NASTEL
Driving Business Transaction Performance ®

**M6WMQ-WMM 661.001**

# AutoPilot® M6 On-Demand for Middleware

## User's Guide

### Version 6.6.1

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# Chapter 1: Introduction

Welcome to the *AutoPilot M6 On-Demand for Middleware User's Guide*. This guide will introduce the user to basic functionality issues and describe the dialog windows that they encounter while working with AutoPilot M 6 On-Demand for Middleware. Please review this guide carefully before installing the product.

AutoPilot M6 On-Demand for Middleware was formerly called AutoPilot M6 On-Demand for Websphere MQ and identified as APODWMQ. This designation appears numerous times in this document and has not been changed.

## 1.1 How This Guide is Organized

*Chapter 1:* Identifies the users and history of the document, as well as additional and alternate documents. System requirements are outlined in addition to supplying support and reference information.

*Chapter 2:* Contains a brief functional description of APODWMQ.

*Chapter 3:* Provides system access and use of the APODWMQ.

*Appendix A:* Provides a detailed list of all reference information required for the installation of APODWMQ.

*Appendix B:* Contains conventions used in this document.

*Appendix C:* Contains a sample message parser file.

*Glossary:* Contains a listing of unique and common acronyms and words and their definition.

*Index:* Alphabetical index.

## 1.2 History of This Document

**Table 1-1. Document History**

| Release Date | Document Number | Version | Summary |
|---|---|---|---|
| **May 2008** | M6WMQ-WMM 600.002 | M6-WMQ 6.0.2 | Initial Release for M6 |
| **August 2010** | M6WMQ-WMM 620.001 | M6-WMQ 6.2 | Updated for M6-WMQ 6.2 |
| **August 2011** | M6WMQ-WMM 620.002 | M6-WMQ 6.2 | Errata |
| **October 2011** | M6WMQ-WMM 620.003 | M6-WMQ 6.2 | Rename Web Message Manager to AutoPilot On-Demand for WebSphere MQ and add restrictions/permissions |
| **March 2012** | M6WMQ-WMM 620.004 | M6-WMQ 6.2 | Updates to support APOD for WebSphere MQ Security Manager |
| **May 2012** | M6WMQ-WMM 620.005 | M6-WMQ 6.2.1 | Provide Favorites folder option for object shortcuts (Mantis 5838) and "Copy as" for all object types (Mantis 6611) |
| **July 2012** | M6WMQ-WMM 620.006 | M6-WMQ 6.2.2 | Provide Search capability, confirmation message when creating remote connection (Mantis 6131), and errata (Mantis 6887) |
| **July 2012** | M6WMQ-WMM 620.007 | M6-WMQ 6.2.2 | Errata (Mantis 4095) |
| **March 2013** | M6WMQ-WMM 650.001 | M6-WMQ 6.5 | Add topology view |
| **November 2013** | M6WMQ-WMM 651.001 | M6-WMQ 6.5.1 | Mantis 6815, 7389, 7785, 7871, 7952, 8099, 8555, 8681, 8682, 8756, 8892 |

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Table 1-1. Document History

| Release Date | Document Number | Version | Summary |
|---|---|---|---|
| **May 2014** | M6WMQ-WMM 652.001 | M6-WMQ 6.5.2 | Mantis 8474, 8946, 8957, 9177, 9184, 9185, 9187, 9195, 9232, 9267, 9297, 9345, 9510 |
| **September 2014** | M6WMQ-WMM 653.001 | M6-WMQ 6.5.3 | Mantis 9680, 9830 |
| **September 2014** | M6WMQ-WMM 653.002 | M6-WMQ 6.5.3 | Mantis 9861 (errata) |
| **January 2015** | M6WMQ-WMM 654.001 | M6-WMQ 6.5.4 | • Provide search function for MQ Objects<br>• Display filter settings at higher levels in the console<br>• Show InquireMetrics data on the Workgroup Server Properties dialog box<br>• Limit the attribute list by creating a customized attribute scheme<br>• Events tab – If the object name is listed in the tree, the object name will contain a link which when clicked will position in the tree<br>• Automate XML and Decompile message options<br>• Provide queue manager properties<br>• User Settings – display object attributes on select |
| **March 2016** | M6WMQ-WMM 656.001 | M6-WMQ 6.5.6 | Mantis 12345 (topology) and 13607 (save results of MQSC Apply from File) |
| **August 2016** | M6WMQ-WMM 657.001 | M6-WMQ 6.5.7 | Mantis 13823 (shared environment on z/OS MQ) and 9529 (Figure 3-80) |
| **January 2017** | M6WMQ-WMM 658.001 | M6-WMQ 6.5.8 | Mantis 14728 (Figure 3-80A) |
| **July 2017** | M6WMQ-WMM 658.002 | M6-WMQ 6.5.8 | Update Nastel's phone number and street address |
| **August 2017** | M6WMQ-WMM 660.001 | M6-WMQ 6.6 | Update for APWMQ 6.6 |
| **June 2018** | M6WMQ-WMM 661.001 | M6-WMQ 6.6.1 | Update for EMS and errata (Mantis 17475) |

### 1.2.1 User Feedback

Nastel encourages all Users and Administrators of M6 for WMQ to submit comments, suggestions, corrections, and recommendations for improvement for all AutoPilot documentation. Please send your comments via Post/Mail, or by e-mail. Send messages to: support@nastel.com. You will receive a written response, along with status of any proposed change, update, or correction.

## 1.3 Related Documents

The complete listing of related and referenced documents is listed in Appendix A of this guide.

## 1.4 Release Notes

See README files on installation media or M6 for WMQ installation directory.

## 1.5 Intended Audience

This User's Guide is intended for use by installers and administrators of Nastel's AutoPilot and AutoPilot/WebSphere Business Integrator. There are three user groups defined for the purpose of installation and use.

- **Installer:** The installer should be familiar with Java Run Time Environment 1.6.x (JRE 1.6.x) or higher. Procedures for installing software on the target platform such as Windows and/or UNIX. Basic understanding of TCP/IP and WebSphere MQ.
- **Administrator:** The administrator should have a working knowledge of middleware, TCP/IP, and system management. The Administrator should also have an understanding of Java Runtime Environment (JRE) and TCP/IP. Installation procedures for the platform where AutoPilot is installed (for example, Windows, Linux, UNIX, etc.)
- **User:** Requires only local operating system operations knowledge and basic knowledge of AutoPilot.

## 1.6 System Requirements

APODWMQ has no special or unique requirement which exceeds the requirements of M6-WMQ.

## 1.7 Terms and Abbreviations

A list of Terms and Abbreviations used in this document is located in the Glossary.

## 1.8 Technical Support

If you need additional technical support, you can contact Nastel Technologies by telephone or by e-mail. To contact Nastel technical support by telephone, call **800-963-9822 ext. 1**, if you are calling from outside the United States dial **001-516-801-2100**. To contact Nastel technical support by e-mail, send a message to support@nastel.com. To access the Nastel automated support system (user id and password required), go to http://support.nastel.com/. Contact your local AutoPilot Administrator for further information.

## 1.9 Conventions

Refer to Appendix B for conventions used in this guide.

## 1.10 AutoPilot M6 for WMQ Installation Support (32-bit/64-bit)

See Figure 1-1 for AutoPilot M6 for WMQ Installation Support. This platform is for the Workgroup server and databases supported. Agents may be available for other versions of operating systems and WMQ versions. You should contact their support representatives if your platform is not listed.

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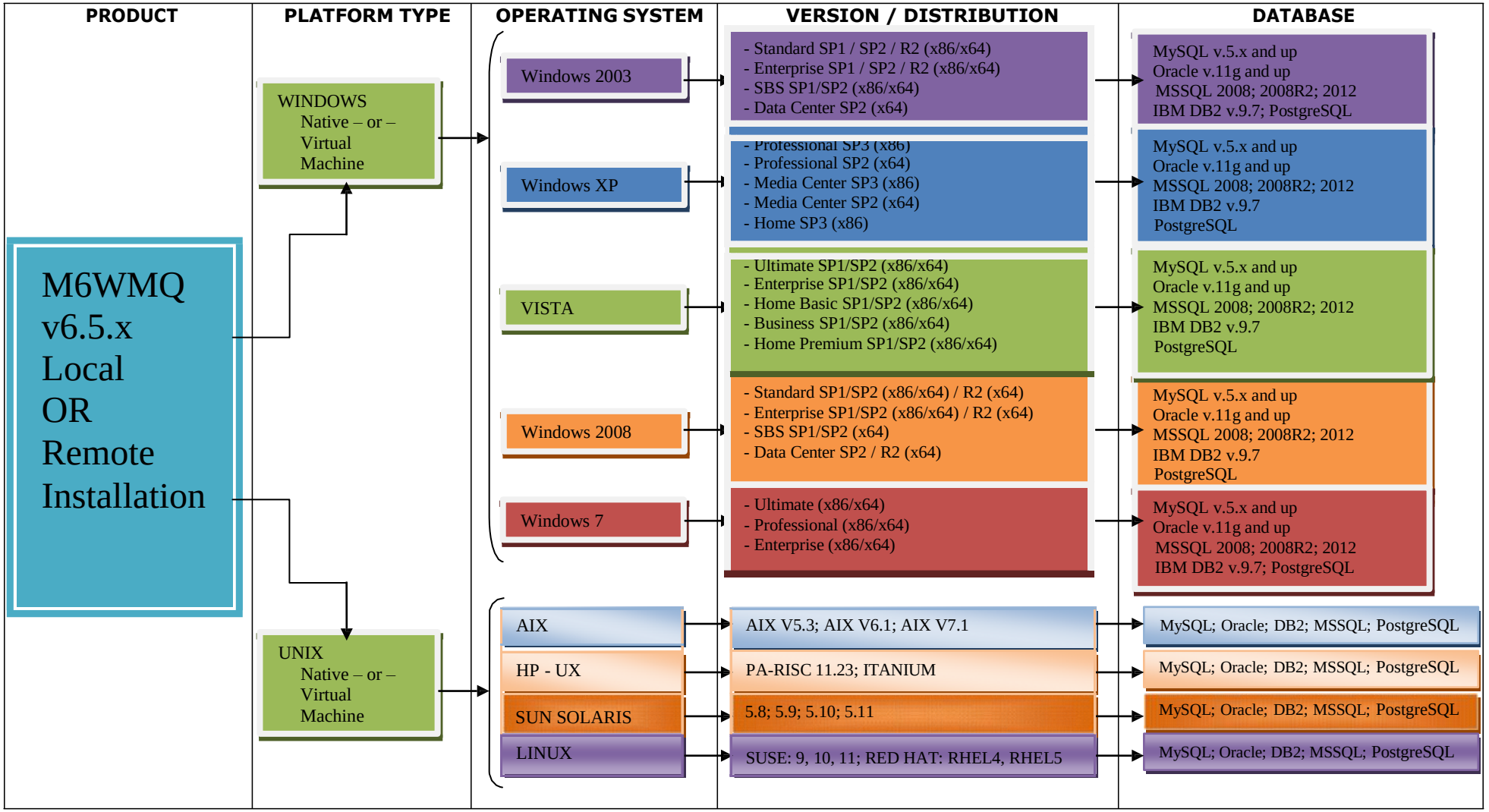


*Figure 1-1. AutoPilot M6 for WMQ Installation Support (32-bit/64-bit)*

# Chapter 2: About AutoPilot On-Demand for WebSphere MQ

## 2.1 AutoPilot On-Demand for WebSphere MQ

The purpose of this guide is to familiarize the users and administrators of M6-WMQ with the AutoPilot On-Demand for WebSphere MQ (APODWMQ) application, introduce them to basic functionality issues, and describe all the dialog windows that they will encounter when working with APODWMQ.

APODWMQ system consists of two main parts:

- Server side components: reside within Jakarta-Tomcat JSP container
- Client application consists of a tree view applet, configuration applets, and HTML pages, which are served by the server side components.

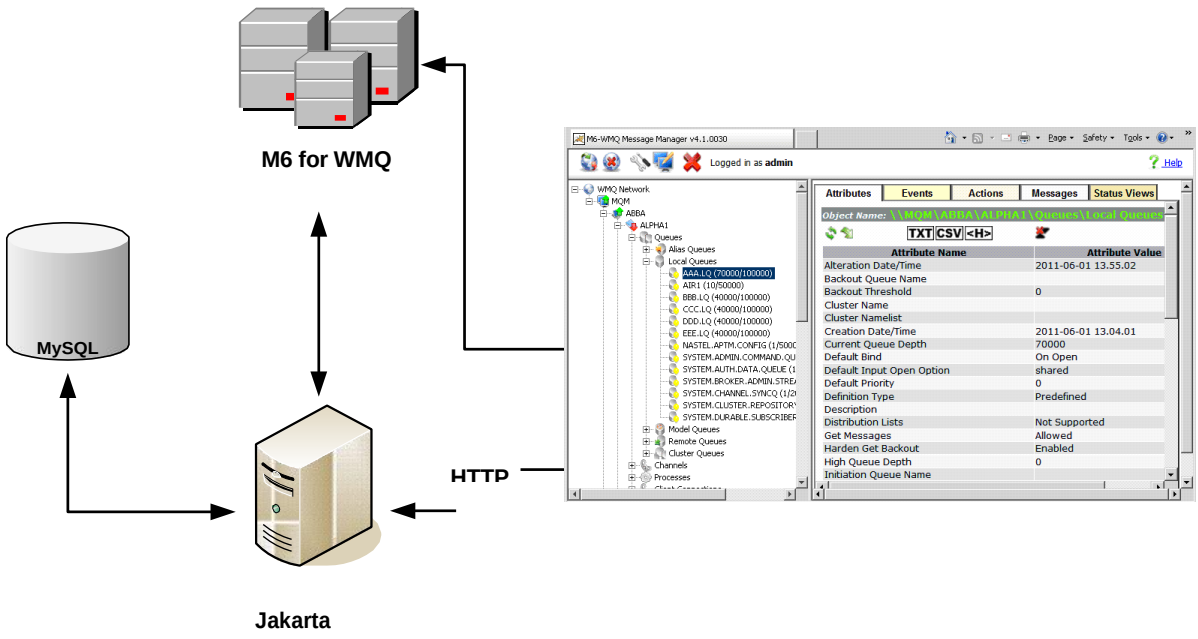


*Figure 2-1. Message Management Flow Chart*

AutoPilot On-Demand for WebSphere MQ Security Manager must be installed and configured at a minimum to use AutoPilot On-Demand for WebSphere MQ.

| | | |
|---|---|---|
| | **NOTE:** | The internal version of the web application is 4.1.XX, but externally as AutoPilot On-Demand for WebSphere MQ 6.5. |

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# Chapter 3: Using APODWMQ

## 3.1 System Access

After successful deployment, the web application can be accessed using the following URL:

`http://<machine_name>:8080/apodwmq/`

APODWMQ does not use application server authentication when logging into the application. The user can access the application using any login/password, but to connect to workgroups, the login/password pair must be valid.

Enter your assigned **User ID** and **Password**, click **Login**.


*Figure 3-1. APODWMQ Login*

**Table 3-1. Login Window**

| Property | Description |
|---|---|
| **User ID** | Enter admin assigned user ID. |
| **Password** | Enter admin assigned password. |
| **Domain** | Enter admin assigned domain. |

## 3.2 User Authentication

The user and credential that you enter will depend on how security is defined in M6-WMQ. APODWMQ has three user authentications:

- **+a1** – authenticate user via local system security (OS-based)
  - Enter your OS user and password
- **+a2** – authenticate user via AutoPilot M6 security
  - Enter a user defined in AutoPilot Domain Server
- **+a3** – authenticate user via Kerberos
  - Enter your user and password as defined in an LDAP server

### 3.2.1 OS-Based User Authentication

If M6 for WMQ starts with OS-based user authentication +a1, insert the local system user name and password in *APODWMQ Work Group Authentication* window for login.

### 3.2.2 AutoPilot M6-Based User Authentication

If M6 for WMQ starts with AP M6-based user authentication +a2, login with existing AP M6 user name.

### 3.2.3 Kerberos-Based User Authentication

For Kerberos authentication +a3, M6-WMQ uses the MIT Kerberos Version 5 implementation (installed as part of M6-WMQ installation). Each host running a workgroup server must have its domain name configured so that the simple host name can be resolved to a fully-qualified host name.

The following steps configure APODWMQ to use Kerberos authentication:

1. Setup Kerberos configuration file *krb5.conf* (on Windows, this file is called *krb5.ini*) on all hosts running APODWMQ, M6-WMQ Explorer and M6-WMQ workgroup server (nsqmgr).
2. Put *krb5* configuration file in the appropriate directory as follows:
   a. If running on Windows, put *krb5.ini* in the Windows directory identified by the environment variable SYSTEMROOT.

      Below is an example of a *krb5.ini* configuration file (JVM vendor/version dependent)

      /* Sample Kerberos Configuration file (*krb5.ini*)

      * For more information see:

      * http://java.sun.com/j2se/1.4.2/docs/guide/security/jgss/tutorials/KerberosReq.html

      * Also see: http://www.faqs.org/faqs/kerberos-faq/general/section-38.html

      */

      ```
      [libdefaults]
      default_realm = NASTEL.MAIN
      default_keytab_name = FILE:c:\temp\krb5.keytab
      default_tkt_enctypes = rc4-hmac des-cbc-md5
      default_tgs_enctypes = rc4-hmac des-cbc-md5
      clockskew = 3600
      [realms]
      NASTEL.MAIN = {
      kdc = 11.0.0.1
      admin_server = 11.0.0.1
      }
      [domain_realm]
      .nastel.main = NASTEL.MAIN
      nastel.main = NASTEL.MAIN
      .nastel.com = NASTEL.MAIN
      nastel.com = NASTEL.MAIN
      ```

   b. If running on UNIX, put krb5.conf in the /etc directory.

      If you wish to put this configuration file in a location other than the default, define the environment variable KRB5_CONFIG to the full path of the configuration file (e.g., `C:\Temp\krb5.ini`).
3. Setup JAAS configuration file, jaas.conf as follows:

   (*jaas.conf* MUST be located in same directory as *krb5.ini* / *krb5.conf*.)

   /**

   * Login Configuration for JAAS/Kerberos5

   * For more info on *jaas.conf* refer to JAAS Login Configuration File Tutorial

```
* http://java.sun.com/j2se/1.4.2/docs/guide/security/jgss/tutorials/
LoginConfigFile.html
*/
UserLogin {
com.sun.security.auth.module.Krb5LoginModule   required
client=TRUE
debug=false
storeKey=true
storePass=true
refreshKrb5Config=true;
};
DomainServer {
com.sun.security.auth.module.Krb5LoginModule   required
useKeyTab=true
storeKey=true
keyTab="${user.home}${/}krb5.keytab"
principal=”krbuser@NASTEL.MAIN”;
};
```

Note that the *UserLogin* section is only used by M6 client applications. The *DomainServer* section is only used by domain server.

4. Generate Kerberos *Krb5.keytab* by doing the following:
   a. Use **ktpass utility** to generate *nsqmgr_hostname.keytab* file. (Refer to the *M6-WMQ Administrator's Guide, Section 8.2*).
   b. Rename file to *krb5.keytab* and put in the location assigned by previous default_keytab_name parameter in *krb5.ini / krb5.conf* file.
5. Add a user to the Java Kerberos cache and Java Kerberos keytab by doing the following:
   a. Run a standalone command based on the following example:
      ```
      java
      -Djava.security.krb5.realm=YOUR.REALM -Djava.security.krb5.kdc=22.0.0.1
      sun.security.krb5.internal.tools.Kinit -A username@YOUR.REALM
      ```
   b. You will be prompted for a password.
   c. The user ticket will be stored in the home directory of a logged-in user, usually `C:\Documents and Settings\[username]` where the name of the file is `krb5cc_[username]`
6. Add a user to Java Kerberos keytab by doing the following:
   a. Use a JDK-supplied ktab command as in the following example:
      `%JAVA_HOME%/jre/bin/ktab –a username@NASTEL.MAIN`

      If you receive the error, **Error loading key table**, after issuing the ktab command, type **klist k** to return the directory where key table is supposed to reside. Ensure this directory exists.
   b. You will be prompted for a password.

      The user credentials will be stored in the file *krb5.keytab*. If the location of *krb5.keytab* has not been assigned, and then it will be under the home directory of a logged-in user, usually `C:\Documents and Settings\[username]`

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7. Copy your krb5cc_[*username*] and krb5.keytab to the same directory assigned by *krb5.conf / krb5.ini* file default_keytab_name parameter.

   For example, `default_keytab_name = FILE:C:\temp\krb5.keytab`

| | NOTE: | The keytab file only stores usernames/passwords instead of the actual tickets. ktab does not validate the passwords. |
|---|---|---|

# 3.3. Viewing and Managing Objects

The system default screen for APODWMQ (Figure 3-2) is displayed at login and may not be connected to the M6-WMQ network. To start APODWMQ, connect to the system by using the toolbar described in the next paragraph.

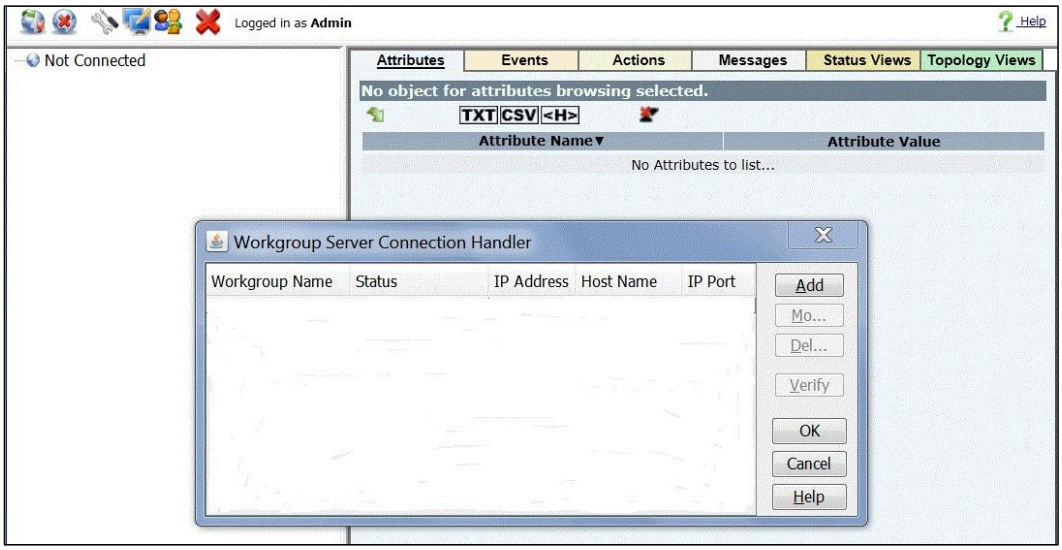


*Figure 3-2. Connection Handler Pop-up*

## 3.3.0 User Interface

The user has a choice of two interface styles which features either flat or classic style icons. New installations will default to the flat style, while upgrades will default to the classic style. The user can switch between styles at any time. Refer to section 3.3.1.3, User Settings for details on selecting the preferred style. Both icon styles for the tool bar are shown in Table 3-2. The screen shots in this document show both styles. For examples of the flat style, see Figure 3-3.

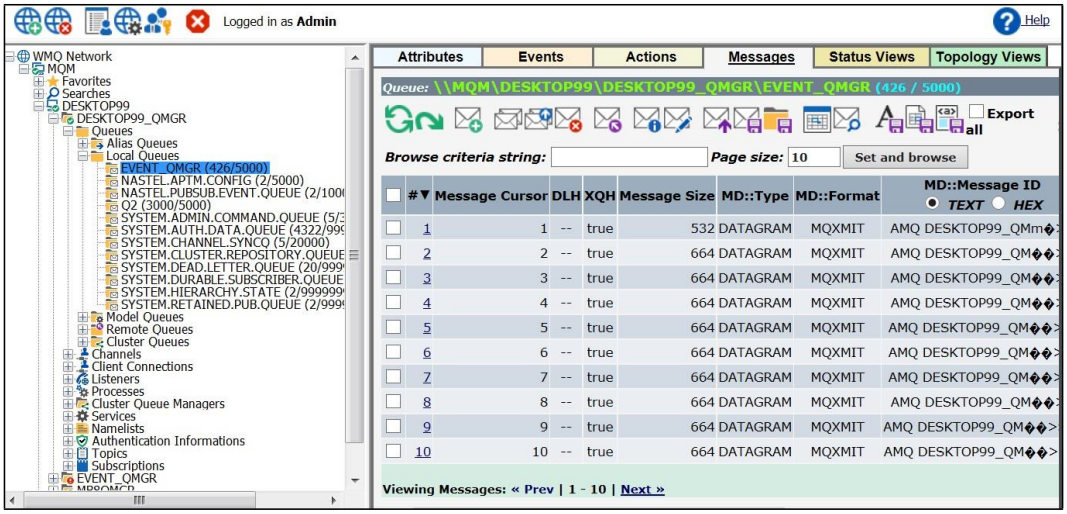


*Figure 3-3. Typical APODWMQ Screen with Flat Icons*

### 3.3.1 AutoPilot On-Demand for WebSphere MQ Toolbar

The icons on the APODWMQ toolbar allow the user to carry out some of the general commands. The user can choose between two interface styles – classic and flat.

**Table 3-2. APODWMQ Toolbar**

| Classic Icon | Flat Icon | Operation |
|---|---|---|
|  |  | **Connect**: Connects to M6-WMQ network and M6-WMQ workgroup agents provided in *Workgroup Agent Connection handler*. |
|  |  | **Disconnect:** Disconnects from M6-WMQ network. Collapses Workgroup agents' tree view. |
|  |  | **User Settings:** Opens the *User setting* tab (Figure 3-8) of the *Edit User Settings* dialog box to set refresh interval and status filters. Refresh interval automatically refreshes the displayed information at a specified interval. User can choose to list channels by type in tree node (Sender, Receiver, etc.), as is done for queues. User can switch between classic and flat style icons. |
|  |  | **Configure Connection:** Opens the *Workgroup Server Connection Handler* dialog box (Figure 3-6), which allows you to configure connections to M6-WMQ Workgroup agents. |
|  |  | **Administrator:** Allows you to administer default configuration. Requires login credentials. (See Figure 3-118.) |
|  |  | **Logout:** Logs out from the APODWMQ system. |
|   |   | **Help:** Opens the Help file. |

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### 3.3.1.1 Connect to Network

If the connection settings have not been configured, *Workgroup Agent Connection Handler* window will pop-up (Figure 3-2); otherwise, the system will automatically connect to the M6-WMQ network based on the settings (Figure 3-4). Once you are connected, expand the node tree on the left and you should see a screen similar to Figure 3-5.

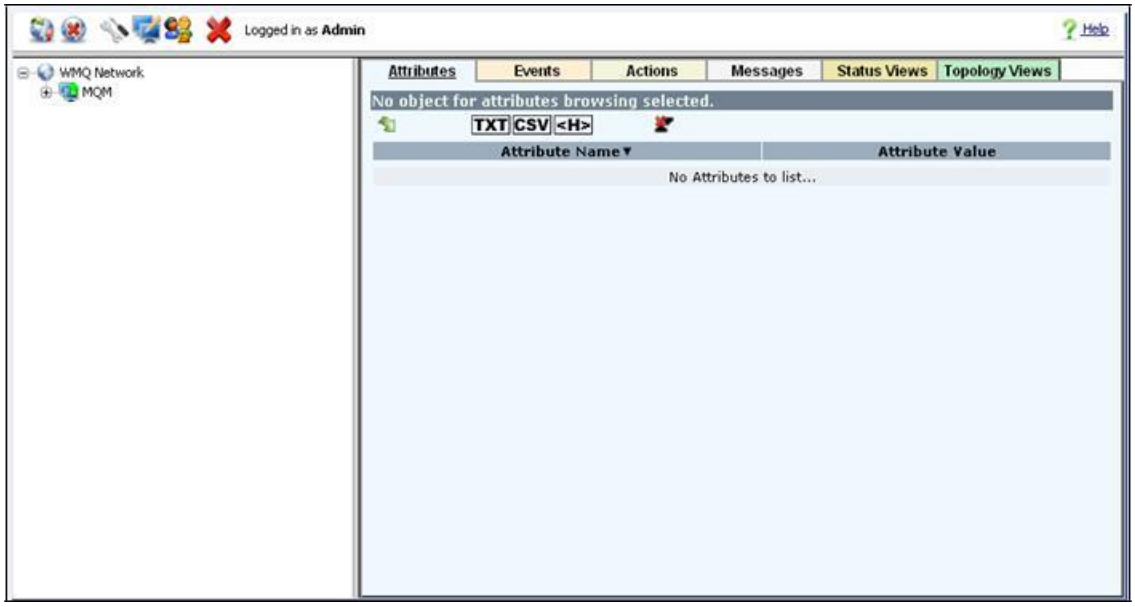


*Figure 3-4. Auto-connect to M6-WMQ Network with Previous Setting*

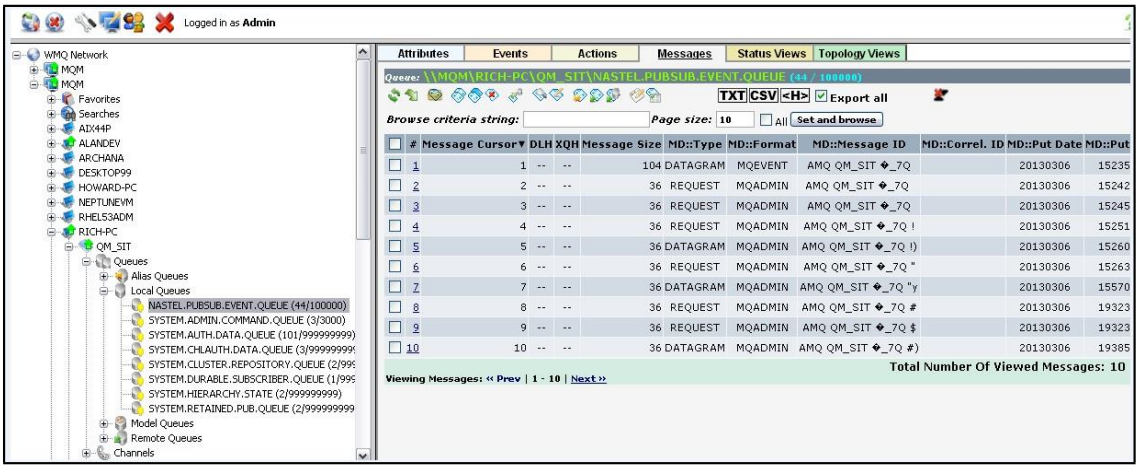


*Figure 3-5. Typical APWQMOD Screen – Expanded Tree View*

### 3.3.1.2 Workgroup Server Connection Handler

Click the **Configure Connection** icon  to display the *Workgroup Server Connection Handler* dialog box (Figure 3-6). The *Workgroup Server Connection Handler* is used to set up connections to those workgroup agents on M6-WMQ network that the user wants to monitor via the APODWMQ application.

The *Workgroup Server Connection Handler* table provides information about a registered workgroup server connection.

**Table 3-3. Workgroup Server Connection Handler**

| Control | Description |
|---|---|
| **Add** | Displays the *Add/Modify Connection* dialog box (Figure 3-7) to add a new workgroup agent connection. Select a connection to enable this option. |
| **Modify** | Displays the *Add/Modify Connection* dialog box (Figure 3-7) to modify IP address, host name and IP port. Select a connection to enable this option. |
| **Delete** | Deletes selected workgroup agent connection. Select a connection to enable this option. |
| **Verify** | Verifies selected workgroup agent connection. Select a connection to enable this option. |
| **OK** | Submits the workgroup agent connections list changes and closes dialog box. |
| **Cancel** | Discards the workgroup agent connections list changes and closes dialog box. |


*Figure 3-6. Workgroup Server Connection Handler*

**Table 3-4. Workgroup Server Connections**

| Column | Description |
|---|---|
| **Workgroup Agent Name** | Provides Workgroup agent's name. |
| **Status** | Provides Workgroup agent's connection status (Connected, Not-Connected, Verified, Not-Verified). |
| **IP address** | Provides IP address of the node where Workgroup agent is running. |
| **Host Name** | Provides Host Name of the machine where Workgroup agent is running. The same host name can be used for more than one connection as long as the port number is different. |
| **IP Port** | Provides Workgroup agent's IP port number. |

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## Add/Modify Connection

To add or modify connection information, click **Add** or **Modify**, from the *Workgroup Server Connection Handler* (Figure 3-6) to display the *Add/Modify Connection* dialog box (Figure 3-7). Use this screen to input the workgroup server's connection information. When **Add** is selected, the connection defaults are shown. To modify an existing connection, select the connection in the connection handler and then click **Modify**.

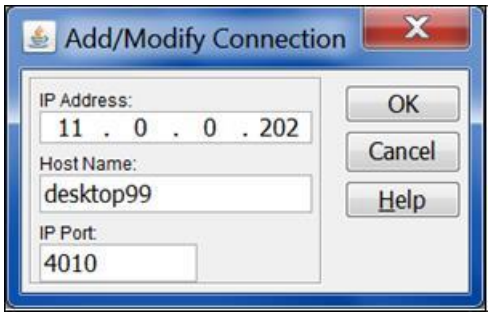


*Figure 3-7. Add/Modify Connection Dialog Box*

**Table 3-5. Add/Modify Connections**

| Control | Description |
|---|---|
| **IP Address** | IP address of the node where Workgroup agent is running. (Required) |
| **Host Name** | Host name of the machine where Workgroup agent is running. |
| **IP Port** | User must enter Workgroup agent's IP port number. (Required) |

### 3.3.1.3 User Settings

Click the **User settings** icon  to display the *Edit User Settings* dialog box (Figure 3-8). The *User Settings* dialog box saves a single user preferences record, which contains the default settings to use when executing operations. Refer to Table 3-6 for an explanation of all the tabs in this dialog box.

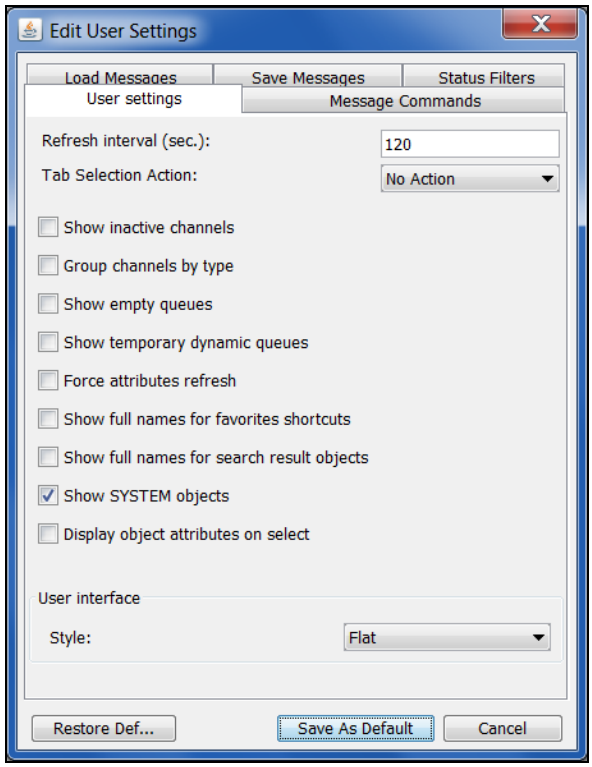


*Figure 3-8. User Settings Dialogue Box*

**Table 3-6. Edit User Settings**

| Control | Description | | States and Conditions |
|---|---|---|---|
| **User Settings** (Figure 3-8) | Refresh interval (sec.) | Automatically refreshes the displayed information at a specified interval. | Available if the *User settings* button is clicked. |
| | Tab Selection Action | **No Action** – no action when going to a new tab.<br>**Refresh** – provides automatic refresh when going to a new tab. Automatic refresh in not applicable to the **Messages** and **Topology** tabs.<br>**Synchronize** – provides automatic synchronization when going to a new tab. | |
| | Show inactive channels | Select to show all inactive channels in the tree. | |
| | Group channels by type | Select to group and list all channels by type in the tree node (sender, receiver, etc.) | |
| | Show empty queues | Select to display all queues that have current depth = 0. | |

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**Table 3-6. Edit User Settings**

| Control | Description | | States and Conditions |
|---|---|---|---|
| **User Settings** *(continued)* (Figure 3-8) | Show temporary dynamic queues | Select to display temporary dynamic queues. | |
| | Force attributes refresh | Select to refresh all attributes of all objects. | |
| | Show full names for favorite shortcuts | Select to show full path name for **Favorites** shortcuts. | |
| | Show full names for search result objects | Select to show full path names for **Searches** results. | |
| | Show SYSTEM objects | Select to show SYSTEM objects. | |
| | Display object attributes on select | Select to show object attributes when selecting an object in the tree; that is there is no need to right-click and select **Show Object Attributes.** | |
| | User Interface Style | Select **Flat** or **Classic** icon style. | |
| | Restore Default | Select to restore to default settings (undoes changes). | |
| | Save as Default | Select to save settings as the default. | |
| **Status Filters** (Figure 3-8) | Channel status | Filters for *Channel Status* screens specifying the objects and status elements to display. | |
| | Channel status types | Filters for *Channel Status* screens specifying the type of channels to display. | |
| | Queue status types | Filters for *Queue Status* screens specifying the type of queues to display. | |
| **Message Commands** | Global settings for browsing messages. Refer to **Queue Browse Options,** section 3.3.2.1 and Figure 3-34. | | Available if the *Browse Options/Copy/Move/Delete* buttons are pressed. |
| **Load Messages** | Global settings for loading messages. Refer to **Load Messages** section (Figure 3-100). | | Available if *Load From File* button is pressed and the *Configure* button from the *Command Settings* dialog box is selected. |
| **Save Messages** | Global settings for saving messages. Refer to **Save Messages** section (Figure 3-102). | | Available if *Save* button is pressed and *Configure* button from *Command Settings* dialog box selected. |

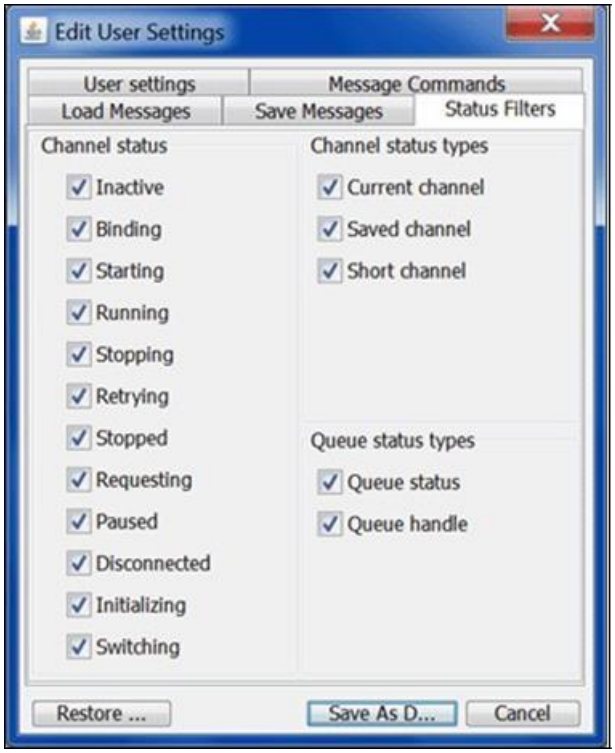


*Figure 3-9. Status Filters Dialogue Box*

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## 3.3.1A Remote Queue Manager Configuration

1. Right-click the workgroup manager, select **Create** > **Remote Queue Managers** from the short-cut menu.

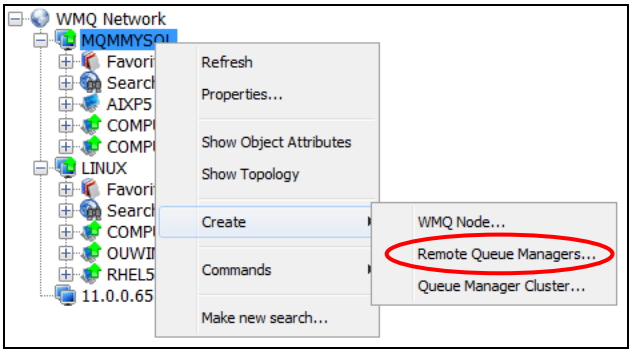


*Figure 3-10. Remote Queue Managers Menu*

The *Remote Queue Manager Connections* dialog box is displayed.

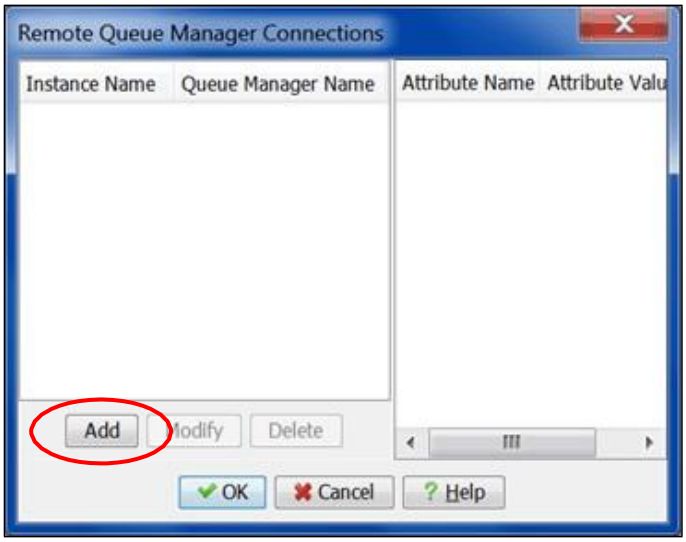


*Figure 3-11. Remote Queue Manager Connections Dialog Box*

2. Click **Add**. The *Change Queue Manager Connection* dialog box is displayed. Refer to the table below for an explanation for the input fields.


*Figure 3-12. Remote Queue Manager Connection Dialog Box – General*

| Table 3-7. Add Queue Manager Connection – General Tab | |
|---|---|
| **Control** | **Description** |
| **Connection Manager Instance name** | Enter the instance name. Default is REMOTE_QMGRS. |
| **Queue Manager name** | Enter the name of the new queue manager. Default is QMGR_NAME. |
| **Project name** | Not an input field. |

3. Click the **Communication** tab. Refer to the table below for an explanation for the input fields.

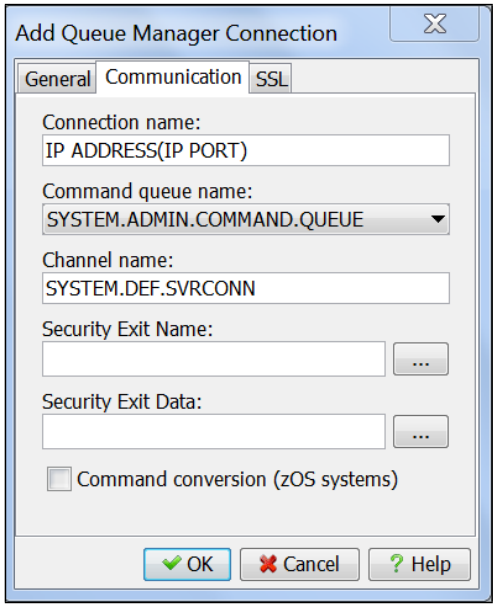


*Figure 3-13. Remote Queue Manager Connection Dialog Box - Communication*

| Table 3-8. Add Queue Manager Connection – Communication Tab | |
|---|---|
| **Control** | **Description** |
| **Connection name** | Enter the new connection name. |
| **Command queue name** | Enter the command queue name. The default is SYSTEM.ADMIN.COMMAND.QUEUE |
| **Channel name** | Enter the name of the server-connection (svrconnn) channel to be used for connecting to the remote queue manager in the *Channel name* field. The default is SYSTEM.DEF.SVRCONN. |
| **Security Exit Name** | Specifies the descriptive name of the Channel Security Exit – parameter of MQCD channel definition structure which controls execution of a channel. It is passed to channel exit that is called from a Message Channel Agent (MCA). |
| **Security Exit Data** | Specifies the Exit user area. It is specific to the expected data by channel security exit. This is a field that is available for the exit to use. |
| **Command conversion (zOS systems)** | Select if this is a zOS queue manager connection. |

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4. Click the **SSL** (secure socket layer) tab and fill in required fields for your connection.


*Figure 3-14. Remote Queue Manager Connection Dialog Box – SSL*

5. Click **OK**. A confirmation dialog box is displayed.


*Figure 3-15. Remote Queue Manager Connection Dialog Box – Confirmation*

- Click **Yes** to complete the setup.
- Click **No** to return to the dialog box.
- Click **Help** to go to online Help.

## 3.3.1B Create Queue Manager Cluster

A queue manager cluster is a group of two or more queue managers that are logically associated and can share information with each other. This means that an application can put a message on a cluster queue from any queue manager in the cluster and the message is automatically routed to the queue manager where the cluster queue is defined. The amount of system administration is reduced because the cluster channels that the cluster queue managers use to exchange application messages are automatically defined as required.

WebSphere MQ Explorer treats queue manager clusters as objects so that you can create and administer them like other MQ objects. All the queue manager clusters that are known to WebSphere MQ Explorer are displayed in the Queue Manager Clusters folder.

**Before you can create a new queue manager cluster:**

- Create two queue managers that will have the full repositories for the cluster.
- Each full repository queue manager in the cluster must have a running listener.
- You must know the connection details of each full repository queue manager in the cluster because you are asked to enter these details in the wizard.

Note that you cannot use the Create Cluster wizard if the full repository queue managers already belong to another cluster. If you want to use queue managers that already belong to another cluster, you must configure the cluster using the MQSC commands.

**To create a new cluster:**

1. Right-click the workgroup manager, select **Create** > **Queue Manager Cluster** from the short-cut menu.

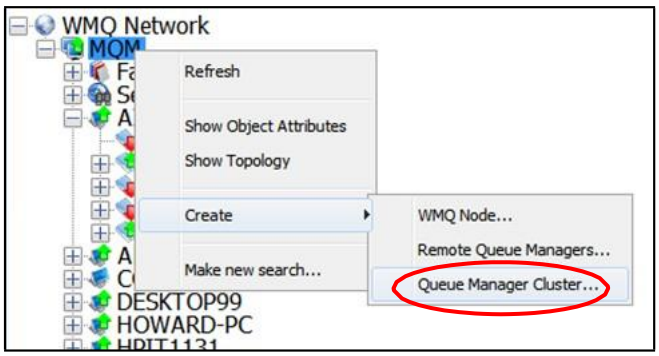


*Figure 3-16. Create Queue Manager Cluster*

2. Enter the name of the new cluster. This name must be unique. Click **Next**.

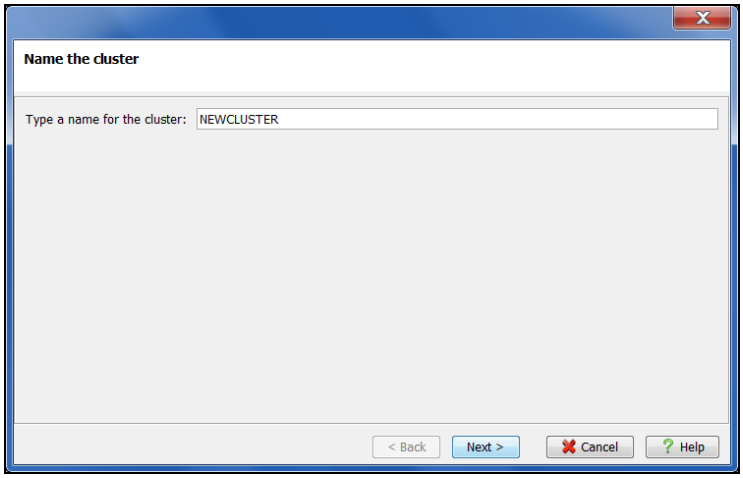


*Figure 3-17. Cluster Wizard – Name the Cluster*

3. Use the drop-down list to enter the name of a queue manager that will have a full repository of information about the cluster. The queue manager must already exist. Click **Next**.

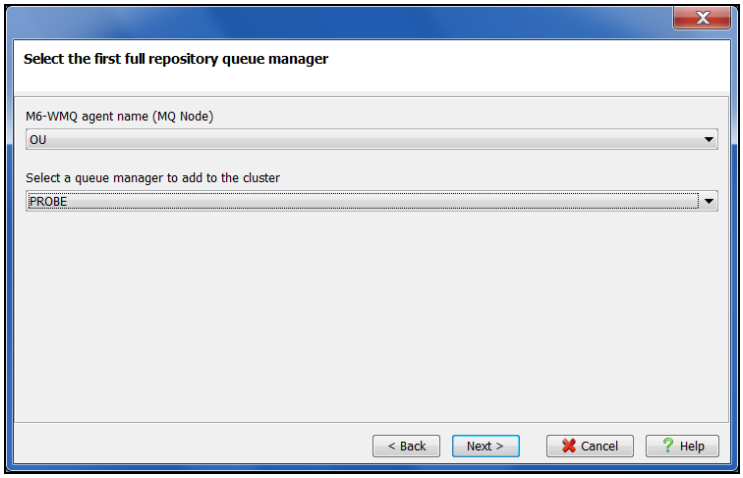


*Figure 3-18. Cluster Wizard – Select First Repository*

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4. Use the drop-down list to enter the name of a second queue manager that will have a full repository of information about the cluster. Click **Next**.

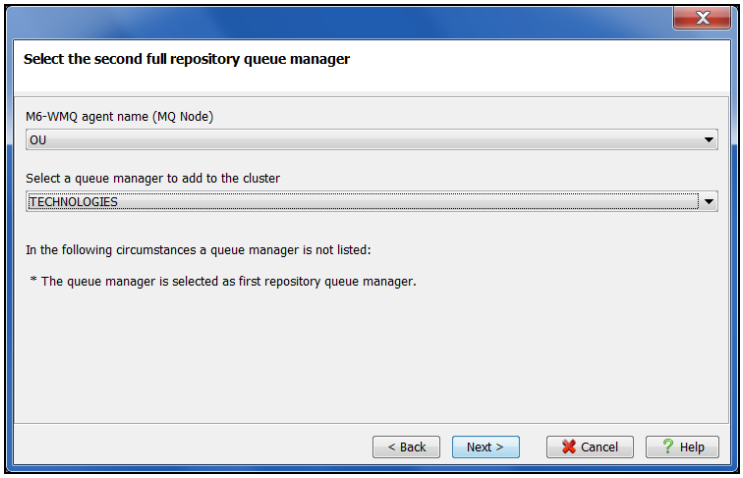


*Figure 3-19. Cluster Wizard – Select Second Repository*

5. Read the important information on this screen and click **Next**.

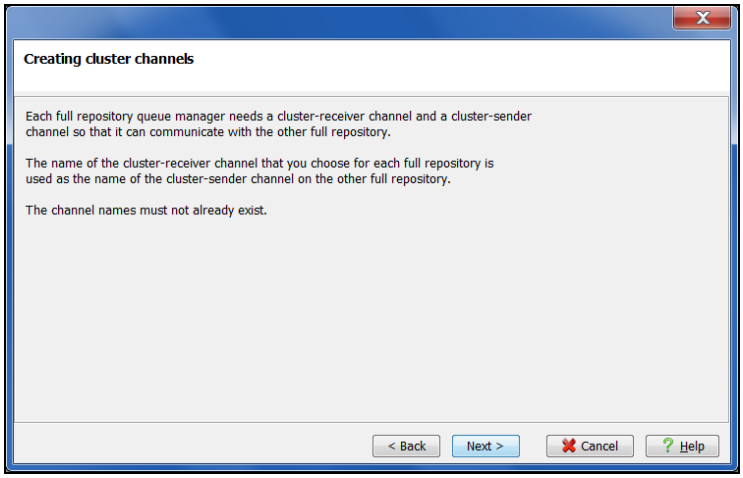


*Figure 3-20. Creating Cluster Channels*

6. The fields in this screen will automatically populate. If the cluster-receiver channel connection name is not correct, use the drop-down list to choose the correct one. Click **Next**.

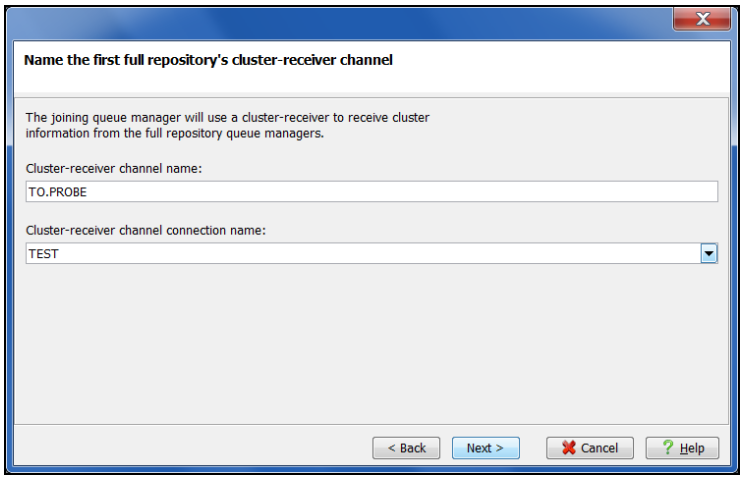


*Figure 3-21. Cluster Wizard – Name the First Channel*

7. The fields in this screen will automatically populate. If the cluster-receiver channel connection name is not correct, use the drop-down list to choose the correct one. Click **Next**.

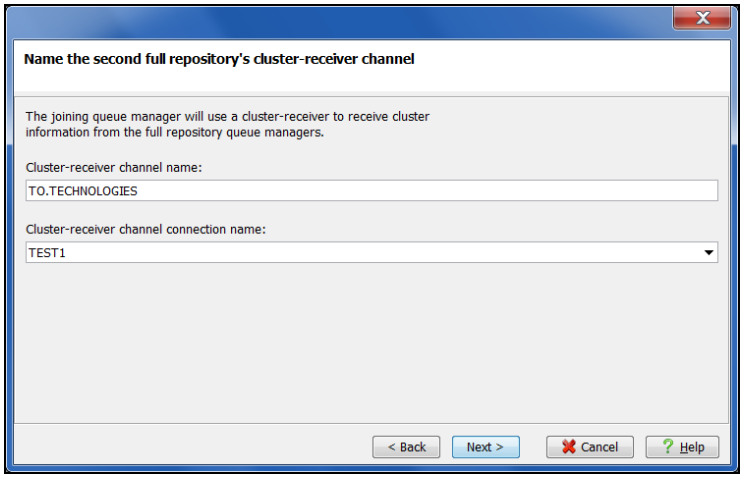


*Figure 3-22. Cluster Wizard – Name the Second Channel*

8. Review the cluster summary information. If it is correct, click **Finish**.

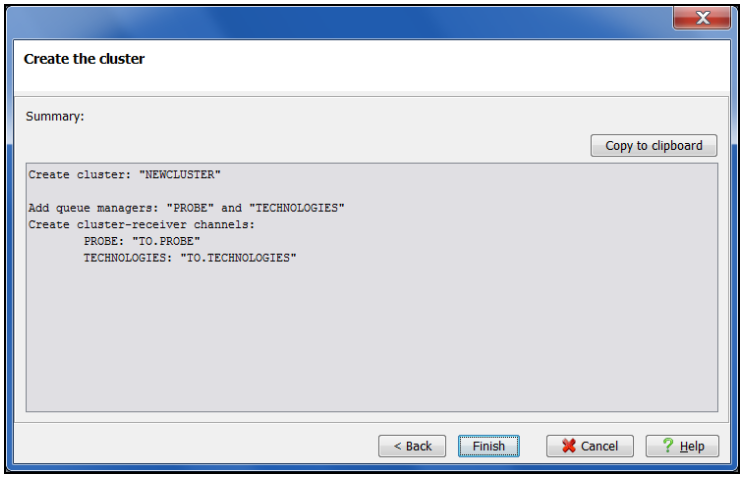


*Figure 3-23. Cluster Wizard – Summary*

9. The newly created cluster is shown on the network tree.

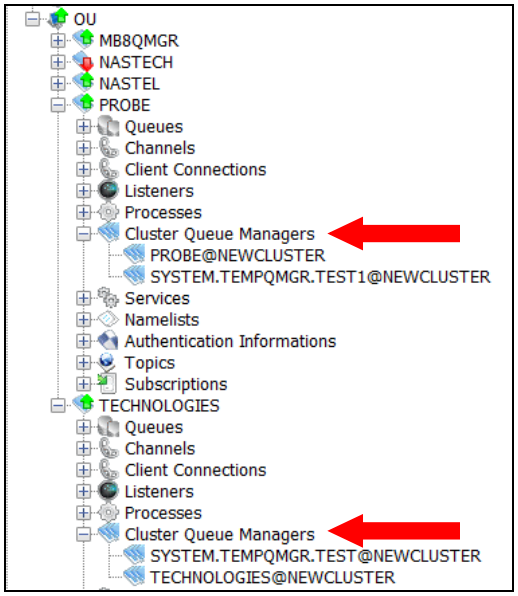


*Figure 3-24. Cluster Created*

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## 3.3.1C Start/Stop Queue Manager Objects

1. Right-click the queue manager, select **Commands** > **Start all WMQ objects** or **Commands** > **Stop all WMQ objects** from the short-cut menu.

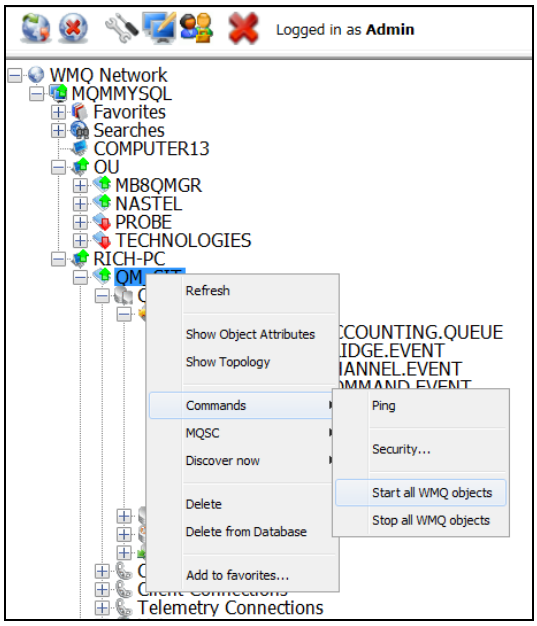


*Figure 3-25. Start/Stop all WMQ Objects Menu*

2. If **Start all WMQ Objects** was selected, a confirmation window will display.

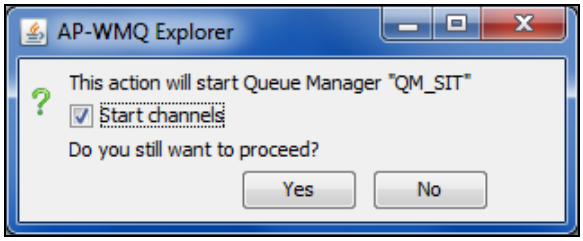


*Figure 3-26. Start all WMQ Objects Confirmation*

3. Click **Yes** to start or **No** to cancel the action.

4. If **Stop all WMQ Objects** was selected, a dialog box will display where you can select the shutdown method.

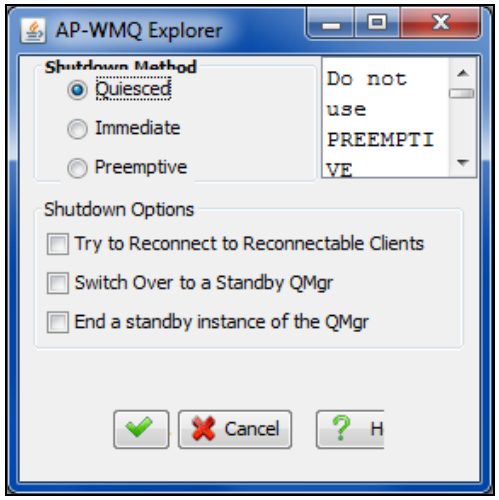


*Figure 3-27. Stop all WMQ Objects*

## 3.3.2 Tree View

M6-WMQ network is presented in a hierarchical tree view.

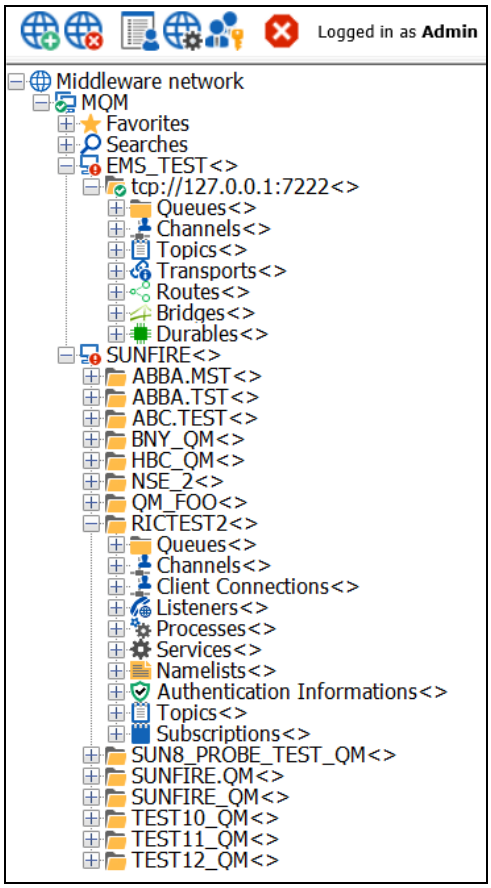


*Figure 3-28. M6-WMQ Hierarchal Tree View*

### Workgroup Server Properties

To view the properties of the workgroup server, right-click it and select **Properties** from the pop-up menu to open the *Workgroup Server Properties* dialog box. Click the various tabs to view the workgroup server properties.

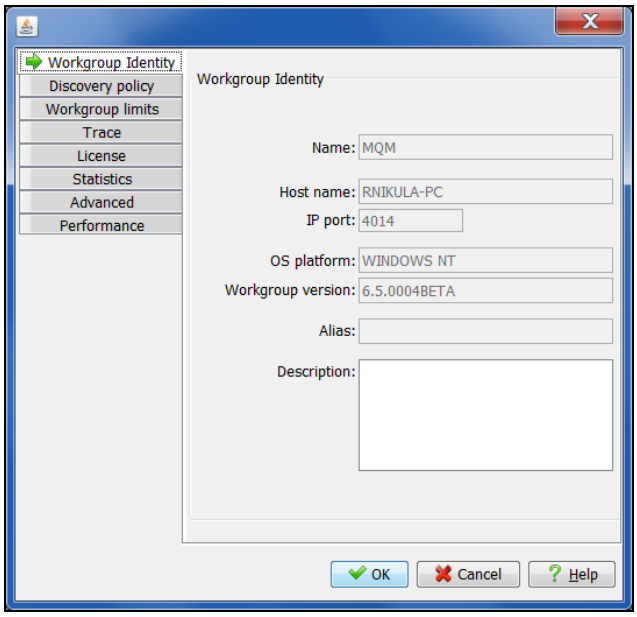


*Figure 3-29. Workgroup Server Properties Dialog Box*

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### Queue Parameters

The name of the queue is user defined when the queue is deployed. Queues are displayed below the selected agent as shown in Figure 3-30.

**Example:** SYSTEM.ADMIN.COMMAND.QUEUE (19/3000)

where: (19/3000) means the queue contains 19 messages and has a maximum of 3000 messages.

Individual queue status is defined by the queue icon preceding the name:

The queue is empty.

The queue contains messages, but not full.

The queue is full.

Right-clicking an object opens a pop-up menu (Figure 3-30). The menu lists the actions that are available for that object. Refer to Table 3-9 for a description of the menu selections.

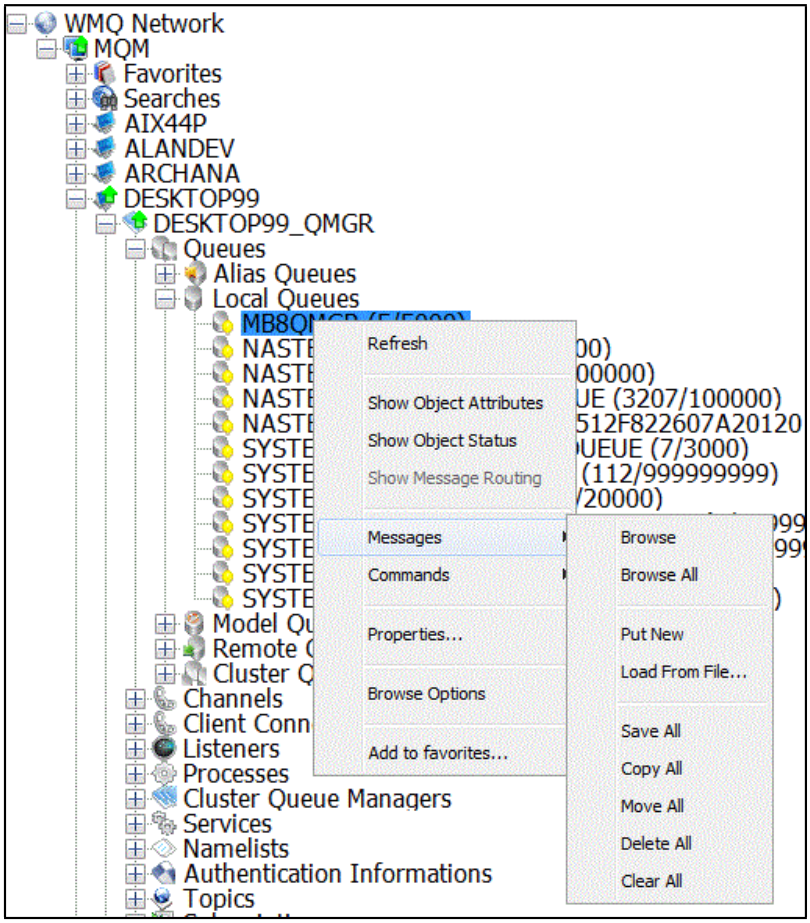


*Figure 3-30. Object Pop-up Menus*

Right-clicking **Local Queues** opens a pop-up menu (Figure 3-31). The menu lists the actions available for Local Queues. Refer to Table 3-9 for a description of the menu selections. The menu lists the actions available for Local Queues.

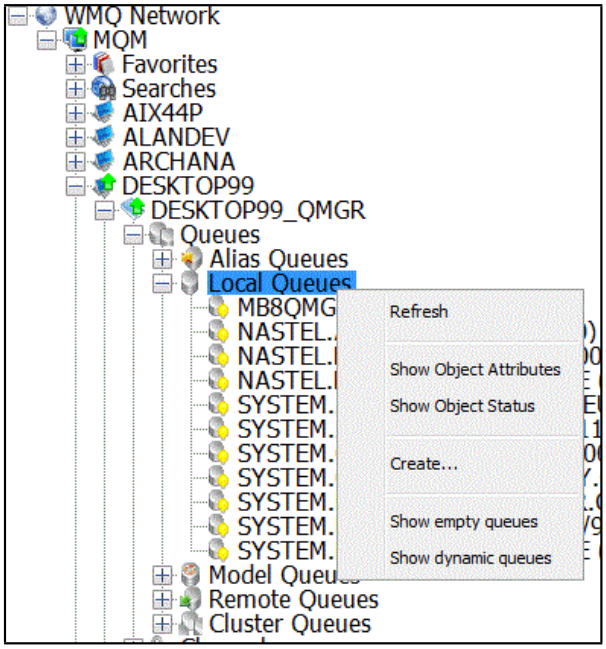


*Figure 3-31. Local Queues Pop-up Menu*

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**Table 3-9. M6-WMQ Hierarchical View Menus**

| Control | Description | | States and Conditions |
|---|---|---|---|
| **Refresh** | Refreshes selected queue in an M6-WMQ network tree. | | Available if any alias, local, model, or remote queue in an M6-WMQ network tree is selected. |
| **Show Object Attributes** | Lists attributes of selected M6-WMQ object in an **Attributes** tab (Figure 3-81). | | Available if any M6-WMQ object in an M6-WMQ network tree is selected. |
| **Show Object Status** | Displays an expandable tabular view, with M6-WMQ object name labels for rows and configurable attribute columns. Each object name row has several child rows, each displaying a different status type (Figure 3-115). | | Available if "Local Queues" in an M6-WMQ network tree is selected. |
| **Create** | Enables an authorized user to create a new Local Queue | | Available if "Local Queues" in an M6-WMQ network tree is selected. |
| **Show empty queues** | Uncheck the item to only show queues that have a depth > 0. | | Available if "Local Queues" in an M6-WMQ network tree is selected. |
| **Show dynamic queues** | Displays dynamic queues | | Available if "Local Queues" in an M6-WMQ network tree is selected. |
| **Messages** | Browse | Lists the contents (messages) of selected queue in a **Messages** tab based on the **Page size** setting. | Available if any alias, local, or remote queue in an M6-WMQ network tree is selected and current depth of the queue is greater than 0. |
| | Browse All | Lists the contents (messages) of selected queue in a **Messages** tab ignoring the **Page size** setting. All messages are listed on one page. | |
| | Put New | Displays the *Put New Message(s)* dialog box (Figure 3-48) to create and put new message(s) into selected queue. | |
| | Load From File | Loads the contents (messages) from `.mmf/.txt` file into selected queue based on default user settings. | |
| | Save All | Save contents (messages) of selected queue into `.mmf/txt` file based on user settings. | |
| | Copy All | Displays the *Copy All Messages from* dialog box (Figure 3-51) and copies contents of selected queue to a selected destination queue. | |
| | Move All | Displays the *Move All Messages from* dialog box (Figure 3-52) and moves contents of selected queue to a selected destination queue. | |
| | Delete All | Displays the *Delete Messages from* dialog box (Figure 3-54) and deletes contents of the selected queue. | |
| | Clear All | Clears the contents of the selected queue. | |

| Table 3-9. M6-WMQ Hierarchical View Menus | | | |
|---|---|---|---|
| **Control** | **Description** | | **States and Conditions** |
| **Commands** | Delete | Allows you to delete the object. A delete confirmation is displayed. | |
| | Copy As | Creates a new object based on the definition of the currently selected object. | Available for any object in the network tree. Requires copy permission (controlled in Security Manager) for the object type. If the user does not have copy permission, the object can be copied and renamed, but the attributes cannot be changed. |
| | Security | Displays the *Display Or Set Authority* dialog box (Figure 3-45). | Available for any object in the network tree. |
| **Browse Options** | Displays the *Edit User Settings* dialog box (Figure 3-34) for user to set message browse options for selected queue. | | Available if any alias, local, or remote queue in an M6-WMQ network tree is selected. |

### Refresh Remotely Configured Queue Managers

1. Right-click the Connection Manager Instance name (**REMOTE_QMGRS** in this example) to display a pop-up menu.

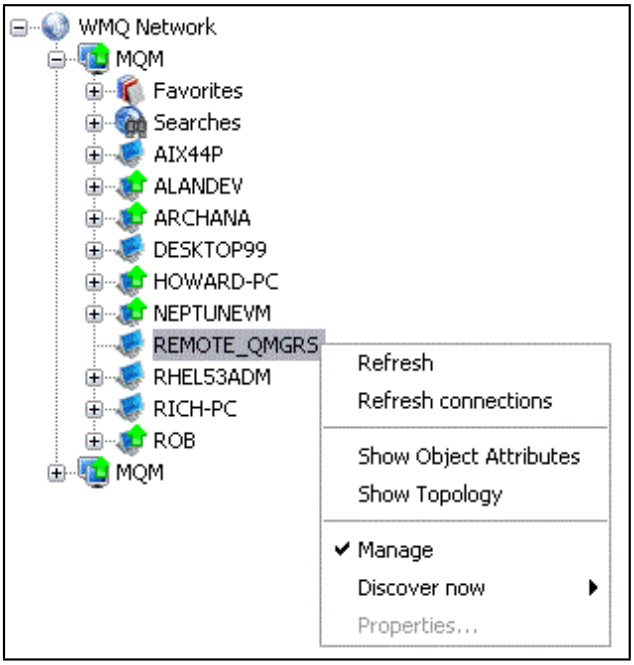


*Figure 3-32. Refresh Remotely Configured Nodes*

2. Select **Refresh connections**. A progress bar displays showing the update status.

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### 3.3.2.1 Queue Browse Options

Right click on a queue to display a pop-up menu (Figure 3-33). Select **Browse Options** to display the *Message Commands* tab of the *Edit User Settings* dialog box (Figure 3-34) that allows you to set Message Criteria and Browse Settings. These settings are used to specify browse options for the queue selected. Refer to Table 3-10.

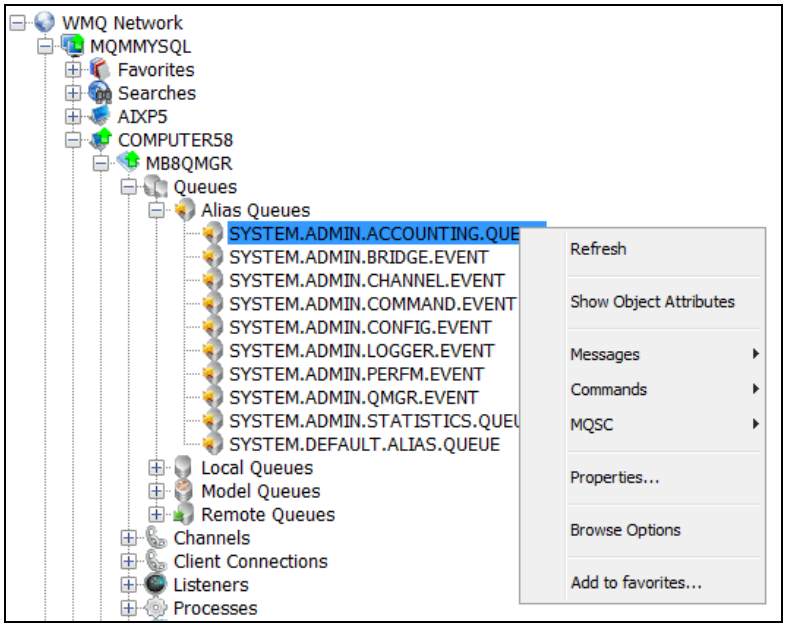


*Figure 3-33. Queue Pop-up Menu*

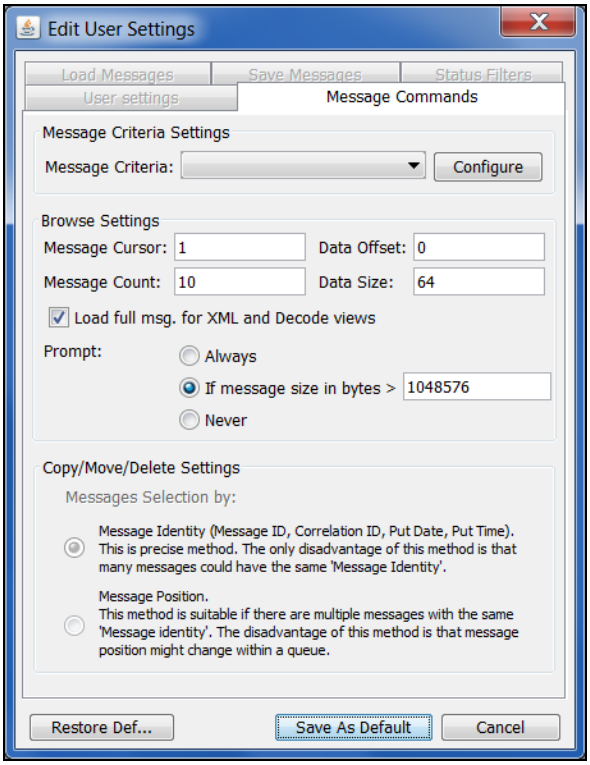


*Figure 3-34. Queue Browse Options Dialog Box*

| Table 3-10. Queue Browse Options | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Message Criteria field** | Name of message browse criteria. Select from the drop-down list or create by clicking the Configure button. | Always enabled. |
| **Configure button** | Displays the *Message Criteria* dialog box (Figure 3-35) to create or select existing message criteria. | |
| **Message Cursor field** | Enter message cursor; that is, where to start reading the message. Range: 1 – 999999999. Default: 1 (Required) | |
| **Message Count field** | Enter the number of messages to be displayed in the **Message** tab. The default setting is 500, but the Administrator can change this to any value from 1 to 1,000. (Refer to section 3.4.3.2, Configure Application Settings.) However, if the user enters a value that is greater than the default, it will not be saved. The value will revert to the default. (Required) | |
| **Data Offset field** | Enter message data offset. (Required) | |
| **Data Size field** | Enter message data size. (Required) | |
| **Load full msg. for XML and Decode views** | If selected, the full message is loaded. Select prompt criteria. | |
| **Restore Defaults button** | Restores the default settings. | |
| **Save As Default button** | Submits the queue browse options and closes the dialog box. | |
| **Cancel button** | Closes dialog box without saving any changes. | |
| **Messages Selection by radio buttons** | Provides Copy/Move/Delete options. | Available when **User settings**  is clicked or if you are in **Copy/Move/Delete** messages operations. (Refer to section 3.3.2.4 and section 3.3.2.5.) |

**NOTE:** Browse options are set only for browsing and only for the queue that you opened the pop-up menu. These browse settings can be saved per user.

### 3.3.2.1.1 Message Criteria

The *Message Criteria* dialog box displays when the **Configure** button 

is pressed on the *Message Commands* tab (Figure 3-34). Use the *Message Criteria* screen to create or select existing message criteria.

To create new Message Criteria:

1. Click the *New*  icon.
2. Enter a name for the message criteria.
3. Click **OK**. You are returned to the *Message Commands* tab.

When the criteria are specified, they can be used to browse, copy, move, re-route, and delete messages. Only those messages which conform to the specified criteria will be affected.

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*Figure 3-35. Message Criteria*

| Table 3-11. Message Criteria | | |
|---|---|---|
| Control | Description | States and Conditions |
| **New** | Creates new criteria. | Always enabled. |
| **Delete** | Removes selected criteria. | |
| **MD** | Displays the *Message Descriptor Properties* dialog box, (Figure 3-36) enabling user to edit MD header of selected message criteria. | |
| **MD1** | Displays the *Message Descriptor Properties* dialog box, (Figure 3-36) enabling user to edit MD1 header of selected message criteria. | |
| **MDE** | Displays the *Message Descriptor Extension* dialog box (Figure 3-41), enabling user to edit MDE header of selected message criteria. | |
| **DLH** | Displays the *Dead Letter Queue Header* dialog box (Figure 3-42), enabling user to edit DLH header of selected message criteria. | |
| **XQH** | Displays the *Transmission Queue Header* dialog box (Figure 3-43), enabling user to edit XQH header of selected message criteria. | |
| **Data** | Displays the *Message Data Criteria* dialog box (Figure 3-44), enabling user to edit data of selected message criteria. | |
| **Criteria list** | Provides a list of existing message criteria. | If the criteria list is not empty, user can select a criterion. |
| **OK button** | Submits changes in message criteria list and closes the dialog box. | Always enabled. |
| **Cancel button** | Discards changes in message criteria list and closes the dialog box. | |

### 3.3.2.1.2 Message Descriptor Properties

*Message Descriptor Properties* screen is displayed when **MD** or **MD1** button is pressed on the *Message Criteria* dialog box (Figure 3-35). Message Descriptor Properties are used to edit MD and MD1 message headers. There are five tabs:

- **General** – Refer to Figure 36 and Table 3-12.
- **Identity** – Refer to Figure 37 and Table 3-13.
- **Origin** – Refer to Figure 38 and Table 3-14.
- **Reports** – Refer to Figure 39 and Table 3-15.
- **Groups** – Refer to Figure 40 and Table 3-16.

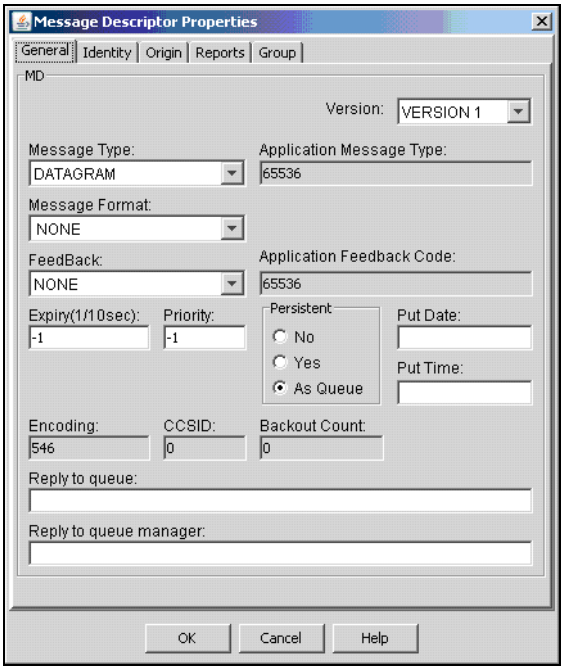


*Figure 3-36. Message Descriptor Properties: General*

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| Table 3-12. Message Descriptor Properties: General Tab | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Version combo box** | Select MD version from the list. | Always enabled. |
| **Message Type combo box** | Select message type from the list. | |
| **Message Format combo box** | Select message format from the list. | |
| **FeedBack combo box** | Select message feedback code from the list. | |
| **Application Message Type field** | Input application message type. | Editable only if APPLICATION message type is selected in Message Type combo box. |
| **Application Feedback Code field** | Input application feedback code. | Editable only if APPLICATION feedback code is selected in FeedBack combo box. |
| **Expiry field** | Input message expiry. | Always enabled. |
| **Priority field** | Input message priority. | |
| **Persistent radio buttons** | Set message persistence. | |
| **Put Date field** | Provides date when message was put. | Read only. |
| **Put Time field** | Provides time when message was put. | |
| **Encoding field** | Provides message data encoding. | |
| **CCSID field** | Provides message coded character set identifier. | |
| **Backout Count field** | Provides backout counter. | |
| **Reply to queue field** | Input name of a message queue to which the reply or report message should be sent. | Always enabled. |
| **Reply to queue manager field** | Input name of the queue manager to which the reply or report message should be sent. | |

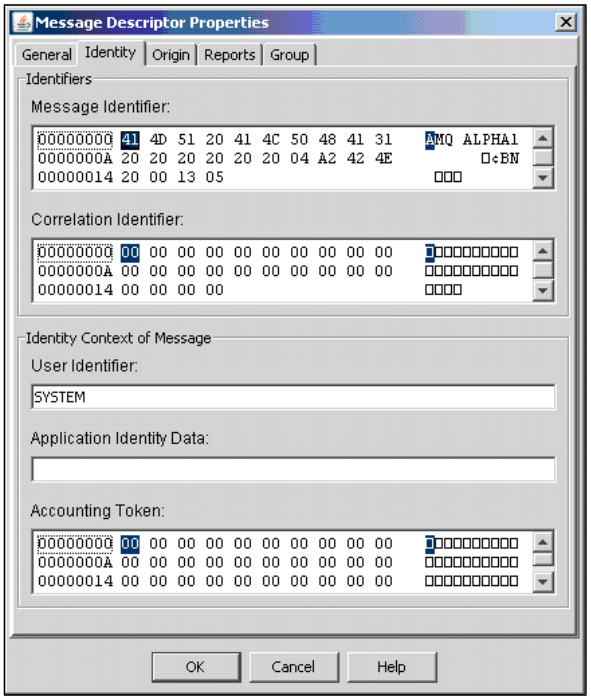


*Figure 3-37. Message Descriptor Properties: Identity*

| Table 3-13. Message Descriptor Properties: Identity Tab | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Message Identifier** | Edit message identifier. | Always enabled. |
| **Correlation Identifier** | Edit message correlation identifier. | |
| **User Identifier field** | Enter user identifier. | |
| **Application Identity Data field** | Enter application identity data. | |
| **Accounting Token** | Edit message accounting token. | |

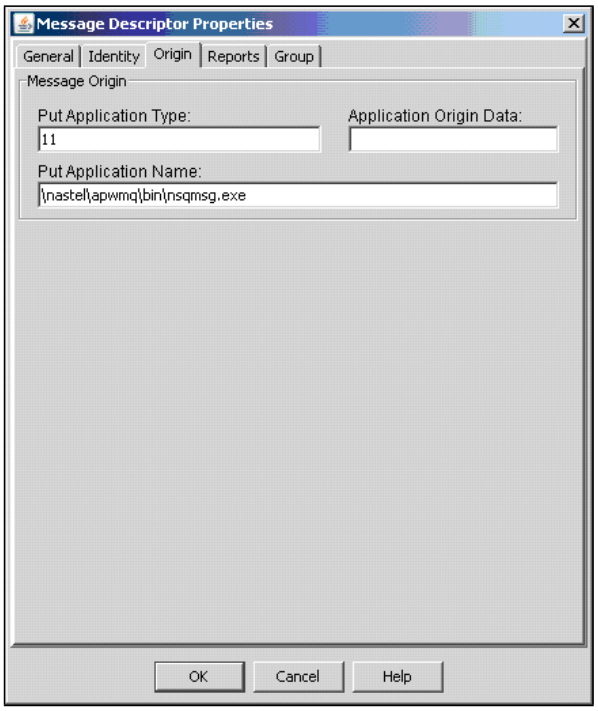


*Figure 3-38. Message Descriptor Properties: Origin*

| Table 3-14. Message Descriptor Properties: Origin Tab | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Put Application Type field** | Input put application type. | Always enabled. |
| **Application Origin Data field** | Input application origin data. | |
| **Put Application Name field** | Input put application name. | |

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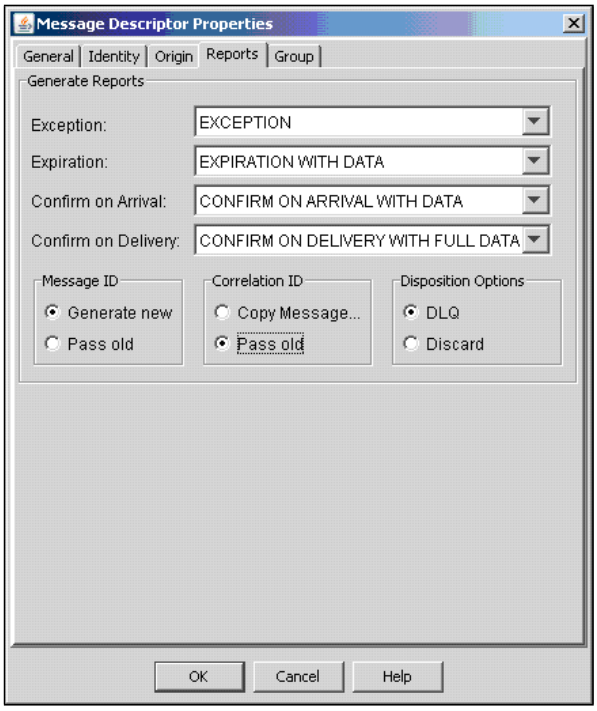


*Figure 3-39. Message Descriptor Properties: Reports*

**Table 3-15. Message Descriptor Properties: Reports Tab**

| Control | Description | States and Conditions |
|---|---|---|
| **Exception combo box** | Select an exception report message type from the list. | Always enabled. |
| **Expiration combo box** | Select an expiration report message type from the list. | |
| **Confirm on Arrival combo box** | Select a confirm-on-arrival report message type from the list. | |
| **Confirm on Delivery combo box** | Select a confirm-on-delivery report message type from the list. | |
| **Message ID radio buttons** | Specify how the Message ID of the report message (or of the reply message) is to be set. | |
| **Correlation ID radio buttons** | Specify how the Correlation ID of the report message (or of the reply message) is to be set. | |
| **Disposition Options radio buttons** | Specify message disposition type when a message cannot be delivered to its destination queue. | |

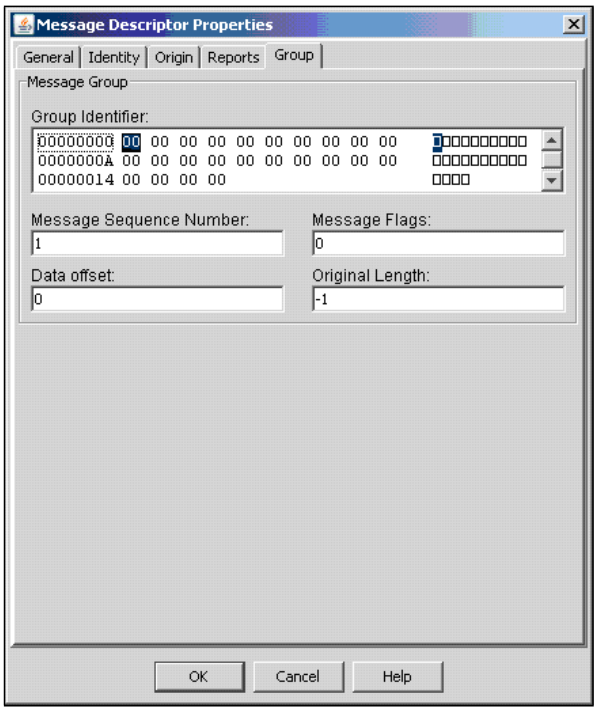


*Figure 3-40. Message Descriptor Properties: Group*

| Table 3-16. Message Descriptor Properties: Group Tab | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Group Identifier** | Edit group identifier. | Always enabled. |
| **Message Sequence** | Input the sequence number of logical message within a group. | |
| **Data offset field** | Input the offset of data in physical message from start of logical message. | |
| **Message Flags field** | Input message flags. | |
| **Original Length field** | Input length of original message. | |

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### 3.3.2.1.3 Message Descriptor Extension

The *Message Descriptor Extension Properties* dialog box is displayed, when the **MDE** button is pressed from *Message Criteria* (Figure 3-35). The *Message Descriptor Extension Properties* dialog box is used to edit the MDE message header.

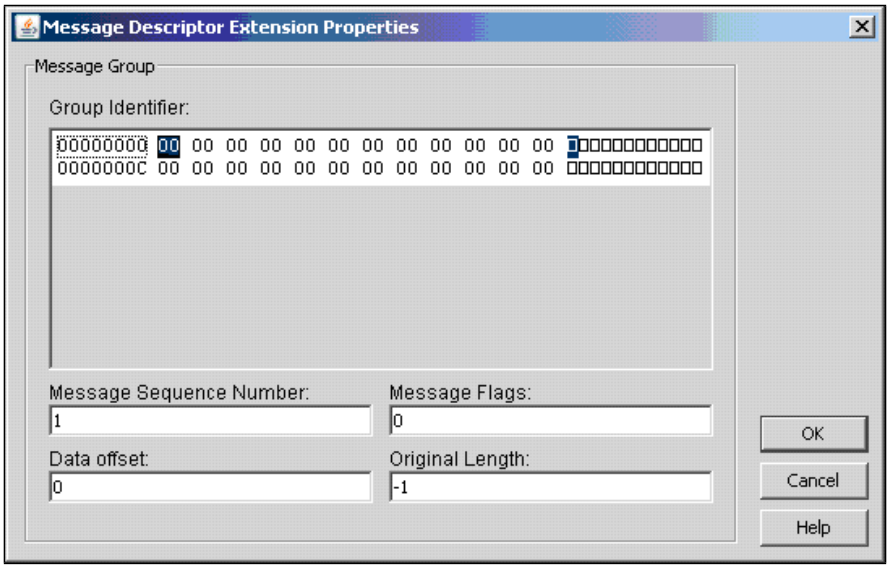


*Figure 3-41. Message Description Extension Properties*

**Table 3-17. Message Descriptor Extension**

| Control | Description | States and Conditions |
|---|---|---|
| **Group Identifier field** | Edit group identifier. | Always enabled. |
| **Message Sequence Number field** | Input sequence number of logical message within group. | |
| **Data offset field** | Input offset of data in physical message from start of logical message. | |
| **Message Flags field** | Input flags that specify attributes of the message. | |
| **Original Length field** | Input length of original message. | |
| **OK button** | Submits MDE properties and closes the dialog box. | |
| **Cancel button** | Discards MDE properties and closes the dialog box. | |

#### 3.3.2.1.4 Dead Letter Queue Header

The *Dead Letter Queue Header (DLH)* dialog box is displayed when the **DLH** button is pressed from *Message Criteria* (Figure 3-35). The *Dead Letter Queue Header (DLH)* dialog box is used to edit DLH message header.

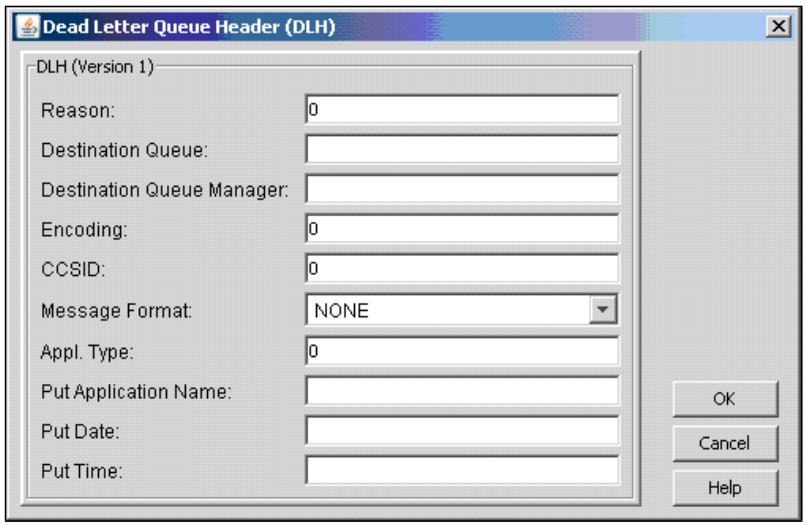


*Figure 3-42. Dead Letter Queue Header*

**Table 3-18. Dead Letter Queue Header**

| Control | Description | States and Conditions |
|---|---|---|
| **Reason field** | Input reason code. | Always enabled. |
| **Destination Queue field** | Input name of destination queue. | |
| **Destination Queue Manager field** | Input name of destination queue manager. | |
| **Encoding field** | Specify message data encoding. | |
| **CCSID field** | Specify message coded character set identifier. | |
| **Message Format combo box** | Select message format from the list. | |
| **Appl Type field** | Input put application type. | Always enabled. |
| **Put Application Name field** | Input put application name. | |
| **Put Date field** | Provides date when message was put. | |
| **Put Time field** | Provides time when message was put. | |
| **OK button** | Submits DLH properties and closes the dialog box. | |
| **Cancel button** | Discards DLH properties and closes the dialog box. | |

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### 3.3.2.1.5 Transmission Queue Header

The *Transmission Queue Header (XQH)* dialog box is displayed when the **XQH** button is pressed from *Message Criteria* (Figure 3-35). *Transmission Queue Header* dialog box is used to edit XQH message header.

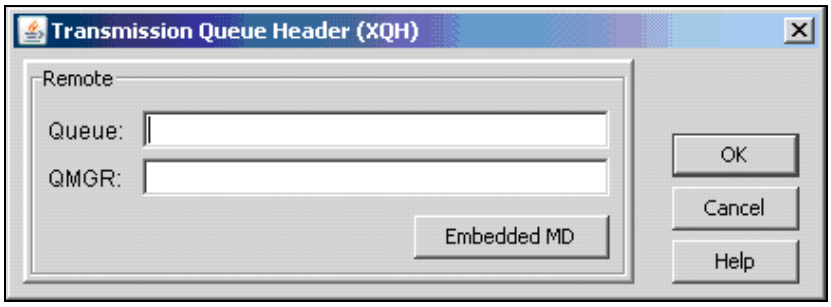


*Figure 3-43. Transmission Queue Header*

| Table 3-19. Transmission Queue Header | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Queue field** | Input name of destination queue. | Always enabled. |
| **QMGR field** | Input name of destination queue manager. | |
| **Embedded MD button** | Displays the Message Descriptor Properties and edits embedded message descriptor. | |
| **OK button** | Submits XQH properties and closes the dialog box. | |
| **Cancel button** | Discards XQH properties and closes the dialog box. | |

### 3.3.2.1.6 Message Data Criteria

*Message Data Criteria* dialog box is displayed when the **Data** button is pressed from *Message Criteria* (Figure 3-35). The *Message Data Criteria* dialog box is used to edit message data criteria.

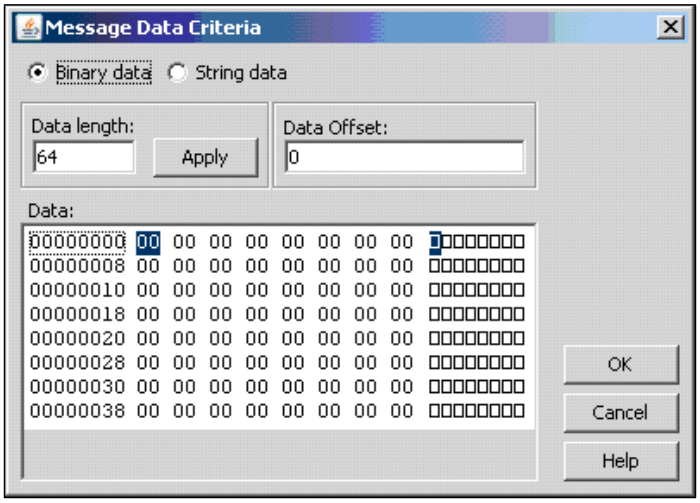


*Figure 3-44. Message Data Criteria Dialog Box*

| Table 3-20. Message Data Criteria | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Binary data/String data option** | Choose browse by binary data or string data | Always enabled. |
| **Data length** | Choose data length | |
| **Data Offset field** | Input message data offset. | |
| **Data** | Input message data. | |
| **OK button** | Submits message data criteria and closes the dialog box. | |
| **Cancel button** | Discards message data criteria and closes the dialog box. | |

Message Criteria is a filtering template that allows the messages that are browsed to be filtered based on specific fields, like values from the headers, or information in the message body. The Message Data Criteria box above is a data filter that allows specifying data at a particular offset in the message and allows specifying a string that can be anywhere in the message.

### 3.3.2.1A Display or Set Authority (MQ Only)

Use the Security command to display or change object authorization settings. To display or edit object authorization settings:

1. Right-click on the object (Queue) and select **Commands > Security**. The Display or Set Authority dialog box is displayed. Each object type has the same basic screen, but the contents of the WMQ Authorizations box are different for each object type. The object type is included in the menu bar. In this example, Queue is the object type.

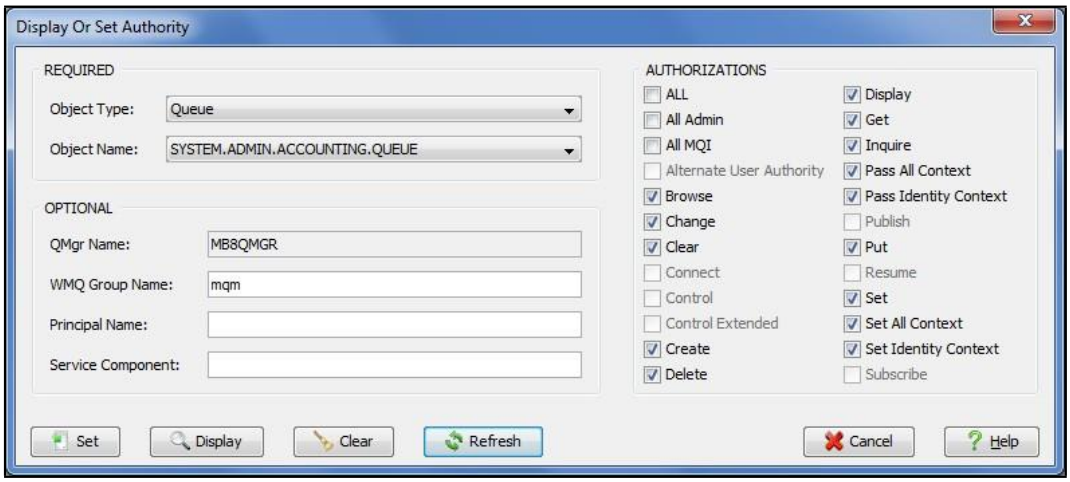


*Figure 3-45. Display or Set Authority Dialog Box*

2. In the **Object Type** field, use the drop-down list to select an object type.
3. In the **Object Name** field, use the drop-down list to select a name. The drop-down list contains names of entities that have authority records for the object type selected. You can create a record by entering a new object name here.
4. In the **Authorizations** box, make any necessary changes by clicking a box to select or clear it.
5. Click **Set** to save your changes or **Cancel** to exit without saving any changes.

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### 3.3.2.2 Queue Properties

Right click on a queue to display a pop-up menu (Figure 3-46). Select **Properties**. The properties dialogue boxes for the selected object type are displayed. Figure 3-47 is the *Local Queue Properties* dialog box. The other object type dialog boxes are similar in look and feel. For detailed descriptions of the various input fields:

- For MQ go to the IBM Knowledge Center, http://www-01.ibm.com/support/knowledgecenter/SSFKSJ_7.5.0/com.ibm.mq.explorer.doc/e_properties_queues.htm
- For EMS go to https://docs.tibco.com/pub/ems/8.4.0/doc/pdf/TIB_ems_8.4_users_guide.pdf.

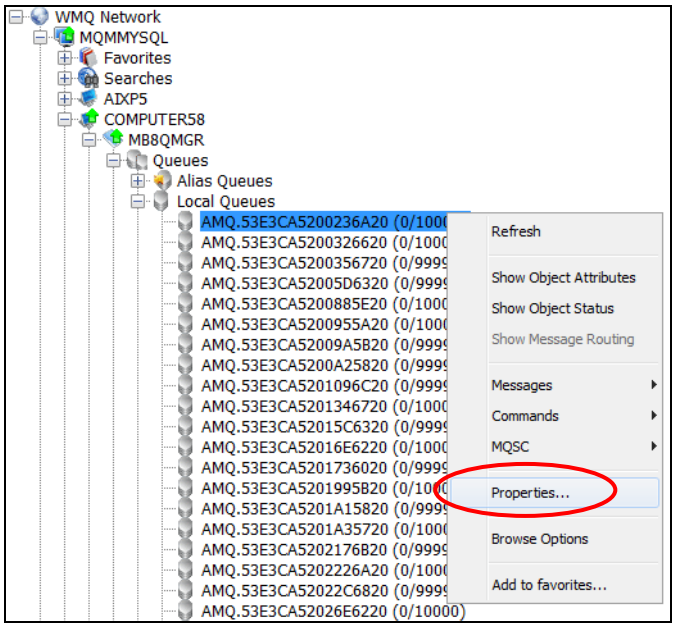


*Figure 3-46. Queue Properties Pop-up Menu*

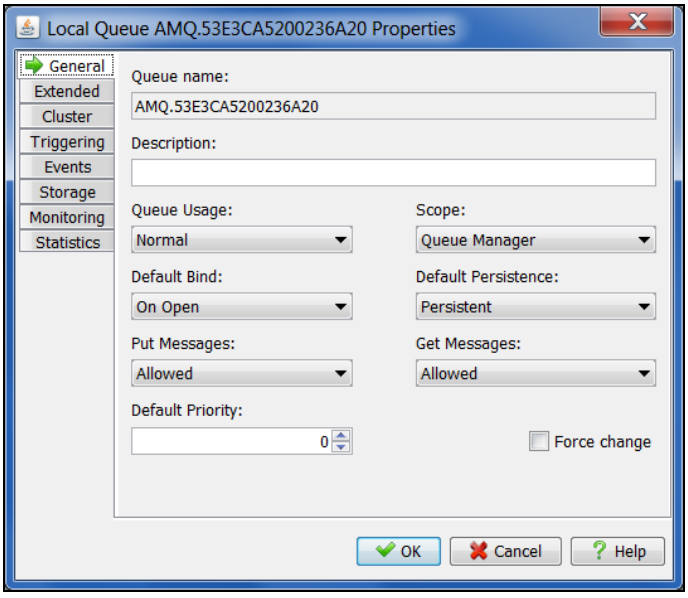


*Figure 3-47. Local Queue Properties Dialog Box*

### 3.3.2.3 Put New Message(s)

The *Put New Message(s)* dialog box is displayed when **Put New** is selected from the pop-up menu (Figure 3-30) after a right click on a queue. It is used to create new messages and put them into one or more destination queues.

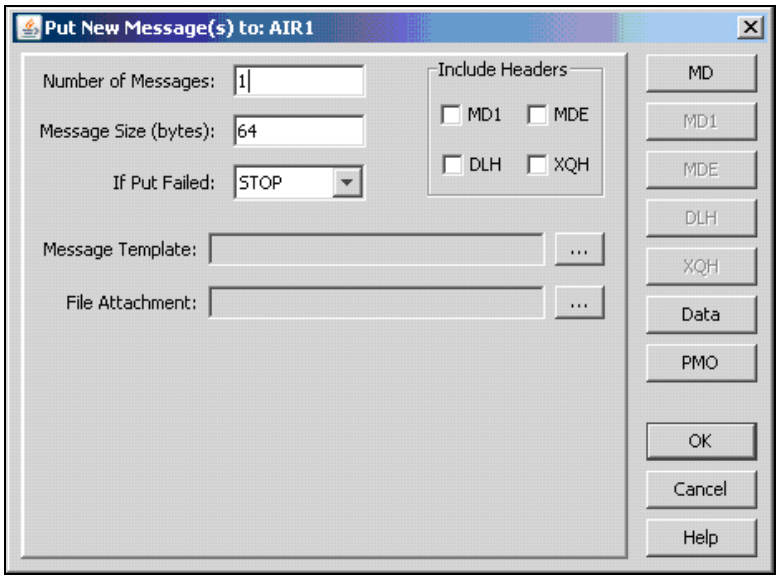


*Figure 3-48. Put New Message(s)*

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| Table 3-21. Put New Message(s) | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Number of Messages field** | Enter the number of messages to put into a queue. | Always enabled. |
| **Message Size field** | Enter message size. | |
| **If Put Failed combo box** | Select what action should be taken if Put command fails. | |
| **Message Template field** | The name of the message template. Click the Select Message Template button to select a template. | Read only. |
| **Select Message Template button**  | Displays the *Message Criteria* dialog box (Figure 3-30) to create or select a message template. | Always enabled. |
| **File Attachment field** | Enter the path of the file to attach to the message. | |
| **Select File Attachment button**  | Displays the *Open File* dialog box to select the file to attach to this message. | |
| **Include Headers checkboxes** | Select the header(s) in the message. | |
| **MD button** | Displays the *Message Descriptor Properties* dialog box (Figure 3-36) where the user can edit MD header of the message. | Enabled only if MD1 checkbox isn't selected. |
| **MD1 button** | Displays the *Message Descriptor Properties* dialog box (Figure 3-36) where the user can edit MD1 header of the message. | Enabled only if MD1 checkbox is selected. |
| **MDE button** | Displays the *Message Descriptor Extension* dialog box (Figure 3-41) where the user can edit MDE header of the message. | Enabled only if MDE checkbox is selected. |
| **DLH button** | Displays the *Dead Letter Queue Header* dialog box (Figure 3-42) where the user can edit DLH header of the message. | Enabled only if DLH checkbox is selected. |
| **XQH button** | Displays the *Transmission Queue Header* dialog box (Figure 3-43) where the user can edit DLH header of the message. | Enabled only if XQH checkbox is selected. |
| **Data button** | Displays the *Message Data* dialog box (Figure 3-49) where the user can edit the message data. | Always enabled. |
| **PMO button** | Displays the *Message Put Options* dialog box (Figure 3-50) where the user can set *put message* options. | |
| **OK button** | Creates new messages, puts them into the selected queue, and closes the dialog box. | |
| **Cancel button** | Closes the dialog box and discards all selections and entered data. | |

#### 3.3.2.3.1 Message Data

The *Message Data* dialog box is displayed when the **Data** button is pressed on the *Put New Message(s) to* dialog box (Figure 3-48). The *Message Data* dialog box is used to edit message data. Messages can be presented in ASCII or EBCDIC format. Users can also view a message as plain text.

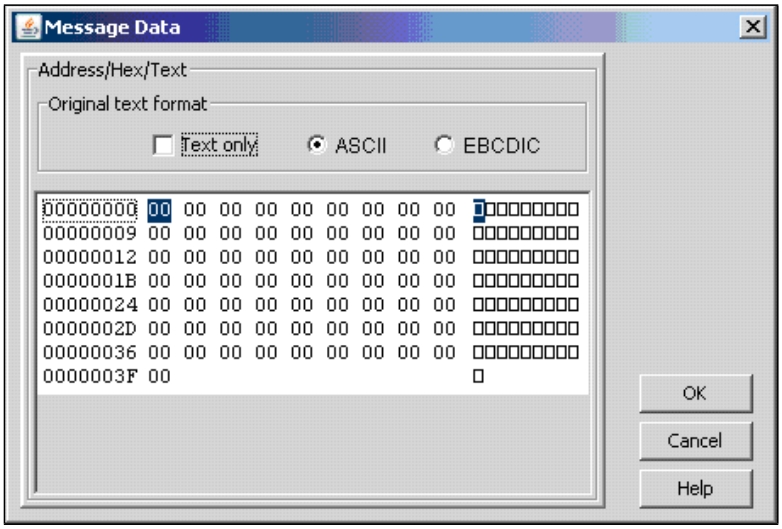


*Figure 3-49. Message Data*

| Table 3-22. Message Data | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Original text format buttons** | Select text format and text representation. | Always enabled. |
| **Message data field** | Edit message data. | |
| **OK button** | Submits message data changes and closes the dialog box. | |
| **Cancel button** | Discards message data changes and closes the dialog box. | |

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### 3.3.2.3.2 Message Put Options

The *Message Put Options* dialog box is displayed when **PMO** button on the *Put New Message(s)* dialog box (Figure 3-48) is pressed. The *Message Put Options* dialog box is used to specify any options the user wants to use when putting a message onto a queue.

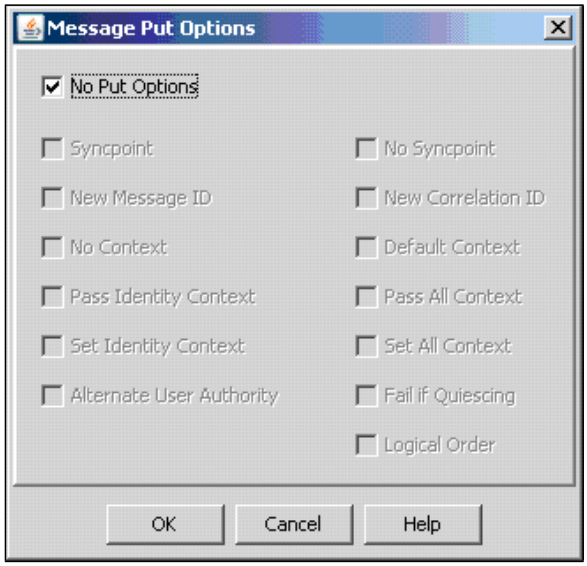


*Figure 3-50. Message Put Options*

**Table 3-23. Message Put Options**

| Control | Description | States and Conditions |
|---|---|---|
| **No Put Options checkbox** | Specifies that no options are used. | Disabled if another entry is selected. |
| **Syncpoint Checkbox** | Operate within the normal unit-of-work protocols. | Enabled only when ***No Put Options*** is **not** selected. |
| **New Message ID checkbox** | Used to identify a new message identifier. | |
| **No Context checkbox** | Context field in MQMD are set to blanks, nulls, and zeros. | |
| **Pass Identity Context checkbox** | Passes identity context information from the original message to a new message. | |
| **Set Identity Context checkbox** | Sets identity context information from the original message to a new message. | |
| **Alternate User Authority checkbox** | User identifier to validate authority to messages on the queue. | |
| **No Syncpoint checkbox** | Operate outside the normal unit-of-work protocols. | |
| **New Correlation ID checkbox** | Used to identify a new correlation identifier. | |
| **Default Context checkbox** | Message will have default context associated with it. | |
| **Pass All Context checkbox** | Passes identity and origin context information from the original message to a new message. | |
| **Set All Context checkbox** | Sets identity and origin context information from the original message to a new message. | |
| **Fail if Quiescing checkbox** | Forces MQPUT or MQPUT1 call to fail if queue manager in quiescing state. | |
| **Logical Order checkbox** | Puts groups and segment information in logical order rather than physical order. | |

### 3.3.2.4 Copy or Move

The *Copy All Messages from* or *Move All Messages from* dialog boxes are displayed when **Move All** or **Copy All** is selected from the Object pop-up Menu (Figure 3-30). Messages can be copied or moved into all queues available in the Destination Queue list. Message Copy All/Move All settings can be edited by clicking **Configure** which opens the **Message Commands** tab of the *Edit User Settings* dialog box (Figure 3-53).

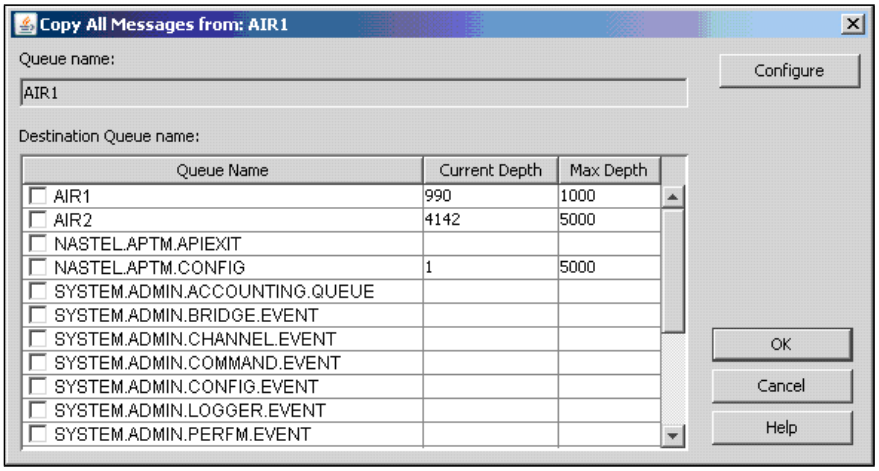


*Figure 3-51. Copy All Messages*

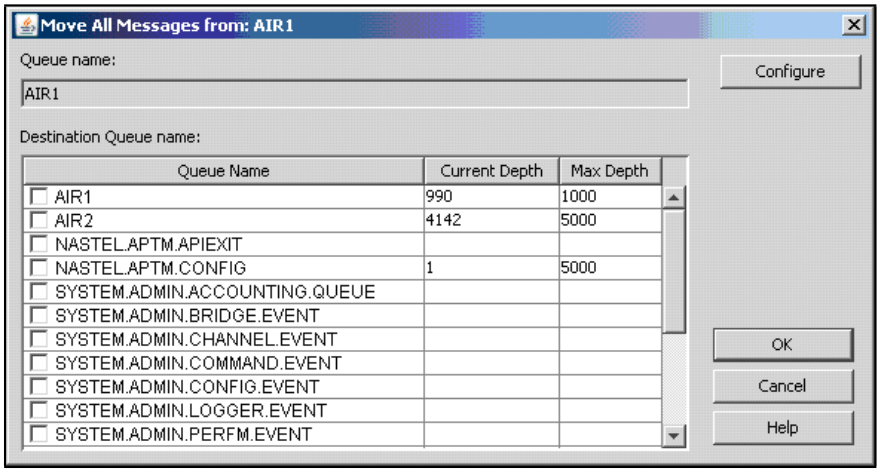


*Figure 3-52. Move All Messages*

**Table 3-24. Copy/Move Messages**

| Control | Description | States and Conditions |
|---|---|---|
| **Queue name field** | The name of the original queue. | Always enabled. |
| **Destination queue name table** | A list of all alias, local, and remote queues under the queue manager. The user can select one or more destinations queues. | |
| **Configure button** | Displays the **Message Commands** tab of the *Edit User Settings* dialog box (Figure 3-53), refer to Table 3-10. | |
| **OK button** | Submits the destination queue and operation criteria and closes the dialog box | |
| **Cancel button** | Discards selections and closes the dialog box. | |

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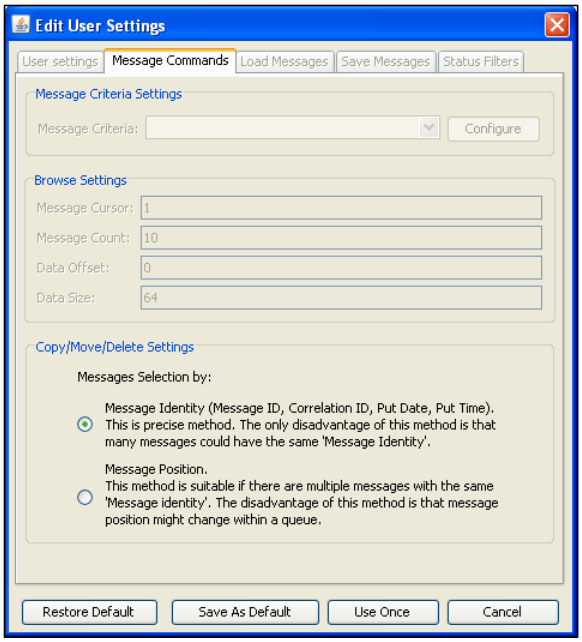


*Figure 3-53. Message Commands*

### 3.3.2.5 Delete Messages

The *Delete Messages* dialog box is displayed when **Delete All** is selected from the Object pop-up Menu (Figure 3-30). It is used to delete messages from queue using delete criteria. Delete settings can be edited by clicking **Configure** which opens the **Message Commands** tab of the *Edit User Settings* dialog box (Figure 3-53).


*Figure 3-54. Delete Messages*

**Table 3-25. Delete Messages**

| Control | Description | States and Conditions |
|---|---|---|
| **OK button** | Deletes messages from the queue using the selected criteria and closes the dialog box. | Always enabled. |
| **Cancel button** | Closes the dialog box without deleting the selected messages. | |
| **Configure button** | Opens the **Message Commands** tab of the *Edit User Settings* dialog box (Figure 3-34) which allows you to edit the delete messages settings. | |

### 3.3.2.6 Clear All Messages

The *Clear All Messages* screen is displayed when **Clear All** is selected from the Object pop-up Menu (Figure 3-30). It is used to delete messages from the selected queue using the delete criteria.


*Figure 3-55. Clear All Messages*

| Table 3-26. Clear All Messages | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Yes button** | Deletes all messages from the queue using the selected criteria and closes the dialog box. | Always enabled. |
| **No button** | Closes the dialog box without deleting the selected messages. | |

## 3.3.3 Favorites

You can create subfolders in the **Favorites** folder to hold shortcuts to entire queue managers (that is, the queue manager along with all its subfolders) or objects in the M6-WMQ network hierarchical tree view (Figure 3-28). Rather than expanding the tree to drill down to the objects you access regularly, you can create a shortcut to it and store it in the **Favorites** folder. Multiple subfolders holding multiple shortcuts can be created. Since you are creating shortcuts, you can put the shortcut in more than one folder. Hover over the file name or select **Show full names** from the *Favorites* pop-up menu (Figure 3-56) to see the shortcut's complete path.

Favorites are intended for small lists of objects. There is no limit to the number of shortcuts you can add to a **Favorites** subfolder, but for large lists, operations to open and refresh can take a long time.

| | | |
|---|---|---|
| | **NOTE:** | The Favorites functionality is controlled by Security Manager/Role Management. If you do not see the Favorites folder, contact your system administrator. |

### 3.3.3.1 Favorites Subfolders

**There are three ways to create a Favorites subfolder:**

1. **Right click Favorites folder:**
   a. Right-click **Favorites** and select **Create new folder** from the pop-up menu to open an input dialog box (Figure 3-57).

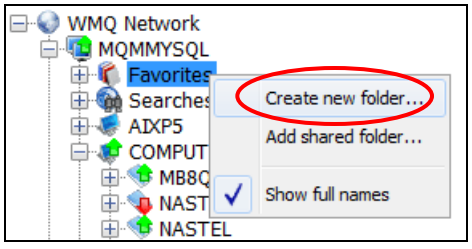


*Figure 3-56. Create New Folder*

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b. Enter the name for the new folder.

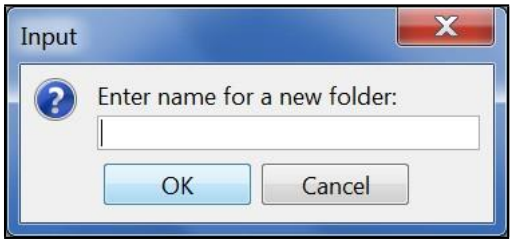


*Figure 3-57. Enter Name for New Folder*

c. Click **OK**. The new folder is displayed under **Favorites**. You can now left-click an object and drag it to the new folder.

**2. Right-click the object:**

a. Right-click the object and select **Add to favorites** from the pop-up menu.

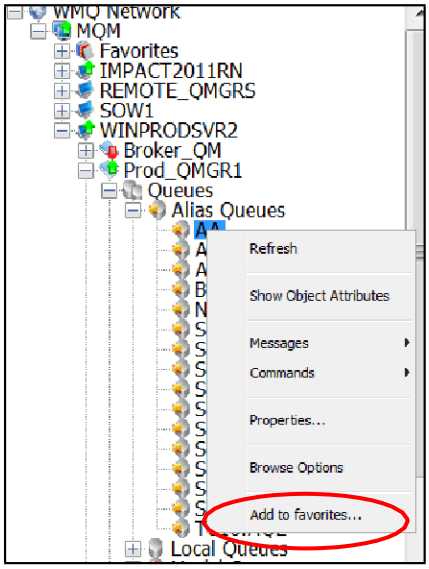


*Figure 3-58. Add to Favorites*

b. Enter a new file name in the dialog box or select an existing file name from the drop-down list.

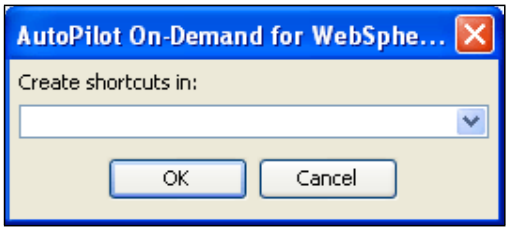


*Figure 3-59. Create Shortcuts In*

c. Click **OK**. The shortcut is displayed in the designated folder.

**3. Right-click and drag the object:**

a. Right-click the object and drag to the **Favorites** folder.

b. Enter a new file name in the dialog box or select an existing file name from the drop-down list.

c. Click **OK**. The shortcut is displayed in the designated folder.

To select multiple objects, hold down the **Ctrl** key and left-click the objects to select them. Release the **Ctrl** key, then right-click and drag the selections to **Favorites** or a subfolder. If one or more of the objects are already in the folder, drag will not work.

To select contiguous objects, hold down the **Shift** key and left-click the objects to select them. Release the **Shift** key, then right-click and drag the selections to **Favorites** or a subfolder. If one or more of the objects are already in the folder, drag will not work.

### To delete a shortcut:

1. Right-click the shortcut.
2. Select **Delete shortcut** from the menu.

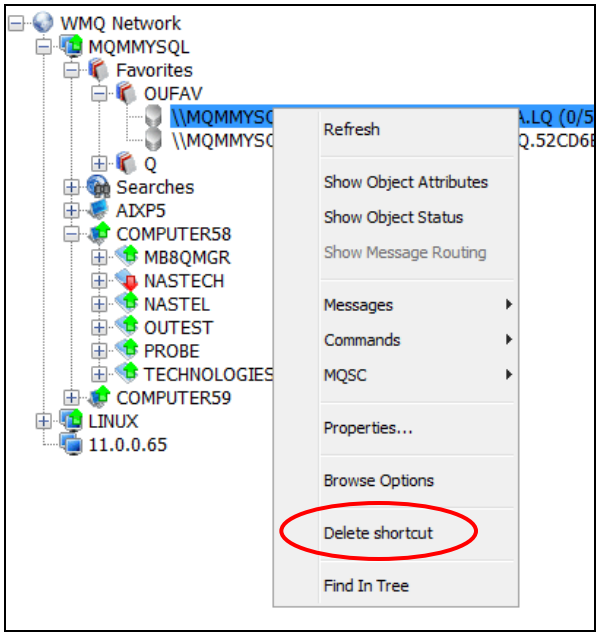


*Figure 3-60. Delete Shortcut*

3. A confirmation window is displayed. Click **Yes** to delete or **No** to cancel.

## 3.3.3.2 Shared Folders

Favorites can be marked as "shared" so that other users can add it to their list. When a folder is marked shared, it is added to the list in the **Select shared folders** dialogue box (Figure 3-63).

### Marking a folder as shared:

1. Right-click the folder shortcut.
2. Select **Shared** from the menu.

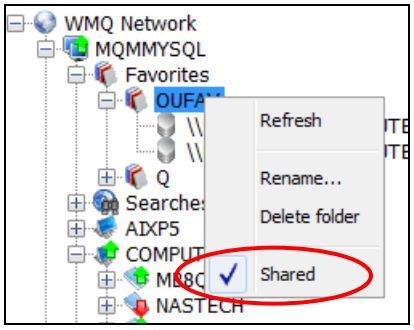


*Figure 3-61. Mark as Shared*

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### Adding shared folders:

1. Right-click **Favorites**.
2. Select **Add shared folder** from the menu.

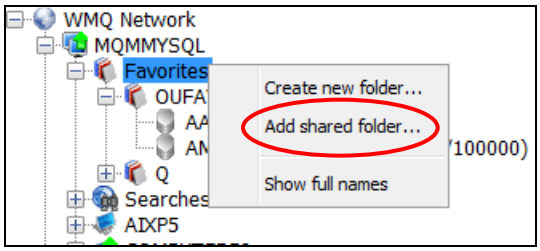


*Figure 3-62. Favorites Menu*

3. Select one or more folders from the **Select shared folders** dialog box.

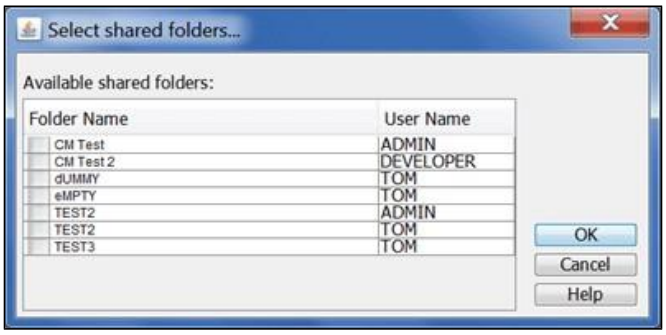


*Figure 3-63. Select Shared Folders*

4. Click **OK**. The selected folders are added to **Favorites**. Notice that the shortcut name is preceded by the owner's username (for example, DEVELOPER.CM Folder where DEVELOPER is the username and CM Folder is the folder name).

| | | |
|---|---|---|
| | **NOTE:** | Access to a shared folder does not guarantee the user has access to all the objects in the folder. Security Manager controls the functionality a user can access. For example, an Administrator may have a shared folder with a shortcut to a listener. A Developer can add the shared folder, but will not see the listener shortcut unless access is granted in Security Manager/Role Manager. |

### Removing shared designation from a folder:

1. Right-click the folder shortcut.
2. Deselect **Shared** from the menu (Figure 3-61).

| | | |
|---|---|---|
| | **NOTE:** | Removing the shared designation does not delete it from users that have added it to their Favorites. It will remain as is until the user synchronizes the folder. The synchronization process will delete the objects in the folder and the shortcut name will change from black to red indicating the folder is no longer shared. |

### Synchronizing shared folders:

The owner of a shared folder may make changes to it; that is, add or delete objects. To update your shared folder with any changes the owner has made to it, you must "synchronize" it.

1. Right-click the shared folder.
2. Select **Synchronize** from the menu.

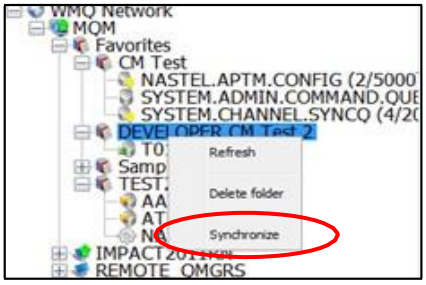


*Figure 3-64. Synchronize Shared Folder*

3. A confirmation dialogue box displays. Click **OK** to synchronize your folder with the owners. This process deletes your folder and recopies the shared folder so any changes that you made to the folder (added or deleted objects) will be overwritten.


*Figure 3-65. Synchronize Shared Folder Confirmation*

| | | |
|---|---|---|
| | **NOTE:** | If the owner of a shared folder has removed the shared designation and you synchronize the folder, the objects in the folder will be deleted and the shortcut name will change from black to red indicating the folder is no longer shared. |

### Show Full Names

1. Right-click **Favorites** and select **Show full names** from the drop-down menu (Figure 3-62).
2. A checkmark appears on the left indicating the option is selected and the full path name displays in the search tree.

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## 3.3.4 Searches

You can create custom searches for Objects. The queries can be run on a one time basis or saved for use during other sessions. Searches can also be shared with other users.

| | | |
|---|---|---|
| | **NOTE:** | The Search functionality is controlled by Security Manager/Role Management. If you do not see the Searches folder, contact your system administrator. |

### 3.3.4.1 Make a New Search

1. Right-click **Searches** and select **Make new search** from the drop-down menu to open the *Search For MQ Object* dialog box.

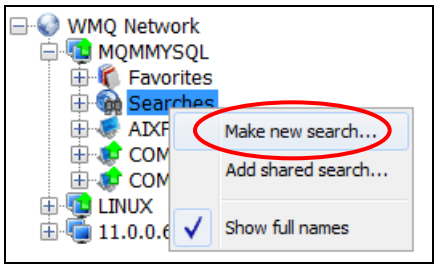


*Figure 3-66. Search Options Menu*

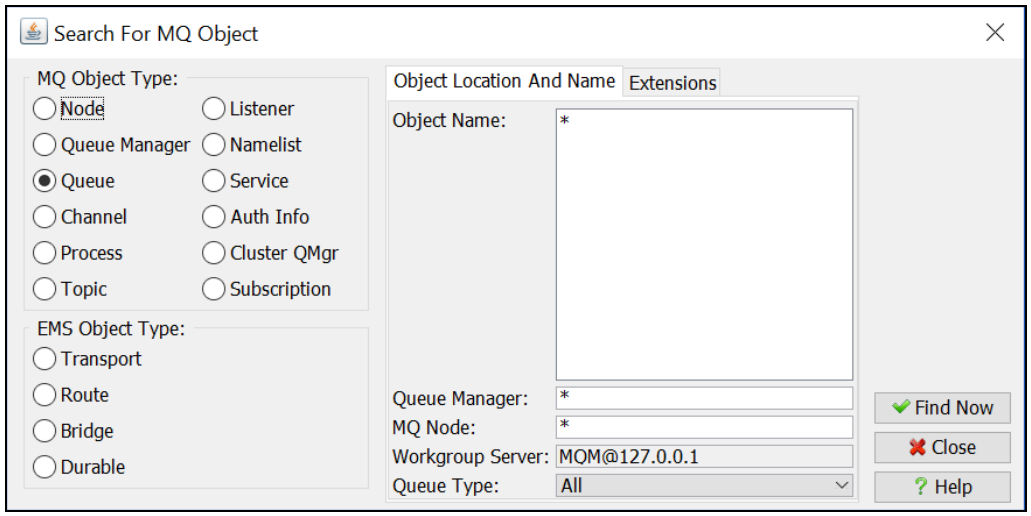


*Figure 3-67. Search Dialog Box – Object Location and Name Tab (for Queue)*

2. Specify your search:
   a. **MQ Object Type or EMS Object Type**– select object type.
   b. **Object Location and Name** – fill in one or more fields. These fields will vary slightly based on the object type selected. This example is for **Queue**.
      - **Object Name** – Enter one or more object names or use an asterisk (*) as a wildcard.
      - **Queue Manager** – Enter the queue manager name or use an asterisk (*) as a wildcard.
      - **MQ Node** – Enter the node name or use an asterisk (*) as a wildcard.
      - **Workgroup Server** – This is not an input field.
      - **Queue Type** – Use the drop-down list to select a queue type.
3. Click **Find Now**. The results of the search query are displayed in the tree under **Searches**.

## Create Custom Query Based on Object Attributes

You can refine your search based on object attribute values by selecting the **Extensions** tab. You can add one or more attribute values and specify the search criteria has to match all the values or just one.

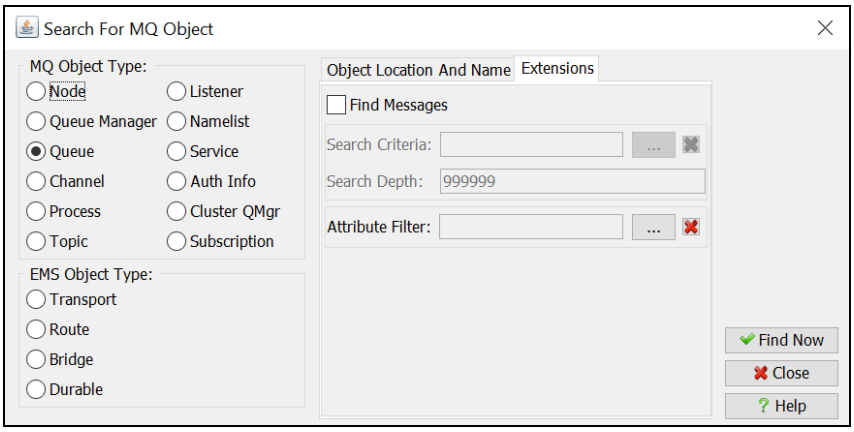


*Figure 3-68. Search Dialog Box – Extensions Tab (for Queue)*

1. Click the ... button to display the *Message Critera* dialog box.

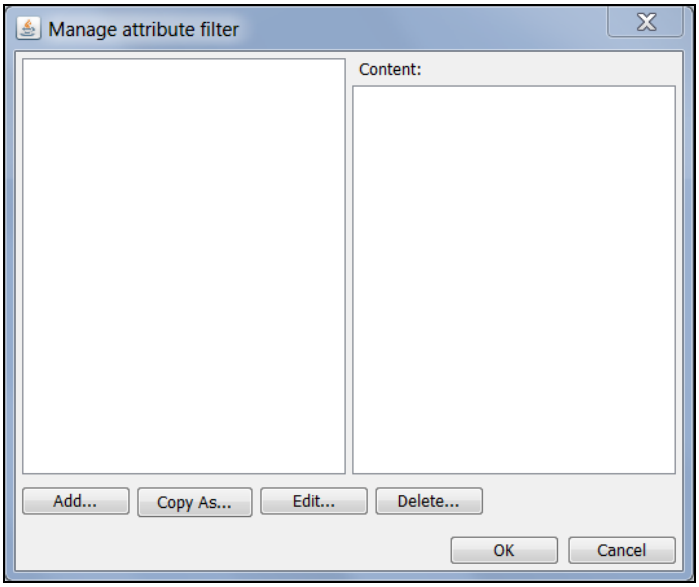


*Figure 3-69. Manage Attribute Filter Dialog Box*

2. Click **Add** to display the filter dialog box.

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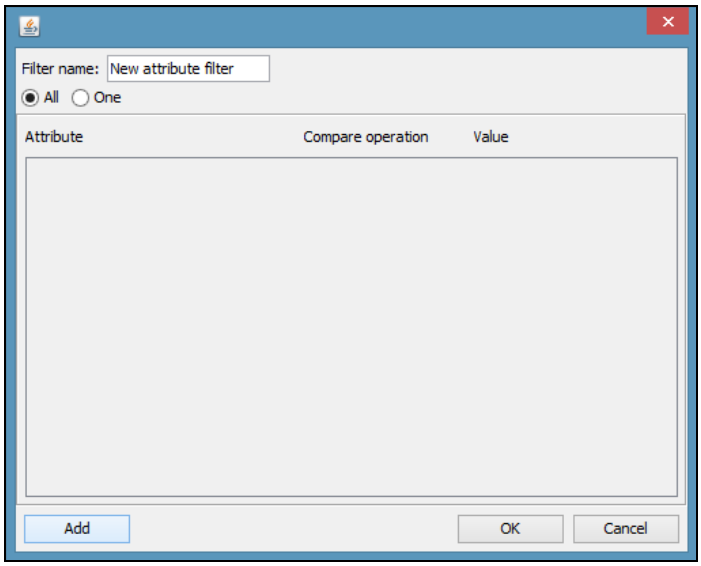


*Figure 3-70. Filter Dialog Box*

3. Enter a descriptive name for your filter in the **Filter name** field. The default is **New attribute filter**.
4. Select **All** or **One** to specify the search has to match All the attribute values entered or just one.
5. Click **Add** to go to the *Select Attribute* dialog box.

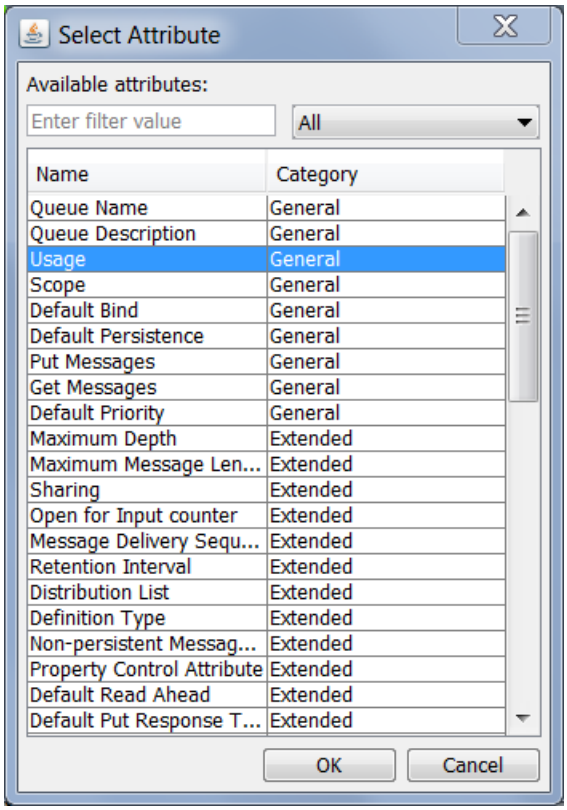


*Figure 3-71. Select Attribute Dialog Box*

| | | |
|---|---|---|
|  | **NOTE:** | There are two attributes that are unique to z/OS. They are **QSG Disposition** (for queue) and **Default Channel Disposition** (for channel). |

6. Select an attribute and click **OK**.

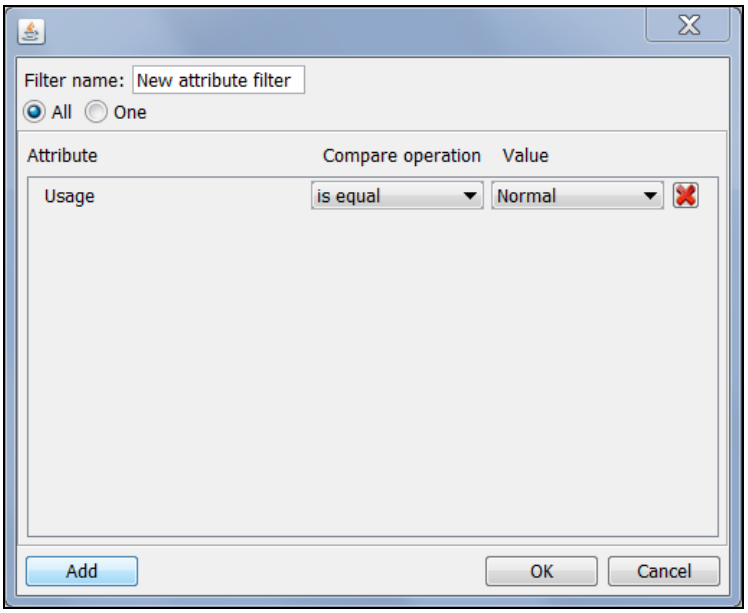


*Figure 3-72. Select Attribute Value Dialog Box*

7. Use the drop-down lists to select a value. Click **Add** to select another attribute.
8. Click **OK** after all attributes have been added to the search criteria. You are returned to the *Manage attribute filter* dialog box where you see your query listed.

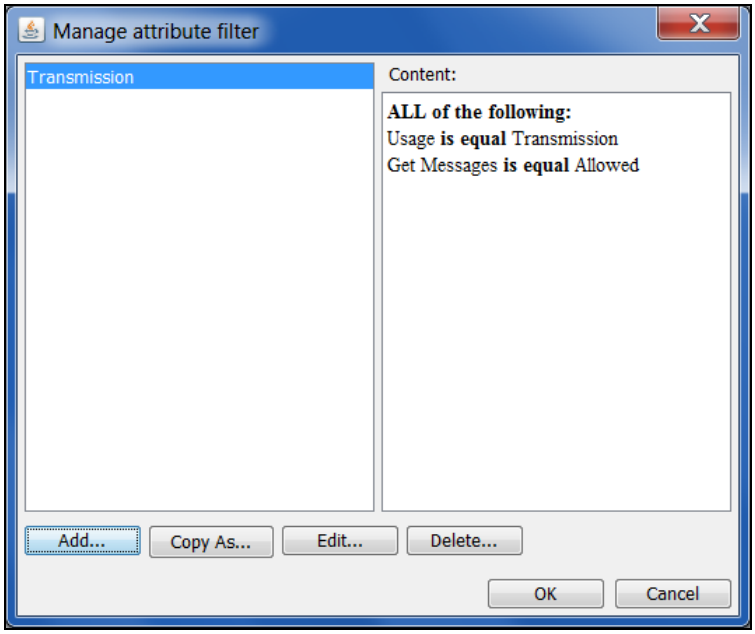


*Figure 3-73. Manage Attribute Filter Dialog Box*

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9. Click **OK**. You are returned to the *Search For MQ Object* dialog box.

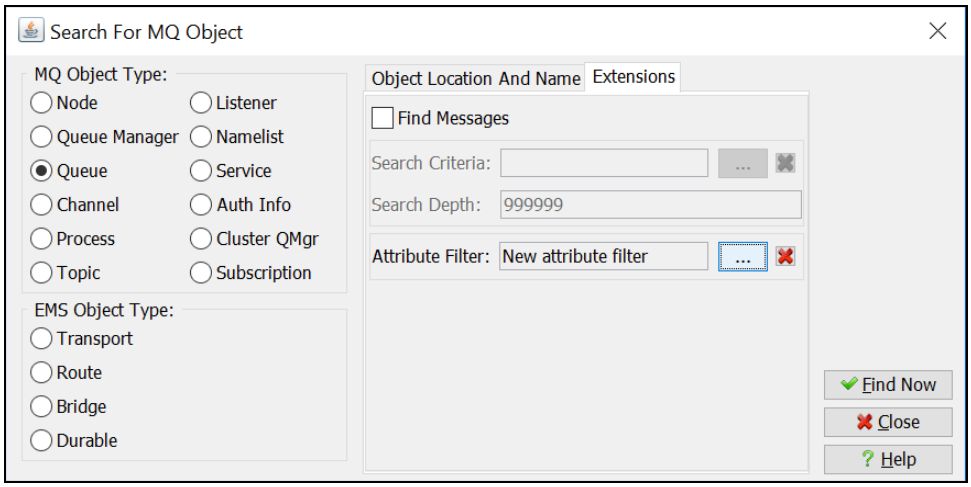


*Figure 3-74. Search for MQ Object Dialog Box – Run Query*

10. Click **Find Now** to run the search query.

## Working with a Search Query

1. Right-click the search name to display the Search Options drop-down menu. The selections are described in the table below.

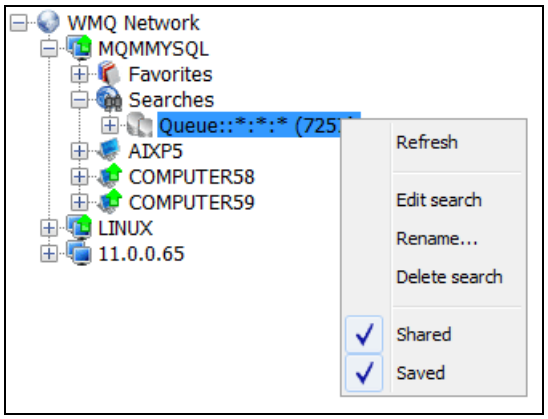


*Figure 3-75. Search Options Menu*

**Table 3-27. Search Menu Options**

| Menu Option | Description |
|---|---|
| **Refresh** | Runs the search query and updates the results. You can also run the query by expanding the search; that is, clicking the plus sign. |
| **Edit search** | Opens the *Search For MQ Object* dialog box (Figure 3-67) allowing you to change the search criteria. |
| **Rename** | Allows you to rename the search. A dialogue box opens where you can overwrite the existing search name. Click **OK** to save the new name. The owner of the search can rename a shared search. However for users who have already selected the search, the search name will not be updated in their tree. The new name will be reflected in the *Select shared searches* dialog box. |
| **Delete search** | Allows you to delete the search. After selecting this option, a confirmation dialog box opens. Click **Yes** to delete or **No** to cancel. |
| **Shared** | Select to share the search with other users. If selected a checkmark displays to the left of the **Shared** option as well as the **Saved** option. Selecting **Shared** automatically saves it. |
| **Saved** | Select to save the search, otherwise it will be deleted with you log off. If selected a check mark displays to the left of the option. Saved cannot be deselected. To "un-save" a search use the **Delete search** option. |

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### 3.3.4.2 Add Shared Search

1. Right-click **Searches** and select **Add shared search** from the drop-down menu (Figure 3-66) to open the *Select shared searches* dialog box.

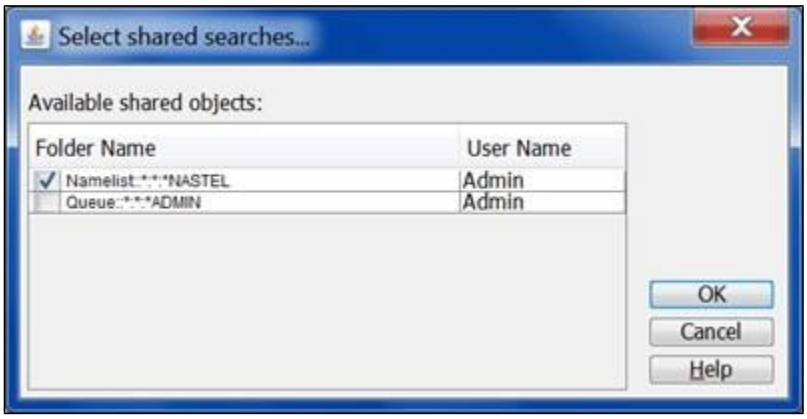


*Figure 3-76. Select Shared Searches*

2. Select the searches you want to add and click **OK**. The searches are now listed in the Search tree and are marked as **Saved**.

| | | |
|---|---|---|
| | **NOTE:** | All shared folders are listed in the Select shared searches dialog box. If you select a search that you already have, it will not be copied to your Searches folder again. It is possible for the search owner to rename a search you have already selected. If you select it again, with the new name, it will NOT be added to your tree. |

#### Working with a Shared Search

1. Right-click the search name to display the Shared Search Options drop-down menu. The selections are described in the table below.

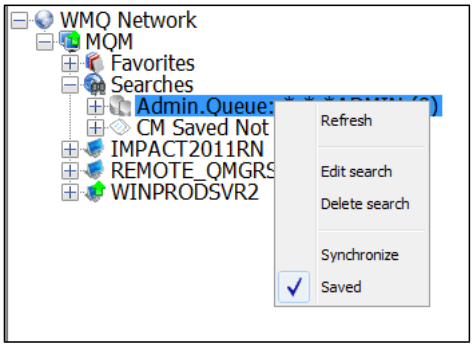


*Figure 3-77. Shared Search Option Menu*

**Table 3-28. Shared Search Menu Options**

| Menu Option | Description |
|---|---|
| **Refresh** | Runs the search query and updates the results. |
| **Edit Search** | Opens the *Search For MQ Object* dialog box (Figure 3-67) allowing you to change the search criteria. Changes will not affect the owners search. |
| **Delete Search** | Deletes the search from your tree. It does not delete the owners search. |
| **Synchronize** | Updates the search with any changes the owner made and runs the search query. |
| **Saved** | A shared search is "saved" by default. |

### 3.3.4.3 Show Full Names

1. Right-click **Searches** and select **Show full names** from the drop-down menu.
2. A checkmark appears on the left indicating the option is selected and the full path name displays in the search tree.

## 3.3.4A Queue Manager

Right-click the queue manager name to display the drop-down menu. The drop-down menu for EMS is shown on the right and contains fewer options. The selections for both menus are described in the table below.

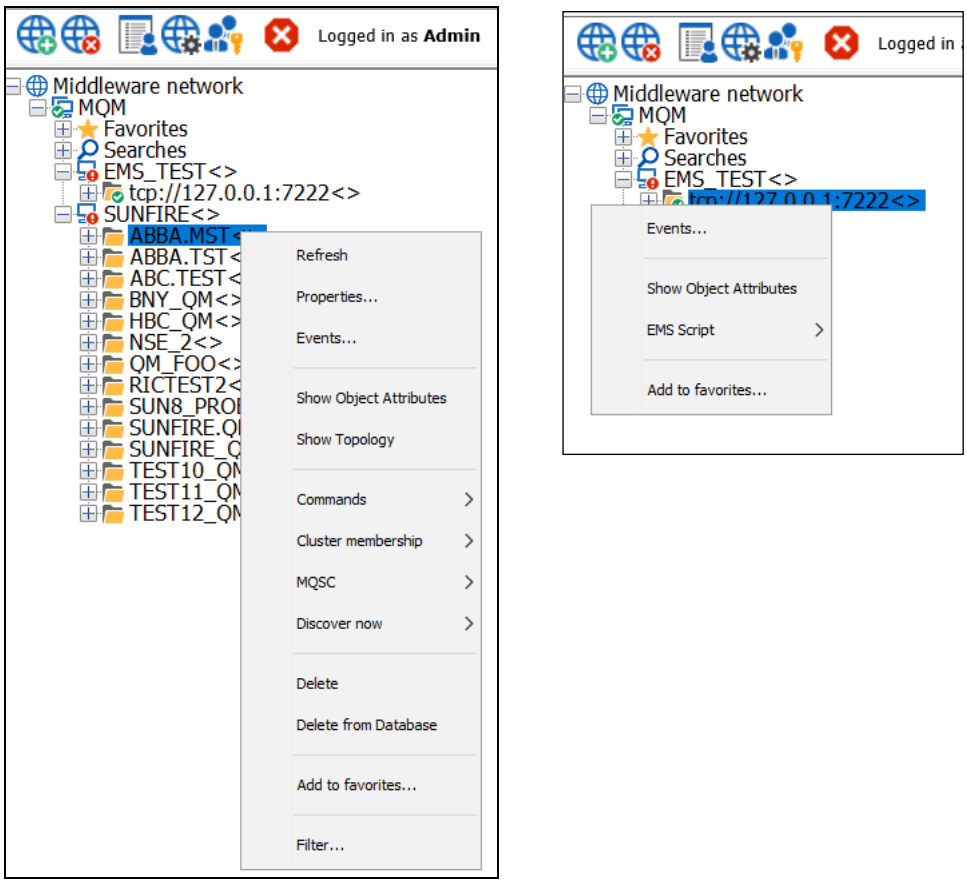


*Figure 3-78. Queue Manager Menus*

**Table 3-29. Queue Manager Menu Options**

| Menu Option | Description |
|---|---|
| **Refresh** | Refreshes the selected queue manager. |
| **Properties** | Displays the *Queue Manager Properties* dialog box. (See Figure 3-79.) |
| **Events** | Displays the *Events* tab. (See Figure 3-86.) *(This option is for both MQ and EMS.)* |
| **Show Object Attributes** | Displays the object attribute. (See Figure 3-81.) *(This option is for both MQ and EMS.)* |
| **Show Topology** | Displays the *Topology Views* tab. (See Figure 3-116.) |
| **EMS Script** | Select **Apply from > File** to apply a script from a file<br>Select **Apply from > Clipboard** to apply a script from your clipboard<br>Select **Console** to apply a script from the console.<br>*(This option is for EMS only.)* |

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| Table 3-29. Queue Manager Menu Options | |
|---|---|
| **Menu Option** | **Description** |
| **Commands** | Select **Commands > Ping** to ping the object.<br>Select **Commands > Security** to display the *Display or Set Authority* dialog box. (See Figure 3-45.)<br>Select **Commands > Security > Browse Authority Records** to display authorization records for the queue manager. (See Figure 3-80A.)<br>Select **Commands > Start all WMQ objects** to start all WMQ objects (section 3.3.1C).<br>Select **Commands > Stop all WMQ objects** to stop all WMQ objects (section 3.3.1C). |
| **Cluster membership** | |
| **MQSC** | Select **MQSC > Apply from > File** or **Clipboard.** Results can be saved to **`.out`** file.<br>Select **MQSC > Save to > File** or **Clipboard**<br>Select **MQSC > Console**. A dialog box (Figure 3-80) opens that allows you to run MQSC commands to the queue manager. |
| **Discover now** | Select **Incremental** or **Full**.<br>• **Incremental** – The workgroup server maintains the last discovery time for each queue manager and sends this time with each discovery command. Incremental discovery logic will work only if initial discovery is completed and qmgrs fully discovered.<br>• **Full** – When the Workgroup Server starts up, it sends a query on every object to the agent. The Workgroup Server re-connects to each agent and sends an EXCMD_MQ_DISCOVER command. Since the agent thread or process for a given qmgr has just started, while servicing the discover command, the agent allows every inquire object reply from the IBM WMQ command server to be sent to the Workgroup Server. |
| **Delete** | Allows you to delete the queue manager. A confirmation box displays. Select **Yes** or **No**. |
| **Delete from Database** | Allows you to delete the queue manager from the database. **BE VERY CAREFUL AS THERE IS NO DELETE CONFIRMATION DIALOG BOX.** |
| **Add to Favorites** | Allows you to create a shortcut. (See Figure 3-59.) *(This option is for both MQ and EMS.)* |
| **Filter** | Allows you to apply a filter. The filter will also be applied to all folders under the folder the filter was applied to. |

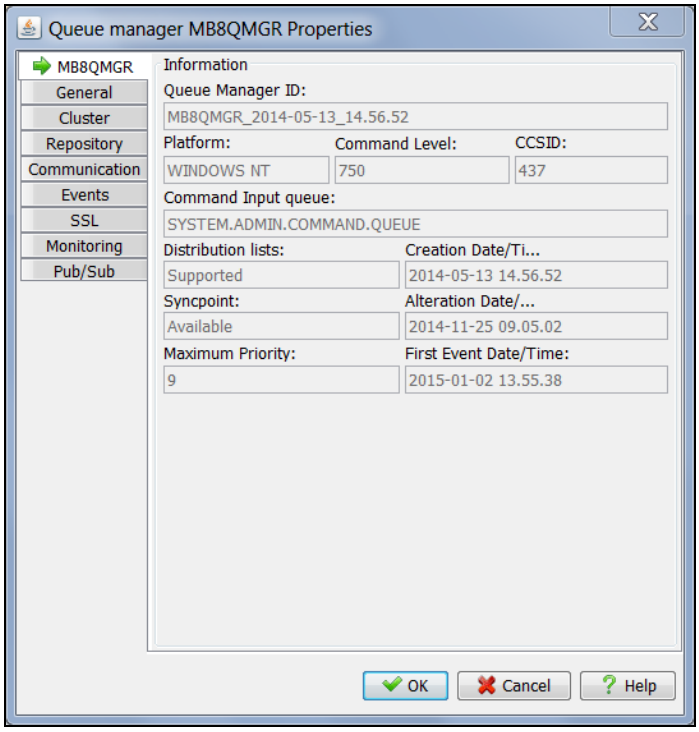


*Figure 3-79. Queue Manager Properties*

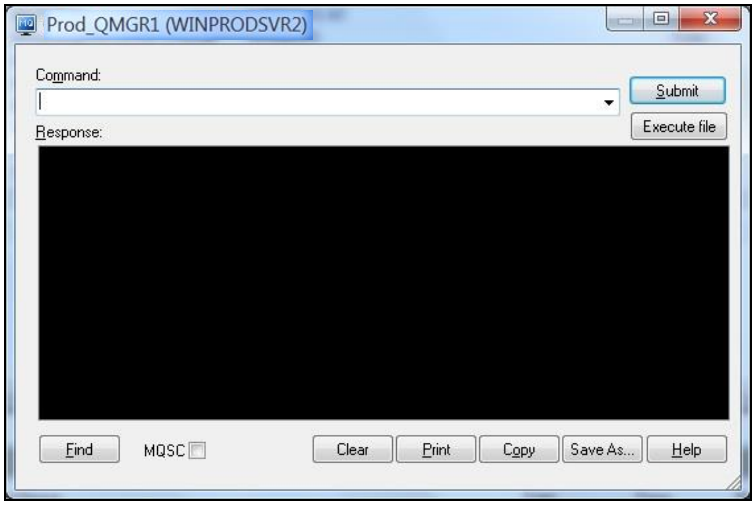


*Figure 3-80. Run MQSC Commands*

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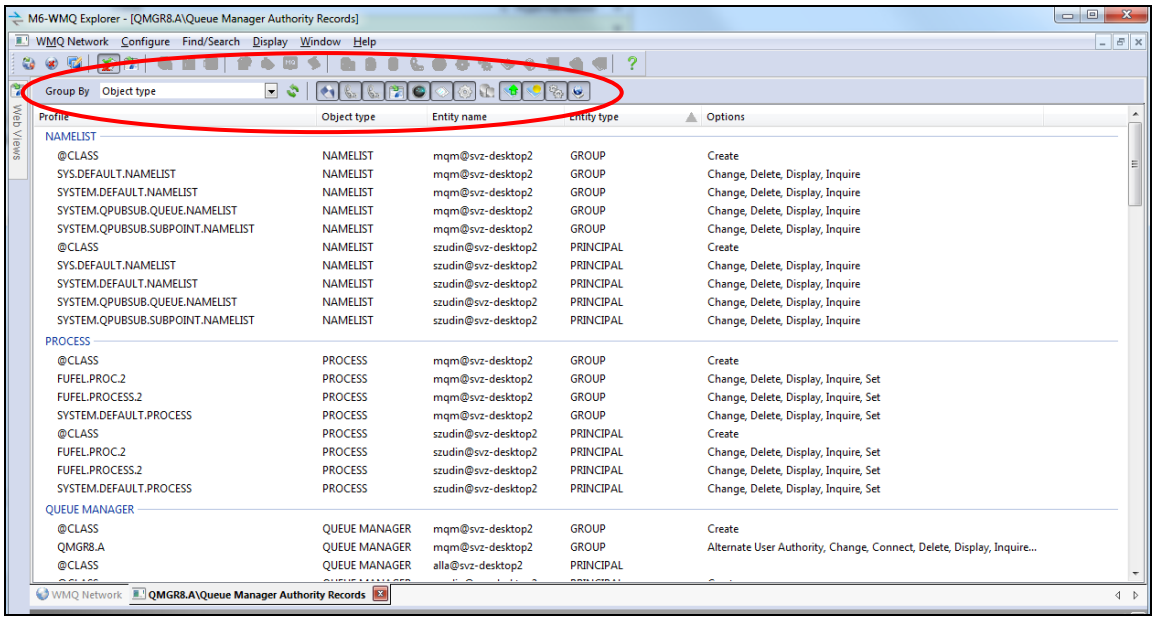



*Figure 3-80A. Queue Manager Authority Records*

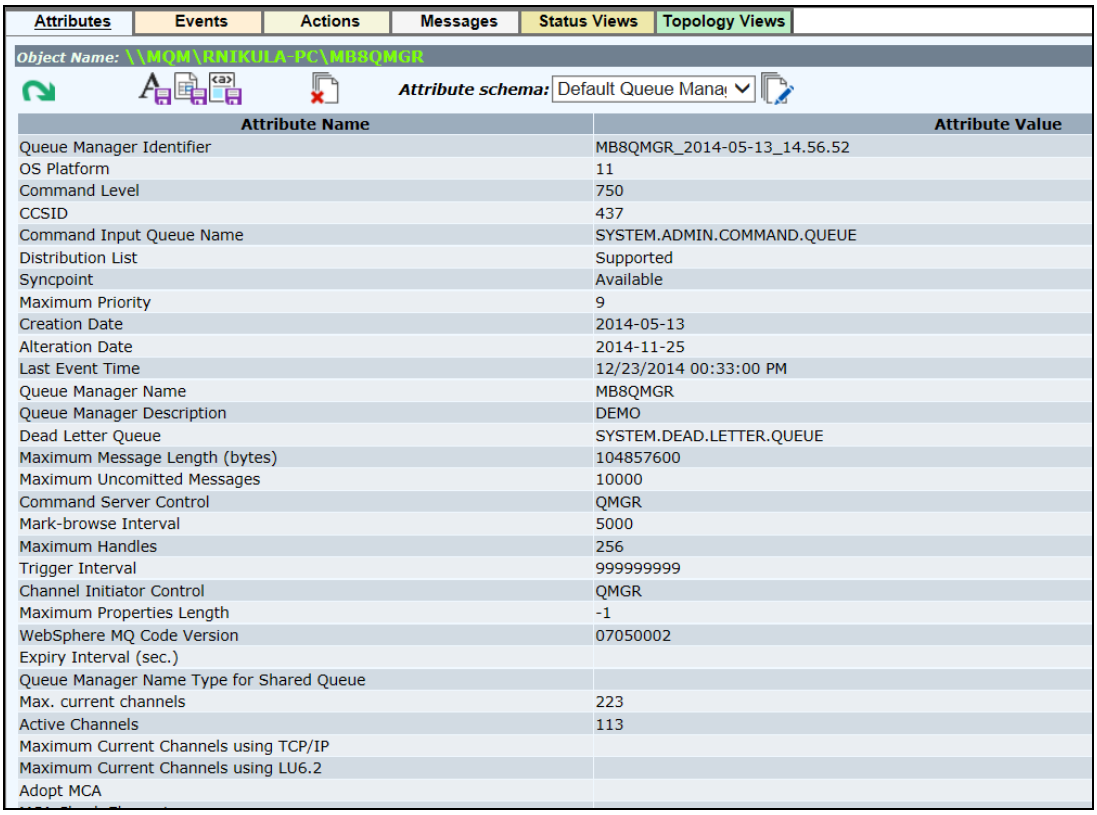
The records can be sorted by any column in ascending or descending order by clicking the column heading. The following commands are available on the toolbar:

- **Change grouping** – Use the **Group By** drop-down menu, to group records by profile name, object type, entity name, and entity type or disable grouping by selecting **No group**.
- **Reload** – Click the **Reload**  button.
- **Filter** – You can show/hide the following attributes by selecting/deselecting the buttons on the toolbar:

  - Authentication information objects
  - Channels
  - Client connection channels
  - Communication information objects
  - Listeners
  - Namelists
  - Processes
  - Queues
  - Queue managers
  - Remote queue managers
  - Services
  - Topics.

## 3.3.5 Attributes

The **Attributes** tab displays the properties of the objects selected in the network tree. The set of attributes listed depends on the type of object you select. If an attribute value is an object listed in the tree, the value will contain a link which when clicked will position in the tree.




| Attribute Name | Attribute Value |
|---|---|
| Queue Manager Identifier | MB8QMGR_2014-05-13_14.56.52 |
| OS Platform | 11 |
| Command Level | 750 |
| CCSID | 437 |
| Command Input Queue Name | SYSTEM.ADMIN.COMMAND.QUEUE |
| Distribution List | Supported |
| Syncpoint | Available |
| Maximum Priority | 9 |
| Creation Date | 2014-05-13 |
| Alteration Date | 2014-11-25 |
| Last Event Time | 12/23/2014 00:33:00 PM |
| Queue Manager Name | MB8QMGR |
| Queue Manager Description | DEMO |
| Dead Letter Queue | SYSTEM.DEAD.LETTER.QUEUE |
| Maximum Message Length (bytes) | 104857600 |
| Maximum Uncomitted Messages | 10000 |
| Command Server Control | QMGR |
| Mark-browse Interval | 5000 |
| Maximum Handles | 256 |
| Trigger Interval | 999999999 |
| Channel Initiator Control | QMGR |
| Maximum Properties Length | -1 |
| WebSphere MQ Code Version | 07050002 |
| Expiry Interval (sec.) | |
| Queue Manager Name Type for Shared Queue | |
| Max. current channels | 223 |
| Active Channels | 113 |
| Maximum Current Channels using TCP/IP | |
| Maximum Current Channels using LU6.2 | |
| Adopt MCA | |

*Figure 3-81. Attributes*

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You can limit the attribute list by creating your own customized attribute scheme.

1. Click the **Manage Schemes** icon to display the *Manage Schemes* dialog box. Note that the default scheme name is displayed in a cursive font and cannot be edited or deleted.

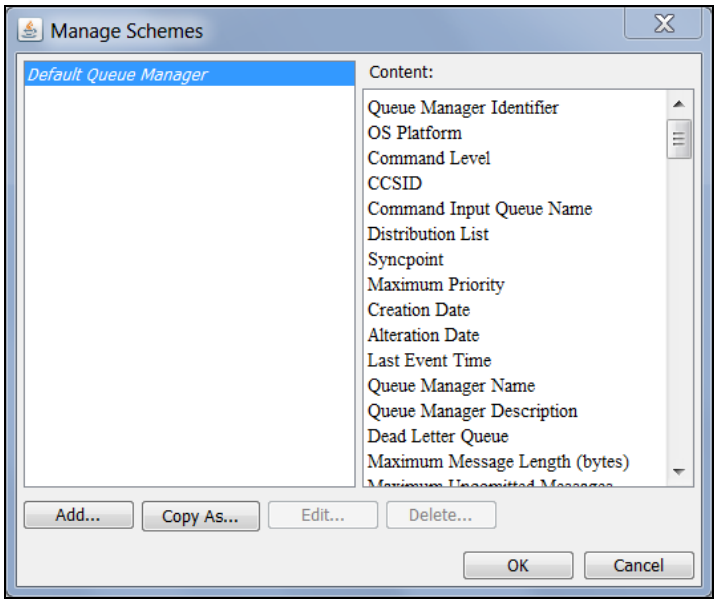



*Figure 3-82. Manage Schemes*

2. Click **Add** to display the *Edit Scheme* dialog box.

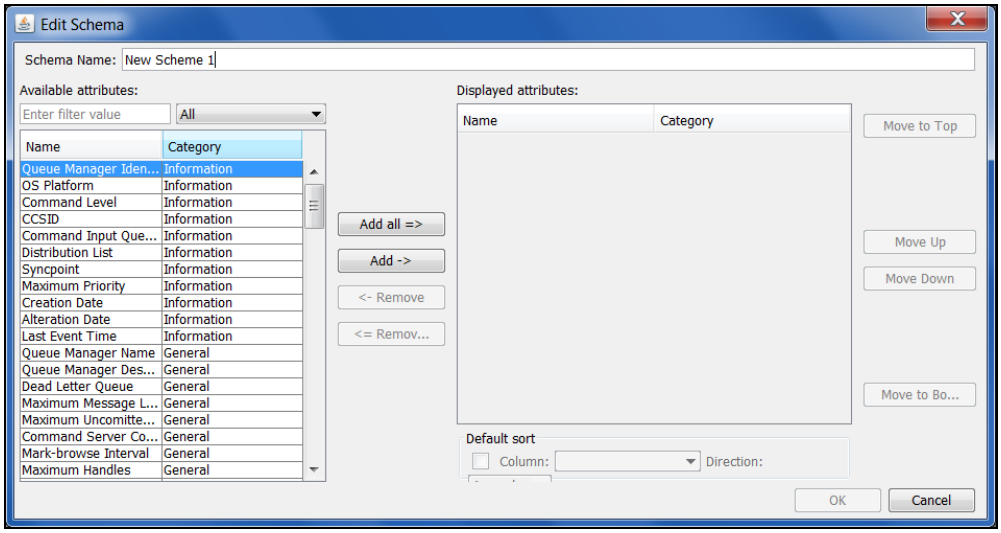



*Figure 3-83. Edit Scheme*

3. In the **Scheme Name** field, enter a name for your scheme.

4. Select the attributes you want and click **Add** to move them to the **Displayed attributes** box on the right. You can filter the **Available attributes** list by category by using the drop-down list. Use the other buttons to add/remove attributes and to move the attributes in the order you want them displayed. Then click **OK**. You are returned to the previous screen where your new scheme is listed.

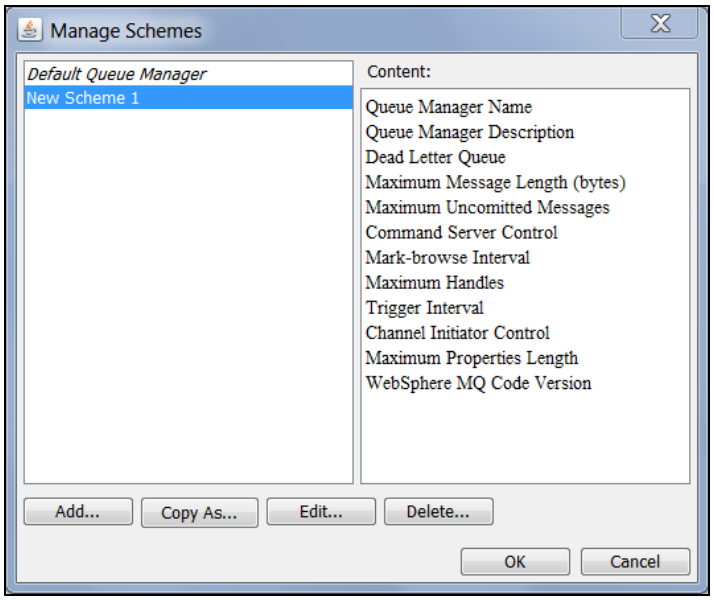
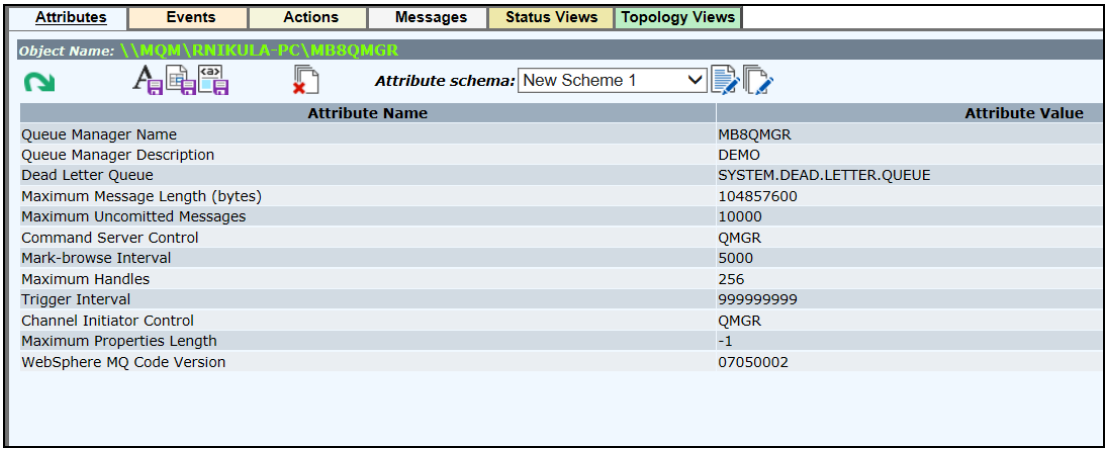



*Figure 3-84. New Scheme is Listed*

5. Click **OK**. You are returned to the **Attribute** tab. Only the attributes in the new scheme are listed.




| Attribute Name | Attribute Value |
|---|---|
| Queue Manager Name | MB8QMGR |
| Queue Manager Description | DEMO |
| Dead Letter Queue | SYSTEM.DEAD.LETTER.QUEUE |
| Maximum Message Length (bytes) | 104857600 |
| Maximum Uncomitted Messages | 10000 |
| Command Server Control | QMGR |
| Mark-browse Interval | 5000 |
| Maximum Handles | 256 |
| Trigger Interval | 999999999 |
| Channel Initiator Control | QMGR |
| Maximum Properties Length | -1 |
| WebSphere MQ Code Version | 07050002 |

*Figure 3-85. New Scheme Attributes are Listed*

You can change the attribute list by selecting from the **Attribute scheme** drop-down list.

Click  to edit the current scheme or  to manage all schemes.

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## 3.3.6 Events

The **Event** tab displays events, in real-time.


| Event # | Date/Time | Category | Event ID | Object |
|---|---|---|---|---|
| 486 | 10:19:16, Mar, 12, 2013 | Queue Manager | Auto-Discovery Stopped | \\MQM\DESKTOP99\DESKTOP99_QMGR\ |
| 485 | 10:19:15, Mar, 12, 2013 | Queue Manager | Auto-Discovery Started | \\MQM\DESKTOP99\DESKTOP99_QMGR\ |
| 484 | 10:18:12, Mar, 12, 2013 | Queue Manager | Auto-Discovery Stopped | \\MQM\DESKTOP99\MB8QMGR\ |
| 483 | 10:18:11, Mar, 12, 2013 | Queue Manager | Auto-Discovery Started | \\MQM\DESKTOP99\MB8QMGR\ |
| 482 | 10:09:16, Mar, 12, 2013 | Queue Manager | Auto-Discovery Stopped | \\MQM\DESKTOP99\DESKTOP99_QMGR\ |
| 481 | 10:09:15, Mar, 12, 2013 | Queue Manager | Auto-Discovery Started | \\MQM\DESKTOP99\DESKTOP99_QMGR\ |
| 480 | 10:08:12, Mar, 12, 2013 | Queue Manager | Auto-Discovery Stopped | \\MQM\DESKTOP99\MB8QMGR\ |
| 479 | 10:08:11, Mar, 12, 2013 | Queue Manager | Auto-Discovery Started | \\MQM\DESKTOP99\MB8QMGR\ |
| 478 | 09:59:16, Mar, 12, 2013 | Queue Manager | Auto-Discovery Stopped | \\MQM\DESKTOP99\DESKTOP99_QMGR\ |
| 477 | 09:59:15, Mar, 12, 2013 | Queue Manager | Auto-Discovery Started | \\MQM\DESKTOP99\DESKTOP99_QMGR\ |
| 476 | 09:58:12, Mar, 12, 2013 | Queue Manager | Auto-Discovery Stopped | \\MQM\DESKTOP99\MB8QMGR\ |
| 475 | 09:58:11, Mar, 12, 2013 | Queue Manager | Auto-Discovery Started | \\MQM\DESKTOP99\MB8QMGR\ |
| 98 | 09:55:52, Mar, 12, 2013 | Alter | Object Changed | \\MQM\DESKTOP99\DESKTOP99_QMGR\MB8QMGR@Cluster1 |
| 97 | 09:55:52, Mar, 12, 2013 | Alter | Object Changed | \\MQM\DESKTOP99\DESKTOP99_QMGR\DESKTOP99_QMGR@Cluster1 |
| 474 | 09:49:16, Mar, 12, 2013 | Queue Manager | Auto-Discovery Stopped | \\MQM\DESKTOP99\DESKTOP99_QMGR\ |
| 473 | 09:49:15, Mar, 12, 2013 | Queue Manager | Auto-Discovery Started | \\MQM\DESKTOP99\DESKTOP99_QMGR\ |
| 472 | 09:48:12, Mar, 12, 2013 | Queue Manager | Auto-Discovery Stopped | \\MQM\DESKTOP99\MB8QMGR\ |
| 471 | 09:48:11, Mar, 12, 2013 | Queue Manager | Auto-Discovery Started | \\MQM\DESKTOP99\MB8QMGR\ |
| 96 | 09:39:40, Mar, 12, 2013 | Alter | Object Changed | \\MQM\DESKTOP99\DESKTOP99_QMGR\MB8QMGR@Cluster1 |
| 95 | 09:39:40, Mar, 12, 2013 | Alter | Object Changed | \\MQM\DESKTOP99\DESKTOP99_QMGR\DESKTOP99_QMGR@Cluster1 |
| 470 | 09:39:16, Mar, 12, 2013 | Queue Manager | Auto-Discovery Stopped | \\MQM\DESKTOP99\DESKTOP99_QMGR\ |
| 469 | 09:39:15, Mar, 12, 2013 | Queue Manager | Auto-Discovery Started | \\MQM\DESKTOP99\DESKTOP99_QMGR\ |
| 468 | 09:38:12, Mar, 12, 2013 | Queue Manager | Auto-Discovery Stopped | \\MQM\DESKTOP99\MB8QMGR\ |
| 467 | 09:38:11, Mar, 12, 2013 | Queue Manager | Auto-Discovery Started | \\MQM\DESKTOP99\MB8QMGR\ |
| 94 | 09:35:38, Mar, 12, 2013 | Alter | Object Changed | \\MQM\DESKTOP99\DESKTOP99_QMGR\MB8QMGR@Cluster1 |
| 93 | 09:35:38, Mar, 12, 2013 | Alter | Object Changed | \\MQM\DESKTOP99\DESKTOP99_QMGR\DESKTOP99_QMGR@Cluster1 |
| | | | | **Total Number Of Events: 26** |

*Figure 3-86. Events*

**Table 3-30. Events**

| Control | Value |
|---|---|
| **Event #** | Provides the event number within its category number. Click the event number to display the *Event Details* dialog box (Figure 3-87). |
| **Date/Time** | Provides date and time the event occurred. |
| **Category** | Provides event category (one of five types of events: Workgroup agent, Queue Manager, Performance, Alter or Channel). |
| **Event ID** | Provides Event identifier. |
| **Object** | Provides the name of the MQ object on which the event occurred. If the object name is listed in the tree, the object name will contain a link which when clicked will position in the tree. |

### 3.3.6.1 Event Details

*Event Details* screen is used to display more information about a particular event. It displays when a user clicks on an event number in the events table (Figure 3-86). There are two tabs: **General** (Figure 3-87 and Table 3-31) and **Diagnostic** (Figure 3-88 and Table 3-32).

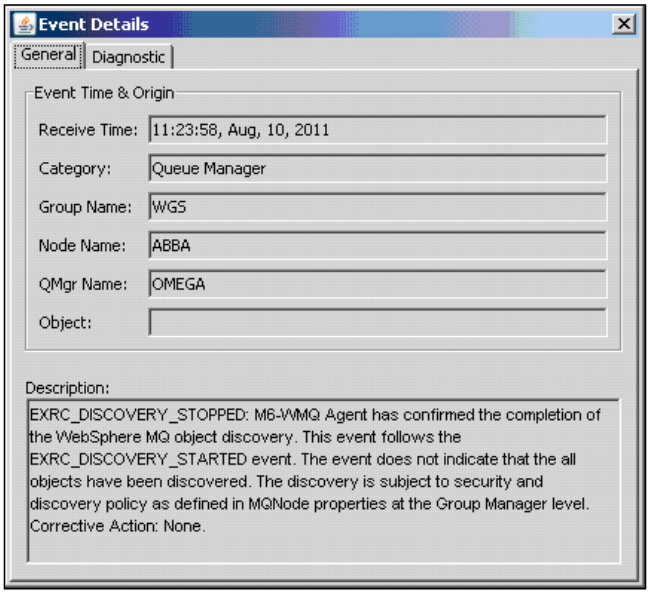


*Figure 3-87. Event Details: General*

**Table 3-31. Event Details: General**

| Control | Description |
|---|---|
| **Receive Time field** | Provides date and time the event occurred. |
| **Category field** | Provides event category – one of five types of events: Workgroup agent, Queue Manager, Performance, Alter, or Channel. |
| **Group Name field** | Provides the name of the Workgroup agent under which the event occurred. |
| **Node Name field** | Provides the name of the node under which the event occurred. |
| **QMgr Name field** | Provides the name of the WebSphere MQ queue manager under which the event occurred. |
| **Object field** | Provides name of the MQ object (queue, channel, etc.) on which the event occurred. |
| **Description field** | Provides a brief description of the event and a suggested corrective action. |

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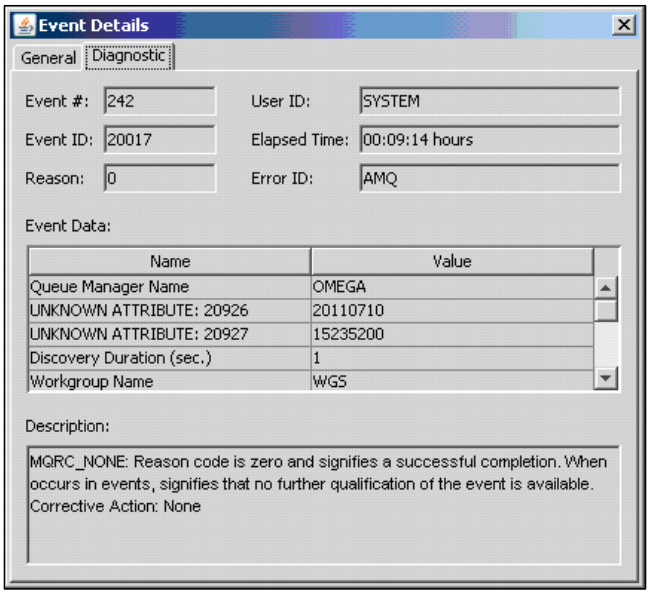


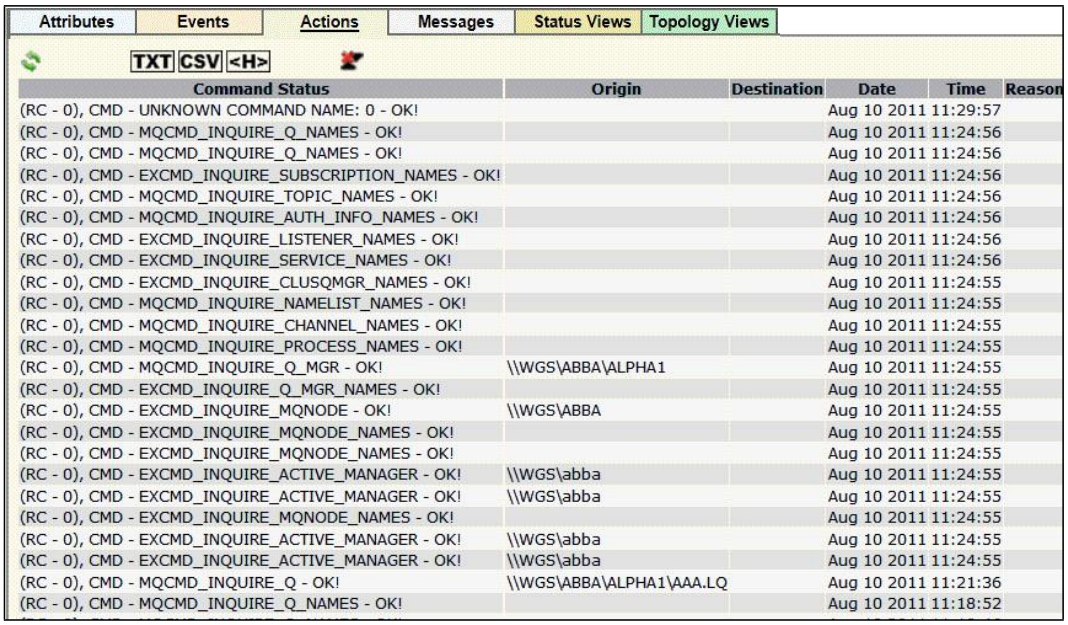

*Figure 3-88. Event Details: Diagnostic*

**Table 3-32. Event Details: Diagnostic**

| Control | Description |
|---|---|
| **Event # field** | Provides the event number within its category. |
| **Event ID field** | Provides event identifier. |
| **Reason field** | Provides the M6-WMQ reason code. |
| **User ID field** | Provides user identifier. |
| **Elapsed Time field** | Provides time elapsed since the event occurred (hh:mm:ss). |
| **Error ID field** | Provides error identifier. |
| **Event Data** | The name of the event and its value. |
| **Description field** | Provides a brief description of the causes of an event. |

## 3.3.7 Actions

The *Actions* screen displays the status of commands as they are executed.




| Command Status | Origin | Destination | Date | Time | Reason |
|---|---|---|---|---|---|
| (RC - 0), CMD - UNKNOWN COMMAND NAME: 0 - OK! | | | Aug 10 2011 | 11:29:57 | |
| (RC - 0), CMD - MQCMD_INQUIRE_Q_NAMES - OK! | | | Aug 10 2011 | 11:24:56 | |
| (RC - 0), CMD - MQCMD_INQUIRE_Q_NAMES - OK! | | | Aug 10 2011 | 11:24:56 | |
| (RC - 0), CMD - EXCMD_INQUIRE_SUBSCRIPTION_NAMES - OK! | | | Aug 10 2011 | 11:24:56 | |
| (RC - 0), CMD - MQCMD_INQUIRE_TOPIC_NAMES - OK! | | | Aug 10 2011 | 11:24:56 | |
| (RC - 0), CMD - MQCMD_INQUIRE_AUTH_INFO_NAMES - OK! | | | Aug 10 2011 | 11:24:56 | |
| (RC - 0), CMD - EXCMD_INQUIRE_LISTENER_NAMES - OK! | | | Aug 10 2011 | 11:24:56 | |
| (RC - 0), CMD - EXCMD_INQUIRE_SERVICE_NAMES - OK! | | | Aug 10 2011 | 11:24:56 | |
| (RC - 0), CMD - EXCMD_INQUIRE_CLUSQMGR_NAMES - OK! | | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - MQCMD_INQUIRE_NAMELIST_NAMES - OK! | | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - MQCMD_INQUIRE_CHANNEL_NAMES - OK! | | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - MQCMD_INQUIRE_PROCESS_NAMES - OK! | | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - MQCMD_INQUIRE_Q_MGR - OK! | \\WGS\ABBA\ALPHA1 | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - EXCMD_INQUIRE_Q_MGR_NAMES - OK! | | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - EXCMD_INQUIRE_MQNODE - OK! | \\WGS\ABBA | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - EXCMD_INQUIRE_MQNODE_NAMES - OK! | | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - EXCMD_INQUIRE_MQNODE_NAMES - OK! | | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - EXCMD_INQUIRE_ACTIVE_MANAGER - OK! | \\WGS\abba | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - EXCMD_INQUIRE_ACTIVE_MANAGER - OK! | \\WGS\abba | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - EXCMD_INQUIRE_MQNODE_NAMES - OK! | | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - EXCMD_INQUIRE_ACTIVE_MANAGER - OK! | \\WGS\abba | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - EXCMD_INQUIRE_ACTIVE_MANAGER - OK! | \\WGS\abba | | Aug 10 2011 | 11:24:55 | |
| (RC - 0), CMD - MQCMD_INQUIRE_Q - OK! | \\WGS\ABBA\ALPHA1\AAA.LQ | | Aug 10 2011 | 11:21:36 | |
| (RC - 0), CMD - MQCMD_INQUIRE_Q_NAMES - OK! | | | Aug 10 2011 | 11:18:52 | |

*Figure 3-89. Actions*

**Table 3-33. Actions**

| Control | Value |
|---|---|
| **Command Status** | Provides command status. |
| **Origin** | Provides command origin. |
| **Destination** | Provides command destination. |
| **Date** | Provides date when command was submitted. |
| **Time** | Provides time when command was submitted. |
| **Reason** | Provides reason code if command failed. |

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## 3.3.8 Messages

The **Messages** tab displays messages of a particular queue. Information is displayed as a paged table. The user can select what information to show about the message using table columns selector button. By marking checkboxes next to messages names, the user makes them available for copying, moving, deleting, re-routing and saving to file. (Refer to Table 3-34.)

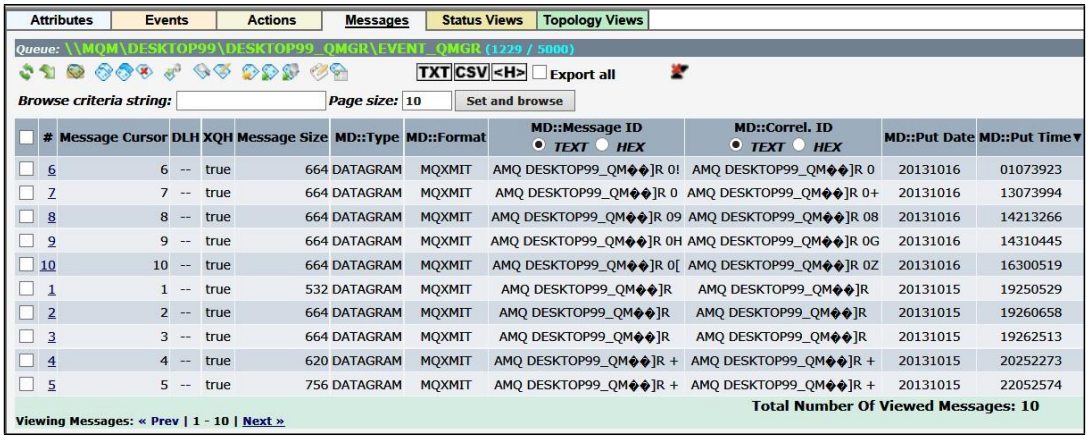


*Figure 3-90. Messages*

The information line displays data about the messages in the browsed queue.

**Information format:** Queue: [*queue name*] (messages quantity in queue/queue depth)

The # column displays the message index in a queue. By clicking on the index number, the user can view all message properties and information (Figure 3-95). The same dialog box is displayed when selecting a message and clicking the **View Messages** button from the tool bar.

The table content can be sorted on any of the table columns ascending or descending. Clicking a column heading displays a down arrow. Click the down arrow to change the sort order. This becomes the default sort for all objects. To return to the default sort, click the **Remove table sorting** button 

At the bottom of the page is a paging row. By clicking **Next**, user can view next *n* messages and by clicking **Prev**, user can view previous *n* messages, where *n* is message count in one page. Message count value can be set in *Queue Browse Options* dialog box (right click on a queue and click **Browse Options**).

### 3.3.8.1 Toolbar

Buttons toolbar on the **Messages** tab is designed for performing some general commands:

**Table 3-34. Messages Toolbar**

| Operation | Purpose |
|---|---|
| **Refresh for displayed object** | Refreshes the displayed object. |
| **Refresh for selected object** | Refreshes the selected object. |
| **Put New** | Calls out the *Put New Message(s) to* dialog box where the user can create new messages and put them into one or more destination queues (Figure 3-48). |
| **Copy** | Calls out *Copy messages* dialog box where a user can define how and where messages should be copied (Figure 3-51). |
| **Move** | Calls out *Move messages* dialog box where a user can define how and where messages should be moved (Figure 3-52 and Figure 3-53). |
| **Delete** | Calls out *Delete messages* dialog box where a user can define how messages should be deleted (Figure 3-54). |
| **Re-route** | Calls out *Re-route messages* dialog box where a user can define messages re-routing policy (Figure 3-91). |
| **View Message** | Calls out dialog box to view message (Figure 3-95). |
| **Edit Message** | Calls out dialog box to edit message (Figure 3-95). |
| **Load from file** | Calls out dialog box to load single or multiple messages from `.mmf` or `.txt` file (Figure 3-98). |
| **Save selected to file** | Calls out dialog box to save selected messages to a file (Figure 3-101). |
| **Save all to file** | Calls out dialog box to save all messages to a file (Figure 3-101). |
| **Select columns** | Select which fields (columns) of message information will be available when browsing messages (Figure 3-104). |
| **Browse options** | Configure queue browse options. |
| **Export all** | Exports all message information to a `.txt`, `.csv`, or `.html` file. |
| **Remove table sorting** | Refreshes the table display to the default sorting order. |
| **Browse criteria string** | Allows you to input and browse a criteria string. |
| **Page size** | Allows you to specify the number of messages to display per page or select **All** to display all messages. |
| **Set and browse** | Sets message browse criteria string and performs message browse for selected queue. |

**NOTES:**

1. Copy messages action generates a copy of the messages in a selected destination queue.
2. Move messages action removes messages from their present location and places them in the elected destination queue.

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## Reroute Messages

To re-route messages from one queue to another, select one or more messages. Then click the **Re-route**  button from the *Messages* tab (Figure 3-90) to display the *Reroute Messages* dialog box (Figure 3-91). The re-routing function is intended for moving messages off the Dead Letter Queue. However, the user can use it for any queue and for any message.

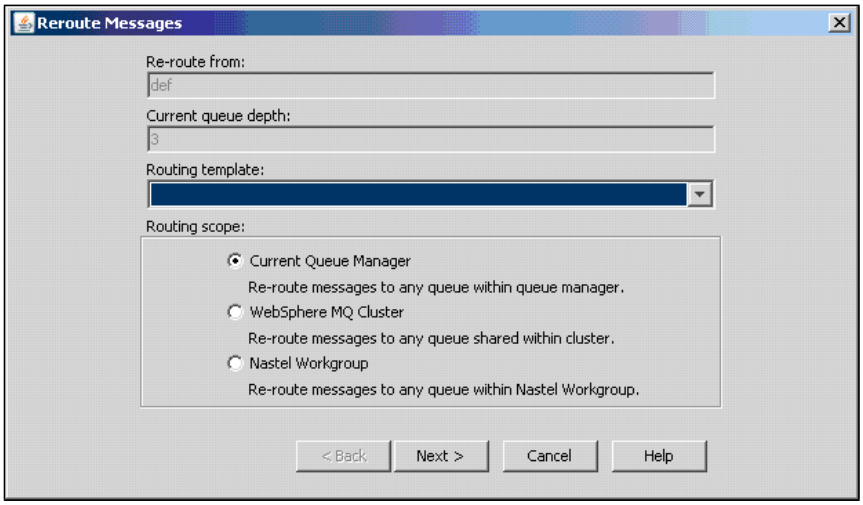


*Figure 3-91. Reroute Messages*

**Table 3-35. Re-Route Messages**

| Control | Description | States and Conditions |
|---|---|---|
| **Re-route from** | Show current selected queue. | Disabled |
| **Current queue depth** | Show current queue depth. | |
| **Routing template** | Select the name of a previously saved routing template. These templates are created when specifying a name in the Save options as routing template field that is displayed on the final screen before confirming the routing operation. | Always enabled |
| **Routing scope** | Used when there is a need to re-route messages into some location not described in the headers of the message. | |
| **Back** button | Go back to previous page. | Enabled if not it first page |
| **Next** button | Go to next page. | Enabled if not last page |
| **Cancel** button | Cancel operations. | Always enabled |

Re-routing instructions are associated with specific queues or with selected messages. For a particular queue or messages selected in the Message Window, you create a Routing Policy that states how you want the messages re-routed. You can re-route messages:

- To their original destination
- Back to sender
- To a new destination queue

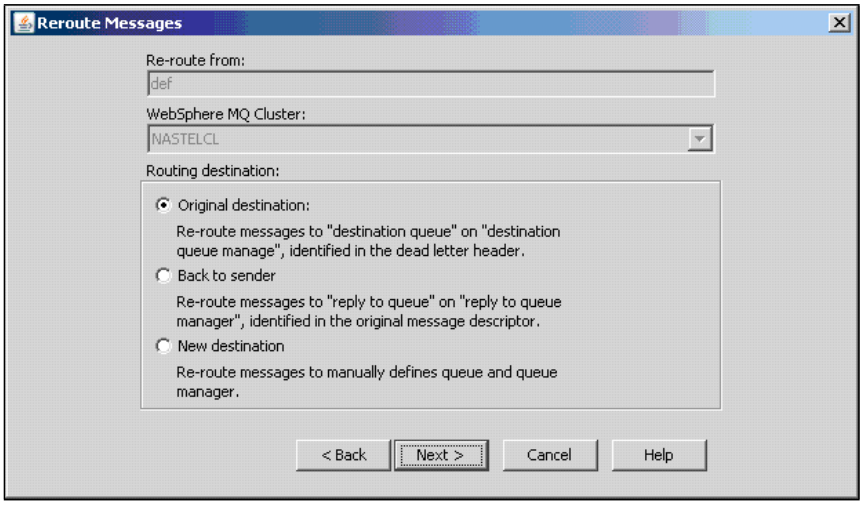


*Figure 3-92. Reroute Messages – Select Destination*

Select your Routing destination (enables **Next** button) and click **Next**.

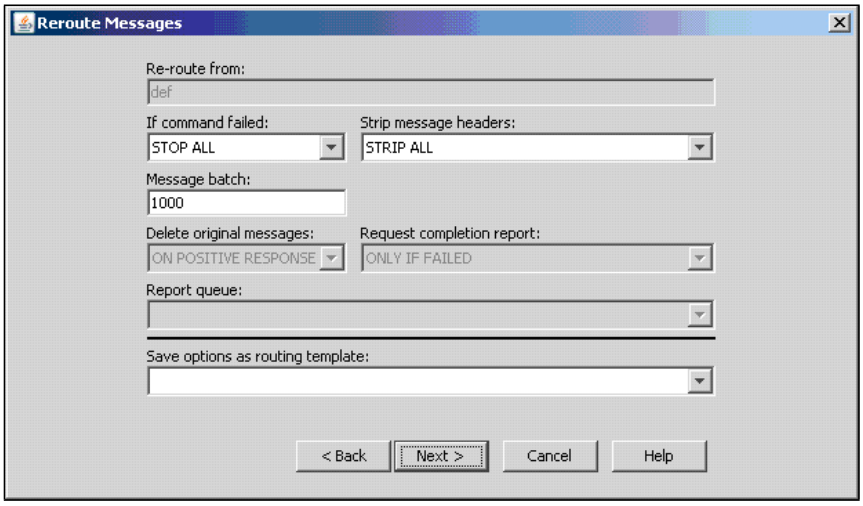


*Figure 3-93. Reroute Messages – Options*

Fields are enabled according to options selected on previous screens. Review the screen for accuracy. If you want to make any changes click **Back**; otherwise, click **Finish**.

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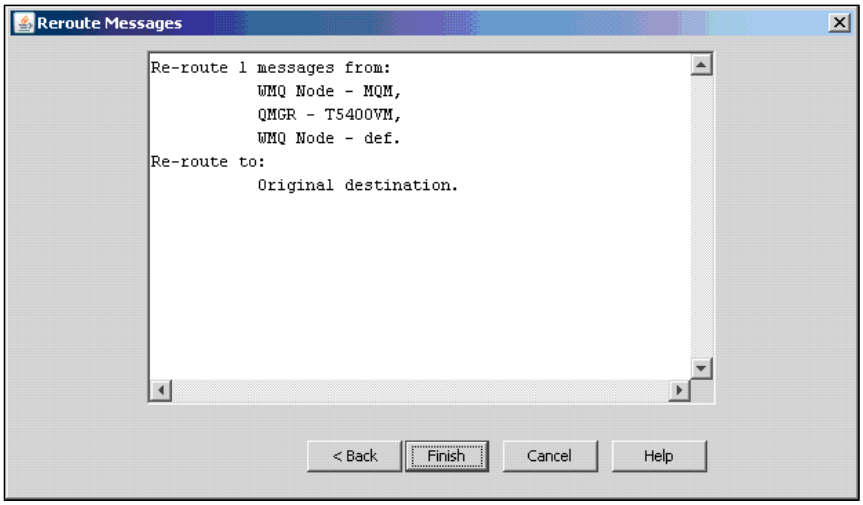


*Figure 3-94. Reroute Messages – Finish*

The messages will be re-routed according to the routing policy you specified.

## View Messages Called Out from Messages Tab

To view a message, click the **View Message** button from the *Messages* tab (Figure 3-90) to display the *View Message* dialog box. The *View Message* dialog box enables the user to view selected messages from a queue.

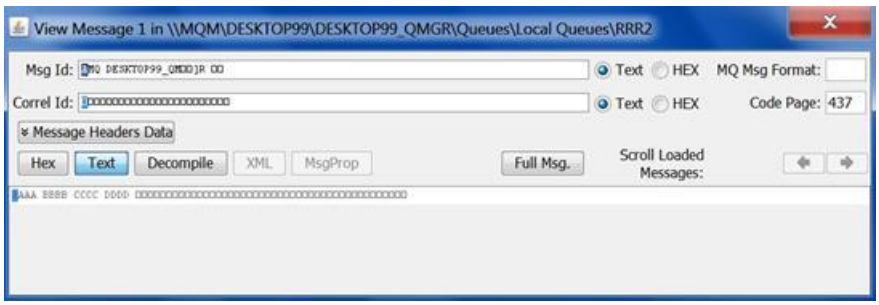


*Figure 3-95. View Message*

**Table 3-36. View Message**

| Control | Description | States and Conditions |
|---|---|---|
| **Message Id** | View message identifier | Always enabled |
| **MQ Msg Format** | View message format | |
| **Correl Id** | View message correlation identifier | |
| **Code Page** | View message coded character set identifier | |
| **Message Headers Data** | View header data (Figure 3-96) | |
| **Hex button** | View message data in hex format | |
| **Text button** | View message data in text format | |
| **Decompile** | View parsed message data (Figure 3-97) using a parser added by the Administrator. (Refer to section 3.4.4, Custom Libraries.) | |
| **XML button** | View message data in XML format | Enabled if message is written in XML format |
| **MsgProp** | View message properties | Enabled if message contains properties data |
| **Full Msg.** | View full message | Always enabled |
| **Scroll Loaded Messages button** | Scroll to next or previous message | Based on message location |

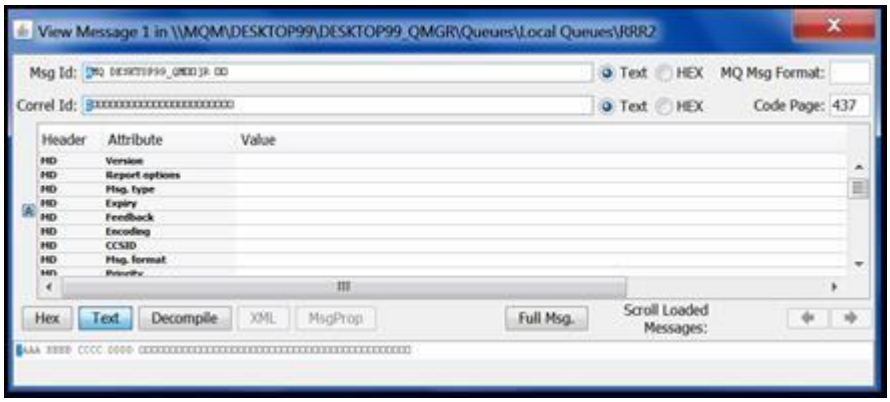


*Figure 3-96. View Message Header*

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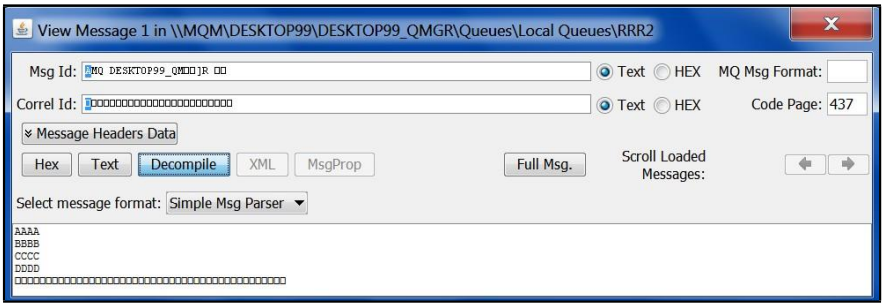


*Figure 3-97. View Message - Decompile*

## Edit Messages Called Out from Messages Tab

Refer to Figure 3-105, Edit Message.

## Load Messages Rules

To load a message, click the **Load from file** button from the *Messages* tab (Figure 3-90). A message displays (Figure 3-98) allowing you use the default settings or configure new settings.

- Click **OK**, opens an *Open* screen (Figure 3-99), where you can select one or more source files.
- Click **Configure** opens the *Edit Using Settings* dialog box (Figure 3-100) where you can set the load rules. After specifying the *Load Message Rules* and clicking **OK**, an *Open* screen (Figure 3-99) opens. The user can set a path and choose where the message will be loaded.


*Figure 3-98. Load Message Rules*

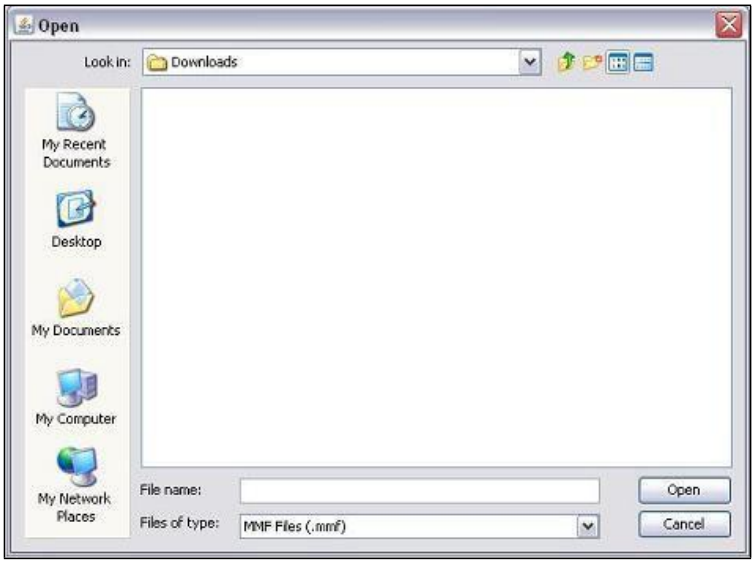


*Figure 3-99. Open*

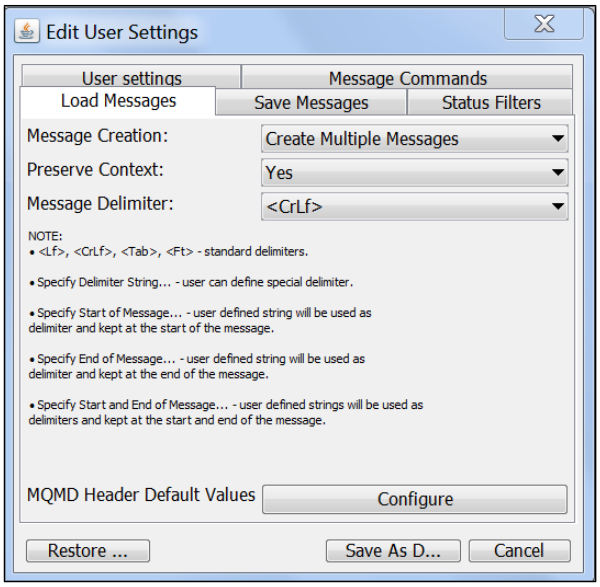


*Figure 3-100. Load Messages Tab*

**Table 3-37. Load Messages**

| Control | Description | States and Conditions |
|---|---|---|
| **Message Creation** | Specified Create Singe Message or Create Multiple Messages. | Always enabled. |
| **Preserve Context** | Allows the user to load messages preserving context or not. | |
| **Message Delimiter** | Allows the user to choose a message delimiter. The user can:<br>• Specify a standard delimiter (<Lf>, <CrLf>, <Tab>, <Ft>)<br>• Define a new delimiter<br>• Specify a delimiter for the start of the message<br>• Specify a delimiter for the end of the message<br>• Specify delimiters for the start and end of the message | |
| **MQMD Header Default Values** | See Figure 3-106 through Figure 3-110. | |
| **Restore Default** | Restores the default settings. | |
| **Save as Default** | Submits the queue browse options and closes the dialog box. | |
| **Cancel** | Closes dialog box without saving any changes. | Always enabled. |

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## Save Message Rules

To save a message, click the **Save selected to file** button or **Save all to file** from the *Messages* tab (Figure 3-90) to display the *Command settings* dialog box (Figure 3-101). The *Save Message Rules* dialog box guides the user through saving messages to file process. This action consists of three dialog boxes:

- *Command settings* dialogue box (Figure 3-101) to save messages using the default settings
- *Save Messages* tab of *Edit User Settings* (Figure 3-102) to set the save rules,
- *Save* window (Figure 3-103) for creating/choosing a destination file.

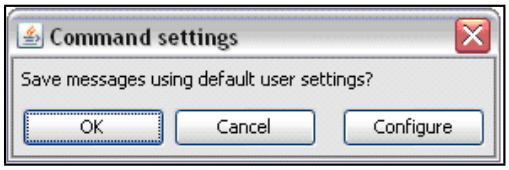


*Figure 3-101. Command Settings – Save Messages*

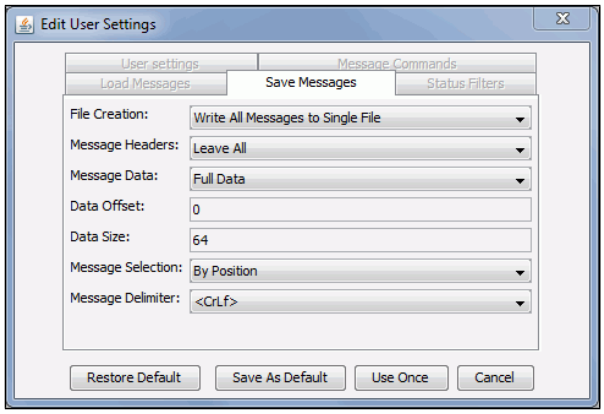


*Figure 3-102. Save Message Rules*

| Table 3-38. Save Message Rules | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **File Creation** | Specifies Write All Messages to Single File or Write Each Message to Separate File | Always enabled. |
| **Message Headers combo box** | Specifies if message headers should be saved to the file or not. | |
| **Message Data combo box** | Defines if all message data will be saved to a file or only part of it. | |
| **Data Offset field** | Specifies data offset position. | Enabled only when Message Data combo box is set to SELECTED_ DATA value. |
| **Data Size field** | Specifies maximum data sizes that have to be saved to a file. | |
| **Message Selection** | By Position or By Identity<br>**Message Identity** (Message ID, Correlation ID, Put Date, Put Time) – This is precise method. The only disadvantage of this method is that many messages could have the same Message Identity.<br>**Message Position –** This method is suitable if there are multiple messages with the same Message Identity. The disadvantage of this method is that message position might change within a queue. | Always enabled. |
| **Message Delimiter** | Allows the user to choose a message delimiter. | |

After specifying *Save Message R*ules and clicking **OK,** a customary *Save* screen (Figure 3-103) opens. The user can set a path and choose or create a file where the message will be saved. The user must provide a name for the file and can select a file format (if message will be saved in a new file).

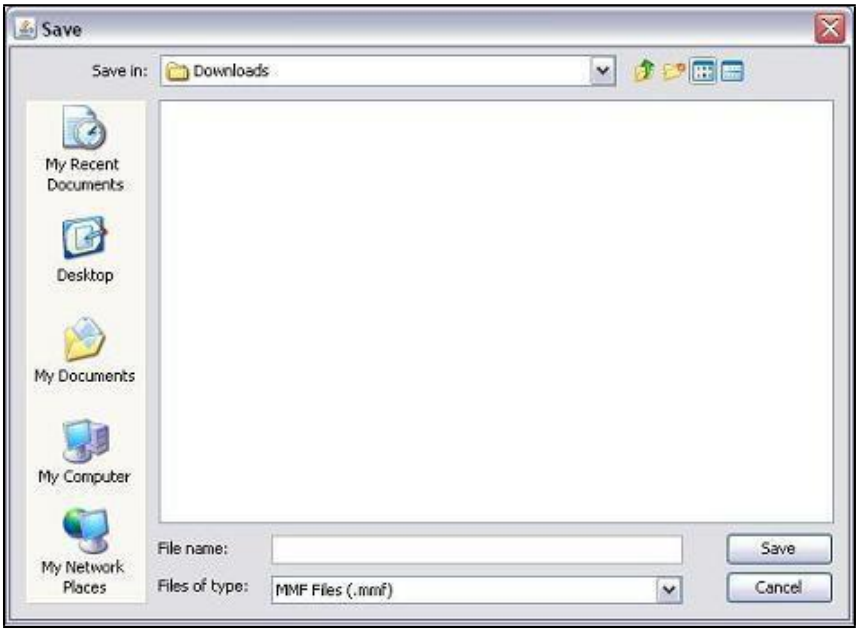


*Figure 3-103. Save Dialog Window*

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## Configuring Messages Information Table Columns

The *Columns Selector* window is displayed when the **Select Columns** button in the *Messages* tab (Figure 3-90) is clicked. This window enables the user to select the preferred messages information table columns. Column names that are placed on the *Shown columns and order* list become available in the **Messages** tab.

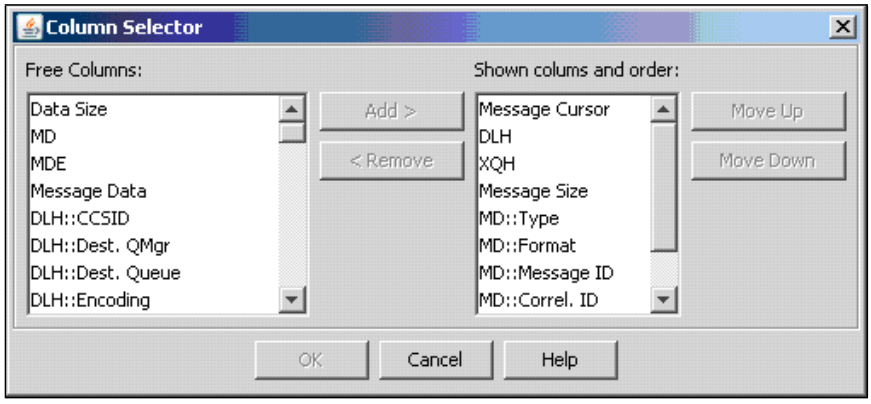


*Figure 3-104. Column Customizer Detail Box*

**Table 3-39. Column Customizer**

| Control | Description | States and Conditions |
|---|---|---|
| **Free columns** | Lists all hidden, but available to view, table column names in alphabetical order. | Always enabled. |
| **Shown columns and order** | List user selected table column names and column order in table. | |
| **Add button** | Adds selected columns to *Shown columns* list and removes column from *Free columns* list. User can select more than one column by holding CTRL or SHIFT key and selecting desired columns names. | Enabled when at least one list item in *Free columns* list is selected. |
| **Remove button** | Removes selected columns from *Shown columns* list and adds them to *Free columns* list. User can select more than one column by holding CTRL or SHIFT key and selecting desired columns names. | Enabled when at least one list item in *Shown columns* list is selected. |
| **Move Up button** | Moves selected column up in *Shown columns* list. Column index in list defines column place in table. | Enabled when only one *Shown columns* list item is selected and selected item isn't the first one in list. |
| **Move Down button** | Moves selected column down in *Shown columns* list. | Enabled when only one *Shown columns* list item is selected and selected item isn't the last one in list. |

## Edit Message Details

The *Edit Message* dialog box is displayed when the user selects a message and clicks the **Edit Message** button  on the **Messages** tab (Figure 3-90). This window allows the user to edit the information and data of the message.

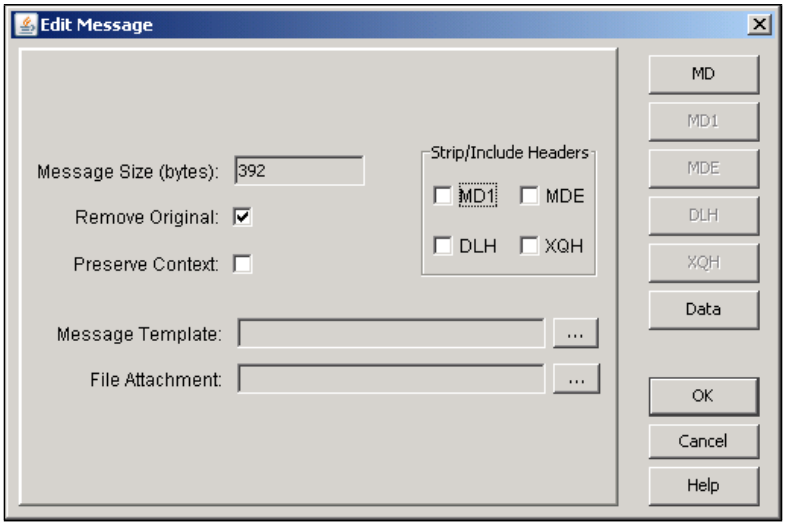


*Figure 3-105. Edit Message*

| Table 3-40. Edit Message | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Message size field** | Displays size of message without headers. | Always enabled. |
| **Remove Original checkbox** | If checked, removes all original message headers when submitted. | |
| **Message Template field** | Provides name of message template | |
| **File Attachment field** | Input file name to attach to this message. | |
| **Strip/Include Header checkboxes** | Selects which header(s) will be available in the message. | |
| **MD button** | Displays *Message Descriptor Properties* dialog box where user can view/edit MD header of message (Figure 3-106 through Figure 3-110). | Enabled only if MD1 checkbox is *not* selected. |
| **MD1 button** | Displays *Message Descriptor Properties* dialog box where user can view/edit MD1 header of message (Figure 3-106 through Figure 3-110). | Enabled only if MD1 checkbox is selected. |
| **MDE button** | Displays *Message Descriptor Extension* dialog box where user can edit MDE header of message (Figure 3-111). | Enabled only if MDE checkbox is selected. |
| **DLH button** | Displays *Dead Letter Queue Header* dialog box where user can view/edit DLH header of message (Figure 3-112). | Enabled only if DLH checkbox is selected. |
| **XQH button** | Displays *Transmission Queue Header* dialog box where user can view/edit DLH header of message (Figure 3- | Enabled only if XQH checkbox is selected. |
| **Data button** | Displays *Message Data* dialog box where user can view/edit message data (Figure 3-114). | Always enabled. |

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## Message Descriptor Properties

*Message Descriptor Properties* dialog box is used to view/edit MD and MD1 message headers. Window appears when **MD** or **MD1** buttons are pressed on the *Edit Message* screen and when **Configure** is pressed from the *Edit User Settings – Load Messages* tab (Figure 3-100).

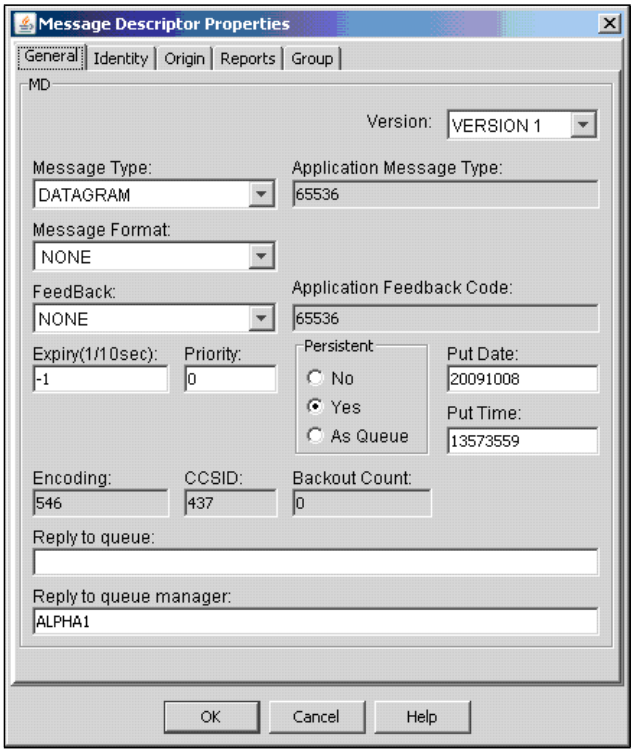


*Figure 3-106. Message Descriptor Properties: General*

| Table 3-41. Message Descriptor Properties: General Tab | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Version combo box** | Select MD version from the list. | Always enabled. |
| **Message Type combo box** | Select message type from the list. | |
| **Message Format combo box** | Select message format from the list. | |
| **FeedBack combo box** | Select message feedback code from the list. | |
| **Application Message Type field** | Input application message type. | Editable only if APPLICATION message type is selected in Message Type menu. |
| **Application Feedback Code field** | Input application feedback code. | Editable only if APPLICATION feedback code is selected in FeedBack menu. |
| **Expiry field** | Input message expiry. | Always enabled. |
| **Priority field** | Input message priority. | |
| **Persistent radio buttons** | Set message persistence. | |
| **Put Date field** | Provides date when message was put. | Read only. |
| **Put Time field** | Provides time when message was put. | |
| **Encoding field** | Provides message data encoding. | |
| **CCSID field** | Provides message coded character set identifier. | |
| **Backout Count field** | Provides backout counter. | |
| **Reply to queue field** | Input name of a message queue to which the reply or report message should be | Always enabled. |
| **Reply to queue manager field** | Input name of the queue manager to which the reply or report message should be sent. | |

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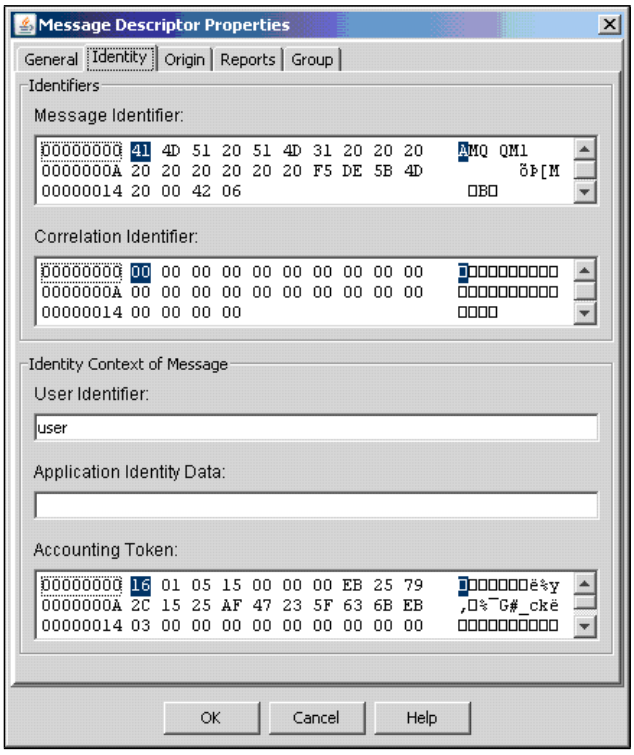


*Figure 3-107. Message Descriptor Properties: Identity*

| Table 3-42. Message Descriptor Properties: Identity Tab | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Message Identifier** | Edit message identifier. | Always enabled. |
| **Correlation Identifier** | Edit message correlation identifier. | |
| **User Identifier field** | Enter user identifier. | |
| **Application Identity Data field** | Enter application identity data. | |
| **Accounting Token** | Edit message accounting token. | |


*Figure 3-108. Message Descriptor Properties: Origin*

**Table 3-43. Message Descriptor Properties: Origin Tab**

| Control | Description | States and Conditions |
|---|---|---|
| **Put Application Type field** | Input put application type. | Always enabled. |
| **Application Origin Data field** | Input application origin data. | |
| **Put Application Name field** | Input put application name. | |

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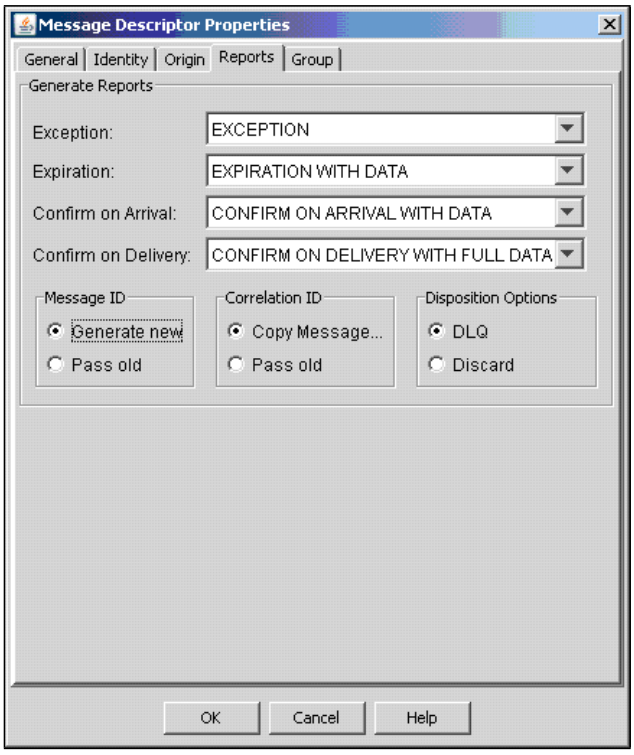


*Figure 3-109. Message Descriptor Properties: Reports*

**Table 3-44. Message Descriptor Properties: Reports Tab**

| Control | Description | States and Conditions |
|---|---|---|
| **Exception combo box** | Select an exception report message type from the list. | Always enabled. |
| **Expiration combo box** | Select an expiration report message type from the list. | |
| **Confirm on Arrival combo box** | Select confirm-on-arrival report message type from the list. | |
| **Confirm on Delivery combo box** | Select confirm-on-delivery report message type from the list. | |
| **Message ID radio buttons** | Specify how the Message ID of the report message (or the reply message) is to be set. | |
| **Correlation ID radio buttons** | Specify how the Correlation ID of the report message (or the reply message) is to be set. | |
| **Disposition Options radio buttons** | Specify message disposition type when a message cannot be delivered to its destination queue. | |

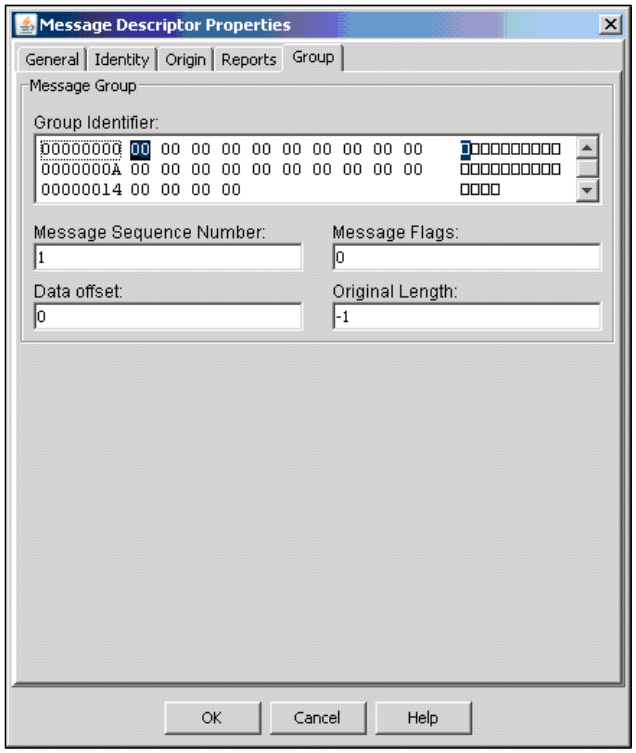


*Figure 3-110. Message Descriptor Properties: Group*

| | | |
|---|---|---|
| | **NOTE:** | If it is MD1 or XQH::EMD header, then the Group tab is removed. |

**Table 3-45. Message Descriptor Properties: Group Tab**

| Control | Description | States and Conditions |
|---|---|---|
| **Group Identifier** | Edit group identifier. | Always enabled. |
| **Message Sequence Number field** | Input sequence number of logical message within group. | |
| **Data Offset field** | Input offset of data in physical message from start of logical message. | |
| **Message Flags field** | Input message flags. | |
| **Original Length field** | Input length of original message. | |

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## Message Descriptor Extension

*Message Descriptor Extension* screen is used to view/edit MDE message header. The screen is displayed when **MDE** button is pressed.

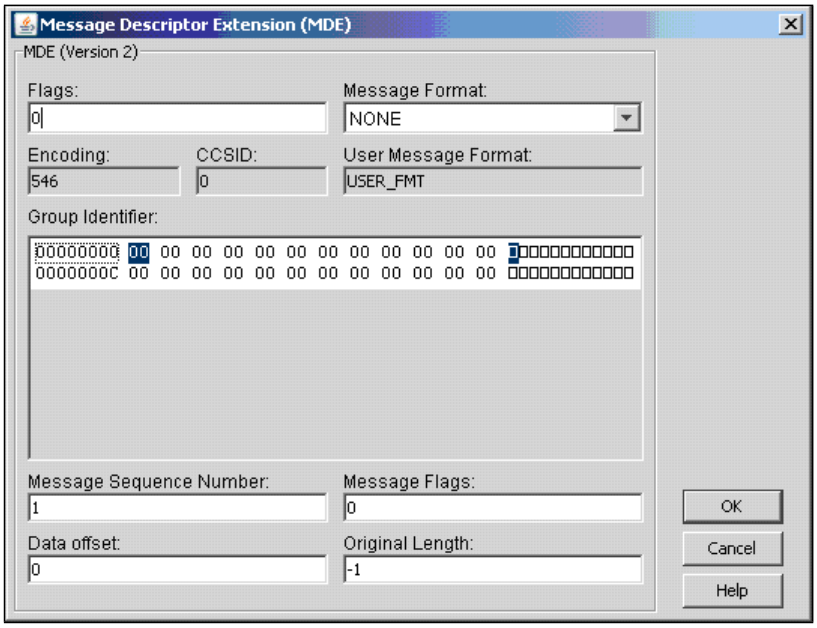


*Figure 3-111. Message Descriptor Extension*

| Table 3-46. Message Descriptor Extension | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Flags field** | Input general flags. | Always enabled. |
| **Message Format combo box** | Select message format from list | |
| **Encoding field** | Provide message data encoding. | |
| **CCSID field** | Provide message coded character set identifier. | |
| **User Message Format field** | Input custom message format. | Editable only if *User message format* is selected in Message Format combo |
| **Group Identifier field** | Edit group identifier | Always enabled. |
| **Message Sequence Number field** | Input sequence number of logical message within group. | |
| **Data Offset field** | Input offset of data on physical message from start of logical message. | |
| **Message Flags field** | Input flags that specify attributes of the message. | |
| **Original Length field** | Input length of original message. | |

## Dead Letter Queue Header

*Dead Letter Queue Header* dialog box is used to view/edit the DLH message header. The screen is displayed when the **DLH** button is pressed.

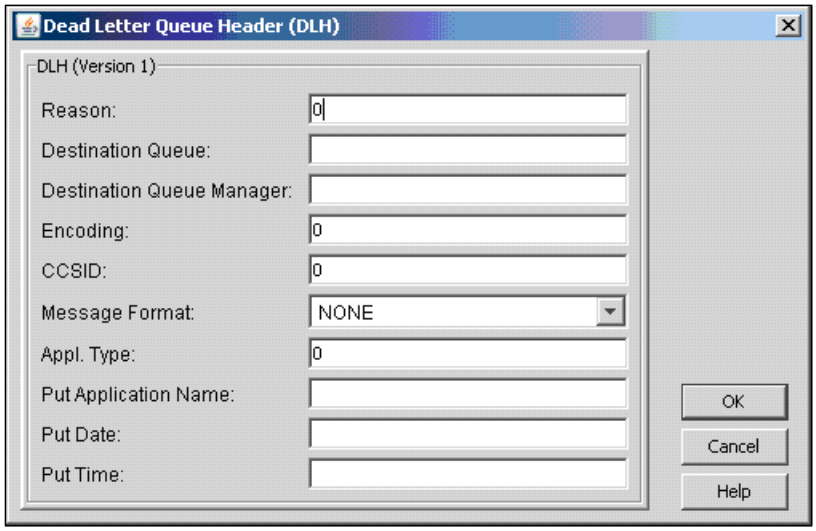


*Figure 3-112. Dead Letter Queue Header*

| Table 3-47. Dead Letter Queue Header | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Reason field** | Input reason code. | Always enabled. |
| **Destination Queue field** | Input name of destination queue. | |
| **Destination Queue Manager field** | Input name of destination queue manager. | |
| **Encoding field** | Specify message data encoding. | |
| **CCSID field** | Specify message coded character set identifier. | |
| **Message Format combo box** | Select message format from the list. | |
| **Appl. Type field** | Input put application type. | Always enabled. |
| **Put Application Name field** | Input put application name. | |
| **Put Date field** | Provides date when message was put. | |
| **Put Time field** | Provides time when message was put. | |

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## Transmission Queue Header

*Transmission Queue Header* screen is used to view/edit the XQH message header. This screen is displayed when the **XQH** button is pressed.

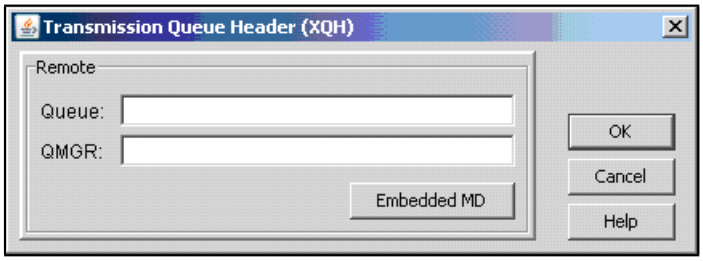



*Figure 3-113. Transmission Queue Header*

| Table 3-48. Transmission Queue Header | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Queue field** | Input name of destination queue. | Always enabled. |
| **QMGR field** | Input name of destination queue manager. | |
| **Embedded MD button** | Displays *Message Descriptor Properties* dialog box in order to edit embedded message descriptor. (See Figure 3-106 through Figure 3-110.) | |

## Message Data

*Message Data* screen is used to view/edit the message data and is displayed when **Data** button is pressed on the *Edit Message* screen.

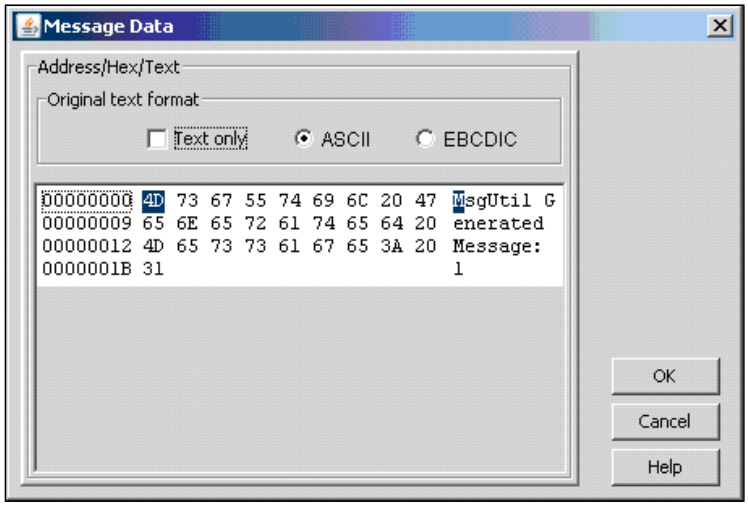
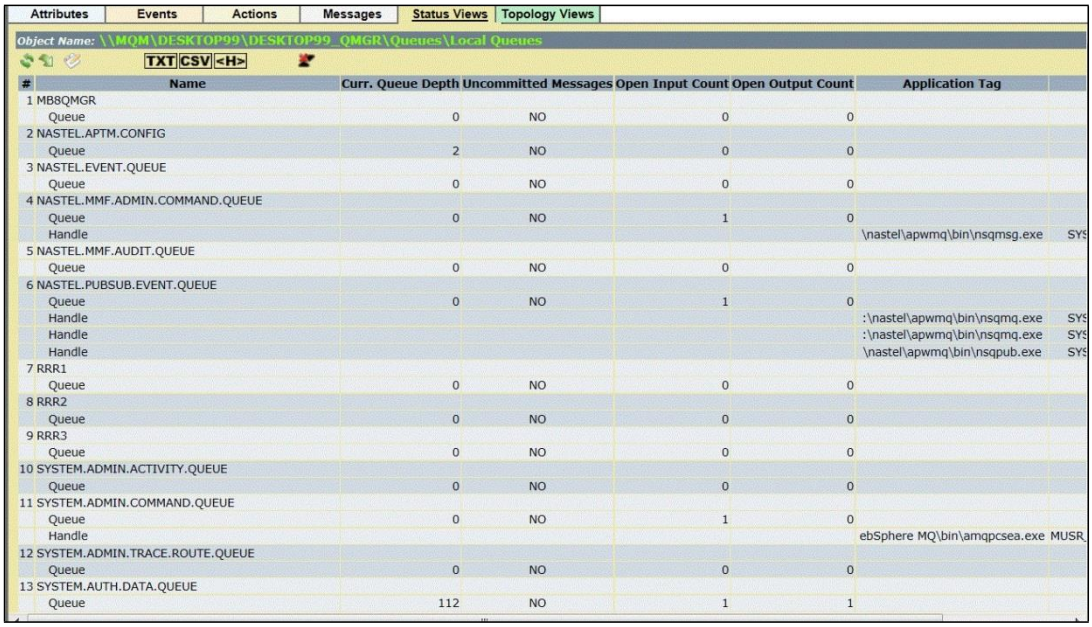



*Figure 3-114. Message Data*

| Table 3-49. Message Data | | |
|---|---|---|
| **Control** | **Description** | **States and Conditions** |
| **Original text format buttons** | Select text format. | Always enabled. |
| **Text only button** | Select plain text. | |
| **Message data** | Edit message data. | |

## 3.3.9 Status Views

The *Status Views* tab displays the properties of the selected queue in the M6-QMP network tree.




| # | Name | Curr. Queue Depth | Uncommitted Messages | Open Input Count | Open Output Count | Application Tag |
|---|---|---|---|---|---|---|
| 1 | MB8QMGR | | | | | |
| | Queue | 0 | NO | 0 | 0 | |
| 2 | NASTEL.APTM.CONFIG | | | | | |
| | Queue | 2 | NO | 0 | 0 | |
| 3 | NASTEL.EVENT.QUEUE | | | | | |
| | Queue | 0 | NO | 0 | 0 | |
| 4 | NASTEL.MMF.ADMIN.COMMAND.QUEUE | | | | | |
| | Queue | 0 | NO | 1 | 0 | |
| | Handle | | | | | \nastel\apwmq\bin\nsqmsg.exe SYS |
| 5 | NASTEL.MMF.AUDIT.QUEUE | | | | | |
| | Queue | 0 | NO | 0 | 0 | |
| 6 | NASTEL.PUBSUB.EVENT.QUEUE | | | | | |
| | Queue | 0 | NO | 1 | 0 | |
| | Handle | | | | | :\nastel\apwmq\bin\nsqmq.exe SYS |
| | Handle | | | | | :\nastel\apwmq\bin\nsqmq.exe SYS |
| | Handle | | | | | \nastel\apwmq\bin\nsqpub.exe SYS |
| 7 | RRR1 | | | | | |
| | Queue | 0 | NO | 0 | 0 | |
| 8 | RRR2 | | | | | |
| | Queue | 0 | NO | 0 | 0 | |
| 9 | RRR3 | | | | | |
| | Queue | 0 | NO | 0 | 0 | |
| 10 | SYSTEM.ADMIN.ACTIVITY.QUEUE | | | | | |
| | Queue | 0 | NO | 0 | 0 | |
| 11 | SYSTEM.ADMIN.COMMAND.QUEUE | | | | | |
| | Queue | 0 | NO | 1 | 0 | |
| | Handle | | | | | ebSphere MQ\bin\amqpcsea.exe MUSR |
| 12 | SYSTEM.ADMIN.TRACE.ROUTE.QUEUE | | | | | |
| | Queue | 0 | NO | 0 | 0 | |
| 13 | SYSTEM.AUTH.DATA.QUEUE | | | | | |
| | Queue | 112 | NO | 1 | 1 | |

*Figure 3-115. Status Views*

## 3.3.10 Topology Views

The *Topology Views* tab (Figure 116) displays a view-only graphic representation of the environment. It shows how the queues are connected. Hover your mouse over the graphic to view popup labels. The diagram can be exported to Visio by clicking the export button.

Please note that the **Name Mask** field defaults to "*" meaning everything. However, when using this filter field, an asterisk can NOT be used in conjunction with other characters. If an asterisk is used, unexpected results will occur.

| | | |
|---|---|---|
|  | **NOTES:** | 1. Topology Views is a work in progress and changes/improvements are being made. Nastel looks forward to your comments and suggestions on how to improve this tool.<br>2. Topology uses SVG graphic images. Therefore you should use a recent browser such as IE9, Chrome, or Firefox. For IE8, you can download a third-party SVG package, such as the Adobe SVG Viewer, which while no longer supported by Adobe has been certified for topology. |

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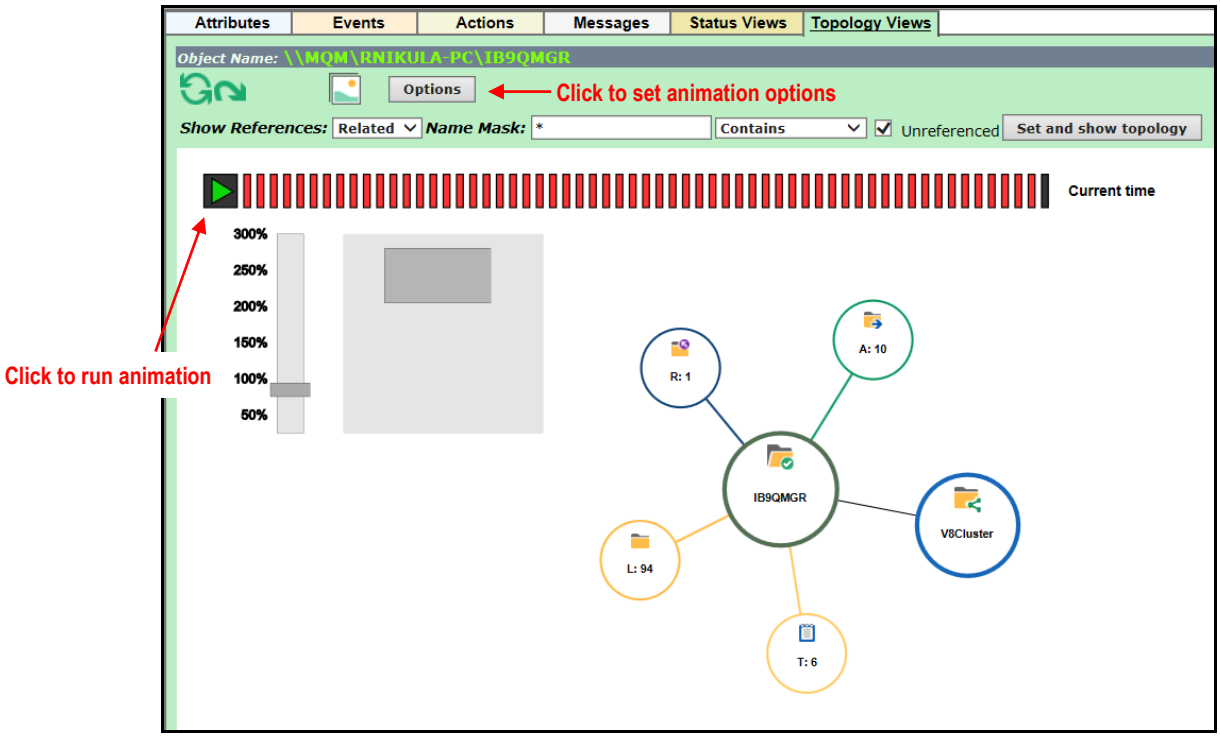


*Figure 3-116. Topology Views*

Queues and topics are indicated by the following letters:

- **A** = alias queue
- **L** = local queue
- **R** = remote queue
- **T** = topics.

The number of queues or topics is indicated by the number to the right of the colon. For example **A:14** means there are 14 alias queues.

To highlight the message path, press **Shift** + click on a queue. The message path is highlighted in yellow as shown in the figure below.

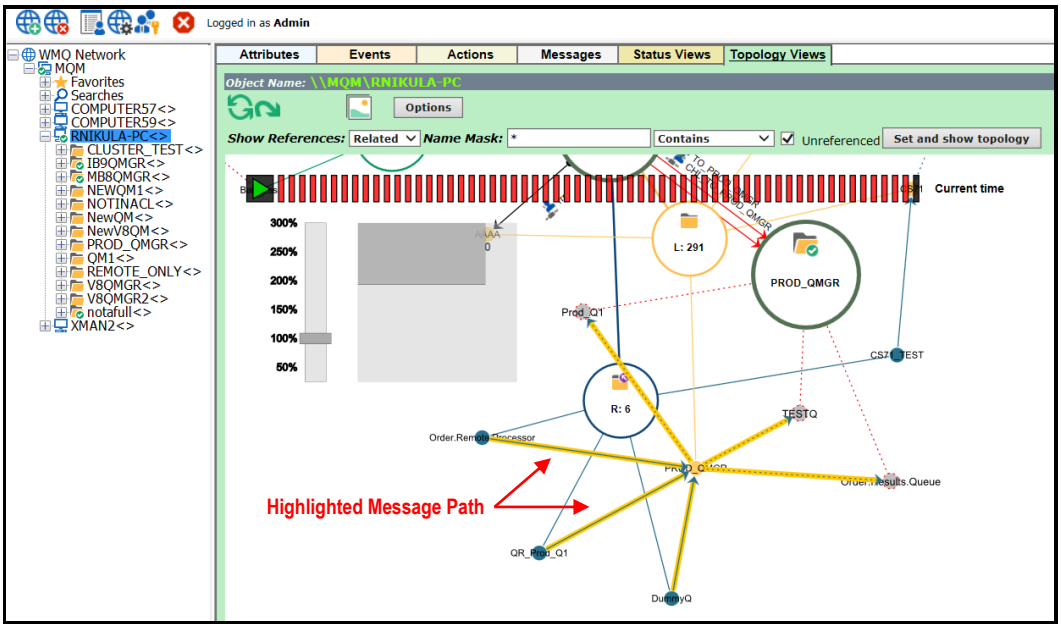


*Figure 3-117. Message Path Highlighted*

## Animation

The topology animation is based on the options the user selects. To set options, click the **Options** button to display the *Topology animation options* dialog box. After options are set, click the start button to run the animation.

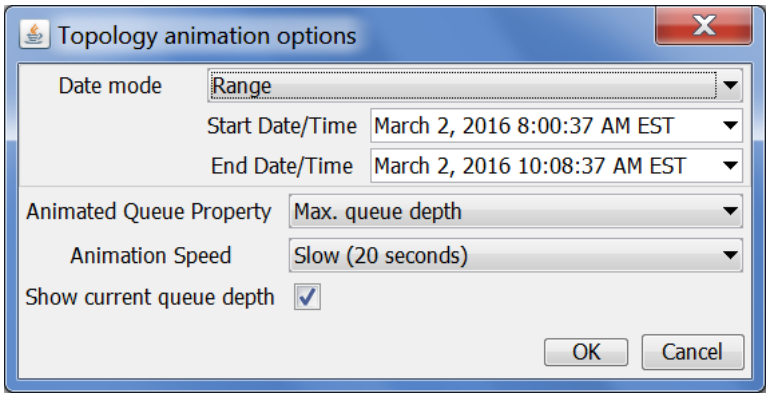


*Figure 3-117A. Topology Animation Options Dialog Box*

**Table 3-50. Topology Animation Options**

| Control | Description |
|---|---|
| Date mode | From the drop-down list select **Last hour, Last 3 hours, Last 6 hours**, or **Range**. If **Range** is selected, the **Start** and **End Date/Time** fields are displayed and you can select a custom range. |
| Start Date/Time | Select start date from the calendar widget and use the up/down arrows to set the time. |
| End Date/Time | Select end date from the calendar widget and use the up/down arrows to set the time. |
| Animated Queue Property | From the drop-down list, select what you want to animate: **Max. queue depth, Puts count** (messages arrived)**,** or **Put get delta** (difference between the messages read and the messages arrived; that is the absolute value between the puts and the gets). |
| Animation Speed | Select **Fast, Normal,** or **Slow** from the drop-down list. |
| Show current queue depth | If selected, current queue depth is shown (recommended). |

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## 3.3.11 z/OS Reports

For z/OS queue managers, you can generate reports about the selected queue manager. To generate a report:

1. Right-click the queue manager, then select **Commands > z/OS Reports**.

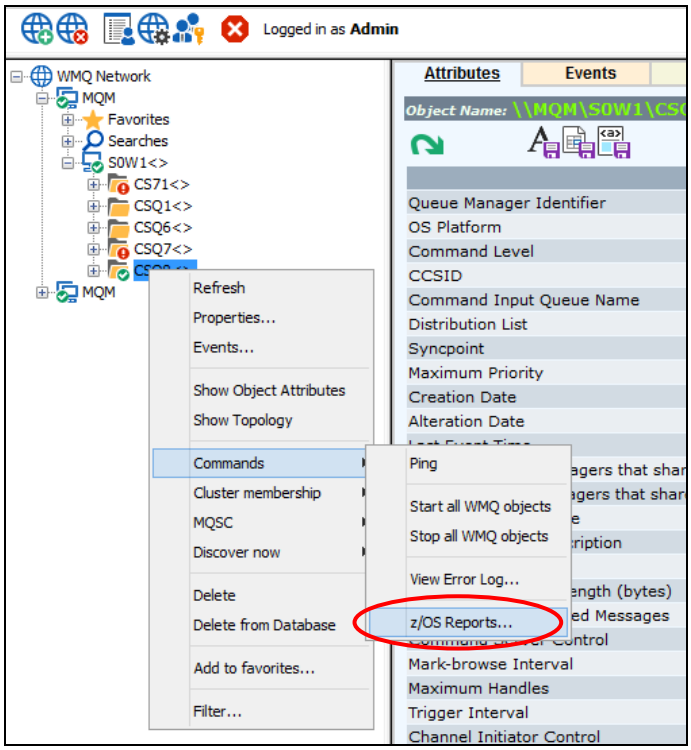


*Figure 3-117B. z/OS Reports Menu*

2. A *z/OS Reports* screen for the queue manager is displayed.

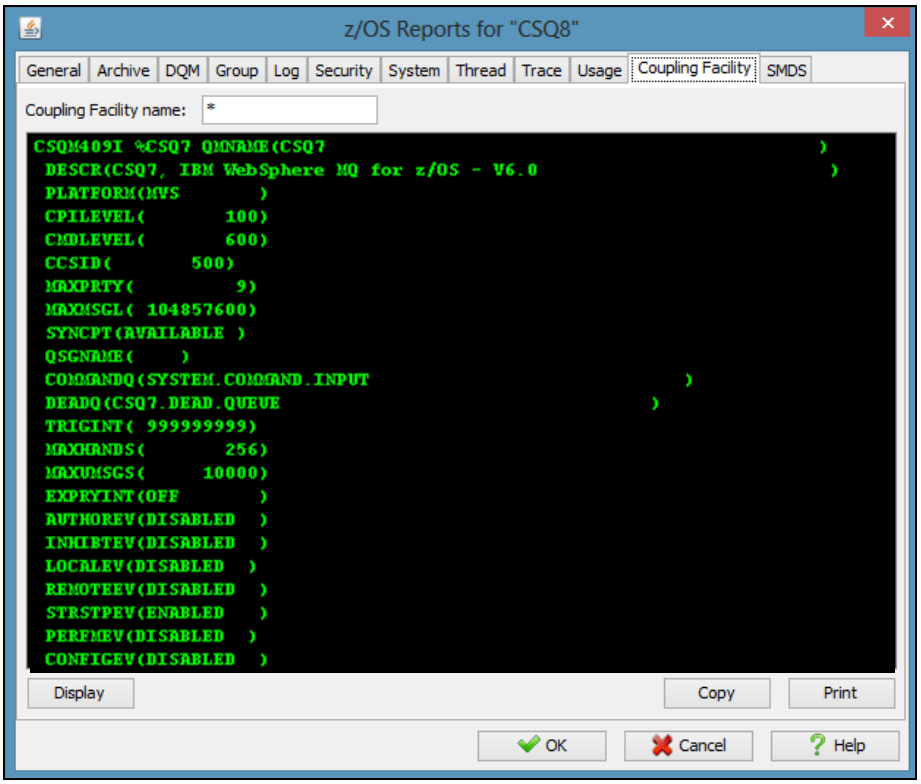


*Figure 3-117C. z/OS Reports Screen – General Tab*

There are 12 tabs, each displaying a report as described in Table 3-51. The buttons at the bottom of each screen allow you to **Print** the contents of the screen or to **Copy** it to a file.

**Table 3-51. z/OS Reports**

| Report (Tab) | Description |
|---|---|
| General | Displays the parameters of the selected queue manager. |
| Archive | Displays archived information. |
| DQM | Displays information about the channel initiator. The DISPLAY DQM command publishes a report about the current status of the channel initiator:<br>• Whether the channel initiator is running or not<br>• Which listeners are started and information about them<br>• How many dispatchers are started and how many were requested<br>• How many adapter subtasks are started and how many were requested<br>• How many SSL subtasks are started and how many were requested<br>• The TCP system name<br>• How many channel connections are current and whether they are active, stopped, or retying<br>• The maximum number of current connections |
| Group | Displays information about the queue-sharing group to which the queue manager is connected. The DISPLAY GROUP command publishes a report about the queue-sharing group to which the queue manager is connected:<br>• The name of the queue-sharing group<br>• Whether all the queue managers that belong to the group are active or inactive<br>• The names of all the queue managers that belong to the group |
| Log | Displays archive log information. The DISPLAY LOG command publishes a report that shows the initial log parameters, and the current values as changed by the SET LOG command:<br>• Length of time that an allowed archive read tape unit remains unused before it is deallocated (DEALLCT).<br>• Size of input buffer storage for active and archive log data sets (INBUFF).<br>• Size of output buffer storage for active and archive log data sets (OUTBUFF).<br>• Maximum number of dedicated tape units that can be set to read archive log tape volumes (MAXRTU).<br>• Maximum number of archive log volumes that can be recorded (MAXARCH).<br>• Whether archiving is on or off (OFFLOAD).<br>• Whether single or dual active logging is being used (TWOACTV).<br>• Whether single or dual archive logging is being used (TWOARCH).<br>• Whether single or dual BSDS is being used (TWOBSDS).<br>• Number of output buffers to be filled before they are written to the active log data sets (WRTHRSH).<br>It also returns a report about the status of the logs. |
| Security | Displays the current settings for the security parameters:<br>• Timeout – the timeout value<br>• Interval – The time interval between checks<br>• Switches – Displays the current setting of the switch profile. If the subsystem security switch is off, no other switch profile settings are displayed. |

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**Table 3-51. z/OS Reports**

| Report (Tab) | Description |
|---|---|
| System | Displays system information. The DISPLAY SYSTEM command publishes a report that shows the initial values of the system parameters and the current values as changed by the SET SYSTEM command:<br>• Default user ID for command security checks (CMDUSER).<br>• Maximum number of connections from batch, CICS, IMS, and TSO tasks to a single instance of WebSphere MQ (CTHREAD).<br>• Time, in seconds, for which queue manager exits can execute during each invocation (EXITLIM).<br>• How many started server tasks to use to run queue manager exits (EXITTCB).<br>• Maximum number of connections to a single instance of WebSphere MQ from batch or TSO background tasks (IDBACK).<br>• Maximum number of connections to a single instance of WebSphere MQ from TSO foreground tasks (IDFORE).<br>• Number of log records written by WebSphere MQ between the start of one checkpoint and the next (LOGLOAD).<br>• The OTMA connection parameters (OTMACON).<br>• Whether queue manager restart waits until all indexes are built, or completes before all indexes are built (QINDXBLD).<br>• Coded character set identifier for the queue manager (QMCCSID).<br>• The queue-sharing group parameters (QSGDATA).<br>• The RESLEVEL auditing parameter (RESAUDIT).<br>• The message routing code assigned to messages not solicited from a specific console (ROUTCDE).<br>• Whether SMF accounting data is collected when WebSphere MQ is started (SMFACCT).<br>• Whether SMF statistics are collected when WebSphere MQ is started (SMFSTAT).<br>• Default time, in minutes, between each gathering of statistics (STATIME).<br>• Whether tracing is started automatically (TRACSTR).<br>• Size of trace table, in 4 KB blocks, to be used by the global trace facility (TRACTBL).<br>• Time, in minutes, between scanning the queue index for WLM-managed queues (WLMTIME). |
| Thread | Displays information about active and in-doubt threads. The parameters are:<br>• Thread Type – The type of thread to display. This parameter is optional.<br>• Active – Display only active threads. An active thread is one for which a unit of recovery has started but not completed. Resources are held in WebSphere MQ on its behalf.<br>• Indoubt – Display only in-doubt threads. An in-doubt thread is one that is in the second phase of the two-phase commit operation. Resources are held in WebSphere MQ on its behalf. External intervention is needed to resolve the status of in-doubt threads. You might only have to start the recovery coordinator (CICS, IMS, or RRS), or you might need to do more. They might have been in doubt at the last restart, or they might have become in doubt since the last restart.<br>• Regions – Display a summary of active threads for each active connection.<br>• * (asterisk) – Display both active and in-doubt threads, but not regions. If, during command processing, an active thread becomes in doubt, it might appear twice: once as active and once as in doubt. |

| Table 3-51. z/OS Reports | |
|---|---|
| **Report (Tab)** | **Description** |
| | • Queue Manager Name – Specifies that WebSphere MQ should check whether the designated queue manager is INACTIVE, and if so, report any shared units of work that were in progress on the designated and inactive queue manager. This option is valid only for in-doubt type of threads. |
| Trace | Displays a list of active traces. |
| Usage | Displays information about the current state of a page set, or to display information about the log data sets. |
| Coupling Facility | Display the attributes of one or more CF application structures. |
| SMDS | Displays the parameters of existing WebSphere MQ shared message data sets associated with a specified application structure. |

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# 3.4 Administration

Login credentials are required to access this feature.

Click the **Administration** icon  to go to the *Administration* login screen.


*Figure 3-118. Administration Login*

1. Enter your assigned **Login** ID and **Password**. The default values are as follows, but should be changed. (See Figure 3-126 to change.)
   - **Login** – Admin
   - **Password** – admin
2. Click **Login** to display the *AutoPilot On-Demand for WebSphere MQ Administration* screen.

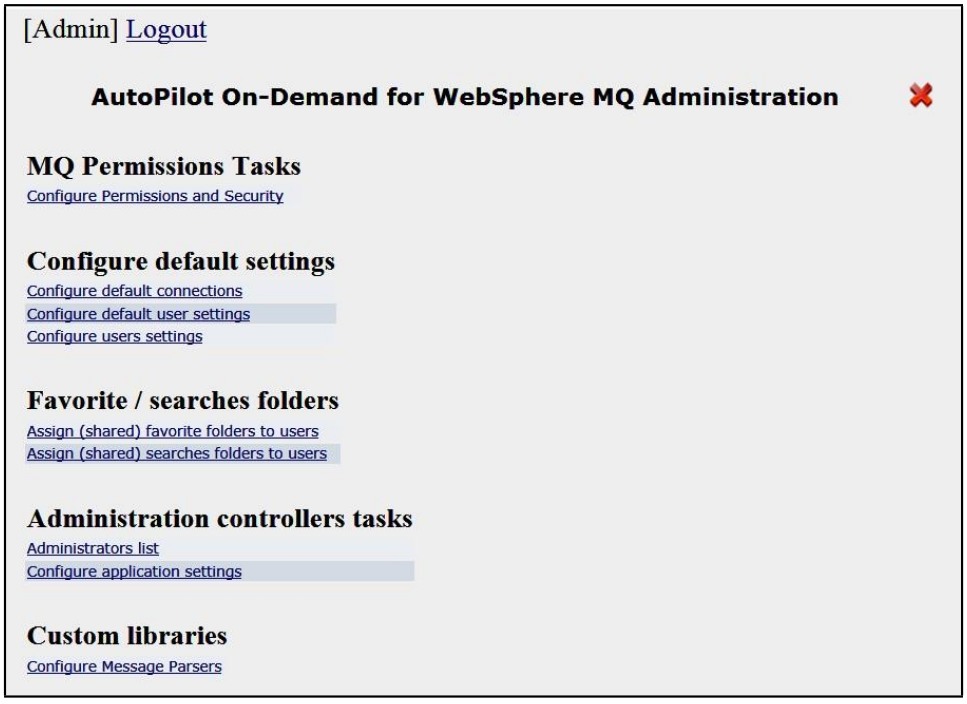


*Figure 3-119. Administration*

Refer to Table 3-52 for a description of the options available on this screen.

| Table 3-52. Permissions | |
|---|---|
| **Control** | **Description** |
| **MQ Permissions Tasks** | |
| **Configure Permissions and Security** | Launches the AutoPilot On-Demand for APWMQ Security Manager. This interface can be launched separately. (Refer to Table A-1 for user documentation.) |
| **Configure default settings (section 3.4.1)** | |
| **Configure default connections** | Allows you to set default connections. |
| **Configure default user settings** | Allows you to set default user settings. |
| **Configure users settings** | Allows you to reset user to the default user settings. |
| **Favorite/searches folders (section 3.4.2)** | |
| **Assign (shared) favorite folders to users** | Allows you to assign favorite folders to users. |
| **Assign (shared) searches folders to users** | Allows you to assign search folders to users. |
| **Administration controllers tasks (section 3.4.3)** | |
| **Administrators list** | Allows you to create or edit Admin users and reset passwords. |
| **Configure application settings** | Allows you to configure application settings. |
| **Custom libraries (section 3.4.4)** | |
| **Configure message parsers** | Allows you to configure message parser files. |

## 3.4.1 Configure Default Settings

1. Click **Configure default connections** to go to the *Workgroup Server Connections Handler* dialogue box. See section 3.3.1.2 for a description of this function.
2. Click **Configure default user settings** to go to the *Edit User Settings* dialog box. See section 3.3.1.3 for a description of this function.
3. Click **Configure users settings** to go view the users that have connected to the application and the rights assigned. Their options can be reset to defaults or deleted. (See Figure 3-120.)

   When you click **Configure users settings** from the *Administration* screen (Figure 3-119), the *Users list* screen is displayed. This is a list of users who can login to APODWMQ. From here you can view the user record, reset the user to default settings, or delete a user.


*Figure 3-120. Users List*

Click the green arrow  to return to the previous page.

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## 3.4.2 Favorite/Searches Folders

### 3.4.2.1 Assign Favorites Folders

1. Click **Assign (shared) favorite folders** from the *Administration* screen (Figure 3-119), to go to the *Assign favorite folders* screen (Figure 3-121).

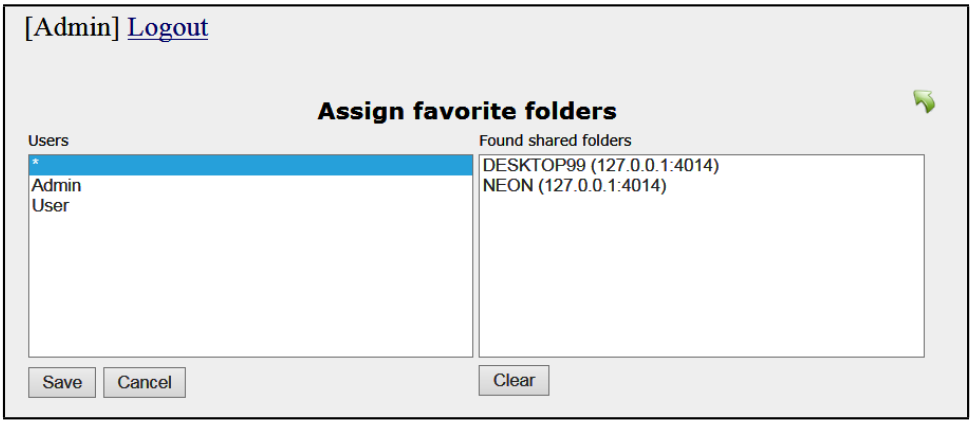


*Figure 3-121. Assign Favorite Folders*

2. From the **Users** list, select the user you want to assign one or more favorite folders to.
3. From the **Found shared folders** list, select one or more folders. Press the **Shift** key to select more than one folder.
4. Click **Save**.
5. Click the green arrow  to return to the previous page.

| | | |
|---|---|---|
|  | **NOTE:** | To remove a favorite, click **Clear**. |

### 3.4.2.2 Assign Favorite Searches

1. Click **Assign (shared) favorite searches** from the *Administration* screen (Figure 3-119), to go to the *Assign favorite searches* screen (Figure 3-122).

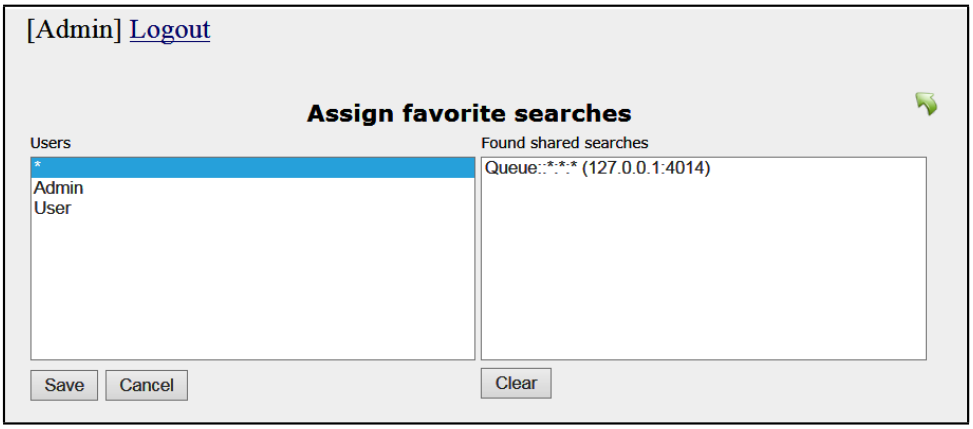


*Figure 3-122. Assign Favorite Searches*

2. From the **Users** list, select the user you want to assign one or more searches to.
3. From the **Found shared searches** list, select one or more searches. Press the **SHIFT** key to select more than one search.

4. Click **Save**.
5. Click the green arrow  to return to the previous page.

| | | |
|---|---|---|
| | **NOTE:** | To remove a search, click **Clear**. |

## 3.4.3 Administration Controllers Tasks

### 3.4.3.1 Administrators List

Click **Administrators list** from the *Administration* screen (Figure 3-119), to view the administrators that have connected to the application. (See Figure 3-123.) Their descriptions and passwords can be reset or the record can be deleted. The default Admin record cannot be deleted.


*Figure 3-123. Administrators Users List*

#### Create Mode

1. Click **Add new** to go to the *Add user* screen.

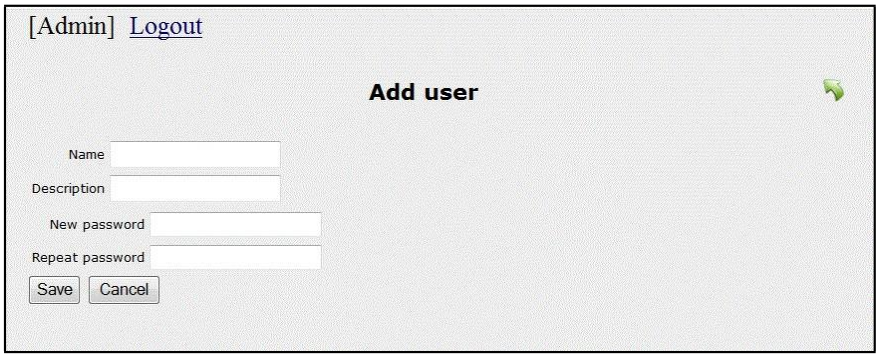


*Figure 3-124. Administrators Add User*

2. Enter the:
   - **Name** – the username
   - **Description** – a brief description of the user
   - **New password** – the password
   - **Repeat password** – enter the password again.
3. Click **Save**. You are returned to the previous screen where you will see the new user listed.

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## Edit Mode (for all users except default Admin)

Click **Edit** from the *Users list* screen (Figure 3-123), to go to the following screen.

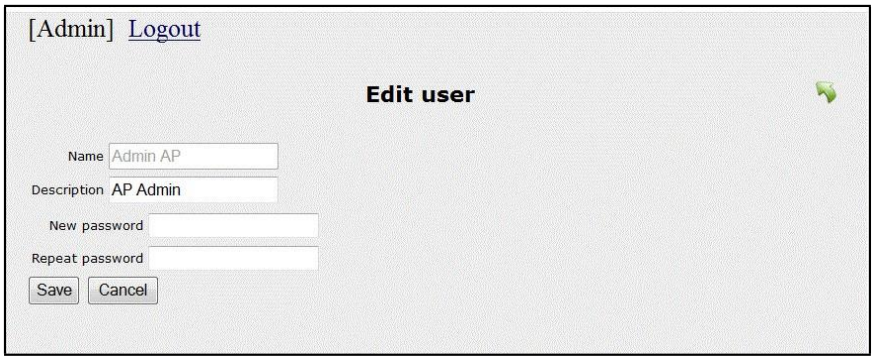


*Figure 3-125. Administrators Edit User*

1. Change the **Description** if needed.
2. To change the password, enter the:
   - **New password** – enter the new password
   - **Repeat password** – re-enter the new password.
3. Click **Save**. You are returned to the previous screen.

## Edit Mode (for default Admin)

Click **Edit** from the *Users list* screen (Figure 3-123), to go to the following screen.

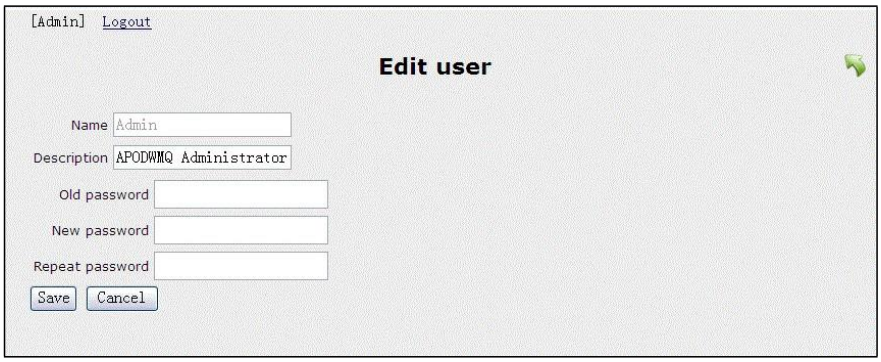


*Figure 3-126. Administrators Edit Default Admin*

1. Change the **Description** if needed.
2. To change the password, enter the:
   - **Old password** – enter the current password
   - **New password** – enter the new password
   - **Repeat password** – re-enter the new password.
3. Click **Save**. You are returned to the previous screen.

### 3.4.3.2 Configure Application Settings

Click **Configure application settings** to go to the default application settings screen (Figure 3-127). This screen allows you to set the following default values:

1. URL for Security Manager
2. Default domain shown on the login screen
3. Maximum limit for browse message options
4. Allowed time between workgroup server responses. If the time between responses is greater than this value, a dialog box is displayed saying the workgroup server is not responding and asking if you want to continue to wait.
5. Allowed time for **Move/Copy/Delete All** functions.

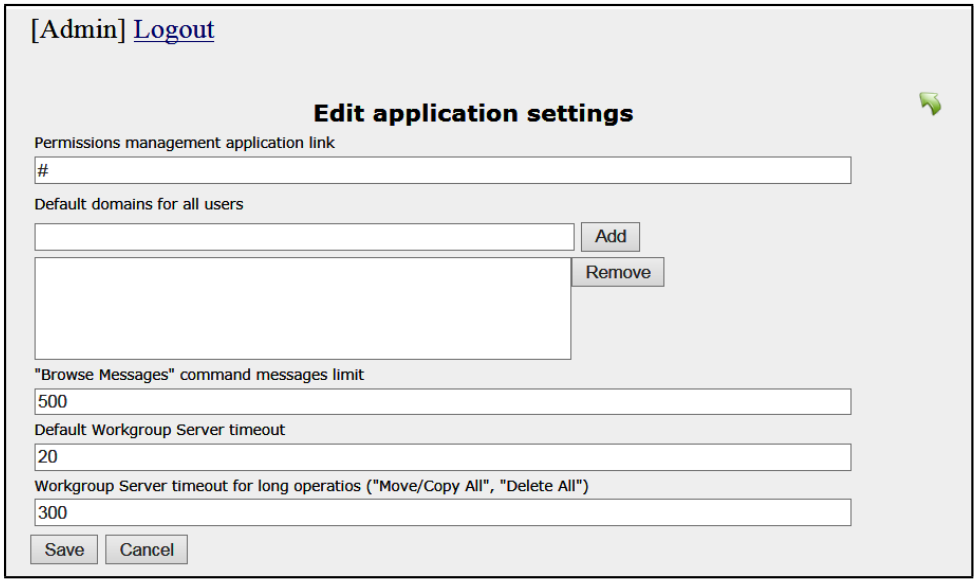


*Figure 3-127. Edit Application Settings*

## 3.4.4 Custom Libraries

This option allows you to add your own message parser. Once the parser file is added, you can update it by replacing the file or delete it. Parsers added here are available for use from the *View Message* dialog box (Figure 3-95).

| | | |
|---|---|---|
| | **NOTE:** | A sample message parser (jar file) is provided with the installation package. Refer to Appendix C for a sample file. |

Click **Configure Message parser** from the *Administration* screen (Figure 3-119) to go to the *Custom Message Parsers* screen.


*Figure 3-128. Custom Message Parsers*

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### 3.4.4.1 Add New Mode

1. Click **Add new** to go to the *Add library* screen.


*Figure 3-129. Add Library*

2. Do the following:
   a. **Description** – Add a name for the parser file.
   b. **Browse** – Select the jar file that contains your parser.
   c. Click **Save**. You are returned to the previous page where your parser is now listed.


*Figure 3-130. Parser File Added*

### 3.4.4.2 Update Mode

1. From the *Custom Message Parsers* screen, click **Update** to the *Edit Library* screen.


*Figure 3-131. Edit Library*

2. You can:
   a. Change the **Description** by overwriting the existing name.
   b. Select a new file by clicking **Browse**.
3. Click **Save** to save your changes or **Cancel** to abort the changes.

### 3.4.4.3 Delete

1. From the *Custom Message Parsers* screen (Figure 3-130), click **Delete**. A confirmation dialogue box displays.
2. Click **Yes** to delete the parser or **Cancel**.

## 3.5 System Timeout and Session Expiration

The system has some features embedded which tries to ensure the security of your account and the work you are doing. There is a countdown timer, which starts counting elapsed seconds each time you perform an action in the system. After system realizes that a user has been inactive for a long time (Tomcat timeout value), your session becomes inactive. In order to continue working user has to prove his identity by re-logging into the system.

If the user whose account is already in use (on some other computer) logs into the system, the session that is running in the other computer expires.

An attempt to perform any action with the system when session has expired activates the following message window:


*Figure 3-132. Session Expiration Window*

If you were in the middle of something (putting, copying, and moving messages, creating browse criteria) and the session expired before you pressed **OK** confirming your changes, your work will be lost.

Re-login can be done by clicking the **Logout** button  in the APODWMQ toolbar and re-entering your user name and password.

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# 3.6 System Access Management

User authentication is ensured via user login name and password.

System ensures that the authorized user can only perform those actions, which are granted in his profile.

**Authorization Editor** (permits) – the separate application enables the management of user accounts and their permissions.

User rights are defined by assigning the user to a group, which has certain privileges. Default user groups available on the system are:

**Table 3-53. User Groups**

| Group Name | Rights |
|---|---|
| **Application administrator** | Can manage user accounts (create, delete users; manage user rights; edit information about users) |
| **Permits user** | Can change password, work with Authorization Editor application, generate permits.ini file. |
| **APODWMQ user** | Can access APODWMQ application; connect and disconnect to/from a workgroup, browse queues, create, browse and edit messages inside them. |

**NOTE:** Application administrator cannot be a Permits or APODWMQ user and vice versa.

# 3.7 Additional Information and Useful Notes

- If you cannot login to APODWMQ, check if "Caps Lock" is off (user name and password are case sensitive). If you are sure that your password and user name are entered correctly, contact the system administrator.
- If you cannot expand nodes in the M6-WMQ network tree view, make sure that you are connected to the Workgroup agent, and that the information provided about the Workgroup agent in the Workgroup agent Connection handler is correct.
- If you performed some action on a queue (put, deleted messages) and the changes are not seen in the tree view interface (the number of messages in the queue did not change), try to refresh a queue by selecting *Refresh* command from the pop-up menu.
- If you inserted or deleted some messages into the queue and you cannot see them when browsing the queue, make sure that the Browse options of that queue do not filter out new messages.

# Appendix A: References

## A.1 Nastel Documentation

Table A-1. Nastel Documentation

| Document Number (or higher) | Title |
|---|---|
| APM6/INS 623.001 | *Nastel AutoPilot M6 Installation Guide* |
| APM6/USR 623.001 | *Nastel AutoPilot M6 User's Guide* |
| M6/WMQ 600.002 | *Nastel AutoPilot M6 Plug-in for WebSphere MQ* |
| M6WMQ-ADM 656.002 | *Nastel AutoPilot M6 for WebSphere MQ Administrator's Guide* |
| M6WMQ-INS 656.001 | *Nastel AutoPilot M6 for WebSphere MQ Installation Guide* |
| M6-SM 656.001 | *Nastel AutoPilot On-Demand for WebSphere MQ Security Manager User's Guide* |

## A.2 Tomcat

http://jakarta.apache.org/tomcat/tomcat-4.1-doc/index.html

## A.3 Java™

http://java.sun.com/products/JavaManagement/reference/docs/index.html
http://www.hp.com/products1/unix/java/infolibrary/index.html
http://developer.java.sun.com/developer/technicalArticles/Servlets/corba/

## A.4 MS Windows

http://www.microsoft.com/windows/default.mspx

## A.5 UNIX

http://www.unix.org/

## A.6 Solaris

http://www.sun.com/software/solaris/

## A.7 HP-UX

http://welcome.hp.com/country/us/en/welcome.html

## A.8 Linux

http://www.linux.org/

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# Appendix B: Conventions

## B.1 Typographical Conventions

**Table B-1. Typographical Conventions**

| Convention | Description |
|---|---|
| Blue/Underlined | Used to identify links to referenced material or websites. Example: support@nastel.com |
| **Bold Print** | Used to identify topical headings, glossary entries, and to identify toggle or buttons used in procedural steps. Example: Click **EXIT**. |
| *Italic Print* | Used to place emphasis on a title, menu, screen name, or other categories. |
| **Monospaced Bold** | Used to identify keystrokes/data entries, file names, directory name etc. |
| *Monospaced italic* | Used to identify variables in an address location. Example: [*C:\AutoPilot_Home*]\documents. Where the portion of the address in the brackets [ ] is variable. |
| Monospaced Text | Used to identify addresses, commands, scripts etc. |
| Normal Text | Typically used for general text throughout the document. |
| Table Text | Table text is generally a smaller size to conserve space. 10, 9, and 8 point type is used in tables throughout the AutoPilot product family of documents |

## B.2 Naming Conventions

Naming conventions have been adjusted to accommodate IBM's re-naming of MQSeries products to WebSphere MQ.

Nastel has adapted AutoPilot products to reflect IBM's product naming changes. In the redesign of AutoPilot, we have also better defined many elements within the AutoPilot product line.

**Table B-2. AutoPilot Related Naming Conventions**

| Old Name | New Name |
|---|---|
| AutoPilot/MQSI | AutoPilot for WebSphere MQI |
| MQSeries Plug-in for AutoPilot | WebSphere MQ Plug-in for AutoPilot |
| MQControl | AutoPilot for WebSphere MQ |
| MQSeries | WebSphere MQ (IBM) |

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# Appendix C: Sample Message Parser File

The parser below shows the basics for a parser application. The java program requires these two methods:

- `String getName()` – Returns the name to be shown to the user for the parser.
- `byte[] decompile (byte[] messageBytes, String codePage)` – Given the message contents (messageBytes) returns the reformatted message to be displayed.

**Example:**

```
package com.nastel.parser.example;

import com.nastel.parser.MessageParser;

public class SimpleMessageParserExample implements MessageParser

{
          /**
          * This parser replace space symbols with new line symbols
          */
          public byte[] decompile(byte[] messageBytes, String codePage) throws Exception
          {
                  String tempDecompiledString = "";
                  String messageString = new String(messageBytes, codePage);
                  tempDecompiledString = messageString.replaceAll(" ", "\n");
                  return tempDecompiledString.getBytes(codePage);
          }
          public String getName()
          {
          /**
          *  Must provide this method to identify parser name
          */
                  return "Simple Msg Parser";
           }
}
```

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# Glossary

**Application:** A logical collection of software components that perform a business function, running on a specific server.

**AutoPilot M6:** Nastel Technologies' Enterprise Application Management Platform. AutoPilot M6 is designed to monitor and control distributed IT services such as application servers, middleware, user applications, workflow engines, brokers, Service Oriented Architecture (SOA) and Enterprise Service Bus (ESB) based applications and their impact on business services.

**AutoPilot M6 for WMQ:** Nastel Technologies' WebSphere MQ management solution. Re-designated as M6 for WMQ with release 6.0, prior releases retain the AP-WMQ or MQControl trademark.

**AutoPilot M6 Web:** AutoPilot M6 Web is a browser-based interface that provides monitoring and operational control over managed resources and applications. It allows users to monitor health, recover from a failure, view historical performance graphs and visualize impacts of a failure.

**AutoPilot M6/WebSphere Message Queue Integrator (AP/WMQI):** Formerly AP/MQSI

**AutoPilot/Message Tracking (AP/MT):** Nastel's AutoPilot/Message Tracking plug-in that enables AutoPilot/IT to intercept message exits and forward the statistical data to an AutoPilot expert.

**AutoPilot TransactionWorks (AP/TW):** Nastel Technologies' transaction and application performance monitoring product.

**AutoPilot/WebSphere (AP/WS):** AutoPilot/WebSphere plug-into enables AutoPilot to monitor and manage *e*Business applications for continuous operations in addition to its standard features.

**BCI:** *See* Byte Code Instrumentation

**Binary Large Object (BLOB):** A collection of binary data stored as a single entity in a database management system. Blobs are typically images, audio or other multimedia objects, though sometimes binary executable code is stored as a blob. Database support for blobs is not universal.

**BLOB:** *See* Binary Large Object.

**BSV:** *See* Business View.

**Business Transaction:** A collection of related transactions that comprise a user-defined business function (e.g. purchase a book, return merchandize, purchase stock). Each of the business activities may be comprised of various workloads.

**Business View (BSV):** A collection of rules that define a desired state of an *e*Business environment. Business Views can be tailored to present information in the form most suited to a given user, as defined by the user.

**Byte Code Instrumentation (BCI):** The process of adding small portions of Java byte code around methods of a Java class. The added code performs tasks such as time spent or CPU utilization within the monitored class.

**CEP (Complex Event Processing) Server:** A container that can host any number of AutoPilot services such as experts, managers, policies, etc. (Called managed node prior to AutoPilot M6 Service Update 6.)

**Client:** Any programming component that uses the AutoPilot infrastructure; for example, the AutoPilot Console.

**Common Object Request Broker Architecture (CORBA):** A standard defined by the Object Management Group that enables software components written in multiple computer languages and running on multiple computers to work together. It can be invoked from a Web browser using CGI scripts or applets.

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**Composite Application:** A collection of applications that collaborate or communicate with each other (have related sessions).

**Console:** The console acts as the graphical interface for AutoPilot.

**Contacts:** A subordinate to a given Manager or Expert.

**CORBA:** *See* Common Object Request Broker Architecture.

**Data Source Name (DSN):** The logical name that is used by Open Database Connectivity (ODBC) to refer to the drive and other information that is required to access data. The name is use by Internet Information Services (IIS) for a connection to an ODBC data source, (Example: Microsoft SQL Server database). The ODBC tool in Control Panel is used to set the DSN. When ODBC DSN entries are used to store the connection string values externally, you simplify the information that is needed in the connection string. This makes changes to the data source completely transparent to the code itself.

**Data Space:** A range of up to two gigabytes of contiguous virtual storage addresses that a program can directly manipulate. Unlike an address space, a data space can hold only data; it does not contain common areas or system data or programs.

**Decision Support System (DSS):** An AutoPilot-based service designed to monitor, store, and display any event information generated by AutoPilot enabled middleware and applications.

**Deploy:** To put to use, to position for use or action.

**Domain Server:** A specialized managed node that maintains the directory of managed nodes, experts etc. The domain server is also capable of hosting experts, managers etc

**DSN:** *See* Data Source Name.

**DSS:** *See* Decision Support System.

**Event:** An *Event* is something that happens to an object. Events are logged by AutoPilot and are available for use by AutoPilot Policies or the user.

**EVT:** Event Log file extension (for example: `sample.evt`).

**Expert:** Services that monitor specific applications such as an applications server, Web server or specific components within the applications (example, channels in MQSeries). Experts generate facts.

**Fact:** Single pieces of data that has a unique name and value. One or more facts are used to determine the health of the object, application or server.

**Graphical User Interface (GUI):** A type of environment that represents programs, files, and options by means of icons, menus, and dialog boxes on the screen. The user can select and activate these options by pointing and clicking with a mouse or, often, with the keyboard. Because the graphical user interface provides standard software routines to handle these elements and report the user's actions (such as a mouse click on a particular icon or at a particular location in text, or a key press); applications call these routines with specific parameters rather than attempting to reproduce them from scratch.

**GUI:** *See* Graphical User Interface.

**HAQS:** *See* High Availability Queuing Service.

**Heap:** In Java programming, a block of memory that the Java virtual machine uses at run time to store Java objects. Java heap memory is managed by a garbage collector, which automatically de-allocates Java objects that are no longer in use

**High Availability Queuing Service (HAQS):** A component of AutoPilot consisting of two policies that provide automatic queue fail-over for WebSphere MQ applications, provide high availability of WebSphere MQ resources such as queues and channels, and ensure automatic recovery of WebSphere MQ channels.

**IIS:** *See* Internet Information Services.

**Independent Software Vendor (ISV):** A business term for companies specializing in making or selling software, usually for niche markets.

**Initial Program Load (IPL):** The process of loading system programs and preparing a system to run applications.

**Interactive System Productivity Facility (ISPF):** An IBM licensed program that serves as a full-screen editor and dialog manager. Used for writing application programs. It provides a means of generating standard screen panels and interactive dialogues between the application programmer and terminal user.

**Internet Information Services (IIS):** Microsoft's brand of Web server software, utilizing HTTP to deliver World Wide Web documents. It incorporates various functions for security, allows CGI programs, and also provides for Gopher and FTP services.

**IPL:** *See* Initial Program Load.

**ISPF:** *See* Interactive System Productivity Facility.

**ISV:** *See* Independent Software Vendor.

**Java:** A platform-independent, object-oriented programming language developed and made available by Sun Microsystems.

**Java Database Connectivity (JDBC):** Provides universal data access from the Java programming language. Using the JDBC 2.0 API, you can access virtually any data source, from relational databases to spreadsheets and flat files. JDBC technology also provides a common base on which tools and alternate interfaces can be built. The JDBC *Test Tool* that was developed by Merant and Sun Microsystems may be used to test drivers, to demonstrate executing queries and getting results, and to teach programmers about the JDBC API.

**Java Developer's Kit (JDK):** A set of software tools developed by Sun Microsystems, Inc., for writing Java applets or applications. The kit, which is distributed free, includes a Java compiler, interpreter, debugger, viewer for applets, and documentation.

**Java Management Extensions (JMX):** An open technology for management and monitoring that can be deployed wherever management and monitoring are needed. By design, this standard is suitable for adapting legacy systems, implementing new management and monitoring solutions and plugging into those of the future.

**Java Messaging Service (JMS):** a Java Message Oriented Middleware API for sending messages between two or more clients.

**Java Platform, Enterprise Edition (Java EE):** The industry standard for developing portable, robust, scalable and secure server-side Java applications. Building on the solid foundation of Java SE, Java EE provides Web services, component model, management, and communications APIs that make it the industry standard for implementing enterprise class service-oriented architecture (SOA) and Web 2.0 applications.

**Java Naming and Directory Interface (JNDI):** Unified interface to multiple naming and directory services for applications based on Java technology.

**Java Run-time Environment (JRE):** The minimum core Java required to run Java programs.

**Java Server Pages (JSP):** Technology that enables rapid development of Web-based applications that are platform independent. Java Server Pages technology separates the user interface from content generation enabling designers to change the overall page layout without altering the underlying dynamic content. Java Server Pages technology is an extension of the Java Servlet technology.

**Java Virtual Machine (JVM):** The "virtual" operating system that Java-written programs run. The JVM is a hardware- and operating system-independent abstract computing machine and execution environment. Java programs execute in the JVM where they are protected from malicious programs and have a small compiled footprint.

**JCL:** *See* Job Control Language.

**JDBC:** *See* Java Database Connectivity.

**JDK:** *See* Java Developer's Kit.

**JMS:** *See* Java Messaging Service.

**JMX:** *See* Java Management Extensions.

**JNDI:** *See* Java Naming and Directory Interface.

**Job Control Language (JCL):** A control language that is used to identify a job to an operating system and to describe the job's requirements.

**JRE:** *See* Java Run-time Environment.

**JSP:** *See* Java Server Pages.

**JVM:** *See* Java Virtual Machine.

**Logical Unit of Work (LUW):** A collection of operations and messages within a session that should be considered to be a single unit of work (all or nothing property). These are generally delimited by BEGIN/COMMIT calls.

**LUW:** *See* Logical Unit of Work.

**Managed Node:** Containers that are capable of hosting any number of AutoPilot services, such as experts, managers, policies etc.

**Manager:** Managers are the home or container for policies. All business views must reside on managers, and manager must be deployed prior to deploying a business view or policy.

**Message:** A physical message being transported through the TPN.

**Message-Oriented Middleware (MOM):** A category of inter-application communication software that relies on asynchronous message passing as opposed to a request/response metaphor.

**Message Queue Interface (MQI):** Part of IBM's Networking Blueprint. It is a method of program-to-program communication suitable for connecting independent and potentially non-concurrent distributed applications.

**MOM:** *See* Message-Oriented Middleware.

**MQI:** *See* Message Queue Interface.

**MQSeries:** IBM's message queuing product. Renamed by IBM as WebSphere MQ.

**Naming Service:** A common server records "names" of objects and associates them with references, locations and properties.

**Object Request Broker (ORB):** In object-oriented programming, software that serves as an intermediary by transparently enabling objects to exchange requests and responses.

**ORB:** *See* Object Request Broker.

**Orbix:** CORBA product distributed by IONA Technologies.

**Package Manager:** The command line utility that allows users to list, install, uninstall, verify, and update AutoPilot installation on any Managed Node.

**PKGMAN:** *See* Package Manager Utility included in AutoPilot products.

**Policy/Business Views:** A collection of one or more sensors. Business views are used to visually present the health and status of the different systems as well as automatically issue remedial actions.

**Resource:** An entity on which transactions are executed or a medium of exchange. Examples include queue, DB table, file, JMS topic.

**Resource Manager:** An entity that is managing a collection of resources. Examples include a WMQ Queue Manager, Application Server, Database Server.

**Sensor:** A rule that is used to determine the health of an object or application based on one or more facts. Actions can then be issued, based on the health.

**Server:** A physical or virtual node within a TPN that hosts all transaction processing activity.

**Service Level Agreement (SLA):** A formal written agreement made between two parties: the service provider and the service recipient. The SLA itself defines the basis of understanding between the two parties for delivery of the service itself. The document can be quite complex, and sometimes underpins a formal contract. The contents will vary according to the nature of the service itself, but usually includes a number of core elements, or clauses.

**Service-Oriented Architecture (SOA):** An evolution of distributed computing and modular programming. SOAs build applications out of software services. Services are relatively large, intrinsically unassociated units of functionality, which have no calls to each other embedded in them. They typically implement functionalities most humans would recognize as a service, such as filling out an online application for an account, viewing an online bank statement, or placing an online book or airline ticket order. Instead of services embedding calls to each other in their source code, protocols are defined which describe how one or more services can talk to each other. This architecture then relies on a business process expert to link and sequence services, in a process known as orchestration, to meet a new or existing business system requirement.

**Session: A** specific period of execution of an application. Examples include the interval during which a database or queue manager connection is active.

**Simple Mail Transfer Protocol (SMTP):** A TCP/IP protocol for sending messages from one computer to another on a network. This protocol is used on the Internet to route e-mail. *See also* communications protocol, TCP/IP.

**SLA:** *See* Service Level Agreement.

**SMTP:** *See* Simple Mail Transfer Protocol.

**SOA:** *See* Service-Oriented Architecture.

**TCP/IP:** *See* Transmission Control Protocol/Internet Protocol.

**Time Sharing Option (TSO):** An option of the MVS operating system that provides interactive time sharing from remote terminals.

**TPN**: *See* Transaction Processing Network.

**Transaction:** A group of activities targeted at achieving a common goal or a task. Collection of related sessions and LUWs.

**Transmission Control Protocol/Internet Protocol (TCP/IP):** A protocol developed by the Department of Defense for communications between computers. It is built into the UNIX system and has become the de facto standard for data transmission over networks, including the Internet.

**Transaction Processing Network (TPN)**: A collection of servers engaged in transaction processing activity

**TSO:** *See* Time Sharing Option.

**Virtual Machine:** Software that mimics the performance of a hardware device, such as a program that allows applications written for an Intel processor to be run on a Motorola chip. *Also see* Java Virtual Machine.

**WebLogic:** A Java EE compatible application server platform which enables support for multiple programming models, which includes advanced administration tools and is the ideal foundation for Service Oriented Architecture (SOA).

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**WebSphere MQ:** IBM's message queuing product, formally known as MQSeries.

**Websphere_MQ_Manager:** A specialized manager capable of hosting one or more WebSphere MQ specific policies, apart from the regular policies.

**Wireless Application Protocol (WAP)**: An open global specification that is used by most mobile telephone manufacturers. WAP determines how wireless devices utilize Internet content and other services. WAP enables devices to link diverse systems contents and controls.

**Write to Operator (WTO):** An optional user-coded service that allows a message to be written to the system console operator informing the operator of errors and unusual system conditions that may need to be corrected.

**WTO:** *See* Write to Operator.

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