFTCHL</b>	Optional, Positional 40
<a href="#">HRTBTINTVL</a>	Heartbeat interval	0-999999999, <b>*SYSDFTCHL</b>	Optional, Positional 41
<a href="#">NPMSPEED</a>	Non Persistent Message Speed	*FAST, *NORMAL, <b>*SYSDFTCHL</b>	Optional, Positional 42
<a href="#">CLUSTER</a>	Cluster Name	<i>Character value</i> , *NONE, <b>*SYSDFTCHL</b>	Optional, Positional 43
<a href="#">CLUSNL</a>	Cluster Name List	<i>Character value</i> , *NONE, <b>*SYSDFTCHL</b>	Optional, Positional 44
<a href="#">NETPRTY</a>	Network Connection Priority	0-9, <b>*SYSDFTCHL</b>	Optional, Positional 45
<a href="#">SSLCIPH</a>	SSL CipherSpec	<i>Character value</i> , '*NULL_MD5', '*NULL_SHA', '*RC4_MD5_EXPORT', '*RC4_MD5_US', '*RC4_SHA_US', '*RC2_MD5_EXPORT', '*DES_SHA_EXPORT', '*TRIPLE_DES_SHA_US', '*AES_SHA_US', '*TLS_RSA_WITH_NULL_MD5', '*TLS_RSA_WITH_NULL_SHA', '*TLS_RSA_EXPORT_WITH_RC4_40_MD5', '*TLS_RSA_WITH_RC4_128_MD5', '*TLS_RSA_WITH_RC4_128_SHA', '*TLS_RSA_EXPORT_WITH_RC2_40_MD5', '*TLS_RSA_WITH_DES_CBC_SHA', '*TLS_RSA_WITH_3DES_EDE_CBC_SHA', '*TLS_RSA_WITH_AES_128_CBC_SHA', '*TLS_RSA_WITH_AES_256_CBC_SHA', *NONE, <b>*SYSDFTCHL</b>	Optional, Positional 46
<a href="#">SSLCAUTH</a>	SSL Client Authentication	*REQUIRED, *OPTIONAL, <b>*SYSDFTCHL</b>	Optional, Positional 47
<a href="#">SSLPEER</a>	SSL Peer name	<i>Character value</i> , *NONE, <b>*SYSDFTCHL</b>	Optional, Positional 48
<a href="#">LOCLADDR</a>	Local communication address	<i>Character value</i> , *NONE, <b>*SYSDFTCHL</b>	Optional, Positional 49
<a href="#">BATCHHB</a>	Batch Heartbeat Interval	0-999999999, <b>*SYSDFTCHL</b>	Optional, Positional 50
<a href="#">USERID</a>	Task user identifier	<i>Character value</i> , *NONE, <b>*SYSDFTCHL</b>	Optional, Positional 51
<a href="#">PASSWORD</a>	Password	<i>Character value</i> , *NONE, <b>*SYSDFTCHL</b>	Optional, Positional 52
<a href="#">KAINT</a>	Keep Alive Interval	<i>Integer</i> , *AUTO, <b>*SYSDFTCHL</b>	Optional, Positional 53
<a href="#">COMPHDR</a>	Header Compression	Values (up to 2 repetitions): *NONE, *SYSTEM, <b>*SYSDFTCHL</b>	Optional, Positional 54
<a href="#">COMPMSG</a>	Message Compression	Single values: *ANY Other values (up to 4 repetitions): *NONE, *RLE, *ZLIBHIGH, *ZLIBFAST, <b>*SYSDFTCHL</b>	Optional, Positional 55
<a href="#">MONCHL</a>	Channel Monitoring	*QMGR, *OFF, *LOW, *MEDIUM, *HIGH, <b>*SYSDFTCHL</b>	Optional, Positional 56
<a href="#">STATCHL</a>	Channel Statistics	*QMGR, *OFF, *LOW, *MEDIUM, *HIGH, <b>*SYSDFTCHL</b>	Optional, Positional 57
<a href="#">CLWLKANK</a>	Cluster Workload Rank	0-9, <b>*SYSDFTCHL</b>	Optional, Positional 58
<a href="#">CLWLPRTY</a>	Cluster Workload Priority	0-9, <b>*SYSDFTCHL</b>	Optional, Positional 59
<a href="#">CLWLWGHT</a>	Cluster Channel Weight	1-99, <b>*SYSDFTCHL</b>	Optional, Positional 60
<a href="#">SHARECNV</a>	Sharing Conversations	0-999999999, <b>*SYSDFTCHL</b>	Optional,

			Positional 61
<a href="#">PROPCTL</a>	Property Control	*COMPAT, *NONE, *ALL, <b>*SYSDFTCHL</b>	Optional, Positional 62
<a href="#">MAXINST</a>	Maximum Instances	0-999999999, <b>*SYSDFTCHL</b>	Optional, Positional 63
<a href="#">MAXINSTC</a>	Maximum Instances Per Client	0-999999999, <b>*SYSDFTCHL</b>	Optional, Positional 64
<a href="#">CLNTWGHT</a>	Client Channel Weight	0-99, <b>*SYSDFTCHL</b>	Optional, Positional 65
<a href="#">AFFINITY</a>	Connection Affinity	*PREFERRED, *NONE, <b>*SYSDFTCHL</b>	Optional, Positional 66

[Top](#)**Channel name (CHLNAME)**

Specifies the name of the new channel definition; the name can contain a maximum of 20 characters. Channel names must be unique. If a channel definition with this name already exists, REPLACE(\*YES) must be specified.

[Top](#)**Channel type (CHLTYPE)**

Specifies the type of the channel being defined.

The possible values are:

**\*SDR**

Sender channel

**\*SVR**

Server channel

**\*RCVR**

Receiver channel

**\*RQSTR**

Requester channel

**\*SVRCN**

Server-connection channel

**\*CLUSSDR**

Cluster-sender channel

**\*CLUSRCVR**

Cluster-receiver channel

**\*CLTCN**

Client-connection channel

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

***message-queue-manager-name***

The name of a message queue manager.

[Top](#)**Replace (REPLACE)**

Specifies whether the new channel definition should replace an existing channel definition with the same name.

The possible values are:

**\*NO**

Do not replace the existing channel definition. The command fails if the named channel definition already exists.

**\*YES**

Replace the existing channel definition. If there is no definition with the same name, a new definition is created.

[Top](#)**Transport type (TRPTYPE)**

Specifies the transmission protocol.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*LU62**

SNA LU 6.2.

**\*TCP**

Transmission Control Protocol / Internet Protocol (TCP/IP).

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**Text 'description' (TEXT)**

Specifies text that briefly describes the channel definition.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*BLANK**

The text is set to a blank string.

**description**

Specify no more than 64 characters enclosed in apostrophes.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

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**Target Queue Manager (TGTMQMNAME)**

Specifies the name of the target queue manager.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*NONE**

The name of the target queue manager for a client connection channel (CHLTYPE) \*CLTCN is unspecified.

**message-queue-manager-name**

The name of the target message queue manager for a client connection channel (CHLTYPE) \*CLTCN.

For other channel types this parameter must not be specified.

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**Connection name (CONNAME)**

Specifies the name of the machine to connect.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*NONE**

The connection name is blank.

**connection-name**

Specify the connection name as required by the transmission protocol:

- For \*LU62, specify the name of the CSI object.
- For \*TCP, specify either the host name, or the network address of the remote machine (or the local machine for cluster-receiver channels). This can be followed by an optional port number enclosed in parentheses.  
If a connection name is not specified for cluster-receiver channels a connection name is automatically generated, assuming the default port and using the current IP address of the system.  
Where a port is not specified the default port 1414 is assumed.

For cluster-receiver channels the connection name relates to the local queue manager, and for other channels it relates to the target queue manager.

This parameter is required for channels with channel type (CHLTYPE) of \*SDR, \*RQSTR, \*CLTCN and \*CLUSDR. It is optional for \*SVR and \*CLUSRCVR channels, and is not valid for \*RCVR or \*SVRCN channels.

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**Transaction Program Name (TPNAME)**

This parameter is valid for channels with a TRPTYPE defined as LU 6.2 only.

This parameter must be set to the SNA transaction program name, unless the CONNAME contains a side-object name in which case it must be set to blanks. The name is taken instead from the CPI-C Communications Side Object.

This parameter is not valid for channels with a CHLTYPE defined as \*RCVR.

The possible values are:

**\*SAME**

The value of this attribute does not change.

**\*NONE**

No transaction program name is specified.

**\*BLANK**

The transaction program name is taken from CPI-C Communications Side Object. The side object name must be specified in the CONNAME parameter.

**Transaction Program Name**

Specify the SNA transaction program name.

[Top](#)**Mode Name (MODENAME)**

This parameter is valid for channels with a TRPTYPE defined as LU 6.2. If TRPTYPE is not defined as LU 6.2 the data is ignored and no error message is issued.

If specified, the value must be set to the SNA mode name, unless the CONNAME contains a side-object name, in which case it must be set to blanks. The name is then taken from the CPI-C Communications Side Object.

This parameter is not valid for channels with CHLTYPE defined as \*RCVR or \*SVRCONN.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*BLANK**

Name will be taken from the CPI-C Communications Side Object. This must be specified in the CONNAME parameter.

**\*NONE**

No mode name is specified.

**SNA-mode-name**

Specify the SNA Mode Name

[Top](#)**Transmission queue (TMQNAME)**

Specifies the name of the transmission queue.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**transmission-queue-name**

Specify the name of the transmission queue.

A transmission queue name is required if the channel type (CHLTYPE) is \*SDR or \*SVR. For other channel types, the parameter must not be specified.

[Top](#)**Message channel agent (MCANAME)**

This parameter is reserved and should not be used.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*NONE**

The MCA program name is blank.

This parameter cannot be specified for a channel type (CHLTYPE) of \*RCVR, \*SVRCN, or \*CLTCN.

[Top](#)**Message channel agent user ID (MCAUSRID)**

Specifies the message channel agent user identifier which is to be used by the message channel agent for authorization to access MQ resources, including (if PUTAUT is \*DFT) authorization to put the message to the destination queue for receiver or requester channels.

The possible values are:

**\*SYSDFTCHL**

The value is taken from the system default channel for the type of the channel being created.

**\*NONE**

The message channel agent uses its default user identifier.

**\*PUBLIC**

Uses the public authority.

**mca-user-identifier**

Specify the user identifier to be used.

This parameter cannot be specified for a channel type (CHLTYPE) of \*CLTCN.

[Top](#)**Message channel agent Type (MCATYPE)**

Specifies whether the message-channel-agent program should run as a thread or a process.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*PROCESS**

The message channel agent runs as a separate process.

**\*THREAD**

The message channel agent runs as a separate thread.

This parameter can only be specified for a channel type (CHLTYPE) of \*SDR, \*SVR, \*RQSTR, \*CLUSSDR or \*CLUSRCVR.

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**Batch Interval (BATCHINT)**

The minimum amount of time, in milliseconds, that a channel will keep a batch open.

The batch is terminated by which ever of the following occurs first: BATCHSZ messages have been sent, or the transmission queue is empty and BATCHINT is exceeded.

The default value is 0, which means that the batch is terminated as soon as the transmission queue becomes empty (or the BATCHSZ limit is reached).

The value must be in the range 0 through 999999999.

This parameter is valid for channels with CHLTYPE defined as \*SDR, \*SVR, \*CLUSSDR, or \*CLUSRCVR.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**batch-interval**

Specify a value in the range 0 through 999999999. A value of 0 indicates the batch will be terminated as soon as the transmission queue is empty,

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**Batch size (BATCHSIZE)**

Specifies the maximum number of messages that should be sent down a channel before a checkpoint is taken.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**batch-size**

Specify a value in the range 1 through 9999

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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**Disconnect interval (DSCITV)**

Specifies the disconnect interval, which defines the maximum number of seconds that the channel waits for messages to be put on a transmission queue before closing the channel.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**disconnect-interval**

Specify a value in the range 0 through 999999. A value of 0 indicates an indefinite wait.

This parameter cannot be specified for channel types (CHLTYPE) \*RCVR, \*RQSTR or \*CLTCN.

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**Short retry interval (SHORTTMR)**

Specifies the short retry wait interval for a sender, server or cluster channel (\*SDR, \*SVR, \*CLUSSDR or \*CLUSRCVR) that is started automatically by the channel initiator. This defines the interval between attempts to establish a connection to the remote machine.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**short-retry-interval**

Specify a value in the range 0 through 999999999.

**Note:** For implementation reasons, the maximum retry interval that can be used is 999999; values exceeding this are treated as 999999.

This parameter cannot be specified for channel types (CHLTYPE) \*RCVR, \*RQSTR, \*CLTCN or \*SVRCN.

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**Short retry count (SHORTRTY)**

Specifies the short retry count for a sender, server or cluster channel (\*SDR, \*SVR, \*CLUSSDR or \*CLUSRCVR) that is started automatically by the channel initiator. This defines the maximum number of attempts that are made to establish a connection to the remote machine, at intervals specified by SHORTTMR, before the (normally longer) LONGRTY and LONGTMR are used.

The possible values are:

**\*SYSDFTCHL**



The value of this attribute is taken from the system default channel of the specified type.

**short-retry-count**

Specify a value in the range 0 through 999999999. A value of 0 means that no retries are allowed.

This parameter cannot be specified for channel types (CHLTYPE) \*RCVR, \*RQSTR, \*CLTCN or \*SVRCN.

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**Long retry interval (LONGTMR)**

Specifies the long retry wait interval for a sender, server or cluster channel (\*SDR, \*SVR, \*CLUSSDR or \*CLUSRCVR) that is started automatically by the channel initiator. It defines the interval in seconds between attempts to establish a connection to the remote machine, after the count specified by SHORTRTY has been exhausted.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**long-retry-interval**

Specify a value in the range 0 through 999999999.

**Note:** For implementation reasons, the maximum retry interval that can be used is 999999; values exceeding this are treated as 999999.

This parameter cannot be specified for channel types (CHLTYPE) \*RCVR, \*RQSTR, \*CLTCN or \*SVRCN.

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**Long retry count (LONGRTY)**

Specifies the long retry count for a sender, server or cluster channel (\*SDR, \*SVR, \*CLUSSDR or \*CLUSRCVR) that is started automatically by the channel initiator. This defines the maximum number of further attempts that are made to connect to the remote machine, at intervals specified by LONGTMR, after the count specified by SHORTRTY has been exhausted. An error message is logged if the connection is not established after the defined number of attempts.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**long-retry-count**

Specify a value in the range 0 through 999999999. A value of 0 means that no retries are allowed.

This parameter cannot be specified for channel types (CHLTYPE) \*RCVR, \*RQSTR, \*CLTCN or \*SVRCN.

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**Security exit (SCYEXIT)**

Specifies the name of the program to be called as the security exit. If a nonblank name is defined, the exit is invoked at the following times:

- Immediately after establishing a channel.  
Before any messages are transferred, the exit is given the opportunity to instigate security flows to validate connection authorization.
- On receipt of a response to a security message flow.  
Any security message flows received from the remote processor on the remote machine are passed to the exit.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*NONE**

The security exit program is not invoked.

**security-exit-name**

Specify the name of the security exit program.

**library-name**

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

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**Security exit (CSCYEXIT)**

Specifies the name of the program to be called as the client security exit. If a nonblank name is defined, the exit is invoked at the following times:

- Immediately after establishing a channel.  
Before any messages are transferred, the exit is given the opportunity to instigate security flows to validate connection authorization.
- On receipt of a response to a security message flow.  
Any security message flows received from the remote processor on the remote machine are passed to the exit.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the SYSTEM.DEF.CLNTCONN channel.

**\*NONE**

The client security exit program is not invoked.

**security-exit-name**

Specify the name of the client security exit program.

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### Security exit user data (SCYUSRDATA)

Specifies a maximum of 32 characters of user data that is passed to the channel security exit program.

The possible values are:

#### **\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

#### **\*NONE**

The user data for the security exit is not specified.

#### ***security-exit-user-data***

Specify the user data for the security exit program.

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### Send exit (SNDEXIT)

Specifies the entry point of the program to be called as the send exit. If a nonblank name is defined, the exit is invoked immediately before data is sent out on the network. The exit is given the complete transmission buffer before it is transmitted; the contents of the buffer can be modified as required.

The possible values are:

#### **\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

#### **\*NONE**

The send exit is not invoked.

#### ***send-exit-name***

Specify the name of the send exit program.

#### ***library-name***

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

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### Send exit (CSNDEXIT)

Specifies the entry point of the program to be called as the client send exit. If a nonblank name is defined, the exit is invoked immediately before data is sent out on the network. The exit is given the complete transmission buffer before it is transmitted; the contents of the buffer can be modified as required.

The possible values are:

#### **\*SYSDFTCHL**

The value of this attribute is taken from the SYSTEM.DEF.CLNTCONN channel.

#### **\*NONE**

The client send exit is not invoked.

#### ***send-exit-name***

Specify the name of the client send exit program.

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### Send exit user data (SNDUSRDATA)

Specifies a maximum of 32 characters of user data that is passed to the send exit program.

The possible values are:

#### **\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

#### **\*NONE**

The user data for the send exit program is not specified.

#### ***send-exit-user-data***

Specify a maximum of 32 characters of user data for the send exit program.

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### Receive exit (RCVEXIT)

Specifies the entry point of the program to be called as the receive exit. If a nonblank name is defined, the exit is invoked before data received from the network is processed. The complete transmission buffer is passed to the exit and the contents of the buffer can be modified as required.

The possible values are:

#### **\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

#### **\*NONE**

The receive exit program is not invoked.

#### ***receive-exit-name***

Specify the name of the receive exit program.

#### ***library-name***

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

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### Receive exit (CRCVEXIT)

Specifies the entry point of the program to be called as the client receive exit. If a nonblank name is defined, the exit is invoked before data received from the network is processed. The complete transmission buffer is passed to the exit and the contents of the buffer can be modified as required.

The possible values are:

#### **\*SYSDFTCHL**

The value of this attribute is taken from the SYSTEM.DEF.CLNTCONN channel.

#### **\*NONE**

The client receive exit program is not invoked.

#### ***receive-exit-name***

Specify the name of the client receive exit program.

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### Receive exit user data (RCVUSRDATA)

Specifies user data that is passed to the receive exit.

The possible values are:

#### **\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

#### **\*NONE**

The user data for the receive exit program is not specified.

#### ***receive-exit-user-data***

Specify a maximum of 32 characters of user data for the receive exit program.

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### Message exit (MSGEXIT)

Specifies the entry point of the program to be called as the message exit. If a nonblank name is defined, the exit is invoked immediately after a message has been retrieved from the transmission queue. The exit is given the entire application message and message descriptor for modification.

The possible values are:

#### **\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

#### **\*NONE**

The message exit program is not invoked.

#### ***message-exit-name***

Specify the name of the message exit program.

#### ***library-name***

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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### Message exit user data (MSGUSRDATA)

Specifies user data that is passed to the message exit program.

The possible values are:

#### **\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

#### **\*NONE**

The user data for the message exit program is not specified.

#### ***message-exit-user-data***

Specify a maximum of 32 characters of user data for the message exit program.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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### Message retry exit (MSGRTYEXIT)

Specifies the entry point of the program to be called as the message retry exit.

The possible values are:

#### **\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

#### **\*NONE**

The message retry exit program is not invoked.

#### ***message-retry-exit-name***

Specify the name of the message retry exit program.

**library-name**

Specify the name of the library that contains the exit program. This parameter must be present if an exit program name is specified.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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**Message retry exit data (MSGRTYDATA)**

Specifies user data that is passed to the message retry exit program.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*NONE**

The user data for the message retry exit program is not specified.

**message-retry-exit-user-data**

Specify a maximum of 32 characters of user data for the message retry exit program.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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**Number of message retries (MSGRTYNBR)**

Specifies the number of times the channel will retry before it decides it cannot deliver the message. This attribute controls the action of the MCA only if the message-retry exit name is blank, the value of MSGRTYNBR is passed to the exit for the exit's use, but the number of retries performed is controlled by the exit, and not by this attribute.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**message-retry-number**

Specify a value in the range 0 through 999999999. A value of 0 signifies no retries will be performed.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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**Message retry interval (MSGRTYITV)**

Specifies the minimum interval of time that must pass before the channel can retry the MQPUT operation. This time is in milliseconds.

This attribute controls the action of the MCA only if the message-retry exit name is blank, the value of MSGRTYITV is passed to the exit for the exit's use, but the retry interval is controlled by the exit, and not by this attribute.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**message-retry-number**

Specify a value in the range 0 through 999999999. A value of 0 signifies that the retry will be performed as soon as possible.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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**Convert message (CVTMSG)**

Specifies whether the application data in the message should be converted before the message is transmitted.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel for the type of channel being created.

**\*YES**

The application data in the message is converted before sending.

**\*NO**

The application data in the message is not converted before sending.

This parameter cannot be specified for channel types (CHLTYPE) \*RCVR, \*RQSTR, \*CLTCN or \*SVRCN.

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**Put authority (PUTAUT)**

Specifies whether the user identifier in the context information associated with a message should be used to establish authority to put the message on the destination queue.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*DFT**

No authority check is made before the message is put on the destination queue.

**\*CTX**

The user identifier in the message context information is used to establish authority to put the message.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*SVR, \*CLTCN, \*SVRCN or \*CLUSSDR.

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**Sequence number wrap (SEQNUMWRAP)**

Specifies the maximum message sequence number. When the maximum is reached, sequence numbers wrap to start again at 1.

**Note:** The maximum message sequence number is not negotiable; the local and remote channels must wrap at the same number.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

***sequence-number-wrap-value***

Specify a value in the range 100 through 999999999.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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**Maximum message length (MAXMSGLEN)**

Specifies the maximum message length that can be transmitted on the channel. This is compared with the value for the remote channel and the actual maximum is the lower of the two values.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

***maximum-message-length***

Specify a value in the range 0 through 104857600. A value of 0 signifies that the maximum length is unlimited.

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**Heartbeat interval (HRTBTINTVL)**

Specifies The time, in seconds, between heartbeat flows passed from the sending MCA when there are no messages on the transmission queue. The heartbeat exchange gives the receiving MCA the opportunity to quiesce the channel.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

***heart-beat-interval***

Specify a value in the range 0 through 999999999. A value of 0 means that no heartbeat exchanges are to take place.

**Note:** For implementation reasons, the maximum heartbeat interval that can be used is 999999; values exceeding this are treated as 999999.

[Top](#)

**Non Persistent Message Speed (NPMSPEED)**

Specifies whether the channel supports Fast Non Persistent Messages.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute does not change.

**\*FAST**

The channel supports fast non persistent messages.

**\*NORMAL**

The channel does not support fast non persistent messages.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

[Top](#)

**Cluster Name (CLUSTER)**

The name of the cluster to which the channel belongs. The maximum length is 48 characters conforming to the rules for naming MQ objects.

This parameter is valid only for \*CLUSSDR and \*CLUSRCVR channels. If the CLUSNL parameter is non-blank, this parameter must be blank.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*NONE**

No cluster name is specified.

**cluster-name**

The name of the cluster to which the channel belongs. The maximum length is 48 characters conforming to the rules for naming MQ objects.

[Top](#)

**Cluster Name List (CLUSNL)**

The name of the namelist that specifies a list of clusters to which the channel belongs

This parameter is valid only for \*CLUSDR and \*CLUSRCVR channels. If the CLUSTER parameter is non-blank, this parameter must be blank.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*NONE**

No cluster namelist is specified.

**cluster-name-list**

The name of the namelist specifying a list of clusters to which the channel belongs. The maximum length is 48 characters conforming to the rules for naming MQ objects.

[Top](#)

**Network Connection Priority (NETPRTY)**

The priority for the network connection. Distributed queuing chooses the path with the highest priority if there are multiple paths available. The value must be in the range between 0 and 9 where 0 is the lowest priority.

This parameter is valid only for \*CLUSRCVR channels.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**network-connection-priority**

Specify a value in the range 0 through 9; 0 is the lowest priority.

[Top](#)

**SSL CipherSpec (SSLCIPH)**

SSLCIPH specifies the CipherSpec used in SSL channel negotiation. The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**cipherspec**

The name of the CipherSpec.

[Top](#)

**SSL Client Authentication (SSLCAUTH)**

SSLCAUTH specifies whether the channel should carry out client authentication over SSL. The parameter is used only for channels with SSLCIPH specified.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*REQUIRED**

Client authentication is required.

**\*OPTIONAL**

Client authentication is optional.

This parameter cannot be specified for channel types (CHLTYPE) \*SDR, \*CLTCN or \*CLUSDR.

[Top](#)

**SSL Peer name (SSLPEER)**

SSLPEER specifies the X500 peer name used in SSL channel negotiation. The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**x500peername**

The X500 peer name to use.

[Top](#)

**Local communication address (LOCLADDR)**

Specifies the local communication address for the channel.

This parameter is only valid for \*SDR, \*SVR, \*RQSTR, \*CLUSDR, \*CLUSRCVR and \*CLTCN channels.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*NONE**

The connection is blank.

**local-address**

Only valid for transport type TCP/IP. Specify the optional IP address and optional port or port range used for outbound TCP/IP communications. The format is LOCLADDR([ip-addr][[low-port[,high-port]])).

[Top](#)

**Batch Heartbeat Interval (BATCHEB)**

The time in milliseconds used to determine whether batch heartbeating occurs on this channel. Batch heartbeating allows sender-type channels to determine whether the remote channel instance is still active before going in-doubt. A batch heartbeat will occur if a sender-type channel has not communicated with the remote channel within the specified time.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**batch-heartbeat-interval**

Specify a value in the range 0 through 999999999. A value of 0 indicates that batch heartbeating is not to be used.

**Note:** For implementation reasons, the maximum batch heartbeat interval that can be used is 999999; values exceeding this are treated as 999999.

This parameter cannot be specified for channel types (CHLTYPE) \*RCVR, \*RQSTR, \*CLTCN or \*SVRCN.

[Top](#)

**Task user identifier (USERID)**

This is used by the message channel agent when attempting to initiate a secure LU 6.2 session with a remote message channel agent.

This parameter is valid only for channels with a channel type (CHLTYPE) of \*SDR, \*SVR, \*RQSTR, \*CLTCN or \*CLUSSDR.

Although the maximum length of the attribute is 12 characters, only the first 10 characters are used.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*NONE**

No user identifier is specified.

**user-identifier**

Specify the task user identifier.

[Top](#)

**Password (PASSWORD)**

This is used by the message channel agent when attempting to initiate a secure LU 6.2 session with a remote message channel agent.

This parameter is valid only for channels with a channel type (CHLTYPE) of \*SDR, \*SVR, \*RQSTR, \*CLTCN or \*CLUSSDR.

Although the maximum length of the attribute is 12 characters, only the first 10 characters are used.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*NONE**

No password is specified.

**Password**

Specify the password.

[Top](#)

**Keep Alive Interval (KAINT)**

Specifies the Keep Alive timing interval for this channel.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel for the type of channel being created.

**\*AUTO**

The Keep Alive interval is calculated based upon the negotiated heartbeat value as follows:

- If the negotiated HBINT is greater than 0, Keep Alive interval is set to that value plus 60 seconds.
- If the negotiated HBINT is 0, the value used is that specified by the KEEPALIVEOPTIONS statement in the TCP profile configuration data set.

**keep-alive-interval**

Specify a value in the range 0 through 99999.

[Top](#)

**Header Compression (COMPHDR)**

The list of header data compression techniques supported by the channel.

For channel types sender, server, cluster sender, cluster receiver and client connection (\*SDR, \*SVR, \*CLUSSDR, \*CLUSRCVR and \*CLTCN) the values specified are in order of preference with the first compression technique supported by the remote end of the channel being used.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*NONE**

No header data compression is performed.

**\*SYSTEM**

Header data compression is performed.

[Top](#)

**Message Compression (COMPMSG)**

The list of message data compression techniques supported by the channel.

For channel types sender, server, cluster sender, cluster receiver and client connection (\*SDR, \*SVR, \*CLUSSDR, \*CLUSRCVR and \*CLTCN) the values specified are in order of preference with the first compression technique supported by the remote end of the channel being used.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*NONE**

No message data compression is performed.

**\*RLE**

Message data compression is performed using run-length encoding.

**\*ZLIBFAST**

Message data compression is performed using the zlib compression technique. A fast compression time is preferred.

**\*ZLIBHIGH**

Message data compression is performed using the zlib compression technique. A high level of compression is preferred.

**\*ANY**

Any compression technique supported by the queue manager can be used. Only valid for channel types Receiver, Requester and Server-Connection.

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**Channel Monitoring (MONCHL)**

Controls the collection of online monitoring data.

Online monitoring data is not collected when the queue manager attribute MONCHL is set to \*NONE.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*QMGR**

The collection of Online Monitoring Data is inherited from the setting of the queue manager attribute MONCHL.

**\*NONE**

Online Monitoring Data collection for this channel is switched off.

**\*LOW**

Monitoring data collection is turned on with a low ratio of data collection.

**\*MEDIUM**

Monitoring data collection is turned on with a moderate ratio of data collection.

**\*HIGH**

Monitoring data collection is turned on with a high ratio of data collection.

This parameter cannot be specified for a channel type (CHLTYPE) of \*CLTCN.

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**Channel Statistics (STATCHL)**

Controls the collection of statistics data.

Statistics data is not collected when the queue manager attribute STATCHL is set to \*NONE.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*QMGR**

Statistics data collection is based upon the setting of the queue manager attribute STATCHL.

**\*NONE**

Statistics data collection for this channel is switched off.

**\*LOW**



Statistics data collection is turned on with a low ratio of data collection.

**\*MEDIUM**

Statistics data collection is turned on with a moderate ratio of data collection.

**\*HIGH**

Statistics data collection is turned on with a high ratio of data collection.

This parameter cannot be specified for channel types (CHLTYPE) \*CLTCN or \*SVRCN.

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### Cluster Workload Rank (CLWLFRANK)

Specifies the cluster workload rank of the channel.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**cluster-workload-rank**

The cluster workload rank of the channel in the range 0 through 9.

[Top](#)

### Cluster Workload Priority (CLWLPRTY)

Specifies the cluster workload priority of the channel.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**cluster-workload-rank**

The cluster workload priority of the channel in the range 0 through 9.

[Top](#)

### Cluster Channel Weight (CLWLWGHT)

Specifies the cluster workload weight of the channel.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**cluster-workload-rank**

The cluster workload weight of the channel in the range 1 through 99.

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### Sharing Conversations (SHARECNV)

Specifies the maximum the number of conversations which can be shared over a particular TCP/IP client channel instance (socket).

This parameter is valid for channels with CHLTYPE defined as \*CLTCN or \*SVRCN.

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**0**

Specifies no sharing of conversations over a TCP/IP socket. The channel instance runs in a mode prior to that of WebSphere MQ Version 7.0, with regard to:

- Administrator stop-quiet
- Heartbeating
- Read ahead

**1**

Specifies no sharing of conversations over a TCP/IP socket. Client heartbeating and read ahead are available, whether in an MQGET call or not, and channel quiescing is more controllable.

**shared-conversations**

The number of shared conversations in the range 2 through 999999999.

**Note:** If the client-connection SHARECNV value does not match the server-connection SHARECNV value, the lower of the two values is used.

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### Property Control (PROPCTL)

Specifies what happens to properties of messages when the message is about to be sent to a V6 or prior queue manager (a queue manager that does not understand the concept of a property descriptor).

The possible values are:

**\*SYSDFTCHL**

The value of this attribute is taken from the system default channel of the specified type.

**\*COMPAT**

If the message contains a property with a prefix of "mcd.", "jms.", "usr." or "mqext." then all optional message properties, except those in the message descriptor (or extension) will be placed in one or more MQRFH2 headers in the message data before the message is sent to the remote queue manager.

**\*NONE**

All properties of the message, except those in the message descriptor (or extension), will be removed from the message before the message is sent to the remote queue manager.

**\*ALL**

All properties of the message will be included with the message when it is sent to the remote queue manager. The properties, except those in the message descriptor (or extension), will be placed in one or more MQRFH2 headers in the message data.

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**Maximum Instances (MAXINST)**

Specifies the maximum number of clients that can simultaneously connect to the queue manager via this server-connection channel object.

This attribute is valid only for server-connection channels.

The possible values are:

**\*SYSDFT**

The value of this attribute is taken from the system default channel of the specified type.

***maximum-instances***

The maximum number of simultaneous instances of the channel in the range 0 through 99999999.

A value of zero prevents all client access. If the value is reduced below the number of instances of the server connection channel currently running, the running channels will not be affected, but new instances will not be able to start until sufficient existing ones have ceased to run.

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**Maximum Instances Per Client (MAXINSTC)**

Specifies the maximum number of simultaneous instances of an individual server-connection channel which can be started from a single client.

In this context, multiple client connections originating from the same remote network address are considered to be a single client.

This attribute is valid only for server-connection channels.

The possible values are:

**\*SYSDFT**

The value of this attribute is taken from the system default channel of the specified type.

***maximum-instances-per-client***

The maximum number of simultaneous instances of the channel which can be in the started from a single client in the range 0 through 99999999.

A value of zero prevents all client access. If the value is reduced below the number of instances of the server connection channel currently running from individual clients, the running channels will not be affected, but new instances will not be able to start until sufficient existing ones have ceased to run.

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**Client Channel Weight (CLNTWGHT)**

The client channel weighting attribute is used so client channel definitions can be selected at random based on their weighting when more than one suitable definition is available.

The possible values are:

**\*SYSDFT**

The value of this attribute is taken from the system default channel of the specified type.

***client-channel-weight***

The client channel weight in the range 0 through 99.

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**Connection Affinity (AFFINITY)**

The channel affinity attribute is used so client applications that connect multiple times using the same queue manager name can choose whether to use the same client channel definition for each connection.

The possible values are:

**\*SYSDFT**

The value of this attribute is taken from the system default channel of the specified type.

**\*PREFERRED**

The first connection in a process reading a CCDT creates a list of applicable definitions based on the weighting with any applicable CLNTWGHT(0) definitions first and in alphabetical order. Each connection in the process attempts to connect using the first definition in the list. If a connection is unsuccessful the next definition is used. Unsuccessful non CLNTWGHT(0) definitions are moved to the end of the list. CLNTWGHT(0) definitions remain at the start of the list and are selected first for each connection.

**\*NONE**

The first connection in a process reading a CCDT creates a list of applicable definitions. All connections in a process select an applicable definition based on the weighting with any applicable CLNTWGHT(0) definitions selected first in alphabetical order.

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**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.30. Create MQ Listener (CRTMQMLSR)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Create MQ Listener (CRTMQMLSR) command creates a new MQ listener definition, specifying those attributes that are to be different from the default.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">LSRNAME</a>	Listener name	<i>Character value</i>	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Key, Positional 2
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 3
<a href="#">TEXT</a>	Text 'description'	<i>Character value, *BLANK, *SYSDFTLSR</i>	Optional, Positional 4
<a href="#">CONTROL</a>	Listener control	<b>*SYSDFTLSR</b> , *MANUAL, *QMGR, *STARTONLY	Optional, Positional 5
<a href="#">PORT</a>	Port number	0-65535, <b>*SYSDFTLSR</b>	Optional, Positional 6
<a href="#">IPADDR</a>	IP Address	<i>Character value, *BLANK, *SYSDFTLSR</i>	Optional, Positional 7
<a href="#">BACKLOG</a>	Listener backlog	0-999999999, <b>*SYSDFTLSR</b>	Optional, Positional 8

[Top](#)**Listener name (LSRNAME)**

The name of the new MQ listener definition to be created.

The possible values are:

***listener-name***

Specify the name of the listener definition. The maximum length of the string is 48 bytes.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

***\*DFT***

Use the default queue manager.

***queue-manager-name***

The name of a message queue manager.

[Top](#)**Replace (REPLACE)**

If a listener definition with the same name already exists, this specifies whether it is to be replaced.

The possible values are:

***\*NO***

This definition does not replace any existing listener definition with the same name. The command fails if the named listener definition already exists.

***\*YES***

Replace the existing listener definition. If there is no definition with the same name, a new definition is created.

[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the listener definition.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

**\*SYSDFTLSR**

The value of this attribute is taken from the system default listener.

**\*BLANK**

The text is set to a blank string.

***description***

Specify the new descriptive information.

[Top](#)

### Listener control (CONTROL)

Whether the listener starts automatically when the queue manager is started.

The possible values are:

**\*SYSDFTLSR**

The value for this attribute is taken from the system default listener.

**\*MANUAL**

The listener is not automatically started or stopped.

**\*QMGR**

The listener is started and stopped as the queue manager is started and stopped.

**\*STARTONLY**

The listener is started as the queue manager is started, but is not requested to stop when the queue manager is stopped.

[Top](#)

### Port number (PORT)

The port number to be used by the listener.

The possible values are:

**\*SYSDFTLSR**

The value for this attribute is taken from the system default listener.

***port-number***

The port number to be used.

[Top](#)

### IP Address (IPADDR)

The IP address to be used by the listener.

The possible values are:

**\*SYSDFTLSR**

The value for this attribute is taken from the system default listener.

***ip-addr***

The IP address to be used.

[Top](#)

### Listener backlog (BACKLOG)

The number of concurrent connection requests the listener supports.

The possible values are:

**\*SYSDFTLSR**

The value for this attribute is taken from the system default listener.

***backlog***

The number of concurrent connection requests supported.

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### Examples

None

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### Error messages

Unknown

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## 11.31. Create MQ Namelist (CRTMQMNL)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Create MQ Namelist (CRTMQMNL) command creates a new MQ namelist. A namelist is an MQ object that contains a list of other MQ objects. Typically, namelists are used by applications, for example trigger monitors, where they are used to identify a group of queues. A namelist is maintained independently of applications, therefore you can update it without stopping any of the applications that use it.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">NAMELIST</a>	Namelist	<i>Character value</i>	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Key, Positional 2
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 3
<a href="#">TEXT</a>	Text 'description'	<i>Character value, *BLANK, *SYSDFTNL</i>	Optional, Positional 4
<a href="#">NAMES</a>	List of Names	Values (up to 256 repetitions): <i>Character value, *BLANKS, *SYSDFTNL, *NONE</i>	Optional, Positional 5

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### Namelist (NAMELIST)

The name of the namelist to be created.

#### **namelist**

Specify the name of the namelist. The maximum length of the string is 48 bytes.

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### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

#### **\*DFT**

The default queue manager is used.

#### **message-queue-manager-name**

Specify the name of the queue manager.

[Top](#)

### Replace (REPLACE)

Specifies whether the new namelist should replace an existing namelist with the same name.

#### **\*NO**

Do not replace the existing namelist. The command fails if the named namelist already exists.

#### **\*YES**

Replace the existing namelist. If there is no namelist with the same name, a new namelist is created.

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### Text 'description' (TEXT)

Specifies text that briefly describes the namelist.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

#### **\*SYSDFTNL**

The value of the attribute is taken from the system default namelist.

#### **description**

Specify no more than 64 characters enclosed in apostrophes.

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### List of Names (NAMES)

List of names. This is the list of names to be created. The names can be of any type, but must conform to the rules for naming MQ objects.

#### **\*SYSDFTNL**

The value of the attribute is taken from the system default namelist.

#### **namelist**

The list to create. An empty list is valid.

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**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.32. Create MQ Process (CRTMQMPRC)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Create MQ Process (CRTMQMPRC) command creates a new MQ process definition, specifying those attributes that are different from the default.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">PRCNAME</a>	Process name	Character value	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 2
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 3
<a href="#">TEXT</a>	Text 'description'	Character value, *BLANK, <b>*SYSDFTPRC</b>	Optional, Positional 4
<a href="#">APPTYPE</a>	Application type	Integer, <b>*SAME</b> , *CICS, *MVS, *IMS, *OS2, *DOS, *UNIX, *QMGR, *OS400, *WINDOWS, *CICS_VSE, *WINDOWS_NT, *VMS, *NSK, *VOS, *IMS_BRIDGE, *XCF, *CICS_BRIDGE, *NOTES_AGENT, *BROKER, *JAVA, *DQM	Optional, Positional 5
<a href="#">APPID</a>	Application identifier	Character value, <b>*SYSDFTPRC</b>	Optional, Positional 6
<a href="#">USRDATA</a>	User data	Character value, <b>*SYSDFTPRC</b> , *NONE	Optional, Positional 7
<a href="#">ENVDATA</a>	Environment data	Character value, <b>*SYSDFTPRC</b> , *NONE	Optional, Positional 8

[Top](#)**Process name (PRCNAME)**

The name of the new MQ process definition to be created.

The possible values are:

***process-name***

Specify the name of the new MQ process definition. The name can contain up to 48 characters.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

***\*DFT***

Use the default queue manager.

***queue-manager-name***

The name of a message queue manager.

[Top](#)**Replace (REPLACE)**

If a process definition with the same name already exists, this specifies whether it is replaced.

The possible values are:

***\*NO***

This definition does not replace any existing process definition with the same name. The command fails if the named process definition already exists.

***\*YES***

Replace the existing process definition. If there is no definition with the same name, a new definition is created.

[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the process definition.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

**\*SYSDFTPRC**

The value of this attribute is taken from the system default process.

**\*BLANK**

The text is set to a blank string.

**description**

Specify the new descriptive information.

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## Application type (APPTYPE)

The type of application started.

The possible values are:

**\*SYSDFTPRC**

The value for this attribute is taken from the system default process.

**\*CICS**

Represents a CICS/400 application.

**\*MVS**

Represents an MVS application.

**\*IMS**

Represents an IMS application.

**\*OS2**

Represents an OS/2 application.

**\*DOS**

Represents a DOS application.

**\*UNIX**

Represents a UNIX application.

**\*QMGR**

Represents a queue manager.

**\*OS400**

Represents an i5/OS application.

**\*WINDOWS**

Represents a Windows application.

**\*CICS\_VSE**

Represents a CICS/VSE application.

**\*WINDOWS\_NT**

Represents a Windows NT application.

**\*VMS**

Represents a VMS application.

**\*NSK**

Represents a Tandem/NSK application.

**\*VOS**

Represents a VOS application.

**\*IMS\_BRIDGE**

Represents an IMS bridge application.

**\*XCF**

Represents an XCF application.

**\*CICS\_BRIDGE**

Represents a CICS bridge application.

**\*NOTES\_AGENT**

Represents a Lotus Notes application.

**\*BROKER**

Represents a broker application.

**\*JAVA**

Represents a Java application.

**\*DQM**

Represents a DQM application.

**user-value**

User-defined application type in the range 65536 through 999999999.

The values within this range are not tested, and any other value is accepted.

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## Application identifier (APPID)

Application identifier. This is the name of the application to be started, on the platform for which the command is processing. It is typically a program name and library name.

The possible values are:

**\*SYSDFTPRC**

The value for this attribute is taken from the system default process.

**application-id**

The maximum length is 256 characters.

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**User data (USRDATA)**

A character string that contains user information pertaining to the application, as defined by APPID, to start.

The possible values are:

**\*SYSDFTPRC**

The value for this attribute is taken from the system default process.

**\*NONE**

The user data is blank.

**user-data**

Specify up to 128 characters of user data.

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**Environment data (ENVDATA)**

A character string that contains environment information pertaining to the application, as defined by APPID, to start.

The possible values are:

**\*SYSDFTPRC**

The value for this attribute is taken from the system default process.

**\*NONE**

The environment data is blank.

**environment-data**

The maximum length is 128 characters.

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**Examples**

None

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**Error messages**

Unknown

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**11.33. Create MQ Queue (CRTMQMQ)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
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The Create MQ Queue (CRTMQMQ) command creates a queue definition with the specified attributes. All attributes that are not specified are set to the default value for the type of queue that is created.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">QNAME</a>	Queue name	<i>Character value</i>	Required, Key, Positional 1
<a href="#">QTYPE</a>	Queue type	*ALS, *LCL, *MDL, *RMT	Required, Key, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Key, Positional 3
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 4
<a href="#">TEXT</a>	Text 'description'	<i>Character value</i> , *BLANK, <b>*SYSDFTQ</b>	Optional, Positional 5
<a href="#">PUTENBL</a>	Put enabled	<b>*SYSDFTQ</b> , *NO, *YES	Optional, Positional 6
<a href="#">DFTPTY</a>	Default message priority	0-9, <b>*SYSDFTQ</b>	Optional, Positional 7
<a href="#">DFTMSGPST</a>	Default message persistence	<b>*SYSDFTQ</b> , *NO, *YES	Optional, Positional 8
<a href="#">PRCNAME</a>	Process name	<i>Character value</i> , *NONE, <b>*SYSDFTQ</b>	Optional, Positional 9



<a href="#">TRGENBL</a>	Triggering enabled	<b>*SYSDFTQ</b> , *NO, *YES	Optional, Positional 10
<a href="#">GETENBL</a>	Get enabled	<b>*SYSDFTQ</b> , *NO, *YES	Optional, Positional 11
<a href="#">SHARE</a>	Sharing enabled	<b>*SYSDFTQ</b> , *NO, *YES	Optional, Positional 12
<a href="#">DFTSHARE</a>	Default share option	<b>*SYSDFTQ</b> , *NO, *YES	Optional, Positional 13
<a href="#">MSGDLYSEQ</a>	Message delivery sequence	<b>*SYSDFTQ</b> , *PTY, *FIFO	Optional, Positional 14
<a href="#">HDNBKTCNT</a>	Harden backout count	<b>*SYSDFTQ</b> , *NO, *YES	Optional, Positional 15
<a href="#">TRGTYPE</a>	Trigger type	<b>*SYSDFTQ</b> , *FIRST, *ALL, *DEPTH, *NONE	Optional, Positional 16
<a href="#">TRGDEPTH</a>	Trigger depth	1-999999999, <b>*SYSDFTQ</b>	Optional, Positional 17
<a href="#">TRGMSGPTY</a>	Trigger message priority	0-9, <b>*SYSDFTQ</b>	Optional, Positional 18
<a href="#">TRGDATA</a>	Trigger data	<i>Character value</i> , *NONE, <b>*SYSDFTQ</b>	Optional, Positional 19
<a href="#">RTNITY</a>	Retention interval	0-999999999, <b>*SYSDFTQ</b>	Optional, Positional 20
<a href="#">MAXDEPTH</a>	Maximum queue depth	0-999999999, <b>*SYSDFTQ</b>	Optional, Positional 21
<a href="#">MAXMSGLEN</a>	Maximum message length	0-104857600, <b>*SYSDFTQ</b>	Optional, Positional 22
<a href="#">BKTHLD</a>	Backout threshold	0-999999999, <b>*SYSDFTQ</b>	Optional, Positional 23
<a href="#">BKTONAME</a>	Backout requeue name	<i>Character value</i> , *NONE, <b>*SYSDFTQ</b>	Optional, Positional 24
<a href="#">INITONAME</a>	Initiation queue	<i>Character value</i> , *NONE, <b>*SYSDFTQ</b>	Optional, Positional 25
<a href="#">USAGE</a>	Usage	<b>*SYSDFTQ</b> , *NORMAL, *TMQ	Optional, Positional 26
<a href="#">DFNTYPE</a>	Definition type	<b>*SYSDFTQ</b> , *TEMPDYN, *PERMDYN	Optional, Positional 27
<a href="#">TGTONAME</a>	Target object	<i>Character value</i> , <b>*SYSDFTQ</b>	Optional, Positional 28
<a href="#">RMTONAME</a>	Remote queue	<i>Character value</i> , <b>*SYSDFTQ</b> , *NONE	Optional, Positional 29
<a href="#">RMTQMNAME</a>	Remote Message Queue Manager	<i>Character value</i> , <b>*SYSDFTQ</b>	Optional, Positional 30
<a href="#">TMQNAME</a>	Transmission queue	<i>Character value</i> , *NONE, <b>*SYSDFTQ</b>	Optional, Positional 31
<a href="#">HIGHTHLD</a>	Queue depth high threshold	0-100, <b>*SYSDFTQ</b>	Optional, Positional 32
<a href="#">LOWTHLD</a>	Queue depth low threshold	0-100, <b>*SYSDFTQ</b>	Optional, Positional 33
<a href="#">FULLEVT</a>	Queue full events enabled	<b>*SYSDFTQ</b> , *NO, *YES	Optional, Positional 34
<a href="#">HIGHEVT</a>	Queue high events enabled	<b>*SYSDFTQ</b> , *NO, *YES	Optional, Positional 35
<a href="#">LOWEVT</a>	Queue low events enabled	<b>*SYSDFTQ</b> , *NO, *YES	Optional, Positional 36
<a href="#">SRVITY</a>	Service interval	0-999999999, <b>*SYSDFTQ</b>	Optional, Positional 37
<a href="#">SRVEVT</a>	Service interval events	<b>*SYSDFTQ</b> , *HIGH, *OK, *NONE	Optional, Positional 38
<a href="#">DISTLIST</a>	Distribution list support	<b>*SYSDFTQ</b> , *NO, *YES	Optional, Positional 39
<a href="#">CLUSTER</a>	Cluster Name	<i>Character value</i> , <b>*SYSDFTQ</b> , *NONE	Optional, Positional 40
<a href="#">CLUSNL</a>	Cluster Name List	<i>Character value</i> , *NONE, <b>*SYSDFTQ</b>	Optional, Positional 41
<a href="#">DEFBIND</a>	Default Binding	<b>*SYSDFTQ</b> , *OPEN, *NOTFIXED	Optional, Positional 42
<a href="#">CLWLFRANK</a>	Cluster Workload Rank	0-9, <b>*SYSDFTQ</b>	Optional, Positional 43
<a href="#">CLWLPRTY</a>	Cluster Workload Priority	0-9, <b>*SYSDFTQ</b>	Optional, Positional 44
<a href="#">CLWLUSEQ</a>	Cluster workload queue use	<b>*SYSDFTQ</b> , *QMGR, *LOCAL, *ANY	Optional, Positional 45
<a href="#">MONO</a>	Queue Monitoring	<b>*SYSDFTQ</b> , *QMGR, *OFF, *LOW, *MEDIUM, *HIGH	Optional, Positional 46
<a href="#">STATQ</a>	Queue Statistics	<b>*SYSDFTQ</b> , *QMGR, *OFF, *ON	Optional, Positional 47
<a href="#">ACCTQ</a>	Queue Accounting	<b>*SYSDFTQ</b> , *QMGR, *OFF, *ON	Optional, Positional 48
<a href="#">NPMCLASS</a>	Non Persistent Message Class	<b>*SYSDFTQ</b> , *NORMAL, *HIGH	Optional, Positional 49
<a href="#">MSGREADAHD</a>	Message Read Ahead	<b>*SYSDFTQ</b> , *DISABLED, *NO, *YES	Optional, Positional 50
<a href="#">DFTPUTRESP</a>	Default Put Response	*SYSDFTQ, <b>*SYNC</b> , *ASYNC	Optional, Positional 51
<a href="#">PROPCTL</a>	Property Control	<b>*SAME</b> , *COMPAT, *NONE, *ALL, *FORCE	Optional,

			Positional 52
<a href="#">TARGETYPE</a>	Target Type	<b>*SAME</b> , *QUEUE, *TOPIC	Optional, Positional 53

[Top](#)**Queue name (QNAME)**

Specifies the name of the queue definition. Queue names must be unique. If a queue definition with this name already exists, you must specify REPLACE (\*YES).

The name can contain up to 48 characters.

**Note:** The field length is 48 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

The possible values are:

**queue-name**

Specify the name of the new queue.

[Top](#)**Queue type (QTYPE)**

Specifies the type of queue that is to be created.

If the queue already exists, REPLACE(\*YES) must be specified, and the value specified by QTYPE must be the type of the existing queue.

The possible values are:

**\*ALS**

An alias queue.

**\*LCL**

A local queue.

**\*RMT**

A remote queue.

**\*MDL**

A model queue.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)**Replace (REPLACE)**

Specifies whether the new queue will replace an existing queue definition with the same name and type.

The possible values are:

**\*NO**

Do not replace the existing queue. The command fails if the named queue already exists.

**\*YES**

Replace the existing queue definition with the attributes of the FROMQ and the specified attributes.

The command will fail if an application has the Queue open or the USAGE attribute is changed.

**Note:** If the queue is a local queue, and a queue with the same name already exists, any messages already on that queue are retained.

[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the queue definition.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*BLANK**

The text is set to a blank string.

**description**

Specify no more than 64 characters enclosed in apostrophes.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)**Put enabled (PUTENBL)**

Specifies whether messages can be put on the queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*NO**

Messages cannot be added to the queue.

**\*YES**

Messages can be added to the queue by authorized applications.

[Top](#)**Default message priority (DFTPTY)**

Specifies the default priority of messages put on the queue.

The possible values are:

**\*SYSDFTQ**

The value of this attribute taken from the system default queue of the specified type.

**priority-value**

Specify a value ranging from 0 through 9.

[Top](#)**Default message persistence (DFTMSGPST)**

Specifies the default for message-persistence on the queue. Message persistence determines whether messages are preserved across restarts of the queue manager.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*NO**

By default, messages are lost across a restart of the queue manager.

**\*YES**

By default, messages are preserved across a restart of the queue manager.

[Top](#)**Process name (PRCNAME)**

Specifies the local name of the MQ process that identifies the application that should be started when a trigger event occurs.

The process does not have to be available when the queue is created, but it must be available for a trigger event to occur.

The possible values are:

**\*SYSDFTQ**

The value of this attribute taken from the system default queue of the specified type.

**\*NONE**

No process is specified.

**process-name**

Specify the name of the process.

[Top](#)**Triggering enabled (TRGENBL)**

Specifies whether trigger messages are written to the initiation queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*NO**

Do not write trigger messages to the initiation queue.

**\*YES**

Triggering is active; trigger messages are written to the initiation queue.

[Top](#)**Get enabled (GETENBL)**

Specifies whether applications are to be permitted to get messages from this queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*NO**

Applications cannot retrieve messages from the queue.

**\*YES**

Suitably authorized applications can retrieve messages from the queue.

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### Sharing enabled (SHARE)

Specifies whether multiple instances of applications can open this queue for input.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is from the system default queue of the specified type.

**\*NO**

Only a single application instance can open the queue for input.

**\*YES**

More than one application instance can open the queue for input.

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### Default share option (DFTSHARE)

Specifies the default share option for applications opening this queue for input.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*NO**

The open request is for exclusive use of the queue for input.

**\*YES**

The open request is for shared use of the queue for input.

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### Message delivery sequence (MSGDLYSEQ)

Specifies the message delivery sequence.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*PTY**

Messages are delivered in first-in-first-out (FIFO) order within priority.

**\*FIFO**

Messages are delivered in FIFO order regardless of priority.

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### Harden backout count (HDNBKTCNT)

Specifies whether the count of backed out messages should be saved (hardened) across restarts of the message queue manager.

**Note:** On WebSphere MQ for i5/OS the count is ALWAYS hardened, regardless of the setting of this attribute.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*NO**

The backout count is not hardened.

**\*YES**

The backout count is hardened.

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### Trigger type (TRGTYPE)

Specifies the condition that initiates a trigger event. When the condition is true, a trigger message is sent to the initiation queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*FIRST**

When the number of messages on the queue goes from zero to one.

**\*ALL**

Every time a message arrives on the queue.

**\*DEPTH**

When the number of messages on the queue equals the value of the TRGDEPTH attribute.

**\*NONE**

No trigger messages are written.

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**Trigger depth (TRGDEPTH)**

Specifies, for TRIGTYPE(\*DEPTH), the number of messages that initiate a trigger message to the initiation queue.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**depth-value**

Specify a value ranging from 1 through 999999999.

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**Trigger message priority (TRGMSGPTY)**

Specifies the minimum priority that a message must have before it can produce, or be counted for, a trigger event.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**priority-value**

Specify a value ranging from 0 through 9.

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**Trigger data (TRGDATA)**

Specifies up to 64 characters of user data that the queue manager includes in the trigger message. This data is made available to the monitoring application that processes the initiation queue and to the application started by the monitor.

**Note:** An application program can issue a call to MQSET to change the value of this attribute.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*NONE**

No trigger data is specified.

**trigger-data**

Specify up to 64 characters enclosed in apostrophes. For a transmission queue you can use this parameter to specify the name of the channel to be started.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double byte character set (DBCS).

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**Retention interval (RTNITV)**

Specifies the retention interval. This interval is the number of hours for which the queue might be needed, based on the date and time when the queue was created.

This information is available to a housekeeping application or an operator and can be used to determine when a queue is no longer required.

**Note:** The message queue manager does not delete queues, nor does it prevent your queues from being deleted if their retention interval has not expired. It is your responsibility to take any required action.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**interval-value**

Specify a value ranging from 0 through 999999999.

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### Maximum queue depth (MAXDEPTH)

Specifies the maximum number of messages allowed on the queue. However, other factors can cause the queue to be treated as full; for example, it appears to be full if there is no storage available for a message.

**Note:** If this value is subsequently reduced by using the CHGMQM command, any messages that are on the queue remain intact even if they cause the new maximum to be exceeded.

The possible values are:

#### **\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

#### **depth-value**

Specify a value ranging from 0 through 999999999.

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### Maximum message length (MAXMSGLEN)

Specifies the maximum length for messages on the queue.

**Note:** If this value is subsequently reduced by using the CHGMQM command, any messages that are on the queue remain intact even if they exceed the new maximum length.

Applications might use the value of this attribute to determine the size of buffer they need to retrieve messages from the queue. Therefore change the value only if you know this will not cause an application to operate incorrectly.

The possible values are:

#### **\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified queue type.

#### **length-value**

Specify a value ranging from 0 through 104 857 600.

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### Backout threshold (BKTTHLD)

Specifies the backout threshold.

Applications running inside of WebSphere Application Server and those that use the WebSphere MQ Application Server Facilities will use this attribute to determine where messages that have been backed out should go. For all other applications, apart from allowing this attribute to be queried, the queue manager takes no action based on the value of the attribute.

The possible values are:

#### **\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified queue type.

#### **threshold-value**

Specify a value ranging from 0 through 999999999.

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### Backout requeue name (BKTQNAME)

Specifies the backout-queue name.

Applications running inside of WebSphere Application Server and those that use the WebSphere MQ Application Server Facilities will use this attribute to determine where messages that have been backed out should go. For all other applications, apart from allowing this attribute to be queried, the queue manager takes no action based on the value of the attribute.

The possible values are:

#### **\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified queue type.

#### **\*NONE**

No backout queue is specified.

#### **backout-queue-name**

Specify the backout queue name.

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### Initiation queue (INITQNAME)

Specifies the name of the initiation queue.

**Note:** The initiation queue must be on the same instance of a message queue manager.

The possible values are:

#### **\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified queue type.

#### **\*NONE**

No initiation queue is specified.

#### **initiation-queue-name**

Specify the initiation queue name.

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### Usage (USAGE)

Specifies whether the queue is for normal usage, or for transmitting messages to a remote message queue manager.

The possible values are:

#### **\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified queue type.

#### **\*NORMAL**

Normal usage (the queue is not a transmission queue)

#### **\*TMQ**

The queue is a transmission queue that is used to hold messages destined for a remote message queue manager. If the queue is intended for use in situations where a transmission queue name is not explicitly specified, the queue name must be the same as the name of the remote message queue manager. For further information, see the WebSphere MQ Intercommunication.

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### Definition type (DFNTYPE)

Specifies the type of dynamic queue definition that is created when an application issues an MQOPEN API call with the name of this model queue specified in the object descriptor.

**Note:** This parameter only applies to a model queue definition.

The possible values are:

#### **\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

#### **\*TEMPDYN**

Creates a temporary dynamic queue. Do not specify with a DEFMSGPST value of \*YES.

#### **\*PERMDYN**

Creates a permanent dynamic queue.

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### Target object (TGTQNAME)

Specifies the name of the target object for which this queue is an alias.

The object can be a local or remote queue, a topic or a message queue manager.

Do not leave this field blank. If you do so, it is possible that you will create an alias queue, that has to be subsequently modified, by the addition of a TGTNAME.

When a message queue manager name is specified, it identifies the message queue manager that handles the messages posted to the alias queue. You can specify either the local message queue manager or a transmission queue name.

**Note:** The target object does not need to exist at this time but it must exist when a process attempts to open the alias queue.

The possible values are:

#### **\*SYSDFTQ**

The name of the target object is taken from the SYSTEM.DEFAULT.ALIAS.QUEUE.

#### **target-object-name**

Specify the name of the target object.

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### Remote queue (RMTQNAME)

Specifies the name of the remote queue. That is, the local name of the remote queue as defined on the queue manager specified by RMTQMNAME.

If this definition is used for a queue manager alias definition, RMTQNAME must be blank when the open occurs.

If this definition is used for a reply-to alias, this name is the name of the queue that is to be the reply-to queue.

The possible values are:

#### **\*SYSDFTQ**

The name of the remote queue is taken from the SYSTEM.DEFAULT.REMOTE.QUEUE.

#### **\*NONE**

No remote-queue name is specified (that is, the name is blank). This can be used if the definition is a queue manager alias definition.

#### **remote-queue-name**

Specify the name of the queue at the remote queue manager.

**Note:** The name is not checked to ensure that it contains only those characters normally allowed for queue names

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### Remote Message Queue Manager (RMTQMNAME)

Specifies the name of the remote queue manager on which the queue RMTQNAME is defined.

If an application opens the local definition of a remote queue, RMTQMNAME must not be the name of the connected queue manager. If TMQNAME is blank

there must be a local queue of this name, which is to be used as the transmission queue.

If this definition is used for a queue manager alias, RMTMQMNAME is the name of the queue manager, which can be the name of the connected queue manager. Otherwise, if TMQNAME is blank, when the queue is opened there must be a local queue of this name, with USAGE(\*TMQ) specified, which is to be used as the transmission queue.

If this definition is used for a reply-to alias, this name is the name of the queue manager that is to be the reply-to queue manager.

The possible values are:

**\*SYSDFTQ**

The name of the remote queue manager is taken from the SYSTEM.DEFAULT.REMOTE.QUEUE.

***remote-queue-manager-name***

Specify the name of the remote queue manager.

**Note:** Ensure this name contains only those characters normally allowed for queue manager names.

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### Transmission queue (TMQNAME)

Specifies the local name of the transmission queue to be used for messages destined for the remote queue, for either a remote queue or for a queue manager alias definition.

If TMQNAME is blank, a queue with the same name as RMTMQMNAME is used as the transmission queue.

This attribute is ignored if the definition is being used as a queue manager alias and RMTMQMNAME is the name of the connected queue manager.

It is also ignored if the definition is used as a reply-to queue alias definition.

The possible values are:

**\*SYSDFTQ**

The transmission queue name is taken from the SYSTEM.DEFAULT.REMOTE.QUEUE.

**\*NONE**

No specific transmission queue name is defined for this remote queue. The value of this attribute is set to all blanks.

***transmission-queue-name***

Specify the transmission queue name.

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### Queue depth high threshold (HIGHTHLD)

Specifies the threshold against which the queue depth is compared to generate a queue depth high event.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

***threshold-value***

Specify a value ranging from 0 through 100. This value is used as a percentage of the maximum queue depth (MAXDEPTH parameter).

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### Queue depth low threshold (LOWTHLD)

Specifies the threshold against which the queue depth is compared to generate a queue depth low event.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

***threshold-value***

Specify a value ranging from 0 through 100. This value is used as a percentage of the maximum queue depth (MAXDEPTH parameter).

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### Queue full events enabled (FULLEVT)

Specifies whether queue full events are generated.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*NO**

Queue Full events are not generated.

**\*YES**

Queue Full events are generated.

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### Queue high events enabled (HIGHEVT)

Specifies whether queue depth high events are generated.



The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*NO**

Queue Depth High events are not generated.

**\*YES**

Queue Depth High events are generated.

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### Queue low events enabled (LOWEVT)

Specifies whether queue depth low events are generated.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*NO**

Queue Depth Low events are not generated.

**\*YES**

Queue Depth Low events are generated.

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### Service interval (SRVITV)

Specifies the service interval. This interval is used for comparison to generate service interval high and service interval OK events.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

***interval-value***

Specify a value ranging from 0 through 999999999. The value is in units of milliseconds.

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### Service interval events (SRVEVT)

Specifies whether service interval high or service interval OK events are generated.

A service interval high event is generated when a check indicates that no messages have been retrieved from the queue for the time indicated by the SRVITV parameter as a minimum.

A service interval OK event is generated when a check indicates that messages have been retrieved from the queue within the time indicated by the SRVITV parameter.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*HIGH**

Service Interval High events are generated.

**\*OK**

Service Interval OK events are generated.

**\*NONE**

No service interval events are generated.

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### Distribution list support (DISTLIST)

Specifies whether the queue supports distribution lists.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*NO**

Distribution Lists are not supported.

**\*YES**

Distribution Lists are supported.

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### Cluster Name (CLUSTER)

The name of the cluster to which the queue belongs.

Changes to this parameter do not affect instances of the queue that are already open.

This parameter cannot be set for dynamic, transmission, SYSTEM.CHANNEL.xx, SYSTEM.CLUSTER.xx or SYSTEM.COMMAND.xx queues.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**cluster-name**

Only one of the resultant values of CLUSTER or CLUSNL can be non-blank; you cannot specify a value for both.

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### Cluster Name List (CLUSNL)

The name of the namelist which specifies a list of clusters to which the queue belongs. Changes to this parameter do not affect instances of the queue that are already open.

This parameter cannot be set for dynamic, transmission, SYSTEM.CHANNEL.xx, SYSTEM.CLUSTER.xx or SYSTEM.COMMAND.xx queues.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**namelist-name**

The name of the namelist that specifies a list of clusters to which the queue belongs.

[Top](#)

### Default Binding (DEFBIND)

Specifies the binding to be used when the application specifies MQOO\_BIND\_AS\_Q\_DEF on the MQOPEN call and the queue is a cluster queue.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*OPEN**

The queue handle is bound to a specific instance of the cluster queue when the queue is opened.

**\*NOTFIXED**

The queue handle is not bound to any particular instance of the cluster queue. This allows the queue manager to select a specific queue instance when the message is put using MQPUT and to change that selection subsequently if necessary.

The MQPUT1 call always behaves as if NOTFIXED had been specified.

[Top](#)

### Cluster Workload Rank (CLWLRRANK)

Specifies the cluster workload rank of the queue.

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**cluster-workload-rank**

Specify a value ranging from 0 through 9.

[Top](#)

### Cluster Workload Priority (CLWLPRTY)

Specifies the cluster workload priority of the queue.

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**cluster-workload-priority**

Specify a value ranging from 0 through 9.

[Top](#)

### Cluster workload queue use (CLWLUSEQ)

Specifies the behaviour of an MQPUT when the target queue has both a local instance and at least one remote cluster instance. If the put originates from a cluster channel then this attribute does not apply.

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*QMGR**

The value is inherited from the Queue Manager CLWLUSEQ attribute.

**\*LOCAL**

The local queue will be the sole target of the MQPUT.

**\*ANY**

The queue manager will treat such a local queue as another instance of the cluster queue for the purposes of workload distribution.

[Top](#)

### Queue Monitoring (MONQ)

Controls the collection of Online Monitoring Data.

Online Monitoring Data is not collected when the queue manager attribute MONQ is set to \*NONE.

#### **\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

#### **\*QMGR**

The collection of Online Monitoring Data is inherited from the setting of the queue manager attribute MONQ.

#### **\*OFF**

Online Monitoring Data collection for this queue is switched off.

#### **\*LOW**

Monitoring data collection is turned on with a low ratio of data collection.

#### **\*MEDIUM**

Monitoring data collection is turned on with a moderate ratio of data collection.

#### **\*HIGH**

Monitoring data collection is turned on with a high ratio of data collection.

[Top](#)

### Queue Statistics (STATQ)

Controls the collection of statistics data.

Online monitoring data is not collected when the queue manager attribute STATQ is set to \*NONE.

#### **\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

#### **\*QMGR**

Statistics data collection is based upon the setting of the queue manager attribute STATQ.

#### **\*OFF**

Statistics data collection for this queue is switched off.

#### **\*ON**

Statistics data collection is switched on for this queue.

[Top](#)

### Queue Accounting (ACCTQ)

Controls the collection of accounting data.

Accounting data is not collected when the queue manager attribute ACCTQ is set to \*NONE.

#### **\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

#### **\*QMGR**

Accounting data collection is based upon the setting of the queue manager attribute ACCTQ.

#### **\*OFF**

Accounting data collection for this queue is switched off.

#### **\*ON**

Accounting data collection is switched on for this queue.

[Top](#)

### Non Persistent Message Class (NPMCLASS)

Specifies the level of reliability for non-persistent messages put to this queue.

#### **\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

#### **\*NORMAL**

Non-persistent messages put to this queue are only lost following a failure, or a queue manager shutdown. Non-persistent message put to this queue will be discarded in the event of a queue manager restart.

#### **\*HIGH**

Non-persistent messages put to this queue are not discarded in the event of a queue manager restart. Non-persistent messages put to this queue may still be lost in the event of a failure.

[Top](#)

### Message Read Ahead (MSGREADAHD)

Specifies whether non persistent messages are sent to the client ahead of an application requesting them.

The possible values are:

#### **\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

#### **\*DISABLED**

Read ahead is disabled for this queue. Messages are not sent to the client ahead of an application requesting them regardless of whether read ahead is requested by the client application.

**\*NO**

Non-persistent messages are not sent to the client ahead of an application requesting them. A maximum of one non-persistent message can be lost if the client ends abnormally.

**\*YES**

Non-persistent messages are sent to the client ahead of an application requesting them. Non-persistent messages can be lost if the client ends abnormally or if the client application does not consume all the messages it is sent.

[Top](#)

**Default Put Response (DFTPUTRESP)**

The default put response type (DFTPUTRESP) attribute specifies the type of response required for MQPUT and MQPUT1 calls when applications specify the MQPMO\_RESPONSE\_AS\_Q\_DEF option.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*SYNC**

Specifying this value ensures that the put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are issued as if MQPMO\_SYNC\_RESPONSE had been specified instead. Fields in the MQMD and MQPMO are returned by the queue manager to the application. This is the default value supplied with WebSphere MQ, but your installation might have changed it.

**\*ASYNC**

Specifying this value ensures that the put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are always issued as if MQPMO\_ASYNC\_RESPONSE had been specified instead. Some fields in the MQMD and MQPMO are not returned by the queue manager to the application; but an improvement in performance may be seen for messages put in a transaction or any non-persistent messages.

[Top](#)

**Property Control (PROPCTL)**

Specifies what happens to properties of messages that are retrieved from queues using the MQGET call when the MQGMO\_PROPERTIES\_AS\_Q\_DEF option is specified.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*COMPAT**

If the message contains a property with a prefix of "mcd.", "jms.", "usr." or "mqext." then all message properties are delivered to the application in an MQRFH2 header. Otherwise all properties of the message, except those contained in the message descriptor (or extension), are discarded and are no longer accessible to the application.

**\*NONE**

All properties of the message, except those contained in the message descriptor (or extension), are discarded and are no longer accessible to the application.

**\*ALL**

All properties of the message, except those contained in the message descriptor (or extension), are contained in one or more MQRFH2 headers in the message data.

**\*FORCE**

Properties are always returned in the message data in an MQRFH2 header regardless of whether the application specifies a message handle.

[Top](#)

**Target Type (TARGTYPE)**

Specifies the type of object to which the alias resolves.

The possible values are:

**\*SYSDFTQ**

The value of this attribute is taken from the system default queue of the specified type.

**\*QUEUE**

Queue object.

**\*TOPIC**

Topic object.

[Top](#)

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**Examples**

None

[Top](#)

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**Error messages**

Unknown

[Top](#)

**11.34. Create MQ Subscription (CRTMQMSUB)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Create MQ Subscription (CRTMQMSUB) command creates a new MQ subscription, specifying those attributes that are different from the default.

[Top](#)

## Parameters

Keyword	Description	Choices	Notes
<a href="#">SUBNAME</a>	Subscription name	<i>Character value</i>	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Key, Positional 2
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Key, Positional 3
<a href="#">TOPICSTR</a>	Topic string	<i>Character value, *NONE, *SYSDFTSUB</i>	Optional, Positional 4
<a href="#">TOPICOBJ</a>	Topic object	<i>Character value, *NONE, *SYSDFTSUB</i>	Optional, Positional 5
<a href="#">DEST</a>	Destination	<i>Character value, *SYSDFTSUB</i>	Optional, Positional 6
<a href="#">DESTMQM</a>	Destination Queue Manager	<i>Character value, *NONE, *SYSDFTSUB</i>	Optional, Positional 7
<a href="#">DESTCRLID</a>	Destination Correlation Id	<i>Character value, *NONE, *SYSDFTSUB</i>	Optional, Positional 8
<a href="#">PUBACCT</a>	Publish Accounting Token	<i>Character value, *CURRENT, *SYSDFTSUB</i>	Optional, Positional 9
<a href="#">PUBAPPID</a>	Publish Application Id	<i>Character value, *NONE, *SYSDFTSUB</i>	Optional, Positional 10
<a href="#">SUBUSER</a>	Subscription User Id	<i>Character value, *CURRENT, *SYSDFTSUB</i>	Optional, Positional 11
<a href="#">USERDATA</a>	Subscription User Data	<i>Character value, *NONE, *SYSDFTSUB</i>	Optional, Positional 12
<a href="#">SELECTOR</a>	Selector String	<i>Character value, *NONE, *SYSDFTSUB</i>	Optional, Positional 13
<a href="#">PSPROP</a>	PubSub Property	<b>*SYSDFTSUB</b> , *NONE, *COMPAT, *RFH2, *MSGPROP	Optional, Positional 14
<a href="#">DESTCLASS</a>	Destination Class	<b>*SYSDFTSUB</b> , *MANAGED, *PROVIDED	Optional, Positional 15
<a href="#">SUBSCOPE</a>	Subscription Scope	<b>*SYSDFTSUB</b> , *ALL, *QMGR	Optional, Positional 16
<a href="#">VARUSER</a>	Variable User	<b>*SYSDFTSUB</b> , *ANY, *FIXED	Optional, Positional 17
<a href="#">REQONLY</a>	Request Publications	<b>*SYSDFTSUB</b> , *YES, *NO	Optional, Positional 18
<a href="#">PUBPTY</a>	Publish Priority	0-9, <b>*SYSDFTSUB</b> , *ASPUB, *ASQDEF	Optional, Positional 19
<a href="#">WSHEMA</a>	Wildcard Schema	<b>*SYSDFTSUB</b> , *TOPIC, *CHAR	Optional, Positional 20
<a href="#">EXPIRY</a>	Expiry Time	0-999999999, <b>*SYSDFTSUB</b> , *UNLIMITED	Optional, Positional 21

[Top](#)

### Subscription name (SUBNAME)

The name of the new MQ subscription to be created.

The possible values are:

#### **subscription-name**

Specify a maximum of 256 bytes for the subscription name.

**Note:** Subscription names of greater than 256 bytes can be specified using MQSC.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the Queue Manager.

The possible values are:

#### **\*DFT**

Use the default Queue Manager.

#### **queue-manager-name**

The name of a Queue Manager.

[Top](#)

### Replace (REPLACE)

If a subscription with the same name already exists, this specifies whether it is replaced.

The possible values are:

**\*NO**

This subscription does not replace any existing subscription with the same name or subscription identifier. The command fails if the subscription already exists.

**\*YES**

Replace the existing subscription. If there is no subscription with the same name or subscription identifier, a new subscription is created.

[Top](#)

**Topic string (TOPICSTR)**

Specifies the topic string associated with this subscription.

The possible values are:

**\*SYSDFTSUB**

The value of this attribute is taken from the system default subscription.

**topic-string**

Specify a maximum of 256 bytes for the topic string.

**Note:** Topic strings of greater than 256 bytes can be specified using MQSC.

[Top](#)

**Topic object (TOPICOBJ)**

Specifies the topic object associated with this subscription.

The possible values are:

**\*SYSDFTSUB**

The value of this attribute is taken from the system default subscription.

**topic-object**

Specify the name of the topic object.

[Top](#)

**Destination (DEST)**

Specifies the destination queue for messages published to this subscription.

The possible values are:

**destination-queue**

Specify the name of the destination queue.

[Top](#)

**Destination Queue Manager (DESTMQM)**

Specifies the destination queue manager for messages published to this subscription.

The possible values are:

**\*SYSDFTSUB**

The value of this attribute is taken from the system default subscription.

**destination-queue-manager**

Specify the name of the destination queue manager.

[Top](#)

**Destination Correlation Id (DESTRRLID)**

Specifies the correlation identifier for messages published to this subscription.

The possible values are:

**\*SYSDFTSUB**

The value of this attribute is taken from the system default subscription.

**destination-correlation-identifier**

Specify the 48 character hexadecimal string representing the 24 byte correlation identifier.

[Top](#)

**Publish Accounting Token (PUBACCT)**

Specifies the accounting token for messages published to this subscription.

The possible values are:

**\*SYSDFTSUB**

The value of this attribute is taken from the system default subscription.

**\*NONE**

Messages are placed on the destination with an accounting token of MQACT\_NONE.

***publish-accounting-token***

Specify the 64 character hexadecimal string representing the 32 byte publish accounting token.

[Top](#)

**Publish Application Id (PUBAPPID)**

Specifies the publish application identity for messages published to this subscription.

The possible values are:

***\*SYSDFTSUB***

The value of this attribute is taken from the system default subscription.

***\*NONE***

No publish application identifier is specified.

***publish-application-identifier***

Specify the publish application identifier.

[Top](#)

**Subscription User Id (SUBUSER)**

Specifies the user profile that owns this subscription.

The possible values are:

***\*SAME***

The attribute is unchanged.

***\*CURRENT***

The current user profile is the owner of the new subscription.

***user-profile***

Specify the user profile.

[Top](#)

**Subscription User Data (USERDATA)**

Specifies the user data associated with the subscription.

The possible values are:

***\*SYSDFTSUB***

The value of this attribute is taken from the system default subscription.

***\*NONE***

No user data is specified.

***user-data***

Specify a maximum of 256 bytes for user data.

**Note:** User data of greater than 256 bytes can be specified using MQSC.

[Top](#)

**Selector String (SELECTOR)**

Specifies the SQL 92 selector string to be applied to messages published on the named topic to select whether they are eligible for this subscription.

The possible values are:

***\*SYSDFTSUB***

The value of this attribute is taken from the system default subscription.

***\*NONE***

No selection string is specified.

***selection-string***

Specify a maximum of 256 bytes for selection string.

**Note:** Selection strings of greater than 256 bytes can be specified using MQSC.

[Top](#)

**PubSub Property (PSPROP)**

Specifies the manner in which publish / subscribe related message properties are added to messages sent to this subscription.

The possible values are:

***\*SYSDFTSUB***

The value of this attribute is taken from the system default subscription.

***\*NONE***

Publish / subscribe properties are not added to the message.

***\*COMPAT***

Publish / subscribe properties are added to the message to maintain compatibility with V6 Publish / Subscribe.

***\*RFH2***

Publish / subscribe properties are added to the message within an RFH Version 2 header.

**\*MSGPROP**

Publish / subscribe properties are added as message properties.

[Top](#)**Destination Class (DESTCLASS)**

Specifies whether this is a managed subscription.

The possible values are:

**\*SYSDFTSUB**

The value of this attribute is taken from the system default subscription.

**\*MANAGED**

The destination is managed.

**\*PROVIDED**

The destination is a queue.

[Top](#)**Subscription Scope (SUBSCOPE)**

Specifies whether this subscription should be forwarded (as a proxy subscription) to other brokers, so that the subscriber will receive messages published at those other brokers.

The possible values are:

**\*SYSDFTSUB**

The value of this attribute is taken from the system default subscription.

**\*ALL**

The subscription will be forwarded to all queue managers directly connected via a publish / subscribe collective or hierarchy.

**\*QMGR**

The subscription will only forward messages published on the topic within this queue manager.

[Top](#)**Variable User (VARUSER)**

Specifies whether user profiles other than the creator of the subscription can connect to it (subject to topic and destination authority checks).

The possible values are:

**\*SYSDFTSUB**

The value of this attribute is taken from the system default subscription.

**\*ANY**

Any user profiles can connect to the subscription.

**\*FIXED**

Only the user profile that created the subscription can connect to it.

[Top](#)**Request Publications (REQONLY)**

Specifies whether the subscriber will poll for updates via MQSUBRQ API, or whether all publications are delivered to this subscription.

The possible values are:

**\*SYSDFTSUB**

The value of this attribute is taken from the system default subscription.

**\*YES**

Publications are only delivered to this subscription in response to an MQSUBRQ API.

**\*NO**

All publications on the topic are delivered to this subscription.

[Top](#)**Publish Priority (PUBPTY)**

Specifies the priority of the message sent to this subscription.

The possible values are:

**\*SYSDFTSUB**

The value of this attribute is taken from the system default subscription.

**\*ASPUB**

The priority of the message sent to this subscription is taken from that supplied in the published message.

**\*ASQDEF**

The priority of the message sent to this subscription is taken from the default priority of the queue defined as the destination.

**priority-value**

Specify a priority ranging from 0 through 9.

[Top](#)



**Wildcard Schema (WSHEMA)**

Specifies the schema to be used when interpreting wild card characters in the topic string.

The possible values are:

**\*SYSDFTSUB**

The value of this attribute is taken from the system default subscription.

**\*TOPIC**

Wildcard characters represent portions of the topic hierarchy.

**\*CHAR**

Wildcard characters represent portions of strings.

[Top](#)

**Expiry Time (EXPIRY)**

Specifies the expiry time of the subscription. After a subscription's expiry time has elapsed, it becomes eligible to be discarded by the queue manager and will receive no further publications.

The possible values are:

**\*SYSDFTSUB**

The value of this attribute is taken from the system default subscription.

**\*UNLIMITED**

The subscription does not expire.

**expiry-time**

Specify an expiry time in tenths of a second ranging from 0 through 999999999.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.35. Create MQ Service (CRTMQMSVC)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Create MQ Service (CRTMQMSVC) command creates a new MQ service definition, specifying those attributes that are to be different from the default.

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">SVCNAME</a>	Service name	Character value	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 2
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 3
<a href="#">TEXT</a>	Text 'description'	Character value, *BLANK, <b>*SYSDFTSVC</b>	Optional, Positional 4
<a href="#">STRCMD</a>	Start program	Single values: <b>*SYSDFTSVC</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 5
	Qualifier 1: Start program	Name	
	Qualifier 2: Library	Name	
<a href="#">STRARG</a>	Start program arguments	Character value, *BLANK, <b>*SYSDFTSVC</b>	Optional, Positional 6
<a href="#">ENDCMD</a>	End program	Single values: <b>*SYSDFTSVC</b> , *NONE Other values: <i>Qualified object name</i>	Optional, Positional 7
	Qualifier 1: End program	Name	
	Qualifier 2: Library	Name	
<a href="#">ENDARG</a>	End program arguments	Character value, *BLANK, <b>*SYSDFTSVC</b>	Optional, Positional 8
<a href="#">STDOUT</a>	Standard output	Character value, *BLANK, <b>*SYSDFTSVC</b>	Optional, Positional 9
<a href="#">STDERR</a>	Standard error	Character value, *BLANK, <b>*SYSDFTSVC</b>	Optional, Positional 10
<a href="#">TYPE</a>	Service type	<b>*SYSDFTSVC</b> , *CMD, *SVR	Optional, Positional 11

<a href="#">CONTROL</a>	Service control	<b>*SYSDFTSVC</b> , *MANUAL, *QMGR, *STARTONLY	Optional, Positional 12
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[Top](#)**Service name (SVCNAME)**

The name of the new MQ service definition.

The possible values are:

***service-name***

Specify the name of the service definition. The maximum length of the string is 48 bytes.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

***queue-manager-name***

The name of a message queue manager.

[Top](#)**Replace (REPLACE)**

If a service definition with the same name already exists, this specifies whether it is replaced.

The possible values are:

**\*NO**

This definition does not replace any existing service definition with the same name. The command fails if the named service definition already exists.

**\*YES**

Replace the existing service definition. If there is no definition with the same name, a new definition is created.

[Top](#)**Text 'description' (TEXT)**

Specifies text that briefly describes the service definition.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

**\*SYSDFTSVC**

The value of this attribute is taken from the system default service.

**\*BLANK**

The text is set to a blank string.

***description***

Specify the new descriptive information.

[Top](#)**Start program (STRCMD)**

The name of the program to run.

The possible values are:

**\*SYSDFTSVC**

The value of this attribute is taken from the system default service.

***start-command***

The name of the start command executable.

[Top](#)**Start program arguments (STRARG)**

The arguments passed to the program at startup.

The possible values are:

**\*SYSDFTSVC**

The value of this attribute is taken from the system default service.

**\*BLANK**

No arguments are passed to the start command.

***start-command-arguments***

The arguments passed to the start command.

[Top](#)**End program (ENDCMD)**

The name of the executable to run when the service is requested to stop.

The possible values are:

**\*SYSDFTSVC**

The value of this attribute is taken from the system default service.

**\*BLANK**

No end command is executed.

**end-command**

The name of the end command executable.

[Top](#)**End program arguments (ENDARG)**

The arguments passed to the end program when the service is requested to stop.

The possible values are:

**\*SYSDFTSVC**

The value of this attribute is taken from the system default service.

**\*BLANK**

No arguments are passed to the end command.

**end-command-arguments**

The arguments passed to the end command.

[Top](#)**Standard output (STDOUT)**

The path to a file to which the standard output of the service program is redirected.

The possible values are:

**\*SYSDFTSVC**

The value of this attribute is taken from the system default service.

**\*BLANK**

The standard output is discarded.

**stdout-path**

The standard output path.

[Top](#)**Standard error (STDERR)**

The path to a file to which the standard error of the service program is redirected.

The possible values are:

**\*SYSDFTSVC**

The value of this attribute is taken from the system default service.

**\*BLANK**

The standard error is discarded.

**stderr-path**

The standard error path.

[Top](#)**Service type (TYPE)**

Mode in which to run service.

The possible values are:

**\*SYSDFTSVC**

The value for this attribute is taken from the system default service.

**\*CMD**

When started the command is executed but no status is collected or displayed.

**\*SVR**

The status of the executable started will be monitored and displayed.

[Top](#)**Service control (CONTROL)**

Whether the service should be started automatically at queue manager start.

The possible values are:

**\*SYSDFTSVC**

The value for this attribute is taken from the system default service.

**\*MANUAL**

The service will not be automatically started or stopped.

**\*QMGR**

The service will be started and stopped as the queue manager is started and stopped.

**\*STARTONLY**

The service will be started as the queue manager is started, but will not be requested to stop when the queue manager is stopped.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.36. Create MQ Topic (CRTMQMTOPTOP)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Create MQ Topic (CRTMQMTOPTOP) command creates a new MQ topic object, specifying those attributes that are different from the default.

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">TOPNAME</a>	Topic name	<i>Character value</i>	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Key, Positional 2
<a href="#">REPLACE</a>	Replace	<b>*NO</b> , *YES	Optional, Positional 3
<a href="#">TEXT</a>	Text 'description'	<i>Character value, *BLANK, *SYSDFTTOP</i>	Optional, Positional 4
<a href="#">TOPICSTR</a>	Topic string	<i>Character value, *BLANK, *SYSDFTTOP</i>	Optional, Positional 5
<a href="#">DURSUB</a>	Durable subscriptions	<b>*SYSDFTTOP</b> , *ASPARENT, *YES, *NO	Optional, Positional 6
<a href="#">MGDDURMDL</a>	Durable model queue	<i>Character value, *NONE, *SYSDFTTOP</i>	Optional, Positional 7
<a href="#">MGDNDURMDL</a>	Non-durable model queue	<i>Character value, *NONE, *SYSDFTTOP</i>	Optional, Positional 8
<a href="#">PUBENBL</a>	Publish	<b>*SYSDFTTOP</b> , *ASPARENT, *YES, *NO	Optional, Positional 9
<a href="#">SUBENBL</a>	Subscribe	<b>*SYSDFTTOP</b> , *ASPARENT, *YES, *NO	Optional, Positional 10
<a href="#">DFTPTY</a>	Default message priority	0-9, <b>*SYSDFTTOP</b> , *ASPARENT	Optional, Positional 11
<a href="#">DFTMSGPST</a>	Default message persistence	<b>*SYSDFTTOP</b> , *ASPARENT, *YES, *NO	Optional, Positional 12
<a href="#">DFTPUTRESP</a>	Default Put Response	<b>*SYSDFTTOP</b> , *ASPARENT, *SYNC, *ASYN	Optional, Positional 13
<a href="#">WILDCARD</a>	Wildcard behaviour	<b>*SYSDFTTOP</b> , *PASSTHRU, *BLOCK	Optional, Positional 14
<a href="#">PMSGDLV</a>	Persistent message delivery	<b>*SYSDFTTOP</b> , *ASPARENT, *ALL, *ALLDUR, *ALLAVAIL	Optional, Positional 15
<a href="#">NPMMSGDLV</a>	Non-persistent message deliver	<b>*SYSDFTTOP</b> , *ASPARENT, *ALL, *ALLDUR, *ALLAVAIL	Optional, Positional 16

[Top](#)

**Topic name (TOPNAME)**

The name of the new MQ topic object to be created.

The possible values are:

**topic-name**

Specify the name of the new MQ topic object. The name can contain up to 48 characters.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the Queue Manager.

The possible values are:

**\*DFT**

Use the default Queue Manager.

***queue-manager-name***

The name of a Queue Manager.

[Top](#)

**Replace (REPLACE)**

If a topic object with the same name already exists, this specifies whether it is replaced.

The possible values are:

**\*NO**

This object does not replace any existing topic object with the same name. The command fails if the named topic object already exists.

**\*YES**

Replace the existing topic object. If there is no object with the same name, a new object is created.

[Top](#)

**Text 'description' (TEXT)**

Specifies text that briefly describes the topic object.

**Note:** The field length is 64 bytes and the maximum number of characters is reduced if the system is using a double-byte character set (DBCS).

The possible values are:

**\*SYSDFTTOP**

The value of this attribute is taken from the system default topic.

**\*BLANK**

The text is set to a blank string.

***description***

Specify the new descriptive information.

[Top](#)

**Topic string (TOPICSTR)**

Specifies the topic string represented by this topic object definition.

The possible values are:

***topic-string***

Specify a maximum of 256 bytes for the topic string.

**Note:** Topic strings of greater than 256 bytes can be specified using MQSC.

[Top](#)

**Durable subscriptions (DURSUB)**

Specifies whether applications are permitted to make durable subscriptions on this topic.

The possible values are:

**\*SYSDFTTOP**

The value of this attribute is taken from the system default topic.

**\*ASPARENT**

Whether durable subscriptions can be made on this topic is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*YES**

Durable subscriptions can be made on this topic.

**\*NO**

Durable subscriptions cannot be made on this topic.

[Top](#)

**Durable model queue (MGDDURMDL)**

Specifies the name of the model queue to be used for durable subscriptions which request the queue manager manage the destination of publications.

The possible values are:

**\*SYSDFTTOP**

The value of this attribute is taken from the system default topic.

***durable-model-queue***

Specify the name of the model queue.

[Top](#)**Non-durable model queue (MGDNDURMDL)**

Specifies the name of the model queue to be used for non-durable subscriptions which request the queue manager manage the destination of publications.

The possible values are:

**\*SYSDFTTOP**

The value of this attribute is taken from the system default topic.

***non-durable-model-queue***

Specify the name of the model queue.

[Top](#)**Publish (PUBENBL)**

Specifies whether messages can be published to the topic.

The possible values are:

**\*SYSDFTTOP**

The value of this attribute is taken from the system default topic.

**\*ASPARENT**

Whether messages can be published to this topic is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*YES**

Messages can be published to the topic.

**\*NO**

Messages cannot be published to the topic.

[Top](#)**Subscribe (SUBENBL)**

Specifies whether applications are to be permitted to subscribe to this topic.

The possible values are:

**\*SYSDFTTOP**

The value of this attribute is taken from the system default topic.

**\*ASPARENT**

Whether applications can subscribe to this topic is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*YES**

Subscriptions can be made to this topic.

**\*NO**

Applications cannot subscribe to this topic.

[Top](#)**Default message priority (DFTPTY)**

Specifies the default priority of messages published to the topic.

The possible values are:

**\*SYSDFTTOP**

The value of this attribute is taken from the system default topic.

**\*ASPARENT**

The default priority is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

***priority-value***

Specify a value ranging from 0 through 9.

[Top](#)**Default message persistence (DFTMSGPST)**

Specifies the message persistence to be used when applications specify the MQPER\_PERSISTENCE\_AS\_TOPIC\_DEF option.

The possible values are:

**\*SYSDFTTOP**

The value of this attribute is taken from the system default topic.

**\*ASPARENT**

The default persistence is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*YES**

Messages on this queue survive a restart of the queue manager.

**\*NO**

Messages on this queue are lost across a restart of the queue manager.

[Top](#)

### Default Put Response (DFTPUTRESP)

Specifies the type of response required for MQPUT and MQPUT1 calls when applications specify the MQPMO\_RESPONSE\_AS\_Q\_DEF option.

The possible values are:

#### **\*SYSDFTTOP**

The value of this attribute is taken from the system default topic.

#### **\*ASPARENT**

The default response type is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

#### **\*SYNC**

Specifying this value ensures that the put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are issued as if MQPMO\_SYNC\_RESPONSE had been specified instead. Fields in the MQMD and MQPMO are returned by the queue manager to the application.

#### **\*ASYNC**

Specifying this value ensures that the put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are always issued as if MQPMO\_ASYNC\_RESPONSE had been specified instead. Some fields in the MQMD and MQPMO are not returned by the queue manager to the application. An improvement in performance may be seen for messages put in a transaction or any non-persistent messages.

[Top](#)

### Wildcard behaviour (WILDCARD)

Specifies the behaviour of wildcard subscriptions with respect to this topic.

The possible values are:

#### **\*SYSDFTTOP**

The value of this attribute is taken from the system default topic.

#### **\*PASSTHRU**

Subscriptions made to a wildcarded topic less specific than the topic string at this topic object will receive publications made to this topic and to topic strings more specific than this topic.

#### **\*BLOCK**

Subscriptions made to a wildcarded topic less specific than the topic string at this topic object will not receive publications made to this topic or to topic strings more specific than this topic.

[Top](#)

### Persistent message delivery (PMSGDLV)

Specifies the delivery mechanism for persistent messages published to this topic.

The possible values are:

#### **\*SYSDFTTOP**

The value of this attribute is taken from the system default topic.

#### **\*ASPARENT**

The delivery mechanism used is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

#### **\*ALL**

Persistent messages must be delivered to all subscribers, irrespective of durability for the MQPUT call to report success. If a delivery failure to any subscriber occurs, no other subscribers receive the message and the MQPUT call fails.

#### **\*ALLDUR**

Persistent messages must be delivered to all durable subscribers. Failure to deliver a persistent message to any non-durable subscribers does not return an error to the MQPUT call. If a delivery failure to a durable subscriber occurs, no subscribers receive the message and the MQPUT call fails.

#### **\*ALLAVAIL**

Persistent messages are delivered to all subscribers that can accept the message. Failure to deliver the message to any subscriber does not prevent other subscribers from receiving the message.

[Top](#)

### Non-persistent message delivery (NPMSGDLV)

Specifies the delivery mechanism for non-persistent messages published to this topic.

The possible values are:

#### **\*SYSDFTTOP**

The value of this attribute is taken from the system default topic.

#### **\*ASPARENT**

The delivery mechanism used is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

#### **\*ALL**

Non-persistent messages must be delivered to all subscribers, irrespective of durability for the MQPUT call to report success. If a delivery failure to any subscriber occurs, no other subscribers receive the message and the MQPUT call fails.

#### **\*ALLDUR**

Non-persistent messages must be delivered to all durable subscribers. Failure to deliver a persistent message to any non-durable subscribers does not return an error to the MQPUT call. If a delivery failure to a durable subscriber occurs, no subscribers receive the message and the MQPUT call fails.

#### **\*ALLAVAIL**

Non-persistent messages are delivered to all subscribers that can accept the message. Failure to deliver the message to any subscriber does not prevent other subscribers from receiving the message.

[Top](#)

**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.37. Convert MQ Data Type (CVTMQMDTA)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Convert MQ Data Type (CVTMQMDTA) command produces a fragment of code to perform data conversion on data type structures, for use by the data-conversion exit program.

For information on how to use the data-conversion exit, see the WebSphere MQ Application Programming Guide.

Support is provided for the C programming language only.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">FROMFILE</a>	Input file	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Input file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
<a href="#">FROMMBR</a>	Member containing input	<i>Name</i>	Required, Positional 2
<a href="#">TOFILE</a>	File to receive output	<i>Qualified object name</i>	Required, Positional 3
	Qualifier 1: File to receive output	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
<a href="#">TOMBR</a>	Member to receive output	<i>Name, *FROMMBR</i>	Optional, Positional 4
<a href="#">RPLTOMBR</a>	Replace to member	<i>*YES, *NO</i>	Optional, Positional 5

[Top](#)**Input file (FROMFILE)**

Specifies the qualified name of the file, in the form LIBRARY/FILE, that contains the data to convert.

The possible values are:

**\*LIBL**

The library list is searched for the file name.

**\*CURLIB**

The current library is used.

**from-library-name**

Specify the name of the library to be used.

**from-file-name**

Specify the name of the file containing the data to convert.

[Top](#)**Member containing input (FROMMBR)**

Specifies the name of the member containing the data to be converted.

The possible values are:

**from-member-name**

Specifies the name of the member containing the data to convert.

[Top](#)**File to receive output (TOFILE)**

Specifies the qualified name of the file, in the form LIBRARY/FILE, that contains the converted data.

The possible values are:

**\*LIBL**

The library list is searched for the file name.

**\*CURLIB**

The current library is used.



**to-library-name**

Specify the name of the library to be used.

**to-file-name**

Specify the name of the file to contain the converted data.

[Top](#)

**Member to receive output (TOMBR)**

Specifies the name of the member containing the converted data.

The possible values are:

**\*FROMMBR**

The from-member name is used.

**to-member-name**

Specify the name of the member containing the converted data.

[Top](#)

**Replace to member (RPLTOMBR)**

Specifies whether the converted data replaces the existing member.

The possible values are:

**\*YES**

The converted data replaces the existing member.

**\*NO**

The converted data does not replace the existing member.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.38. Delete Message Queue Manager (DLTMQM)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Delete Message Queue Manager (DLTMQM) command deletes the specified local queue manager.

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i>	Required, Positional 1

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

**queue-manager-name**

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

### 11.39. Delete MQ AuthInfo object (DLTMQMAUTI)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Delete MQ AuthInfo object (DLTMQMAUTI) command deletes an existing MQ authentication information object.

[Top](#)

#### Parameters

Keyword	Description	Choices	Notes
<a href="#">AINAME</a>	AuthInfo name	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2

[Top](#)

#### AuthInfo name (AINAME)

The name of the authentication information object to delete.

If an application has this open, the command fails.

The possible values are:

##### **authentication-information-name**

Specify the name of the authentication information object. The maximum string length is 48 characters.

[Top](#)

#### Message Queue Manager name (MQMNAME)

The name of the queue manager.

The possible values are:

##### **\*DFT**

Use the default queue manager.

##### **queue-manager-name**

The name of an existing message queue manager. The maximum string length is 48 characters.

[Top](#)

#### Examples

None

[Top](#)

#### Error messages

Unknown

[Top](#)

### 11.40. Delete MQ Pub/Sub Broker (DLTMQMBRK)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The delete WebSphere MQ broker command (DLTMQMBRK) is used to delete the broker. The broker must be stopped when this command is issued, and the queue manager must be running. If the broker is already started, you must issue ENDMQMBRK before issuing this command. To delete more than one broker in the hierarchy, it is essential that you stop (using the ENDMQMBRK command) and delete each broker one at a time. You should not attempt to stop all the brokers in the hierarchy that you want to delete first and then try to delete them.

[Top](#)

#### Parameters

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value	Required, Positional 1

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.41. Delete MQ Channel (DLTMQMCHL)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Delete MQ Channel (DLTMQMCHL) command deletes the specified channel definition.

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">CHLNAME</a>	Channel name	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">CHLTYPE</a>	Channel type	*RCVR, *SDR, *SVR, *RQSTR, *SVRCN, *CLUSDR, *CLUSRCVR, <b>*NONCLT</b> , *CLTCN	Optional, Positional 3

[Top](#)

**Channel name (CHLNAME)**

Specifies the name of the channel definition.

The possible values are:

**channel-name**

Specify the channel name.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

**message-queue-manager-name**

The name of a message queue manager.

[Top](#)

**Delete MQ Channel (CHLTYPE)**

Specifies the type of the channel to delete.

The possible values are:

**\*NONCLT**

Any channel type, that is not a client-connection channel, that matches the channel name.

**\*SDR**

Sender channel

**\*SVR**

Server channel

**\*RCVR**

Receiver channel

**\*RQSTR**

Requester channel

**\*SVRCN**

Server-connection channel

**\*CLUSSDR**

Cluster-sender channel

**\*CLUSRCVR**

Cluster-receiver channel

**\*CLTCN**

Client-connection channel

[Top](#)

## Examples

None

[Top](#)

## Error messages

Unknown

[Top](#)

## 11.42. Delete MQ Listener (DLTMQMLSR)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Delete MQ Listener object (DSPMQMLSR) command deletes an existing MQ listener object.

[Top](#)

## Parameters

Keyword	Description	Choices	Notes
<a href="#">LSRNAME</a>	Listener name	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2

[Top](#)

### Listener name (LSRNAME)

The name of the listener object to delete.

The possible values are:

***listener-name***

Specify the name of the listener definition. The maximum length of the string is 48 bytes.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the queue manager.

The possible values are:

***\*DFT***

Use the default queue manager.

***queue-manager-name***

The name of a message queue manager.

[Top](#)

## Examples

None

[Top](#)

## Error messages

Unknown

[Top](#)

### 11.43. Delete MQ Namelist (DLTMQMNL)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Delete MQ Namelist (DLTMQMNL) command deletes the specified namelist on the selected local queue manager.

[Top](#)

#### Parameters

Keyword	Description	Choices	Notes
<a href="#">NAMELIST</a>	Namelist	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2

[Top](#)

#### Namelist (NAMELIST)

The name of the namelist to delete.

##### **namelist**

Specify the name of the namelist. The maximum length of the string is 48 bytes.

[Top](#)

#### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

##### **\*DFT**

The default queue manager is used.

##### **message-queue-manager-name**

Specify the name of the queue manager.

[Top](#)

#### Examples

None

[Top](#)

#### Error messages

Unknown

[Top](#)

### 11.44. Delete MQ Process (DLTMQMPRC)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Delete MQ Process (DLTMQMPRC) command deletes an existing MQ process definition.

[Top](#)

#### Parameters

Keyword	Description	Choices	Notes
<a href="#">PRCNAME</a>	Process name	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2

[Top](#)

#### Process name (PRCNAME)

The name of the process definition to delete. If an application has this process open, the command fails.

The possible values are:

##### **process-name**

Specify the name of the process definition. The maximum length of the string is 48 bytes.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

The name of a message queue manager.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.45. Delete MQ Queue (DLTMQMQ)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Delete MQ Queue (DLTMQMQ) command deletes an MQ queue.

If the queue is a local queue, it must be empty for the command to succeed. CLRMQMQ can be used to clear all of the messages from a local queue.

The command fails if an application has:

- This queue open
- A queue that resolves to this queue open
- A queue open that resolves through this definition as a queue manager alias.

An application using the definition as a reply-to queue alias, however, does not cause this command to fail.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">QNAME</a>	Queue name	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2

[Top](#)**Queue name (QNAME)**

The name of the queue.

The possible values are:

**queue-name**

Specify the name of the queue.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)

**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.46. Delete MQ Subscription (DLTMQMSUB)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Delete MQ Subscription (DLTMQMSUB) command deletes an existing MQ subscription.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">SUBID</a>	Subscription identifier	Character value, <b>*NONE</b>	Optional, Positional 1
<a href="#">SUBNAME</a>	Subscription name	Character value, <b>*NONE</b>	Optional, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 3

[Top](#)**Subscription identifier (SUBID)**

The subscription identifier of the subscription to delete.

The possible values are:

***subscription-name***

Specify a maximum of 256 bytes for the subscription name.

**Note:** Subscription names of greater than 256 bytes can be specified using MQSC.

[Top](#)**Subscription name (SUBNAME)**

The name of the subscription to delete.

The possible values are:

***subscription-name***

Specify a maximum of 256 bytes for the subscription name.

**Note:** Subscription names of greater than 256 bytes can be specified using MQSC.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the Queue Manager.

The possible values are:

***\*DFT***

Use the default Queue Manager.

***queue-manager-name***

The name of a Queue Manager.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)

## 11.47. Delete MQ Service (DLTMQMSVC)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Delete MQ Service object (DLTMQMSVC) command deletes an existing MQ service object.

[Top](#)

### Parameters

Keyword	Description	Choices	Notes
<a href="#">SVCNAME</a>	Service name	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2

[Top](#)

### Service name (SVCNAME)

The name of the service object to delete.

The possible values are:

#### **service-name**

Specify the name of the service definition. The maximum length of the string is 48 bytes.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the queue manager.

The possible values are:

#### **\*DFT**

Use the default queue manager.

#### **queue-manager-name**

The name of a message queue manager.

[Top](#)

### Examples

None

[Top](#)

### Error messages

Unknown

[Top](#)

## 11.48. Delete MQ Topic (DLTMQMTOP)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Delete MQ Topic (DLTMQMTOP) command deletes an existing MQ topic object.

[Top](#)

### Parameters

Keyword	Description	Choices	Notes
<a href="#">TOPNAME</a>	Topic name	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2

[Top](#)

### Topic name (TOPNAME)

The name of the topic object to delete. If an application has this topic open, the command fails.

The possible values are:



**topic-name**

Specify the name of the topic object. The maximum length of the string is 48 bytes.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the Queue Manager.

The possible values are:

**\*DFT**

Use the default Queue Manager.

**queue-manager-name**

The name of a Queue Manager.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.49. Disconnect MQ (DSCMQM)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Disconnect Message Queue Manager (DSCMQM) command does not perform any function and is provided only for compatibility with previous releases of WebSphere MQ and MQSeries.

[Top](#)

**Parameters**

None

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.50. Display Message Queue Manager (DSPMQM)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Display Message Queue Manager (DSPMQM) command displays the attributes of the specified local queue manager.

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">OUTPUT</a>	Output	<b>*</b> , *PRINT	Optional, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 2

[Top](#)

**Output (OUTPUT)**

Specifies whether the output from the command is shown at the requesting workstation, or printed with the job's spooled output.

The possible values are:

**\***

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

**\*PRINT**

The output is printed with the job's spooled output.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)

### Examples

None

[Top](#)

### Error messages

Unknown

[Top](#)

## 11.51. Display MQ Object Authority (DSPMQMAUT)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)

[Examples](#)

[Error messages](#)

The Display MQ Authority (DSPMQMAUT) command shows, for the specified object, the current authorizations to the object. If a user ID is a member of more than one group, this command displays the combined authorizations of all of the groups.

- The 48-character MQ object name
- The MQ object type
- Authorizations for object, context and MQI calls

[Top](#)

### Parameters

Keyword	Description	Choices	Notes
<a href="#">OBJ</a>	Object name	<i>Character value</i>	Required, Positional 1
<a href="#">OBJTYPE</a>	Object type	*Q, *ALSQ, *LCLQ, *MDLQ, *RMTQ, *AUTHINFO, *MQM, *NMLIST, *PRC, *LSR, *SVC, *CHL, *CLTCN, *TOPIC	Required, Positional 2
<a href="#">USER</a>	User name	<i>Name</i> , <b>*PUBLIC</b>	Optional, Positional 3
<a href="#">OUTPUT</a>	Output	<b>*</b> , *PRINT	Optional, Positional 4
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 5
<a href="#">SRVCOMP</a>	Service Component name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 6

[Top](#)

### Object name (OBJ)

Specifies the name of the MQ object for which the authorizations are displayed.

[Top](#)

### Object type (OBJTYPE)

Specifies the type of the object for which the authorizations are displayed.

**\*Q**

All queue object types.

**\*ALSQ**

Alias queue.

**\*LCLQ**

Local queue.

**\*MDLQ**

Model queue.

**\*RMTQ**

Remote queue.

**\*AUTHINFO**

Authentication Information object.

**\*MQM**

Message Queue Manager.

**\*NMLIST**

Namelist object.

**\*PRC**

Process definition.

**\*CHL**

Channel object.

**\*CLTCN**

Client Connection Channel object.

**\*LSR**

Listener object.

**\*SVC**

Service object.

**\*TOPIC**

Topic object.

[Top](#)

**User name (USER)**

Specifies the name of the user for whom authorities for the named object are displayed.

The possible values are:

**\*PUBLIC**

All users of the system.

**user-profile-name**

Specify the name of the user.

[Top](#)

**Output (OUTPUT)**

Specifies whether the output from the command is shown at the requesting workstation, or printed with the job's spooled output.

The possible values are:

**\***

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

**\*PRINT**

The output is printed with the job's spooled output.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)

**Service Component name (SRVCOMP)**

Specifies the name of the installed authorization service in which to search for the authority to display.

The possible values are:

**\*DFT**

All installed authorization components are searched for the specified object name, object type and user.

**Authorization-service-component-name**

The component name of the required authorization service as specified in the Queue Manager's qm.ini file.

[Top](#)

**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.52. Display MQ AuthInfo object (DSPMQMAUTI)****Where allowed to run:** All environments (\*ALL)**Threadsafe:** Yes[Parameters](#)[Examples](#)[Error messages](#)

The Display MQ AuthInfo object (DSPMQMAUTI) command displays the attributes of an existing MQ authentication information object.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">A<sup>I</sup>NAME</a>	AuthInfo name	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">OUTPUT</a>	Output	Character value, <b>*</b> , <b>*PRINT</b>	Optional, Positional 3

[Top](#)**AuthInfo name (A<sup>I</sup>NAME)**

The name of the authentication information object to display.

The possible values are:

***authentication-information-name***

Specify the name of the authentication information object. The maximum string length is 48 characters.

[Top](#)**Message Queue Manager name (MQMNAME)**

The name of the queue manager.

The possible values are:

***\*DFT***

Use the default queue manager.

***queue-manager-name***

The name of an existing message queue manager. The maximum string length is 48 characters.

[Top](#)**Output (OUTPUT)**

Specifies whether the output from the command is shown at the requesting workstation or printed with the job's spooled output.

The possible values are:

***\****

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

***\*PRINT***

The output is printed with the job's spooled output.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.53. Display MQ Pub/Sub Broker (DSPMQMBRK)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Display WebSphere MQ broker (DSPMQMBRK) command does not perform any function and is only provided for compatibility with previous releases of WebSphere MQ.

[Top](#)

## Parameters

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i>	Required, Positional 1

[Top](#)

[Top](#)

## Examples

None

[Top](#)

## Error messages

Unknown

[Top](#)

## 11.54. Display MQ Channel (DSPMQMCHL)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Display MQ Channel (DSPMQMCHL) command displays the attributes of an existing MQ channel definition.

[Top](#)

## Parameters

Keyword	Description	Choices	Notes
<a href="#">CHLNAME</a>	Channel name	<i>Character value</i>	Required, Positional 1
<a href="#">OUTPUT</a>	Output	<i>*</i> , *PRINT	Optional, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Positional 3
<a href="#">CHLTYPE</a>	Channel type	*RCVR, *SDR, *SVR, *RQSTR, *SVRCN, *CLUSSDR, *CLUSRCVR, <b>*NONCLT</b> , *CLTCN	Optional, Positional 4

[Top](#)

### Channel name (CHLNAME)

Specifies the name of the channel definition.

The possible values are:

#### **channel-name**

Specify the channel name.

[Top](#)

### Output (OUTPUT)

Specifies whether the output from the command is shown at the requesting workstation or printed with the job's spooled output.

The possible values are:

**\***

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

**\*PRINT**

The output is printed with the job's spooled output.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

***message-queue-manager-name***

The name of a message queue manager.

[Top](#)

## Channel type (CHLTYPE)

Specifies the type of the channel to be displayed.

The possible values are:

**\*NONCLT**

Any channel type, that is not a client-connection channel, that matches the channel name.

**\*SDR**

Sender channel

**\*SVR**

Server channel

**\*RCVR**

Receiver channel

**\*RQSTR**

Requester channel

**\*SVRCN**

Server-connection channel

**\*CLUSSDR**

Cluster-sender channel

**\*CLUSRCVR**

Cluster-receiver channel

**\*CLTCN**

Client-connection channel

[Top](#)

## Examples

None

[Top](#)

## Error messages

Unknown

[Top](#)

## 11.55. Display MQ Command Server (DSPMQMCSVR)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Display MQ Command Server (DSPMQMCSVR) command displays the status of the MQ command server.

The status of the command server can be one of the following:

**Enabled**

Available to process messages

**Disabled**

Not available to process messages

**Starting**

STRMQMCSVR command in progress

**Stopping**

ENDMQMCSVR command in progress

**Stopped**

ENDMQMCSVR command completed

**Running**

Processing a message

**Waiting**

Waiting for a message

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 1

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.56. Display MQ Listener (DSPMQMLSR)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Display MQ Listener object (DSPMQMLSR) command displays the attributes of an existing MQ listener object.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">LSRNAME</a>	Listener name	Character value	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 2
<a href="#">OUTPUT</a>	Output	<b>*</b> , *PRINT	Optional, Positional 3

[Top](#)**Listener name (LSRNAME)**

The name of the listener object to display.

The possible values are:

**listener-name**

Specify the name of the listener definition. The maximum length of the string is 48 bytes.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

The name of a message queue manager.

[Top](#)**Output (OUTPUT)**

Specifies whether the output from the command is shown at the requesting workstation or printed with the job's spooled output.

The possible values are:

**\***

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

**\*PRINT**

The output is printed with the job's spooled output.

[Top](#)

## Examples

None

[Top](#)

## Error messages

Unknown

[Top](#)

## 11.57. Display MQ Namelist (DSPMQMNL)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)

[Examples](#)

[Error messages](#)

The Display MQ Namelist (DSPMQMNL) command displays an MQ namelist.

[Top](#)

## Parameters

Keyword	Description	Choices	Notes
<a href="#">NAMELIST</a>	Namelist	<i>Character value</i>	Required, Positional 1
<a href="#">OUTPUT</a>	Output	<b>*</b> , *PRINT	Optional, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 3

[Top](#)

## Namelist (NAMELIST)

The name of the namelist to be displayed.

**namelist**

Specify the name of the namelist. The maximum length of the string is 48 bytes.

[Top](#)

## Output (OUTPUT)

Specifies whether the output from the command is shown at the requesting workstation or printed with the job's spooled output.

The possible values are:

**\***

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

**\*PRINT**

The output is printed with the job's spooled output.

[Top](#)

## Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

The default queue manager is used.

**message-queue-manager-name**

Specify the name of the queue manager.

[Top](#)

## Examples

None

[Top](#)



**Error messages**

Unknown

[Top](#)**11.58. Display MQ Object Names (DSPMQMOBJN)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Display MQ Object Names (DSPMQMOBJN) command is used to provide the name, type, and fully-qualified file name for a specified MQ object.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">OBJ</a>	Object name	Character value, *ALL	Required, Positional 1
<a href="#">OBJTYPE</a>	Object type	* <b>ALLMQM</b> , *Q, *ALSQ, *LCLQ, *MDLQ, *RMTQ, *AUTHINFO, *CTLG, *CHL, *CLTCN, *SVC, *MQM, *NMLIST, *PRC, *LSR, *TOPIC	Optional, Positional 2
<a href="#">OUTPUT</a>	Output	*, *PRINT	Optional, Positional 3
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, * <b>DFT</b>	Optional, Positional 4

[Top](#)**Object name (OBJ)**

Specifies the name of the objects for which the corresponding name, type and file name to display. It is a 48-character MQ object or generic object name.

The possible values are:

**\*ALL**

All objects of the specified type (OBJTYPE) are displayed.

**generic-object-name**

Specify the generic name of the objects. A generic name is a character string followed by an asterisk (\*). For example, ABC\*. It selects all objects having names that start with the selected character string.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

**object-name**

The name of an object for which the corresponding name and type is to be displayed.

[Top](#)**Object type (OBJTYPE)**

Specifies the type of the objects to be displayed.

The possible values are:

**\*ALLMQM**

All MQ Objects with names specified by OBJ.

**\*Q**

All MQ queues with names specified by OBJ.

**\*ALSQ**

All MQ alias queues with names specified by OBJ.

**\*LCLQ**

All MQ local queues with names specified by OBJ.

**\*MDLQ**

All MQ model queues with names specified by OBJ.

**\*RMTQ**

All MQ remote queues with names specified by OBJ.

**\*AUTHINFO**

All MQ authentication information objects with names specified by OBJ.

**\*CHL**

All MQ channel objects with names specified by OBJ.

**\*CLTCN**

All MQ client connection channel objects with names specified by OBJ.

**\*SVC**

All MQ service objects with names specified by OBJ.

**\*LSR**

All MQ listener objects with names specified by OBJ.

**\*CTLG**

The MQ queue manager catalog object with name specified by OBJ. This has the same name as the queue manager object.

**\*MQM**

The Message Queue Manager object with name specified by OBJ.

**\*NMLIST**

All MQ namelists with names specified by OBJ.

**\*PRC**

All MQ process definitions with names specified by OBJ.

**\*LOBJ**

All MQ listener objects with names specified by OBJ.

**\*TOPIC**

All MQ topic objects with names specified by OBJ.

[Top](#)

**Output (OUTPUT)**

Specifies whether the output from the command is shown at the requesting workstation, or printed with the job's spooled output.

The possible values are:

**\***

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

**\*PRINT**

The output is printed with the job's spooled output.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the MQ queue manager for which object information is to be displayed.

The possible values are:

**\*DFT**

The default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.59. Display MQ Process (DSPMQMPRC)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Display MQ Process (DSPMQMPRC) command displays the attributes of an existing MQ process definition.

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">PRCNAME</a>	Process name	<i>Character value</i>	Required, Positional 1
<a href="#">OUTPUT</a>	Output	<b>*</b> , <b>*PRINT</b>	Optional, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 3

[Top](#)

**Process name (PRCNAME)**

The name of the process definition to be displayed.

The possible values are:

**process-name**

Specify the name of the process definition. The maximum length of the string is 48 bytes.

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**Output (OUTPUT)**

Specifies whether the output from the command is shown at the requesting workstation or printed with the job's spooled output.

The possible values are:

**\***

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

**\*PRINT**

The output is printed with the job's spooled output.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

The name of a message queue manager.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.60. Display MQ Queue (DSPMQMQ)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Display MQ Queue (DSPMQMQ) command displays the attributes of an existing MQ queue definition.

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">QNAME</a>	Queue name	<i>Character value</i>	Required, Positional 1
<a href="#">OUTPUT</a>	Output	<b>*</b> , *PRINT	Optional, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 3

[Top](#)

**Queue name (QNAME)**

The name of the queue.

The possible values are:

**queue-name**

Specify the name of the queue.

[Top](#)

**Output (OUTPUT)**

Specifies whether the output from the command is shown at the requesting work station, or printed with the job's spooled output.

The possible values are:

**\***

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

**\*PRINT**

The output is printed with the job's spooled output.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.61. Display MQ Route Information (DSPMQMRTE)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The DSPMQMRTE command generates a trace route message based on user specified parameters and puts it to a specified queue. One or more reports about the route the message takes to its final destination might be generated, as well as a reply. These will be got from a specified reply queue and the information contained within them will be written to the job's spooled output when it is received.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">QNAME</a>	Target object	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">CRRLLID</a>	Correlation Identifier	Character value, <b>*NONE</b>	Optional, Positional 3
<a href="#">MSGPST</a>	Message Persistence	*YES, <b>*NO</b> , *QUEUE	Optional, Positional 4
<a href="#">MSGPRTY</a>	Message Priority	0-9, <b>*QUEUE</b>	Optional, Positional 5
<a href="#">OPTION</a>	Report Option	Single values: <b>*DFI</b> , *NONE Other values (up to 6 repetitions): *ACTIVITY, *COA, *COD, *DISCARD, *EXCEPTION, *EXPIRATION	Optional, Positional 6
<a href="#">RPLYQ</a>	Reply Queue	Character value, <b>*DFT</b>	Optional, Positional 7
<a href="#">RPLYMQM</a>	Reply Queue Manager	Character value, <b>*DFT</b>	Optional, Positional 8
<a href="#">EXPIRY</a>	Message Expiry	0-999999999, <b>*DFT</b>	Optional, Positional 9
<a href="#">EXPRPT</a>	Pass Expiry	<b>*YES</b> , *NO	Optional, Positional 10
<a href="#">RTEINF</a>	Route Accumulation	*YES, <b>*NO</b>	Optional, Positional 11
<a href="#">RPLYMSG</a>	Reply Message	*YES, <b>*NO</b>	Optional, Positional 12
<a href="#">DLVRMSG</a>	Deliver Message	*YES, <b>*NO</b>	Optional, Positional 13
<a href="#">FWDMSG</a>	Forward Message	<b>*SUPPORT</b> , *ALL	Optional, Positional 14
<a href="#">MAXACTS</a>	Maximum Activities	1-999999999, <b>*NOMAX</b>	Optional, Positional 15
<a href="#">DETAIL</a>	Route Detail	*LOW, <b>*MEDIUM</b> , *HIGH	Optional, Positional 16
<a href="#">BROWSE</a>	Browse Only	*YES, <b>*NO</b>	Optional, Positional 17
<a href="#">DSPMSG</a>	Display Message	<b>*YES</b> , *NO	Optional, Positional 18

<a href="#">TGTMQM</a>	Target Queue Manager	Character value, <b>*DFT</b>	Optional, Positional 19
<a href="#">DSPINF</a>	Display Information	Single values: <b>*ALL</b> , *SUMMARY, *NONE Other values (up to 6 repetitions): *ACTGRP, *ID, *MSGGRP, *MSGDELTA, *OPGRP, *TRGRP	Optional, Positional 20
<a href="#">WAIT</a>	Wait Time	0-999999999, <b>*DFT</b>	Optional, Positional 21
<a href="#">BIND</a>	Bind Option	<b>*OPEN</b> , *NOTFIXED	Optional, Positional 22

[Top](#)**Target object (QNAME)**

Specifies the name of the target queue of the trace route message or, if displaying previously gathered information, the name of the queue storing the information.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**message-queue-manager-name**

Specify the name of the queue manager.

[Top](#)**Correlation Identifier (CRRLID)**

Specifies the CorrelId to use when retrieving previously gathered information. The format of the 24 byte CorrelId is a 48 character hexadecimal string. You must supply a CorrelId if you are retrieving previously gathered information, rather than generating a trace route message.

The possible values are:

**\*NONE**

No CorrelId is supplied.

**correlation-identifier**

The 48 character hexadecimal string representing the 24 byte CorrelId.

[Top](#)**Message Persistence (MSGPST)**

Specifies the persistence of the trace route message.

The possible values are:

**\*NO**

The message will be put with MQPER\_NOT\_PERSISTENT.

**\*YES**

The message will be put with MQPER\_PERSISTENT.

**\*QUEUE**

The message will be put with MQPER\_PERSISTENCE\_AS\_Q\_DEF.

[Top](#)**Message Priority (MSGPRTY)**

Specifies the priority of the trace route message.

The possible values are:

**\*QUEUE**

The message will be put with MQPRI\_PRIORITY\_AS\_Q\_DEF.

**message-priority**

The priority of the message ranging 0 through 9.

[Top](#)**Report Option (OPTION)**

Specifies the report options of the trace route message. Reports generated on a non trace route enabled queue manager can potentially remain in the network undelivered, which is why most report options are disabled by default. By requesting full data to be returned, it allows the trace route information contained in the message to be returned in the result of a problem.

The possible values are:

**\*DFT**

Turns on MQRO\_ACTIVITY and MQRO\_DISCARD\_MSG.

**\*NONE**

No report options are set.

**\*ACTIVITY**

Turns on MQRO\_ACTIVITY.

**\*COA**

Turns on MQRO\_COA\_WITH\_FULL\_DATA.

**\*COD**

Turns on MQRO\_COD\_WITH\_FULL\_DATA.

**\*DISCARD**

Turns on MQRO\_DISCARD\_MSG.

**\*EXCEPTION**

Turns on MQRO\_EXCEPTION\_WITH\_FULL\_DATA.

**\*EXPIRATION**

Turns on MQRO\_EXPIRATION\_WITH\_FULL\_DATA.

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**Reply Queue (RPLYQ)**

Specifies the name of the reply queue to which the reply and all report messages should be sent. This must exist on the local queue manager unless the RPLYMQM parameter is also specified. The reply queue should not be a temporary queue if the trace route message is to be persistent.

The possible values are:

**\*DFT**

The SYSTEM.DEFAULT.MODEL.QUEUE is used and the reply queue is by default a temporary dynamic queue.

***reply-queue***

The name of the reply queue to use.

[Top](#)

**Reply Queue Manager (RPLYMQM)**

Specifies the queue manager to which replies are sent.

The possible values are:

**\*DFT**

Replies are sent to the local queue manager.

***reply-queue-manager***

The name of the reply to queue manager.

[Top](#)

**Message Expiry (EXPIRY)**

Specifies the Expiry time, in seconds, of the trace route message.

The possible values are:

**\*DFT**

The default expiry time of 60 seconds is used.

***expiry-time***

The expiry time of the message ranging from 0 through 999999999.

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**Pass Expiry (EXRPT)**

Specifies whether the expiry of the trace route message is passed to reports or the reply message. This effectively turns MQRO\_PASS\_DISCARD\_AND\_EXPIRY on and off. This allows users to keep the reports indefinitely if required.

The possible values are:

**\*YES**

Expiry is passed to reports or the reply message.

**\*NO**

Expiry is not passed to reports or the reply message.

[Top](#)

**Route Accumulation (RTEINF)**

Specifies that the route information is accumulated within the trace route message as it flows through the queue manager network.

The possible values are:

**\*NO**

No information is accumulated within the trace route message.

**\*YES**

Information is accumulated within the trace route message.

[Top](#)

### Reply Message (RPLYMSG)

Requests that a reply message containing all accumulated information is returned to the reply to queue when the trace route message reaches its final destination (if this is permitted by the queue manager hosting the final destination queue).

The possible values are:

**\*NO**

No reply message is returned.

**\*YES**

A reply message is returned to the the reply to queue.

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### Deliver Message (DLVRMSG)

Specifies whether the trace route message is delivered to getting applications if the message successfully arrives at the destination queue.

The possible values are:

**\*NO**

If the trace route message successfully arrives at the target queue it is not delivered to getting applications.

**\*YES**

The trace route message is delivered to a getting application if the message successfully arrives at the target queue. Specifying this option effectively gives permission for the message to arrive on a queue manager, whether it supports trace route or not.

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### Forward Message (FWDMSG)

Specifies whether the trace route message is forwarded to the next queue manager in the route.

The possible values are:

**\*SUPPORT**

The trace route message is forwarded only to queue managers that can ensure that the delivery option is honoured.

**\*ALL**

The trace route message is forwarded on without any regard given to the next queue manager in the route. This option can be used to force a non-trace route enabled queue manager to accept trace route messages, even when they cannot process them in line with the delivery option.

[Top](#)

### Maximum Activities (MAXACTS)

Specifies the maximum number of activities that can take place on the trace route message before it is discarded.

The possible values are:

**\*NOMAX**

No maximum number of activities are specified.

***maximum-activities***

The maximum number of activities ranging from 1 through 999999999.

[Top](#)

### Route Detail (DETAIL)

Specifies how much detail about the route is requested.

The possible values are:

**\*LOW**

At this level of detail no information about queue manager activities is requested. This gives a very high level view of what user activity has taken place on the message.

**\*MEDIUM**

Low detail information, as well as information on the movements of the message within the queue manager is requested. This includes the work of the MCA.

**\*HIGH**

Low and medium detail, as well as more detailed information about the route the message took is requested. For example, in clustering this might include detail about why the route was chosen.

[Top](#)

### Browse Only (BROWSE)

Specifies whether messages returned are browsed only. This means that the information remains on the queue for future display operations.

The possible values are:

**\*NO**

Messages returned are not browse only.

**\*YES**

Messages returned are browse only.

[Top](#)

### Display Message (DSPMSG)

Specifies whether when a trace route message is generated the information returned is displayed.

The possible values are:

**\*YES**

The returned information is displayed.

**\*NO**

The returned information is not displayed. This allows DSPQMRTTE to exit as soon as the trace route message has been put to the target queue. On exit, a 48 character hexadecimal string is output, which is the MsgId on the trace route message that was generated and can be used as the CRRLID supplied to a subsequent DSPQMRTTE call.

[Top](#)

### Target Queue Manager (TGTMQM)

Specifies the target queue manager for the trace route message.

The possible values are:

**\*DFT**

No target queue manager is specified. Either the destination queue is a local queue, or there is a local definition of the queue.

***target-queue-manager***

The target queue manager for the trace route message.

[Top](#)

### Display Information (DSPINF)

Specifies how much of the information gathered should be displayed.

The possible values are:

**\*ALL**

All available information is displayed.

**\*SUMMARY**

Displays only the queues which the message was routed through.

**\*NONE**

None of the available information will be displayed.

**\*ACTGRP**

All non-group parameters in the Activity groups will be displayed.

**\*ID**

Values with parameters identifiers MQBACF\_MSG\_ID or MQBACF\_CORREL\_ID are always displayed. This overrides \*MSGDELTA which normally prevents certain values in the Message groups from being displayed.

**\*MSGGRP**

All non-group parameters in the Message groups are displayed.

**\*MSGDELTA**

Like \*MSGGRP, except that information in the Message groups is only displayed where it has changed since the last operation took place.

**\*OPGRP**

All non-group parameters in the Operation groups are displayed.

**\*TRGRP**

All parameters in the TraceRoute groups are displayed.

[Top](#)

### Wait Time (WAIT)

Specifies how long, in seconds, that DSPQMRTTE should wait before assuming that all a reply message or all the reports (depending on the options specified) that were generated en route that can be delivered to the reply queue have now done so.

The possible values are:

**\*DFT**

DSPQMRTTE waits for 60 seconds longer than the Expiry time of the trace route message.

***wait-time***

The time that DSPQMRTTE should wait.

[Top](#)

### Bind Option (BIND)

Specifies whether the target queue is bound to a specific destination.

The possible values are:

**\*OPEN**

The target queue is bound to a specific destination. The queue is opened with option MQOO\_BIND\_ON\_OPEN.

**\*NOTFIXED**

The target queue is not bound to a specific destination. Typically this parameter is used when the trace route message is to be put across a cluster. The queue is opened with option MQOO\_BIND\_NOT\_FIXED.

[Top](#)



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**Examples**

None

[Top](#)

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**Error messages**

Unknown

[Top](#)**11.62. Display Queue Manager Status (DSPMQMSTS)****Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Display Message Queue Manager Status (DSPMQMSTS) command displays the status attributes of the specified local queue manager.

[Top](#)

---

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Key, Positional 1
<a href="#">OUTPUT</a>	Output	<b>*</b> , *PRINT	Optional, Positional 2

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)**Output (OUTPUT)**

Specifies whether the output from the command is shown at the requesting workstation, or printed with the job's spooled output.

The possible values are:

**\***

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

**\*PRINT**

The output is printed with the job's spooled output.

[Top](#)

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**Examples**

None

[Top](#)

---

**Error messages**

Unknown

[Top](#)**11.63. Display MQ Subscription (DSPMQMSUB)****Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Display MQ Subscription (DSPMQMSUB) command displays the attributes of an existing MQ subscription.

[Top](#)

---

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">SUBID</a>	Subscription identifier	Character value, <b>*NONE</b>	Optional, Positional 1
<a href="#">SUBNAME</a>	Subscription name	Character value, <b>*NONE</b>	Optional, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 3
<a href="#">OUTPUT</a>	Output	<b>*</b> , <b>*PRINT</b>	Optional, Positional 4

[Top](#)**Subscription identifier (SUBID)**

The subscription identifier of the subscription to be displayed.

The possible values are:

**subscription-name**

Specify a maximum of 256 bytes for the subscription name.

**Note:** Subscription names of greater than 256 bytes can be specified using MQSC.

[Top](#)**Subscription name (SUBNAME)**

The name of the subscription to be displayed.

The possible values are:

**subscription-name**

Specify a maximum of 256 bytes for the subscription name.

**Note:** Subscription names of greater than 256 bytes can be specified using MQSC.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the Queue Manager.

The possible values are:

**\*DFT**

Use the default Queue Manager.

**queue-manager-name**

The name of a Queue Manager.

[Top](#)**Output (OUTPUT)**

Specifies whether the output from the command is shown at the requesting workstation or printed with the job's spooled output.

The possible values are:

**\***

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

**\*PRINT**

The output is printed with the job's spooled output.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.64. Display MQ Service (DSPMQMSVC)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Display MQ Service object (DSPMQMSVC) command displays the attributes of an existing MQ service object.

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">SVCNAME</a>	Service name	<i>Character value</i>	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Key, Positional 2
<a href="#">OUTPUT</a>	Output	<i>*, *PRINT</i>	Optional, Positional 3

[Top](#)**Service name (SVCNAME)**

The name of the service object to display.

The possible values are:

***service-name***

Specify the name of the service definition. The maximum length of the string is 48 bytes.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

***\*DFT***

Use the default queue manager.

***queue-manager-name***

The name of a message queue manager.

[Top](#)**Output (OUTPUT)**

Specifies whether the output from the command is shown at the requesting work station or printed with the job's spooled output.

The possible values are:

***\****

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

***\*PRINT***

The output is printed with the job's spooled output.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.65. Display MQ Topic (DSPMQMTOP)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Display MQ Topic (DSPMQMTOP) command displays the attributes of an existing MQ topic object.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">TOPNAME</a>	Topic name	<i>Character value</i>	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Positional 2
<a href="#">OUTPUT</a>	Output	<i>*, *PRINT</i>	Optional, Positional 3

[Top](#)

**Topic name (TOPNAME)**

The name of the topic object to be displayed.

The possible values are:

**topic-name**

Specify the name of the topic object. The maximum length of the string is 48 bytes.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the Queue Manager.

The possible values are:

**\*DFT**

Use the default Queue Manager.

**queue-manager-name**

The name of a Queue Manager.

[Top](#)

**Output (OUTPUT)**

Specifies whether the output from the command is shown at the requesting workstation or printed with the job's spooled output.

The possible values are:

**\***

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

**\*PRINT**

The output is printed with the job's spooled output.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.66. Display MQ Version (DSPMQMVER)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Display MQ Version (DSPMQMVER) command provides the current MQ version.

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">OUTPUT</a>	Output	*, *PRINT	Optional, Positional 1

[Top](#)

**Output (OUTPUT)**

Specifies whether the output from the command is shown at the requesting workstation, or printed with the job's spooled output.

The possible values are:

**\***

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

**\*PRINT**

The output is printed with the job's spooled output.

[Top](#)

**Examples**

None

[Top](#)

## Error messages

Unknown

[Top](#)

### 11.67. End Message Queue Manager (ENDMQM)

**Where allowed to run:** All environments (\*ALL)**Threadsafe:** Yes[Parameters](#)  
[Examples](#)  
[Error messages](#)

The End Message Queue Manager (ENDMQM) command ends the specified local message queue manager or all queue managers. The attributes of the message queue managers are not affected and it can be restarted using the Start Message Queue Manager (STRMQM) command.

You can also use this command to fully quiesce all application programs connected to the queue manager or all queue managers.

The ENDMQM command's default parameters should not be changed with the CHGCMDDFT (Change Command Default) command.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 1
<a href="#">OPTION</a>	Option	<b>*CNTRL</b> D, *IMMED, *WAIT, *PREEMPT	Optional, Positional 2
<a href="#">INSTANCE</a>	Instance To End	<b>*ALL</b> , *STANDBY	Optional, Positional 3
<a href="#">ALWSWITCH</a>	Allow Switchover	<b>*NO</b> , *YES	Optional, Positional 4
<a href="#">RECONN</a>	Reconnect	<b>*NO</b> , *YES	Optional, Positional 5
<a href="#">ENDCCTJOB</a>	End connected jobs	<b>*NO</b> , *YES	Optional, Positional 6
<a href="#">RCDMQMIMG</a>	Record MQ Object Image	*NO, <b>*YES</b>	Optional, Positional 7
<a href="#">TIMEOUT</a>	Timeout interval (seconds)	0-3600, <b>30</b>	Optional, Positional 8

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

#### **\*DFT**

Use the default queue manager.

#### **queue-manager-name**

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

#### **\*ALL**

All queue managers are ended.

[Top](#)

### Option (OPTION)

Specifies whether processes that are connected to the queue manager are allowed to complete.

The possible values are:

#### **\*CNTRL**D

Allow programs currently being processed to complete. An MQCONN call (or an MQOPEN or MQPUT1, which perform an implicit connection) fails. If ENDCCTJOB(\*YES) is specified, a controlled shutdown of the queue manager is attempted ten times. If the queue manager shuts down successfully, it is followed by immediate termination of the processes that are still connected to it.

#### **\*IMMED**

End the queue manager immediately. All current MQI calls complete, but subsequent requests for MQI calls fail. Incomplete units of work are rolled back when the queue manager is next started. If ENDCCTJOB(\*YES) is specified, a controlled shutdown of the queue manager is followed if necessary, after an interval of TIMEOUT seconds, by an immediate shutdown of the queue manager. This is followed by immediate termination of processes connected to it.

#### **\*WAIT**

End the queue manager in the same way as the \*CNTRL option. However, control is returned only after the queue manager has stopped. This option is not allowed with MQMNAME(\*ALL). If ENDCCTJOB(\*YES) is specified, a single controlled shutdown of the queue manager is issued, which waits for all processes to disconnect. When this completes it is followed by the actions described in the ENDCCTJOB parameter.

#### **\*PREEMPT**

**Use this type of shutdown only in exceptional circumstances** The queue manager stops without waiting for applications to disconnect or for MQI calls to complete. This can give unpredictable results for WebSphere MQ applications. All processes in the queue manager that fail to stop are ended 30 seconds after the command is issued. This option is not allowed with ENDCCTJOB(\*YES).

[Top](#)

### Instance To End (INSTANCE)

Specifies whether to end all instances of a queue manager, or to end just a standby queue manager instance.

The possible values are:

#### **\*ALL**

All instances of a queue manager are to be ended. This option can only be requested against a non-standby queue manager instance.

If a standby instance is running elsewhere, the ALWSWITCH parameter on the ENDMQM command will control whether the standby instance is itself ended.

#### **\*STANDBY**

Only the standby queue manager instance should be ended, any active queue manager instance will continue to run. This option can only be requested against a standby queue manager instance.

[Top](#)

### Allow Switchover (ALWSWITCH)

Specifies whether switchover to a standby instance of the queue manager is allowed when the active queue manager instance has ended.

The possible values are:

#### **\*NO**

Switchover to a standby queue manager instance is not allowed. Any standby instances that are running will also end on successful completion of this command. P.:. Reconnectable client applications connected to this queue manager are instructed to disconnect.

#### **\*YES**

Switchover to a standby queue manager instance is attempted, if a standby queue manager instance is not running this command will fail and the active queue manager instance will remain active.

Reconnectable client applications connected to this queue manager instance are instructed to begin reconnect processing, to maintain connectivity.

[Top](#)

### Reconnect (RECONN)

Specifies whether client applications currently connected to this queue manager should attempt to reconnect to a queue manager instance.

The possible values are:

#### **\*NO**

Reconnectable client applications connected to this queue manager are instructed to disconnect.

#### **\*YES**

Reconnectable client applications connected to this queue manager are instructed to begin reconnect processing, to maintain connectivity.

[Top](#)

### End connected jobs (ENDCCTJOB)

Specifies whether all processes connected to the queue manager are forcibly terminated.

The possible values are:

#### **\*NO**

The queue manager or queue managers are ended but no further action is taken.

#### **\*YES**

The following steps are taken for each queue manager to be ended:

- If the queue manager is running and RCDMQMIMG(\*YES) has been specified, media images for all objects defined for the queue manager are recorded.
- The queue manager is ended in the appropriate manner (\*CNTRL, \*WAIT, or \*IMMED).
- All shared memory and semaphores used by the queue manager are deleted irrespective of whether applications have disconnected from the queue manager. Applications that have not disconnected from a shared memory resource when this option is specified receive a return code of MQRC\_CONNECTION\_BROKEN (2009) the next time an MQI call is issued with an existing connection handle.

[Top](#)

### Record MQ Object Image (RCDMQMIMG)

Specifies whether media images are recorded for a queue manager.

The possible values are:

#### **\*YES**

If the queue manager is running, media images for all queue manager objects are recorded.

#### **\*NO**

Media images of queue manager objects are not recorded as part of the quiesce.

[Top](#)

### Timeout interval (seconds) (TIMEOUT)

Specifies the time interval in seconds between the controlled and immediate shutdowns of the queue manager when \*IMMED is specified. It also determines the number of seconds between attempts to shut down the queue manager when \*CNTRL is specified.

The possible values are:

### 30

The default value is 30 seconds.

#### **timeout-interval**

Specify a value in seconds, in the range 0 through 3600.

[Top](#)

### Examples

None

[Top](#)

### Error messages

Unknown

[Top](#)

## 11.68. End MQ Pub/Sub Broker (ENDMQMBRK)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The End WebSphere MQ Broker (ENDMQMBRK) command is used to stop a broker.

[Top](#)

### Parameters

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i>	Required, Positional 1
<a href="#">OPTION</a>	Option	<b>*CNTRLD</b> , *IMMED	Optional, Positional 2

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the queue manager.

#### **queue-manager-name**

Specify the name of the queue manager.

[Top](#)

### Option (OPTION)

Specifies how the broker is ended.

The possible values are:

#### **\*CNTRLD**

Allows the broker to complete processing for any message that it has already started.

#### **\*IMMED**

Ends the broker immediately. The broker does not attempt any further gets or puts, and backs out any in-flight units-of-work. This might mean that a nonpersistent input message is published only to a subset of subscribers, or lost, depending on the broker configuration parameters.

[Top](#)

### Examples

None

[Top](#)

### Error messages

Unknown

[Top](#)

## 11.69. End MQ Channel (ENDMQMCHL)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The End MQ Channel (ENDMQMCHL) command closes an MQ channel, and the channel is no longer enabled for automatic restarts.

[Top](#)

## Parameters

Keyword	Description	Choices	Notes
<a href="#">CHLNAME</a>	Channel name	<i>Character value</i>	Required, Positional 1
<a href="#">OPTION</a>	Option	<b>*CNTRLD</b> , *IMMED, *ABNORMAL	Optional, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 3
<a href="#">STATUS</a>	Channel status	<b>*STOPPED</b> , *INACTIVE	Optional, Positional 4
<a href="#">CONNAME</a>	Connection name	<i>Character value</i> , <b>*NONE</b>	Optional, Positional 5
<a href="#">RQMNAME</a>	Remote queue manager	<i>Character value</i> , <b>*NONE</b>	Optional, Positional 6

[Top](#)

### Channel name (CHLNAME)

Specifies the name of the channel definition.

The possible values are:

#### **channel-name**

Specify the channel name.

[Top](#)

### Option (OPTION)

Specifies whether processing for the current batch of messages is allowed to finish in a controlled manner.

The possible values are:

#### **\*CNTRLD**

Allows processing of the current batch of messages to complete. No new batch is allowed to start.

#### **\*IMMED**

Ends processing of the current batch of messages immediately. This is likely to result in 'in-doubt' situations.

#### **\*ABNORMAL**

Ends processing of the current batch of messages immediately and terminates the channel thread or job. This is likely to result in 'in-doubt' situations.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

#### **\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

#### **message-queue-manager-name**

The name of a message queue manager.

[Top](#)

### Channel status (STATUS)

Specifies the required status of the channel after successful completion of the command.

The possible values are:

#### **\*STOPPED**

The channel status is set to STOPPED.

#### **\*INACTIVE**

The channel status is set to INACTIVE.

[Top](#)

### Connection name (CONNAME)

Specifies the connection name of the channel instance that you want to end.

[Top](#)

### Remote queue manager (RQMNAME)

Specifies the name of the remote queue manager of the channel instance that you want to end.



[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.70. End Queue Manager Connection (ENDMQMCONN)****Where allowed to run:** All environments (\*ALL)**Threadsafe:** Yes[Parameters](#)  
[Examples](#)  
[Error messages](#)

The End MQ Connections (ENDMQMCONN) command allows you to end a connection to the queue manager.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">CONN</a>	Connection Identifier	<i>Character value</i>	Required, Key, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Positional 2

[Top](#)**Connection Identifier (CONN)**

The connection identifier to end.

The connection identifier is a 16 character hex string.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

***queue-manager-name***

The name of a message queue manager.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.71. End MQ Command Server (ENDMQMCSVR)****Where allowed to run:** All environments (\*ALL)**Threadsafe:** Yes[Parameters](#)  
[Examples](#)  
[Error messages](#)

The End MQ Command Server (ENDMQMCSVR) command stops the MQ command server for the specified local queue manager.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
---------	-------------	---------	-------

<a href="#">MQMNAME</a>	Message Queue Manager name	Character value	Required, Positional 1
<a href="#">OPTION</a>	Option	<b>*CNTRLD</b> , *IMMED	Optional, Positional 2

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)**Option (OPTION)**

Specifies whether the command message currently being processed is allowed to complete.

The possible values are:

**\*CNTRLD**

Allows the command server to complete processing any command message that it has already started. No new message is read from the queue.

**\*IMMED**

Ends the command server immediately. Any action associated with a command message currently being processed might not be completed.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.72. End MQ Listeners (ENDMQMLSR)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)[Examples](#)[Error messages](#)

The End MQ Listener (ENDMQMLSR) command ends an MQ TCP/IP listener.

This command is valid only for TCP/IP transmission protocols.

Either a listener object or specific port can be specified.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 1
<a href="#">PORT</a>	Port number	1-65535, *ALL	Optional, Positional 2
<a href="#">OPTION</a>	Option	<b>*CNTRLD</b> , *WAIT, *FORCE	Optional, Positional 3
<a href="#">LSRNAME</a>	Listener name	Character value, <b>*NONE</b>	Optional, Positional 4

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

The name of a message queue manager.

[Top](#)**Port number (PORT)**

The port number to be used by the listener.

The possible values are:

**\*SAME**

The attribute is unchanged.

**port-number**

The port number to be used.

[Top](#)

### Option (OPTION)

Specifies the action taken after processes to end the listeners have been started.

**\*CNTRLD**

Processes are started to end all the listeners for the specified queue manager and control is returned before the listeners actually end.

**\*WAIT**

End the listeners for the specified queue manager in the same way as the \*CNTRLD option. However, control is returned only after all the listeners have ended.

[Top](#)

### Listener name (LSRNAME)

The name of the MQ listener object to end.

The possible values are:

**\*NONE**

No listener object is specified.

**listener-name**

Specify the name of the listener definition. The maximum length of the string is 48 bytes.

[Top](#)

### Examples

None

[Top](#)

### Error messages

Unknown

[Top](#)

## 11.73. End MQ Service (ENDMQMSVC)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The End MQ Service (ENDMQMSVC) command ends an MQ service.

[Top](#)

### Parameters

Keyword	Description	Choices	Notes
<a href="#">SVCNAME</a>	Service name	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2

[Top](#)

### Service name (SVCNAME)

The name of the MQ service object to end.

The possible values are:

**\*NONE**

No service object is specified.

**service-name**

Specify the name of the service definition. The maximum length of the string is 48 bytes.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

The name of a message queue manager.

[Top](#)

## Examples

None

[Top](#)

## Error messages

Unknown

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## 11.74. Grant MQ Object Authority (GRTMQMAUT)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Grant MQ Authority (GRTMQMAUT) command is used to grant specific authority for the MQ objects named in the command to another user or group of users.

Authority can be given to:

- Named users.
- Users (\*PUBLIC) who do not have authority specifically given to them.
- Groups of users who do not have any authority to the object.

The GRTMQMAUT command can be used by anyone in the QMQMADM group, that is, anyone whose user profile specifies QMQMADM as a primary or supplemental group profile.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">OBJ</a>	Object name	<i>Character value</i>	Required, Positional 1
<a href="#">OBJTYPE</a>	Object type	*ALL, *Q, *ALSQ, *LCLQ, *MDLQ, *RMTQ, *AUTHINFO, *MQM, *NMLIST, *PRC, *LSR, *SVC, *CHL, *CLTCN, *TOPIC	Required, Positional 2
<a href="#">USER</a>	User names	Single values: *PUBLIC Other values (up to 50 repetitions): <i>Name</i>	Required, Positional 3
<a href="#">AUT</a>	Authority	Values (up to 22 repetitions): *ALTUSR, *BROWSE, *CONNECT, *GET, *INQ, *PUT, *SET, *PUB, *SUB, *RESUME, *PASSALL, *PASSID, *SETALL, *SETID, *ADMCHG, *ADMCLR, *ADMCR, *ADMCLT, *ADMDS, *ALL, *ALLADM, *ALLMQI, *NONE, *CTRL, *CTRLX, *SYSTEM	Required, Positional 4
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 5
<a href="#">SRVCOMP</a>	Service Component name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 6

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## Object name (OBJ)

Specifies the name of the objects for which specific authorities are granted.

The possible values are:

**\*ALL**

All objects of the type specified by the value of the OBJTYPE parameter at the time the command is issued. \*ALL cannot represent a generic profile.

**object-name**

Specify the name of an MQ object for which specific authority is given to one or more users.

**generic profile**

Specify the generic profile of the objects to be selected. A generic profile is a character string containing one or more generic characters anywhere in the string. This profile is used to match the object name of the object under consideration at the time of use. The generic characters are (?), (\*) and (\*\*).

? matches a single character in an object name.

\* matches any string contained within a qualifier, where a qualifier is the string between fullstops (.). For example ABC\* matches ABCDEF but not ABCDEF.XYZ.

\*\* matches one or more qualifiers. For example ABC.\*\*.XYZ matches ABC.DEF.XYZ and ABC.DEF.GHI.XYZ, \*\* can only appear once in a generic profile.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

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## Object type (OBJTYPE)

Specifies the type of the objects for which specific authorities are granted.

### \*ALL

All MQ object types.

### \*Q

All queue object types.

### \*ALSQ

Alias queue.

### \*LCLQ

Local queue.

### \*MDLQ

Model queue.

### \*RMTQ

Remote queue.

### \*AUTHINFO

Authentication Information object.

### \*MQM

Message Queue Manager.

### \*NMLIST

Namelist object.

### \*PRC

Process definition.

### \*CHL

Channel object.

### \*CLTCN

Client Connection Channel object.

### \*LSR

Listener object.

### \*SVC

Service object.

### \*TOPIC

Topic object.

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## User names (USER)

Specifies the name or names of users to whom authorities for the named object are being given. If user names are specified, the authorities are given specifically to those users. Authority given by this command can be revoked specifically by the Revoke MQ Authority (RVKMQMAUT) command.

### \*PUBLIC

All users of the system.

### *user-profile-name*

Specify the names of one or more users who are to be granted specific authority for the object. You can specify up to 50 user profile names.

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## Authority (AUT)

Specifies the authority being given to the named users. Values for AUT can be specified as a list of specific and general authorities in any order, where the general authorities can be:

\*NONE, which creates a profile for the user with no authority to the specified object, or leaves the authority unchanged if a profile already exists.

\*ALL, which confers all authorities to the specified users.

\*ALLADM, which confers all of \*ADMCHG, \*ADMCLR, \*ADMCR, \*ADMCLT, \*ADMDS, \*CTRL and \*CTRLX.

\*ALLMQI, which confers all of \*ALTUSR, \*BROWSE, \*CONNECT, \*GET, \*INQ, \*PUT, \*SET, \*PUB, \*SUB and \*RESUME.

### Authorizations for different object types

#### \*ALL

All authorizations. Applies to all objects.

#### \*ADMCHG

Change an object. Applies to all objects.

#### \*ADMCLR

Clear a queue. Applies to queues only.

#### \*ADMCR

Create an object. Applies to all objects.

#### \*ADMCLT

Delete an object. Applies to all objects.

**\*ADM DSP**

Display the attributes of an object. Applies to all objects.

**\*ALLADM**

Perform administration operations on an object. Applies to all objects.

**\*ALLMQI**

Use all MQI calls applicable to an object. Applies to all objects.

**\*ALTUSR**

Allow another user's authority to be used for MQOPEN and MQPUT1 calls. Applies to queue manager objects only.

**\*BROWSE**

Retrieve a message from a queue by issuing an MQGET call with the BROWSE option. Applies to queue objects only.

**\*CONNECT**

Connect the application to a queue manager by issuing an MQCONN call. Applies to queue manager objects only.

**\*CTRL**

Control startup and shutdown of channels, listeners and services.

**\*CTRLX**

Reset sequence number and resolve indoubt channels.

**\*GET**

Retrieve a message from a queue using an MGET call. Applies to queue objects only.

**\*INQ**

Make an inquiry on an object using an MQINQ call. Applies to all objects.

**\*PASSALL**

Pass all context on a queue. Applies to queue objects only.

**\*PASSID**

Pass identity context on a queue. Applies to queue objects only.

**\*PUT**

Put a message on a queue using an MQPUT call. Applies to queue objects only.

**\*SET**

Set the attributes of an object using an MQSET call. Applies to queue, queue manager, and process objects only.

**\*SETALL**

Set all context on an object. Applies to queue and queue manager objects only.

**\*SETID**

Set identity context on an object. Applies to queue and queue manager objects only.

**\*SYSTEM**

Connect the application to a queue manager for system operations. Applies to queue manager objects only.

**Authorizations for MQI calls**

**\*ALTUSR**

Allow another user's authority to be used for MQOPEN and MQPUT1 calls.

**\*BROWSE**

Retrieve a message from a queue by issuing an MQGET call with the BROWSE option.

**\*CONNECT**

Connect the application to the specified queue manager by issuing an MQCONN call.

**\*GET**

Retrieve a message from a queue by issuing an MQGET call.

**\*INQ**

Make an inquiry on a specific queue by issuing an MQINQ call.

**\*PUT**

Put a message on a specific queue by issuing an MQPUT call.

**\*SET**

Set attributes on a queue from the MQI by issuing an MQSET call.

**\*PUB**

Open a topic to publish a message using the MQPUT call.

**\*SUB**

Create, Alter or Resume a subscription to a topic using the MQSUB call.

**\*RESUME**

Resume a subscription using the MQSUB call.

If you open a queue for multiple options, you must be authorized for each of them.

**Authorizations for context**

**\*PASSALL**

Pass all context on the specified queue. All the context fields are copied from the original request.

**\*PASSID**

Pass identity context on the specified queue. The identity context is the same as that of the request.

**\*SETALL**

Set all context on the specified queue. This is used by special system utilities.

**\*SETID**

Set identity context on the specified queue. This is used by special system utilities.

**Authorizations for MQSC and PCF commands**

**\*ADMCHG**

Change the attributes of the specified object.

**\*ADMCLR**

Clear the specified queue (PCF Clear queue command only).

**\*ADMCRRT**

Create objects of the specified type.

**\*ADMDLT**

Delete the specified object.

**\*ADMDSP**

Display the attributes of the specified object.

**\*CTRL**

Control startup and shutdown of channels, listeners and services.

**\*CTRLX**

Reset sequence number and resolve indoubt channels.

**Authorizations for generic operations**

**\*ALL**

Use all operations applicable to the object.

**\*ALLADM**

Perform all administration operations applicable to the object.

**\*ALLMQI**

Use all MQI calls applicable to the object.

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**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

**\*DFT**

Use the default queue manager.

***queue-manager-name***

Specify the name of the queue manager.

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**Service Component name (SRVCOMP)**

Specifies the name of the installed authorization service to which the authorizations apply.

The possible values are:

**\*DFT**

Use the first installed authorization component.

***Authorization-service-component-name***

The component name of the required authorization service as specified in the Queue Manager's qm.ini file.

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**Examples**

None

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**Error messages**

Unknown

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**11.75. Ping MQ Channel (PNGMQMCHL)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Ping MQ Channel (PNGMQMCHL) command tests a channel by sending data as a special message, to the remote message queue manager and checks that the data is returned. This command is successful only from the sending end of an inactive channel, and the data used is generated by the local message queue manager.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">CHLNAME</a>	Channel name	<i>Character value</i>	Required, Positional 1

<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">DATACNT</a>	Data count	16-32768, <b>64</b>	Optional, Positional 3
<a href="#">CNT</a>	Count	1-16, <b>1</b>	Optional, Positional 4

[Top](#)**Channel name (CHLNAME)**

Specifies the name of the channel definition.

The possible values are:

**channel-name**

Specify the channel name.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

**message-queue-manager-name**

The name of a message queue manager.

[Top](#)**Data count (DATACNT)**

Specifies the length of the data in bytes. The actual number of bytes might be less than the amount requested depending on the operating system and communication protocol being used.

The possible values are:

**64**

The default value is 64 bytes.

*data-count* Specify a value ranging from 16 through 32768.

[Top](#)**Count (CNT)**

Specifies the number of times that the channel is to be pinged.

The possible values are:

**1**

The channel is pinged once.

*ping-count* Specify a value ranging from 1 through 16.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.76. Record MQ Object Image (RCDMQMIMG)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Record MQ Object Image (RCDMQMIMG) command is used to provide a marker for the selected set of MQ objects, so that the Recreate MQM Object (RCRMQMOBJ) command can recover this set of objects from journal data recorded subsequently.

This command is intended to enable journal receivers, detached prior to the current date, to be disconnected. On successful completion of this command those journals are no longer required to be present for a Recreate MQ Object (RCRMQMOBJ) command on this set of MQM Objects to succeed.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">OBJ</a>	Object name	Character value, *ALL	Required, Positional 1
<a href="#">OBJTYPE</a>	Object type	*ALL, *Q, *ALSQ, *LCLQ, *MDLQ, *RMTQ, *AUTHINFO, *CTLG, *MQM, *NMLIST, *PRC, *CHL, *CLTCN, *LSR, *SVC, *SYNCFILE, *TOPIC	Required, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, *DFT	Optional, Positional 3
<a href="#">DSPJRNDTA</a>	Display Journal Receiver Data	*YES, *NO	Optional, Positional 4

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### Object name (OBJ)

Specifies the name of the objects that should be recorded. This is a 48-character MQ object or generic object name.

The possible values are:

#### \*ALL

All MQ objects of the specified type (OBJTYPE) are recorded.

#### generic-object-name

Specify the generic name of the objects to be recorded. A generic name is a character string followed by an asterisk (\*). For example, ABC\*. It selects all objects that have names which start with the character string.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

#### object-name

The name of an MQ object to be recorded.

[Top](#)

### Object type (OBJTYPE)

Specifies the type of the objects to be recreated.

The possible values are:

#### \*ALL

Specifies all MQ object types.

#### \*Q

Specifies MQ queue objects with names specified by OBJ.

#### \*ALSQ

Specifies MQ alias queue objects with names specified by OBJ.

#### \*LCLQ

Specifies MQ local queue objects with names specified by OBJ.

#### \*MDLQ

Specifies MQ model queues objects with names specified by OBJ.

#### \*RMTQ

Specifies MQ remote queue objects with names specified by OBJ.

#### \*AUTHINFO

Specifies MQ authentication information objects with names specified by OBJ.

#### \*CTLG

Specifies the MQ queue manager catalog object. This has the same name as the queue manager object.

#### \*MQM

Specifies the Message Queue Manager object.

#### \*CHL

Specifies MQ channel objects with names specified by OBJ.

#### \*CLTCN

Specifies MQ client connection channel objects with names specified by OBJ.

#### \*NMLIST

Specifies MQ namelist objects with names specified by OBJ.

#### \*PRC

Specifies MQ process objects with names specified by OBJ.

#### \*LSR

Specifies MQ listener objects with names specified by OBJ.

#### \*SVC

Specifies MQ service objects with names specified by OBJ.

#### \*SYNCFILE

Specifies the MQ channel synchronisation file.

#### \*TOPIC

Specifies the MQ topic objects with names specified by OBJ.

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**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**message-queue-manager-name**

Specify the name of the queue manager.

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**Display Journal Receiver Data (DSPJRNDTA)**

Specifies whether additional messages should be written to the job log when the command completes to inform the user which journal receivers are still required by WebSphere MQ.

The possible values are:

**\*NO**

No messages are written to the job log.

**\*YES**

Messages will be sent to the job log when the command completes. The messages will contain details about which journal receivers are required by WebSphere MQ.

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**Examples**

None

[Top](#)

**Error messages**

Unknown

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**11.77. Recreate MQ Object (RCRMQMOBJ)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)

[Examples](#)

[Error messages](#)

The Recreate MQ Object (RCRMQMOBJ) command is used to provide a recovery mechanism for damaged MQ objects. The command completely recreates the objects from information recorded in the MQ journals. If no damaged objects exist, no action is performed.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">OBJ</a>	Object name	Character value, *ALL	Required, Positional 1
<a href="#">OBJTYPE</a>	Object type	*ALL, *Q, *ALSQ, *LCLQ, *MDLQ, *RMTQ, *AUTHINFO, *CTLG, *MQM, *NMLIST, *PRC, *CHL, *CLTCN, *LSR, *SVC, *SYNCFILE, *CLCHLTAB, *TOPIC	Required, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 3

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**Object name (OBJ)**

Specifies the name of the objects which should be recreated if they are damaged. This is a 48-character MQ object or generic object name.

The possible values are:

**\*ALL**

All damaged MQ objects of the specified type (OBJTYPE) are recreated.

**generic-object-name**

Specify the generic name of the objects to be recreated. A generic name is a character string followed by an asterisk (\*). For example, ABC\*. It selects all objects that have names that start with the character string.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

**object-name**

The name of an MQ object to be recreated if it is damaged.

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**Object type (OBJTYPE)**

Specifies the object type of the objects to be recreated.

The possible values are:

**\*ALL**

Specifies all MQ object types.

**\*Q**

Specifies MQ queue objects with names specified by OBJ.

**\*ALSQ**

Specifies MQ alias queue objects with names specified by OBJ.

**\*LCLQ**

Specifies MQ local queue objects with names specified by OBJ.

**\*MDLQ**

Specifies MQ model queues with names specified by OBJ.

**\*RMTQ**

Specifies MQ remote queue objects with names specified by OBJ.

**\*AUTHINFO**

Specifies MQ authentication information objects with names specified by OBJ.

**\*CTLG**

Specifies the message queue manager catalog object. The catalog object has the same name as the message queue manager object. It holds the names of MQ objects. A user needs authorities on this object to be able to start or stop the message queue manager, or, to create or delete MQ queues and process definitions.

**\*MQM**

Specifies the message queue manager. This object holds the attributes of the message queue manager.

**\*CHL**

Specifies MQ channel objects with names specified by OBJ.

**\*CLTCN**

Specifies MQ client connection channel objects with names specified by OBJ.

**\*NMLIST**

Specifies MQ namelist objects with names specified by OBJ.

**\*PRC**

Specifies MQ process objects with names specified by OBJ.

**\*LSR**

Specifies MQ listener objects with names specified by OBJ.

**\*SVC**

Specifies MQ service objects with names specified by OBJ.

**\*SYNCFILE**

Specifies the MQ channel synchronisation file.

**\*SYNCFILE**

Specifies the MQ client channel table file.

**\*TOPIC**

Specifies MQ topic objects with names specified by OBJ.

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**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

***message-queue-manager-name***

Specify the name of the queue manager.

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**Examples**

None

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**Error messages**

Unknown

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**11.78. Refresh WebSphere MQ Authority (RFRMQMAUT)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The WebSphere MQ security cache refresh (RFRMQMAUT) command refreshes the WebSphere MQ Object Authority Manager security cache.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 1
<a href="#">TYPE</a>	Refresh Type	<b>*AUTHSERV</b> , *SSL	Optional, Positional 2

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the queue manager to perform the security refresh.

The possible values are:

#### *queue-manager-name*

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

#### **\*DFT**

Specifies that the default queue manager should be used.

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### Refresh Type (TYPE)

The type of security refresh to be performed. The possible values are:

#### **\*AUTHSERV**

Refreshes the list of authorizations held internally by the authorization services component.

#### **\*SSL**

Refreshes the cached view of the SSL Key Repository allowing updates to become effective when the command has completed successfully. Also refreshes the locations of the LDAP servers to be used for Certificate Revocation Lists and the Key Repository.

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## Examples

None

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## Error messages

Unknown

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## 11.79. Refresh MQ Cluster (RFRMQMCL)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Refresh MQ Cluster (RFRMQMCL) command refreshes locally held cluster information (including any autodefined channels that are in doubt), and forces it to be rebuilt. This enables you to perform a "cold-start" on the cluster.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">CLUSTER</a>	Cluster Name	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">REPOS</a>	Refresh Repository	<b>*NO</b> , *YES	Optional, Positional 3

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### Cluster Name (CLUSTER)

The name of the cluster to be refreshed.

The possible values are:

'\*'.

The queue manager is refreshed in all of the clusters to which it belongs.

If Refresh Repository is also set to \*YES, then the queue manager restarts its search for repository queue managers, using information in the local cluster-sender channel definitions.

**name**

Specify the name of the cluster.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

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**Refresh Repository (REPOS)**

Specifies whether the information about repository queue managers should be refreshed.

The possible values are:

**\*NO**

Do not refresh repository information.

**\*YES**

Refresh repository information. This value cannot be specified if the queue manager is itself a repository manager.

[Top](#)

**Examples**

None

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**Error messages**

Unknown

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**11.80. Remove Queue Manager Info. (RMVMQMINF)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Remove Message Queue Manager Information (RMVMQMINF) command removes configuration information for a queue manager. This command may be used, for example, to remove a secondary queue manager instance by removing reference to shared queue manager data.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i>	Optional, Positional 1

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager to remove information for.

**queue-manager-name**

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)

**Examples**

None

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**Error messages**

Unknown

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### 11.81. Remove Queue Manager Journal (RMVMQMJRN)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Remove Queue Manager Journal command (RMVMQMJRN) removes a queue manager journal. This command can be used, for example, to remove a remote journal previously used for a standby or multi-instance queue manager.

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#### Parameters

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 1
<a href="#">JRN</a>	Queue Manager Journal	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">RMTJRNRDB</a>	Remote Relational Database	Character value	Optional, Positional 3

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#### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager associated with the journal.

##### *queue-manager-name*

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

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#### Queue Manager Journal (JRN)

Specifies the journal name to create.

The possible values are:

##### **\*DFT**

The journal name is chosen by the system. If a local journal already exists for the queue manager on this system - the existing local journal name is used, otherwise a unique name is generated of the format AMQxJRN where x is a character in the range 'A - Z'.

##### *journal-name*

Specify the name of the journal. The name can contain up to 10 characters. Journal receiver names will be derived from this journal name by truncating at the 4th character (or at the last character if the journal name is shorter than 4 characters) and appending zeroes. If the local queue manager library already contains a local journal, its name must match that supplied. Only one local journal can exist in a queue manager library. DLTMQM will not remove journal artifacts from a queue manager library unless they are prefixed with "AMQ".

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#### Remote Relational Database (RMTJRNRDB)

Specifies the name of the relational database directory entry that contains the remote location name of the target system. Use the WRKRDBDIRE command to locate and existing entry or configure a new relational database directory entry for the target system.

##### *relational-database-directory-entry*

Specify the name of the relational database directory entry. The name can contain up to 18 characters.

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#### Examples

None

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#### Error messages

Unknown

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### 11.82. Resume Cluster Queue Manager (RSMMQMCLQM)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

Use the RSMMQMCLQM command to inform other queue managers in a cluster that the local queue manager is again available for processing and can be sent messages. It reverses the action of the SPDMQMCLQM command.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">CLUSTER</a>	Cluster Name	Character value	Optional, Positional 1
<a href="#">CLUSNL</a>	Cluster Name List	Character value	Optional, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 3

[Top](#)**Cluster Name (CLUSTER)**

Specifies the name of the cluster for which the queue manager is available for processing.

**cluster-name**

Specify the name of the cluster.

[Top](#)**Cluster Name List (CLUSNL)**

Specifies the namelist specifying a list of clusters for which the queue manager is available for processing.

**namelist**

Specify the name of the namelist.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.83. Reset MQ Channel (RSTMQMCHL)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Reset MQ Channel (RSTMQMCHL) command resets the message sequence number for an MQ channel to a specified sequence number for use the next time that the channel is started.

You are recommended to use this command for Sender(\*SDR), Server (\*SVR) and Cluster-sender (\*CLUSSDR) channels only.

If you use this command for a Receiver (\*RCVR), Requester (\*RQSTR) or Cluster-receiver (\*CLUSRCVR) channel, the value at the other end of the channel is NOT reset. You must reset the values separately.

The command does not work for Server-connection (\*SVRCN) channels.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">CHLNAME</a>	Channel name	Character value	Required, Positional 1
<a href="#">MSGSEQNUM</a>	Message sequence number	1-999999999, <b>1</b>	Optional, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 3

[Top](#)**Channel name (CHLNAME)**

Specifies the name of the channel definition.

The possible values are:

**channel-name**

Specify the channel name.

[Top](#)**Message sequence number (MSGSEQNUM)**

Specifies the new message sequence number.

The possible values are:

**1**

The new message sequence number is 1.

**message-sequence-number**

Specify the new message sequence number ranging from 1 through 999999999.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

**message-queue-manager-name**

The name of a message queue manager.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.84. Reset Cluster (RSTMQMCL)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

Use the Reset Cluster (RSTMQMCL) command to forcibly remove a queue manager from a cluster.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">CLUSTER</a>	Cluster Name	<i>Character value</i>	Required, Positional 1
<a href="#">QMNAME</a>	Queue Manager Name for removal	<i>Character value, *QMID</i>	Required, Positional 2
<a href="#">ACTION</a>	Action	<b>*FRCRMV</b>	Optional, Positional 3
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Positional 4
<a href="#">QUEUES</a>	Remove Queues	<b>*NO, *YES</b>	Optional, Positional 5
<a href="#">QMID</a>	Queue Manager Id for removal	<i>Character value</i>	Optional, Positional 6

[Top](#)**Cluster Name (CLUSTER)**

Specifies the name of cluster from which the queue manager is to be forcibly removed.



**cluster-name**

Specify the name of the cluster.

[Top](#)

**Queue Manager Name for removal (QMNAME)**

Specifies the name of the queue manager to be forcibly removed.

The possible values are:

**\*QMID**

This enables you to specify the identifier of the queue manager to be forcibly removed.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)

**Action (ACTION)**

Specifies the action to take on the specified queue manager.

**\*FRCRMV**

Requests that the queue manager is forcibly removed from the cluster. This might be needed to ensure correct cleanup after a queue manager has been deleted. This action can be requested by a repository queue manager only.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)

**Remove Queues (QUEUES)**

Specifies whether cluster queues should be removed from the cluster.

The possible values are:

**\*NO**

Do not remove the queues belonging to the queue manger being removed from the cluster.

**\*YES**

Remove queues belonging to the queue manager being removed from the cluster.

[Top](#)

**Queue Manager Id for removal (QMID)**

Specifies the identifier of the queue manager to be forcibly removed.

**queue-manager-identifier**

Specify the identifier of the queue manager.

[Top](#)

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**Examples**

None

[Top](#)

---

**Error messages**

Unknown

[Top](#)

**11.85. Resolve MQ Channel (RSVMQMCHL)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Resolve MQ Channel (RSVMQMCHL) command requests a channel to commit or backout in-doubt messages.

This command is used when the other end of a link fails during the confirmation period, and for some reason it is not possible to reestablish the connection.

In this situation, the sending end remains in an in-doubt state, about whether the messages were received. Any outstanding units of work need to be resolved with either backout or commit.

\*BCK restores messages to the transmission queue and \*CMT discards them.

Use this command for sender (\*SDR) and server (\*SVR) channels only.

[Top](#)

## Parameters

Keyword	Description	Choices	Notes
<a href="#">CHLNAME</a>	Channel name	<i>Character value</i>	Required, Positional 1
<a href="#">OPTION</a>	Resolve option	*CMT, *BCK	Required, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 3

[Top](#)

### Channel name (CHLNAME)

Specifies the name of the channel definition.

The possible values are:

#### **channel-name**

Specify the channel name.

[Top](#)

### Resolve option (OPTION)

Specifies whether to back out or commit the messages.

The possible values are:

#### **\*CMT**

The messages are committed, that is, they are deleted from the transmission queue.

#### **\*BCK**

The messages are backed out, that is, they are restored to the transmission queue.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

#### **\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

#### **message-queue-manager-name**

The name of a message queue manager.

[Top](#)

## Examples

None

[Top](#)

## Error messages

Unknown

[Top](#)

## 11.86. RUNMQSC (RUNMQSC)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)

[Examples](#)

[Error messages](#)

The Run WebSphere MQ Commands (RUNMQSC) command allows you to issue MQSC commands interactively for the specified queue manager.

[Top](#)

## Parameters

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager	<i>Character value</i>	Required,

	name	Positional 1
--	------	--------------

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)

### Examples

None

[Top](#)

### Error messages

Unknown

[Top](#)

## 11.87. Revoke MQ Object Authority (RVKMQMAUT)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Revoke MQ Authority (RVKMQMAUT) command is used to reset, or take away specific or all authority for the named objects from the users named in the command.

The RVKMQMAUT command can be used by anyone in the QMQMADM group, that is, anyone whose user profile specifies QMQMADM as a primary or supplemental group profile.

[Top](#)

### Parameters

Keyword	Description	Choices	Notes
<a href="#">OBJ</a>	Object name	<i>Character value</i>	Required, Positional 1
<a href="#">OBJTYPE</a>	Object type	*ALL, *Q, *ALSO, *LCLQ, *MDLQ, *RMTQ, *AUTHINFO, *MQM, *NMLIST, *PRC, *LSR, *SVC, *CHL, *CLTCN, *TOPIC	Required, Positional 2
<a href="#">USER</a>	User names	Single values: *PUBLIC Other values (up to 50 repetitions): <i>Name</i>	Required, Positional 3
<a href="#">AUT</a>	Authority	Values (up to 22 repetitions): *ALTUSR, *BROWSE, *CONNECT, *GET, *INQ, *PUT, *SET, *PUB, *SUB, *RESUME, *PASSALL, *PASSID, *SETALL, *SETID, *ADMCHG, *ADMCLR, *ADMCRRT, *ADMDLT, *ADMDSP, *ALL, *ALLADM, *ALLMQI, *REMOVE, *CTRL, *CTRLX, *SYSTEM	Required, Positional 4
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 5
<a href="#">SRVCOMP</a>	Service Component name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 6

[Top](#)

### Object name (OBJ)

Specifies the name of the objects for which specific authorities are revoked.

The possible values are:

**\*ALL**

All objects of the type specified by the value of the OBJTYPE parameter at the time the command is issued. \*ALL cannot represent a generic profile.

**object-name**

Specify the name of an MQ object for which specific authority is given to one or more users.

**generic profile**

Specify the generic profile of the objects to be selected. A generic profile is a character string containing one or more generic characters anywhere in the string. This profile is used to match the object name of the object under consideration at the time of use. The generic characters are (?), (\*) and (\*\*).

? matches a single character in an object name.

\* matches any string contained within a qualifier, where a qualifier is the string between fullstops (.). For example ABC\* matches ABCDEF but not ABCDEF.XYZ.

\*\* matches one or more qualifiers. For example ABC.\*\*.XYZ matches ABC.DEF.XYZ and ABC.DEF.GHI.XYZ, \*\* can only appear once in a generic profile.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

[Top](#)



Create an object. Applies to all objects.

**\*ADMDLT**

Delete an object. Applies to all objects.

**\*ADM DSP**

Display the attributes of an object. Applies to all objects.

**\*ALLADM**

Perform administration operations on an object. Applies to all objects.

**\*ALLMQI**

Use all MQI calls applicable to an object. Applies to all objects.

**\*ALTUSR**

Allow another user's authority to be used for MQOPEN and MQPUT1 calls. Applies to queue manager objects only.

**\*BROWSE**

Retrieve a message from a queue by issuing an MQGET call with the BROWSE option. Applies to queue objects only.

**\*CONNECT**

Connect the application to a queue manager by issuing an MQCONN call. Applies to queue manager objects only.

**\*CTRL**

Control startup and shutdown of channels, listeners and services.

**\*CTRLX**

Reset sequence number and resolve indoubt channels.

**\*GET**

Retrieve a message from a queue using an MGET call. Applies to queue objects only.

**\*INQ**

Make an inquiry on an object using an MQINQ call. Applies to all objects.

**\*PASSALL**

Pass all context on a queue. Applies to queue objects only.

**\*PASSID**

Pass identity context on a queue. Applies to queue objects only.

**\*PUT**

Put a message on a queue using an MQPUT call. Applies to queue objects only.

**\*SET**

Set the attributes of an object using an MQSET call. Applies to queue, queue manager, and process objects only.

**\*SETALL**

Set all context on an object. Applies to queue and queue manager objects only.

**\*SETID**

Set identity context on an object. Applies to queue and queue manager objects only.

**\*SYSTEM**

Connect the application to a queue manager for system operations. Applies to queue manager objects only.

**Authorizations for MQI calls**

**\*ALTUSR**

Allow another user's authority to be used for MQOPEN and MQPUT1 calls.

**\*BROWSE**

Retrieve a message from a queue by issuing an MQGET call with the BROWSE option.

**\*CONNECT**

Connect the application to the specified queue manager by issuing an MQCONN call.

**\*GET**

Retrieve a message from a queue by issuing an MQGET call.

**\*INQ**

Make an inquiry on a specific queue by issuing an MQINQ call.

**\*PUT**

Put a message on a specific queue by issuing an MQPUT call.

**\*SET**

Set attributes on a queue from the MQI by issuing an MQSET call.

**\*PUB**

Open a topic to publish a message using the MQPUT call.

**\*SUB**

Create, Alter or Resume a subscription to a topic using the MQSUB call.

**\*RESUME**

Resume a subscription using the MQSUB call.

If you open a queue for multiple options, you must be authorized for each of them.

**Authorizations for context**

**\*PASSALL**

Pass all context on the specified queue. All the context fields are copied from the original request.

**\*PASSID**

Pass identity context on the specified queue. The identity context is the same as that of the request.

**\*SETALL**

Set all context on the specified queue. This is used by special system utilities.

**\*SETID**

Set identity context on the specified queue. This is used by special system utilities.

#### Authorizations for MQSC and PCF commands

##### \*ADMCHG

Change the attributes of the specified object.

##### \*ADMCLR

Clear the specified queue (PCF Clear queue command only).

##### \*ADMCRT

Create objects of the specified type.

##### \*ADMDLT

Delete the specified object.

##### \*ADMDSK

Display the attributes of the specified object.

##### \*CTRL

Control startup and shutdown of channels, listeners and services.

##### \*CTRLX

Reset sequence number and resolve indoubt channels.

#### Authorizations for generic operations

##### \*ALL

Use all operations applicable to the object.

##### \*ALLADM

Perform all administration operations applicable to the object.

##### \*ALLMQI

Use all MQI calls applicable to the object.

##### \*REMOVE

Delete the authority profile to the specified object.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the queue manager.

##### \*DFT

Use the default queue manager.

##### *queue-manager-name*

Specify the name of the queue manager.

[Top](#)

### Service Component name (SRVCOMP)

Specifies the name of the installed authorization service to which the authorizations apply.

The possible values are:

##### \*DFT

Use the first installed authorization component.

##### *Authorization-service-component-name*

The component name of the required authorization service as specified in the Queue Manager's qm.ini file.

[Top](#)

### Examples

None

[Top](#)

### Error messages

Unknown

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## 11.88. Suspend Cluster Queue Manager (SPDMQMCLQM)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

Use the SPDMQMCLQM command to inform other queue managers in a cluster that the local queue manager is not available for processing and cannot be sent messages. Its action can be reversed by the RSMMQMCLQM command.

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">CLUSTER</a>	Cluster Name	<i>Character value</i>	Optional, Positional 1
<a href="#">CLUSNL</a>	Cluster Name List	<i>Character value</i>	Optional, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Positional 3
<a href="#">MODE</a>	Mode	<b>*QUIESCE</b> , *FORCE	Optional, Positional 4

[Top](#)**Cluster Name (CLUSTER)**

Specifies the name of the cluster for which the queue manager is no longer available for processing.

**cluster-name**

Specify the name of the cluster.

[Top](#)**Cluster Name List (CLUSNL)**

Specifies the name of the namelist specifying a list of clusters for which the queue manager is no longer available for processing.

**namelist**

Specify the name of the namelist.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)**Mode (MODE)**

Specifies how the suspension of availability is to take effect:

**\*QUIESCE**

Other queue managers in the cluster are advised that the local queue manager should not be sent further messages.

**\*FORCE**

All inbound and outbound channels to other queue managers in the cluster are stopped forcibly.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.89. Start Message Queue Manager (STRMQM)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Start Message Queue Manager (STRMQM) command starts the local queue manager.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Positional 1
<a href="#">RDEFSYS</a>	Redefine system objects	*YES, <b>*NO</b>	Optional, Positional 2

<a href="#">FIXDIRS</a>	Fix directories	*YES, <b>*NO</b>	Optional, Positional 3
<a href="#">STRSTSDL</a>	Startup Status Detail	<b>*ALL</b> , *MIN	Optional, Positional 4
<a href="#">STRSVC</a>	Service startup	<b>*YES</b> , *NO	Optional, Positional 5
<a href="#">REPLAY</a>	Perform replay only	*YES, <b>*NO</b>	Optional, Positional 6
<a href="#">ACTIVATE</a>	Activate backup	*YES, <b>*NO</b>	Optional, Positional 7
<a href="#">STANDBY</a>	Permit Standby Queue Manager	*YES, <b>*NO</b>	Optional, Positional 8

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)**Redefine system objects (RDEFSYS)**

Specifies whether the default and system objects are redefined.

**\*NO**

Do not redefine the system objects.

**\*YES**

Starts the queue manager, redefines the default and system objects, then stops the queue manager. Any existing system and default objects belonging to the queue manager are replaced if you specify this flag.

[Top](#)**Fix directories (FIXDIRS)**

Specifies whether missing or damaged queue manager directories are recreated.

**\*NO**

Do not recreate any missing queue manager directories. If any damaged or missing directories are encountered during startup, the startup attempt will report an error and the STRMQM command will end immediately.

**\*YES**

Starts the queue manager and if required recreates any damaged or missing directories. This option should be used when performing media recovery of a queue manager.

[Top](#)**Startup Status Detail (STRSTSDL)**

Specifies the detail of status messages that are issued while starting the queue manager.

**\*ALL**

Display all startup status messages. This level of detail includes periodically displaying messages detailing transaction recovery and log replay. This level of detail can be useful in tracking queue manager startup progress following the abnormal termination of a queue manager.

**\*MIN**

Displays a minimum level of status messages.

[Top](#)**Service startup (STRSVC)**

Specifies whether the additional following QMGR components are started when the queue manager is started:

- The Channel Initiator
- The Command Server
- Listeners with CONTROL set to QMGR or STARTONLY
- Services with CONTROL set to QMGR or STARTONLY

**\*YES**

Start the channel initiator, command server, listeners and services when the queue manager is started.

**\*NO**

Do not start the channel initiator, command server, listeners or services when the queue manager is started.

[Top](#)**Perform replay only (REPLAY)**



Whether the queue manager is being started to perform replay only. This enables a backup copy of a queue manager on a remote machine to replay logs created by the corresponding active machine, and to allow the backup queue manager to be activated in the event of a disaster on the active machine.

**\*NO**

The queue manager is not being started to perform replay only.

**\*YES**

The queue manager is being started to perform replay only. The STRMQM command will end when replay is complete.

[Top](#)

**Activate backup (ACTIVATE)**

Specifies whether to mark a queue manager as active. A queue manager that has been started with the REPLAY option is marked as a backup queue manager and cannot be started before it has been activated.

**\*NO**

The queue manager is not to be marked as active.

**\*YES**

The queue manager is to be marked as active. Once a queue manager has been activated then it can be started as a normal queue manager using the STRMQM command without the REPLAY and ACTIVATE options.

[Top](#)

**Permit Standby Queue Manager (STANDBY)**

Specifies whether the queue manager can start as a standby instance if an active instance of the queue manager is already running on another system. Also specifies whether this instance of the queue manager will permit standby instances of the same queue manager on other systems to preparation for failover.

**\*NO**

The queue manager is started normally.

**\*YES**

The queue manager is permitted to start as a standby instance and whether it permits other standby instances of the same queue manager.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.90. Start MQ Pub/Sub Broker (STRMQMBRK)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Start WebSphere MQ broker (STRMQMBRK) command starts a broker for a specified queue manager.

[Top](#)

**Parameters**

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i>	Required, Positional 1
<a href="#">PARENTMQM</a>	Parent Message Queue Manager	<i>Character value</i>	Optional, Positional 2

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

***queue-manager-name***

Specify the name of the queue manager.

[Top](#)

**Parent Message Queue Manager (PARENTMQM)**

Specifies the name of the queue manager that provides the parent broker function. Before you can add a broker to the network, channels in both directions must exist between the queue manager that hosts the new broker, and the queue manager that hosts the parent.

On restart, this parameter is optional. If present, it must be the same as it was when previously specified. If this is the root-node broker, the queue manager specified becomes its parent. You cannot specify the name of the parent broker when you use triggering to start a broker.

After a parent has been specified, it is only possible to change parentage in exceptional circumstances in conjunction with the CLRMQMBRK command. By changing a root node to become the child of an existing broker, two hierarchies can be joined. This causes subscriptions to be propagated across the two hierarchies, which now become one. After that, publications start to flow across them. To ensure predictable results, it is essential that you quiesce all publishing applications at this time.

If the changed broker detects a hierarchical error (that is, if the new parent is found also to be a descendant), it immediately shuts down. The administrator must then use CLRMQMBRK at both the changed broker and the new, false parent to restore the previous status. A hierarchical error is detected by propagating a message up the hierarchy, which can complete only when the relevant brokers and links are available.

[Top](#)

## Examples

None

[Top](#)

## Error messages

Unknown

[Top](#)

## 11.91. Start MQ Channel (STRMQMCHL)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Start MQ Channel (STRMQMCHL) command starts an MQ channel.

[Top](#)

## Parameters

Keyword	Description	Choices	Notes
<a href="#">CHLNAME</a>	Channel name	<i>Character value</i>	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Positional 2

[Top](#)

### Channel name (CHLNAME)

Specifies the name of the channel definition.

The possible values are:

#### **channel-name**

Specify the channel name.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

#### **\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

#### **message-queue-manager-name**

The name of a message queue manager.

[Top](#)

## Examples

None

[Top](#)

## Error messages

Unknown

[Top](#)

## 11.92. Start MQ Channel Initiator (STRMQMCHLI)

**Where allowed to run:** All environments (\*ALL)

[Parameters](#)

**Threadsafe:** Yes

[Examples](#)  
[Error messages](#)

The Start MQ Channel Initiator (STRMQMCHLI) command starts an MQ channel initiator.

[Top](#)

## Parameters

Keyword	Description	Choices	Notes
<a href="#">QNAME</a>	Queue name	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2

[Top](#)

### Queue name (QNAME)

Specifies the name of the initiation queue for the channel initiation process. That is, the initiation queue that is specified in the definition of the transmission queue.

The possible values are:

#### **queue-name**

Specify the name of the initiation queue.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

#### **\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

#### **message-queue-manager-name**

The name of a message queue manager.

[Top](#)

## Examples

None

[Top](#)

## Error messages

Unknown

[Top](#)

## 11.93. Start MQ Command Server (STRMQMCSVR)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Start MQ Command Server (STRMQMCSVR) command starts the MQ command server for the specified queue manager.

[Top](#)

## Parameters

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 1

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

#### **queue-manager-name**

Specify the name of the queue manager.

[Top](#)

**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.94. Start WebSphere MQ DLQ Handler (STRMQMDLQ)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

Use the Start WebSphere MQ Dead-Letter Queue Handler (STRMQMDLQ) command to perform various actions on selected messages. The command specifies a set of rules that can both select a message and perform the action on that message.

The STRMQMDLQ command takes its input from the rules table as specified by SRCFILE and SRCMBR. When the command processes, the results and a summary are written to the printer spooler file.

**Note:**

The WAIT keyword, defined in the rules table, determines whether the dead-letter queue handler ends immediately after processing messages, or waits for new messages to arrive.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">UDLMSGQ</a>	Undelivered message queue	Character value, *DFT, *NONE	Required, Positional 1
<a href="#">SRCMBR</a>	Member containing input	Name, *FIRST	Required, Positional 2
<a href="#">SRCFILE</a>	Input file	Qualified object name	Optional, Positional 3
	Qualifier 1: Input file	Name, <b>QTXTSRC</b>	
	Qualifier 2: Library	Name, <b>*LIBL</b> , *CURLIB	
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b> , *NONE	Optional, Positional 4

[Top](#)**Undelivered message queue (UDLMSGQ)**

Specifies the name of the local undelivered message queue that is to be processed.

The possible values are:

**\*DFT**

The local undelivered-message queue used is taken from the default queue manager for the installation. If this option is specified, the INPUTQ keyword stated in the rules table will be overridden by the default undelivered-message queue for the queue manager.

**undelivered-message-queue-name**

Specify the name of the local undelivered-message queue to be used. If this option is specified, the INPUTQ keyword stated in the rules table will be overridden by the stated undelivered-message queue.

**\*NONE**

The queue that is named by the INPUTQ keyword in the rules table is used, or the system-default dead-letter queue if the INPUTQ keyword in the rules table is blank.

[Top](#)**Member containing input (SRCMBR)**

Specifies the name of the source member, containing the user-written rules table to be processed.

The possible values are:

**\*FIRST**

The first member of the file is used.

**source-member-name**

Specify the name of the source member.

[Top](#)**Input file (SRCFILE)**

Specifies the name of the source file and library, in the form LIBRARY/FILE, that contains the user-written rules table to be processed.

The possible values are:

**\*LIBL**

Search the library list for the file name.

**\*CURLIB**

Use the current library.

**source-library-name**

Specify the name of the library that is being used.

The possible values are:

**QTXTSRC**

Use QTXTSRC.

**source-file-name**

Specify the name of the source file.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

**\*NONE**

The queue manager that is named by the INPUTQM keyword in the rules table is used, or the system-default queue manager if the INPUTQM keyword in the rules table is blank.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

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**11.95. Start MQ Listener (STRMQLSR)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Start MQ Listener (STRMQLSR) command starts an MQ TCP/IP listener.

This command is valid for TCP/IP transmission protocols only.

You can specify either a listener object or specific listener attributes.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">PORT</a>	Port number	1-65535, <b>*DFT</b>	Optional, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">IPADDR</a>	IP Address	Character value, <b>*DFT</b>	Optional, Positional 3
<a href="#">BACKLOG</a>	Listener backlog	0-999999999, <b>*DFT</b>	Optional, Positional 4
<a href="#">LSRNAME</a>	Listener name	Character value, <b>*NONE</b>	Optional, Positional 5

[Top](#)

**Port number (PORT)**

The port number to be used by the listener.

The possible values are:

**\*DFT**

Port number 1414 is used.

**port-number**

The port number to be used.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the queue manager.

The possible values are:

#### **\*DFT**

Use the default queue manager.

#### **queue-manager-name**

The name of a message queue manager.

[Top](#)

### IP Address (IPADDR)

The IP address to be used by the listener.

The possible values are:

#### **\*DFT**

The listener will listen on all IP addresses available to the TCP/IP stack.

#### **ip-addr**

The IP address to be used.

[Top](#)

### Listener backlog (BACKLOG)

The number of concurrent connection requests the listener supports.

The possible values are:

#### **\*DFT**

255 concurrent connection requests are supported.

#### **backlog**

The number of concurrent connection requests supported.

[Top](#)

### Listener name (LSRNAME)

The name of the MQ listener object to be started.

The possible values are:

#### **\*NONE**

No listener object is specified.

#### **listener-name**

Specify the name of the listener object to be started.

[Top](#)

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### Examples

None

[Top](#)

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### Error messages

Unknown

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## 11.96. Start WebSphere MQ Commands (STRMQMMQSC)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Start WebSphere MQ Commands (STRMQMMQSC) command initiates a set of WebSphere MQ Commands (MQSC) and writes a report to the printer spooler file.

Each report consists of the following elements:

- A header identifying MQSC as the source of the report.
- A numbered listing of the input MQSC commands.
- A syntax error message for any commands in error.
- A message indicating the outcome of running each correct command.
- Other messages for general errors running MQSC, as needed.

- A summary report at the end.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">SRCMBR</a>	Member containing input	<i>Name</i> , *FIRST	Required, Positional 1
<a href="#">SRCFILE</a>	Input file	<i>Qualified object name</i>	Optional, Positional 2
	Qualifier 1: Input file	<i>Name</i> , <b>QMQSC</b>	
	Qualifier 2: Library	<i>Name</i> , * <b>LIBL</b> , *CURLIB	
<a href="#">OPTION</a>	Option	* <b>RUN</b> , * <b>VERIFY</b> , * <b>MVS</b>	Optional, Positional 3
<a href="#">WAIT</a>	Wait time	1-999999	Optional, Positional 4
<a href="#">LCLMQMNAME</a>	Local Message Queue Manager	<i>Character value</i>	Optional, Positional 5
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , * <b>DFT</b>	Optional, Positional 6

[Top](#)

### Member containing input (SRCMBR)

Specifies the name of the source member, containing the MQSC, to be processed.

The possible values are:

#### **source-member-name**

Specify the name of the source member.

#### \*FIRST

The first member of the file is used.

[Top](#)

### Input file (SRCFILE)

Specifies the qualified name of the file, in the form LIBRARY/FILE, that contains the MQSC to be processed.

The possible values are:

#### \*LIBL

The library list is searched for the file name.

#### \*CURLIB

The current library is used.

#### **source-library-name**

Specify the name of the library to be used.

The possible values are:

#### **QMQSC**

QMQSC is used.

#### **source-file-name**

Specify the name of the source file.

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### Option (OPTION)

Specifies how the MQSC commands are to be processed.

The possible values are:

#### \*RUN

If this value is specified and a value for the WAIT parameter is not specified the MQSC commands are processed directly by the local queue manager. If this value is specified and a value is also specified for the WAIT parameter the MQSC commands are processed indirectly by a remote queue manager,

#### \*VERIFY

The MQSC commands are verified and a report is written, but the commands are not run.

#### \*MVS

The MQSC commands are processed indirectly by a remote queue manager running under MVS/ESA. If you specify this option you must also specify a value for the WAIT parameter.

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### Wait time (WAIT)

Specifies the time in seconds that the STRMQMMQSC command waits for replies to indirect MQSC commands. Specifying a value for this parameter indicates that MQSC commands are executed in indirect mode by a remote queue manager. Specifying a value for this parameter is only valid when the OPTION parameter is specified as \*RUN or \*MVS.

In indirect mode, MQSC commands are queued on the command queue of a remote queue manager. Reports from the commands are then returned to the local queue manager specified in MQMNAME. Any replies received after this time are discarded, however, the MQSC command is still run.

The possible values are:

**1 - 999999**

Specify the waiting time in seconds.

[Top](#)

### Local Message Queue Manager (LCLMQMNAME)

Specifies the name of the local queue manager through which indirect mode operation is to be performed.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**message-queue-manager-name**

Specify the name of the queue manager.

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### Examples

None

[Top](#)

### Error messages

Unknown

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## 11.97. Start MQ Service (STRMQMSVC)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Start MQ Service (STRMQMSVC) command starts an MQ service.

[Top](#)

### Parameters

Keyword	Description	Choices	Notes
<a href="#">SVCNAME</a>	Service name	Character value	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2

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### Service name (SVCNAME)

The name of the MQ service object to be started.

The possible values are:

**\*NONE**

No service object is specified.

**service-name**

Specify the name of the service definition. The maximum length of the string is 48 bytes.

[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

The name of a message queue manager.

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**Examples**

None

[Top](#)

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**Error messages**

Unknown

[Top](#)**11.98. Start MQ Trigger Monitor (STRMQMTRM)****Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Start MQ Trigger Monitor (STRMQMTRM) command starts the MQ trigger monitor for the specified queue manager.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">INITQNAME</a>	Initiation queue	<i>Character value</i>	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Positional 2

[Top](#)**Initiation queue INITQNAME**

Specifies the name of the initiation queue.

***initiation-queue-name***

Specify the name of the initiation queue

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

***message-queue-manager-name***

The name of a message queue manager.

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**Examples**

None

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**Error messages**

Unknown

[Top](#)**11.99. Trace MQ (TRCMQM)****Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Trace MQ (TRCMQM) command controls tracing for all MQ jobs. TRCMQM, which sets tracing on or off, can trace message queue interface (MQI) functions, function flow, and WebSphere MQ for i5/OS components together with any messages issued by WebSphere MQ.

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**Parameters**

Keyword	Description	Choices	Notes

<a href="#">TRCEARLY</a>	Trace early	<b>*NO</b> , *YES	Optional, Positional 1
<a href="#">SET</a>	Trace option setting	<b>*ON</b> , *OFF, *STS, *END	Optional, Positional 2
<a href="#">OUTPUT</a>	Output	<b>*MQM</b> , *MQMFMT, *PEX, *ALL	Optional, Positional 3
<a href="#">TRCLEVEL</a>	Trace level	<b>*DFT</b> , *DETAIL, *PARMS	Optional, Positional 4
<a href="#">TRCTYPE</a>	Trace types	Single values: <b>*ALL</b> Other values (up to 14 repetitions): *API, *CMTRY, *COMMS, *CSDATA, *CSFLOW, *LQMDATA, *LQMFLOW, *OTHDATA, *OTHFLOW, *RMTDATA, *RMTFLOW, *SVCDATA, *SVCFLOW, *VSNDATA	Optional, Positional 5
<a href="#">EXCLUDE</a>	Exclude types	Single values: <b>*NONE</b> Other values (up to 14 repetitions): *API, *CMTRY, *COMMS, *CSDATA, *CSFLOW, *LQMDATA, *LQMFLOW, *OTHDATA, *OTHFLOW, *RMTDATA, *RMTFLOW, *SVCDATA, *SVCFLOW, *VSNDATA	Optional, Positional 6
<a href="#">INTERVAL</a>	Trace interval	1-32000000, <b>*NONE</b>	Optional, Positional 7
<a href="#">MAXSTG</a>	Maximum storage to use	1-16, <b>*DFT</b>	Optional, Positional 8
<a href="#">DATASIZE</a>	Trace data size	1-99999999, <b>*DFT</b> , *ALL, *NONE	Optional, Positional 9
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 10
<a href="#">JOB</a>	Job information	Values (up to 8 repetitions): <i>Element list</i>	Optional, Positional 11
	Element 1: Job name	<i>Qualified job name</i>	
	Qualifier 1: Job name	<i>Generic name, name</i>	
	Qualifier 2: User	Character value, <b>X</b> "	
	Qualifier 3: Number	Character value, <b>X</b> "	
	Element 2: Thread identifier	Character value, <b>*NONE</b> , *INITIAL	
<a href="#">STRCTL</a>	Trace start control	Values (up to 8 repetitions): <i>Character value</i> , <b>*NONE</b>	Optional, Positional 12
<a href="#">ENDCTL</a>	Trace end control	Values (up to 8 repetitions): <i>Character value</i> , <b>*NONE</b>	Optional, Positional 13

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### Trace early (TRCEARLY)

Specifies whether early tracing is selected.

Early tracing applies to all jobs for all queue managers. If a queue manager is not currently active or does not exist, then early trace will become effective during start-up or creation.

**\*NO**

Early tracing is not enabled.

**\*YES**

Early tracing is enabled.

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### Trace option setting (SET)

Specifies the collection of trace records.

The possible values are:

**\*ON**

The collection of trace records is started.

For TRCEARLY(\*NO), the collection of trace records will not be started until after the queue manager is available.

**\*OFF**

The collection of trace records is stopped. Trace records are written to files in the trace collection directory.

**\*STS**

The status of any active trace collections are written to a spool file. Any other parameters specified on the TRCMQM will be ignored.

**\*END**

The collection of trace records is stopped for all queue managers.

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### Output (OUTPUT)

Identifies the type of trace output that this command applies.

The possible values are:

**\*MQM**

This command applies to the collection of binary WebSphere MQ trace output in the directory specified by the TRCDIR parameter.

**\*MQMFMT**

This command applies to the collection of formatted WebSphere MQ trace output in the directory specified by the TRCDIR parameter.

**\*PEX**

This command applies to the collection of Performance Explorer (PEX) trace output.

**\*ALL**

This option applies to the collection of both WebSphere MQ unformatted trace and PEX trace output.

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**Trace level (TRCLEVEL)**

Activates tracing level for flow processing trace points.

The possible values are:

**\*DFT**

Activates tracing at default level for flow processing trace points.

**\*DETAIL**

Activates tracing at high-detail level for flow processing trace points.

**\*PARMS**

Activates tracing at default-detail level for flow processing trace points.

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**Trace types (TRCTYPE)**

Specifies the type of trace data to store in the trace file. If this parameter is omitted, all trace points are enabled.

The possible values are:

**\*ALL**

All the trace data as specified by the following keywords is stored in the trace file.

**trace-type-list**

You can specify more than one option from the following keywords, but each option can appear only once.

**\*API**

Output data for trace points associated with the MQI and major queue manager components.

**\*CMTRY**

Output data for trace points associated with comments in the MQ components.

**\*COMMS**

Output data for trace points associated with data flowing over communications networks.

**\*CSDATA**

Output data for trace points associated with internal data buffers in common services.

**\*CSFLOW**

Output data for trace points associated with processing flow in common services.

**\*LQMDATA**

Output data for trace points associated with internal data buffers in the local queue manager.

**\*LQMFLOW**

Output data for trace points associated with processing flow in the local queue manager.

**\*OTHDATA**

Output data for trace points associated with internal data buffers in other components.

**\*OTHFLOW**

Output data for trace points associated with processing flow in other components.

**\*RMTDATA**

Output data for trace points associated with internal data buffers in the communications component.

**\*RMTFLOW**

Output data for trace points associated with processing flow in the communications component.

**\*SVCDATA**

Output data for trace points associated with internal data buffers in the service component.

**\*SVCFLOW**

Output data for trace points associated with processing flow in the service component.

**\*VSNDATA**

Output data for trace points associated with the version of WebSphere MQ running.

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**Exclude types (EXCLUDE)**

Specifies the type of trace data to omit from the trace file. If this parameter is omitted, all trace points specified in TRCTYPE are enabled.

The possible values are:

**\*ALL**

All the trace data as specified by the following keywords is stored in the trace file.

**trace-type-list**

You can specify more than one option from the following keywords, but each option can appear only once.

**\*API**

Output data for trace points associated with the MQI and major queue manager components.

**\*CMTRY**

Output data for trace points associated with comments in the MQ components.

**\*COMMS**

Output data for trace points associated with data flowing over communications networks.

**\*CSDATA**

Output data for trace points associated with internal data buffers in common services.

**\*CSFLOW**

Output data for trace points associated with processing flow in common services.

**\*LQMDATA**

Output data for trace points associated with internal data buffers in the local queue manager.

**\*LQMFLOW**

Output data for trace points associated with processing flow in the local queue manager.

**\*OTHDATA**

Output data for trace points associated with internal data buffers in other components.

**\*OTHFLOW**

Output data for trace points associated with processing flow in other components.

**\*RMTDATA**

Output data for trace points associated with internal data buffers in the communications component.

**\*RMTFLOW**

Output data for trace points associated with processing flow in the communications component.

**\*SVCDATA**

Output data for trace points associated with internal data buffers in the service component.

**\*SVCFLOW**

Output data for trace points associated with processing flow in the service component.

**\*VSNDATA**

Output data for trace points associated with the version of WebSphere MQ running.

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**Trace interval (INTERVAL)**

Specifies an interval in seconds that trace should be collected for. If this parameter is omitted then trace will continue to be collected until it is stopped manually via the TRCMQM commands or an FDC with a probe identifier specified in ENDCTL is encountered.

The possible values are:

**collection-interval**

Specify a value in seconds ranging from 1 through 32000000.

You cannot specify a value for both INTERVAL and ENDCTL.

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**Maximum storage to use (MAXSTG)**

Specifies the maximum size of storage to be used for the collected trace records.

The possible values are:

**\*DFT**

The default maximum is 1 megabyte (1024 kilobytes).

**maximum-megabytes**

Specify a value ranging from 1 through 16.

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**Trace data size (DATASIZE)**

Specifies the number of bytes of user data included in the trace.

The possible values are:

**\*DFT**

The default trace value is used.

**\*ALL**

All the user data is traced.

**\*NONE**

This option will turn off the trace for sensitive user data.

**data-size-in-bytes**

Specify a value in ranging from 1 through 99999999.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

This parameter is only valid when TRCEARLY is set to \*NO.

When TRCEARLY is set to \*YES all queue managers are traced.

The possible values are:

**\*DFT**

Trace the default queue manager.

**queue-manager-name**

Specify the name of the queue manager to trace.

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**Job information (JOB)**

Specifies which jobs are to be traced.

The value of this parameter can be one of the following:

**generic-jobname**

A generic 10 character jobname. All jobs that match the jobname will be enabled to collect trace. For example 'AMQ\*' will collect trace for all jobs with a prefix of AMQ.

**Job-name/User/Number**

A fully qualified jobname. Only the job specified by the qualified jobname will be traced.

**Job-name/User/Number/thread-identifier**

A fully qualified jobname and associated thread identifier. Only the thread in the job specified by the qualified jobname will be traced. Note that the thread identifier is the internal identifier allocated by WebSphere MQ, it is not related to the i5/OS thread identifier.

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**Trace start control (STRCTL)**

Specifies that trace is started when an FDC with one of the specified probe identifiers is generated.

**AANNNNNN**

A probe identifier is an 8 character string of the format (AANNNNNN) where A represents alphabetic characters and N represents numerical digits.

Up to 8 probe identifiers may be specified.

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**Trace end control (ENDCTL)**

Specifies that trace is ended when an FDC with one of the specified probe identifiers is generated.

**AANNNNNN**

A probe identifier is an 8 character string of the format (AANNNNNN) where A represents alphabetic characters and N represents numerical digits.

Up to 8 probe identifiers may be specified.

You cannot specify a value for both ENDCTL and INTERVAL.

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**Examples**

None

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**Error messages**

Unknown

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**11.100. Work with MQ Queue Manager (WRKMQM)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with Queue Managers (WRKMQM) command allows you to work with one or more queue manager definitions, and allows you to perform the following operations:

- Change a queue manager
- Create a queue manager
- Delete a queue manager
- Start a queue manager
- Display a queue manager
- End a queue manager
- Work with channels of a queue manager
- Work with namelists of a queue manager
- Work with queues of a queue manager
- Work with processes of a queue manager

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*ALL</b>	Optional, Positional 1

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### Message Queue Manager name (MQMNAME)

Specifies the name or names of the message queue managers to select.

The possible values are:

#### **\*ALL**

All queue managers are selected.

#### **generic-queue-manager-name**

Specify the generic name of the queue managers to select. A generic name is a character string followed by an asterisk (\*), for example ABC\*, and it selects all queue managers having names that start with the character string. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

**Note:** You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered. You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

#### **queue-manager-name**

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

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### Examples

None

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### Error messages

Unknown

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## 11.101. Work with MQ Authority (WRKMQMAUT)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)[Examples](#)[Error messages](#)

The Work with MQ Authority (WRKMQMAUT) displays a list of all the authority profile names and their types, which match the specified parameters. This enables you to delete, work with and create the authority records for an MQM authority profile record.

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### Parameters

Keyword	Description	Choices	Notes
<a href="#">OBJ</a>	Object/Profile name	Character value, <b>*ALL</b>	Optional, Positional 1
<a href="#">OBJTYPE</a>	Object type	*Q, *PRC, *MQM, *NMLIST, *AUTHINFO, *LSR, *SVC, *CHL, *CLTCN, <b>*ALL</b> , *TOPIC	Optional, Positional 2
<a href="#">OUTPUT</a>	Output	<b>*</b> , *PRINT	Optional, Positional 3
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 4
<a href="#">SRVCOMP</a>	Service Component name	Character value, <b>*DFT</b>	Optional, Positional 5

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### Object name (OBJ)

Specify the object name or authority profile name of the object to select.

The possible values are:

#### **\*ALL**

All authority records matching the specified object type are listed. \*ALL cannot represent a generic profile.

#### **object-name**

Specify the name of an MQ object; all authority records whose object name or generic profile name match this object name are selected.

#### **generic profile**

Specify the generic profile of an MQ object; only the authority record which exactly matches the generic profile is selected. A generic profile is a character string containing one or more generic characters anywhere in the string. The generic characters are (?), (\*) and (\*\*).

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

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### Object type (OBJTYPE)

Specifies the object type of the authority profile to select.

**\*ALL**

All MQ object types.

**\*Q**

All queue object types.

**\*AUTHINFO**

Authentication Information object.

**\*MQM**

Message Queue Manager.

**\*NMLIST**

Namelist object.

**\*PRC**

Process definition.

**\*CHL**

Channel object.

**\*CLTCN**

Client Connection Channel object.

**\*LSR**

Listener object.

**\*SVC**

Service object.

**\*TOPIC**

Topic object.

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### Output (OUTPUT)

Specifies whether the output from the command is shown at the requesting work station, or printed with the job's spooled output.

The possible values are:

**\***

Output requested by an interactive job is shown on the display. Output requested by a batch job is printed with the job's spooled output.

**\*PRINT**

A detailed list of the users and their authorities registered with the selected authority profile record is printed with the job's spooled output.

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### Message Queue Manager name (MQMNAME)

Specifies the name of the queue manager.

**\*DFT**

Use the default queue manager.

***queue-manager-name***

Specify the name of the queue manager.

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### Service Component name (SRVCOMP)

Specify the name of the installed authorization service in which to search for the authorities to display.

The possible values are:

**\*DFT**

All installed authorization components are searched for the specified authority profile name and object type.

***Authorization-service-component-name***

The component name of the authorization service as specified in the Queue Manager's qm.ini file.

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### Examples

None

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### Error messages

Unknown

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## 11.102. Work with MQ Authority Data (WRKMQAUTD)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ Authority Records (WRKMQMAUTD) displays a list of all the users registered to a particular authority profile name and type. This enables you to grant, revoke, delete and create authority records.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">OBJ</a>	Object/Profile name	<i>Character value</i>	Required, Positional 1
<a href="#">OBJTYPE</a>	Object type	*Q, *PRC, *MQM, *NMLIST, *AUTHINFO, *CHL, *CLTCN, *SVC, *LSR, *TOPIC	Required, Positional 2
<a href="#">USER</a>	User name	<i>Name</i> , *PUBLIC, <b>*ALL</b>	Optional, Positional 3
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 4
<a href="#">SRVCOMP</a>	Service Component name	<i>Character value</i> , <b>*DFT</b>	Optional, Positional 5

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### Object name (OBJ)

Specify the object name or authority profile name of the object to select.

#### **object-name**

Specify the name of an MQ object; all authority records whose object name or generic profile name match this object name are selected.

#### **generic profile**

Specify the generic profile of an MQ object; only the authority record which exactly matches the generic profile is selected. A generic profile is a character string containing one or more generic characters anywhere in the string. The generic characters are (?), (\*) and (\*\*).

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

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### Object type (OBJTYPE)

Specifies the object type of the authority profile to select.

#### **\*Q**

All queue object types.

#### **\*AUTHINFO**

Authentication Information object.

#### **\*MQM**

Message Queue Manager.

#### **\*NMLIST**

Namelist object.

#### **\*PRC**

Process definition.

#### **\*CHL**

Channel object.

#### **\*CLTCN**

Client Connection Channel object.

#### **\*LSR**

Listener object.

#### **\*SVC**

Service object.

#### **\*TOPIC**

Topic object.

[Top](#)

### User name (USER)

Specifies the name of the user for whom authorities for the named object are displayed.

The possible values are:

#### **\*ALL**

List all relevant users.

#### **\*PUBLIC**

The user name implying all users of the system.

#### **user-profile-name**

Specify the name of the user.

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**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)

**Service Component name (SRVCOMP)**

Specify the name of the installed authorization service in which to search for the authorities to display.

The possible values are:

**\*DFT**

All installed authorization components are searched for the specified authority profile name and object type.

**Authorization-service-component-name**

The component name of the authorization service as specified in the Queue Manager's qm.ini file.

[Top](#)

**Examples**

None

[Top](#)

**Error messages**

Unknown

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**11.103. Work with AuthInfo objects (WRKMQAUTI)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ AuthInfo objects (WRKMQAUTI) command allows you to work with multiple authentication information objects which are defined on the local queue manager.

This enables you to change, copy, create, delete, display, and display and change authority to an MQ authentication information object.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">AINAME</a>	AuthInfo name	Character value, <b>*ALL</b>	Optional, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 3
	Element 1: Filter keyword	*ALTDATA, *ALTTIME, *AUTHTYPE, *CONNAME, *TEXT, *USERNAME, *OCSPURL	
	Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG	
	Element 3: Filter value	Character value	

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**AuthInfo name (AINAME)**

The name or names of the authentication information objects.

The possible values are:

**\*ALL or \***

All authentication information objects are selected.

**generic-authinfo-name**

The generic name of the authentication information objects. A generic name is a character string followed by an asterisk (\*). For example ABC\*, it selects all authentication information objects having names that start with the character string.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

**authentication-information-name**

Specify the name of a single authentication information object.

[Top](#)**Message Queue Manager name (MQMNAME)**

The name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

The name of an existing message queue manager. The maximum string length is 48 characters.

[Top](#)**Filter command (WHERE)**

This parameter can be used to selectively display those AuthInfo objects with particular AuthInfo attributes only.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

**\*GT**

Greater than.

Applicable to integer and non-generic string values.

**\*LT**

Less than.

Applicable to integer and non-generic string values

**\*EQ**

Equal to.

Applicable to integer and non-generic string values.

**\*NE**

Not equal to.

Applicable to integer and non-generic string values.

**\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

**\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

**\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.

**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*ALTDAT**

The date on which the definition or information was last altered.

The filter value is the date in the form yyyy-mm-dd.

**\*ALTTIME**

The time at which the definition or information was last altered.  
The filter value is the time in the form hh:mm:ss.

**\*AUTHTYPE**

The type of the authentication information object.  
The filter value is one of the following:

**\*CRLLDAP**

The type of the authentication information object is CRLLDAP.

**\*OCSP**

The type of the authentication information object is OCSP.

**\*CONNAME**

The address of the host on which the LDAP server is running.  
The filter value is the address name.

**\*TEXT**

Descriptive comment.  
The filter value is the text description of the queue.

**\*USERNAME**

The distinguished name of the user.  
The filter value is the distinguished name.

**\*OCSPURL**

The OCSP Responder URL.  
The filter value is the URL name.

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**Examples**

None

[Top](#)

**Error messages**

Unknown

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**11.104. Work with MQ Channels (WRKMQMCHL)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with WebSphere MQ Channels (WRKMQMCHL) command allows you to work with one or more channel definitions. This enables you to create, start, end, change, copy, delete, ping, display and reset channels, and resolve in-doubt units of work.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">CHLNAME</a>	Channel name	Character value, <b>*ALL</b>	Optional, Positional 1
<a href="#">CHLTYPE</a>	Channel type	*RCVR, *SDR, *SVR, *RQSTR, *SVRCN, *CLUSSDR, *CLUSRCVR, *CLTCN, <b>*ALL</b>	Optional, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 3
<a href="#">STATUS</a>	Channel status	<b>*ALL</b> , *INACTIVE, *STOPPED, *BINDING, *RETRYING, *RUNNING	Optional, Positional 4
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 5
	Element 1: Filter keyword	*AFFINITY, *ALTDATA, *ALTTIME, *BATCHHB, *BATCHINT, *BATCHSIZE, *CLNTWGHT, *CLUSNL, *CLUSTER, *CLWLPRTY, *CLWLRANK, *CLWLWGHT, *COMPHDR, *COMPMSG, *CONNAME, *CVTMSG, *DSCITV, *HRTBTINTVL, *KAINT, *LOCLADDR, *LONGRTY, *LONGTMR, *MAXINST, *MAXINSTC, *MAXMSGLEN, *MCANAME, *MCATYPE, *MCAUSRID, *MODENAME, *MONCHL, *MSGEXIT, *MSGRTYDATA, *MSGRTYEXIT, *MSGRTYITV, *MSGRTYNBR, *MSGUSRDATA, *NETPRTY, *NPMSPEED, *PROPCTL, *PUTAUT, *RCVEXIT, *RCVUSRDATA, *SCYEXIT, *SCYUSRDATA, *SEQNUMWRAP, *SHARECNV, *SHORTRTY, *SHORTTMR, *SNDEXIT, *SNDUSRDATA, *SSLCAUTH, *SSLCIPH, *SSLPEER, *STATCHL, *TEXT, *TGTMQMNAME, *TMQNAME, *TPNAME, *TRPTYPE, *USERID	

Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG
Element 3: Filter value	<i>Character value</i>

[Top](#)**Channel name (CHLNAME)**

Specifies the name or names of the WebSphere MQ channel definitions to be selected.

The possible values are:

**\*ALL**

All channel definitions are selected.

***generic-channel-name***

Specify the generic name of the channel definitions to be selected. A generic name is a character string followed by an asterisk (\*). For example ABC\*, it selects all channel definitions having names that start with the character string.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

***channel-name***

Specify the name of the channel definition.

[Top](#)**Channel type (CHLTYPE)**

Specifies the type of channel definitions that are to be displayed.

The possible values are:

**\*ALL**

All the channel types are selected.

**\*SDR**

Sender channel

**\*SVR**

Server channel

**\*RCVR**

Receiver channel

**\*RQSTR**

Requester channel

**\*SVRCN**

Server-connection channel

**\*CLUSSDR**

Cluster-sender channel

**\*CLUSRCVR**

Cluster-receiver channel

**\*CLTCN**

Client-connection channel

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

***message-queue-manager-name***

The name of a message queue manager.

[Top](#)**Channel status (STATUS)**

Specifies the status type of the WebSphere MQ channel definitions to be selected.

The possible values are:

**\*ALL**

Channels with any status are selected.

**\*INACTIVE**

Only channels with an inactive status are selected.

**\*STOPPED**

Only channels with a stopped status are selected.

**\*BINDING**

Only channels with a binding status are selected.

**\*RETRYING**

Only channels with a retrying status are selected.

**\*RUNNING**

Only channels with a running status are selected.

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**Filter command (WHERE)**

This parameter can be used to selectively display those channels with particular channel attributes only.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

**\*GT**

Greater than.

Applicable to integer and non-generic string values.

**\*LT**

Less than.

Applicable to integer and non-generic string values

**\*EQ**

Equal to.

Applicable to integer and non-generic string values.

**\*NE**

Not equal to.

Applicable to integer and non-generic string values.

**\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

**\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

**\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.

**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*AFFINITY**

Connection Affinity.

The filter value is one of the following:

**\*PREFERRED**

Preferred connection affinity.

**\*NONE**

No connection affinity.

**\*ALTDATE**

The date on which the definition or information was last altered.

The filter value is the data in the form yyyy-mm-dd.

**\*ALTTIME**

The time at which the definition or information was last altered.

The filter value is the time in the form hh:mm:ss.

**\*BATCHEB**

Batch heartbeat interval in milliseconds.

The filter value is the integer interval time.

**\*BATCHINT**

Batch interval in milliseconds.

The filter value is the integer interval time.

**\*BATCHSIZE**

Batch size.

The filter value is the integer batch size.

**\*CLNTWGHT**

Client channel weight.

The filter value is the integer client channel weight.

**\*CLUSNL**

Cluster namelist.

The filter value is the list of cluster names.

**\*CLUSTER**

The cluster to which the channel belongs.

The filter value is the name of the cluster.

**\*CLWLANK**

Cluster workload rank.

The filter value is the integer rank.

**\*CLWLPRTY**

Cluster workload priority.

The filter value is the integer priority.

**\*CLWLWGT**

Cluster workload weight.

The filter value is the integer weight.

**\*COMPHDR**

Header compression.

The filter value is one of the following:

**\*NONE**

No header data compression is performed.

**\*SYSTEM**

Header data compression is performed.

**\*COMPMSG**

Message compression.

The filter value is one of the following:

**\*NONE**

No message data compression is performed.

**\*RLE**

Message data compression is performed using RLE.

**\*ZLIBHIGH**

Message data compression is performed using ZLIB compression. A high level of compression is preferred.

**\*ZLIBFAST**

Message data compression is performed using ZLIB compression. A fast compression time is preferred.

**\*ANY**

Any compression technique supported by the queue manager can be used.

**\*CONNAME**

Remote connection name.

The filter value is the connection name string.

**\*CVTMSG**

Whether the message is converted before transmission.

The filter value is one of the following:

**\*YES**

The application data in the message is converted before sending.

**\*NO**

The application data in the message is not converted before sending.

**\*DSCITV**

Disconnect interval in seconds.

The filter value is the integer interval time.

**\*HRTBTINTVL**

Heartbeat interval in seconds.

The filter value is the integer interval time.

**\*KAINT**

Keep alive interval in seconds.

The filter value is the integer interval time.

**\*LOCLADDR**

Local connection name.

The filter value is the connection name string.

**\*LONGRTY**

Long retry count.

The filter value is the integer count.

**\*LONGTMR**

Long retry interval in seconds.

The filter value is the integer interval time.

**\*MAXINST**

Maximum instances of an individual server-connection channel.

The filter value is the integer number of instances.

**\*MAXINSTC**

Maximum instances of an individual server-connection channel from a single client.

The filter value is the integer number of instances.

**\*MAXMSGLEN**

Maximum message length.

The filter value is the integer length.

**\*MCANAME**

Message channel agent name.

The filter value is the agent name.

**\*MCATYPE**

Whether the message channel agent program should run as a thread or process.

The filter value is one of the following:

**\*PROCESS**

The message channel agent runs as a separate process.

**\*THREAD**

The message channel agent runs as a separate thread.

**\*MCAUSRID**

Message channel agent user identifier.

The filter value is the user identifier string.

**\*MODENAME**

SNA mode name.

The filter value is the mode name string.

**\*MONCHL**

Channel Monitoring.

The filter value is one of the following:

**\*QMGR**

The collection of Online Monitoring Data is inherited from the setting of the queue manager attribute MONCHL.

**\*OFF**

Online Monitoring Data collection for this channel is switched off.

**\*LOW**

Monitoring data collection is turned on with a low ratio of data collection.

**\*MEDIUM**

Monitoring data collection is turned on with a moderate ratio of data collection.

**\*HIGH**

Monitoring data collection is turned on with a high ratio of data collection.

**\*MSGEXIT**

Message exit name.

The filter value is the exit name.

**\*MSGRTYDATA**

Message retry exit user data.

The filter value is the user data string.

**\*MSGRTYEXIT**

Message retry exit name.

The filter value is the exit name.

**\*MSGRTYITV**

Message retry interval interval in seconds.

The filter value is the integer interval time.

**\*MSGRTYNBR**

Number of message retries.

The filter value is the integer number of retries.

**\*MSGUSRDATA**

Message exit user data.

The filter value is the user data string.

**\*NETPRTY**

Network connection priority ranging from 0 through 9.

The filter value is the integer priority value.

**\*NPMSPEED**

Whether the channel supports fast nonpersistent messages.

The filter value is one of the following:

**\*FAST**

The channel supports fast nonpersistent messages.

**\*NORMAL**

The channel does not support fast nonpersistent messages.

**\*PROPCTL**

Message Property Control.

The filter value is one of the following:

**\*COMPAT**

Compatibility mode.

**\*NONE**

No properties sent to remote queue manager.

**\*ALL**

All properties sent to remote queue manager.

**\*PUTAUT**

Whether the user identifier in the context information is used.

The filter value is one of the following:

**\*DFT**

No authority check is made before the message is put on the destination queue.

**\*CTX**

The user identifier in the message context information is used to establish authority to put the message.

**\*RCVEXIT**

Receive exit name.

The filter value is the exit name.

**\*RCVUSRDATA**

Receive exit user data.

The filter value is the user data string.

**\*SCYEXIT**

Security exit name.

The filter value is the exit name.

**\*SCYUSRDATA**

Security exit user data.

The filter value is the user data string.

**\*SEQNUMWRAP**

Maximum message sequence number.

The filter value is the integer sequence number.

**\*SHARECNV**

The number of shared conversations over a TCP/IP socket.



The filter value is the integer number of shared conversations.

**\*SHORTRTY**

Short retry count.

The filter value is the integer count.

**\*SHORTTMR**

Short retry interval in seconds.

The filter value is the integer interval time.

**\*SNDEXIT**

Send exit name.

The filter value is the exit name.

**\*SNDUSRDATA**

Send exit user data.

The filter value is the user data string.

**\*SSLCAUTH**

Whether the channel should carry out client authentication over SSL.

The filter value is one of the following:

**\*REQUIRED**

Client authentication is required.

**\*OPTIONAL**

Client authentication is optional.

**\*SSLCIPH**

The CipherSpec using in SSL channel negotiation.

The filter value is the name of the CipherSpec.

**\*SSLPEER**

The X500 peer name used in SSL channel negotiation.

The filter value is the peer name.

**\*STATCHL**

Channel Statistics.

The filter value is one of the following:

**\*QMGR**

The collection of statistics data is inherited from the setting of the queue manager attribute STATCHL.

**\*OFF**

Statistics data collection for this channel is switched off.

**\*LOW**

Statistics data collection is turned on with a low ratio of data collection.

**\*MEDIUM**

Statistics data collection is turned on with a moderate ratio of data collection.

**\*HIGH**

Statistics data collection is turned on with a high ratio of data collection.

**\*TEXT**

Descriptive comment.

The filter value is the text description of the channel.

**\*TGTMQMNAME**

Target queue manager name.

The filter value is the target queue manager of the channel.

**\*TMQNAME**

Transmission queue name.

The filter value is the name of the queue.

**\*TPNAME**

The SNA transaction program name.

The filter value is the program name string.

**\*TRPTYPE**

Transport type.

The filter value is one of the following:

**\*TCP**

Transmission Control Protocol / Internet Protocol (TCP/IP).

**\*LU62**

SNA LU 6.2.

**\*USERID**

Task user identifier.

The filter value is the user identifier string.

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## Examples

None

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## Error messages

Unknown

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## 11.105. Work with MQ Channel Status (WRKMQMCHST)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ Channel Status (WRKMQMCHST) command allows you to work with the status of one or more channel definitions.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">CHLNAME</a>	Channel name	Character value, <b>*ALL</b>	Optional, Positional 1
<a href="#">CONNAME</a>	Connection name	Character value, <b>*ALL</b>	Optional, Positional 2
<a href="#">TMQNAME</a>	Transmission queue name	Character value, <b>*ALL</b>	Optional, Positional 3
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 4
<a href="#">CHLSTS</a>	Channel status	<b>*ALL</b> , *SAVED, *CURRENT	Optional, Positional 5
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 6
	Element 1: Filter keyword	*CHLSTS, *CHLTYPE, *COMPHDR, *COMPMSG, *CONNAME, *INDOUBT, *INDMSGs, *INDSEQNO, *LSTSEQNO, *MONCHL, *RMTMQMNAME, *SHARECNV, *STATUS, *SUBSTATE, *TMQNAME, *XQMSGSA, *LSTMSGDATE, *LSTMSGTIME, *MSGs	
	Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG	
	Element 3: Filter value	Character value	

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### Channel name (CHLNAME)

Specifies the name of the channel definition.

The possible values are:

#### **\*ALL**

All channel definitions are selected.

#### **generic-channel-name**

Specify the generic name of the channel definitions to be selected. A generic name is a character string followed by an asterisk (\*). For example ABC\*, it selects all channel definitions having names that start with the character string.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

#### **channel-name**

Specify the name of the channel definition.

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### Connection name (CONNAME)

Specifies the name of the machine to connect.

The possible values are:

#### **\*ALL**

All the channels are selected.

#### **generic-connection-name**

Specify the generic connection name of the required channels.

#### **connection-name**

Specify the connection name of the required channels.

[Top](#)

### Transmission queue name (TMQNAME)

Specifies the name of the transmission queue.

The possible values are:

#### **\*ALL**

All the transmission queues are selected.

#### **generic-transmission-queue-name**

Specify the generic name of the transmission queues.

#### **transmission-queue-name**

Specify the name of the transmission queue. A transmission queue name is required if the channel definition type (CHLTYPE) is \*SDR or \*SVR.

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### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

#### **\*DFT**

The default queue manager is used. If you do not have a default queue manager defined on the system, the command fails.

#### **message-queue-manager-name**

The name of a message queue manager.

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### Channel status (CHLSTS)

Specifies the type of channel status to display.

The possible values are:

#### **\*SAVED**

Saved channel status only is displayed. Status is not saved until a persistent message is transmitted across a channel, or a nonpersistent message is transmitted with a NPMSPEED of NORMAL. Because status is saved at the end of each batch, a channel has no saved status until at least one batch has been transmitted.

#### **\*CURRENT**

Current channel status only is displayed. This applies to channels that have been started, or on which a client has connected, and that have not finished or disconnected normally. The current status data is updated as messages are sent or received.

#### **\*ALL**

Both saved and current channel status is displayed.

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### Filter command (WHERE)

This parameter can be used to selectively display the status of only those channels with particular channel status attributes.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

#### **\*GT**

Greater than.

Applicable to integer and non-generic string values.

#### **\*LT**

Less than.

Applicable to integer and non-generic string values

#### **\*EQ**

Equal to.

Applicable to integer and non-generic string values.

#### **\*NE**

Not equal to.

Applicable to integer and non-generic string values.

#### **\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

#### **\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

**\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.

**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*CHLSTS**

The type of channel status.

The filter value is one of the following:

**\*CURRENT**

Current status for an active channel.

**\*SAVED**

Saved status for an active or inactive channel.

**\*CHLTYPE**

The type of channel.

The filter value is one of the following:

**\*SDR**

Sender channel.

**\*SVR**

Server channel.

**\*RCVR**

Receiver channel.

**\*RQSTR**

Requester channel.

**\*CLUSSDR**

Cluster-sender channel.

**\*CLUSRCVR**

Cluster-receiver channel.

**\*SVRCN**

Server-connection channel.

**\*COMPHDR**

Whether the channel performs header data compression.

The filter value is one of the following:

**\*NONE**

No header data compression is performed.

**\*SYSTEM**

Header data compression is performed.

**\*COMPMSG**

Whether the channel performs message data compression.

The filter value is one of the following:

**\*NONE**

No message data compression is performed.

**\*RLE**

Message data compression is performed using RLE.

**\*ZLIBHIGH**

Message data compression is performed using ZLIB compression. A high level of compression is preferred.

**\*ZLIBFAST**

Message data compression is performed using ZLIB compression. A fast compression time is preferred.

**\*CONNAME**

The connection name of the channel.

The filter value is the connection name string.

**\*INDOUBT**

Whether there are any in-doubt messages in the network.

The filter value is either \*NO or \*YES.

**\*INDMSGS**

The number of in-doubt message.

The filter value is the integer number of messages.

**\*INDSEQNO**

The sequence number of the message that is in-doubt.

The filter value is the integer sequence number.

**\*LSTMSGTIME**

The time the last message was sent on the channel.

The filter value is the time in the form hh:mm:ss.

**\*LSTMSGDATE**

The date that the last message was sent on the channel.

The filter value is the data in the form yyyy-mm-dd

**\*LSTSEQNO**

The last message sequence number.

The filter value is the integer sequence number.

**\*MONCHL**

The current level of monitoring data collection for the channel.

The filter value is one of the following:

**\*NONE**

No monitoring data is collected.

**\*LOW**

A low ratio of monitoring data is collected.

**\*MEDIUM**

A medium ratio of monitoring data is collected.

**\*HIGH**

A high ratio of monitoring data is collected.

**\*MSGS**

The number of messages that have been sent on the channel.

The filter value is the integer number of messages.

**\*RMTMQMNAME**

The remote message queue manager.

The filter value is the message queue manager name.

**\*SHARECNV**

The number of shared conversations over a TCP/IP socket.

The filter value is the integer number of shared conversations.

**\*STATUS**

The status of the channel.

The filter value is one of the following:

**\*STARTING**

The channel is ready to begin negotiation with the target MCA.

**\*BINDING**

The channel is establishing a session.

**\*INACTIVE**

The channel has ended processing normally or the channel has never started.

**\*INITIALIZING**

The channel initiator is attempting to start the channel.

**\*RUNNING**

The channel is transferring or is ready to transfer data.

**\*STOPPING**

The channel has been requested to stop.

**\*RETRYING**

A previous attempt to establish a connection has failed. The channel will retry the connection after the specified interval.

**\*PAUSED**

The channel is waiting for the message retry interval.

**\*STOPPED**

The channel has been stopped.

**\*REQUESTING**

The channel has been requested to start.

**\*SUBSTATE**

The channel substate.

The filter value is one of the following:

**\*ENDBATCH**

End of batch processing.

**\*SEND**

Sending data.

**\*RECEIVE**

Receiving data.

**\*SERIALIZE**

Serializing with the partner channel.

**\*RESYNCH**

Re-synchronizing with the partner channel.

**\*HEARTBEAT**

Heartbeat processing.

**\*SCYEXIT**

Processing a security exit.

**\*RCVEXIT**

Processing a receive exit.

**\*SENDEXIT**

Processing a send exit.

**\*MSGEXIT**

Processing a message exit.

**\*MREXIT**

Processing a message-retry exit.

**\*CHADEXIT**

Processing a channel auto-definition exit.

**\*NETCONNECT**

Connecting to remote machine.

**\*SSLHANDSHK**

Establishing an SSL connection.

**\*NAMESERVER**

Requesting information from a name server.

**\*MQPUT**

MQPUT processing.

**\*MQGET**

MQGET processing.

**\*MQICALL**

Processing an MQI call.

**\*COMPRESS**

Compressing or decompressing data.

**\*TMQNAME**

The transmission queue of the channel.

The filter value is the queue name.

**\*XQMSGSA**

The number of messages queued on the transmission queue available for MQGET. This field is valid for cluster-sender channels.

The filter value is the integer number of messages.

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**Examples**

None

[Top](#)

**Error messages**

Unknown

[Top](#)

**11.106. Work with MQ Clusters (WRKMQMCL)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ Clusters (WRKMQMCL) command allows you to work with multiple cluster-queue-manager definitions that are defined on the local queue manager.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">CLUSQMGR</a>	Cluster Queue Manager name	Character value, <b>*ALL</b>	Optional, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 3
	Element 1: Filter keyword	*ALTDATA, *ALTTIME, *BATCHHB, *BATCHINT, *BATCHSIZE, *CHLNAME, *CLUSDATE, *CLUSQMGR, *CLUSTER, *CLUSTIME, *CLWLPRTY, *CLWLRANK, *CLWLWGHT, *COMPHDR, *COMPMSG, *CONNAME, *CVTMSG, *DFNTYPE, *DSCITV, *HRTBTINTVL, *KAIN, *LOCLADDR, *LONGRTY, *LONGTMR, *MAXMSGLEN, *MCANAME, *MCATYPE, *MCAUSRID, *MONCHL, *MSGEXIT, *MSGRTYDATA, *MSGRTYEXIT, *MSGRTYITV, *MSGRTYNBR, *MSGUSRDATA, *NETPRTY, *NPMSPEED, *PUTAUT, *QMID, *QMTYPE, *RCVEXIT, *RCVUSRDATA, *SCYEXIT, *SCYUSRDATA, *SEQNUMWRAP, *SHORTRTY, *SHORTTMR, *SNDEXIT, *SNDUSRDATA, *SSLCAUTH, *SSLCPH, *SSLPEER, *STATCHL, *STATUS, *SUSPEND, *TEXT, *TRPTYPE, *USERID	
	Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG	
	Element 3: Filter value	Character value	

[Top](#)**Cluster Queue Manager name (CLUSQMGR)**

Specifies the name or names of the cluster-queue-manager definitions.

**\*ALL**

All cluster-queue-manager definitions are selected.

**generic-cluster-queue-manager-name**

Specify the generic name of the MQ cluster-queue-manager definitions. A generic name is a character string followed by an asterisk (\*)> For example ABC\*, it selects all cluster-queue-manager definitions having names that start with the character string. You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered. You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

**cluster-queue-manager-name**

Specify the name of the MQ cluster-queue-manager definition.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

**\*DFT**

Use the default queue manager.

**queue-manager-name**

Specify the name of the queue manager.

[Top](#)**Filter command (WHERE)**

This parameter can be used to selectively display only those cluster-queue-managers with particular attributes.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

**\*GT**

Greater than.

Applicable to integer and non-generic string values.

**\*LT**

Less than.

Applicable to integer and non-generic string values

**\*EQ**

Equal to.

Applicable to integer and non-generic string values.

**\*NE**

Not equal to.

Applicable to integer and non-generic string values.

**\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

**\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

**\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.

**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*ALTDAT**

The date on which the definition or information was last altered.

The filter value is the data in the form yyyy-mm-dd.

**\*ALTTIME**

The time at which the definition or information was last altered.

The filter value is the time in the form hh:mm:ss.

**\*BATCHEB**

Batch heartbeat interval in milliseconds.

The filter value is the integer interval time.

**\*BATCHINT**

Batch interval in milliseconds.

The filter value is the integer interval time.

**\*BATCHSIZE**

Batch size.

The filter value is the integer batch size.

**\*CHANNEL**

The channel name of the cluster-queue-manager.

The filter value is the name of the channel.

**\*CLUSDATE**

The date on which the definition became available to the local queue manager.

The filter value is the data in the form yyyy-mm-dd.

**\*CLUSQMR**

The cluster-queue-manager name.

The filter value is the name of the cluster-queue-manager.

**\*CLUSTER**

The cluster to which the cluster-queue-manager belongs.

The filter value is the name of the cluster.

**\*CLUSTIME**

The time at which the definition became available to the local queue manager.

The filter value is the time in the form hh:mm:ss.

**\*CLWLANK**

Cluster workload rank.



The filter value is the integer rank.

**\*CLWLPRTY**

Cluster workload priority.

The filter value is the integer priority.

**\*CLWLWGHT**

Cluster workload weight.

The filter value is the integer weight.

**\*COMPHDR**

Header compression.

The filter value is one of the following:

**\*NONE**

No header data compression is performed.

**\*SYSTEM**

Header data compression is performed.

**\*COMPMSG**

Message compression.

The filter value is one of the following:

**\*NONE**

No message data compression is performed.

**\*RLE**

Message data compression is performed using RLE.

**\*ZLIBHIGH**

Message data compression is performed using ZLIB compression. A high level of compression is preferred.

**\*ZLIBFAST**

Message data compression is performed using ZLIB compression. A fast compression time is preferred.

**\*ANY**

Any compression technique supported by the queue manager can be used.

**\*CONNAME**

Remote connection name.

The filter value is the connection name string.

**\*CVTMSG**

Whether the message should be converted before transmission.

The filter value is one of the following:

**\*YES**

The application data in the message is converted before sending.

**\*NO**

The application data in the message is not converted before sending.

**\*DFNTYPE**

How the cluster channel was defined.

The filter value is one of the following:

**\*CLUSSDR**

As a cluster-sender channel from an explicit definition.

**\*CLUSSDRA**

As a cluster-sender channel by auto-definition alone.

**\*CLUSSDRB**

As a cluster-sender channel by auto-definition and an explicit definition.

**\*CLUSRCVR**

As a cluster-receiver channel from an explicit definition.

**\*DSCITV**

Disconnect interval in seconds.

The filter value is the integer interval time.

**\*HRTBTINTVL**

Heartbeat interval in seconds.

The filter value is the integer interval time.

**\*KAINT**

Keep alive interval in seconds.

The filter value is the integer interval time.

**\*LOCLADDR**

Local connection name.

The filter value is the connection name string.

**\*LONGRTY**

Long retry count.

The filter value is the integer count.

**\*LONGTMR**

Long retry interval in seconds.

The filter value is the integer interval time.

**\*MAXMSGLEN**

Maximum message length.

The filter value is the integer length.

**\*MCANAME**

Message channel agent name.

The filter value is the agent name.

**\*MCATYPE**

Whether the message channel agent program should run as a thread or process.

The filter value is one of the following:

**\*PROCESS**

The message channel agent runs as a separate process.

**\*THREAD**

The message channel agent runs as a separate thread.

**\*MCAUSRID**

Message channel agent user identifier.

The filter value is the user identifier string.

**\*MONCHL**

Channel Monitoring.

The filter value is one of the following:

**\*QMGR**

The collection of Online Monitoring Data is inherited from the setting of the queue manager attribute MONCHL.

**\*OFF**

Online Monitoring Data collection for this channel is switched off.

**\*LOW**

Monitoring data collection is turned on with a low ratio of data collection.

**\*MEDIUM**

Monitoring data collection is turned on with a moderate ratio of data collection.

**\*HIGH**

Monitoring data collection is turned on with a high ratio of data collection.

**\*MSGEXIT**

Message exit name.

The filter value is the exit name.

**\*MSGRTYDATA**

Message retry exit user data.

The filter value is the user data string.

**\*MSGRTYEXIT**

Message retry exit name.

The filter value is the exit name.

**\*MSGRTYITV**

Message retry interval interval in seconds.

The filter value is the integer interval time.

**\*MSGRTYNBR**

Number of message retries.

The filter value is the integer number of retries.

**\*MSGUSRDATA**

Message exit user data.

The filter value is the user data string.

**\*NETPRTY**

Network connection priority in the range 0 through 9.

The filter value is the integer priority value.

**\*NPMSPEED**

Whether the channel supports fast non persistent messages.

The filter value is one of the following:

**\*FAST**

The channel supports fast non persistent messages.

**\*NORMAL**

The channel does not support fast non persistent messages.

**\*PUTAUT**

Whether the user identifier in the context information should be used.

The filter value is one of the following:

**\*DFT**

No authority check is made before the message is put on the destination queue.

**\*CTX**

The user identifier in the message context information is used to establish authority to put the message.

**\*QMID**

The internally generated unique name of the cluster-queue-manager.

The filter value is the unique name.

**\*QMTYPE**

The function of the cluster-queue-manager in the cluster.

The filter value is one of the following:

**\*REPOS**

Provides a full repository service.

**\*NORMAL**

Does not provide a full repository service.

**\*RCVEXIT**

Receive exit name.

The filter value is the exit name.

**\*RCVUSRDATA**

Receive exit user data.

The filter value is the user data string.

**\*SCYEXIT**

Security exit name.

The filter value is the exit name.

**\*SCYUSRDATA**

Security exit user data.

The filter value is the user data string.

**\*SEQNUMWRAP**

Maximum message sequence number.

The filter value is the integer sequence number.

**\*SHORTRTY**

Short retry count.

The filter value is the integer count.

**\*SHORTTMR**

short retry interval in seconds.

The filter value is the integer interval time.

**\*SNDEXIT**

Send exit name.

The filter value is the exit name.

**\*SNDUSRDATA**

Send exit user data.

The filter value is the user data string.

**\*SSLCAUTH**

Whether the channel should carry out client authentication over SSL.

The filter value is one of the following:

**\*REQUIRED**

Client authentication is required.

**\*OPTIONAL**

Client authentication is optional.

**\*SSLCIPH**

The CipherSpec using in SSL channel negotiation.

The filter value is the name of the CipherSpec.

**\*SSLPEER**

The X500 peer name used in SSL channel negotiation.

The filter value is the peer name.

**\*STATCHL**

Channel Statistics.

The filter value is one of the following:

**\*QMGR**

The collection of statistics data is inherited from the setting of the queue manager attribute STATCHL.

**\*OFF**

Statistics data collection for this channel is switched off.

**\*LOW**

Statistics data collection is turned on with a low ratio of data collection.

**\*MEDIUM**

Statistics data collection is turned on with a moderate ratio of data collection.

**\*HIGH**

Statistics data collection is turned on with a high ratio of data collection.

**\*STATUS**

The current status of the channel for this cluster queue manager.

The filter value is one of the following:

**\*STARTING**

The channel is waiting to become active.

**\*BINDING**

The channel is performing channel negotiation.

**\*INACTIVE**

The channel is not active.

**\*INITIALIZING**

The channel initiator is attempting to start a channel.

**\*RUNNING**

The channel is either transferring messages, or is waiting for messages to arrive on the transmission queue.

**\*STOPPING**

The channel is stopping, or a close request has been received.

**\*RETRYING**

A previous attempt to establish a connection has failed. The MCA will reattempt connection after the specified time interval.

**\*PAUSED**

The channel is waiting for the message-retry interval to complete before retrying an MQPUT operation.

**\*STOPPED**

The channel has either been manually stopped, or the retry limit has been reached.

**\*REQUESTING**

A local requester channel is requesting services from a remote MCA.

**\*SUSPEND**

Whether this cluster queue manager is suspended from the cluster or not.

The filter value is either \*NO or \*YES.

**\*TEXT**

Descriptive comment.

The filter value is the text description of the channel.

**\*TMQNAME**

Transmission queue name.

The filter value is the name of the queue.

**\*USERID**

Task user identifier.

The filter value is the user identifier string.

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**Examples**

None

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**Error messages**

Unknown

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**11.107. Work with MQ Cluster Queues (WRKMQMCLQ)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ Cluster Queues (WRKMQMCLQ) command allows you to work with cluster queues that are defined on the local queue manager.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">QNAME</a>	Queue name	Character value, <b>*ALL</b>	Optional, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">CLUSTER</a>	Cluster name	Character value, <b>*ALL</b>	Optional, Positional 3
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 4
	Element 1: Filter keyword	*ALTDAT, *ALTTIME, *CLUSDATE, *CLUSQMGR, *CLUSQTYPE, *CLUSTER, *CLUSTIME, *DEFBIND, *DFTMSGPST, *DFTPTY, *PUTENBL, *QMID, *TEXT	
	Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG	
	Element 3: Filter value	Character value	

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### Queue name (QNAME)

Specifies the name or names of the cluster queue definitions.

#### **\*ALL**

All cluster queue definitions are selected.

#### **generic-queue-name**

Specify the generic name of the MQ cluster-queue definitions. A generic name is a character string followed by an asterisk (\*). For example ABC\*, it selects all cluster-queue definitions having names that start with the character string. You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered. You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

#### **queue-name**

Specify the name of the MQ cluster-queue definition.

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### Message Queue Manager name (MQMNAME)

Specifies the name of the queue manager.

#### **\*DFT**

Use the default queue manager.

#### **queue-manager-name**

Specify the name of the queue manager.

[Top](#)

### Cluster name (CLUSTER)

Specifies the name of the cluster.

#### **\*ALL**

All cluster definitions are selected.

#### **generic-cluster-name**

Specify the generic name of the MQ cluster definitions. A generic name is a character string followed by an asterisk (\*). For example ABC\*, it selects all cluster definitions having names that start with the character string. You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered. You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

#### **cluster-name**

Specify the name of the MQ cluster definition.

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### Filter command (WHERE)

This parameter can be used to selectively display only those cluster queues with particular cluster queue attributes.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

#### **\*GT**

Greater than.

Applicable to integer and non-generic string values.

#### **\*LT**

Less than.

Applicable to integer and non-generic string values

**\*EQ**

Equal to.

Applicable to integer and non-generic string values.

**\*NE**

Not equal to.

Applicable to integer and non-generic string values.

**\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

**\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

**\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.

**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*ALTDATE**

The date on which the definition or information was last altered.

The filter value is the data in the form yyyy-mm-dd.

**\*ALTTIME**

The time at which the definition or information was last altered.

The filter value is the time in the form hh:mm:ss.

**\*CLUSDATE**

The date on which the definition became available to the local queue manager.

The filter value is the date in the form yyyy-mm-dd.

**\*CLUSQMGR**

The name of the queue manager that hosts the queue.

The filter value is the name of the queue manager.

**\*CLUSQTYPE**

Cluster queue type.

The filter value is one of the following:

**\*LCL**

The cluster queue represents a local queue.

**\*ALS**

The cluster queue represents an alias queue.

**\*RMT**

The cluster queue represents a remote queue.

**\*MQMALS**

The cluster queue represents a queue manager alias.

**\*CLUSTER**

The name of the cluster that the queue is in.

The filter value is the name of the cluster.

**\*CLUSTIME**

The time at which the definition became available to the local queue manager.

The filter value is the time in the form hh:mm:ss.

**\*DEFBIND**

Default message binding.

The filter value is one of the following:

**\*OPEN**

The queue handle is bound to a specific instance of the cluster queue when the queue is opened.

**\*NOTFIXED**

The queue handle is not bound to any particular instance of the cluster queue.

**\*DFTMSGPST**

Default persistence of the messages put on this queue.

The filter value is one of the following:

**\*NO**

Messages on this queue are lost across a restart of the queue manager.

**\*YES**

Messages on this queue survive a restart of the queue manager.

**\*DFTPTY**

Default priority of the messages put on the queue.

The filter value is the integer priority value.

**\*PUTENBL**

Whether applications are permitted to put messages to the queue.

The filter value is one of the following:

**\*NO**

Messages cannot be added to the queue.

**\*YES**

Messages can be added to the queue by authorized applications.

**\*QMID**

Internally generated unique name of the queue manager that hosts the queue.

The filter value is the name of the queue manager.

**\*TEXT**

Descriptive comment.

The filter value is the text description of the queue.

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**Examples**

None

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**Error messages**

Unknown

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**11.108. Work with MQ Connections (WRKMQMCONN)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ Connections (WRKMQMCONN) command allows you to work with connection information for applications that are connected to the queue manager.

This enables you to display connection handles and end connections to the queue manager.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">CONN</a>	Connection Identifier	Character value, <b>*ALL</b>	Optional, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 3

Element 1: Filter keyword	*APPLDESC, *APPLTAG, *APPLTYPE, *CHLNAME, *CONNAME, *PID, *TID, *UOWLOGDA, *UOWLOGTI, *UOWSTDA, *UOWSTTI, *URTYPE, *USERID
Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG
Element 3: Filter value	<i>Character value</i>

[Top](#)**Connection Identifier (CONN)**

The connection identifiers to work with.

The possible values are:

**\*ALL**

All connection identifiers are selected.

**connection-id**

Specify the name of a specific connection identifier. The connection identifier is a 16 character hex string.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

The name of a message queue manager.

[Top](#)**Filter command (WHERE)**

This parameter can be used to selectively display only those queue manager connections with particular connection attributes.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

**\*GT**

Greater than.

Applicable to integer and non-generic string values.

**\*LT**

Less than.

Applicable to integer and non-generic string values

**\*EQ**

Equal to.

Applicable to integer and non-generic string values.

**\*NE**

Not equal to.

Applicable to integer and non-generic string values.

**\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

**\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

**\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.



**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*APPLDESC**

The description of the application connected to the queue manager.

The filter value is the application description string.

**\*APPLTAG**

The tag of the application connected to the queue manager.

The filter value is the application tag string.

**\*APPLTYPE**

The type of application connected to the queue manager.

The filter value is one of the following:

**\*CICS**

CICS/400 application.

**\*MVS**

MVS application.

**\*IMS**

IMS application.

**\*OS2**

OS/2 application.

**\*DOS**

DOS application.

**\*UNIX**

UNIX application.

**\*QMGR**

Queue manager application.

**\*OS400**

i5/OS application.

**\*WINDOWS**

Windows application.

**\*CICS\_VSE**

CICS/VSE application.

**\*WINDOWS\_NT**

Windows NT application.

**\*VMS**

VMS application.

**\*NSK**

Tandem/NSK application.

**\*VOS**

VOS application.

**\*IMS\_BRIDGE**

IMS bridge application.

**\*XCF**

XCF application.

**\*CICS\_BRIDGE**

CICS bridge application.

**\*NOTES\_AGENT**

Lotus Notes application.

**\*BROKER**

Broker application.

**\*JAVA**

Java application.

**\*DQM**

DQM application.

**\*CHINIT**

Channel initiator.

**\*SYSTEM\_EXT**

System extension application.

**user-value**

User-defined application.

The filter value is the integer application type.

**\*CHLNAME**

The name of the channel that owns the connection.

The filter value is the channel name.

**\*CONNAME**

The connection name associated with the channel that owns the connection.

The filter value is the connection name.

**\*PID**

The process identifier of the application that is connected to the queue manager.

The filter value is the process identifier integer.

**\*TID**

The thread identifier of the application that is connected to the queue manager.

The filter value is the thread identifier integer.

**\*UOWLOGDA**

The date that the transaction associated with the connection first wrote to the log.

The filter value is the date in the form yyyy-mm-dd.

**\*UOWLOGTI**

The time that the transaction associated with the connection first wrote to the log.

The filter value is the time in the form hh:mm:ss.

**\*UOWSTDA**

The date that the transaction associated with the connection was started.

The filter value is the date in the form yyyy-mm-dd.

**\*UOWSTTI**

The time that the transaction associated with the connection was started.

The filter value is the time in the form hh:mm:ss.

**\*URTYPE**

The type of unit of recovery identifier as seen by the queue manager.

The filter value is one of the following:

**\*QMGR**

A queue manager transaction.

**\*XA**

An externally coordinated transaction. This includes units of work which have been established using i5/OS Start Commitment Control (STRCMTCTL).

**\*USERID**

The user identifier associated with the connection.

The filter value is user identifier name.

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**Examples**

None

[Top](#)

**Error messages**

Unknown

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**11.109. Work Queue Manager Journals (WRKMQMJRN)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work With Queue Manager Journals command (WRKMQMJRN) displays a list of all the journals which are associated with a specific queue manager. This command may be used, for example, to configure remote journaling for a multi-instance queue manager.

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**Parameters**

Keyword	Description	Choices	Notes
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<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 1
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[Top](#)

### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager to work with journals.

#### queue-manager-name

Specify the name of the queue manager. The name can contain up to 48 characters. The maximum number of characters is reduced if the system is using a double byte character set (DBCS).

[Top](#)

### Examples

None

[Top](#)

### Error messages

Unknown

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## 11.110. Work with MQ Listeners (WRKMQLSR)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ Listener objects (WRKMQLSR) command allows you to work with listener objects which are defined on the local queue manager.

This enables you to change, copy, create, delete, start, stop & display listener objects display and change authority to an MQ listener object.

This command also enables you to view the current status of all running listeners on the current system.

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### Parameters

Keyword	Description	Choices	Notes
<a href="#">OPTION</a>	Option	<b>*STATUS</b> , *OBJECT	Optional, Positional 1
<a href="#">LSRNAME</a>	Listener name	Character value, <b>*ALL</b>	Optional, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 3
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 4
	Element 1: Filter keyword	*ALTDAT, *ALTTIME, *BACKLOG, *CONTROL, *IPADDR, *PORT, *TEXT	
	Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG	
	Element 3: Filter value	Character value	

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### Option (OPTION)

This option enables you to select whether you want to information on listener status or listener object definitions.

The possible values are:

#### **\*STATUS**

Listener status information is displayed.

The parameters LSRNAME and WHERE are ignored. If MQMNAME is specified only the status of listeners running on the specified queue manager are displayed.

#### **\*OBJECT**

Listener object information is displayed.

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### Listener name (LSRNAME)

The name or names of the listener objects.

The possible values are:

#### **\*ALL or \***

All listener objects are selected.

**generic-listener-name**

The generic name of the listener objects. A generic name is a character string followed by an asterisk (\*), for example ABC\*, and it selects all listener objects having names that start with the character string.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

**listener-name**

Specify the name of a single listener object.

[Top](#)

**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**queue-manager-name**

The name of a message queue manager.

[Top](#)

**Filter command (WHERE)**

This parameter can be used to selectively display only those listener objects with particular listener attributes.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

**\*GT**

Greater than.

Applicable to integer and non-generic string values.

**\*LT**

Less than.

Applicable to integer and non-generic string values

**\*EQ**

Equal to.

Applicable to integer and non-generic string values.

**\*NE**

Not equal to.

Applicable to integer and non-generic string values.

**\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

**\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

**\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.

**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*ALTDATE**

The date on which the definition or information was last altered.

The filter value is the date in the form yyyy-mm-dd.

**\*ALLTIME**

The time at which the definition or information was last altered.

The filter value is the time in the form hh:mm:ss.

**\*BACKLOG**

The number of concurrent connection requests supported.

The filter value is the integer backlog value.

**\*CONTROL**

Whether the listener is started and stopped with the queue manager.

The filter value is one of the following:

**\*MANUAL**

The listener is not automatically started or stopped.

**\*QMGR**

The listener is started and stopped as the queue manager is started and stopped.

**\*STARTONLY**

The listener is started as the queue manager is started, but is not requested to stop when the queue manager is stopped.

**\*IPADDR**

The local IP Address to be used by the listener.

The filter value is the IP Address.

**\*PORT**

The port number to be used by the listener.

The filter value is the integer port value.

**\*TEXT**

Descriptive comment.

The filter value is the text description of the listener.

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## Examples

None

[Top](#)

## Error messages

Unknown

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## 11.111. Work with MQ Messages (WRKMQMSG)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ Messages (WRKMQMSG) command lists the messages on a specified local queue and allows you to work with those messages. From the list of messages, you can display the contents of a message and its associated message descriptor (MQMD).

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">QNAME</a>	Queue name	<i>Character value</i>	Required, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	<i>Character value, *DFT</i>	Optional, Positional 2
<a href="#">FIRST</a>	First Message	1-30000, <b>1</b>	Optional, Positional 3
<a href="#">MAXMSG</a>	Maximum number of messages	1-30000, <b>48</b>	Optional, Positional 4
<a href="#">MAXMSLEN</a>	Maximum message size	128-999999, <b>1024</b>	Optional, Positional 5

[Top](#)**Queue name (QNAME)**

Specifies the name of the local queue.

The possible values are:

***queue-name***

Specify the name of the local queue.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

***queue-manager-name***

Specify the name of the queue manager.

[Top](#)**First Message (FIRST)**

Specifies the number of the first message to display.

The possible values are:

**1**

The number of the first message to display is 1.

***message-number***

Specify the number of the first message to display ranging from 1 through 30 000.

[Top](#)**Maximum number of messages (MAXMSG)**

Specifies the maximum number of messages to display.

The possible values are:

**48**

Display a maximum of 48 messages.

***count-value***

Specify a value for the maximum number of messages to display ranging from 1 through 30 000.

[Top](#)**Maximum message size (MAXMSGLEN)**

Specifies the maximum size of message data to display.

The size of a message, greater than the value specified, is suffixed by a plus (+) character to indicate that the message data is truncated.

The possible values are:

**1024**

The size of the message data is 1024 bytes.

***length-value***

Specify a value ranging from 128 through 999999.

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**Examples**

None

[Top](#)

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**Error messages**

Unknown

[Top](#)**11.112. Work with MQ Namelist (WRKMQMNL)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ Namelists (WRKMQMNL) command allows you to work with multiple namelist definitions that are defined on the local queue manager. This enables you to copy, change, display, delete, display authority and edit authority of an MQ namelist object.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">NAMELIST</a>	Namelist	Character value, <b>*ALL</b>	Optional, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 3
	Element 1: Filter keyword	*ALTDAT, *ALTTIME, *NAMECNT, *NAMES, *TEXT	
	Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG	
	Element 3: Filter value	Character value	

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### Namelist (NAMELIST)

Specifies the name or names of the namelists.

The possible values are:

#### **\*ALL**

All namelist definitions are selected.

#### **generic-namelist-name**

Specify the generic name of the MQ namelists. A generic name is a character string followed by an asterisk (\*). For example ABC\*, it selects all namelists having names that start with the character string.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

#### **namelist-name**

Specify the name of the MQ namelist.

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### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

#### **\*DFT**

The default queue manager is used.

#### **message-queue-manager-name**

Specify the name of the queue manager.

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### Filter command (WHERE)

This parameter can be used to selectively display only those namelists with particular namelist attributes.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

#### **\*GT**

Greater than.

Applicable to integer and non-generic string values.

#### **\*LT**

Less than.

Applicable to integer and non-generic string values

#### **\*EQ**

Equal to.

Applicable to integer and non-generic string values.

#### **\*NE**

Not equal to.

Applicable to integer and non-generic string values.

#### **\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

**\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

**\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.

**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*ALTDATE**

The date on which the definition or information was last altered.

The filter value is the date in the form yyyy-mm-dd.

**\*ALLTIME**

The time at which the definition or information was last altered.

The filter value is the time in the form hh:mm:ss.

**\*NAMECNT**

The number of names in the namelist.

The filter value is the integer number of names.

**\*NAMES**

The names in the namelist.

The filter value is the string name.

**\*TEXT**

Descriptive comment.

The filter value is the text description of the queue.

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**Examples**

None

[Top](#)

**Error messages**

Unknown

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**11.113. Work with MQ Processes (WRKMQMPC)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ Processes (WRKMQMPC) command allows you to work with multiple process definitions that are defined on the local queue manager. This enables you to copy, change, display, delete, display authority, and edit authority of an MQ process object.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">PRCNAME</a>	Process name	Character value, <b>*ALL</b>	Optional, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 3
	Element 1: Filter keyword	*ALTDATA, *ALTDATE, *ALTTIME, *APPID, *APPTYPE, *ENVDATA, *TEXT, *USRDATA	
	Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG	
	Element 3: Filter value	Character value	

[Top](#)**Process name (PRCNAME)**

Specifies the name or names of the process definitions.

The possible values are:

**\*ALL**

All process definitions are selected.

***generic-process-name***

Specify the generic name of the MQ process definitions. A generic name is a character string followed by an asterisk (\*). For example ABC\*, it selects all process definitions having names that start with the character string.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

***process-name***

Specify the name of the MQ process definition.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

***queue-manager-name***

The name of a message queue manager.

[Top](#)**Filter command (WHERE)**

This parameter can be used to selectively display only those processes with particular process attributes.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

**\*GT**

Greater than.

Applicable to integer and non-generic string values.

**\*LT**

Less than.

Applicable to integer and non-generic string values

**\*EQ**

Equal to.

Applicable to integer and non-generic string values.

**\*NE**

Not equal to.

Applicable to integer and non-generic string values.

**\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

**\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

**\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.

**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*ALTDAT**

The date on which the definition or information was last altered.

The filter value is the date in the form yyyy-mm-dd.

**\*ALTTIME**

The time at which the definition or information was last altered.

The filter value is the time in the form hh:mm:ss.

**\*APPID**

The name of the application to start.

The filter value is the name of the application.

**\*APPTYPE**

The type of the application to start.

The filter value is one of the following:

**\*CICS**

CICS/400 application.

**\*MVS**

MVS application.

**\*IMS**

IMS application.

**\*OS2**

OS/2 application.

**\*DOS**

DOS application.

**\*UNIX**

UNIX application.

**\*QMGR**

Queue manager application.

**\*OS400**

i5/OS application.

**\*WINDOWS**

Windows application.

**\*CICS\_VSE**

CICS/VSE application.

**\*WINDOWS\_NT**

Windows NT application.

**\*VMS**

VMS application.

**\*NSK**

Tandem/NSK application.

**\*VOS**

VOS application.

**\*IMS\_BRIDGE**

IMS bridge application.

**\*XCF**

XCF application.

**\*CICS\_BRIDGE**

CICS bridge application.

**\*NOTES\_AGENT**

Lotus Notes application.

**\*BROKER**

Broker application.

**\*JAVA**

Java application.

**\*DQM**

DQM application.

**user-value**

User-defined application.

The filter value is the integer application type.

**\*ENVDATA**

Environment data pertaining to the application.

The filter value is the environment data.

**\*TEXT**

Descriptive comment.

The filter value is the text description of the queue.

**\*USRDATA**

User data pertaining to the application.

The filter value is the user data.

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**Examples**

None

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**Error messages**

Unknown

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**11.114. Work with MQ Queues (WRKMQMQ)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ Queues (WRKMQMQ) command allows you to work with multiple queues that are defined on the local queue manager. This enables you to copy, change, display, delete, display authority and edit authority of an MQ Queue object.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">QNAME</a>	Queue name	Character value, <b>*ALL</b>	Optional, Positional 1
<a href="#">QTYPE</a>	Queue type	<b>*ALL</b> , *ALS, *LCL, *MDL, *RMT	Optional, Positional 2
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 3
<a href="#">CLUSTER</a>	Cluster name	Character value, <b>*ALL</b>	Optional, Positional 4
<a href="#">CLUSNL</a>	Cluster namelist name	Character value, <b>*ALL</b>	Optional, Positional 5
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 6
	Element 1: Filter keyword	*ACCTQ, *ALTDATA, *ALTTIME, *BKTHLD, *BKTQNAME, *CLUSDATE, *CLUSNL, *CLUSQGR, *CLUSQTYPE, *CLUSTER, *CLUSTIME, *CLWLPRTY, *CLWLRANK, *CLWLUSEQ, *CRDATE, *CRTIME, *CURDEPTH, *DEFBIND, *DFTPUTRESP, *DFNTYPE, *DFTMSGPST, *DFTPTY, *DFTSHARE, *DISTLIST, *FULLEVT, *GETDATE, *GETENBL, *GETTIME, *HDNBKTCNT, *HIGHEVT, *HIGHTHLD, *INITQNAME, *IPPROCS, *JOBS, *LOWEVT, *LOWTHLD, *MAXDEPTH, *MAXMSGLN, *MEDIAREC, *MONQ, *MSGAGE, *MSGDLYSEQ, *MSGREADAHD, *NPMCLASS, *OPPROCS, *PRCNAME, *PROPCTL, *PUTDATE, *PUTENBL, *PUTTIME, *QMID, *QTYPE, *RMTMQMNAME, *RMTQNAME, *RTNITV, *SHARE, *SRVEVT, *SRVITV, *STATQ, *TARGTYPE, *TEXT, *TGTTQNAME, *TMQNAME, *TRGDATA, *TRGDEPTH,	

		*TRGENBL, *TRGMSGPTY, *TRGTYPE, *UNCOM, *USAGE	
	Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG	
	Element 3: Filter value	<i>Character value</i>	

[Top](#)**Queue name (QNAME)**

The name or names of the queues to be selected. The queues selected by this parameter can be further limited to a particular type, if the QTYPE keyword is specified.

The possible values are:

**\*ALL**

All queues are selected.

***generic-queue-name***

Specify the generic name of the queues to be selected. A generic name is a character string, followed by an asterisk (\*). For example ABC\*, it selects all queues having names that start with the character string.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

***queue-name***

Specify the name of the queue.

[Top](#)**Queue type (QTYPE)**

This parameter can be specified to limit the queues that are displayed to a particular type.

The possible values are:

**\*ALL**

All queue types.

**\*ALS**

Alias queues.

**\*LCL**

Local queues.

**\*MDL**

Model queues.

**\*RMT**

Remote queues.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

***queue-manager-name***

Specify the name of the queue manager.

[Top](#)**Cluster name (CLUSTER)**

This parameter can be specified to limit the queues that are displayed to be members of a particular cluster.

The possible values are:

**\*ALL**

All clusters.

***generic-cluster-name***

The generic name of a cluster.

***cluster-name***

The name of a cluster.

[Top](#)**Cluster namelist name (CLUSNL)**

This parameter can be specified to limit the queues that are displayed to be members of clusters within a cluster namelist.

The possible values are:

**\*ALL**

All cluster namelists.

**generic-cluster-namelist-name**

The generic name of a cluster namelist.

**cluster-namelist-name**

The name of a cluster namelist.

[Top](#)

**Filter command (WHERE)**

This parameter can be used to selectively display only those queues with particular queue attributes.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

**\*GT**

Greater than.

Applicable to integer and non-generic string values.

**\*LT**

Less than.

Applicable to integer and non-generic string values

**\*EQ**

Equal to.

Applicable to integer and non-generic string values.

**\*NE**

Not equal to.

Applicable to integer and non-generic string values.

**\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

**\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

**\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.

**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*ACCTQ**

Queue Accounting.

The filter value is one of the following:

**\*QMGR**

Accounting data collection is based upon the setting of the queue manager attribute ACCTQ.

**\*OFF**

Accounting data collection for this queue is switched off.

**\*ON**

Accounting data collection is switched on for this queue.

**\*ALTDATE**

The date on which the definition or information was last altered.

The filter value is the data in the form yyyy-mm-dd.

**\*ALTIME**

The time at which the definition or information was last altered.

The filter value is the time in the form hh:mm:ss.

**\*BKTTHLD**

Backout threshold.

The filter value is the integer threshold value.

**\*BKTQNAME**

Backout requeue name.

The filter value is the name of the queue.

**\*CLUSDATE**

The date on which the definition became available to the local queue manager.

The filter value is the date in the form yyyy-mm-dd.

**\*CLUSNL**

The namelist that defines the clusters that the queue is in.

The filter value is the name of the namelist.

**\*CLUSQMR**

The name of the queue manager that hosts the queue.

The filter value is the name of the queue manager.

**\*CLUSQTYPE**

Cluster queue type.

The filter value is one of the following:

**\*LCL**

The cluster queue represents a local queue.

**\*ALS**

The cluster queue represents an alias queue.

**\*RMT**

The cluster queue represents a remote queue.

**\*MQMALS**

The cluster queue represents a queue manager alias.

**\*CLUSTER**

The name of the cluster that the queue is in.

The filter value is the name of the cluster.

**\*CLUSTIME**

The time at which the definition became available to the local queue manager.

The filter value is the time in the form hh:mm:ss.

**\*CLWLPTY**

Cluster workload priority.

The filter value is the integer priority.

**\*CLWLANK**

Cluster workload rank.

The filter value is the integer rank.

**\*CLWLUSEQ**

Cluster workload queue use.

The filter value is one of the following:

**\*QMGR**

The value is inherited from the Queue Manager CLWLUSEQ attribute.

**\*LOCAL**

The local queue will be the sole target of the MQPUT.

**\*ANY**

The queue manager will treat such a local queue as another instance of the cluster queue for the purposes of workload distribution.

**\*CRDATE**

The date on which the queue was created.

The filter value is the date in the form yyyy-mm-dd.

**\*CRTIME**

The time at which the queue was created.

The filter value is the time in the form hh:mm:ss.

**\*CURDEPTH**

Current depth of queue.

The filter value is the integer depth value.

**\*DEFBIND**

Default message binding.

The filter value is one of the following:

**\*OPEN**

The queue handle is bound to a specific instance of the cluster queue when the queue is opened.

**\*NOTFIXED**

The queue handle is not bound to any particular instance of the cluster queue.

**\*DFTPUTRESP**

Default Put Response.

The filter value is one of the following:

**\*SYNC**

The put operation is issued synchronously.

**\*ASYNC**

The put operation is issued asynchronously.

**\*DFNTYPE**

Queue definition type.

The filter value is one of the following:

**\*PREDEF**

Predefined queue.

**\*PERMDYN**

Permanent dynamic queue.

**\*TEMPDYN**

Temporary dynamic queue.

**\*DFTMSGPST**

Default persistence of the messages put on this queue.

The filter value is one of the following:

**\*NO**

Messages on this queue are lost across a restart of the queue manager.

**\*YES**

Messages on this queue survive a restart of the queue manager.

**\*DFTPTY**

Default priority of the messages put on the queue.

The filter value is the integer priority value.

**\*DFTSHARE**

Default share option on a queue opened for input.

The filter value is one of the following:

**\*NO**

The open request is for exclusive input from the queue.

**\*YES**

The open request is for shared input from the queue.

**\*DISTLIST**

Whether distribution lists are supported by the partner queue manager.

The filter value is one of the following:

**\*NO**

Distribution lists are not supported by the partner queue manager.

**\*YES**

Distribution lists are supported by the partner queue manager.

**\*FULLEVT**

Whether Queue Depth Full events are generated.

The filter value is one of the following:

**\*NO**

Queue Depth Full events are not generated.

**\*YES**

Queue Depth Full events are generated.

**\*GETDATE**

The date on which the last message was got from the queue since queue manager start. This field is only present when Queue Monitoring is not set to \*OFF.

The filter value is the data in the form yyyy-mm-dd.

**\*GETENBL**

Whether applications are permitted to get messages from the queue.

The filter value is one of the following:

**\*NO**

Applications cannot retrieve messages from the queue.

**\*YES**

Authorized applications can retrieve messages from the queue.

**\*GETTIME**

The time at which the last message was got from the queue since queue manager start. This field is only present when Queue Monitoring is not set to \*OFF.

The filter value is the time in the form hh:mm:ss.

**\*HDNBKTCNT**

Whether the backout count is hardened.

The filter value is one of the following:

**\*NO**

The backout count is not hardened.

**\*YES**

The backout count is hardened.

**\*HIGHEVT**

Whether Queue Depth High events are generated.

The filter value is one of the following:

**\*NO**

Queue Depth High events are not generated.

**\*YES**

Queue Depth High events are generated.

**\*HIGHTHLD**

Queue Depth High event generation threshold.

The filter value is the integer threshold value.

**\*INITQNAME**

Initiation queue.

The filter value is the name of the queue.

**\*IPPROCS**

Number of handles indicating that the queue is open for input.

The filter value is the integer number of handles.

**\*JOBS**

The current number of jobs that have the queue open.

The filter value is the integer number of jobs.

**\*LOWEVT**

Whether Queue Depth Low events are generated.

The filter value is one of the following:

**\*NO**

Queue Depth Low events are not generated.

**\*YES**

Queue Depth Low events are generated.

**\*LOWTHLD**

Queue Depth Low event generation threshold.

The filter value is the integer threshold value.

**\*MAXDEPTH**

Maximum depth of queue.

The filter value is the integer number of messages.

**\*MAXMSGLEN**

Maximum message length.

The filter value is the integer message length.

**\*MEDIAREC**

The journal receiver containing the last media recovery image. This field is only present for local queues.

The filter value is the journal receiver string.

**\*MONQ**

Online Monitoring Data.

The filter value is one of the following:

**\*QMGR**

The collection of Online Monitoring Data is inherited from the setting of the queue manager attribute MONQ.

**\*OFF**



Online Monitoring Data collection for this queue is switched off.

**\*LOW**

Monitoring data collection is turned on with a low ratio of data collection.

**\*MEDIUM**

Monitoring data collection is turned on with a moderate ratio of data collection.

**\*HIGH**

Monitoring data collection is turned on with a high ratio of data collection.

**\*MSGAGE**

The age in seconds of the oldest message on the Queue. This field is only present when Queue Monitoring is not set to \*OFF.

The filter value is the integer message age.

**\*MSGDLYSEQ**

Message delivery sequence.

The filter value is one of the following:

**\*PTY**

Messages are delivered in FIFO order within priority.

**\*FIFO**

Messages are delivered in FIFO order regardless of priority.

**\*NPMCLASS**

Non-persistent message class.

The filter value is one of the following:

**\*NORMAL**

Non-persistent message class is normal.

**\*HIGH**

Non-persistent message class is high.

**\*MSGREADAHD**

Message read ahead.

The filter value is one of the following:

**\*DISABLED**

Read ahead is disabled.

**\*NO**

Non-persistent messages are not sent to the client ahead of an application requesting them.

**\*YES**

Non-persistent messages are sent to the client ahead of an application requesting them.

**\*OPPROCS**

Number of handles indicating that the queue is open for output.

The filter value is the integer number of handles.

**\*PRCNAME**

Process name.

The filter value is the name of the process.

**\*PROPCTL**

Message Property Control.

The filter value is one of the following:

**\*COMPAT**

Compatibility mode.

**\*NONE**

No properties are returned to the application.

**\*ALL**

All properties are returned to the application.

**\*FORCE**

Properties are returned to the application in one or more MQRFH2 headers.

**\*PUTDATE**

The date on which the last message was put to the queue since queue manager start. This field is only present when Queue Monitoring is not set to \*OFF.

The filter value is the data in the form yyyy-mm-dd.

**\*PUTENBL**

Whether applications are permitted to put messages to the queue.

The filter value is one of the following:

**\*NO**

Messages cannot be added to the queue.

**\*YES**

Messages can be added to the queue by authorized applications.

**\*PUTTIME**

The time at which the last message was put to the queue since queue manager start. This field is only present when Queue Monitoring is not set to \*OFF.

The filter value is the time in the form hh:mm:ss.

**\*QMID**

Internally generated unique name of the queue manager that hosts the queue.  
The filter value is the name of the queue manager.

**\*QTYPE**

Queue type.  
The filter value is one of the following:

**\*LCL**

Local queue.

**\*ALS**

Alias queue.

**\*RMT**

Remote queue.

**\*MDL**

Model queue.

**\*RMTQMNAME**

Remote queue manager name.  
The filter value is the name of the queue manager.

**\*RMTQNAME**

Name of the local queue, as known by the remote queue manager.  
The filter value is the name of the queue.

**\*RTNITV**

Retention interval.  
The filter value is the integer interval value.

**\*SHARE**

Whether the queue can be shared.  
The filter value is one of the following:

**\*NO**

Only a single application instance can open the queue for input.

**\*YES**

More than one application instance can open the queue for input.

**\*SRVEVT**

Whether service interval events are generated.  
The filter value is one of the following:

**\*HIGH**

Service Interval High events are generated.

**\*OK**

Service Interval OK events are generated.

**\*NONE**

No service interval events are generated.

**\*SRVITV**

Service interval event generation threshold.  
The filter value is the integer threshold value.

**\*STATQ**

Statistics data.  
The filter value is one of the following:

**\*QMGR**

Statistics data collection is based upon the setting of the queue manager attribute STATQ.

**\*OFF**

Statistics data collection for this queue is switched off.

**\*ON**

Statistics data collection is switched on for this queue.

**\*TARGTYPE**

Target Type.  
The filter value is one of the following:

**\*QUEUE**

Queue object.

**\*TOPIC**

Topic object.

**\*TEXT**

Descriptive comment.  
The filter value is the text description of the queue.

**\*TGTQNAME**

Target queue for which this queue is an alias.

The filter value is the name of the queue.

**\*TMQNAME**

Transmission queue name.

The filter value is the name of the queue.

**\*TRGDATA**

Trigger data.

The filter value is the text of the trigger message.

**\*TRGDEPTH**

Trigger depth.

The filter value is the integer number of messages.

**\*TRGENBL**

Whether triggering is enabled.

The filter value is one of the following:

**\*NO**

Triggering is not enabled.

**\*YES**

Triggering is enabled.

**\*TRGMSGPTY**

Threshold message priority for triggers.

The filter value is the integer priority value.

**\*TRGTYPE**

Trigger type.

The filter value is one of the following:

**\*FIRST**

When the number of messages on the queue goes from 0 to 1.

**\*ALL**

Every time a message arrives on the queue.

**\*DEPTH**

When the number of messages on the queue equals the value of the TRGDEPTH attribute.

**\*NONE**

No trigger messages are written.

**\*UNCOM**

Whether there are any uncommitted changes pending for the queue.

The filter value is one of the following:

**\*NO**

There are no uncommitted changes pending.

**\*YES**

There are uncommitted changes pending.

**\*USAGE**

Whether the queue is a transmission queue.

The filter value is one of the following:

**\*NORMAL**

The queue is not a transmission queue.

**\*TMQ**

The queue is a transmission queue.

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**Examples**

None

[Top](#)

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**Error messages**

Unknown

[Top](#)

**11.115. Work with Queue Status (WRKMQMST)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with Queue Status (WRKMQMST) command lists the jobs which have a WebSphere MQ queue currently open. The command allows you to determine what options a queue was opened with and also allows you to check to see which channels and connections have a queue open.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 1
<a href="#">QNAME</a>	Queue name	Character value	Optional, Positional 2
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 3
	Element 1: Filter keyword	*APPLDESC, *APPLTAG, *BROWSE, *CHLNAME, *CONNAME, *INPUT, *INQUIRE, *JOB, *OUTPUT, *SET, *URTYPE	
	Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG	
	Element 3: Filter value	Character value	

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### Message Queue Manager name (MQMNAME)

Specifies the name of the message queue manager.

The possible values are:

#### **\*DFT**

Use the default queue manager.

#### **queue-manager-name**

Specify the name of the queue manager.

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### Queue name (QNAME)

Specifies the name of the local queue.

The possible values are:

#### **queue-name**

Specify the name of the local queue.

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### Filter command (WHERE)

This parameter can be used to selectively display only the jobs with particular attributes that have the queue open.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

#### **\*GT**

Greater than.

Applicable to integer and non-generic string values.

#### **\*LT**

Less than.

Applicable to integer and non-generic string values

#### **\*EQ**

Equal to.

Applicable to integer and non-generic string values.

#### **\*NE**

Not equal to.

Applicable to integer and non-generic string values.

#### **\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

#### **\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

#### **\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.

**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*APPLDESC**

The description of the application which has the queue open.

The filter value is the application description string.

**\*APPLTAG**

The tag of the application which has the queue open.

The filter value is the application tag string.

**\*BROWSE**

Whether the job has the queue open for browsing.

The filter value is either \*NO or \*YES.

**\*CHLNAME**

The name of the channel which has the queue open.

The filter value is the channel name.

**\*CONNAME**

The connection name of the channel which has the queue open.

The filter value is the connection name.

**\*INPUT**

Whether the job has the queue open for input.

The filter value is one of the following:

**\*NO**

The job does not have the queue open for input.

**\*SHARED**

The job has the queue open for shared input.

**\*EXCL**

The job has the queue open for exclusive input.

**\*INQUIRE**

Whether the job has the queue open for inquiry.

The filter value is either \*NO or \*YES.

**\*JOB**

The name of the job which has the queue open.

The filter value is the job name.

**\*OUTPUT**

Whether the job has the queue open for output.

The filter value is either \*NO or \*YES.

**\*SET**

Whether the job has the queue open for set.

The filter value is either \*NO or \*YES.

**\*URTYPE**

The type of unit of work recovery identifier.

The filter value is one of the following:

**\*QMGR**

Queue manager unit of work recovery identifier.

**\*XA**

XA unit of work recovery identifier.

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## Examples

None

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## Error messages

Unknown

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## 11.116. Work with MQ Subscriptions (WRKMQMSUB)

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ Subscriptions (WRKMQMSUB) command allows you to work with multiple subscriptions that are defined on the local queue manager. This enables you to copy, change, display and delete WMQ subscriptions.

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## Parameters

Keyword	Description	Choices	Notes
<a href="#">SUBNAME</a>	Subscription name	Character value, <b>*ALL</b>	Optional, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 3
	Element 1: Filter keyword	*DEST, *DESTCLASS, *DESTCRLID, *DESTMQM, *EXPIRY, *PSPROP, *PUBACCT, *PUBAPPID, *PUBPTY, *REQONLY, *SELECTOR, *SELTYPE, *SUBSCOPE, *SUBID, *TOPICOBJ, *TOPICSTR, *USERDATA, *VARUSER, *WSHEMA	
	Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG	
	Element 3: Filter value	Character value	

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### Subscription name (SUBNAME)

Specifies the name or names of the subscriptions.

The possible values are:

**\*ALL**

All subscriptions are selected.

**generic-subscription-name**

Specify the generic name of the MQ subscriptions. A generic name is a character string followed by an asterisk (\*). For example ABC\*, it selects all subscriptions having names that start with the character string.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

**subscription-name**

Specify the name of the MQ subscription.

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### Message Queue Manager name (MQMNAME)

Specifies the name of the Queue Manager.

The possible values are:

**\*DFT**

Use the default Queue Manager.

**queue-manager-name**

The name of a Queue Manager.

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### Filter command (WHERE)

This parameter can be used to selectively display only those subscriptions with particular subscription attributes.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

**\*GT**

Greater than.

Applicable to integer and non-generic string values.

**\*LT**

Less than.

Applicable to integer and non-generic string values

**\*EQ**

Equal to.

Applicable to integer and non-generic string values.

**\*NE**

Not equal to.

Applicable to integer and non-generic string values.

**\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

**\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

**\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.

**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*DEST**

The destination queue for messages published to this subscription.

The filter value is the name of the queue.

**\*DESTCLASS**

Specifies whether this is a managed subscription.

The filter value is one of the following:

**\*MANAGED**

The destination is managed.

**\*PROVIDED**

The destination is a queue.

**\*DESTRRLID**

The correlation identifier for messages published to this subscription.

The filter value is the 48 character hexadecimal string representing the 24 byte correlation identifier.

**\*DESTMQM**

The destination queue manager for messages published to this subscription.

The filter value is the name of the queue manager.

**\*EXPIRY**

The the expiry time of the subscription.

The filter value is the integer expiry time.

**\*PSPROP**

The manner in which publish / subscribe related message properties are added to messages sent to this subscription.

The filter value is one of the following:

**\*NONE**

Publish / subscribe properties are not added to the message.

**\*COMPAT**

Publish / subscribe properties are added to the message to maintain compatibility with V6 Publish / Subscribe.

**\*RFH2**

Publish / subscribe properties are added to the message within an RFH Version 2 header.

**\*PUBACCT**

The accounting token for messages published to this subscription.

The filter value is the 64 character hexadecimal string representing the 32 byte publish accounting token.

**\*PUBAPPID**

The publish application identity for messages published to this subscription.

The filter value is the publish application identifier.

**\*PUBPTY**

The priority of the message sent to this subscription.

The filter value is the integer priority.

**\*REQONLY**

Whether the subscriber will poll for updates via MQSUBRQ API, or whether all publications are delivered to this subscription.

The filter value is one of the following:

**\*YES**

Publications are only delivered to this subscription in response to an MQSUBRQ API.

**\*NO**

All publications on the topic are delivered to this subscription.

**\*SELECTOR**

The SQL 92 selector string to be applied to messages published on the named topic to select whether they are eligible for this subscription.

The filter value is the selector string.

**\*SELTYPE**

The type of SQL 92 selector string that has been specified.

The filter value is one of the following:

**\*NONE**

No selector has been specified.

**\*STANDARD**

A selector string has been specified that only references properties of the message and uses the standard selector syntax.

**\*EXTENDED**

A selector string has been specified that uses extended selectors syntax, typically by referencing the content of the message. Selector strings of this type cannot be handled internally by the queue manager; the use of extended message selectors can only be handled by another program such as WebSphere Message Broker.

**\*SUBSCOPE**

Whether this subscription should be forwarded to other brokers.

The filter value is one of the following:

**\*ALL**

The subscription will be forwarded to all queue managers directly connected via a publish / subscribe collective or hierarchy.

**\*QMGR**

The subscription will only forward messages published on the topic within this queue manager.

**\*SUBID**

The subscription identifier associated with the subscription.

The filter value is the 48 character hexadecimal string representing the 24 byte subscription identifier.

**\*TOPICOBJ**

The topic object associated with the subscription.

The filter value is the name of the topic object.

**\*TOPICSTR**

The topic string associated with the subscription.

The filter value is the topic string.

**\*USERDATA**

The user data associated with the subscription.



The filter value is the user data.

**\*VARUSER**

Whether user profiles other than the creator of the subscription can connect to it.

The filter value is one of the following:

**\*ANY**

Any user profiles can connect to the subscription.

**\*FIXED**

Only the user profile that created the subscription can connect to it.

**\*WSHEMA**

The schema to be used when interpreting wild card characters in the topic string.

The filter value is one of the following:

**\*TOPIC**

Wildcard characters represent portions of the topic hierarchy.

**\*CHAR**

Wildcard characters represent portions of strings.

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**Examples**

None

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**Error messages**

Unknown

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**11.117. Work with MQ Service object (WRKMQMSVC)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ Service objects (WRKMQMSVC) command allows you to work with multiple service objects that are defined on the local queue manager. This enables you to start, stop, change, copy, create, delete, display, and display and change authority to an MQ service object.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">SVCNAME</a>	Service name	Character value, <b>*ALL</b>	Optional, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 3
	Element 1: Filter keyword	*ALTDAT, *ALTTIME, *CONTROL, *ENDARG, *ENDCMD, *STDERR, *STDOUT, *STRARG, *STRCMD, *TEXT, *TYPE	
	Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG	
	Element 3: Filter value	Character value	

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**Service name (SVCNAME)**

The name or names of the service objects.

The possible values are:

**\*ALL or \***

All service objects are selected.

**generic-service-name**

The generic name of the service objects. A generic name is a character string followed by an asterisk (\*). For example ABC\*, it selects all service objects having names that start with the character string.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

**service-name**

Specify the name of a single service object.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

***queue-manager-name***

The name of a message queue manager.

[Top](#)**Filter command (WHERE)**

This parameter can be used to selectively display only those service objects with particular service attributes.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

**\*GT**

Greater than.

Applicable to integer and non-generic string values.

**\*LT**

Less than.

Applicable to integer and non-generic string values

**\*EQ**

Equal to.

Applicable to integer and non-generic string values.

**\*NE**

Not equal to.

Applicable to integer and non-generic string values.

**\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

**\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

**\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.

**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*ALTDAT**

The date on which the definition or information was last altered.

The filter value is the date in the form yyyy-mm-dd.

**\*ALTTIME**

The time at which the definition or information was last altered.

The filter value is the time in the form hh:mm:ss.

**\*CONTROL**

Whether the service is started and stopped with the queue manager.

The filter value is one of the following:

**\*MANUAL**

The service is not automatically started or stopped.

**\*QMGR**

The service is started and stopped as the queue manager is started and stopped.

**\*STARTONLY**

The service is started as the queue manager is started, is not be requested to stop when the queue manager is stopped.

**\*ENDARG**

The arguments passed to the end program when the service is requested to stop.

The filter value is the arguments string.

**\*ENDCMD**

The name of the executable to run when the service is requested to stop.

The filter value is the program name string.

**\*STDERR**

The standard error path.

The filter value is the path name.

**\*STDOUT**

The standard output path.

The filter value is the path name.

**\*STRARG**

The arguments passed to the program at startup.

The filter value is the arguments string.

**\*STRCMD**

The name of the program to run.

The filter value is the program name string.

**\*TEXT**

Descriptive comment.

The filter value is the text description of the service.

**\*TYPE**

Mode in which to run service.

The filter value is one of the following:

**\*CMD**

When started the command is executed but no status is collected or displayed.

**\*SVR**

The status of the executable started is monitored and displayed.

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**Examples**

None

[Top](#)

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**Error messages**

Unknown

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**11.118. Work with MQ Topics (WRKMQMTOPT)**

**Where allowed to run:** All environments (\*ALL)

**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Work with MQ Topics (WRKMQMTOPT) command allows you to work with multiple topic objects that are defined on the local queue manager. This enables you to copy, change, display, delete, display authority, edit authority, record and recover an MQ topic object.

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**Parameters**

Keyword	Description	Choices	Notes
<a href="#">TOPNAME</a>	Topic name	Character value, <b>*ALL</b>	Optional, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2
<a href="#">WHERE</a>	Filter command	Single values: <b>*NONE</b> Other values: <i>Element list</i>	Optional, Positional 3
	Element 1: Filter keyword	*ALTDAT, *ALTTIME, *DFTMSGPST, *DFTPTY, *DFTPUTRESP, *DURSUB, *MGDDURMDL, *MGDNDURMDL, *NPMMSGDLV, *PMSGDLV, *PUBENBL, *SUBENBL, *TEXT, *TOPNAME, *TOPICSTR, *WILDCARD	
	Element 2: Filter operator	*GT, *LT, *EQ, *NE, *GE, *LE, *LK, *NL, *CT, *EX, *CTG, *EXG	
	Element 3: Filter value	Character value	

[Top](#)**Topic name (TOPNAME)**

Specifies the name or names of the topic objects.

The possible values are:

**\*ALL**

All topic objects are selected.

**generic-topic-name**

Specify the generic name of the MQ topic objects. A generic name is a character string followed by an asterisk (\*). For example ABC\*, it selects all topic objects having names that start with the character string.

You are recommended to specify the name required within quotation marks. Using this format ensures that your selection is precisely what you entered.

You cannot select all the upper case and lower case versions of a generic name on a single panel, without requesting all the names.

**topic-name**

Specify the name of the MQ topic object.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the Queue Manager.

The possible values are:

**\*DFT**

Use the default Queue Manager.

**queue-manager-name**

The name of a Queue Manager.

[Top](#)**Filter command (WHERE)**

This parameter can be used to selectively display only those topics with particular topic attributes.

The parameter takes three arguments, a keyword, an operator and a value.

Generic strings are allowed for values which are names.

The operator can take one of the following values:

**\*GT**

Greater than.

Applicable to integer and non-generic string values.

**\*LT**

Less than.

Applicable to integer and non-generic string values

**\*EQ**

Equal to.

Applicable to integer and non-generic string values.

**\*NE**

Not equal to.

Applicable to integer and non-generic string values.

**\*GE**

Greater than or equal to.

Applicable to integer and non-generic string values.

**\*LE**

Less than or equal to.

Applicable to integer and non-generic string values.

**\*LK**

Like.

Applicable to generic string values.

**\*NL**

Not like.

Applicable to generic string values.

**\*CT**

Contains.

Applicable to non-generic list values.

**\*EX**

Excludes.

Applicable to non-generic list values.

**\*CTG**

Contains generic.

Applicable to generic list values.

**\*EXG**

Excludes generic.

Applicable to generic list values.

The keyword can take one of the following values:

**\*ALTDATE**

The date on which the object or information was last altered.

The filter value is the date in the form yyyy-mm-dd.

**\*ALTIME**

The time at which the object or information was last altered.

The filter value is the time in the form hh:mm:ss.

**\*DFTMSGPST**

The default persistence for messages associated with this topic.

The filter value is one of the following:

**\*ASPARENT**

Default persistence for messages is inherited from the parent topic.

**\*NO**

Messages associated with this topic are lost across a restart of the queue manager.

**\*YES**

Messages associated with this topic survive a restart of the queue manager.

**\*DFTPUTRESP**

Default Put Response.

The filter value is one of the following:

**\*ASPARENT**

The default response type is based on the setting of the first parent administrative node found in the topic tree relating to this topic.

**\*SYNC**

Put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are issued as if MQPMO\_SYNC\_RESPONSE had been specified instead.

**\*ASYNC**

Put operations to the queue that specify MQPMO\_RESPONSE\_AS\_Q\_DEF are always issued as if MQPMO\_ASYNC\_RESPONSE had been specified instead.

**\*DFTPTY**

Default priority for messages associated with this topic.

The filter value is the integer priority value.

**\*DURSUB**

Specifies whether the topic permits durable subscriptions.

The filter value is one of the following:

**\*ASPARENT**

This topic behaves in the same way as the parent topic.

**\*NO**

This topic does not permit durable subscriptions.

**\*YES**

This topic does permit durable subscriptions.

**\*MGDDURMDL**

The name of the model queue for managed durable subscriptions.

The filter value is the name of the queue.

**\*MGDNDURMDL**

The name of the model queue for managed non-durable subscriptions.  
The filter value is the name of the queue.

**\*NPMSGDLV**

Specifies the delivery mechanism for non-persistent messages published to this topic.  
The filter value is one of the following:

**\*ALL**

All non-persistent messages are published to this topic.

**\*ALLDUR**

All durable non-persistent messages are published to this topic.

**\*ALLAVAIL**

All available non-persistent messages are published to this topic.

**\*ASPARENT**

This topic behaves in the same way as the parent topic.

**\*PMSGDLV**

Specifies the delivery mechanism for persistent messages published to this topic.  
The filter value is one of the following:

**\*ALL**

All persistent messages are published to this topic.

**\*ALLDUR**

All durable persistent messages are published to this topic.

**\*ALLAVAIL**

All available persistent messages are published to this topic.

**\*ASPARENT**

This topic behaves in the same way as the parent topic.

**\*PUBENBL**

Specifies whether the topic allows publications.  
The filter value is one of the following:

**\*ASPARENT**

This topic behaves in the same way as the parent topic.

**\*NO**

This topic does not have publication enabled.

**\*YES**

This topic does have publication enabled.

**\*SUBENBL**

Specifies whether the topic allows subscriptions.  
The filter value is one of the following:

**\*ASPARENT**

This topic behaves in the same way as the parent topic.

**\*NO**

This topic does not allow subscriptions.

**\*YES**

This topic allows subscriptions.

**\*TEXT**

Descriptive comment.  
The filter value is the text description of the topic.

**\*TOPNAME**

The name of the topic.  
The filter value is the name of the topic.

**\*TOPICSTR**

The topic string, used to identify the topic node.  
The filter value is a character string.

**\*WILDCARD**

Specifies the behaviour of wildcard subscriptions with respect to this topic.  
The filter value is one of the following:

**\*PASSTHRU**

Subscriptions made to a wildcarded topic less specific than the topic string at this topic object will receive publications made to this topic and to topic strings more specific than this topic.

**\*BLOCK**

Subscriptions made to a wildcarded topic less specific than the topic string at this topic object will not receive publications made to this topic or to topic strings more specific than this topic.

[Top](#)

**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**11.119. Work with MQ Transactions (WRKMQMTRN)**

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The work with MQ transactions (WRKMQMTRN) command lists details of internally or externally coordinated in-doubt transactions.

[Top](#)**Parameters**

Keyword	Description	Choices	Notes
<a href="#">TYPE</a>	Transaction type	<b>*ALL</b> , *EXT, *INT, *MQI, *XA, *OS400	Optional, Positional 1
<a href="#">MQMNAME</a>	Message Queue Manager name	Character value, <b>*DFT</b>	Optional, Positional 2

[Top](#)**Transaction type (TYPE)**

Specifies the type of transactions.

**\*ALL**

Requests details of all the in-doubt transactions.

**\*EXT**

Requests details of externally coordinated, in-doubt transactions. Such transactions are those for which WebSphere MQ has been asked to prepare to commit, but has not yet been informed of the transaction outcome.

**\*INT**

Requests details of internally coordinated, in-doubt transactions. Such transactions are those for which each resource manager has been asked to prepare to commit, but WebSphere MQ has yet to inform the resource managers of the transaction outcome.

[Top](#)**Message Queue Manager name (MQMNAME)**

Specifies the name of the message queue manager.

The possible values are:

**\*DFT**

Use the default queue manager.

**message-queue-manager-name**

Specify the name of the queue manager.

[Top](#)**Examples**

None

[Top](#)**Error messages**

Unknown

[Top](#)**12. WebSphere MQ names and default objects**

This appendix describes the requirements for WebSphere® MQ object names, queue manager name transformations, and lists the system default objects.

[WebSphere MQ object names](#)

[Understanding WebSphere MQ queue manager library names](#)

[System and default objects](#)

Parent topic: [i5/OS System Administration Guide](#)

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## 12.1. WebSphere MQ object names

The names of the following WebSphere® MQ objects can have up to 48 single-byte characters:

- ►Authentication Information Objects◀
- ►Listeners◀
- Namelists
- Process definitions
- Queues
- Queue managers
- ►Services◀
- ►Topics◀

The names of channels are restricted to 20 single-byte characters.

The characters that can be used for all WebSphere MQ names are:

- Uppercase A–Z
- Numerics 0–9
- Period (.)
- Underscore (\_)
- Lowercase a–z (see note 1)
- Forward slash (/) (see note 1)
- Percent sign (%) (see note 1)

### Note:

1. Lowercase a–z, forward slash, and percent are special characters. If you use any of these characters in a name, the name must be enclosed in quotation marks. (Lowercase a–z characters are changed to uppercase if the name is not enclosed in quotation marks.) You cannot use lowercase characters on systems using EBCDIC Katakana.
2. Leading or embedded blanks are not allowed.

Parent topic: [WebSphere MQ names and default objects](#)

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## 12.2. Understanding WebSphere MQ queue manager library names

When a queue manager is created, WebSphere® MQ associates a queue manager library with it. This queue manager library is given a unique name, no more than 10 characters long, largely based on the user defined queue manager name. Both the queue manager, and the queue manager library are placed in to a directory that is also based on the queue manager name with the prefix `/QIBM/UserData/mqm`. An example of a queue manager, queue manager library, and directory follows:

Table 1. Queue manager library names

Queue manager name	ORANGE
Queue manager library name	QMORANGE
Directory	/QIBM/UserData/mqm/ORANGE

All queue manager names and queue manager library names are written to stanzas in the file `/QIBM/UserData/mqm/mqs.ini`.

### [Understanding WebSphere MQ IFS directories and files](#)

#### [IFS queue manager name transformation](#)

#### [Object name transformation](#)

Parent topic: [WebSphere MQ names and default objects](#)

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## 12.2.1. Understanding WebSphere MQ IFS directories and files

The i5/OS® Integrated File System (IFS) is used extensively by WebSphere® MQ to store data. For more information about the IFS see the *Integrated File System Introduction*.

Each WebSphere MQ object (queue, queue manager and so on) is represented by a file. Because object names are not necessarily valid file names, the queue manager converts the object name into a valid file name where necessary.




The path to a queue manager directory is formed from the following:

- A prefix, which is defined in the queue manager configuration file, `qm.ini`. The default prefix is `/QIBM/UserData/mqm`.
- A literal, `qmgrs`.
- A coded queue manager name, which is the queue manager name transformed into a valid directory name. For example, the queue manager `queue/manager` is represented by `queue&manager`.

This process is referred to as name transformation.

**Parent topic:** [Understanding WebSphere MQ queue manager library names](#)

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## 12.2.2. IFS queue manager name transformation

In WebSphere® MQ, you can give a queue manager a name containing up to 48 characters.

For example, you can name a queue manager `QUEUE/MANAGER/ACCOUNTING/SERVICES`. In the same way that a library is created for each queue manager, each queue manager is also represented by a file. Because of variant codepoints in EBCDIC, there are limitations to the characters that can be used in the name. As a result, the names of IFS files representing objects are automatically transformed to meet the requirements of the file system.

Using the example of a queue manager with the name `queue/manager`, transforming the character `/` to `&`, and assuming the default prefix, the queue manager name in WebSphere MQ for i5/OS® becomes `/QIBM/UserData/mqm/qmgrs/queue&manager`.

**Parent topic:** [Understanding WebSphere MQ queue manager library names](#)

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## 12.2.3. Object name transformation

Object names are not necessarily valid file system names, so the object names might need to be transformed. The method used is different from that for queue manager names because, although there only a few queue manager names for each machine, there can be a large number of other objects for each queue manager. Only process definitions, queues, and namelists are represented in the file system; channels are not affected by these considerations.

When a new name is generated by the transformation process, there is no simple relationship with the original object name. You can use the `DSPMQMOBJN` command to view the transformed names for WebSphere® MQ objects.

**Parent topic:** [Understanding WebSphere MQ queue manager library names](#)

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## 12.3. System and default objects

When you create a queue manager using the `CRTMQM` command, the system objects and the default objects are created automatically.

- The system objects are those WebSphere® MQ objects required for the operation of a queue manager or channel.
- The default objects define all the attributes of an object. When you create an object, such as a local queue, any attributes that you do not specify explicitly are inherited from the default object.

The following tables list the system and default objects created by `CRTMQM`:

- [Table 1](#) lists the system and default queue objects.
- [Table 2](#) lists the system and default channel objects.
- [Table 3](#) gives the system and default authentication information objects.
- [Table 4](#) gives the system and default listener object.
- [Table 5](#) gives the system and default namelist object.
- [Table 6](#) gives the system and default process object.
- [Table 7](#) gives the system and default service object.

*Table 1. System and default objects: queues*

Object name	Description
►SYSTEM.ADMIN.ACCOUNTING.QUEUE◄	►Accounting message data generated when an application disconnects from the queue manager.◄
►SYSTEM.ADMIN.ACTIVITY.QUEUE◄	►Activity report message data.◄
SYSTEM.ADMIN.CHANNEL.EVENT	Event queue for channels.
SYSTEM.ADMIN.COMMAND.QUEUE	Administration command queue. Used for remote MQSC commands and PCF commands.
►SYSTEM.ADMIN.LOGGER.EVENT◄	►Logger event (journal receiver) message data.◄
SYSTEM.ADMIN.PERFM.EVENT	Event queue for performance events.
SYSTEM.ADMIN.QMGR.EVENT	Event queue for queue manager events.
►SYSTEM.ADMIN.STATISTICS.QUEUE◄	►MQI, queue and channel statistics message data queue.◄
►SYSTEM.ADMIN.TRACE.ROUTE.QUEUE◄	►Trace-route reply message data queue.◄

SYSTEM.AUTH.DATA.QUEUE	Used by the object authority manager (OAM).
»SYSTEM.BROKER.ADMIN.STREAM◀	»Admin stream used by the queued publish/subscribe interface.◀
»SYSTEM.BROKER.CONTROL.QUEUE◀	»Publish/subscribe interface control queue.◀
»SYSTEM.BROKER.DEFAULT.STREAM◀	»The default stream used by the queued publish/subscribe interface.◀
»SYSTEM.BROKER.INTER.BROKER.COMMUNICATIONS◀	»Broker to broker communications queue.◀
SYSTEM.CHANNEL.INITQ	Channel initiation queue.
SYSTEM.CHANNEL.SYNCQ	The queue that holds the synchronization data for channels.
»SYSTEM.DURABLE.MODEL.QUEUE◀	»A queue used as a model for managed durable subscriptions.◀
»SYSTEM.DURABLE.SUBSCRIBER.QUEUE◀	»A queue used to hold a persistent copy of the durable subscriptions in the queue manager.◀
SYSTEM.CICS.INITIATION.QUEUE	Default CICS® initiation queue.
SYSTEM.CLUSTER.COMMAND.QUEUE	The queue used to carry messages to the repository queue manager.
»SYSTEM.CLUSTER.HISTORY.QUEUE◀	»The queue is used to store the history of cluster state information for service purposes.◀
SYSTEM.CLUSTER.REPOSITORY.QUEUE	The queue used to store all repository information.
SYSTEM.CLUSTER.TRANSMIT.QUEUE	The transmission queue for all messages to all clusters.
SYSTEM.DEAD.LETTER.QUEUE	Dead-letter (undelivered message) queue.
SYSTEM.DEFAULT.ALIAS.QUEUE	Default alias queue.
SYSTEM.DEFAULT.AUTHINFO.CRLLDAP	Default authentication information definition.
SYSTEM.DEFAULT.INITIATION.QUEUE	Default initiation queue.
SYSTEM.DEFAULT.LOCAL.QUEUE	Default local queue.
SYSTEM.DEFAULT.MODEL.QUEUE	Default model queue.
SYSTEM.DEFAULT.REMOTE.QUEUE	Default remote queue.
»SYSTEM.HIERARCHY.STATE◀	»WebSphere MQ distributed publish/subscribe hierarchy relationship state.◀
»SYSTEM.INTER.QMGR.CONTROL◀	»WebSphere MQ distributed publish/subscribe control queue.◀
»SYSTEM.INTER.QMGR.FANREQ◀	»WebSphere MQ distributed publish/subscribe internal proxy subscription fan-out process input queue.◀
»SYSTEM.INTER.QMGR.PUBS◀	»WebSphere MQ distributed publish/subscribe publications.◀
SYSTEM.MQEXPLORER.REPLY.MODEL	WebSphere MQ Explorer reply-to queue. This is a model queue that creates a temporary dynamic queue for replies to the WebSphere MQ Explorer.
SYSTEM.MQSC.REPLY.QUEUE	MQSC command reply-to queue. This is a model queue that creates a temporary dynamic queue for replies to remote MQSC commands.
»SYSTEM.NDURABLE.MODEL.QUEUE◀	»A queue used as a model for managed non durable subscriptions.◀
SYSTEM.PENDING.DATA.QUEUE	Support deferred messages in JMS.
»SYSTEM.RETAINED.PUB.QUEUE◀	»A queue used to hold a copy of each retained publication in the queue manager.◀

Table 2. System and default objects: channels

Object name	Description
SYSTEM.AUTO.RECEIVER	Dynamic receiver channel.
SYSTEM.AUTO.SVRCONN	Dynamic server-connection channel.
SYSTEM.DEF.CLNTCONN	Default client connection channel, used to supply default values for any attributes not specified when a CLNTCONN channel is created on a queue manager.
SYSTEM.DEF.CLUSRCVR	Default receiver channel for the cluster used to supply default values for any attributes not specified when a CLUSRCVR channel is created on a queue manager in the cluster.
SYSTEM.DEF.CLUSSDR	Default sender channel for the cluster used to supply default values for any attributes not specified when a CLUSSDR channel is created on a queue manager in the cluster.
SYSTEM.DEF.RECEIVER	Default receiver channel.
SYSTEM.DEF.REQUESTER	Default requester channel.
SYSTEM.DEF.SENDER	Default sender channel.
SYSTEM.DEF.SERVER	Default server channel.
SYSTEM.DEF.SVRCONN	Default server-connection channel.

Table 3. System and default objects: authentication information objects

Object name	Description
SYSTEM.DEFAULT.AUTHINFO.CRLLDAP	Default authentication information object for authentication type CRLLDAP.
»SYSTEM.DEFAULT.AUTHINFO.OCSP◀	»Default authentication information object for authentication type OCSP.◀

Table 4. System and default objects: listeners

Object name	Description
SYSTEM.DEFAULT.LISTENER.TCP	Default listener for TCP transport.

Table 5. System and default objects: namelists

Object name	Description
SYSTEM.DEFAULT.NAMELIST	Default namelist definition.
»SYSTEM.QPUBSUB.QUEUE.NAMELIST◀	»Default namelist definition.◀
»SYSTEM.QPUBSUB.SUBPOINT.NAMELIST◀	»Default namelist definition.◀

Table 6. System and default objects: processes

Object name	Description
SYSTEM.DEFAULT.PROCESS	Default process definition.

Table 7. System and default objects: services

Object name	Description
-------------	-------------

SYSTEM.DEFAULT.SERVICE

Default service.

Parent topic: [WebSphere MQ names and default objects](#)

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## 13. Sample resource definitions

This appendix contains the AMQSAMP4 sample i5/OS® CL program.

```

/*****
/*
/* Program name: AMQSAMP4
/*
/* Description: Sample CL program defining MQM queues
/*              to use with the sample programs
/*              Can be run, with changes as needed, after
/*              starting the MQM
/*
/* <N_OCO_COPYRIGHT>
/* Licensed Materials - Property of IBM
/*
/* 63H9336
/* (c) Copyright IBM Corp. 1993, 2005 All Rights Reserved.
/*
/* US Government Users Restricted Rights - Use, duplication or
/* disclosure restricted by GSA ADP Schedule Contract with
/* IBM Corp.
/* <NOC_COPYRIGHT>
/*
/*****
/*
/* Function:
/*
/* AMQSAMP4 is a sample CL program to create or reset the
/* MQI resources to use with the sample programs.
/*
/* This program, or a similar one, can be run when the MQM
/* is started - it creates the objects if missing, or resets
/* their attributes to the prescribed values.
/*
/*
/* Exceptions signaled: none
/* Exceptions monitored: none
/*
/* AMQSAMP4 takes a single parameter, the Queue Manager name
/*
/*****
      QSYS/PGM PARM(&QMGRNAME)

/*****
/* Queue Manager Name Parameter
/*****
      QSYS/DCL VAR(&QMGRNAME) TYPE(*CHAR)

/*****
/*      EXAMPLES OF DIFFERENT QUEUE TYPES
/*
/* Create local, alias and remote queues
/*
/* Uses system defaults for most attributes
/*
/*****
/* Create a local queue
      CRTMQMQ      QNAME('SYSTEM.SAMPLE.LOCAL')      +
                  MQMNAME(&QMGRNAME)                +
                  QTYPE(*LCL)  REPLACE(*YES)         +
                  +
                  TEXT('Sample local queue') /* description */+
                  SHARE(*YES)                /* Shareable */+
                  DFTMSGPST(*YES) /* Persistent messages OK */

/* Create an alias queue
      CRTMQMQ      QNAME('SYSTEM.SAMPLE.ALIAS')      +
                  MQMNAME(&QMGRNAME)                +
                  QTYPE(*ALS)  REPLACE(*YES)         +
                  +
                  TEXT('Sample alias queue')
                  DFTMSGPST(*YES) /* Persistent messages OK */+
                  TGTQNAME('SYSTEM.SAMPLE.LOCAL')

/* Create a remote queue - in this case, an indirect reference
/* is made to the sample local queue on OTHER queue manager
      CRTMQMQ      QNAME('SYSTEM.SAMPLE.REMOTE')      +
                  MQMNAME(&QMGRNAME)                +
                  QTYPE(*RMT)  REPLACE(*YES)         +
                  +
                  TEXT('Sample remote queue') /* description */+
                  DFTMSGPST(*YES) /* Persistent messages OK */+
                  RMTQNAME('SYSTEM.SAMPLE.LOCAL')    +
                  RMTMQMNAME(OTHER) /* Queue is on OTHER */

/* Create a transmission queue for messages to queues at OTHER
/* By default, use remote node name

```

```

CRIMQM   QNAME('OTHER') /* transmission queue name */+
        MQMNAME(&QMGRNAME)          +
        QTYPE(*LCL) REPLACE(*YES) +
        TEXT('Transmission queue to OTHER') +
        USAGE(*TMQ) /* transmission queue */

/*****
/* SPECIFIC QUEUES AND PROCESS USED BY SAMPLE PROGRAMS */
/* Create local queues used by sample programs */
/* Create MQI process associated with sample initiation queue */
/*****
/* General reply queue */
CRIMQM   QNAME('SYSTEM.SAMPLE.REPLY')
        MQMNAME(&QMGRNAME)
        QTYPE(*LCL) REPLACE(*YES)
        TEXT('General reply queue')
        DFTMSGPST(*NO) /* Not Persistent

/* Queue used by AMQSINQ4 */
CRIMQM   QNAME('SYSTEM.SAMPLE.INQ')
        MQMNAME(&QMGRNAME)
        QTYPE(*LCL) REPLACE(*YES)
        TEXT('Queue for AMQSINQ4')
        SHARE(*YES) /* Shareable */+
        DFTMSGPST(*NO) /* Not Persistent */+
        TRGENBL(*YES) /* Trigger control on */+
        TRGTYPE(*FIRST) /* Trigger on first message */+
        PRCNAME('SYSTEM.SAMPLE.INQPROCESS')
        INITQNAME('SYSTEM.SAMPLE.TRIGGER')

/* Queue used by AMQSSET4 */
CRIMQM   QNAME('SYSTEM.SAMPLE.SET')
        MQMNAME(&QMGRNAME)
        QTYPE(*LCL) REPLACE(*YES)
        TEXT('Queue for AMQSSET4')
        SHARE(*YES) /* Shareable */+
        DFTMSGPST(*NO) /* Not Persistent */+
        TRGENBL(*YES) /* Trigger control on */+
        TRGTYPE(*FIRST) /* Trigger on first message */+
        PRCNAME('SYSTEM.SAMPLE.SETPROCESS')
        INITQNAME('SYSTEM.SAMPLE.TRIGGER')

/* Queue used by AMQSECH4 */
CRIMQM   QNAME('SYSTEM.SAMPLE.ECHO')
        MQMNAME(&QMGRNAME)
        QTYPE(*LCL) REPLACE(*YES)
        TEXT('Queue for AMQSECH4')
        SHARE(*YES) /* Shareable */+
        DFTMSGPST(*NO) /* Not Persistent */+
        TRGENBL(*YES) /* Trigger control on */+
        TRGTYPE(*FIRST) /* Trigger on first message */+
        PRCNAME('SYSTEM.SAMPLE.ECHOPROCESS')
        INITQNAME('SYSTEM.SAMPLE.TRIGGER')

/* Initiation Queue used by AMQSTRG4, sample trigger process */
CRIMQM   QNAME('SYSTEM.SAMPLE.TRIGGER') +
        MQMNAME(&QMGRNAME)          +
        QTYPE(*LCL) REPLACE(*YES) +
        TEXT('Trigger queue for sample programs')

/* MQI Processes associated with triggered sample programs */
/*****
/***** Note - there are versions of the triggered samples *****/
/***** in different languages - set APPID for these *****/
/***** process to the variation you want to trigger *****/
/*
CRIMQM   PRCNAME('SYSTEM.SAMPLE.INQPROCESS')
        MQMNAME(&QMGRNAME)
        REPLACE(*YES)
        TEXT('Trigger process for AMQSINQ4')
        ENVDATA('JOBPTY(3)') /* Submit parameter */+
** Select the triggered program here **/
        APPID('QMOM/AMQSINQ4') /* C */+
        APPID('QMOM/AMQOINQ4') /* COBOL */+
        APPID('QMOM/AMQ3INQ4') /* RPG - ILE */

CRIMQM   PRCNAME('SYSTEM.SAMPLE.SETPROCESS')
        MQMNAME(&QMGRNAME)
        REPLACE(*YES)
        TEXT('Trigger process for AMQSSET4')
        ENVDATA('JOBPTY(3)') /* Submit parameter */+
** Select the triggered program here **/
        APPID('QMOM/AMQSSET4') /* C */+
        APPID('QMOM/AMQOSET4') /* COBOL */+
        APPID('QMOM/AMQ3SET4') /* RPG - ILE */

CRIMQM   PRCNAME('SYSTEM.SAMPLE.ECHOPROCESS')
        MQMNAME(&QMGRNAME)
        REPLACE(*YES)
        TEXT('Trigger process for AMQSECH4')
        ENVDATA('JOBPTY(3)') /* Submit parameter */+
** Select the triggered program here **/
        APPID('QMOM/AMQSECH4') /* C */+

```

```


/*          APPID('QMOM/AMQ0ECH4')    /* COBOL */      +
/*          APPID('QMOM/AMQ3ECH4')    /* RPG - ILE */

/*****
/*
/*      Normal return.
/*
/*
/*****
      SNDEPGMSG      MSG('AMQSAMP4 Completed creating sample +
                    objects for ' *CAT &QMGRNAME)
      RETURN
      ENDEPGM

/*****
/*
/*      END OF AMQSAMP4
/*
/*
/*****

```

**Parent topic:** [i5/OS System Administration Guide](#)

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## 14. Quiescing WebSphere MQ for i5/OS

This section explains how to quiesce (end gracefully) WebSphere® MQ for i5/OS®

### [Quiescing WebSphere MQ for i5/OS](#) Instructions

**Parent topic:** [i5/OS System Administration Guide](#)

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### 14.1. Quiescing WebSphere MQ for i5/OS

Instructions

To quiesce WebSphere® MQ for i5/OS®:

1. Sign on to a new interactive WebSphere MQ for i5/OS session, ensuring that you are not accessing any objects.
2. Ensure that you have:
  - o \*ALLOBJ authority , or object management authority for the QMQM library
  - o Sufficient authority to use the ENDSBS command
3. ►Advise all users that you are going to stop WebSphere MQ for i5/OS .◀
4. How you then proceed depends on whether you want to shut down (quiesce) a single queue manager (where others might exist) (see [Shutting down a single queue manager](#)) or all the queue managers (see [Shutting down all queue managers](#)).

#### [ENDMQM parameter ENDCCTJOB\(\\*YES\)](#)

The ENDMQM parameter ENDCCTJOB(\*YES) works differently in WebSphere MQ for i5/OS V6.0 and later compared to previous versions

#### [Shutting down a single queue manager](#)

#### [Shutting down all queue managers](#)

**Parent topic:** [Quiescing WebSphere MQ for i5/OS](#)

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#### 14.1.1. ENDMQM parameter ENDCCTJOB(\*YES)

The ENDMQM parameter ENDCCTJOB(\*YES) works differently in WebSphere® MQ for i5/OS® V6.0 and later compared to previous versions


On previous versions, when you specify ENDCCTJOB(\*YES), MQ forcibly terminates your applications for you.

On WebSphere MQ for i5/OS V6.0 or later, when you specify ENDCCTJOB(\*YES), your applications are not terminated but are instead disconnected from the queue manager.

If you specify ENDCCTJOB(\*YES) and you have applications that are not written to detect that a queue manager is ending, the next time a new MQI call is issued, the call will return with a MQRC\_CONNECTION\_BROKEN (2009) error.

As an alternative to using ENDCCTJOB(\*YES), use the parameter ENDCCTJOB(\*NO) and use WRKMQM option 22 (Work with jobs) to manually end any application jobs that will prevent a queue manager restart.

**Parent topic:** [Quiescing WebSphere MQ for i5/OS](#)

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## 14.1.2. Shutting down a single queue manager

There are three types of shutdown:

- [Planned shutdown](#)
- [Unplanned shutdown](#)
- [Shutdown under abnormal conditions](#)

In the procedures that follow, we use a sample queue manager name of QMgr1 and a sample subsystem name of SUBX. Replace these with your own.


### [Planned shutdown](#)

Planned shutdown of a queue manager on i5/OS

### [Unplanned shutdown](#)

### [Shutdown under abnormal conditions](#)

**Parent topic:** [Quiescing WebSphere MQ for i5/OS](#)

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### 14.1.2.1. Planned shutdown

Planned shutdown of a queue manager on i5/OS®

1. **Before shutdown, execute:**

```
RCDMQMIMG OBJ(*ALL) OBJTYPE(*ALL) MQMNAME(QMgr1) DSPJRNDTA(*YES)
```



2. To shut down the queue manager, execute:


```
ENDMQM MQMNAME(QMgr1) OPTION(*CNTRLD)
```

If QMgr1 does not end, the channel or applications are probably busy.

3. If you need to shut down QMgr1 immediately, execute the following:

```
ENDMQM MQMNAME(QMgr1) OPTION(*IMMED)  
ENDCCTJOB(*YES) TIMEOUT(15)
```

**Parent topic:** [Shutting down a single queue manager](#)

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### 14.1.2.2. Unplanned shutdown

1. To shut down the queue manager, execute:


```
ENDMQM MQMNAME(QMgr1) OPTION(*IMMED)
```

If QMgr1 does not end, the channel or applications are probably busy.

2. If you need to shut down QMgr1 immediately, execute the following:

```
ENDMQM MQMNAME(QMgr1) OPTION(*IMMED)  
ENDCCTJOB(*YES) TIMEOUT(15)
```

**Parent topic:** [Shutting down a single queue manager](#)

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### 14.1.2.3. Shutdown under abnormal conditions

1. To shut down the queue manager, execute:

```
ENDMQM MQMNAME(QMgr1) OPTION(*IMMED)
```

If QMgr1 does not end, continue with step 3 providing that:

- o QMgr1 is in its own subsystem, or
- o You can end all queue managers that share the same subsystem as QMgr1. Use the unplanned shutdown procedure for all such queue managers.

2. When you have taken all the steps in the procedure for all the queue managers sharing the subsystem (SUBX in our examples), execute:

```
ENDSBS SUBX *IMMED
```

If this command fails to complete, shut down all queue managers, using the unplanned shutdown procedure, and IPL your machine.

**Warning:** Do not use `ENDJOBABN` for WebSphere® MQ jobs that fail to end as result of `ENDJOB` or `ENDSBS`, unless you are prepared to IPL your machine immediately after.

3. Start the subsystem by executing:

```
STRSBS SUBX
```

4. Shut the queue manager down immediately, by executing:

```
ENDMQM MQMNAME(QMgr1) OPTION(*IMMED)
ENDCCTJOB(*YES) TIMEOUT(10)
```

5. Restart the queue manager by executing:

```
STRMQM MQMNAME(QMgr1)
```

If this fails, and you:

- o Have restarted your machine with an IPL, or
- o Have only a single queue manager

Tidy up WebSphere MQ shared memory by executing:


```
ENDMQM MQMNAME(*ALL) OPTION(*IMMED)
ENDCCTJOB(*YES) TIMEOUT(15)
```

before repeating step 5.

If the queue manager restart takes more than a few seconds, WebSphere MQ will add status messages intermittently to the job log detailing the start up progress. For more information on these messages see [WebSphere MQ Messages](#).

If you still have problems restarting your queue manager, contact IBM® support. Any further action you might take could damage the queue manager, leaving MQSeries® or WebSphere MQ unable to recover.

**Parent topic:** [Shutting down a single queue manager](#)

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### 14.1.3. Shutting down all queue managers

There are three types of shutdown:

- [Planned shutdown](#)
- [Unplanned shutdown](#)
- [Shutdown under abnormal conditions](#)

The procedures are almost the same as for a single queue manager, but using `*ALL` instead of the queue manager name where possible, and otherwise using a command repeatedly using each queue manager name in turn. Throughout the procedures, we use a sample queue manager name of `QMGr1` and a sample subsystem name of `SUBX`. Replace these with your own.


#### [Planned shutdown](#)

#### [Unplanned shutdown](#)

#### [Shutdown under abnormal conditions](#)

#### [Notices](#)

**Parent topic:** [Quiescing WebSphere MQ for i5/OS](#)

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#### 14.1.3.1. Planned shutdown

1. One hour before shutdown, execute:

```
RCDMQMIMG OBJ(*ALL) OBJTYPE(*ALL) MQMNAME(QMgr1) DSPJRNDTA(*YES)
```

Repeat this for every queue manager that you want to shut down.

2. To shut down the queue manager, execute:

```
ENDMQM MQMNAME(QMgr1) OPTION(*CNTRLD)
```


Repeat this for every queue manager that you want to shut down; separate commands can run in parallel.

If any queue manager does not end within a reasonable time (for example 10 minutes), proceed to step 3.

3. To shut down all queue managers immediately, execute the following:

```
ENDMQM MQMNAME(*ALL) OPTION(*IMMED)
ENDCCTJOB(*YES) TIMEOUT(15)
```

**Parent topic:** [Shutting down all queue managers](#)

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#### 14.1.3.2. Unplanned shutdown

1. To shut down a queue manager, execute:


```
ENDMQM MQMNAME(QMgr1) OPTION(*IMMED)
```

Repeat this for every queue manager that you want to shut down; separate commands can run in parallel. If queue managers do not end, the channel or applications are probably busy.

2. If you need to shut down the queue managers immediately, execute the following:

```
ENDMQM MQMNAME(*ALL) OPTION(*IMMED)
ENDCCTJOB(*YES) TIMEOUT(15)
```

**Parent topic:** [Shutting down all queue managers](#)

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### 14.1.3.3. Shutdown under abnormal conditions

1. To shut down the queue managers, execute:

```
ENDMQM MQMNAME(QMgr1) OPTION(*IMMED)
```

Repeat this for every queue manager that you want to shut down; separate commands can run in parallel.

2. End the subsystems (SUBX in our examples), by executing:

```
ENDSBS SUBX *IMMED
```

Repeat this for every subsystem that you want to shut down; separate commands can run in parallel.

If this command fails to complete, IPL your machine.

**Warning:** Do not use `ENDJOBABN` for MQSeries® or WebSphere® MQ jobs that fail to end as result of `ENDJOB` or `ENDSBS`, unless you are prepared to IPL your machine immediately after.

3. Start the subsystems by executing:

```
STRSBS SUBX
```

Repeat this for every subsystem that you want to start.

4. Shut the queue managers down immediately, by executing:

```
ENDMQM MQMNAME(*ALL) OPTION(*IMMED)
ENDCCTJOB(*YES) TIMEOUT(15)
```

5. Restart the queue managers by executing:

```
STRMQM MQMNAME(QMgr1)
```


Repeat this for every queue manager that you want to start.

If any queue manager restart takes more than a few seconds WebSphere MQ will show status messages intermittently detailing the start up progress.

For more information on these messages see [WebSphere MQ Messages](#).

If you still have problems restarting any queue manager, contact IBM® support. Any further action you might take could damage the queue managers, leaving MQSeries or WebSphere MQ unable to recover.

**Parent topic:** [Shutting down all queue managers](#)

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