MQControl™ Management Solution for MQSeries

MQControl Express Guide

Version 3.6

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MQCONTROL EXPRESS GUIDE

FOR PRODUCT VERSION 3.6

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Chapter 1: About MQControl Express

MQControl Express™ is a Windows NT/2000-based visual environment from Nastel Technologies used to monitor and manage IBM's MQSeries. Like the MQSeries Explorer, it presents a hierarchical view of MQSeries nodes and their objects, such as queue managers, queues, channels and processes that can all be managed from a single point.

MQControl Express features include standard MQSeries management commands, some of which are unavailable in MQSeries Explorer. Please note that MQControl Express is a lightweight version of a more powerful product from Nastel, *MQControl for MQSeries*. For more information about MQControl Express features and for a comparison of the two Nastel products, see Chapter 3 of this Guide, or contact a Nastel sales representative at **1-800-375-6144** or **(+00) 1-631-761-9100**.

1.1 System Requirements

The requirements outlined in the paragraphs below specify the minimum operating standards for MQControl Express.

1.1.1 Minimum Hardware Requirements:

- IBM PC (compatible) capable of supporting Windows NT, 2000 or XP operating systems
- TCP/IP communication hardware
- 20 megabytes (minimum) available disk space for installation (product code and data using NTFS)
- 10 megabytes available disk space for workspace

1.1.2 Minimum Software Requirements:

- Microsoft Windows NT, Version 4.0, Service Pack 6a (including TCP/IP):
  - Microsoft Windows NT Server, Version 4.0, or
  - Microsoft Windows NT Workstation, Version 4.0
- Microsoft Windows 2000 Service Pack 1:
  - Microsoft Windows 2000 Professional, or
  - Microsoft Windows 2000 Server, or
  - Microsoft Windows 2000 Advanced Server
- Microsoft Windows XP:
  - Microsoft Windows XP Professional, or
  - Microsoft Windows XP Home
- Microsoft HTML Help1.22 or higher

NOTE: Windows NT Service Pack 6a, Windows 2000 Service Pack 1, and other Microsoft updates are available from Microsoft Web Site at: http://www.microsoft.com

- IBM MQSeries 5.1 Cumulative Service Distribution (CSD) 5 or higher:
  - IBM MQSeries Client

NOTE: IBM MQSeries 5.1 CSD5 and all other MQSeries updates are available from IBM Web Site at: www.ibm.com

IMPORTANT: MQSeries Client Libraries are included with the MQControl Express installation. MQSeries Client Libraries will automatically be installed if Client Libraries are not present on the target system. MQSeries itself doesn't have to be installed on the system running MQControl Express.

1.1.3 MQSeries Queue Manager Runtime Requirement

Prior to installing MQControl Express at least one channel listener for every queue manager must be configured for TCP/IP and enabled.

To assist in the installation, use the following table to record the configuration information that will be needed during the installation process:

Table 1-1. Channel Listener Configuration

Queue Manager Name	Channel Name	Port

1.2 Contacting Nastel

To contact Nastel Technical Support by e-mail, send a message to support@nastel.com.

For information about Nastel products, visit www.nastel.com.

Chapter 2: Installing MQControl Express

MQControl Express is installed by using a standard installation wizard. In the sections following the installation procedure, you will find important information on defining queue manager connections and about the terms of the MQControl Express license.

2.1 Installation

MQControl Express is installed from a CD. Note that the same CD can be used to modify an existing MQControl Express installation or to completely uninstall the product from the system.

NOTE: Prior to installation ensure that the installer has Administrator's privileges on every node to receive the MQControl Express installation.

Installing MQControl Express:

1. On the MQControl Express installation CD, locate and run the file `setup.exe`.

   This will start the Setup wizard.

2. The **Welcome** screen is displayed:

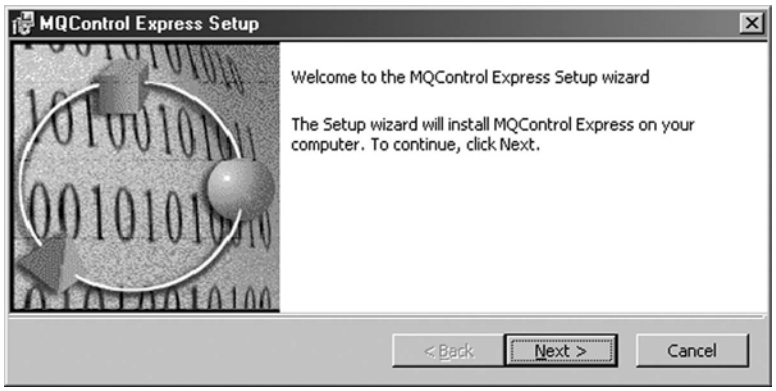

Figure 2-1. Welcome Screen

   Click **Next**.

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3. The **License Agreement** screen is displayed:

Figure 2-2. License Agreement Screen

Accept the license agreement to continue with the installation.
Click **Next**

4. In the **Customer Information** screen, type the user name and company name.

   Select user setting for current user only, or all users of the computer:

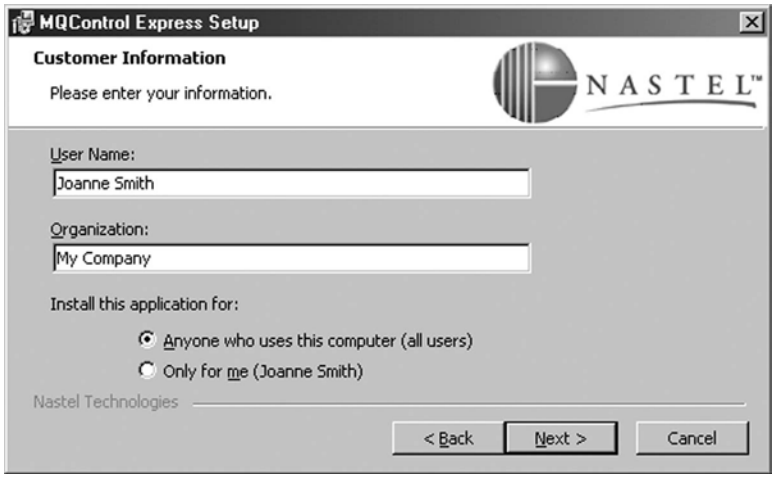

Figure 2-3. Customer Information Screen

Click **Next**.

5. In the **Destination Folder** screen, change the default installation directory, as required, by clicking the **Change** button and providing the new destination::

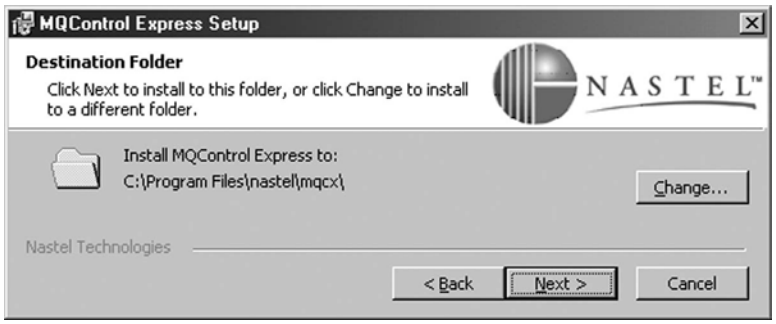

Figure 2-4: Destination Folder Screen

Click **Next**.

6. Click Back to review or change installation settings:

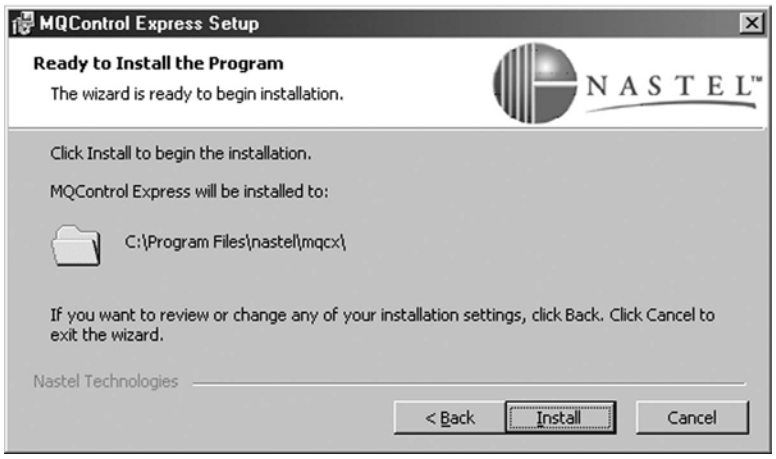

Figure 2-5: Ready to Install Screen

Click **Install** to start the installation.

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7. Once the installation is complete, a dialog box asks to restart the computer immediately, or at a later time. If immediate use of MQControl Express is desire, the computer must be restarted at this time.

   Select Yes or No and click **OK**.

8. In the final screen, click **Finish** to finalize the installation process:

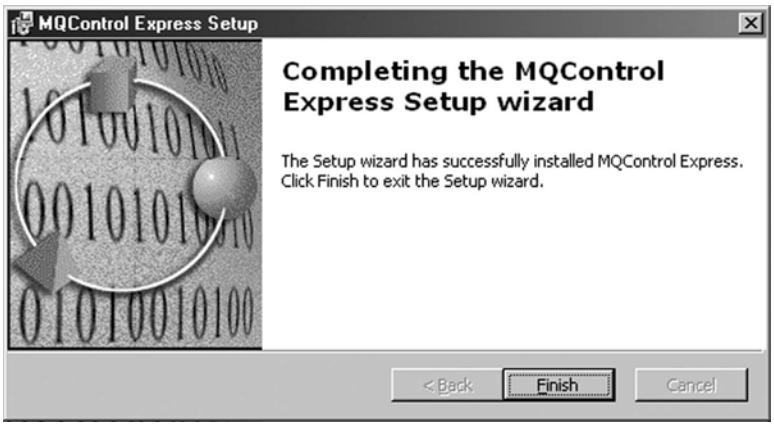

Figure 2-6: Setup Wizard Finish Screen

NOTE: When the installation is complete the computer must be re-started before MQControl Express will function properly.

2.2 Starting MQControl Express

The MQControl Express installation adds two services to the list of Windows NT/2000 services:

- MQControl Express Connection Manager
- MQControl Express Server

By default, both services are set to start automatically at every system restart.

Start MQControl Express:

1. On the Windows NT/2000 **Start** menu, navigate to **Programs** > **MQControl Express** > **MQControl Express**.
2. Before the main application window opens, the Define Queue Manager Connection screen is displayed. Specify connections for the queue managers defined on your system.

   In the Define Queue Manager Connection dialog box, type the queue manager name and the connection information must be specified as: HOSTNAME (LISTENING PORT), where HOSTNAME is a system hostname or TCP/IP address and LISTENING PORT is a TCP/IP port for the channel listener of the queue manager. If the default port is used (1414), LISTENING PORT could be omitted.

   In the example below, the queue manager QMGR1 is the default queue manager, running on the local node and listening on the default port 1414:

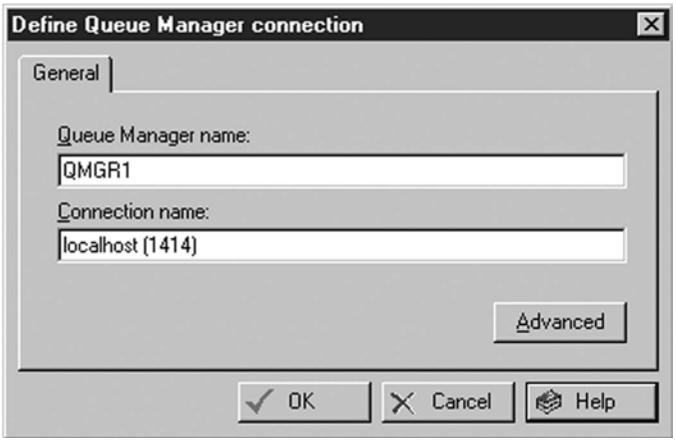

Figure 2-7. Define Queue Manager Connections

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NOTE: Ensure SYSTEM.DEV.SVRCONN channel or channel used for connection has valid MCA user ID, or user ID must be blank. Refer to section 2.2.1 for additional information.

3. Click the **Advanced** button to change the default MQSeries channel. Any desired MQSeries connection channel can be specified. The channel specified will serve as the MQControl Express to queue manager connection (one per queue manager).
   The default channel is: SYSTEM.DEF.SVRCONN.

Figure 2-8. Specify Channel Name for Queue Manager Connection

4. Click **OK**.

   A blank queue manager definition screen is displayed.

5. Repeat steps 1 through 4 to define the connections for any additional queue managers.

   When all required connections are defined, click **Cancel** to exit the Queue Manager Connection wizard, and to start using MQControl Express.

NOTE: MQControl Express supports up to ten concurrent connections, one per queue manager

2.2.1 Changing MCA User Identification.

NOTE: Ensure SYSTEM.DEV.SVRCONN channel or channel used for connection has valid MCA user ID, or user ID must be blank.

This section defines the procedure for changing the MCA user ID in MQSeries. There are two ways to change MCA user:

1. Run `runmqsc` utility for desired queue manager;
   At MQSC prompt, execute MQSC command to change MCA User ID for required server connection channel:
   (e.g.: `ALTER CHANNEL(SYSTEM.DEF.SVRCONN) CHLTYPE(SVRCONN) MCAUSER(' '))`

or

2. Execute MQSC script supplied by Nastel via:
   (e.g.: `runmqsc YOUR.QMGR.NAME < [INSTALL DIR]\mqsc\MCAUser.tst`)

NOTE: `MCAUser.tst` script changes MCA User ID to blanks for the SYSTEM.DEF.SVRCONN channel. Edit this script if other channel required or MCA user ID must be supplied.

2.3 Uninstalling

Uninstall MQControl Express:

NOTE: Based on System configuration, it may be required to manually stop MQControl Express Services (Connection Manager and Server) prior to uninstalling. Services are accessible in the Control Panel in both Windows NT and 2000.

1. On the Windows NT/2000 **Start** menu, navigate to **Settings** > **Control Panel** > **Add/Remove Programs**.

   In the list of programs, select MQControl Express and click the **Add/Remove** button.

2. Restart the computer to save new settings.

2.4 About the MQControl Express License

In order to run MQControl Express, you need a license. By default, a new MQControl Express installation includes a temporary, 30-day license. The file, `MQSERIES.lic`, is stored in the directory `install_dir\Nastel\mqcx\config\groups`.

To obtain a permanent license, contact a Nastel sales representative at **1-800-375-6144** or **(+00) 1-631-761-9100**.

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Chapter 3: Getting Started

3.1 MQControl and MQControl Express Feature Comparison

MQControl Express is an introductory, lightweight version of the *MQControl for MQSeries* product from Nastel. It is specially designed for rapid deployment and efficiently, with minimum system requirements. It does not require a local installation of MQSeries; only the MQ Client must be installed and running.

MQControl Express combines two front-ends from MQControl for MQSeries (MQControl Explorer and Message Explorer) into a single Explorer-like environment. It offers a set of basic tools for managing MQSeries. However, certain features are only included in the complete MQControl for MQSeries product, as listed below. These features appear grayed out in the MQControl Express command menus:

Table 3-1. MQControl Feature Comparisons

Features	MQControl Express	MQControl
Requires MMC	No	No
Requires local installation of MQ	No (Client only)	No
Web interface	No	Yes
Automation	No	Yes
Multi-user	No	Yes
DLQ monitor	No	Yes
SNMP connectivity	No	Yes
HP-OV plug-in	No	Yes
MVS support	No	Yes
Local agents	No	Yes
Fault Tolerance/Failover	No	Yes
Security	No	Yes
Drag/Drop	Yes	Yes

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Features	MQControl Express	MQControl
Queue Managers:		
Start/Stop QMGR	No	Yes
Ping QMGR	Yes	Yes
Modify QMGR	Yes	Yes
Create/Delete QMGR	No	Yes
Join/Leave cluster	Yes	Yes
Suspend/Resume, Refresh cluster	Yes	Yes
View/Modify MQ authorizations	No	Yes
Save QMGR in MQSC format	Yes	Yes
Apply MQSC files to QMGR	No	Yes
Display MQ events	Yes	Yes
Manage remote QMGR	Yes (up to 10)	Yes
Access QMGR objects, while QMGR not available	Yes	Yes
View QMGR/MQ error logs	No	Yes
Start/Stop all QMGR objects	Yes (except QMGR)	Yes
Queues:		
Create/Delete queue	Yes	Yes
View/Modify queue	Yes	Yes
Rename queue	Yes	Yes
View/Save queue in MQSC format	Yes	Yes
Share queue	Yes	Yes
Reset queue	Yes	Yes

Features	MQControl Express	MQControl
Messages:		
Browse messages	Yes (any number of messages, 64 bytes of data)	Yes
Copy/Move/Delete message	No	Yes
Re-route message	No	Yes
Find message	No	Yes
Modify message	No	Yes
Put new message	Yes	Yes
Separate GUI for message mgmt	No	Yes
Channels:		
Start/Stop channel	Yes	Yes
Create/Delete channel	Yes	Yes
View/Modify channel	Yes	Yes
Rename channel	Yes	Yes
View/Save channel in MQSC format	Yes	Yes
View channel status	Yes	Yes
Ping/Reset/Resolve channel	Yes	Yes
Processes:		
Create/Delete process	Yes	Yes
View/Modify process	Yes	Yes
Rename process	Yes	Yes
View/Save process in MQSC format	Yes	Yes
Start process	No	Yes
Namelists:		
Create/Delete namelist	Yes	Yes
View/Modify namelist	Yes	Yes
Rename namelist	Yes	Yes
View/Save namelist in MQSC format	Yes	Yes

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3.2 MQControl Express Work Environment

At startup, the MQControl Express screen is divided into four distinct sections (see figure 3-1):

- ***MQSeries Network Tree***:

  The MQSeries network is presented in a hierarchical, tree-like display: At the top of the hierarchy is the Group Manager, the highest-level MQControl agent, named MQSERIES.

  The Group Manager manages the nodes on your MQSeries network, and their objects: queue managers, queues, channels, processes, etc. To expand or collapse the tree hierarchy, click on the ± sign next to the object.

- ***Attributes Window*:**

  It displays the properties of MQControl and MQSeries objects selected in the MQControl Network Tree. The set of attributes listed depends on the type of object you select.

  To sort the list of properties by either Attribute Name or Attribute Value, click the column heading by which you want to sort.

- ***Event Log Window*:**

  It displays MQSeries and MQControl events, in real-time. The events are color-coded, indicating changes in an object's status (see "Color Conventions" later in this chapter).

- ***Trace Window*:**

  It displays the status of commands as they are executed. By double-clicking on a failed command, a brief description of the MQSeries error code is displayed.

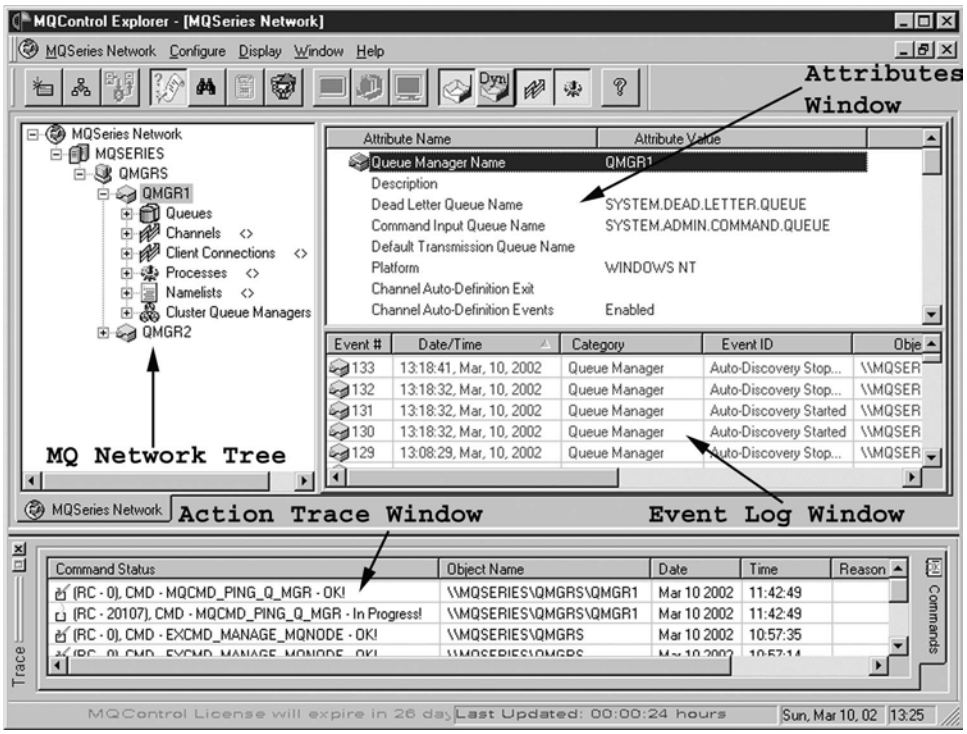

Figure 3-1. The MQControl Express Main Window

- ***Message Window*:**
  Additionally, MQControl Express allows monitoring of messages on MQSeries queues. The Message window can be accessed by right clicking on the queue in the MQSeries Network Tree and selecting **Messages** > **Browse**:

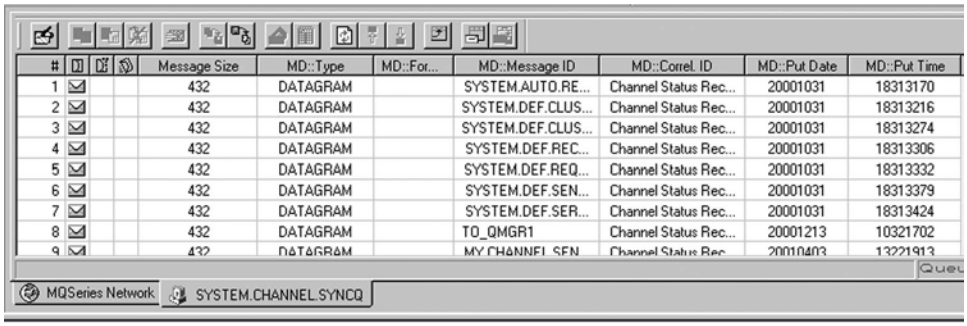

Figure 3-2. Viewing Messages on a Queue in the Message Window

3.3.1 Color Conventions

MQControl Express icons are color-coded. Different colors indicate an object's current status, according to the code below:

Table 3-2. MQControl Express Color Conventions

COLOR	MEANING
Green	Object is running and its status is normal.
Red	Object is stopped, because it was stopped by a user or because an unexpected error or event occurred.
Yellow	Object is in transition from one state to another (for example, a queue manager is starting or stopping).
Black	Object is not being managed and its status is not known.
Gray	Object is being managed, but its status cannot be determined.

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3.3.2 The Toolbar

The buttons on the MQControl Express toolbar enable use of the more general commands, as described below. Some of these commands are also available on the pull-down menus (MQNetwork, Configuration, Display, etc.).

Look up what a particular button does by hovering the mouse pointer over it. The button name will be displayed in an adjacent text box, and a brief description of its function will be displayed in the status bar at the bottom of the MQControl Express window.

Table 3-3. MQControl Express Toolbar

BUTTON	DESCRIPTION
	Connect to MQControl network
	Disconnect from MQControl network
	Display/hide the Action Trace window
	Find an MQ object on the network
	Display/hide list of queues under queue managers (you may have to collapse and expand the queue managers to get a refreshed view)
	Display/hide dynamic queues
	Display/hide a list of channels under queue managers (you may have to collapse and expand the queue managers to get a refreshed view)
	Display/hide a list of processes under queue managers (you may have to collapse and expand the queue managers to get a refreshed view)
	Brings up the help file

3.4 MQControl Express Services

The MQControl Express installation adds two services to the list of Windows NT/2000 services:

- MQControl Express Server
- MQControl Express Connection Manager

3.4.1 MQControl Express Server

The MQControl Express server (MQCX-SVR) is the highest-level managing agent that stores MQSeries objects in the proprietary, fast access database. MQCX-SVR runs as a service and, by default, is started automatically at every system restart. MQCX-SVR uses TCP/IP listening port 4010 to communicate with MQControl Express connection manager as well as with the client application. MQCX-SVR also uses environment variable MQCEXPRESS_SVR_OPTIONS for the configurable startup options.

NOTE: MQControl Express server uses, by default, TCP/IP listening port 4010. If it is necessary to change the default port or the agent is not capable to use this port (port in use by some other application) please contact Nastel technical support for further assistance mailto:support@nastel.com."

3.4.2 MQControl Express Connection Manager

The MQControl Express connection manager (MQCX-CM) is a lightweight agent that manages connections to various MQSeries queue managers. MQCX-CM collects queue manager related information and forwards it to the MQControl Express server for storage. MQCX-CM is able to automatically discover configured queue managers. MQCX-CM runs as a windows service and, by default, is started automatically at every system restart. MQCX-CM uses TCP/IP listening port 5010 to communicate with MQControl Express server. MQCX-CM also uses environment variable MQCEXPRESS_CM_OPTIONS for the configurable startup options.

NOTE: MQControl Express connection manager uses, by default, TCP/IP listening port 5010. If it is necessary to change this port or the agent is not capable to use this port (port in use by some other application) please contact Nastel technical support for further assistance mailto:support@nastel.com"

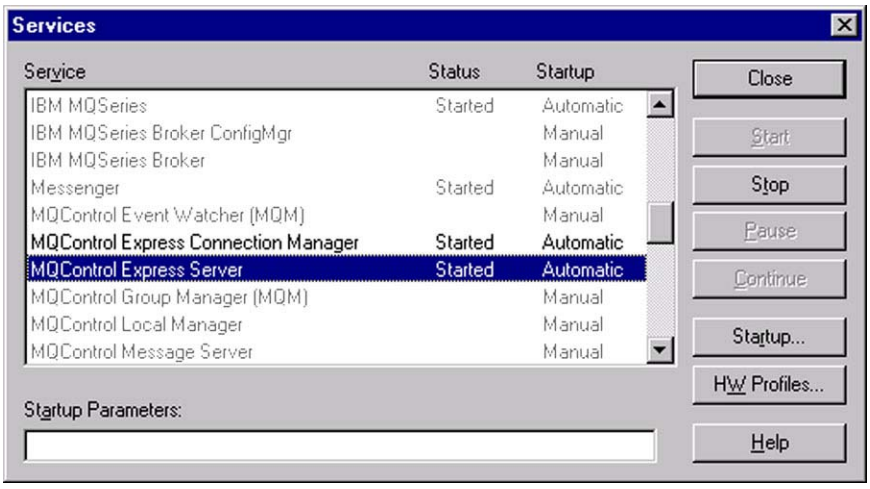

Figure 3-3. MQControl Express Services.

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3.4.3 MQControl Express Environment Variables

MQControl Express uses the following environment variables:

- MQCEXPRESS – [install dir] – value points to product installation directory
- MQCEXPRESS_SVR_OPTIONS - -mMQSERIES;-u;-a;-e – command line options for the MQControl Express server
- MQCEXPRESS_CM_OPTIONS - -mMQSERIES;-nQMGRS;-s5010;-u;-a;-e – command line options for the MQControl Express connection manager

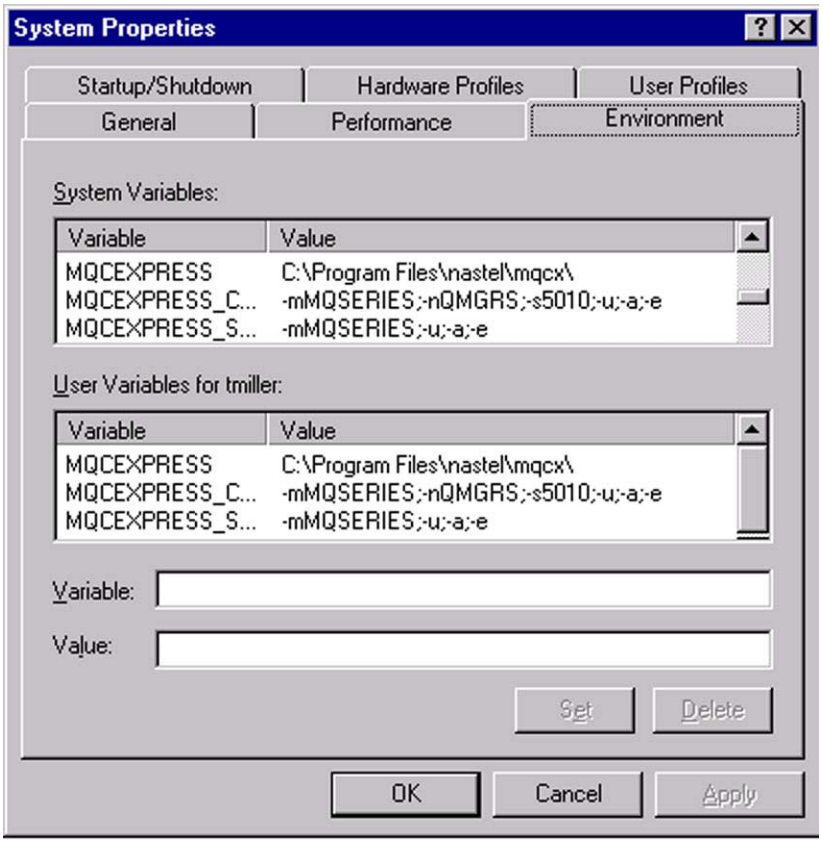

Figure 3-3. MQControl Express and System Environment Variables

Chapter 4: Events & Command Responses

MQControl Express is capable of displaying all MQSeries events, as well as some additional events generated by the MQControl engine. The events are categorized in the following groups:

- ***Group Manager*:** Events sent whenever management agents establish or loose connection with each other, also whenever management commands generated by client or agent fail. The MQControl engine generates these events.
- ***Alter*:** Events sent whenever MQSeries object is created, deleted or changed. This type of event is generated by the MQControl engine.
- ***Queue Manager*:** Events generated by MQSeries and sent to SYSTEM.ADMIN.QMGR.EVENT queue.
- ***Performance*:** Events generated by MQSeries and put to SYSTEM.ADMIN.PERFM.EVENT queue.
- ***Channel*:** Events generated by MQSeries and sent to SYSTEM.ADMIN.CHANNEL.EVENT queue.

NOTE: For further information about IBM MQSeries events refer to the IBM MQSeries documentation.
IBM MQSeries : Library : Manuals

4.1 Subscribing for Events

Subscribing to events can be accomplished from two locations:

- All types of events from the Group Manager Properties screen.
- Queue Manager and Performance events (only) from the Queue Manager Properties screen.

NOTE: Events are also stored more permanently in the Event History Log. All categories of events (except Trace events) will be logged, irrespective of which events you subscribe for at the Group Manager level.

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4.1.1 Subscribe for Events from Group Manager Properties:

Specify the types of MQSeries and MQControl events will be displayed in the Event Log window by editing the Group Manager's properties.

1. Right-click a Group Manager and choose **Properties**.

   The Group Manager Properties dialog box is displayed:

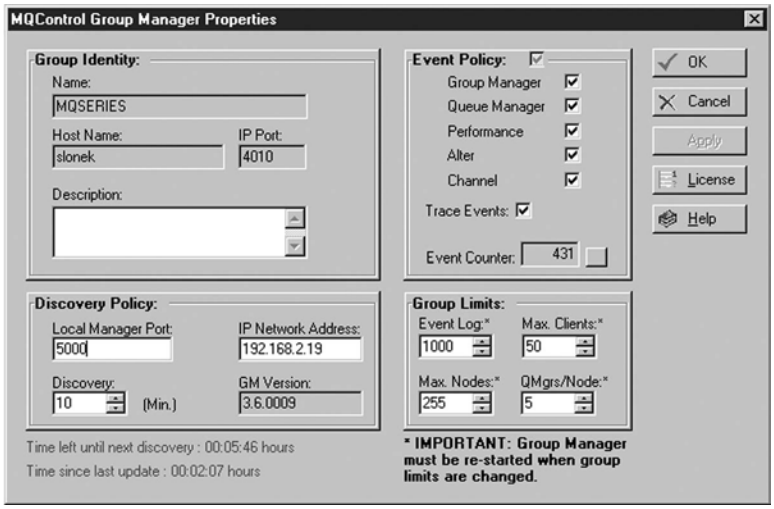

Figure 4-1: Group Manager Properties

1. In the Event Policy section on the right, select the type of events that you want displayed in the MQControl Express Event Log window. MQControl event categories include Group Manager and Alter events; MQSeries event types are: Queue Manager, Performance and Channel events.

   To display all events, select the main Event Policy checkbox at the top.

2. The Event Counter displays the number of events that the Group Manager has generated since last reset of the Event Counter parameter. To reset it, click the button next to it.

3. Click OK.

   Only those types of events subscribed for in the Group Manager's Event Policy are now displayed in the Event Log window.

NOTE: In order to display queue manager events, enable the generation of the events in the queue manager's properties dialog box. See Enabling and Disabling Queue Manager Events.

NOTE: Trace events belong to “Group Manager” events category, but can be controlled only from the Group Manager Properties dialog.

4.2 Viewing Events

MQControl Express logs MQ events in two places:

- Event Log window
- Event History Log

4.2.1 Event Log Window

Events displayed in the Event Log window are non-persistent. Only those events that have occurred since MQControl Express was started are shown:

Event #	Date/Time	Category	Event ID	Object
405	15:40:03, Feb, 26, 2002	Group Manager	Object Detached	\\MQSERIES\QMGRS\QMGR1
404	15:40:01, Feb, 26, 2002	Group Manager	Object Attached	\\MQSERIES\QMGRS\QMGR1
37	15:40:01, Feb, 26, 2002	Queue Manager	Auto-Discovery Failed	\\MQSERIES\QMGRS\QMGR2
403	15:38:56, Feb, 26, 2002	Group Manager	Object Detached	\\MQSERIES\QMGRS\QMGR1
402	15:38:52, Feb, 26, 2002	Group Manager	Object Attached	\\MQSERIES\QMGRS\QMGR1
401	15:38:52, Feb, 26, 2002	Group Manager	Object Attached	\\MQSERIES\QMGRS\
400	15:29:48, Feb, 26, 2002	Group Manager	Object Detached	\\MQSERIES\QMGRS\QMGR1
399	15:29:45, Feb, 26, 2002	Group Manager	Object Attached	\\MQSERIES\QMGRS\QMGR1
36	15:29:45, Feb, 26, 2002	Queue Manager	Auto-Discovery Failed	\\MQSERIES\QMGRS\QMGR2

Figure 4-2: The Event Log Window

To select which types of events you want MQControl Express to log in the Event Log window, see the section "Subscribing for Events", below.

Events can be sorted in the Event Log window by the categories listed in the column headings. Click on the column heading desired. By default, the most recent events are listed at the top of the window.

Right click on an Event to display additional information. The Event Details dialog box is displayed, listing a brief description of the event on the General tab, and diagnostic information on the Diagnostic tab.

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4.2.2 Event History Log

MQControl Express uses the Event History Log for persistent event storage. It logs all MQControl-generated events. For events generated by queue managers, see Chapter 4: Working with Queue Managers.

View Event History Log:

1. Right-click the MQSERIES Group Manager and choose **Events** > **History**.
   The Event Log History Request dialog box is displayed:

Figure 4-3: Event Log History

2. Select the types of events you want to view and how many (value of 1 - 1000).
3. Click **OK**.

   The requested events are displayed, organized by event type (category). By default, within each category the most recent events are at the top of the list.
4. Right-click on an event to view a detailed description of the event.

4.4 Deleting Events from Log

1. Right-click the Group Manager (MQSERIES) and choose **Events** > **Purge Events**.
2. From the list of event types, choose the one you want to purge.

   A dialog box asks you for confirmation.
3. Click **Yes** and the events are deleted from the Event History Log.

Viewing Command Error Codes

1. Right-click the Command Response to display error code for that response.

Figure 4-4: Error Code Dialog Box

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Chapter 5: Working with Queue Managers

5.1 Configure Queue Manager Connections

1. Specify connections for the queue managers defined on your system.

   In the Define Queue Manager Connection dialog box, type the queue manager name and the connection information must be specified as: HOSTNAME (LISTENING PORT), where HOSTNAME is a system hostname or TCP/IP address and LISTENING PORT is a TCP/IP port for the channel listener of the queue manager. If the default port is used (1414), LISTENING PORT could be omitted.

   In the example below, the queue manager QMGR1 is the default queue manager, running on the local node and listening on the default port 1414:

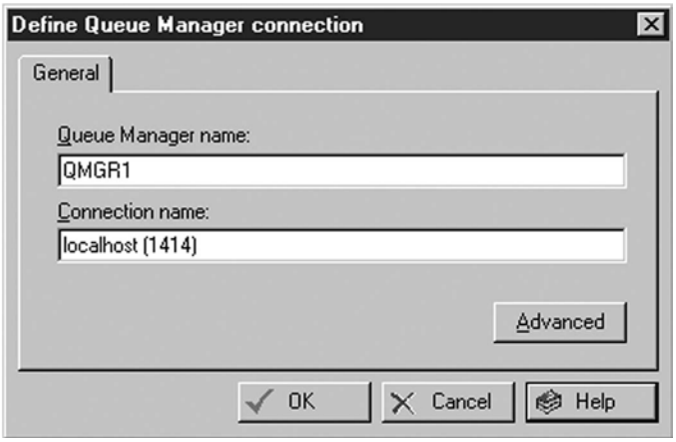

Figure 5-1. Define Queue Manager Connections

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5.2 View and Edit Queue Manager Properties

View and Edit Queue Manager Properties

1. Right-click the queue manager and choose **Properties**. :

   The Queue Manager Properties dialog box is displayed: :

Figure 5-1. Queue Manager Properties

2. Edit the properties as needed.

   Click **OK** to save the changes.

5.3 Ping a Queue Manager

1. To check whether a queue manager is responsive to commands, submit the Ping command:

   Right-click the queue manager and choose **Commands** > **Ping**.

2. Look in the Action Trace window at the bottom of the MQControl Express screen to see whether the Ping command has been executed successfully:

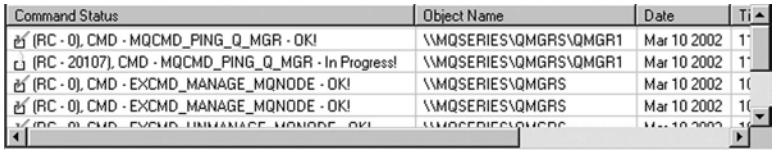

Figure 5-2. Ping Queue Manager Command in the Action Trace Window

5.4 Refresh/Suspend/Leave a Queue Manager Cluster

Refresh Cluster Command to the Queue Manager:

1. Right-click the queue manager and choose **Cluster membership** > **Refresh** (this command is available only if the queue manager is a cluster member):

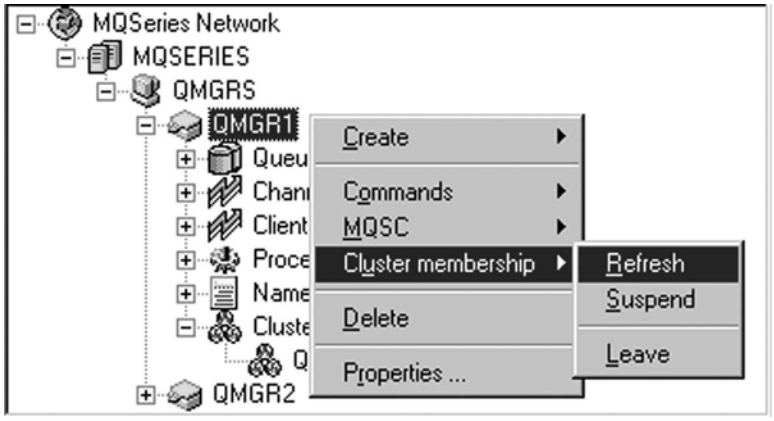

Figure 5-3: Refresh a Queue Manager Cluster Membership

2. The Refresh Cluster Information dialog box appears:

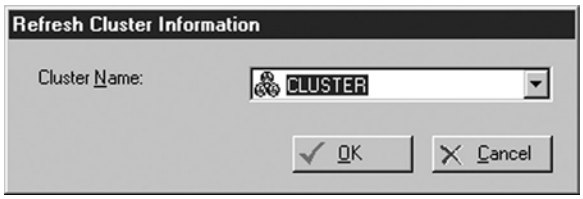

Figure 5-4: Confirm Refresh Cluster Command

3. Select the appropriate cluster name (if it's not already selected) and click **OK** to submit the refresh cluster command.

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5.4.2 Suspend Cluster Membership of a Queue Manager:

1. Right-click the queue manager and choose **Cluster membership** > **Suspend** (this command is available only if the queue manager is a cluster member):

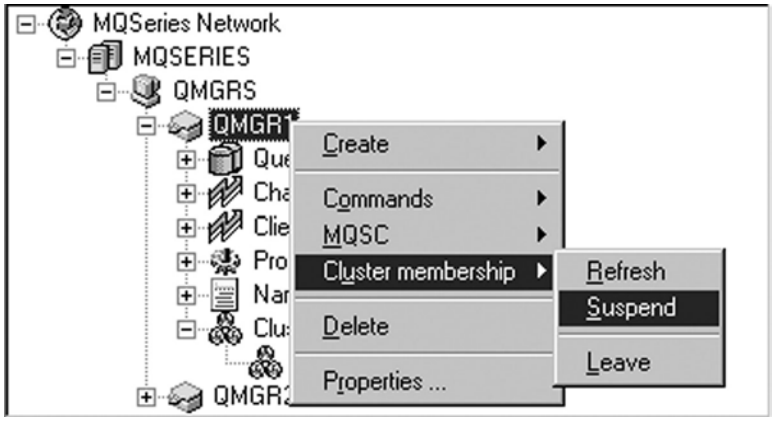

Figure 5-5. Suspend a Queue Manager Cluster Membership

2. The Suspend Cluster Membership dialog box is displayed:

Figure 5-6: Confirm Suspend Cluster Membership Command

3. Select whether you want to suspend the queue manager's membership in just one cluster or several (Cluster Namelist option).
4. To wait until all cluster communication for the queue manager is completed before suspending it, check the Quiescebox. To force suspension, leave the checkbox blank.
5. Click **OK** to submit the SUSPEND QMGR command.

5.4.3 Remove a queue manager from a cluster:

1. Right-click the queue manager and choose **Cluster membership** > **Leave** (this command is available only if the queue manager is a cluster member):

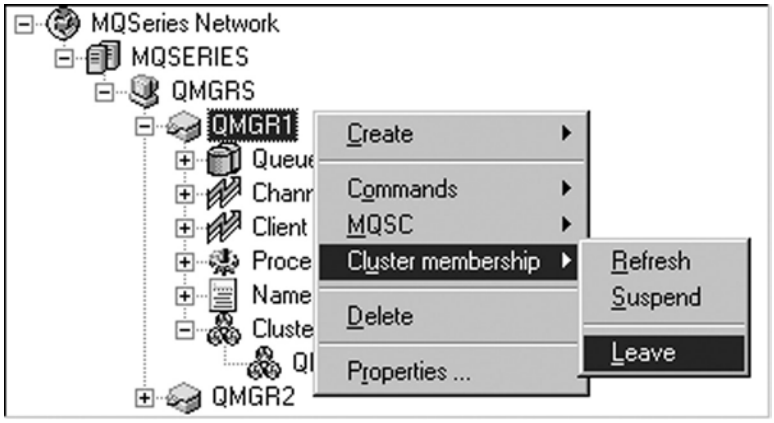

Figure 5-7: Leave a Queue Manager Cluster Membership

2. The Leave Cluster Membership dialog box appears:

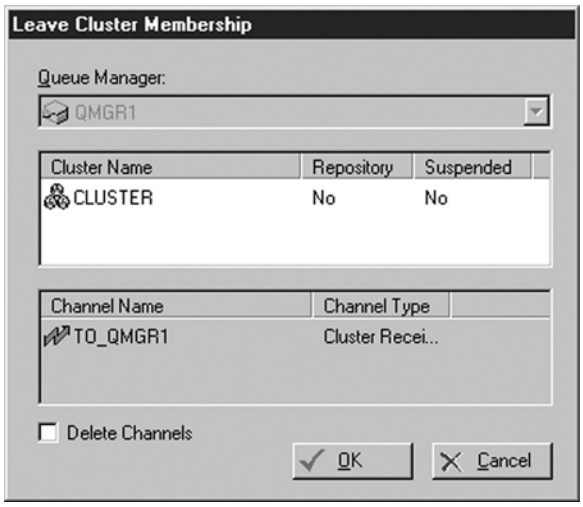

Figure 5-8: Confirm Leave Cluster Membership Command

3. Select the Delete Channels check box if you want to remove all auto-defined cluster-sender and cluster-receiver channels to and from the cluster.

4. Click **OK** to submit the RESET CLUSTER command.

   This command will change the queue manager's property to a non-cluster queue manager. It will also set the cluster-receiver channel to a non-cluster type of channel (unless you chose to delete all auto-defined cluster channels).

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5.5 Save a Queue Manager Definition in MQSC Format

Saving Queue Manager Definition in MQSC Format:

1. Right-click the queue manager and choose **MQSC** > **Save to** > **File** (or **Clipboard**).
2. When saving to file, the Save As dialog box is displayed. Otherwise the MQSC definition is saved to the clipboard, where it can be retrieved by other applications.

Figure 5-9. Save a Queue Manager to a File

3. Type in the name of the MQSC definition and click Save.

5.6 Delete a Queue Manager

Delete a Queue Manager:

1. Right-click the queue manager and choose **Delete**:

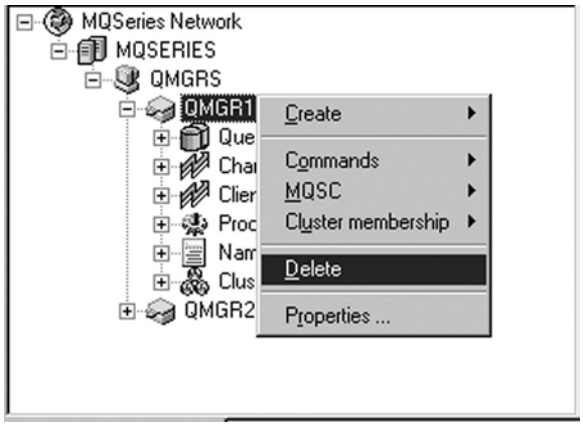

Figure 5-10. Delete Queue Manager

2. If the node (QMGRS) that owns the queue manager is actively managed (its icon is green), the queue manager will be deleted from the system.

   If the node is *not* managed (the icon is black), the queue manager will be deleted from the Group Manager's (MQSERIES) database.

3. To delete a queue manager from the system and from the Group Manager database, the delete queue manager command must be executed twice:

   a. Delete the queue manager while its node is managed

   b. Delete the queue manager while its node is unmanaged.

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Chapter 6: Working with Queues

6.1 Create a Queue

Define a New Queue:

1. Right-click the **Queues** icon under the queue manager that will own the new queue and choose **Create** > **[Queue Type] Queue**:

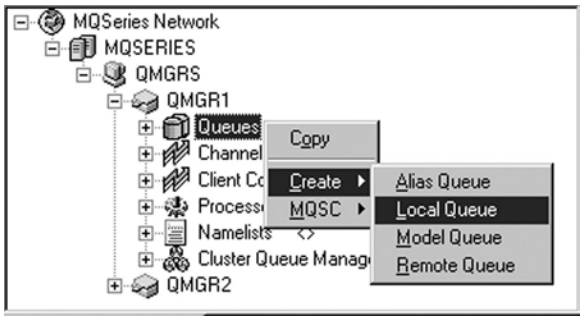

Figure 6-1: Create a New Queue

The Create Queue dialog box is displayed.

2. Specify the queue parameters and click **OK**.

The new queue is added to the list of queues under the appropriate queue type.

6.2 Copy a Queue

Copy an Individual Queue:

1. Right-click the queue and choose **Copy**.
2. Right-click the **Queues** folder under the queue manager where the queue is to be copied and choose **Paste**.

Copy all Queues Defined on a Queue Manager:

1. Right-click the **Queues** folder and choose **Copy**.
2. Right-click the **Queues** folder under the queue manager where you want the queues copied and chooses **Paste**

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6.3 Save a Queue Definition in MQSC Format

You can save the MQSC definitions of all queues on a queue manager, or of individual queues.

Save MQSC Definitions of all Queues on a Queue Manager:

1. Right-click the **Queues** icon under the queue manager and choose **MQSC** > **Save to** > **File** (or **Clipboard**). .

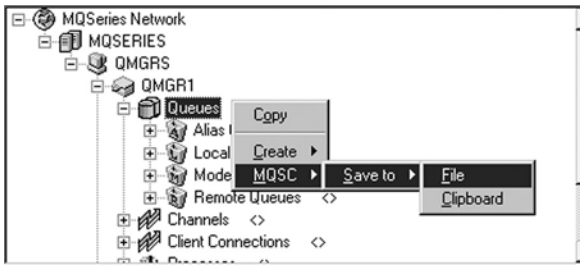

Figure 6-2. Save Queue Definitions in MQSC Format

2. If you chose to save to file, the Save As dialog box appears. Otherwise your MQSC definition is saved to the clipboard, where it can be retrieved by other applications.

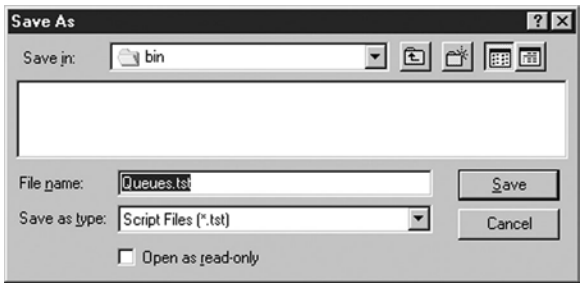

Figure 6-3. Save Queue Definitions to a File

3. Type in the name of the script file and click **Save**.

Save a Definition of a Particular Queue:

1. Right-click the queue and choose **MQSC** > **Snapshot**.

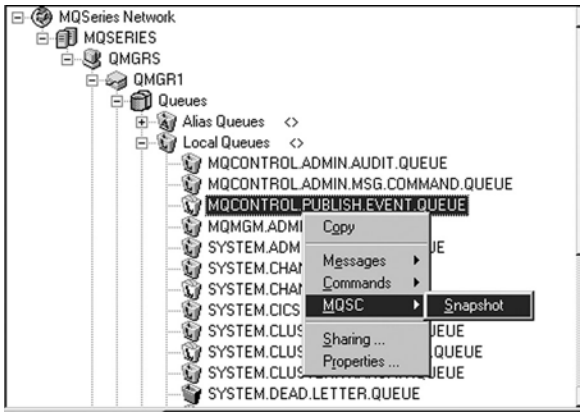

Figure 6-4. Save MQSC Definition of a Particular Queue

The MQSC Snapshot dialog box is displayed:

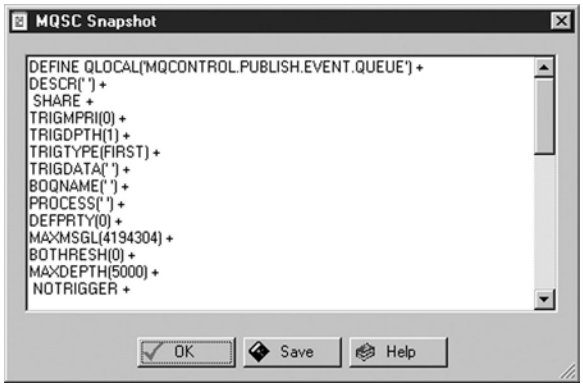

Figure 6-5. View or Save MQSC Snapshot of a Queue

2. To viewing the MQSC summary of the queue, click **OK** to exit the dialog box.

   To save the MQSC definition, click **Save**. In the Save As dialog box, type the name of the script file and click **OK**.

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6.4 View and Edit Queue Properties

View or Edit Queue Properties:

1. Right-click the queue and choose Properties.

   A Queue Properties dialog box displays the queue's attributes, based on its type (Local, Alias, etc.):

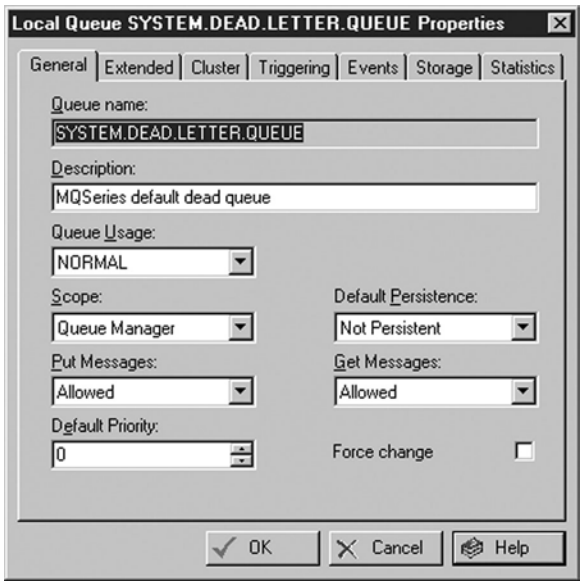

Figure 6-6. Viewing Queue Properties

2. Edit the properties as needed and click **OK**.

6.5 Reset Queue Statistics

Use the **Reset** command to monitor a queue's activity.

Reset Queue Statistics:

1. Right-click the queue and choose **Commands** > **Reset Statistics**:

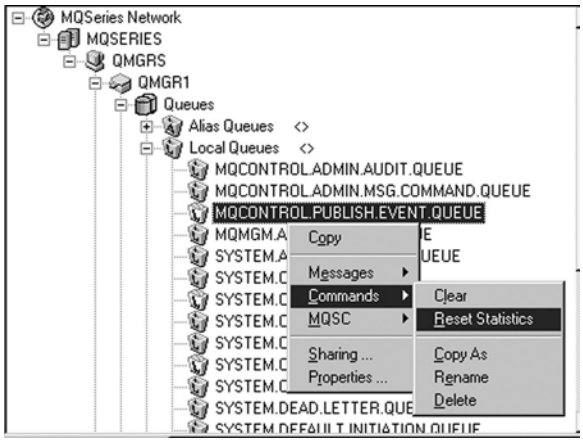

Figure 6-7. Reset Queue Statistics Command

The Reset Queue Statistics dialog box is displayed:

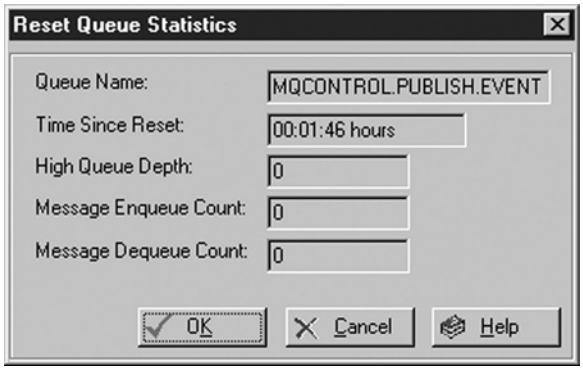

Figure 6-8. Reset Queue Statistics Dialog Box

2. The queue shown in the figure above has not been reset and therefore all values are set to zero.

   Click **OK** to reset it. The next time the queue is reset, the values will reflect the queue's activity since the last reset.

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6.6 Save a Queue Under a New Name

Saving Copies of Queues:

1. Right-click the queue and choose Commands > Copy As:

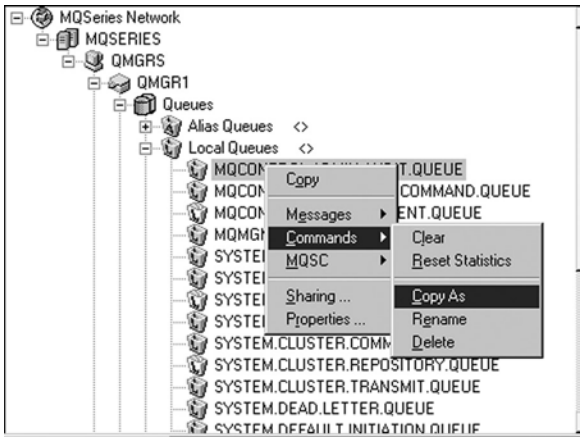

Figure 6-9. Copy a Queue and Save it Under a New Name

A dialog box with the queue's properties is displayed:

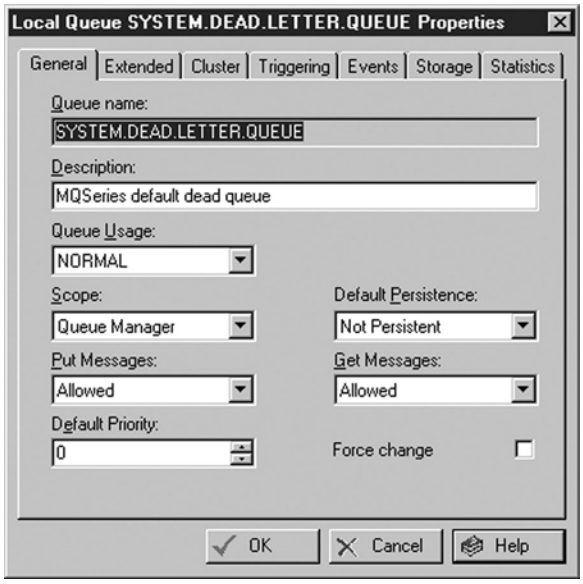

Figure 6-10. Properties of a Queue Copy

2. Type in the new queue name and click **OK**.

6.7 Delete a Queue

Delete a Queue:

1. Right-click the queue you want to delete and choose **Commands** > **Delete**:

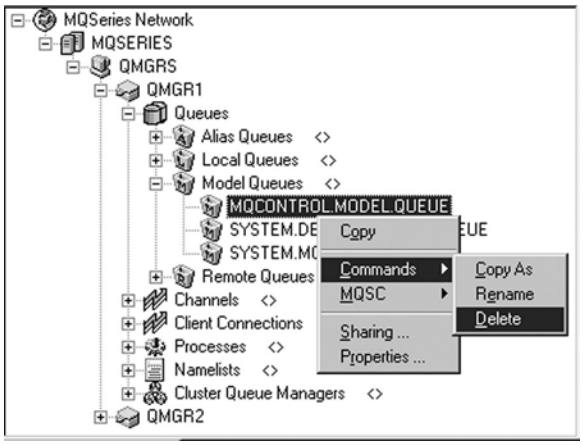

Figure 6-11. Delete Queue Command

2. A confirmation box is displayed.

   Click **Yes** to delete the queue.

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6.8 Share a Queue in a Cluster

Share a Queue in a Cluster:

1. Right-click the queue that you want to share in a cluster and choose **Sharing**:

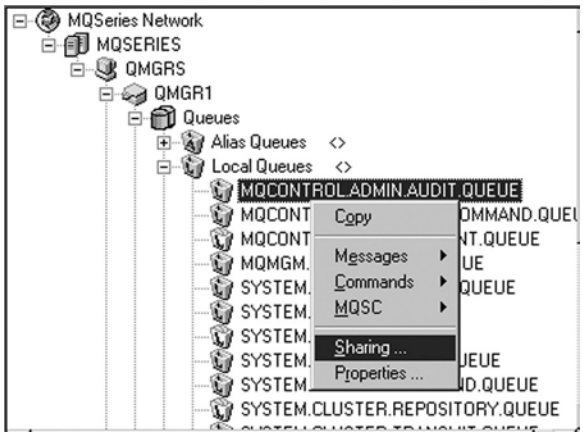

Figure 6-12. Share Queue Command

The Queue Sharing dialog box is displayed:

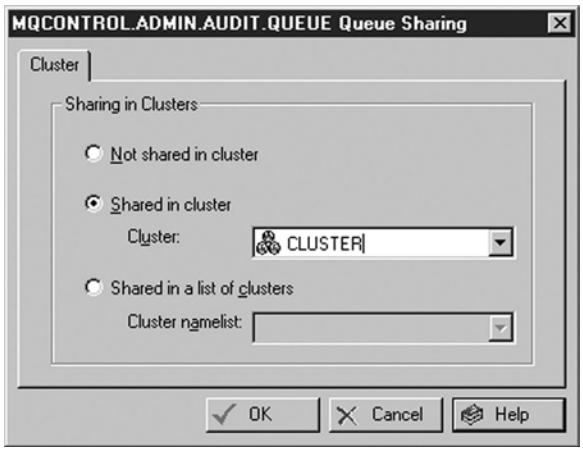

Figure 6-13. Specify Queue Sharing

2. Select whether to share the queue in just one cluster or in a list of cluster. Then specify either the cluster name or the name of the cluster namelist.
3. Click **OK**.

Chapter 7: Working with Messages

7.1 Browse Messages

Browse the contents of a queue whenever there is a live connection to that queue. The queue manager must be running and the queue manager connections must be defined.

Browse Messages in Queues:

1. Right-click the queue whose messages you want to view and choose **Messages** > **Browse**:

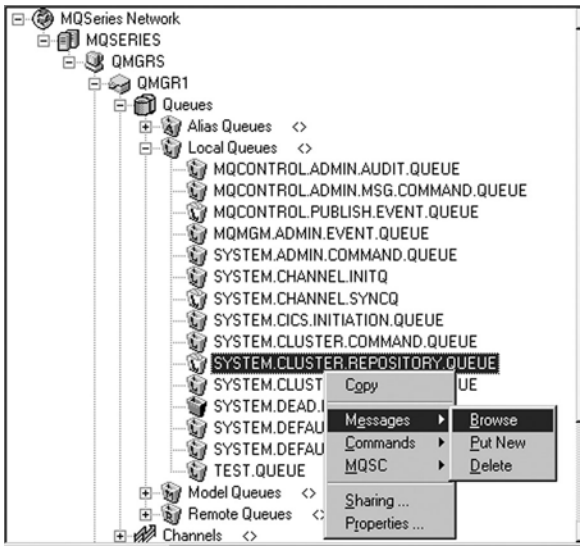

Figure 7-1. Browsing Messages on a Queue

All messages on the queue are displayed in a Message Window on the right:

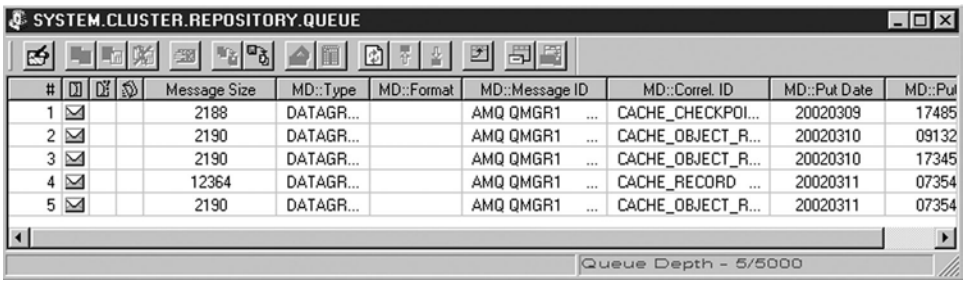

Figure 7-2. Messages on a Queue

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7.2 Put a Message on a Queue

MQControl Express lets you create new messages and place them directly onto queues. When creating messages, the following can be specified:

- Which queues to be sent the message to
- Message properties
- Header properties

Create a New Message:

1. Right-click the queue onto which you want to place the new message and select **Messages** > **Put New**.

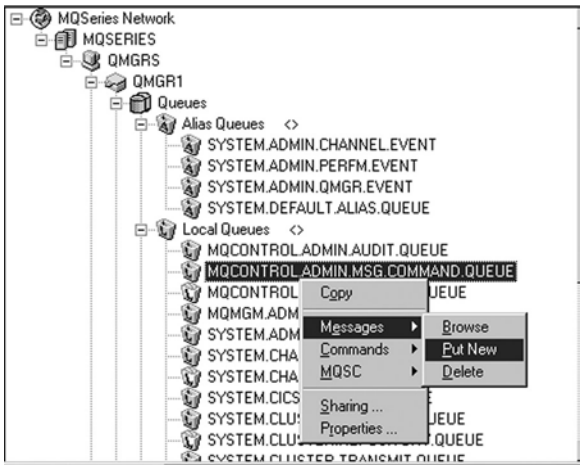

Figure 7-3. Put a New Message on a Queue

The Put New Message(s) dialog box is displayed:

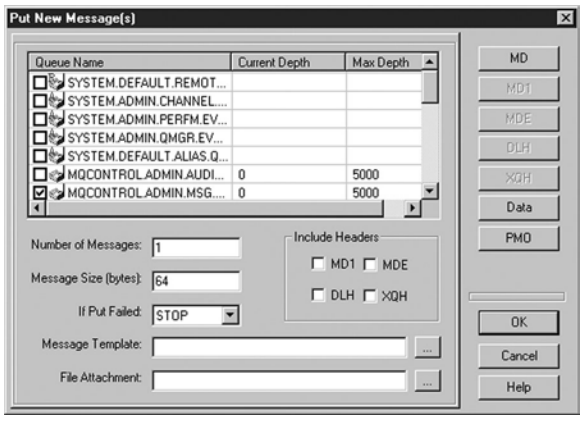

Figure 7-4. Put New Message(s) Dialog Box

2. In the list of queues, the queue you had right-clicked has a check mark next to it.

   Put a check mark next to any additional queues to receive message.

3. In the fields underneath the list of queues, type the number of messages, and their size in bytes.

   The number of messages specified will be sent to each queue selected.

4. From the scroll-down list, choose what action should be taken if the Put instruction fails.

   Choose between Stop, Continue and Exclude.

5. If there are defined message templates, click the ellipses button to select the template the new message will follow (see "Define Message Templates," below).

6. To attach a file to the message, specify the file, or browse for it by clicking the ellipses button.

   Browse for a file using standard Windows tools.

7. To include a message header, select the appropriate header boxes.

   Choose between MD1, MDE, DLH, and XQH, as applicable. Add one or more headers to a message; however, selecting DLH and XQH at the same time is not permissible.

8. For each message header you select, specify its properties.

   For example, for a DLH header, click the DLH button, and then specify DLH properties.

9. Click PMO (Put Message Options). Specify any options to be used when putting the message onto a queue. Click OK.

10. Use the Data button to open the Message Data dialog box to create message content.

11. When finished editing the dialog box, click **OK**.

    A dialog box requests confirmation. Click **OK** to put the new message onto the queue.

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7.3 Define Message Templates

When browsing existing messages, or when putting a new message on a queue, use a predefined message template. The template works as a shortcut so that it is not required to redefine the queue attributes common to several queues whenever browsing for a certain type of messages or put a new message on a queue.

There are no default message templates included with MQControl Express. To create a new message template, use the Message Criteria dialog box. It can be accessed from the Queue Browse Options dialog box (the **Messages** > **Browse** command, see the "Browse Messages" section, above), or from the Message Template field in the Put New Message(s) dialog box (the **Messages** > **Put New** command, see the "Put a Message on a Queue" section, above):

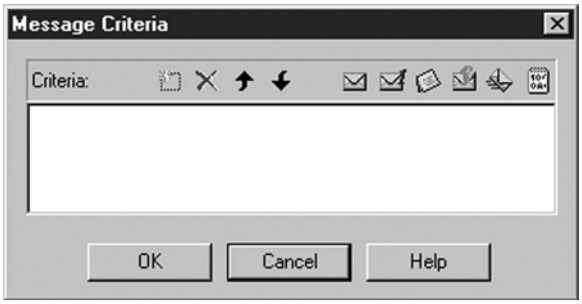

Figure 7-5. Create Message Template by Specifying Message Criteria

Create a New Message Templates:

1. In the Message Criteria dialog box, click the New button.

   In the text box that opens, type a name of the message template:

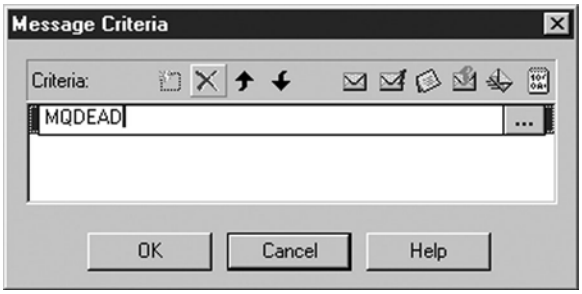

Figure 7-6. Type a Message Template Name

   In the example above, the template is designed for messages with the format type MQDEAD. MQDEAD is therefore a suitable descriptive name. Any name can be used.

2. To define specific criteria, use the message descriptor buttons at the top of the dialog box:

   MD

   MD1

   MDE

   DLH

   XQH

   Data

   Each descriptor button will open a Message Descriptor Properties dialog box where all the criteria that apply are selected.

3. Click **OK** once finished defining the set.

Create additional sets by clicking the New button. They will be added to the list of message templates. To move up and down the list, use the Move Up and Move Down buttons.

To delete a set definition that is no longer used, select it and click the Delete button.

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7.4 Delete Messages from a Queue

When deleting messages, remove them from the queue either by deleting specific messages on a queue, or the entire queue contents.

Delete Selected Messages from a Queue:

1. Right-click the queue that contains the message you want to delete and choose **Messages** > **Browse**.

   The messages on the queue are displayed in the Message Window.

2. To delete a single message, select it by clicking on it.

   To select several messages at a time, hold down the Shift key while selecting them.

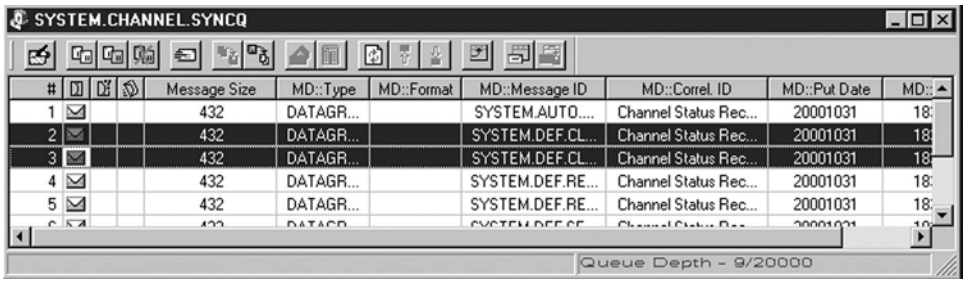

Figure 7-7. Select Messages to be Deleted

3. To delete the selected messages, click the Delete button on the Message Window toolbar.

   Or: Right-click the selected messages and choose **Delete** from the pull-down menu.

4. A confirmation dialog box is displayed.

   Click **Yes** to delete the messages.

Delete all Messages on a Queue:

1. To delete all messages on a queue, right-click the queue and choose **Commands** > **Clear**.

   The Delete Messages dialog box is displayed:

   […]

Chapter 8: Working with Channels

8.1 Create a Channel

Define a New Channel:

1. Right-click the **Channels** icon under the queue manager where you want to define the channel and choose **Create** > **[Channel Type]**:

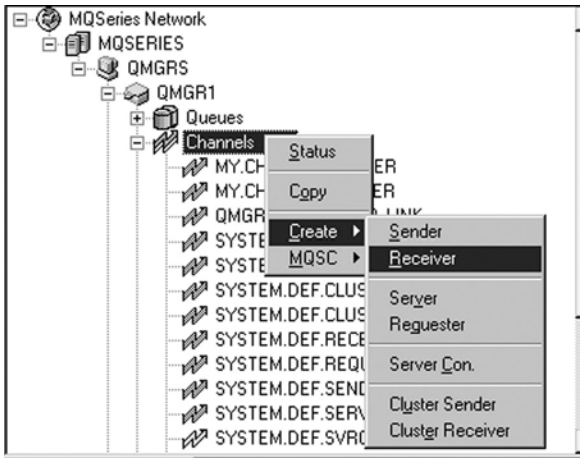

Figure 8-1. Create Channel Command

2. The Create Channel dialog box is displayed:

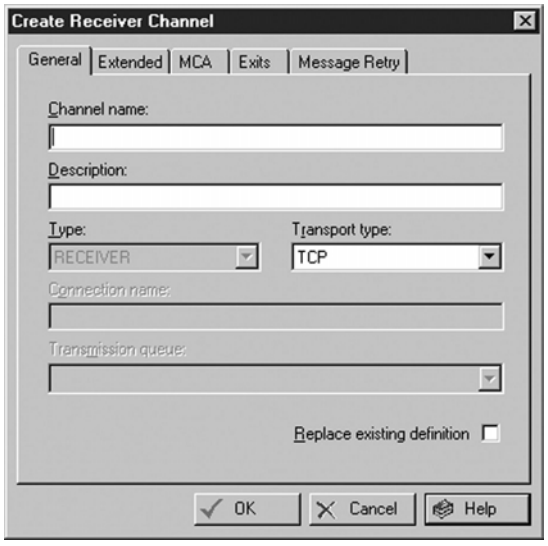

Figure 8-2. Specify channel attributes

3 Specify the channel parameters.

4. Click **OK**.

   The new channel is added to the list of channels under the queue manager.

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8.2 View Channel Status

View the Status of Channels Defined on Queue Manager:

1. Right-click the **Channels** folder under the queue manager and choose **Status**:

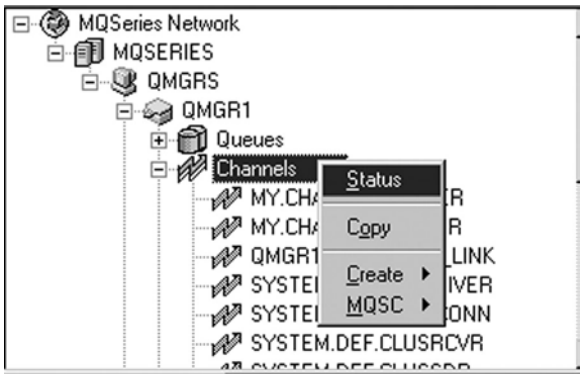

Figure 8-3: Channel Status Command

2. The Channel Status window is displayed:

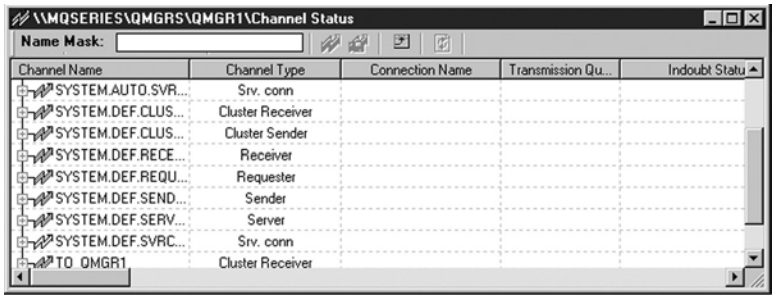

Figure 8-4. Channel Status Window

3. The Channel Status window displays a summary of channel attributes defined on the queue manager. Refer to MQSeries documentation for attribute definitions.
4. Use the Name Mask field to filter the channel list.
5. Use the columns button to add or remove column categories displayed in the window.

8.3 View and Edit Channel Properties

View or Edit the Channel Properties:

1. Right-click the channel and choose **Properties**:

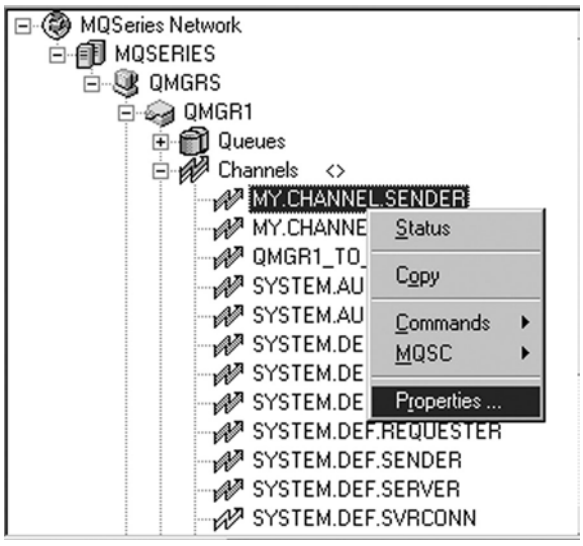

Figure 8-5. Channel Properties Command

A Channel Properties dialog box displays the channel's attributes, based on its type:

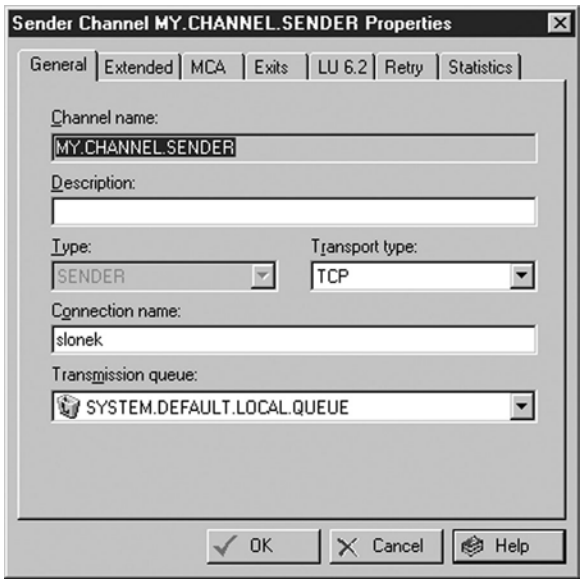

Figure 8-6. Channel Properties Dialog Box

2. Edit the properties as needed and click **OK**.

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8.4 Start and Stop a Channel

Start or Stop a Channel:

1. Right-click the channel and choose **Commands** > **Start** (or **Stop**):

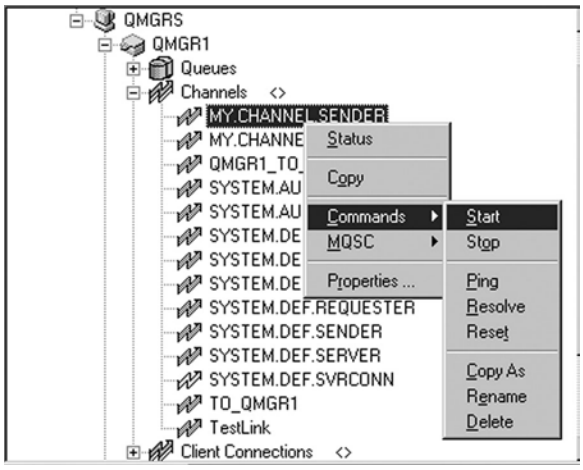

Figure 8-7. Start Channel Command

2. A confirmation box is displayed.

   Click **Yes** to start the channel

3. Check in the Action Trace window to see if the command executed successfully:

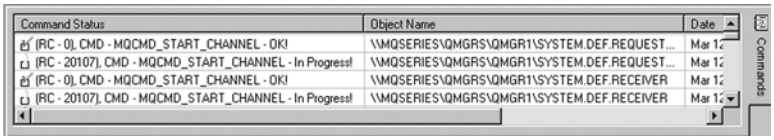

Figure 8-8. Action Trace of Start Channel Command

8.5 Ping Channels

Use the PING CHANNEL command on a channel that is stopped or in retry mode.

Ping a Channel:

1. Right-click the channel and choose **Commands** > **Ping**:

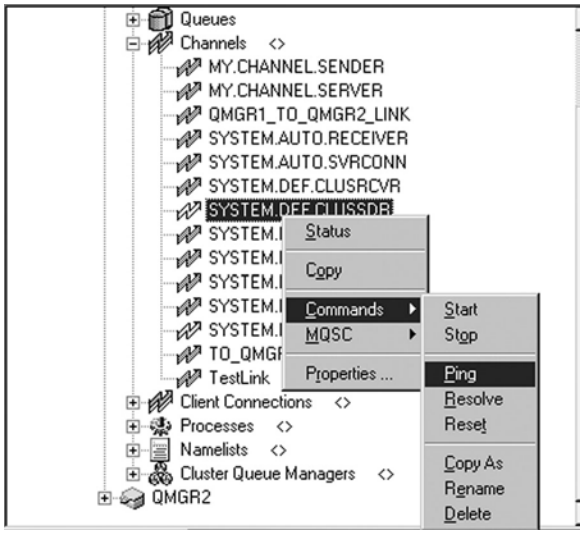

Figure 8-9: Ping Channel Command

2. The Ping Channel dialog box appears:

Figure 8-10: Ping Channel Dialog Box

3. Click the **Ping Channel** button to test the channel.

   Check in the Action Trace window to see if the command executed successfully.

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8.6 Resolve a Channel

Use the RESOLVE CHANNEL command to commit or back out in doubt messages.

Resolve a Channel:

1. Right-click a channel whose state is in doubt and chooses **Commands** > **Resolve**.
2. The Resolve Channel dialog box appears:

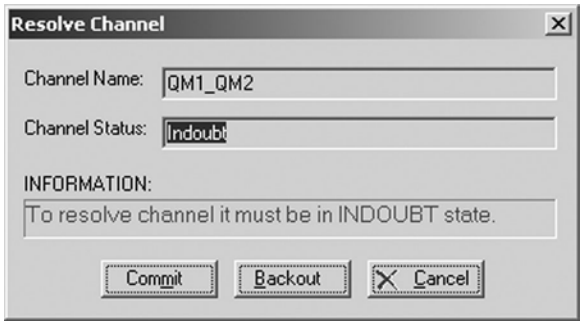

Figure 8-11: Resolve Channel Dialog Box

3. Specify whether to commit or back out the in-doubt messages by clicking the respective buttons.

8.7 Reset a Channel

Use the RESET CHANNEL command to reset the channel's message sequence number and, optionally, specify a sequence number to be used the next time the channel is started.

Reset a channel:

1. Right-click the channel and choose **Commands** > **Reset**.

   The Reset Message Sequence Number dialog box appears:

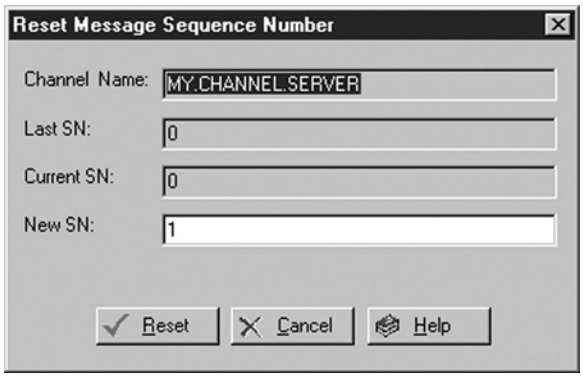

Figure 8-12: Reset Channel Dialog Box

2. Specify a new message sequence number and click **Reset**.

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8.8 Copy a Channel

Copy an Individual Channel:

1. Right-click the channel and choose **Commands** > **Copy**.
2. Right-click the **Channels** folder under the queue manager where you want to copy the channel and choose **Paste**.

Copy all Channels on a Queue Manager:

1. Right-click the **Channels** folder and choose **Copy**.
2. Right-click the **Channels** folder under the queue manager where you want to copy the channels and choose **Paste**.

8.9 Rename a Channel

Rename a Channel:

1. Right-click the channel and choose **Commands** > **Rename**.
2. In the channel properties dialog box, type in the new channel name and click **OK**.

8.10 Delete a Channel

Delete a Channel:

1. Right-click the channel and choose **Commands** > **Delete**.

   A confirmation box appears.
2. Click **Yes** to delete the channel.

Chapter 9: Working with Processes

9.1 Create a New Process Definition

MQControl Express lets you custom-define processes.

Create a New Process Definitions:

1. Navigate to the queue manager under which you want to define the process.
2. Right-click the queue manager's **Processes** icon and choose **Create**.

   The Process Properties dialog box appears:

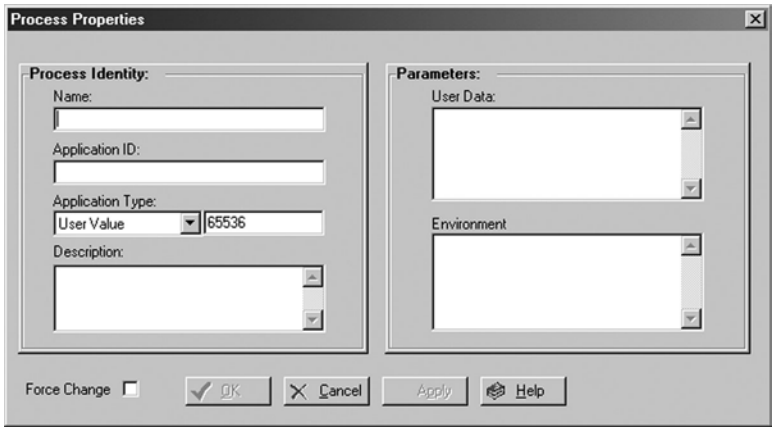

Figure 9-1: Process Properties Dialog Box

3. Fill in the Process Properties fields, as explained in the table below.

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Table 9-1: Process Properties Dialog Box Fields

FIELD	DESCRIPTION	EXAMPLE
Name	Process name	`MQCONTROL.MMF.START`
Application ID	Full path of the application to be run as a process	`C:\nastel\mqcont\bin\nsqmsg.exe`
Application Type	Platform type of the queue manager running the process.	WIN/NT
Description	Brief textual description of the process	Process definition to start the MQControl MMF Server
User Data	Any parameters used to submit the process, as when starting it from the command line	`-console -m`*`qmgr_name`*
Environment	Any additional environment variables that need to be in effect when the process is started	None
Force change		

4. Click **OK**.

   The new process definition is added to the list of processes under the queue manager.

5. To run the process, right-click the process name and choose **Commands** > **Submit New Instance**.

6. Repeat the steps above for any additional queue managers to be serviced.

   Note that process definitions must have unique names within the same queue manager. If the intent is to use the same process definition on another queue manager, the wildcard character (*) can be used instead of the queue manager name in the User Data field. See the section "Copy a Process", later in this chapter.

7. To verify that the process is running, on Windows NT/2000 check the list of processes in the Task Manager. On UNIX, type the command:

   ```
   ps -aef|grep appl_name
   ```

   where `appl_name` is the name of the process executable (for example, nsqmsg).

8. You can use the SYSTEM.DEFAULT.PROCESS, available under every queue manager, as a template. Any properties that you define in the SYSTEM.DEFAULT.PROCESS will be automatically applied to any new process you subsequently create.

9.2 Copy a Process

There are three methods of coping process definitions:

- Copy
- Copy As
- Drag and drop

9.2.1 Copy

If a process has been defined under a queue manager and is to use the same process under another queue manager, instead of creating a new process definition, copy the existing process. Remember to change any queue manager-specific process properties in the copy, especially in the process' User Data field.

Copy a Process Definition:

1. Right-click the process you want to copy and choose **Copy**.
2. Then right-click the queue manager where the process is to be copied and choose **Paste**.

   A copy of the process is saved under that queue manager.
3. Edit the process properties as needed.

9.2.2 Copy As

Use the **Copy As** command when you want to copy an existing process definition but want to save it under a different name.

Copy a Process Definition Under a New Name:

1. Right-click the process you want to copy and choose **Commands** > **Copy As**.

   The Process Properties dialog box appears.
2. Type the new process name and click **OK**. A copy of the process is saved under the new name.

9.2.3 Drag and Drop

Processes can also be copied by performing a simple drag-and-drop operation. Click on a process and hold down the mouse button. Move the pointer across the screen to the queue manager where the process is to be copied, and release the mouse button. The process is copied where it has been “dropped”.

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9.3 Save a Process Definition in MQSC Format

MQControl Express allows you to save process definitions in MQSC format to either a file or the clipboard, where it can be accessed by other applications.

Save a Process Definition:

1. Right-click the process you want to save and choose **MQSC** > **Save To** > **File** (or **Clipboard**).

   If you chose the save to a file, select the directory where you want to save the definition.

2. Click **Save**.

   The process is saved.

9.4 View and Edit Process Properties

View or Edit Process Properties:

1. Right-click the process name and choose **Properties**.

   The Process Properties dialog box appears.

2. Edit the properties as needed.

   Note that you cannot change the name of the process when using the Properties command. See "Renaming Processes" later in the chapter.

3. Click **OK** to save the changes.

9.5 Rename a Process

Rename a Process Definition:

1. Right-click the process and choose **Commands** > **Rename**.

   The Process Properties dialog box appears.

2. Type the new process name and click **OK**.

   The process is renamed.

9.6 Delete a Process

Delete a Process Definition:

1. Right-click the process and choose **Commands** > **Delete**.

   A dialog box asks you for confirmation.

2. Click **Yes** to delete the process definition.

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Chapter 10: Working with Namelists

10.1 Creating Namelists

Create a Namelist:

1. Right-click the **Namelists** icon and choose **Create**.

   The Create Namelist dialog box is displayed:

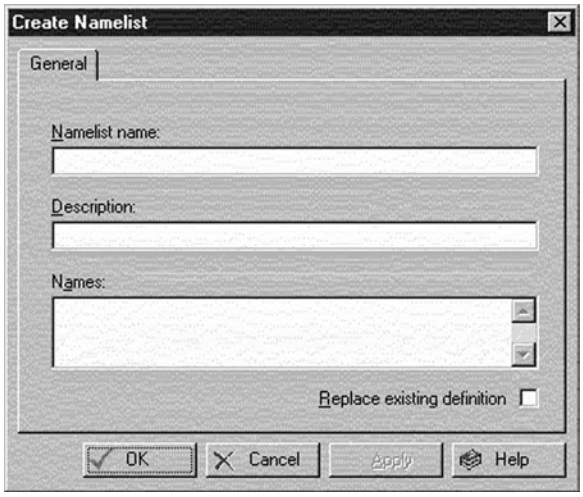

Figure 10-1: Create Namelist Dialog Box

2. Type in the Namelist attributes as described below:

Table 10-1: Create Namelist Dialog Box Fields

FIELD	DESCRIPTION
Namelist Name	The name of the new Namelist definition to be created
Description	A brief textual description of the Namelist
Names	The names to be placed in the Namelist
Replace Existing Definition	If a Namelist with the same name already exists, the existing attributes will be replaced by the newly-defined ones.

3. Click **OK** to create the Namelist.

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10.2 Copying Namelists

Copy a Namelist:

1. Right-click the Namelist (or a group of Namelists) and choose **Copy**.
2. Right-click where you want the Namelist copied and choose **Paste**.

10.3 Save a Namelist Definition in MQSC Format

MQControl Express allows saving Namelist definitions in MQSC format to either a file or the clipboard, where they can be accessed by other applications.

Save Namelist Definitions:

1. Right-click the Namelist and choose **MQSC** > **Save To** > **File** (or **Clipboard**).

   If you chose the save to a file, select the directory where you want to save the definition.
2. Click **Save**.

10.4 View and Edit Namelist Properties

View or edit Namelist Properties:

1. Right-click the Namelist and choose **Properties**.

   The Namelist Properties dialog box appears:

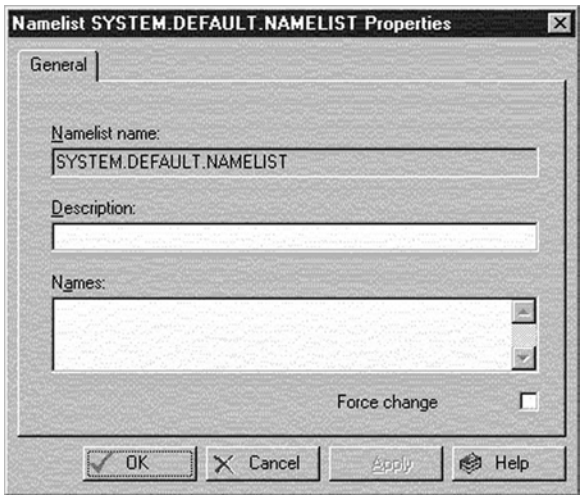

Figure 10-2: Namelist Properties Dialog Box

2. Edit the namelist properties, listed below, as needed.

Table 10-2: Namelist Properties Dialog Box Fields

FIELD	DESCRIPTION
Namelist Name	The name of the namelist definition
Description	A brief textual description of the namelist
Names	The names to be placed in the namelist
Force change	Specifies whether the Edit Properties command should be forced to complete.

3. Click **OK** to confirm any changes.

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10.5 Rename a Namelist

Rename a Namelist:

1. Right-click the Namelist and choose **Commands** > **Rename**:

   The Copy Namelist dialog box is displayed:

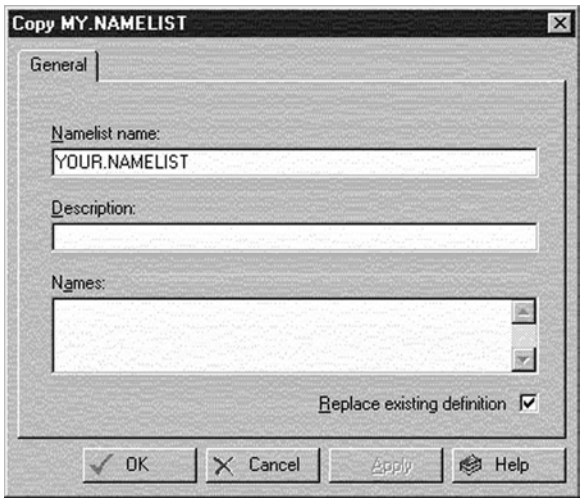

Figure 10-3: Copy Namelist Dialog Box

2. Type in a new Namelist name and check the **Replace Existing Definition** checkbox.
3. Click **OK** to rename the namelist.

10.6 Delete a Namelist

Delete a Namelist:

1. Right-click the namelist in the MQControl Network tree and choose **Commands** > **Delete**.
   A dialog box asks you for confirmation.
2. Click **Yes** to delete the Namelist.

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Nastel Technologies, headquartered in Melville, New York, was established in 1994. Nastel develops, markets and supports a suite of software solutions to address the unique management challenges involved in integration and management of distributed middleware. Widely acknowledged by industry analysts as the visionary leader in MQSeries management, Nastel's products are the first comprehensive solutions for providing end-to-end control, management, and monitoring of distributed middleware across platforms. Nastel's customers are large Global 2000 enterprises, who have successfully deployed Nastel's software solutions on various platforms, generating high return on investment (ROI) by reducing the overall cost of managing their distributed middleware, and dramatically improving availability of their applications.

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