



Nastel Navigator User's Guide

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Chapter 1: Introduction

Welcome to the *Nastel Navigator User's Guide*. This guide will introduce the user to basic functionality and describe the dialog windows encountered while working with Nastel Navigator. Please review this guide carefully before installing the product.

1.1 How this Guide is Organized

Chapter 1:	Document information
Chapter 2:	Contains a brief functional description of Nastel Navigator
Chapter 3:	Information on system access
Chapter 4:	Detailed information on how to use Nastel Navigator
Appendix A:	Provides a list of all reference information
Appendix B:	Contains a list of objects and their icons
Appendix C:	Descriptions of object menu options
Appendix D:	MQ Statistics table attributes listed
Index:	Contains document index

1.2 History of this Document

Table 1.2-A. History of this Document			
Release Date	Document Number	Product Version	Summary
November 2018	NN10.001	10	Initial release.
December 2018	NN10.002	10	Detailed descriptions of all dialog boxes and features added.
April 2019	NN10.003	10	Content added for creating objects, scheduling, the help feature, topologies, EMS objects, nodes and remote queue managers. Several figures have also been updated.
July 2019	NN10.004	10	Added Appendix C, information on copying objects, creating and editing remote EMS managers, error log files and security, message rerouting, updates to Chapter 2 and other miscellaneous updates.
August 2019	NN10.005	10	Updated screenshots throughout. Updates to Sections 4.3.1.3.1.1, 4.3.4.3.7, 4.7.4, Table 4.3.4.3-A and Appendix C. Add section 4.7.10 and 4.4.3.2.
September 2019	NN10.006	10	Update figures, reroute content (Section 4.3.4.3.7), Figure 4.2.1.1-A and Workgroup Server in Appendix C. Added MQ Statistics Viewlet information (Section 4.3.10).
February 2020	NN10.007	10	Added information on Message Criteria Settings in section 4.4.3.2. Updated sections 4.2.1.1 and 4.3.3. Add section 4.3.10, Statistics Viewlet. Add Appendix D, MQ

			<p>Statistics Table Attributes. Note boxes updated/added throughout.</p> <p>Updated sections 4.1, 4.3.3, 4.3.10, 4.4, 4.4.3.2. Sections 4.3.3.9, Cluster Membership, and 4.7.11, Create Channel, added. Miscellaneous figure updates.</p> <p>Appendix B and C updates.</p>
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1.2.1 User Feedback

Nastel encourages all Users and Administrators of Nastel Navigator to submit comments, suggestions, corrections, and recommendations for improvement of all documentation. Please send your comments via e-mail to: support@nastel.com. You will receive a 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 the Nastel Navigator installation directory.

1.5 Intended Audience

This guide is intended for users of Nastel Navigator. There are three user groups defined for installation, use, and middleware management (diagnostics and administration):

- Middleware Team
- Application Support
- Development

1.6 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 Nastel Navigator Administrator for further information.

Chapter 2: About Nastel Navigator

2.1 Nastel Navigator

The purpose of this guide is to familiarize users with the Nastel Navigator application, introduce them to basic functionality, and describe all dialog windows that they can encounter when working with Nastel Navigator.

The Nastel Navigator system consists of two main parts:

- Server-side components that reside within an Apache-Tomcat JSP container or equivalent.
- Client application running in a browser using HTML pages, which are served by the server-side components.

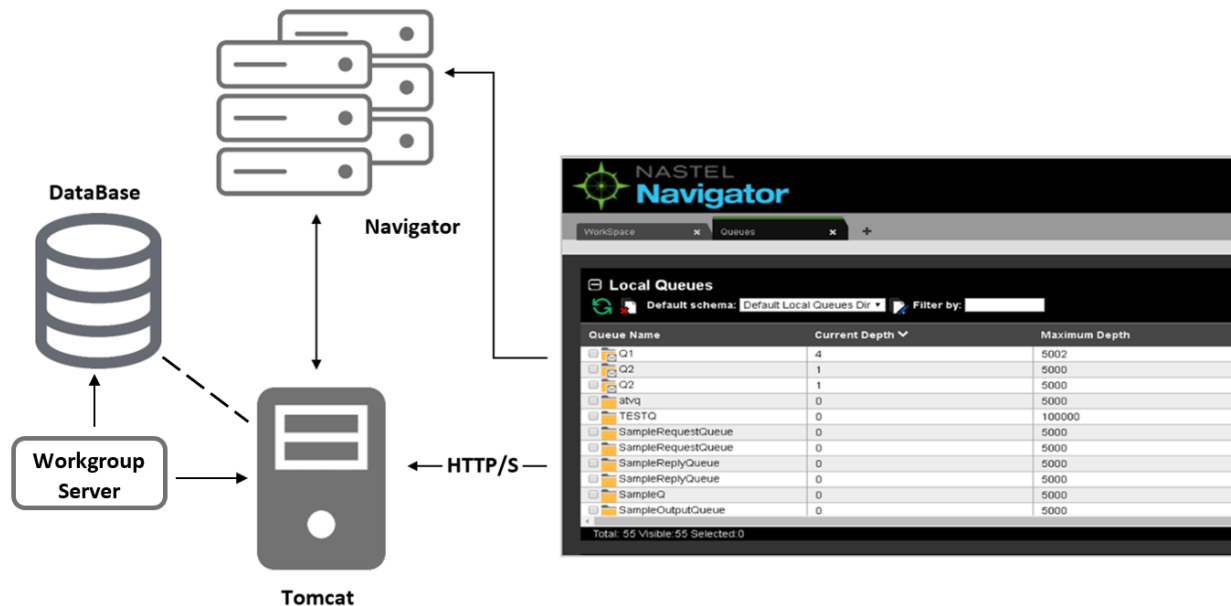


Figure 2.1-A. Message Management Flow Chart

AutoPilot for Middleware Security Manager must be installed and configured at a minimum to use Nastel Navigator.

Nastel Navigator supports both IBM MQ and TIBCO EMS objects. For information, please see the following links:

- IBM MQ:
https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_9.0.0/com.ibm.mq.pro.doc/q003070.htm
- TIBCO EMS:
https://docs.tibco.com/pub/ems/8.4.0/doc/pdf/TIB_ems_8.4_users_guide.pdf

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Chapter 3: Accessing Nastel Navigator

3.1 System Access

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

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

Nastel Navigator uses workgroup server authentication when logging into the application. The login/password pair must be defined with appropriate group permissions.

Enter your assigned **User ID** and **Password**, then click **LOGIN** to enter the Nastel Navigator application.

Figure 3.1-A. Nastel Navigator Login

Table 3.1-A. Login Window	
Property	Description
User ID	Enter admin assigned user ID.
Password	Enter admin assigned password.
Domain	Enter admin assigned domain. Only complete this field if instructed to do so by your administrator.

3.2 Connecting to the AutoPilot M6 for Middleware Network

If this is the first time you are logging into Nastel Navigator, and your administrator has not configured default connections, you will see the dialog box shown in *Figure 3.2-A* below. For the workgroup servers you would like to monitor, use information provided by your administrator to set up connections. See the next section, *Add New Workgroup Server* ([Section 3.2.1](#)), for information on adding a workgroup server.

Otherwise, you will be presented with the *Workspace* dashboard. Continue to [Chapter 4](#) which describes how to use Nastel Navigator.

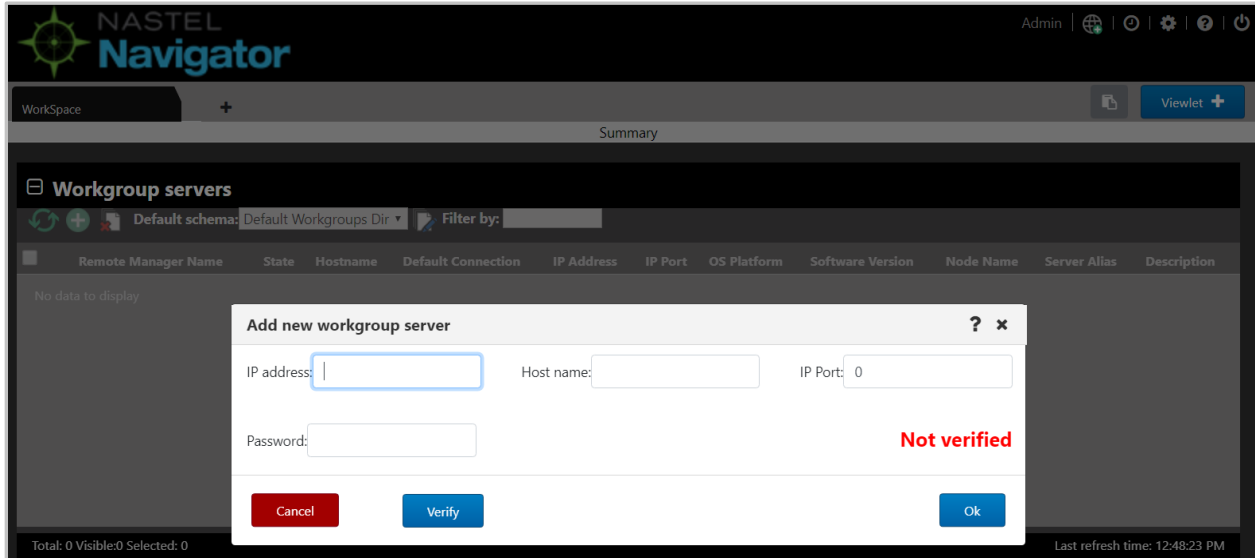



Figure 3.2-A. Connecting to a Workgroup Server

3.2.1 Add New Workgroup Server

1. Click the **Add** button  located at the top of the *Workgroup servers* viewlet to display the **Add new workgroup server** dialog box.

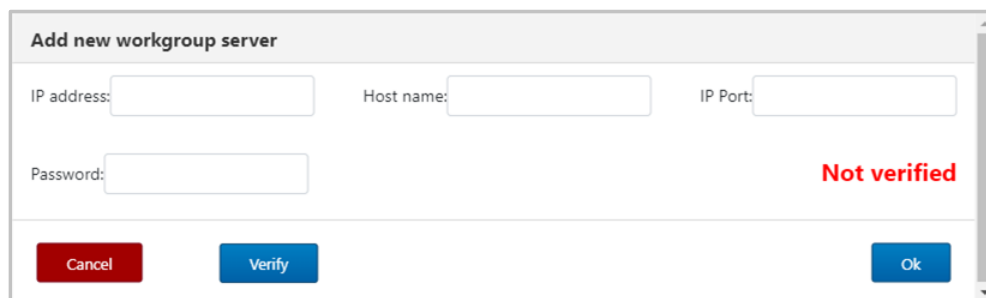


Figure 3.2.1-A. Add New Workgroup Server

2. Input the workgroup server's (later referred to as **WGS**) connection information:
 - **IP address** – IP address of the node where the workgroup server is running. Can be set to 0.0.0.0, meaning to bind to any port using the host name. (Required)
 - **Host name** – Host name of the machine where the workgroup server is running.
 - **IP Port** – Workgroup server's IP port number. (Required)
 - **Password** – Enter the workgroup server's password. (Required)
3. Click **Verify**. If the information you entered is valid, you will see the message, **Verified** (in green), which means you can proceed.
4. Click **Ok**. You are returned to the *Workspace* viewlet and your newly created connection is listed.

Chapter 4: Using Nastel Navigator

4.1 General Features

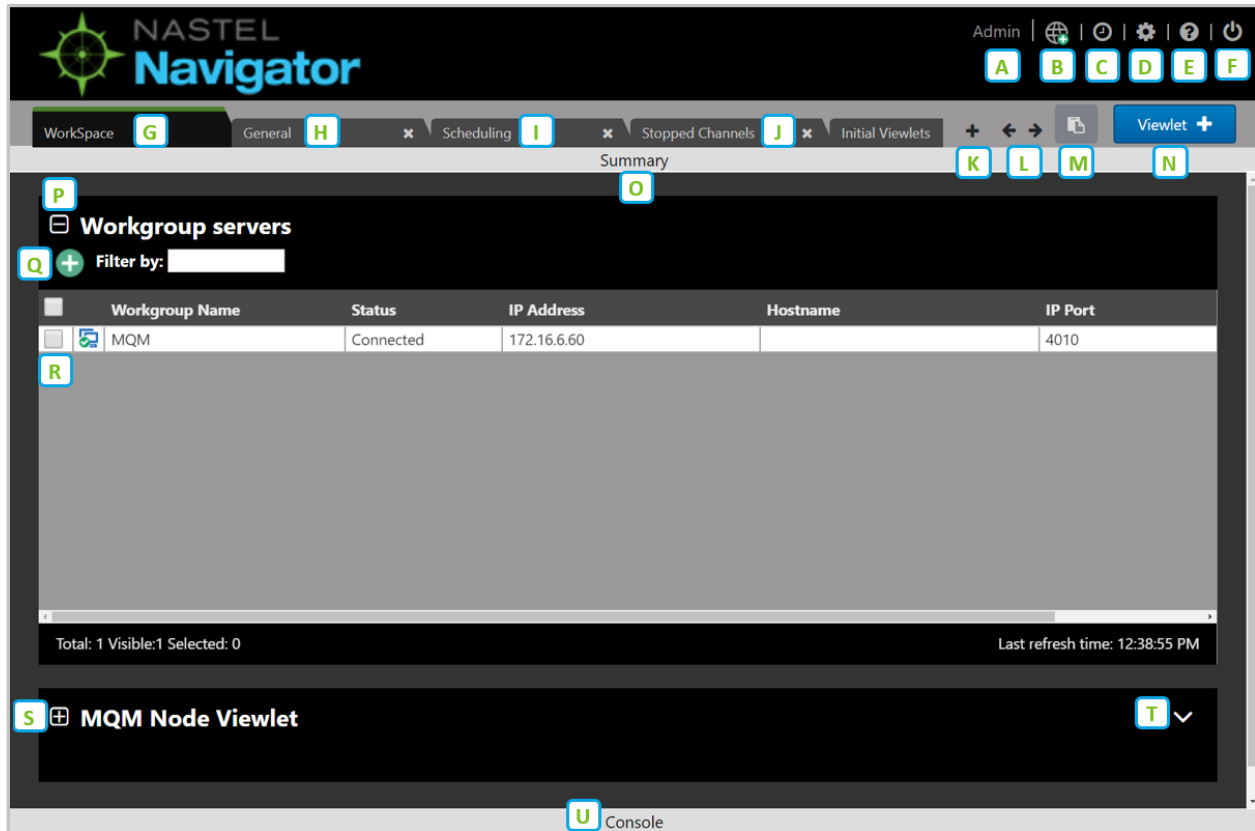


Figure 4.1-A. Nastel Navigator General Features

- A: Username
- B: **Connect** button. Reconnects workgroup server connections ([Section 4.4.1](#)).
- C: Opens the *Schedules* window ([Section 4.6](#)).
- D: Click to display *Settings* window ([Section 4.4.3](#)).
- E: Opens the online help system ([Section 4.3.9](#)).
- F: **Log Out** button.
- G - J: Dashboards ([4.2 Dashboards](#)).
- K: **Create dashboard** button ([4.2.2 Create New Dashboard](#)).
- L: Navigation between dashboards ([4.2.3 Displaying Additional Dashboards](#)).
- M: **Paste** button: Used when copying objects ([Section 4.8, Copy Objects](#)).
- N: Create a new viewlet ([4.3.1 Creating Viewlets](#)).
- O: **Summary** panel ([4.2.5 Summary and Console](#)).
- P: **Collapse** button. Collapses a viewlet ([4.3.7.4 Collapse / Expand Viewlets](#)).
- Q: **Add** button. Use the **Add** button to quickly create objects ([Section 4.7, Create Objects](#)).
- R: Click checkbox to display the object's pop-up menu ([Appendix C: Object Menus](#)).
- S: **Expand** button. Expand a viewlet ([4.3.7.4 Collapse / Expand Viewlets](#)).
- T: **Viewlet Menu** button ([4.3.1.3 Viewlet Menu](#)).
- U: **Console** panel ([4.2.5 Summary and Console](#)).

4.2 Dashboards

The tabs at the top of the screen represent different dashboards. Dashboards are composed of two main sections, Summary and Console ([Section 4.2.5](#)). The Summary section displays the main viewlets of the object. The Console section displays viewlets containing additional object information, for example, messages, attributes, object statuses, etc.

4.2.1 Workspace Dashboard

The *Workspace* dashboard is the default dashboard; this will be the dashboard users see immediately after logging in. The default dashboard can be changed, please see [Section 4.2.4](#), Set Dashboard as Default, for more information. To learn how to create dashboards, skip to [Section 4.2.2](#), Create New Dashboard.

The *Workspace* dashboard consists of:

- *Workgroup Servers* viewlet: This is the first viewlet appearing on the *Workspace* dashboard. Displays a list of workgroup servers currently configured, whether you are connected, and provides the information described in [Table 4.2.1-A](#).
- *MQM Node* viewlet: This is the second viewlet appearing on the *Workspace* dashboard. Displays all nodes. Scroll down to view the objects of the *MQM Node* viewlet. Please see [Section 4.3.2](#) for more information on node viewlets.



You can add viewlets to the *Workspace* dashboard, but they are always temporary (not saved when you close your session). See [Creating Viewlets \(Section 4.3.1\)](#) for more information.

The screenshot shows the Nastel Navigator interface with the Workspace dashboard selected. The 'Summary' section contains two viewlets:

Workgroup servers

Workgroup Name	Node Name	IP Port	OS Platform	Software Version	Server Alias	Description	Discovery IP Network	Discovery IP Port	Discovery Timer (min.)	Refresh Interval	Event Log Size
MQM	SLB19	4010	WINDOWS NT	6.6.0005.1			0.0.0.0	5010	1440	10	1000

Total: 2 Visible: 2 Selected: 0 Last refresh time: 4:20:16 PM



MQM Node Viewlet

Node Name	Hostname	Use DNS	IP Address	IP Port	OS Platform	Description	Heartbeat Interval (min.)	Update Interval (sec.)	Command Timeout (sec.)	Pending Command Limit	Send Reg
BENAS	BENAS	NO	172.16.6.82	5010	WINDOWS NT		1	30	60	5000	0
DAINIUS	DAINIUS	NO	172.16.6.99	5010	WINDOWS NT		1	30	60	5000	0
EMS-SERVER_RUTA	SLB19	NO	127.0.0.1	5555	Java		1	30	60	5000	0
SAMTIS	SAMTIS	NO	172.16.6.56	5010	WINDOWS NT		1	30	60	5000	0
SLB19	SLB19	NO	127.0.0.1	5010	WINDOWS NT		1	30	60	5000	0
SLBPC26	SLBPC26	NO	172.16.6.45	5010	WINDOWS NT		1	30	60	5000	0

Total: 6 Visible: 6 Selected: 0 Last refresh time: 4:20:17 PM

Figure 4.2.1-A. Workspace Dashboard

4.2.1.1 Workgroup Servers Viewlet

Connected workgroup servers are signified with a green check-mark symbol , and disconnected with a red exclamation point symbol . Scroll to the right to see all of the workgroup server connection's properties and limits.

Select a workgroup server to display the pop-up menu. Please see [Appendix C](#) for an explanation of the menu options.

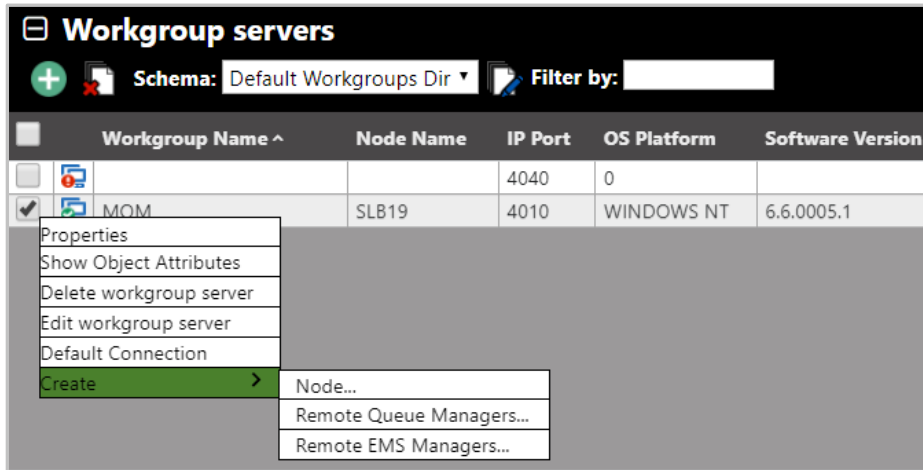





Figure 4.2.1.1-A. Workgroup Server Pop-up Menu

 Depending on your user permissions, your options may differ from the above figure.

The table below describes the functionality of the *Workgroup servers* viewlet toolbar.

Table 4.2.1.1-A. Workgroup Servers Viewlet Toolbar		
Field	Name	Description
	Add	Displays the <i>Add new workgroup server</i> window (Figure 3.2.1-A) to add a new workgroup server connection.
	Filter by	Allows you to filter the workgroup server list. Key in any string of characters to filter. The filter applies to all workgroup server aspects.

4.2.1.1.1 Create a Node

To create a node, either:

- Select **Create > Node...** from the workgroup server's action menu within the *Workgroup servers* viewlet (see [Figure 4.2.1.1-A](#)).

-or-

- Click the green **Add** button within a *Nodes* viewlet (see [Section 4.7, Create Objects](#)).

A window similar to the following opens.

The screenshot shows the 'Node Properties' dialog box. The 'Identity' tab is active. The fields are: Name (empty), Host Name (empty) with 'Use DNS' checkbox, IP Address (empty), Listening Port (5010), Platform (UNKNOWN), Description (empty), and Node Type (empty dropdown). Buttons for 'Ok' and 'Cancel' are at the bottom right.

Figure 4.2.1.1.1-A. Node Properties

Specify all node properties on this screen. Enable the **Use DNS** option to automatically populate the **IP Address** field when the **Host Name** is specified.

Please note that the default **Node Type** is **M6-WMQ Agent-managed MQ Node**. Switch the **Node Type** to **EMS Agent-managed Node** to create an EMS node instead.

Click **Ok** to create the node.



When creating a node, you're actually adding a new node reference. Only existing nodes can be added to your workgroup server. An identical node can be added with a different name (the Host Name and IP address would be the same). In this case, all actions performed within one of the nodes would also be applied to the identical node as well.

4.2.1.1.2 Create Remote Queue Managers

When **Create > Remote Queue Managers** is selected from a workgroup server's pop-up menu ([Figure 4.2.1.1-A](#)), the *Remote Queue Manager Connections* window opens.

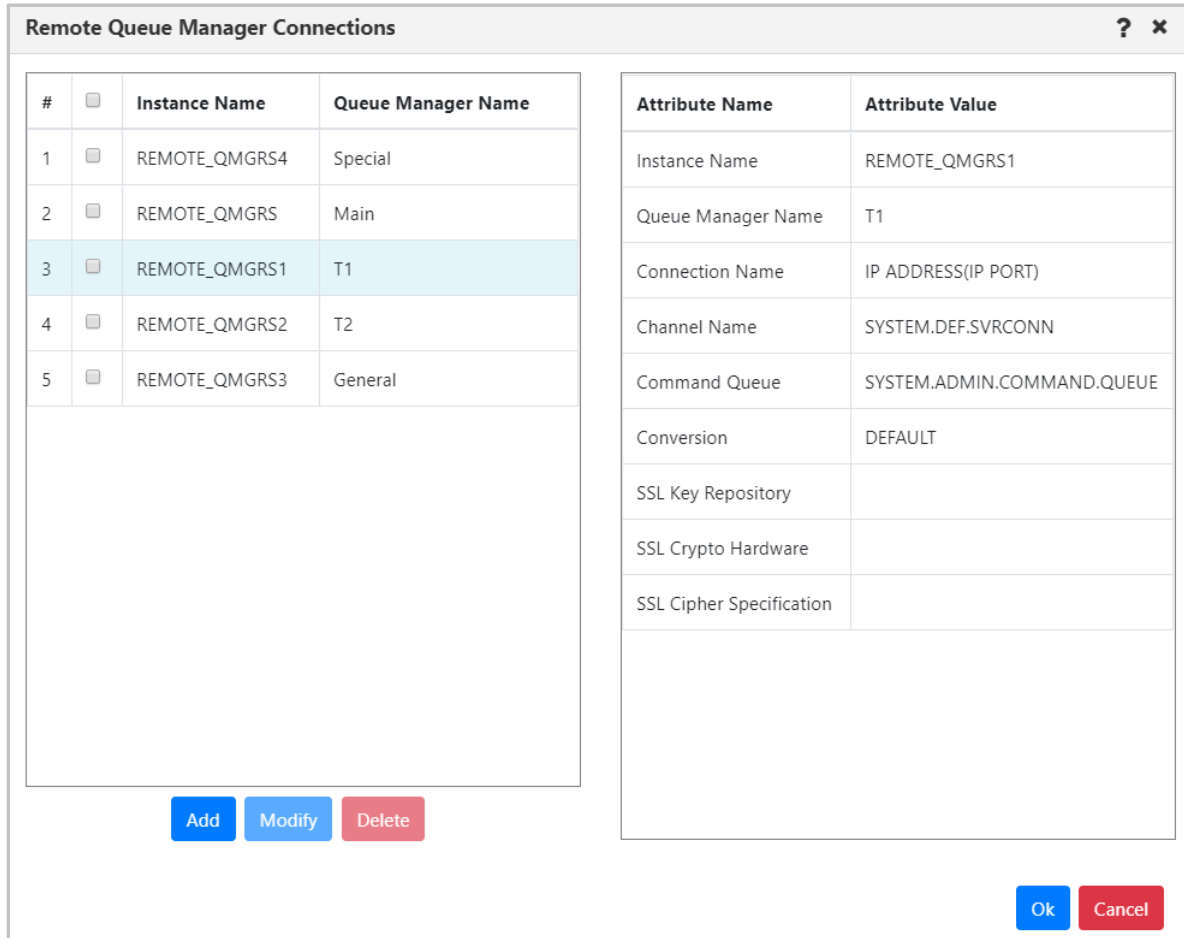


Figure 4.2.1.1.2-A. Remote Queue Manager Connections



Click the **Add** button to add a new remote queue manager connection.

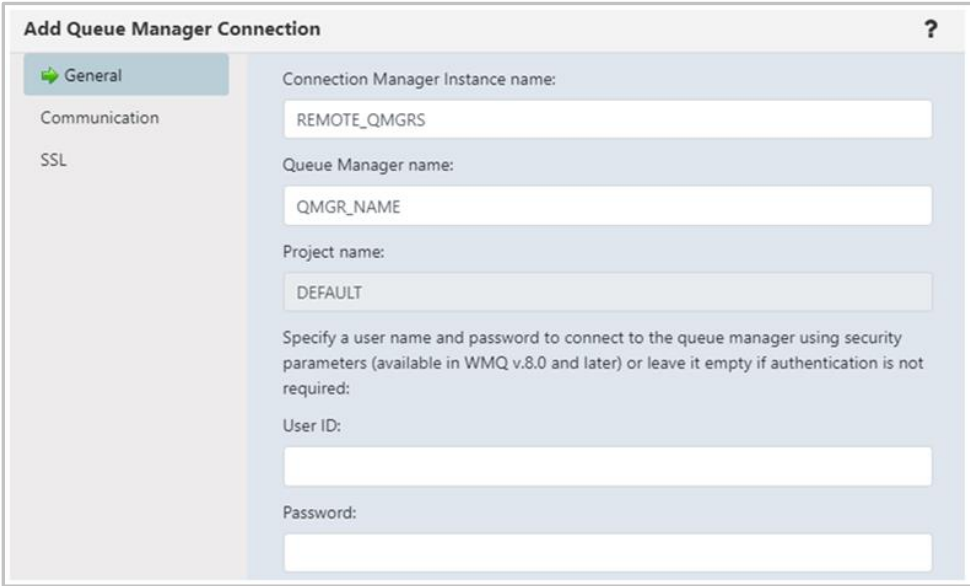
To update or delete existing remote queue managers, select them and click either the **Modify** or **Delete** button.

Hover over a remote queue manager to view its attributes on the right side of the window. The columns of the remote queue manager table on the left side of the window can be sorted alphabetically by simply clicking the column headers.

See the below table for an explanation of the *Remote Queue Manager Connections* window settings.

Table 4.2.1.1.2-A. Remote Queue Manager Connections Window Properties	
Field	Description
General Tab	
Connection Manager Instance name	Enter the instance name. REMOTE_QMGRS is the default.
Queue Manager name	Enter the name of the queue manager to which your new remote queue manager will be linked. QMGR_NAME is the default.
Project name	Input disabled.
User ID	Specify a user name to connect to the queue manager using security parameters (available in WMQ v.8.0 and later) or leave it empty if authentication is not required.
Password	Enter the user's password.

Table 4.2.1.1.2-A. Remote Queue Manager Connections Window Properties	
Communication tab	Figure 4.2.1.1.2-C
Connection name	Enter the IP address and IP port (in brackets) as shown to specify a name for the new connection.
Command queue name	Select the name for the command queue from the drop-down menu. SYSTEM.ADMIN.COMMAND.QUEUE is the default.
Channel name	Enter the name of the server-connection (svrconn) channel to be used for connecting to the remote queue manager. SYSTEM.DEF.SVRCONN is the default.
Security Exit Name	Specifies the descriptive name of the channel security exit; this is a parameter of the MQCD channel definition structure which controls channel execution. It is passed to a channel that is called from a Message Channel Agent (MCA). Click the ellipses button  to add a security exit name or edit / delete existing exit strings (Figure 4.2.1.1.2-D).
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. Click the ellipses button  to add new or edit / delete existing exit strings (Figure 4.2.1.1.2-D).
Command conversion (zOS systems)	Select if this is a zOS queue manager connection.
SSL tab	Figure 4.2.1.1.2-E
Key repository	Specify the key repository.
SSL certificate key	Specify the SSL certificate key.
Cipher specification	Select the cipher specification from the drop-down menu.
Cryptographic hardware	The applied encryption hardware is noted in the <i>Cryptographic hardware</i> field. Click the Settings button to specify cryptographic hardware settings (Figure 4.2.1.1.2-F).



Add Queue Manager Connection ?

General

Communication

SSL

Connection Manager Instance name:
REMOTE_QMGRS

Queue Manager name:
QMGR_NAME

Project name:
DEFAULT

Specify a user name and password to connect to the queue manager using security parameters (available in WMQ v.8.0 and later) or leave it empty if authentication is not required:

User ID:
[Empty field]

Password:
[Empty field]

Figure 4.2.1.1.2-B. Remote Queue Manager Connections – General Tab

Figure 4.2.1.1.2-C. Remote Queue Manager Connections – Communication Tab

The following window appears after clicking the ellipses button of **Security Exit Name**. Enter a new exit string and click **Add**. Click **Ok** to save changes and continue the creation process.

Exit String	Actions

Figure 4.2.1.1.2-D. Remote Queue Manager Connections – Communication Tab – Exit Strings

On the SSL tab window, populate the fields as noted in [Table 4.2.1.1.2-A](#).

Figure 4.2.1.1.2-E. Remote Queue Manager Connections – SSL Tab

The following window displays after the **Settings** button is clicked. Make your selections and click **Ok**. Back on the **SSL** tab, click **Ok** to save all changes.

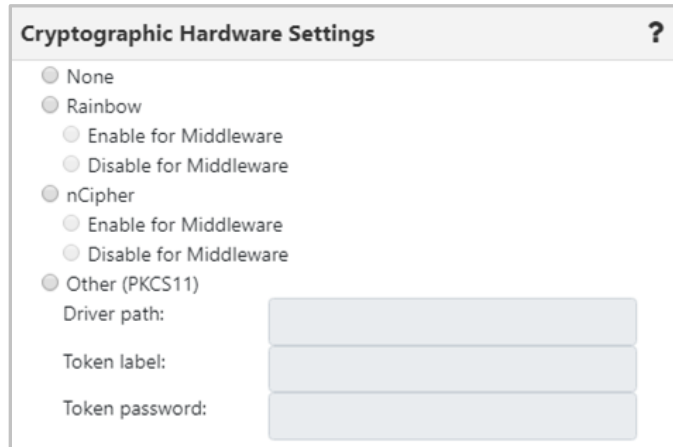


Figure 4.2.1.1.2-F. Remote Queue Manager Connections – Settings

4.2.1.1.3 Create Remote EMS Manager

To create a remote EMS manager connection, select a workgroup server from a Workgroup Server viewlet. From the pop-up menu, select **Create > Remote EMS Managers**. The *Remote EMS Connections* window opens.

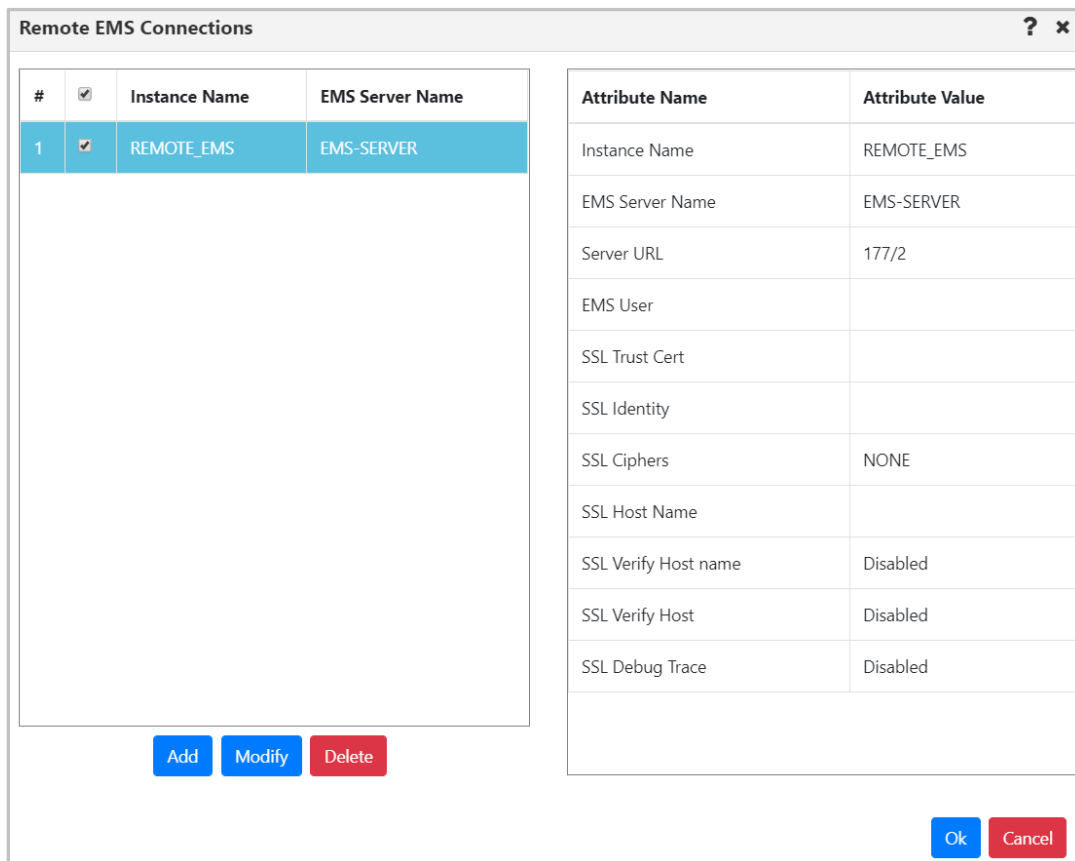


Figure 4.2.1.1.3-A. Remote EMS Connections Window

Click the **Add** button to create the new connection. The *Add EMS Manager Connection* window opens. See the table below for an explanation of this window's settings.

To update an existing remote EMS queue manager, select the connection and click **Modify** (opens the same window as the **Add** button). To delete a connection, select it and click **Delete**.

Table 4.2.1.1.3-A. Add (Change) EMS Manager Connections Window Properties	
Field	Description
General Tab	Figure 4.2.1.1.3-B
EMS Agent Instance Name (Node)	Enter the name of the EMS agent node the manager will connect to. REMOTE_EMS is the default.
EMS Server Name	Enter the EMS server name which will be displayed in an EMS manager viewlet. EMS-SERVER is the default.
EMS Server URL	Specify the EMS server URL. This is required. The structure of the EMS server URL is: <protocol>://<IP address>:<port>, i.e. tcp://172.16.6.48:7222
User ID	Specify the username to connect to the Tibco EMS instance.
Password	Password is optional.
SSL tab	Figure 4.2.1.1.3-C
Trusted Certificate	Specify the full path and file name of the trusted certificate(s). Passed to tibemsadmin as: <code>-ssl_trusted filename</code>
Client Identity	Specify the full path and file name of the file containing the client certificate, extra issuer certificates (optional) and the private key. Passed to tibemsadmin as: <code>-ssl_identity filename</code>
Issuer	Specify the full path and file name of the file containing extra issuer certificate(s) for client-side identity. Passed to tibemsadmin as: <code>-ssl_issuer filename</code>
Password (PKCS12 password)	Enter the private key or PKCS#12 password if required. Passed to tibemsadmin as: <code>-ssl_password password</code>
Key repository	This is the SSL private key. Use the following to pass it to the EMS Administration Tool (tibemsadmin): <code>-ssl_key filename</code>
Cipher specification	Select a cipher specification from the drop-down menu. Select Custom to enable the Custom Cipher name field and enter a custom cipher name.
Vendor	Specify the full path and file name of the file containing extra issuer certificate(s) for client-side identity. Passed to tibemsadmin as: <code>-ssl_issuer filename</code>
Host name	Enter the name expected in the server certificate sent by the host. Passed to tibemsadmin as: <code>-ssl_hostname name</code>
SSL Options	Figure 4.2.1.1.3-D
Verify Host Name	Enables/disables whether EMS will verify the SSL hostname when connecting. Passed to tibemsadmin as:

Table 4.2.1.1.3-A. Add (Change) EMS Manager Connections Window Properties	
	-ssl_noverifyhostname
Verify Host	Used when connecting to EMS.
SSL Trace	Show loaded certificates and certificates sent by the host. Passed to tibemsadmin as: -ssl_trace
SSL Debug Trace	Show additional tracing, which is useful for debugging. Passed to tibemsadmin as: -ssl_debug_trace.

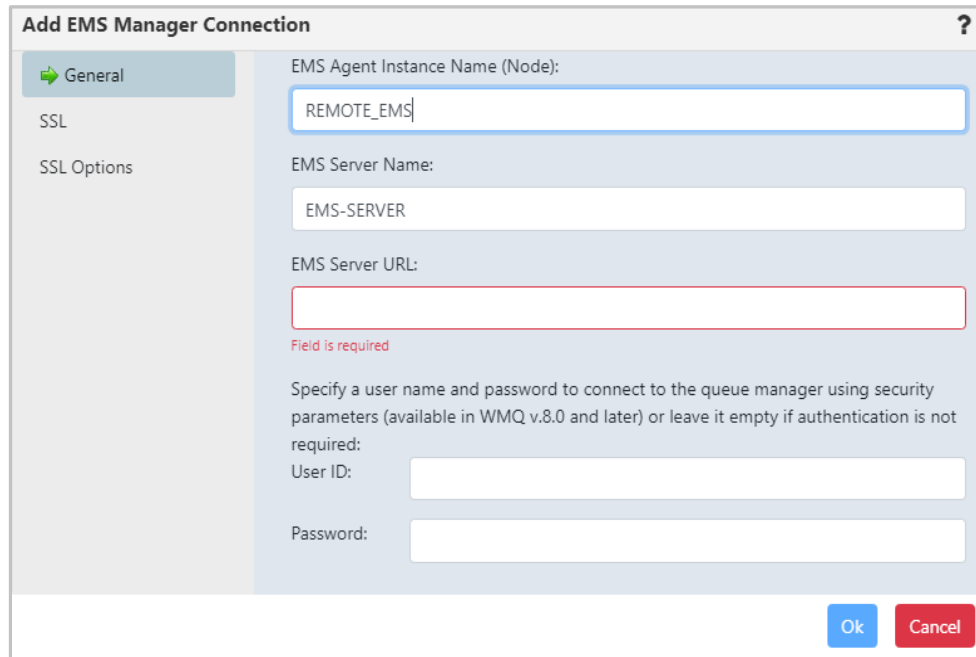



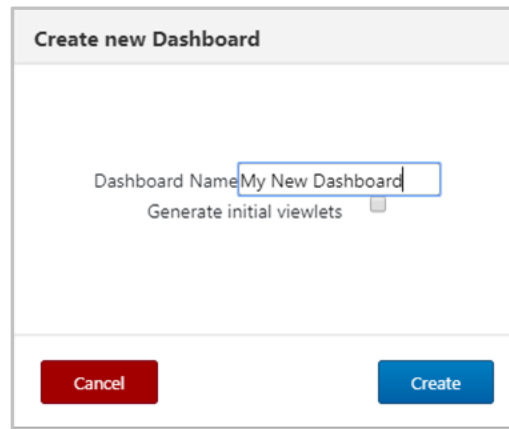
Figure 4.2.1.1.3-B. Add EMS Manager Connection Window – General Tab

Figure 4.2.1.1.3-C. Add EMS Manager Connection Window – SSL Tab

Figure 4.2.1.1.3-D. Add EMS Manager Connection Window – SSL Options Tab

4.2.2 Create New Dashboard

New dashboards can be added. Click on the plus icon  located to the right of the dashboard tabs to display the *Create new Dashboard* dialog box. Enter a name for the new dashboard.



Create new Dashboard

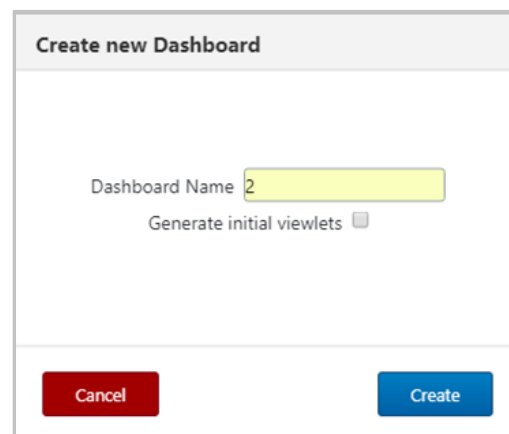
Dashboard Name

Generate initial viewlets

Cancel **Create**

Figure 4.2.2-A. Create New Dashboard

If a name is entered of an existing dashboard, the field will be displayed in yellow to warn the user.



Create new Dashboard

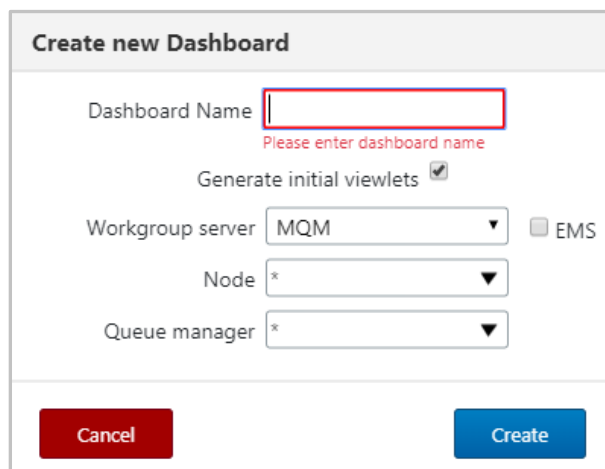
Dashboard Name

Generate initial viewlets

Cancel **Create**

Figure 4.2.2-B. Create New Dashboard – Existing Dashboard Name

To include initial viewlets, turn on the **Generate initial viewlets** option. Select the workgroup server and check off **EMS** if the initial viewlets within the dashboard should include EMS objects. You can specify a node and queue manager, or leave blank to use the default local queue and channel viewlets. Click **Create**.



Create new Dashboard

Dashboard Name

Please enter dashboard name

Generate initial viewlets

Workgroup server EMS

Node

Queue manager

Cancel **Create**

Figure 4.2.2-C. Generate Initial Viewlets

Initial viewlets will look similar to the following figure.

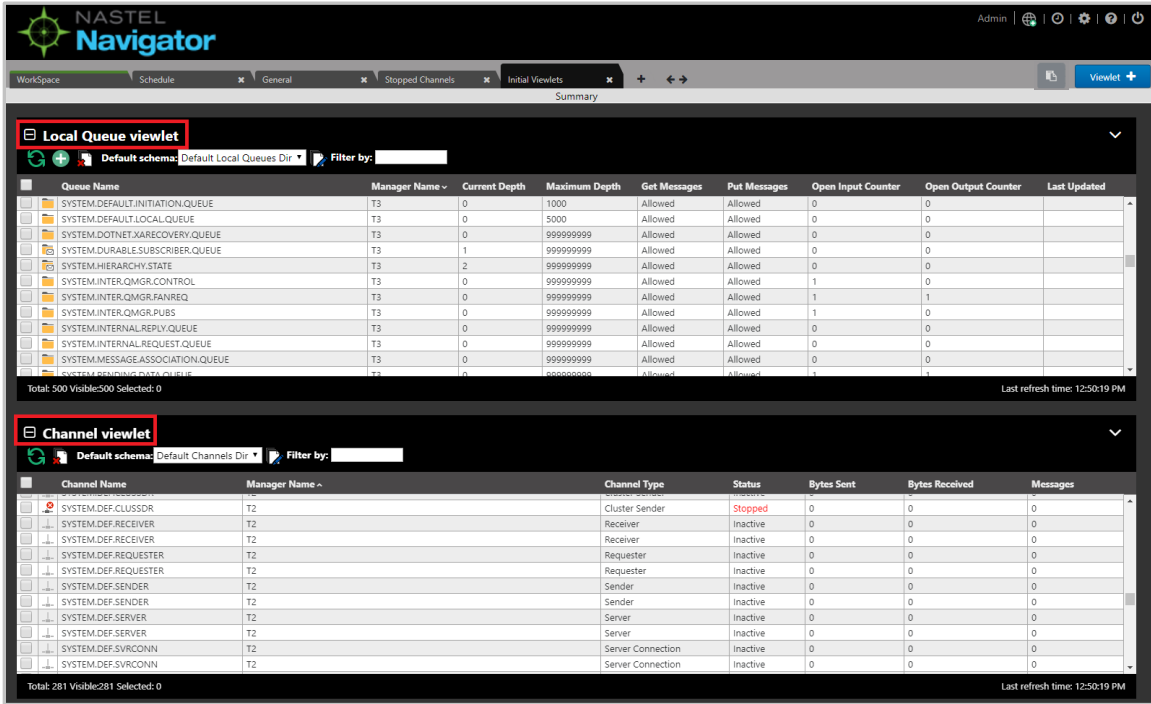


Figure 4.2.2-D. Default Local Queue and Channel Viewlets

4.2.3 Displaying Additional Dashboards

In systems with several dashboards, all dashboard tabs will not display within the immediate view of the screen. To scroll through all available dashboards, click on the arrows located to the right of the dashboard tabs or hover over the dashboards and scroll the wheel of your mouse.

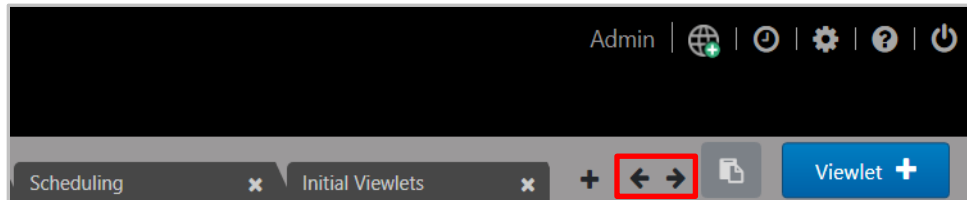


Figure 4.2.3-A. Displaying Additional Dashboards

4.2.4 Dashboard Menu

Right click on a dashboard tab to view the dashboard menu. The menu gives you the option to set a dashboard as the default or to rename a dashboard.

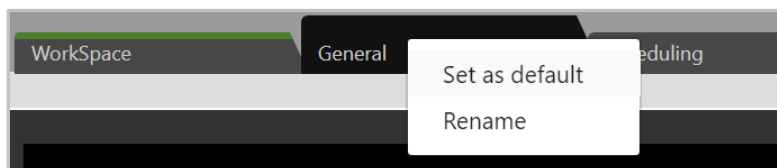


Figure 4.2.4-A. Dashboard Menu

4.2.4.1 Set Dashboard as Default

A user can specify which dashboard they would like to immediately view after logging in. To set a dashboard as the default, select **Set as default** from the dashboard menu (Figure 4.2.4-A).

A dashboard tab with a green line is the default dashboard of the system.

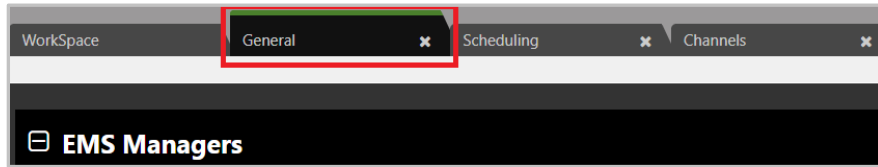


Figure 4.2.4.1-A. Default Dashboard

4.2.4.2 Rename a Dashboard

Select **Rename** from the dashboard's menu ([Figure 4.2.4-A](#)). The following dialog box appears. Enter a new name and click **OK**.

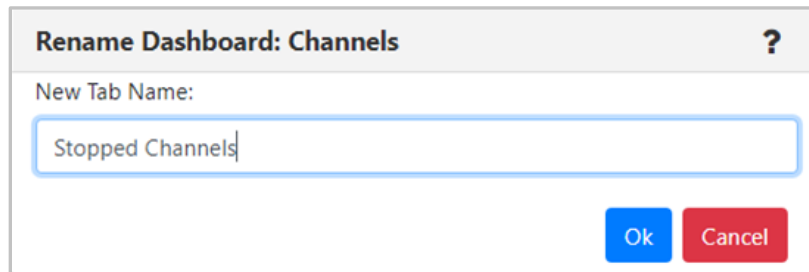


Figure 4.2.4.2-A. Rename Dashboard

4.2.5 Summary and Console

The Summary section is located at the top portion of the dashboards. It displays the main viewlets of the objects.

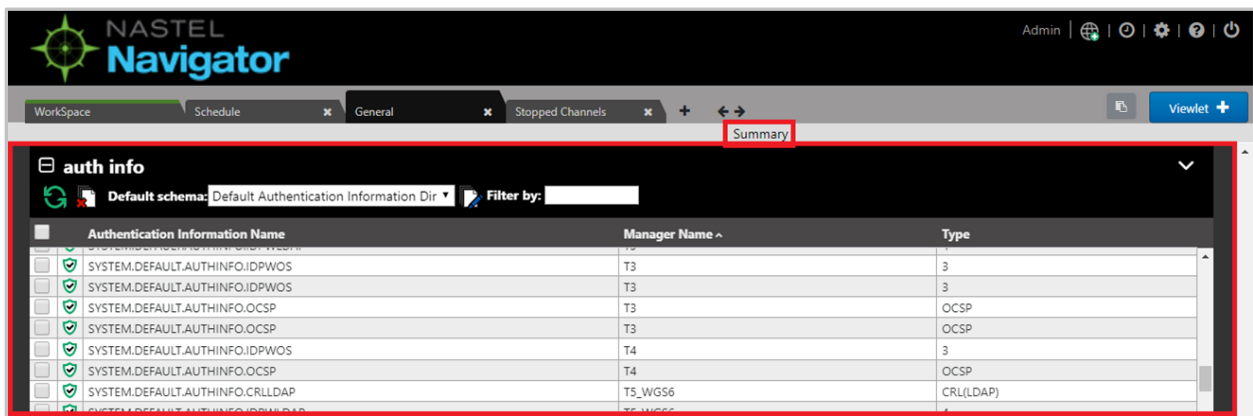


Figure 4.2.5-A. Summary

When object aspects are opened from the Summary section, they appear in viewlets within tabs located at the bottom of the screen in the Console section. Queue and channel statuses, messages, attributes, and events are some of the object aspects that appear in the Console section. To collapse/expand this section, click **Console** ([Figure 4.2.5-B](#)).

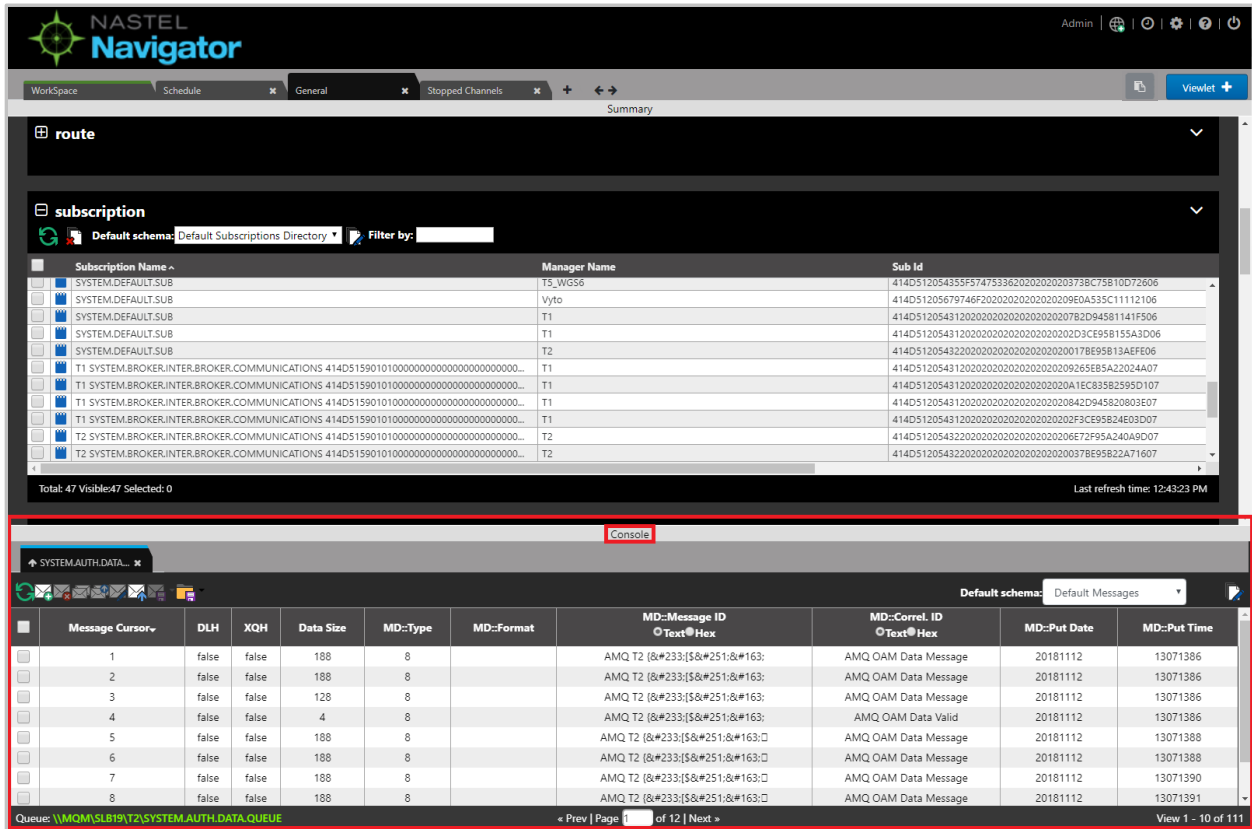



Figure 4.2.5-B. Console

When multiple tabs are displayed within the Console section, use the left and right navigation buttons to easily scroll through the tabs. Click on the up arrow  located on the left side of the tabs to jump to the originating viewlet which generated the Console viewlet.

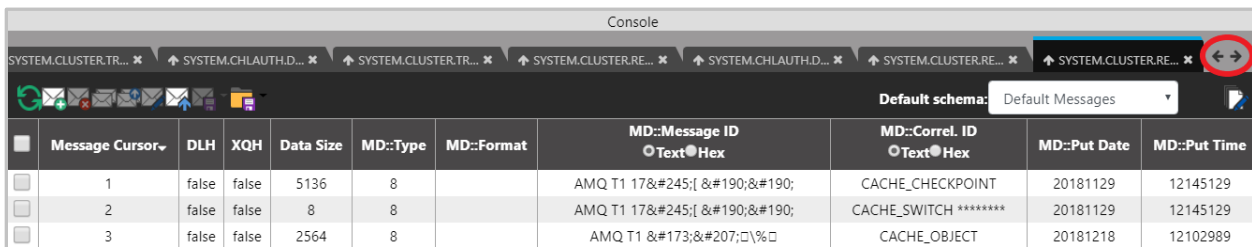


Figure 4.2.5-C. Viewing Console Tabs

4.2.6 Delete Dashboards

To remove a dashboard, click on the X within the tab of the dashboard to delete. A confirmation prompt will appear asking you to confirm this action.

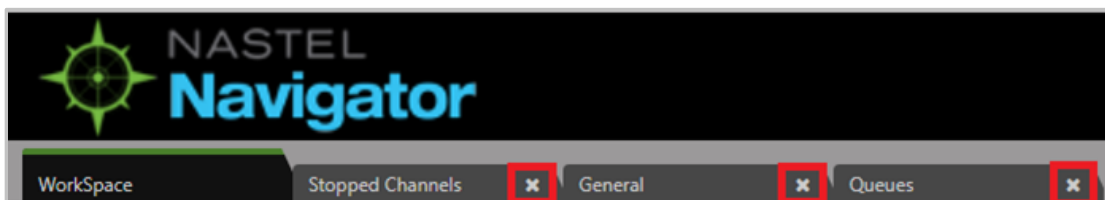


Figure 4.2.6-A. Delete Dashboards

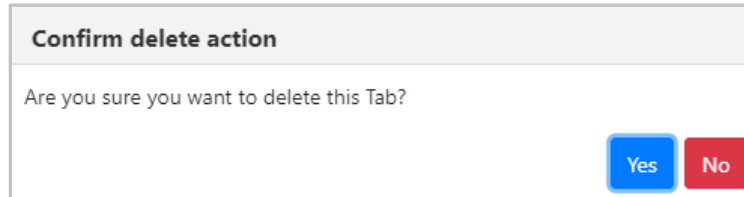



Figure 4.2.6-B. Delete Confirmation

4.2.7 Change the Order

The order in which dashboards are displayed can be changed. Click on the tab of the dashboard you would like to move and drag and drop it to a new position.

4.3 Viewlets

4.3.1 Adding and Managing Viewlets

The *Create Viewlet* dialog box is displayed when the **Viewlet** button  is clicked from the top right of the screen ([Figure 4.1-A](#)). Please note that when accessed from the *WorkSpace* dashboard, only the **Create a temporary viewlet using search** option is available.

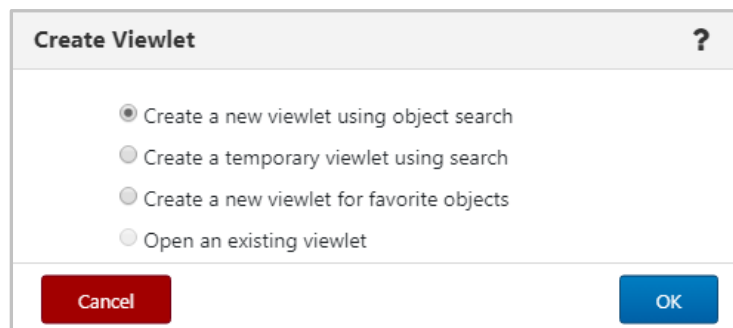


Figure 4.3.1-A. Create Viewlet

4.3.1.1 Creating New / Temporary Viewlets

The *Create new viewlet* window is displayed when **Create a new viewlet using object search** or **Create a temporary viewlet using search** is selected from the **Create Viewlet** dialog box ([Figure 4.3.1-A](#)). If **Create a temporary viewlet using search** was selected, the viewlet will only be visible during this session.

Select the object type from the list on the left ([Figure 4.3.1.1-A](#)). Objects with an asterisk are objects for both MQ and EMS. **Transport**, **Route**, **Bridge** and **Durable** are EMS only objects. Please see [Appendix B](#) for a list of MQ and EMS objects and their descriptions.

After selecting the object from the left side of the screen, complete the fields as required. To make the viewlet temporary, enable the **Temporary** check box. The **Attribute filter** is useful to search for specific cases. See [Section 4.3.1.3.1.1, Attribute Filter](#), for more info. Click **Save Changes** when done. The viewlet will appear at the bottom of the current dashboard.

Figure 4.3.1.1-A. Create New Queue Viewlet

4.3.1.2 Create a New Viewlet for Favorite Objects

The *Add favorite viewlet* dialog box is displayed when **Create a new viewlet for favorite objects** is selected from the **Create Viewlet** dialog box ([Figure 4.3.1-A](#)). For more information on favorite viewlets, see [Section 4.3.3.5, Favorites](#).

Figure 4.3.1.2-A. Add Favorite Viewlet Dialog Box

Create a Favorite Viewlet

1. Enter a name for the viewlet within the **Viewlet name** field.
2. Select a server from the **Workgroup server** drop-down list.
3. Click **Save Changes**.

- A viewlet for all favorite objects is now created. Scroll down to see the new viewlet. Favorite viewlets will have a star icon appearing immediately before the viewlet's name.

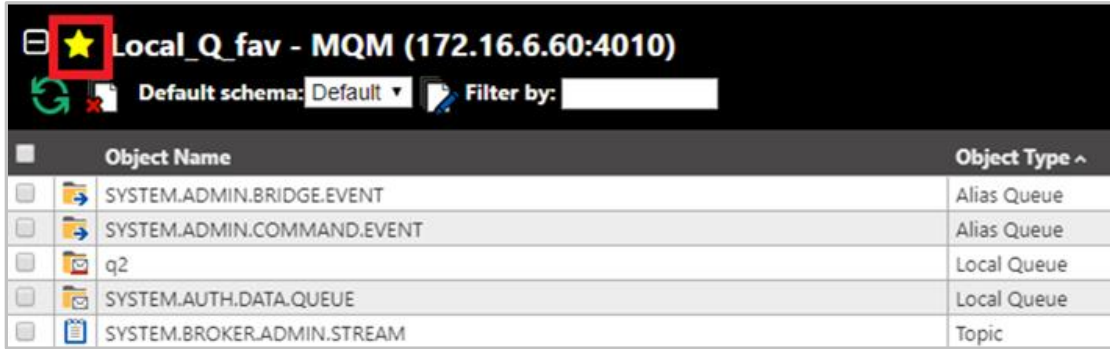


Figure 4.3.1.2-B. Favorites Viewlet

Edit / Delete a Favorites Viewlet


Click the down arrow  on the right side of the viewlet. Select **Edit viewlet** to rename the viewlet (Figure 4.3.1.2-D) or **Delete viewlet** (Figure 4.3.1.2-E) to remove the viewlet.



Figure 4.3.1.2-C. Edit / Delete Favorite Viewlet

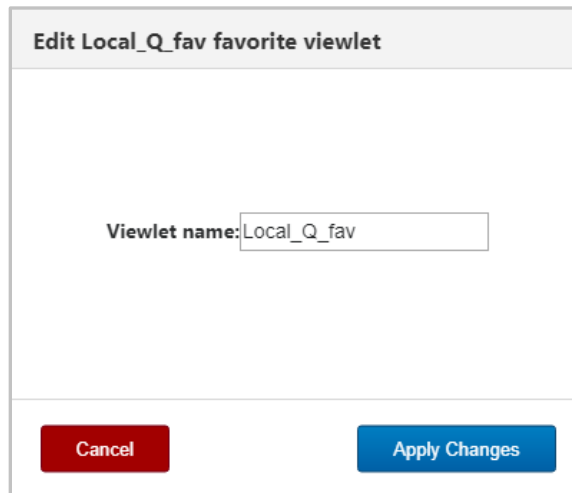


Figure 4.3.1.2-D. Edit Favorite Viewlet



Figure 4.3.1.2-E. Delete Viewlet Confirmation

4.3.1.3 Viewlet Menu

Clicking the down arrow located at the top right corner of viewlets opens the viewlet menu. Users have the option to edit or delete viewlets.

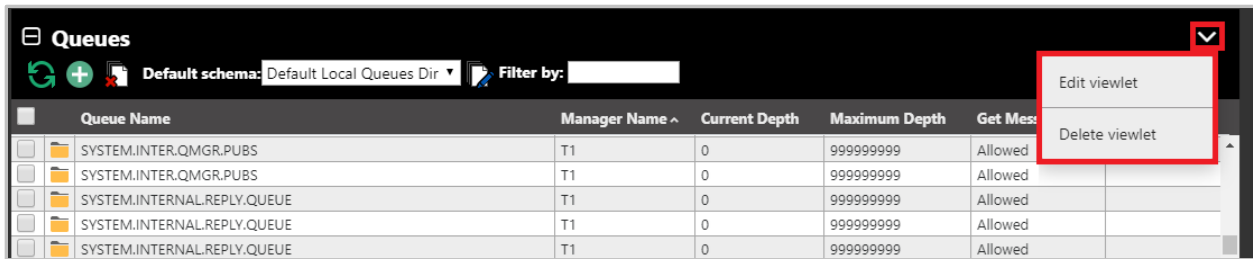


Figure 4.3.1.3-A. Viewlet Menu

4.3.1.3.1 Edit Viewlet

Select **Edit Viewlet** from the viewlet drop-down menu. The *Edit Viewlet* window opens. For more information on this screen, please see *Creating New / Temporary Viewlets* ([Section 4.3.1.1](#)).

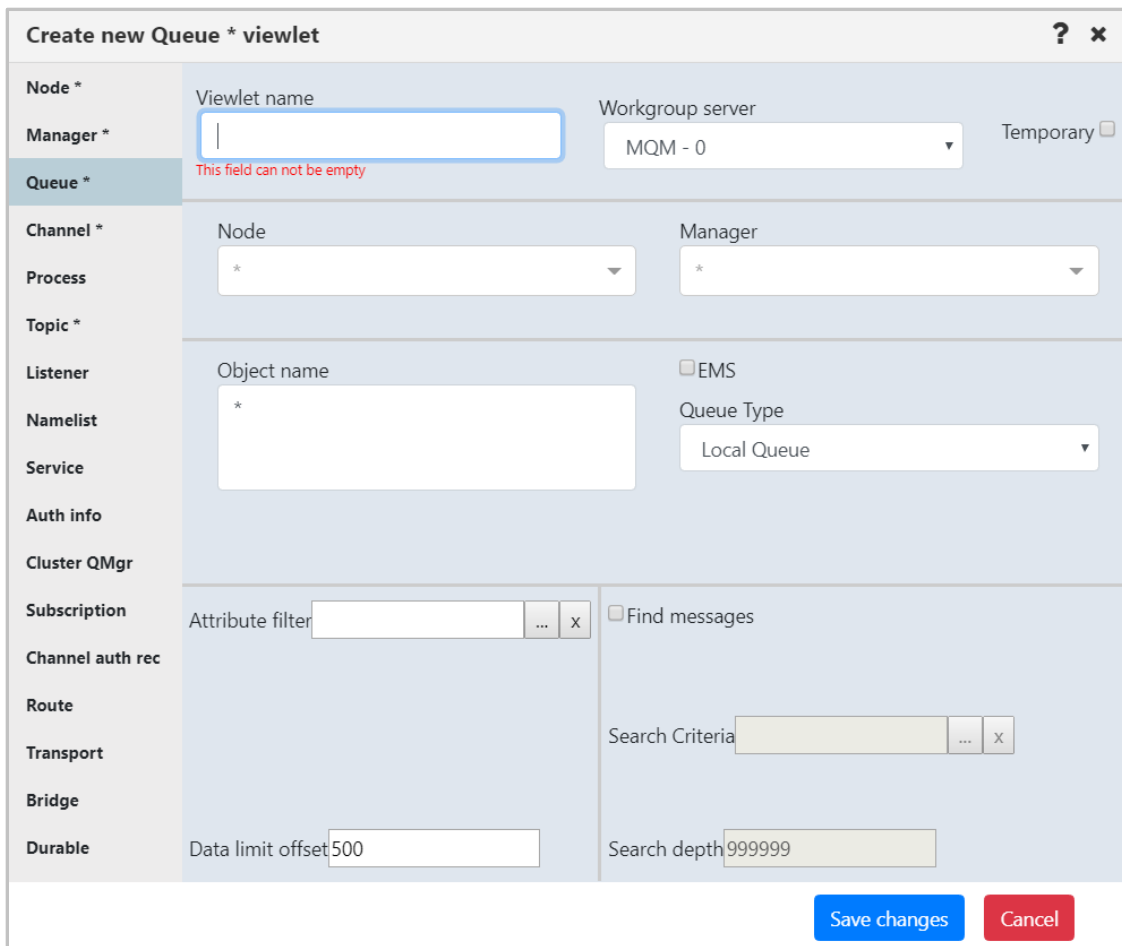


Figure 4.3.1.3.1-A. Edit Viewlet

4.3.1.3.1.1 Attribute Filter

The **Attribute filter** field is valuable to search for specific use cases such as queues that get disabled, queues with more than 1000 messages, or objects that do not have specific settings (default persistence). Users can specify multiple attributes for each filter. This field appears on the *Create New Queue Viewlet* ([Section 4.3.1.1](#)) and *Edit Queue Viewlet* ([Section 4.3.1.3](#)) windows.


Click the ellipses button  immediately to the right of the field to add an attribute.

Figure 4.3.1.4-A. Attribute Filter Option

The *Manage Attribute Filter* dialog box opens. Click the **Add** button to add a new filter. For existing filters, select **Copy As**, **Delete**, or **Edit**.

Figure 4.3.1.4-B. Manage Attribute Filter

If adding a new filter, the following dialog box opens. Enter a name for the filter within the **Filter name** field and select one of the following radio buttons:

- **All:** Objects with all attributes specified by the user will be found.
- **One:** Objects with at least one of the attributes specified by the user will be found.

Click **Add** to add attributes to the new filter.

Figure 4.3.1.4-C. Adding a New Filter

The following window appears. Simply click on an attribute to select it. Multiple attributes can be added. The background color of a selected attribute will appear green. To easily locate attributes, use the drop-down and the **Enter filter value** search box to search by attribute name (part of the name can be entered).

Name	Category
Queue Name	General
Manager Name	General
Node Name	General
Queue Type	General
Base Object Name	General
Last Updated	General
Current Depth	General
Definition Type	General
Get Messages	General
Put Messages	General
Usage	General
Maximum Depth	General
Open Input Counter	General
Open Output Counter	General
Remote Queue Manager	General
Remote Queue	General
Cluster Queue Type	General
Cluster Name	General
Hosting Queue Manager	General
QSG Disposition	General
Use Dead Letter Queue	General

Figure 4.3.1.4-D. Available Attributes

After clicking **OK**, the selected attributes will need to be configured. For each attribute, select an option from the **Compare operation** drop-down and specify a **Value**. Figure 4.3.1.4-E below is an example. To remove an attribute, simply click on the red X at the end of the attribute row. Click **OK** after all attributes have been configured.

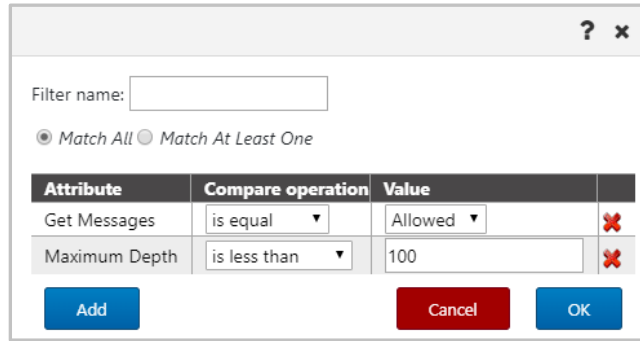


Figure 4.3.1.4-E. Configuring Attributes

The *Manage attribute filter* dialog box appears. The left side of the screen displays all created filters. Click on a filter to view that filter’s attributes within the **Content** box on the right side of the screen. If all attributes must be met, the text, **ALL of the following**, will appear (Figure 4.3.1.4-F). If at least one attribute must be met, the text, **At least ONE of the following**, will appear (Figure 4.3.1.4-G). This is specified when adding a new filter (Figure 4.3.1.4-C), but can be updated when configuring attributes (Figure 4.3.1.4-E).

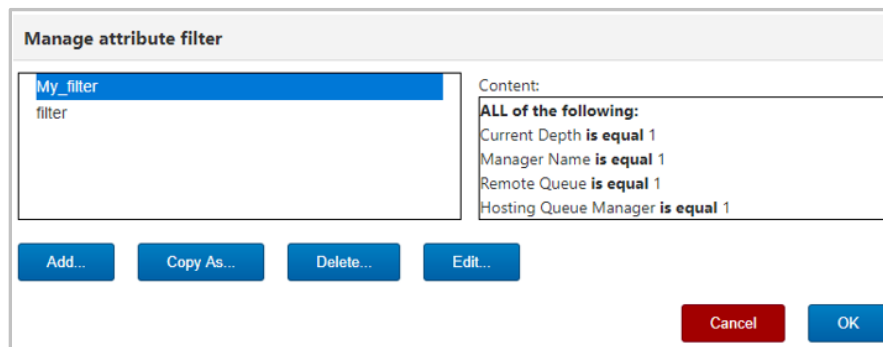


Figure 4.3.1.4-F. Manage Attribute Filter – All Attributes

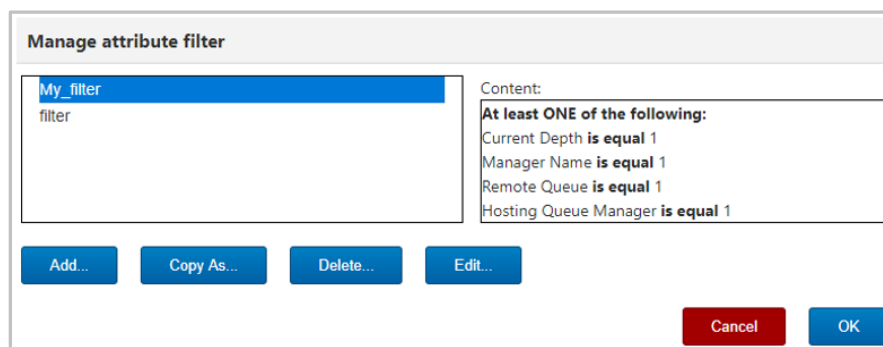



Figure 4.3.1.4-G. Manage Attribute Filter – At Least One Attribute

If the WGS cannot retrieve any of the parameter values expected to display in the viewlet schema based on the attributes selected, a warning symbol  is displayed immediately next to the viewlet menu button.

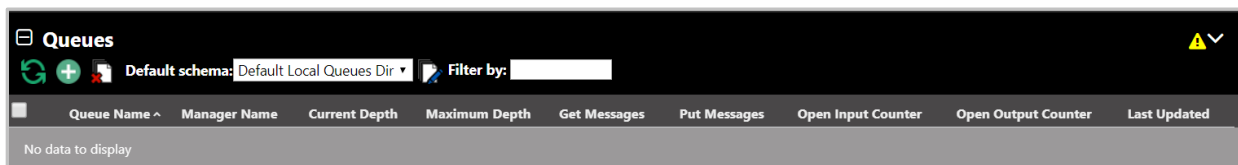


Figure 4.3.1.4-H. Warning Sign

Click on the warning symbol to view the error description window.

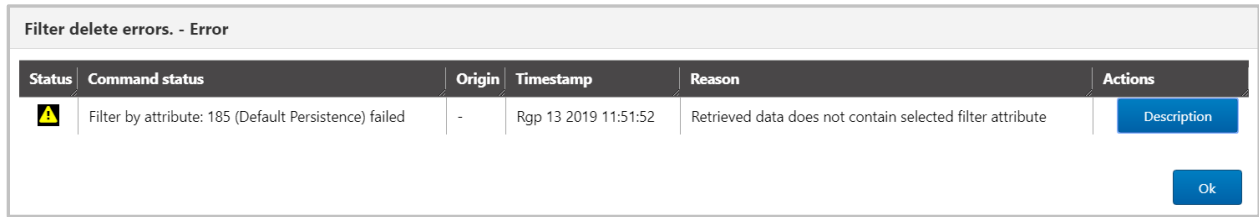


Figure 4.3.1.4-I. Error Description Window

Click on the **Description** button to view the error details. Click **Ok** to exit the window.



Figure 4.3.1.4-J. Error Details

4.3.1.3.1.2 Find Messages

Within the *Edit Queue * viewlet* window (or *Create New Queue Viewlet*, see [Figure 4.3.1.1-A](#)), users can filter queues by messages containing specific data.

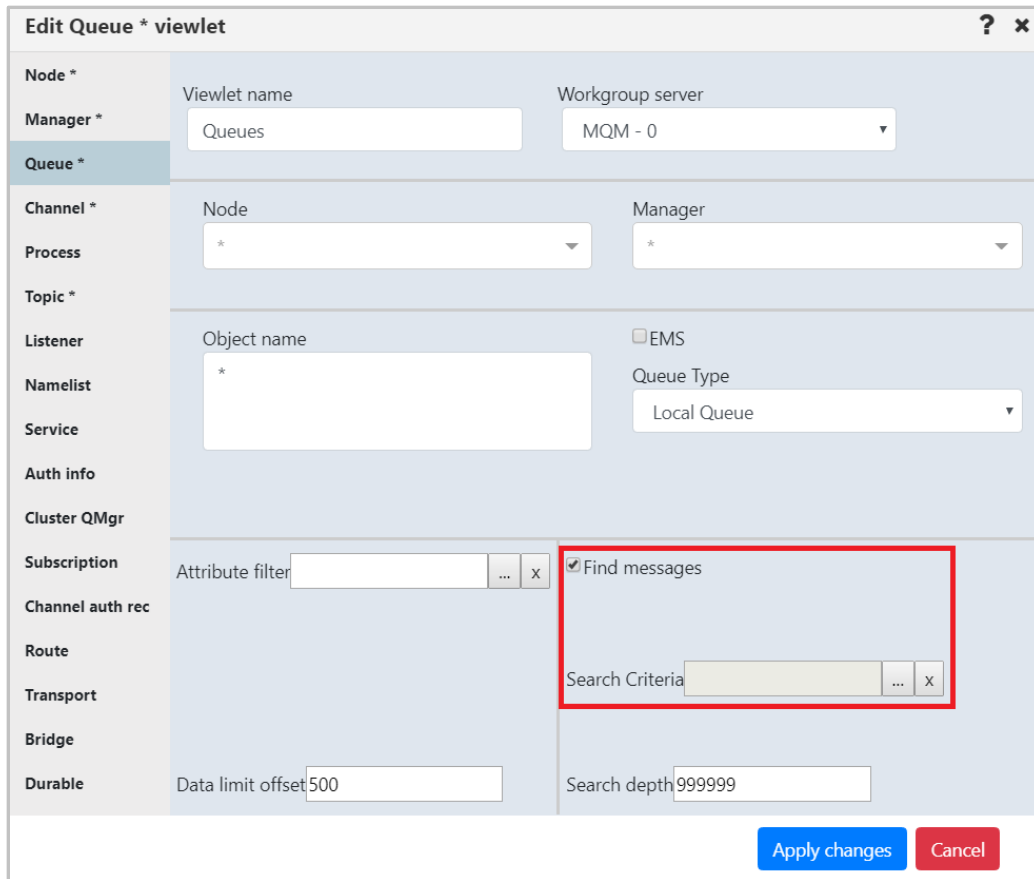


Figure 4.3.1.3.1.2-A. Find Messages

Click the ellipses button  of the **Search Criteria** field. The following dialog box opens.

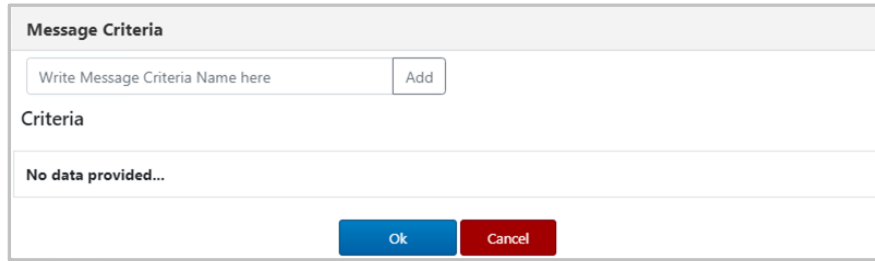


Figure 4.3.1.3.1.2-B. Message Criteria

Search criteria is saved for easy retrieval. Enter new search criteria and click **Add**. A new search criteria record is now added. Additional search criteria records can be added by repeating the previous step. Select the search criteria you would like to use (the selected record will be green) and click **Ok**. If there is search criteria you no longer need, click the red X button to delete the record.

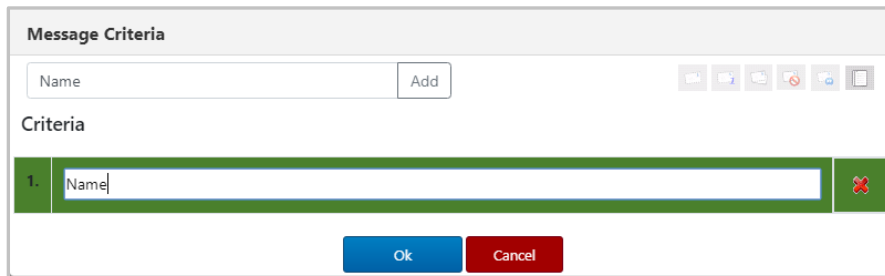


Figure 4.3.1.3.1.2-C. Enter Search Criteria Name

The data to search for will need to be added to the search criteria record created above. Click the paper button to specify the data. Click **Ok** when finished.

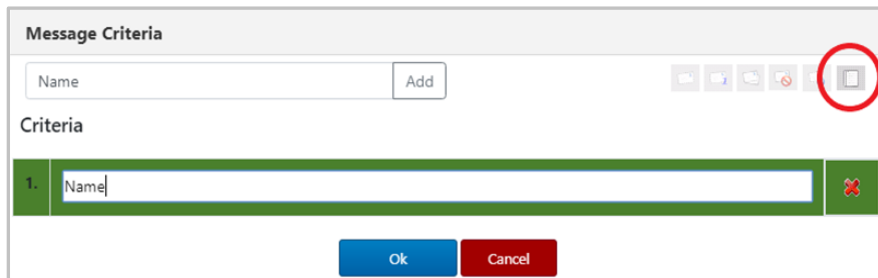


Figure 4.3.1.3.1.2-D. Enter Data

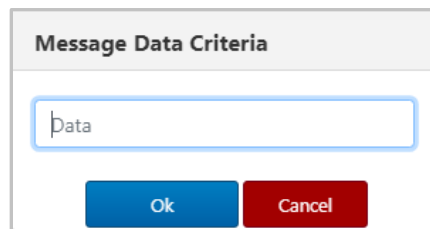


Figure 4.3.1.3.1.2-E. Enter Data

Back on the *Edit Queue viewlet* window, users can specify an amount within the **Search depth** field if desired. Click **Apply**. The viewlet will display only the queues with messages containing the data specified in the search criteria.

To turn off the data message filter, but still filter by message depth, simply click the **X** to the right of the **Search Criteria** field. To completely disable filtering by messages, uncheck **Find messages**.

4.3.1.3.2 Delete Viewlet

To delete a viewlet select **Delete viewlet** from the viewlet menu ([Figure 4.3.1.3-A](#)). The following dialog box opens to confirm the delete action.

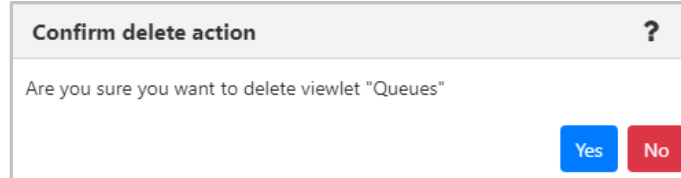




Figure 4.3.1.3.2-A. Confirm Delete Action

4.3.2 Nodes

There can be multiple nodes in a workgroup server (see [Section 4.2.1.1.1, Create a Node](#), for information on how to create a node). The nodes are the access points for the queue managers and EMS brokers.

A green circle with a white checkmark  shows that the node is active, and a red circle with an exclamation mark  means that the node is stopped or its state is unknown.

The following screenshot displays the pop-up menu options of node objects. Please see [Appendix C](#) for an explanation of these options.



NOTE

Your pop-up menu options may differ according to your user permissions, which are managed by an admin.

Node Name ^	Hostname	Use DNS	IP Address	IP Port	OS Platform
<input type="checkbox"/> EMS-SERVER	dzi	NO	172.16.6.92	5555	Java
<input type="checkbox"/> EMS-SERVER-R	SLB19	NO	172.16.6.65	5555	Java
<input type="checkbox"/> EMS-SERVER_B	BENAS	NO	172.16.6.48	5555	Java
<input type="checkbox"/> EMS-SERVER_DAINIUS	DAINIUS	NO	172.16.6.99	5555	Java
<input checked="" type="checkbox"/> EMS-SERVER_FD	EDGARAS	NO	172.16.6.70	5555	Java
<input type="checkbox"/> Show Object Attributes	EIVYDAS	NO	172.16.6.21	5555	Java
<input type="checkbox"/> Show Topology	EDGARAS	NO	172.16.6.92	5555	Java
<input type="checkbox"/> Create Queue Manager	dzi	NO	172.16.6.92	5555	Java
<input type="checkbox"/> Events...	dzi	NO	172.16.6.48	5555	Java
<input checked="" type="checkbox"/> Manage					
<input type="checkbox"/> Discover now >	Incremental		172.16.6.54	5010	WINDOWS NT
<input type="checkbox"/> SLB19	Full		172.16.6.65	5010	WINDOWS NT

Figure 4.3.2-A. Nodes Pop-Up Menu

The **Manage** option marks whether a node is managed. When a node is inactive, uncheck the **Manage** option in the pop-up menu and check it again – this will start the inactive node. To stop a node, perform the opposite – uncheck the **Manage** option. When the node is not managed, it can be deleted or its properties can be modified.

When the node is managed, it can also be discovered. See [Appendix C](#) for more information on discovery modes.

4.3.3 Managers

4.3.3.1 Queue Managers

To view queue managers, create a viewlet (see [4.3.1 Creating Viewlets](#) for more information). The viewlet toolbar includes a refresh viewlet button . It also includes **Default schema** drop-down options and the ability to create a new schema or edit an existing schema . For more information on schemas, please see *Customizing Viewlets* ([Section 4.3.7](#)).

You can view a queue manager's path by hovering over its name. Select a queue manager to display the action menu. The menu options are described in [Appendix C](#).

NOTE Your pop-up menu options may differ according to your user permissions, which are managed by an admin.

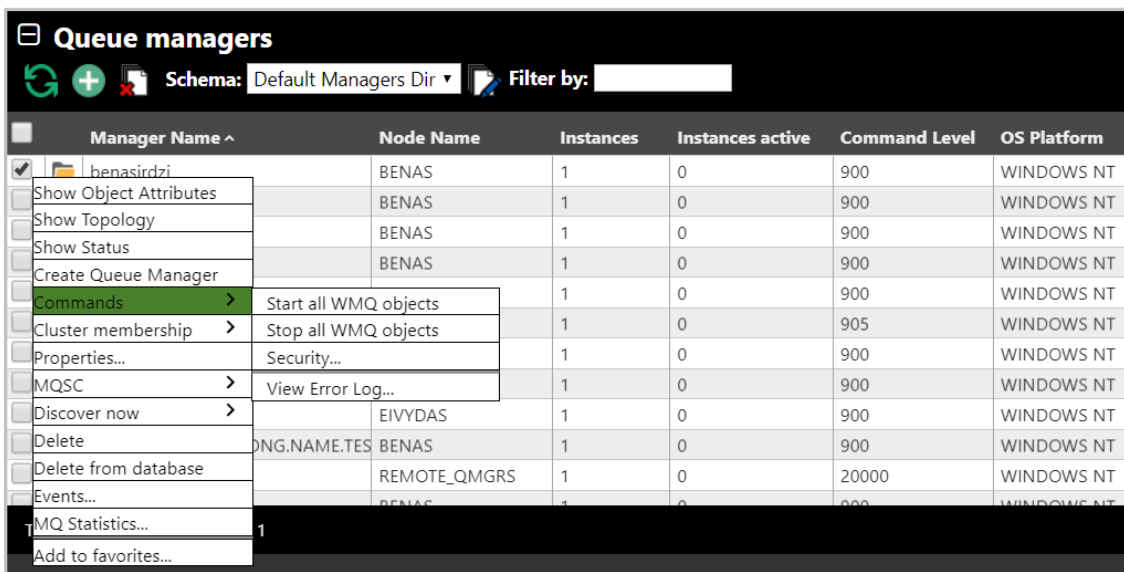



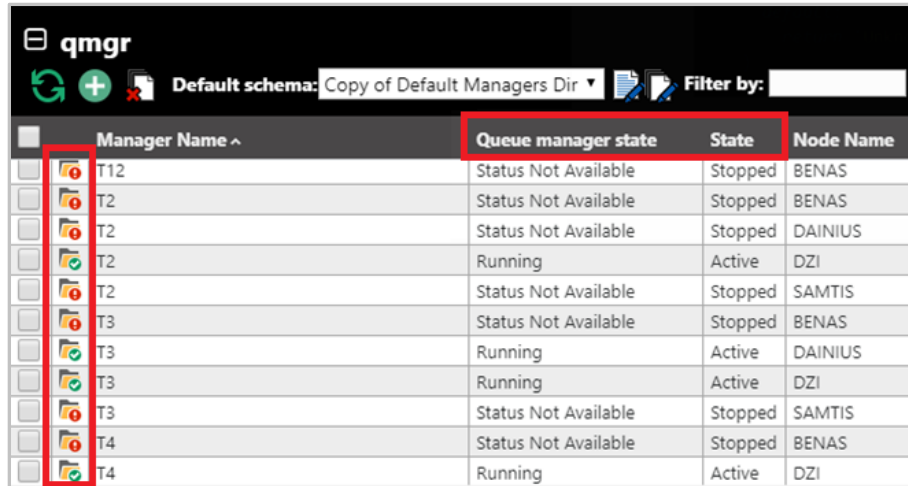


Figure 4.3.3.1-A. Queue Manager Viewlet

A queue manager's state is represented by the folder icon appearing before its' name. Refer to the table below for the meaning of each folder icon. You can add the **Queue manager state** and **State** columns to the viewlet's schema to display a more detailed state ([Figure 4.3.3.1-B](#)).

Table 4.3.3.1-A. Queue Manager States	
Icon	Possible States
	<ul style="list-style-type: none"> Unknown state
	<ul style="list-style-type: none"> Running / active Running as standby
	<ul style="list-style-type: none"> Ending immediately Ending preemptively Stopped
	<ul style="list-style-type: none"> Updating state

	<ul style="list-style-type: none"> Starting
	<ul style="list-style-type: none"> Status not available Ended normally Ended immediately Ended unexpectedly Ended preemptively
	<ul style="list-style-type: none"> Quiescing Running elsewhere

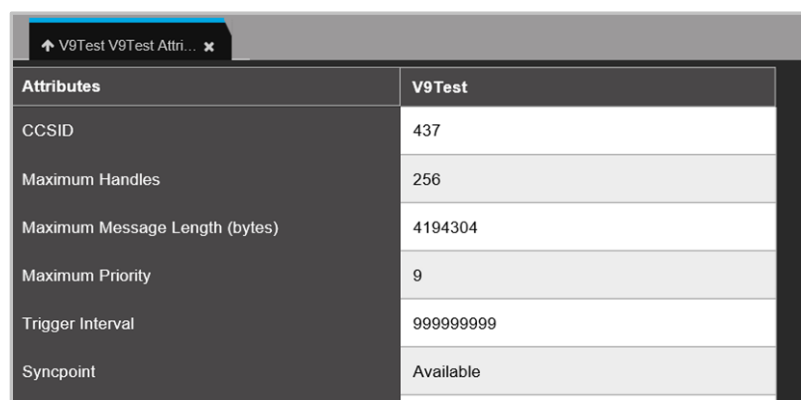


Manager Name ^	Queue manager state	State	Node Name
T12	Status Not Available	Stopped	BENAS
T2	Status Not Available	Stopped	BENAS
T2	Status Not Available	Stopped	DAINIUS
T2	Running	Active	DZI
T2	Status Not Available	Stopped	SAMTIS
T3	Status Not Available	Stopped	BENAS
T3	Running	Active	DAINIUS
T3	Running	Active	DZI
T3	Status Not Available	Stopped	SAMTIS
T4	Status Not Available	Stopped	BENAS
T4	Running	Active	DZI

Figure 4.3.3.1-B. Queue Manager States

4.3.3.1.1 Attributes

When **Show Object Attributes** is selected from a queue manager's action menu (Figure 4.3.3.1-A), the *Attributes* viewlet opens. This viewlet displays the attributes of the selected object. Scroll down to see additional attributes.



Attributes	V9Test
CCSID	437
Maximum Handles	256
Maximum Message Length (bytes)	4194304
Maximum Priority	9
Trigger Interval	999999999
Syncpoint	Available

Figure 4.3.3.1.1-A. Queue Manager Attributes

4.3.3.1.2 Starting / Stopping all WMQ Objects

To start or shutdown queue managers, select either **Start all WMQ objects** or **Stop all WMQ objects** from the selected queue manager action menu (Figure 4.3.3.1-A).

Start Queue Manager

The following dialog box is displayed when **Start all WMQ objects** is selected. You can select **Start channels** and/or **Start an instance of a multi-instance queue manager** by clicking the check boxes.

For more information on multi-instance queue managers, please go to the IBM Knowledge Center:

https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_7.5.0/com.ibm.mq.con.doc/q018140.htm

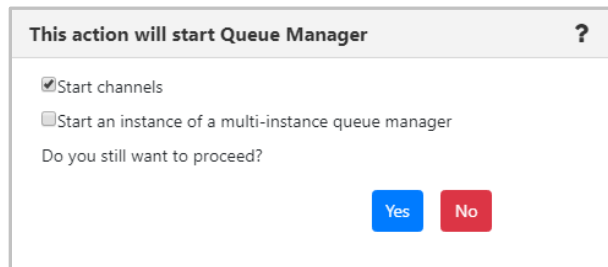


Figure 4.3.3.1.2-A. Start Queue Manager

Stop Queue Manager

When **Stop all WMQ objects** is selected, the following dialog box is displayed where you can select the shutdown method.

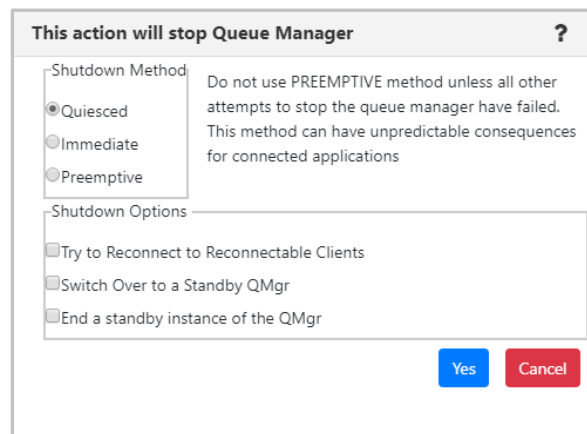


Figure 4.3.3.1.2-B. Stop Queue Manager

4.3.3.1.3 Properties

When **Properties** is selected from the queue manager's action menu ([Figure 4.3.3.1-A](#)), the *Properties* window for the selected object is displayed. For detailed descriptions of the various input fields and tabs, go to the IBM Knowledge Center:

https://www.ibm.com/support/knowledgecenter/SSFKSJ_9.1.0/com.ibm.mq.explorer.doc/e_properties_queues.htm.

Figure 4.3.3.1.3-A. Queue Manager Properties

4.3.3.1.4 Events

When Events is selected from the queue manager's action menu ([Figure 4.3.3.1-A](#)), the *Events* viewlet opens. The viewlet displays middleware and APMW events, in real-time. The **Event #** provides the event number within its category number. Click this number to display the *Event Details* window.

Event #	Date/Time	Category	Event ID	Object
29	11:10:09, Dec, 10, 2018	Alter	New Object	\\MQM\SLB19\T1\Delete ^

Figure 4.3.3.1.4-A. Events Viewlet

Figure 4.3.3.1.4-B. Event Details – General Tab

Event details	
General Diagnostic	
Event #:	29
User ID:	SYSTEM
Event ID:	20001
Elapsed Time:	00:00:08 hours
Reason:	0
Error ID:	AMQ
Name	Value
Workgroup Name	MQM
Node Name	SLB19
Queue Manager Name	T1
Object Type	CCSID
Object Name	Delete
Original User ID	SYSTEM
Last Event Time	8
Description:	
MQRC_NONE: Reason code is zero and signifies a successful completion. When occurs in events, signifies that no further qualification of the event is available.	
Corrective Action: None	
Close	

Figure 4.3.3.1.4-C. Event Details – Diagnostic Tab

4.3.3.1.5 Favorites

Instead of searching for a specific queue manager, you can add an entire queue manager (that is, the queue manager along with all of its subfolders) to a *Favorites* viewlet. Favorites are per workgroup server.



NOTE

A *Favorites* viewlet can be created for other objects as well. The objects which you can create a *Favorites* viewlet for are any of the objects which have the **Add to favorites...** option on their action menu.

To access the *Add Favorite Viewlet* dialog box ([Figure 4.3.1.2-A](#)), select **Add to favorites...** from the queue manager's action menu ([Figure 4.3.3.1-A](#)).

If no favorite viewlets exist, you will see the following screen ([Figure 4.3.3.1.5-A](#)). For more information on adding a favorite viewlet, please see *Create a New Viewlet for Favorite Objects* ([Section 4.3.1.2](#)).

If favorite viewlets already exist, continue to the next section, *Add to Selected Favorite Viewlet*.

Figure 4.3.3.1.5-A. No Favorites Dialog Box

Add to Selected Favorite Viewlet

1. After selecting **Add to favorites** from the queue manager's action menu ([Figure 4.3.3.1-A](#)), the **Add to Selected Favorite Viewlet** dialog box is displayed.
2. Select the favorite viewlet from the drop-down list and click **Save Changes**.

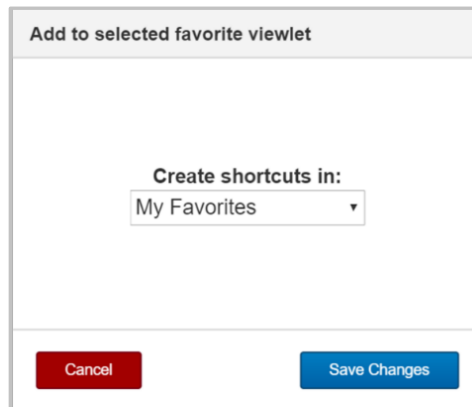


Figure 4.3.3.1.5-B. Add to Favorite Viewlet

4.3.3.1.6 MQSC Command Window

After selecting **MQSC > Console** from a queue manager's pop-up menu ([Figure 4.3.3.1-A](#)), the below command window opens. At the top of the window is a field to type in a command. Please see the following IBM online Knowledge Center article for more information on MQSC commands: [https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_7.5.0/com.ibm.mq.ref.adm.doc/q085130 .htm](https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_7.5.0/com.ibm.mq.ref.adm.doc/q085130.htm)

Use the drop-down menu located on the right side of the command field to browse through the most recent commands entered (exists only for one session, the list will not be saved after the command window is closed).

Enter a command and click **Submit** to execute it. In the example below the command **DISPLAY QMGR** was entered and the selected queue managers' details displayed in the command window.

Please note that the node, containing the selected queue manager, must be active to have the ability to execute the commands (see [Section 4.3.2, Nodes](#), for more information on node statuses).

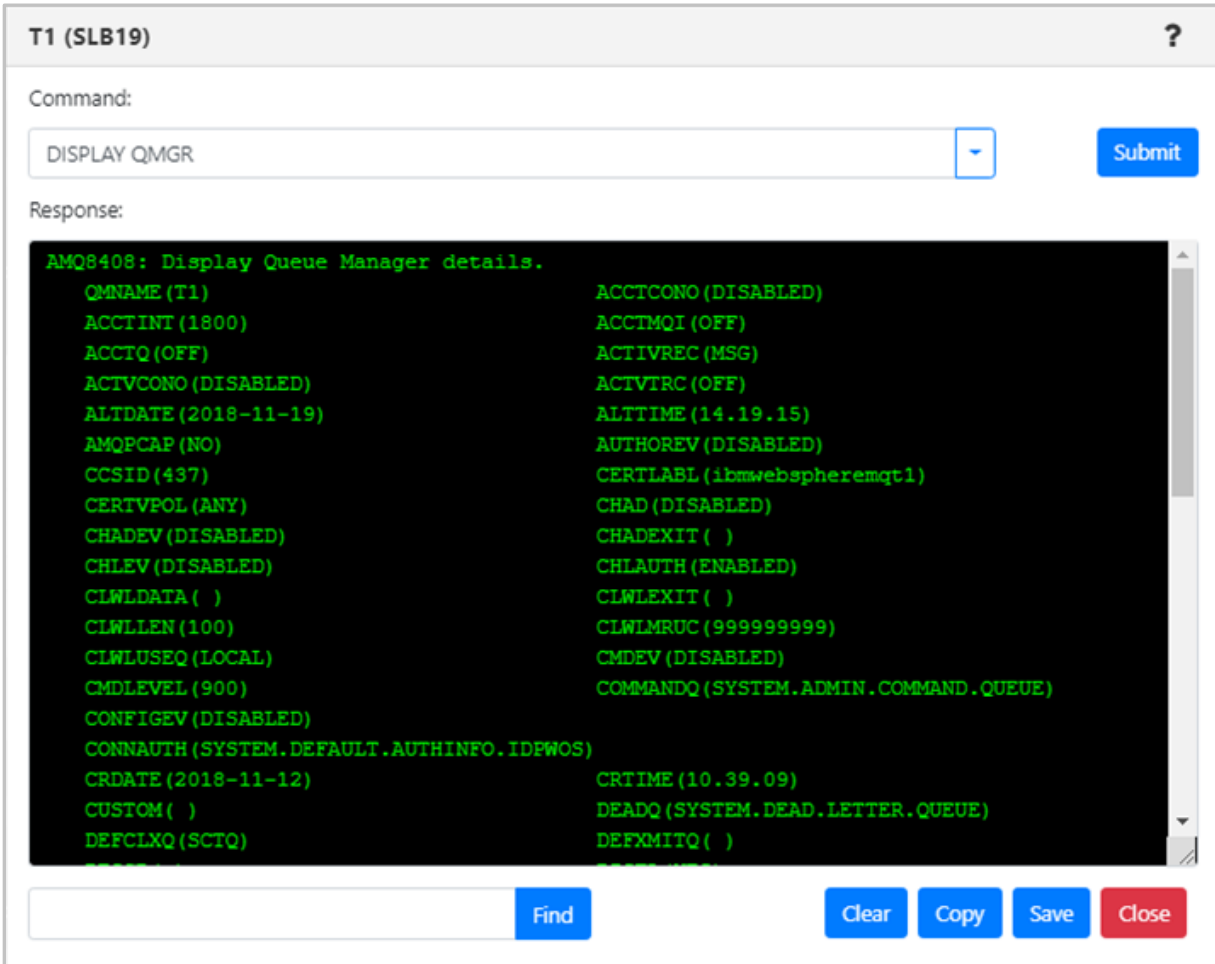


Figure 4.3.3.1.6-A. MQSC Command Window

Use the Search field and Find button located at the bottom of the window to easily search for details. Click Clear to clear the command window. Click the Copy button to copy the text of the command window. Click the Save button to save the command window's contents as a .txt file.

4.3.3.1.7 Security

Except for Cluster Queue Managers, users can view and change authorization settings for all IBM MQ objects. This is done by right-clicking on the object and selecting **Commands > Security** from the object's drop-down menu. The *Display Or Set Authority* window opens.

Figure 4.3.3.1.7-A Display or Set Authority Modal Window

Select an **Object Type** and **Object Name**. The object's authority permissions are displayed and can be modified. Within the *Authorizations* section, enable/disable all desired options. To quickly clear all options, click the **Clear** button (updates to the **Principal Name** and **Service Component** fields are also cleared). Click the **Display** button to see the object's original authority settings. The **Refresh** button will perform a security refresh. To save changes, click **Set**. Clicking **Cancel** will close the window without saving changes.

4.3.3.1.8 View Error Logs

To view queue manager error logs, select an active queue manager and select **Commands > View Error Log** from the drop-down menu. The error logs open in the *Log File Browse* window where you can view and download a LOG or FDC file.

At the top of the *Log File Browse* window, the queue manager's location is displayed (workgroup server, node and queue manager name). Select a **Log Type** and file format (**All**, **LOG** or **FDC**). Selecting **QUEUE MANAGER** only generates LOG files, **WMQ SYSTEM** includes both formats.

The table records can be sorted by clicking on the column headers. The location of the selected queue manager's error file is located at the bottom of the window within the grey field. Within the **Read** field, specify the amount of text lines to be displayed in the error log file. Enter a number in the **Lines**, **Starting From** field to specify the starting row to be exported; data will be exported starting from this line of the error log file. Click **Open** to download and open the file.

Log File Browse ?

Location: MQM SLB19 T1

Log Type: WMQ SYSTEM ALL

File Name And Path	Last Modified
AMQ5704.0.FDC	2019-01-30 15:29
AMQ5772.0.FDC	2019-01-30 15:29
AMQERR01.LOG	2019-03-22 15:33
AMQERR02.LOG	2018-11-12 10:39
AMQERR03.LOG	2018-11-12 10:39

Total: 5

C:\ProgramData\IBM\MQ\errors\AMQ5772.0.FDC

Read: 99999999 Lines, Starting From: 0

Open Close

Figure 4.3.3.1.8-A. Queue Manager's Logs

4.3.3.1.9 Cluster Membership

A cluster is a group of at least two logically associated queue managers that can share information with each other. For example, messages can be transferred between any queue manager and queue within a cluster. Clusters are treated as MQ objects and are viewed by creating a viewlet just like any other MQ object (see [Section 4.3.1, Creating Viewlets](#)).

4.3.3.1.9.1 Join Cluster

To join a queue manager to a cluster, select **Cluster membership > Join ...** from the queue manager's pop-up menu. On the *Choose the action* window, select the **Join the existing cluster** option. Click **Next**.

Choose the action ? x

Create a new cluster
Creates a new cluster containing two queue managers

Join the existing cluster
Joins current queue manager to the existung cluster

← Back Next →

Finish Cancel

Figure 4.3.3.1.9.1-A Choose to Create or Join a Cluster

On the following window, select the queue manager's repository type and click **Next**. In this example the **Partial repository** option was selected. Regardless of the option selected, the proceeding windows are the same.

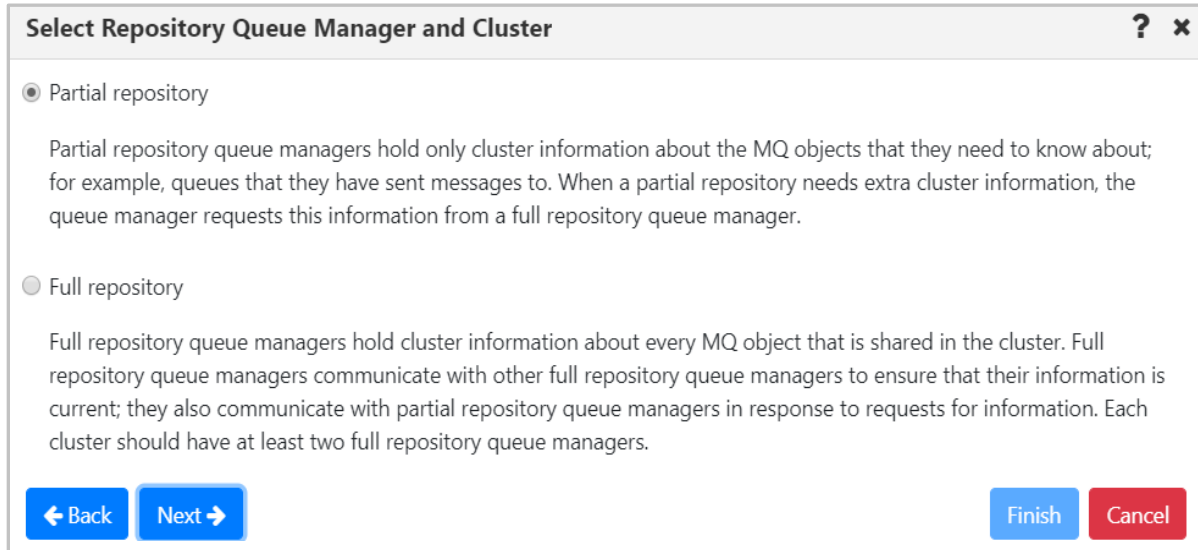


Figure 4.3.3.1.9.1.-B Select Repository Queue Manager

On the following screen, select a cluster and click **Next**.

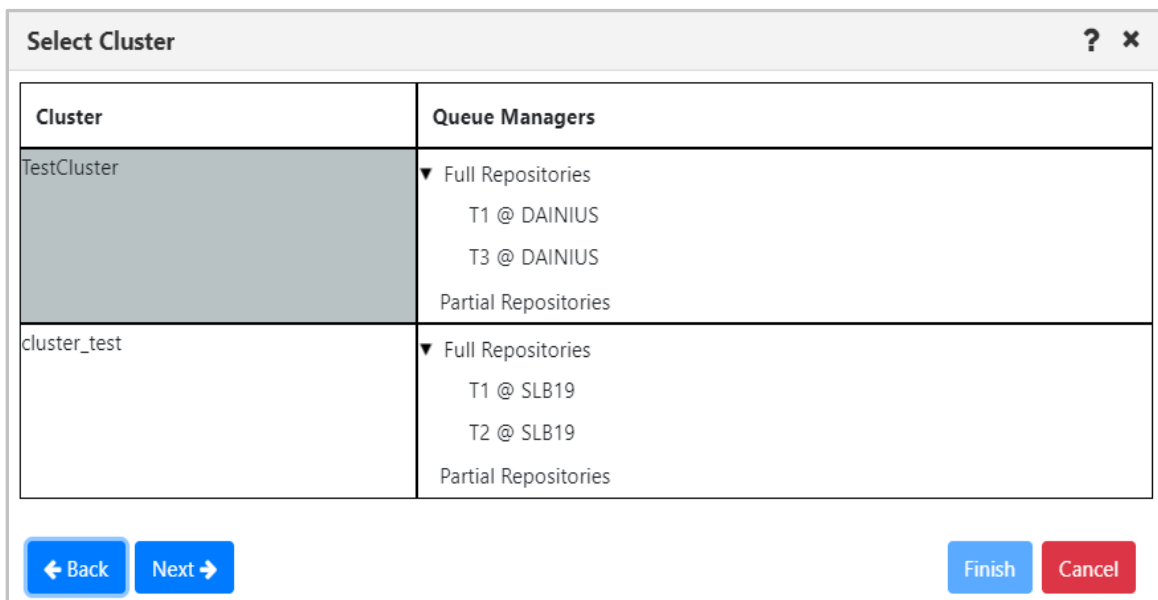
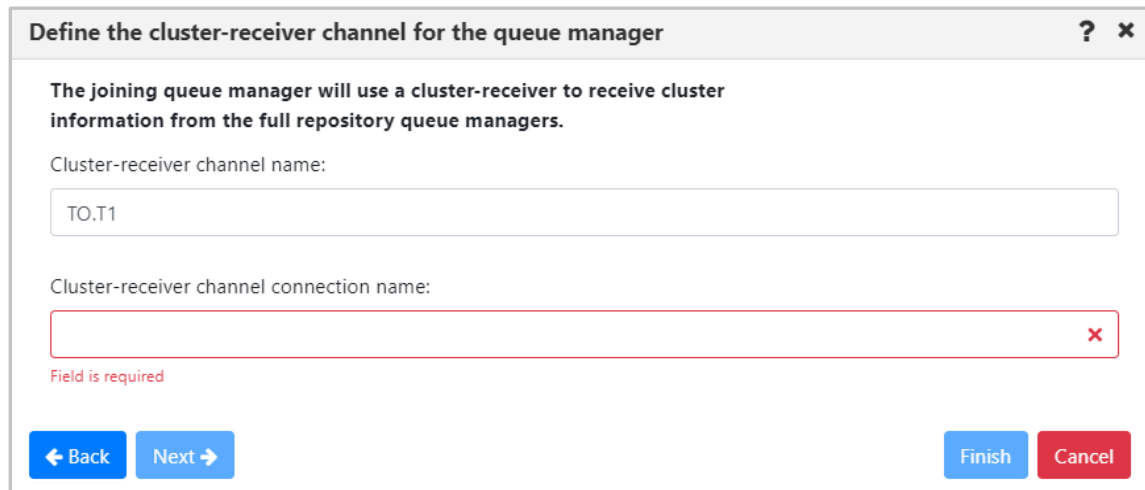


Figure 4.3.3.1.9.1-C Select Existing Cluster to Join

On the following window, the **Cluster-receiver channel name** field gets automatically populated, but can be changed. Specify the **Cluster-receiver channel connection name** for the queue manager. Depending on the channel type, it can be defined as domain address, IP address (IPV6, IPV4), LUname, remote machine name. For more information on channel connection names, refer to the IBM documentation: https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_7.5.0/com.ibm.mq.ref.con.doc/q081820..htm.

Click **Next**.



Define the cluster-receiver channel for the queue manager ? x

The joining queue manager will use a cluster-receiver to receive cluster information from the full repository queue managers.

Cluster-receiver channel name:

TO.T1

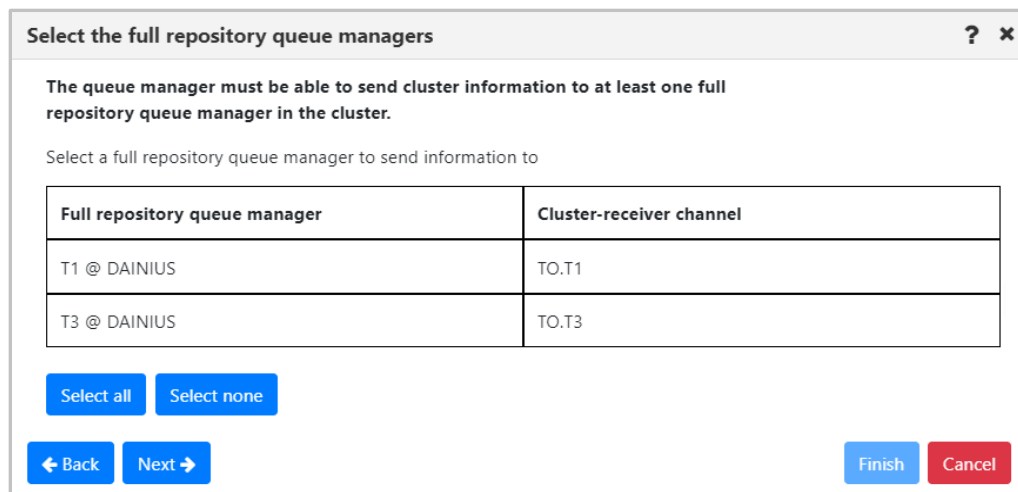
Cluster-receiver channel connection name:

Field is required

Back Next Finish Cancel

Figure 4.3.3.1.9.1-D Define Channel Connection Name

Select repositories on the *Select the full repository queue managers* window. Multiple queue managers can be selected. Click **Next**.



Select the full repository queue managers ? x

The queue manager must be able to send cluster information to at least one full repository queue manager in the cluster.

Select a full repository queue manager to send information to

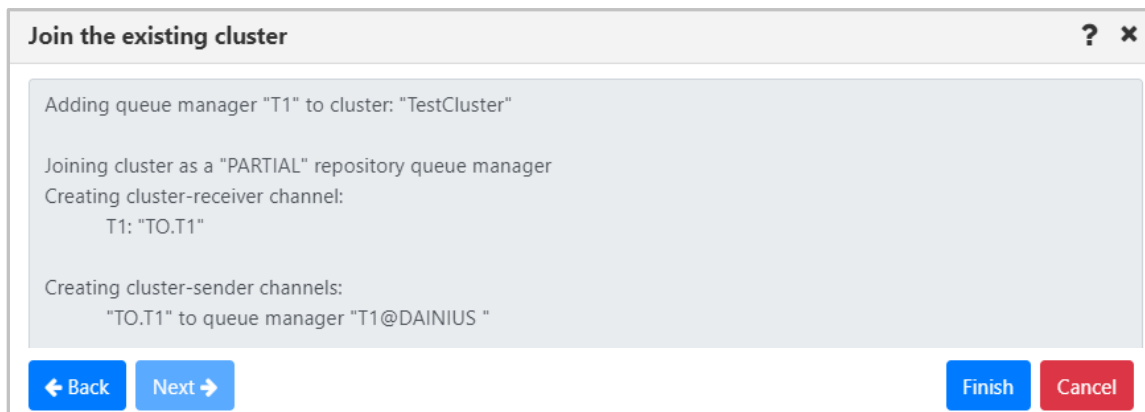
Full repository queue manager	Cluster-receiver channel
T1 @ DAINIUS	TO.T1
T3 @ DAINIUS	TO.T3

Select all Select none

Back Next Finish Cancel

Figure 4.3.3.1.9.1-E Select Full Repository Queue Manager(s)

Review the summary and click **Finish**.



Join the existing cluster ? x

Adding queue manager "T1" to cluster: "TestCluster"

Joining cluster as a "PARTIAL" repository queue manager

Creating cluster-receiver channel:
T1: "TO.T1"

Creating cluster-sender channels:
"TO.T1" to queue manager "T1@DAINIUS"

Back Next Finish Cancel

Figure 4.3.3.1.9.1-F Join the Existing Cluster Summary

4.3.3.1.9.2 Create Cluster

Confirm the following pre-requisites are completed before creating a new queue manager cluster:

- Two queue managers, having full repositories for the cluster, are created
- The cluster's full repository queue managers have a running listener
- You are aware of the connection details; you will be asked to specify them during the creation process



When full repository queue manager(s) already belong to another cluster, you cannot terminate the creation process and an error message will display (*Figure 4.3.3.1.9.2-E*). If you still want to use the queue manager(s), the cluster will need to be configured using MQSC commands.

Steps to create a new cluster:

1. Select a queue manager and click **Cluster membership > Join ...** on the pop-up menu.
2. Select **Create a new cluster** on the *Choose the action* window. Click **Next**.

Figure 4.3.3.1.9.2-A Create New Cluster Option

3. Specify a unique name for the cluster and click **Next**.

Figure 4.3.3.1.9.2-B Specify Cluster Name

4. Information about the first selected queue manager to join the cluster is displayed on the *First full repository queue manager* window. Click **Next**.

Figure 4.3.3.1.9.2-C Selecting First Queue Manager

- Select the second queue manager to join the new cluster. Click the **Next** button.

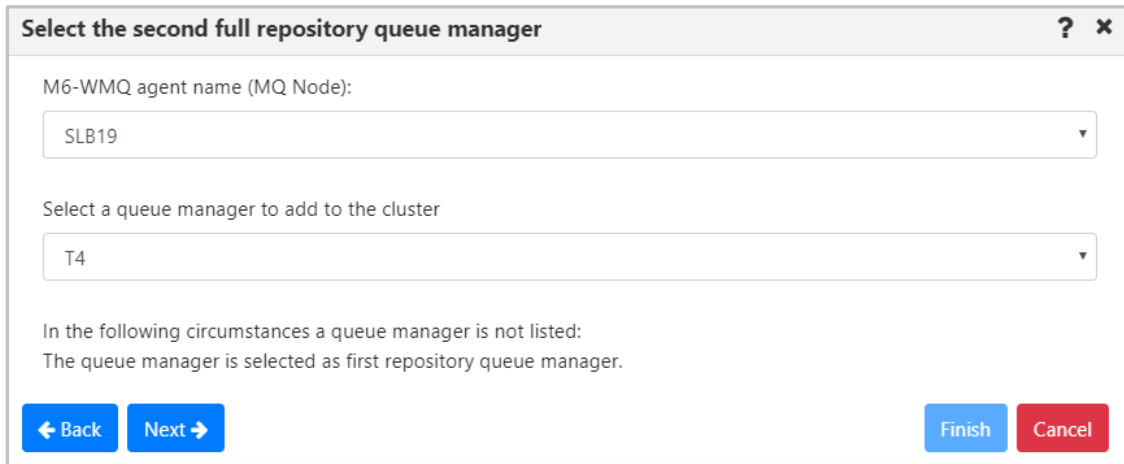



Figure 4.3.3.1.9.2-D Selecting Second Queue Manager

 **NOTE** If you select a full repository queue manager which already belongs to another cluster, you will be alerted with an error message.

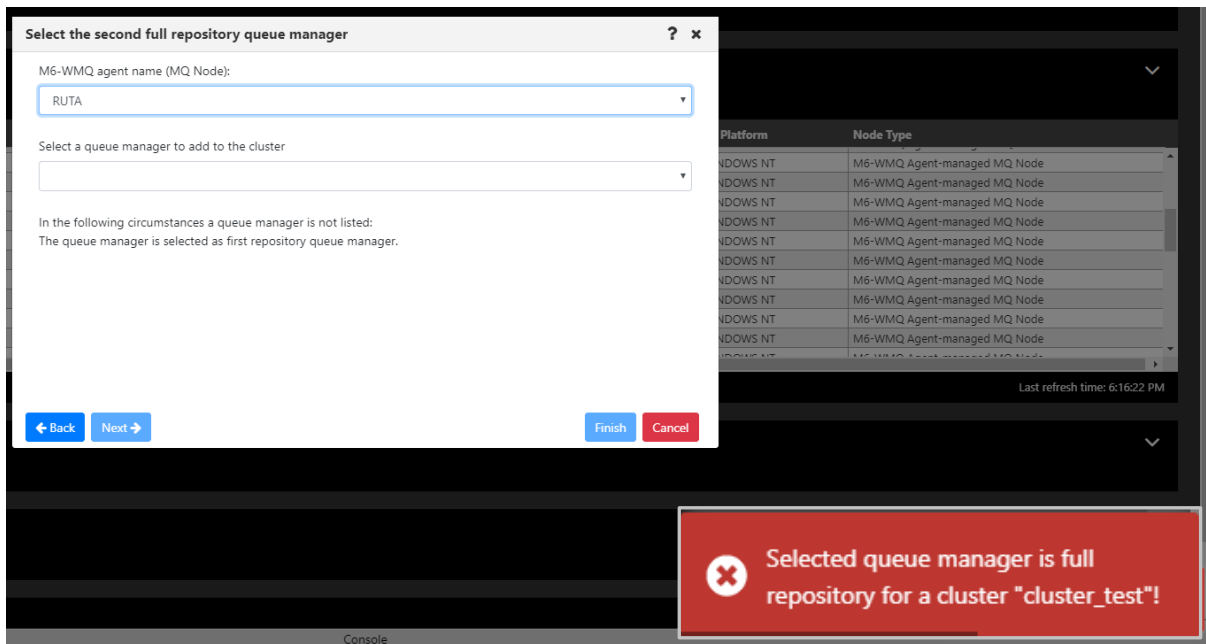


Figure 4.3.3.1.9.2-E Error Message for Already Belonging to Cluster Queue Manager

- According the instructions displayed on the *Creating cluster channels* window, define the cluster-receiver channel and channel connection name for both queue managers on the proceeding windows (*Figures 4.3.3.1.9.2-G and H*).

Creating cluster channels
? x

Each full repository queue manager needs a cluster-receiver channel and a cluster-sender channel so that it can communicate with the other full repository.

The name of the cluster-receiver channel that you choose for each full repository is used as the name of the cluster-sender channel on the other full repository.

The channel names must not already exist.

← Back
Next →

Finish
Cancel

Figure 4.3.3.1.9.2-F Creating Cluster Channels Instructions

Define the cluster-receiver channel for the queue manager
? x

The joining queue manager will use a cluster-receiver to receive cluster information from the full repository queue managers.

Cluster-receiver channel name:

Cluster-receiver channel connection name:

Field is required

← Back
Next →

Finish
Cancel

Figure 4.3.3.1.9.2-G Define Cluster-Receiver Channel for First Queue Manager

Define the cluster-receiver channel for the second queue manager
? x

The joining queue manager will use a cluster-receiver to receive cluster information from the full repository queue managers.

Cluster-receiver channel name:

Cluster-receiver channel connection name:

Field is required

← Back
Next →

Finish
Cancel

Figure 4.3.3.1.9.2-H Define Cluster-Receiver Channel for Second Queue Manager

7. Review the cluster summary and click **Finish**.

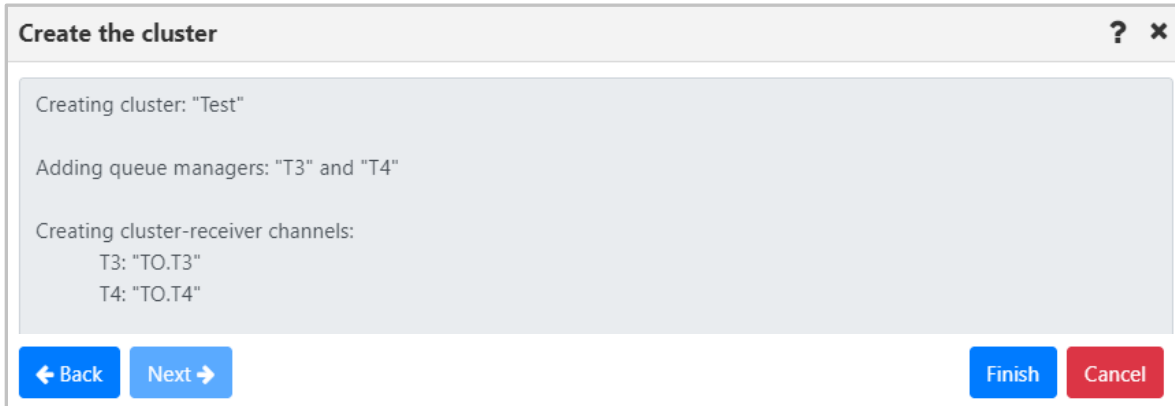


Figure 4.3.3.1.9.2-I Cluster Creation Summary

8. To view the new cluster, populate the cluster queue manager's viewlet (see [Section 4.3.1, Creating Viewlets](#)).

	Hosting Queue Manager	Cluster Name	Queue Manager Type	Channel Name	Definition Type
<input type="checkbox"/>	T1	cluster_test	Repository		Cluster Receiver
<input type="checkbox"/>	SYSTEM.TEMPQMGR.t2_test_cluster	cluster_test	Repository		Explicit Cluster Sender
<input type="checkbox"/>	SYSTEM.TEMPQMGR.t1_test_cluster	cluster_test	Repository		Explicit Cluster Sender
<input type="checkbox"/>	T2	cluster_test	Repository		Cluster Receiver
<input type="checkbox"/>	T1	cluster_test	Repository		Cluster Receiver
<input type="checkbox"/>	SYSTEM.TEMPQMGR.t2_test_cluster	cluster_test	Repository		Explicit Cluster Sender
<input type="checkbox"/>	SYSTEM.TEMPQMGR.t1_test_cluster	cluster_test	Repository		Explicit Cluster Sender
<input type="checkbox"/>	T2	cluster_test	Repository		Cluster Receiver

Figure 4.3.3.1.9.2-J Cluster Queue Managers Viewlet

4.3.3.1.9.3 Cluster Refresh

Select **Cluster membership** > **Refresh** from the selected queue manager's pop-up menu. The **Refresh Cluster Information** window opens. From the *Cluster name* drop-down menu, select a cluster to refresh. Check off the **Refresh repository** check-box and click **OK**.

Consult the IBM documentation for information on the Refresh Cluster command and repository refresh types:

https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_7.5.0/com.ibm.mq.ref.adm.doc/q086470..htm

https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_7.5.0/com.ibm.mq.ref.con.doc/q082360..htm

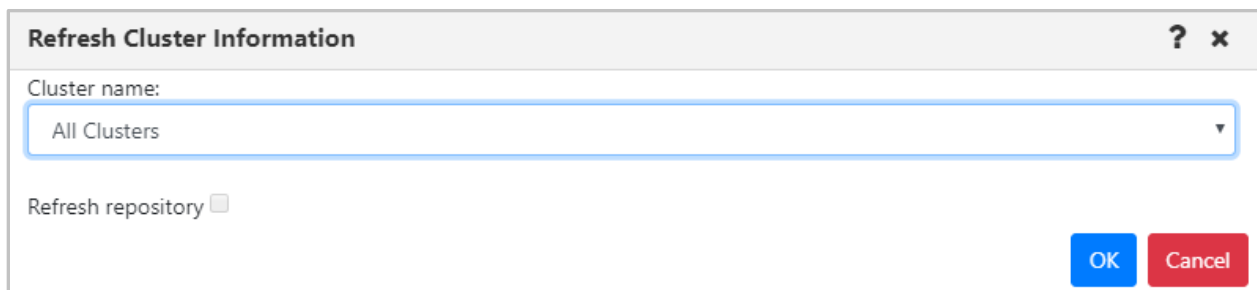


Figure 4.3.3.1.9.3-A Cluster Refresh

4.3.3.1.9.4 Leave Cluster

To remove a queue manager from a cluster, select **Cluster membership > Leave** from the queue manager's pop-up menu. The *Leave Cluster* window opens. Review the summary table, enable the desired delete options at the bottom of the screen and click **OK**.

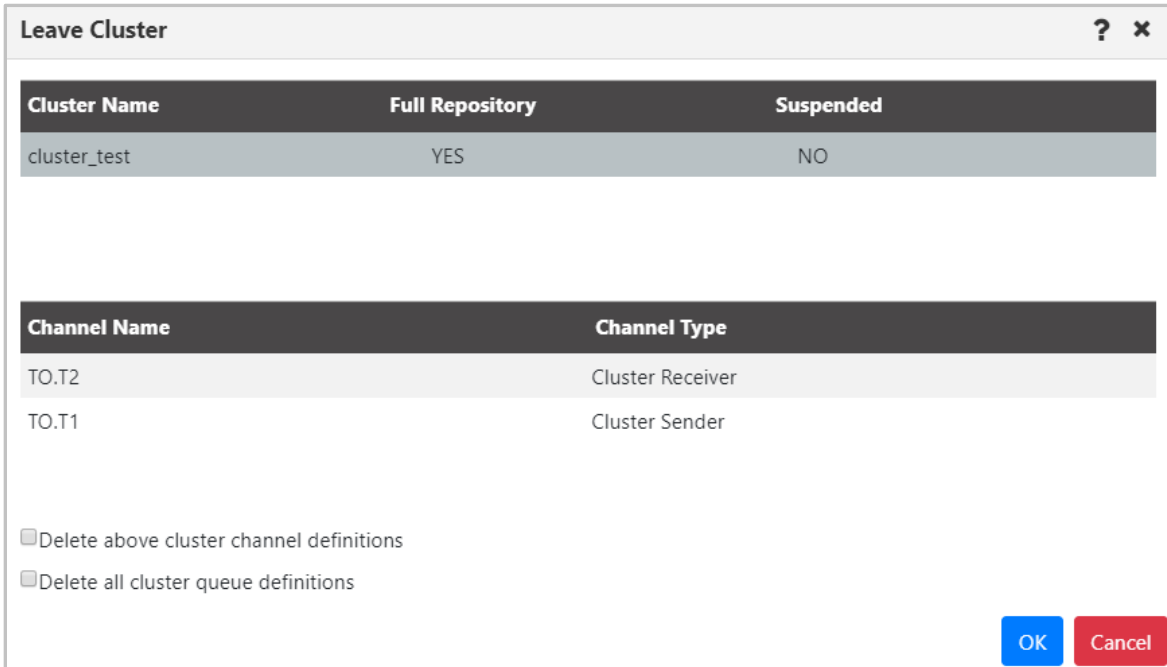


Figure 4.3.3.1.9.4-A Leave Queue Managers Cluster

4.3.3.2 EMS Manager

An EMS manager has the following pop-up menu options.

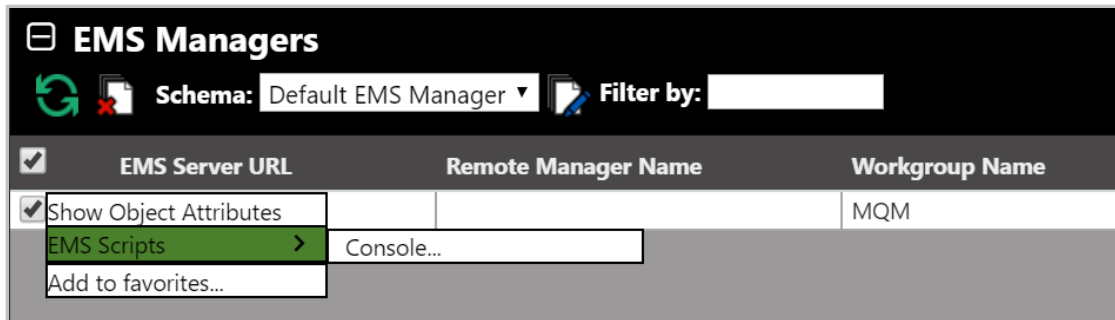


Figure 4.3.3.2-A. EMS Manager Pop-Up Menu

4.3.3.2.1 Attributes

Select **Show Object Attributes** from an EMS manager's pop-up menu to open the *Attributes* table on the Console panel.

Attributes	tcp://127.0.0.1:7222
EMS Server URL	tcp://127.0.0.1:7222
Remote Manager Name	MQM
Workgroup Name	MQM
Node Name	EMS-SERVER_RUTA
Estimated Response Time	1285
State	Active

Figure 4.3.3.2.1-A. EMS Manager Attributes

4.3.3.2.2 EMS Scripts Console

After selecting **EMS > Console** from EMS manager's pop-up menu ([Figure 4.3.3.2-A](#)), the below command window opens. Type in a command in the field at the top of the window. Please consult TIBCO User's Guide for more information on EMS commands:

https://docs.tibco.com/pub/ems/8.4.0/doc/pdf/TIB_ems_8.4_users_guide.pdf

The functionality of the buttons and fields on this window is the same as described in [Section 4.3.3.1.6, MQSC Command Window](#).

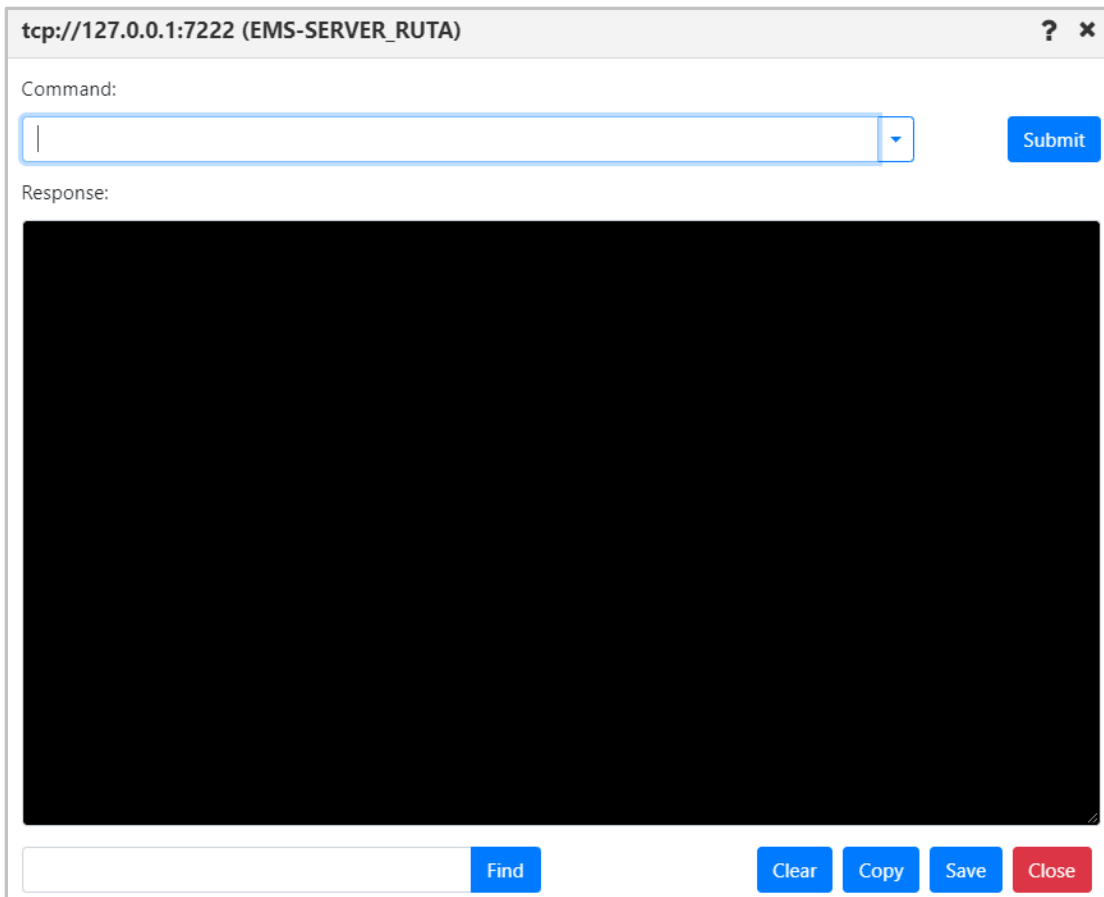



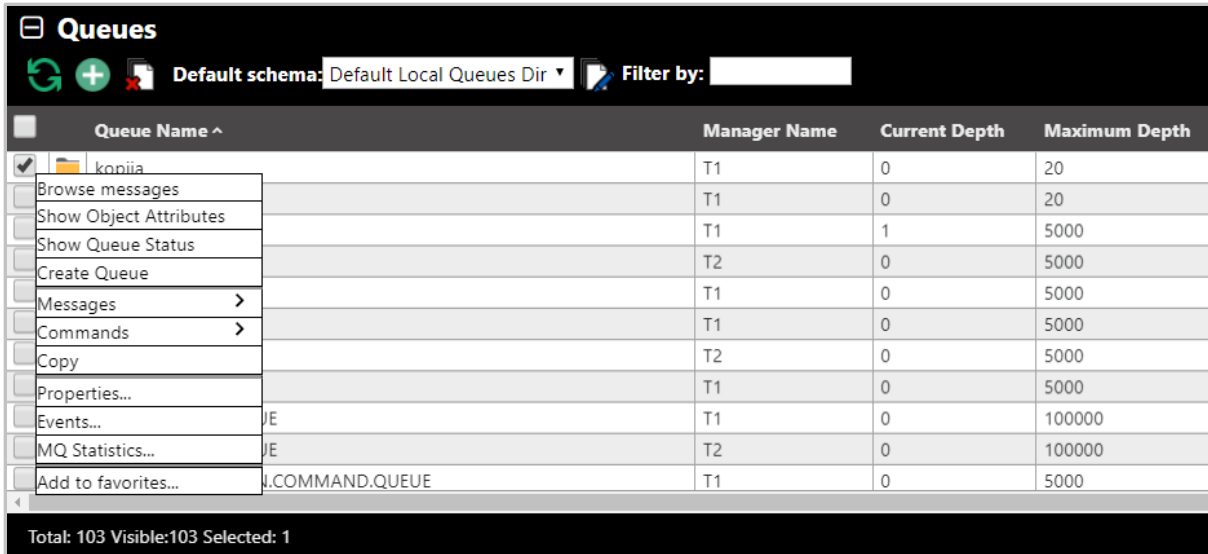
Figure 4.3.3.2.2-A. EMS Scripts Console

4.3.4 Queues

Select a MQ or EMS queue to display the pop-up menu. Menu options are described in [Appendix C](#). Clicking on a queue name will open the queue's attribute viewlet.




Your pop-up menu options may differ according to your user permissions, which are managed by an admin. Please also note that different queue types have different menu options.



Queue Name ^	Manager Name	Current Depth	Maximum Depth
kopiii	T1	0	20
Browse messages	T1	0	20
Show Object Attributes	T1	1	5000
Show Queue Status	T2	0	5000
Create Queue	T1	0	5000
Messages >	T1	0	5000
Commands >	T1	0	5000
Copy	T2	0	5000
Properties...	T1	0	5000
Events...	T1	0	100000
MQ Statistics...	T2	0	100000
Add to favorites...	T1	0	5000

Total: 103 Visible:103 Selected: 1

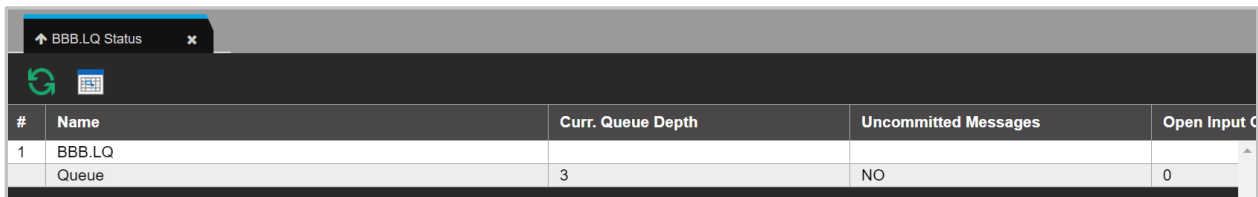
Figure 4.3.4-A. Queue Viewlet



Browse messages by clicking a cell within the **Current Depth** column. Clicking cells within **Open Input Counter** or **Open Output Counter** will display status tabs.

4.3.4.1 Queue Status

After selecting **Show queue status** from a queue viewlet's action menu ([Figure 4.3.4-A](#)), the *Queue Status* viewlet is displayed.



#	Name	Curr. Queue Depth	Uncommitted Messages	Open Input Counter
1	BBB.LQ Queue	3	NO	0

Figure 4.3.4.1-A. Show Queue Status


You can customize the status table by clicking the **Select columns** icon .

Figure 4.3.4.1-B. Select Columns

The table on the left side lists all columns available. The table on the right side shows the displayed columns. You can add a column to the *Queue Status* viewlet by selecting it from **Free columns** and clicking **Add** or for all columns by clicking **Add all**. Similarly, you can remove a column from the *Queue Status* viewlet by selecting it from **Shown columns and order** and clicking **Remove** or for all columns by clicking **Remove all**. The buttons on the right are used to place the columns in sequence.

4.3.4.2 Queue Properties



After selecting **Properties** from the queue's action menu ([Figure 4.3.4-A](#)), the *Properties* window for the local queue is displayed. For detailed descriptions of the various input fields and tabs, go to the IBM Knowledge Center:

https://www.ibm.com/support/knowledgecenter/SSFKSJ_9.1.0/com.ibm.mq.explorer.doc/e_properties_queues.htm

Figure 4.3.4.2-A. Local Queues Properties


Figure 4.3.4.2-B. EMS Queue Properties

4.3.4.3 Messages

Messages can be put and managed in local, alias and EMS queues. A local or EMS queue containing messages will have an envelope folder icon . A red line envelope icon  signifies that a queue is full and new messages cannot be added. After selecting **Browse messages** for a queue with messages from the queue's action menu ([Figure 4.3.4-A](#)), or clicking a value in the **Current Depth** column (works for local queues), the queue's messages are displayed.

To perform an action on a message, select it and then click the appropriate icon described in [Table 4.3.4.3-A](#), or select an action from the pop-up menu ([Figure 4.3.4.3-I](#)).

To customize Messages viewlet see [Section 4.3.7.1](#).

NOTE Sometimes after selecting "Browse messages" for a queue, messages will not appear within the messages tab in the Console section. This is due to the system periodically refreshing the content of queues. To get the most recent status of the queues, click the **Refresh** button .

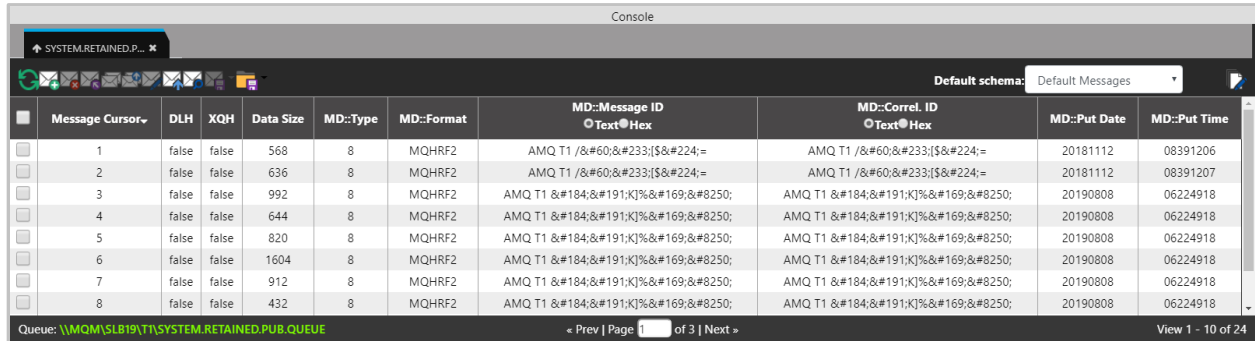













Figure 4.3.4.3-A. Messages Viewlet

Table 4.3.4.3-A. Message Viewlet Toolbar		
Icon	Name	Description
	Refresh	Refreshes the viewlet.
	Put New	Displays the <i>Put New</i> window (Figure 4.3.4.3.1-A) to create and put new message(s) into selected queue.
	Delete	Allows you to delete the message. (Not available for alias queue messages).
	Reroute	Reroute messages from one queue to another queue located within a different queue manager (Section 4.3.4.3.7). (Not available for EMS or alias queue messages).
	Copy message	Displays the <i>Copy messages</i> window (Figure 4.3.4.3.3-A) where a user can define how and where messages should be copied. (Not available for alias queue messages).
	Move message	Displays the <i>Move messages</i> window (Figure 4.3.4.3.3-B). On this screen the queue to move the messages is specified. (Not available for alias queue messages).
	Edit message	Displays the <i>Edit message</i> window (Figure 4.3.4.3.4-A) where a user can edit message information and data. (Not available for EMS or alias queue messages).
	Load from File	Opens the dialog box to load single or multiple messages from .mmf or .txt files (Figure 4.3.4.3.5-A).
	Browse Options	Opens the Message Commands tab of the <i>Settings Window</i> (4.4.3.2 Message Commands) to customize message browse options.
	Save selected messages	Exports selected message(s) to either an MMF or text file. (Not available for alias queue messages).
	Save all messages	Exports all messages to either an MMF or text file. (Not available for alias queue messages).

Viewing Messages

To view a message, click anywhere on the message row. Specify either Text or Hexadecimal (Hex) for the Message ID (**Msg ID**) and Correlation ID (**Correl ID**).

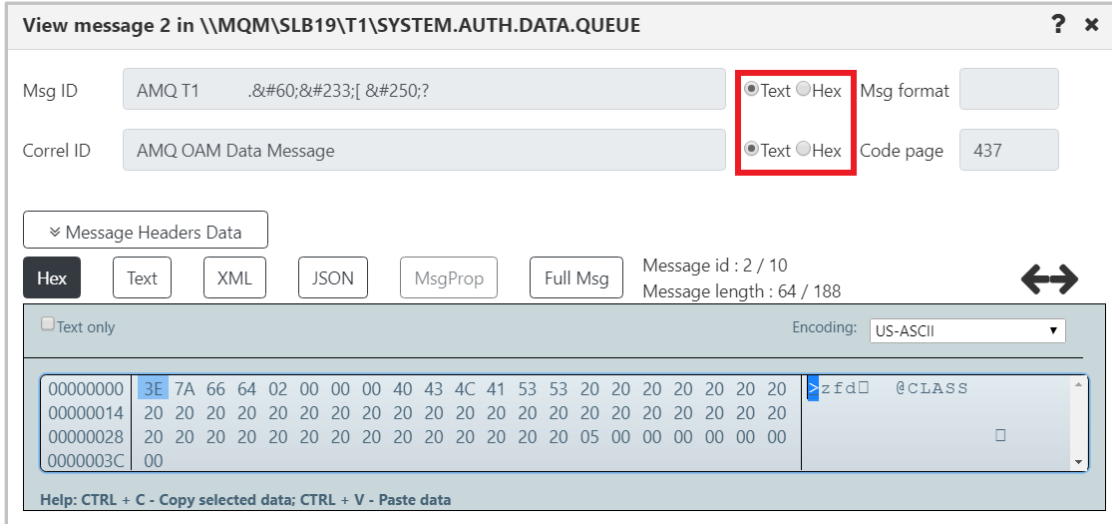





Figure 4.3.4.3-B. View Message

 To copy or paste data, select the data and use quick keyboard functions **CTRL + C** or **CTRL + V**, respectively.

TIP

To navigate between messages, use the navigation buttons,  and .

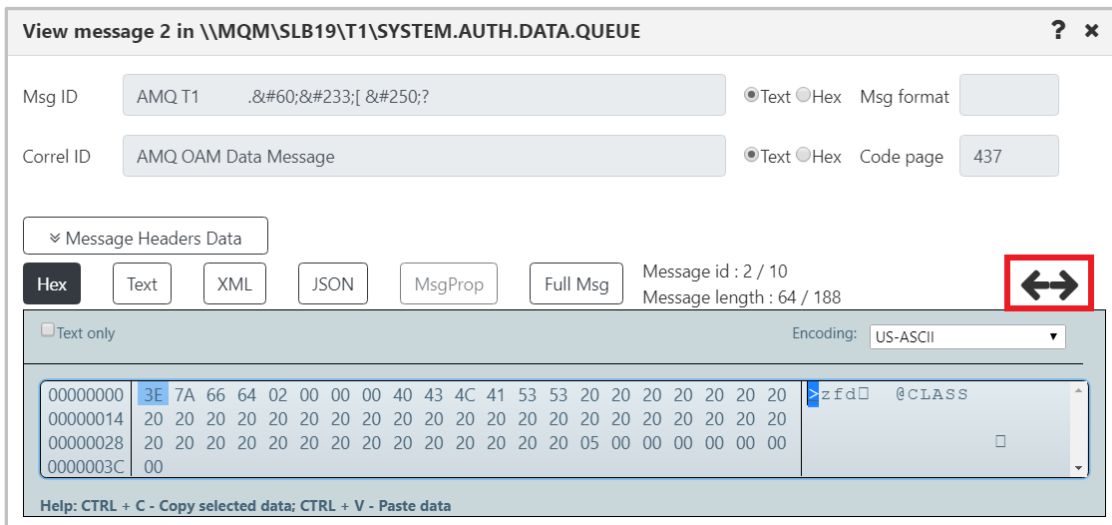


Figure 4.3.4.3-C. Navigate Between Messages

Click **Message Headers Data** (Figure 4.3.4.3-D) to view the header details (Figure 4.3.4.3-E).

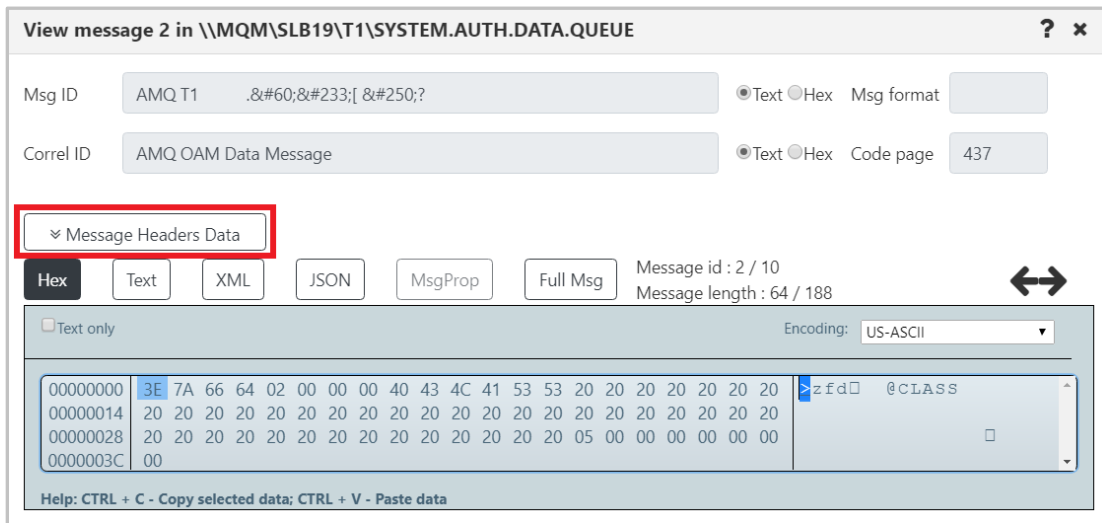


Figure 4.3.4.3-D. Message Headers Data Button

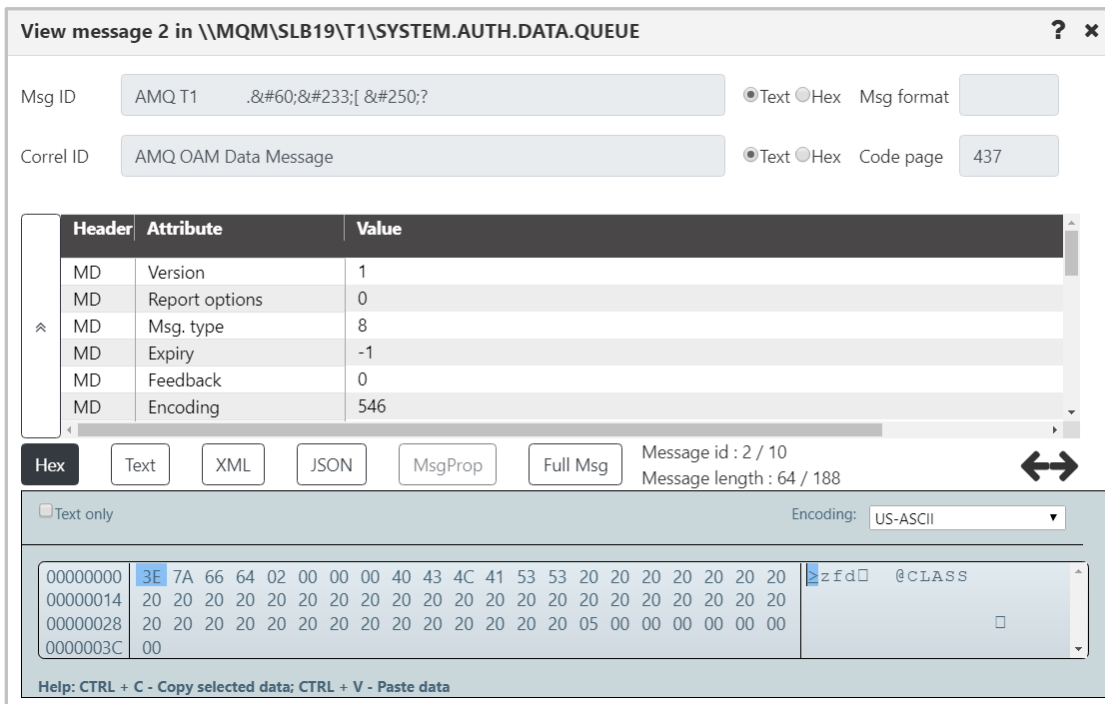


Figure 4.3.4.3-E. Message Headers

The messages can be displayed in either hexadecimal, text, XML or JSON format. Select one of these formats or check the **Text only** check box to easily toggle between text and the other modes.

To view the entire message, click the **Full Msg** button. A prompt appears confirming this action.

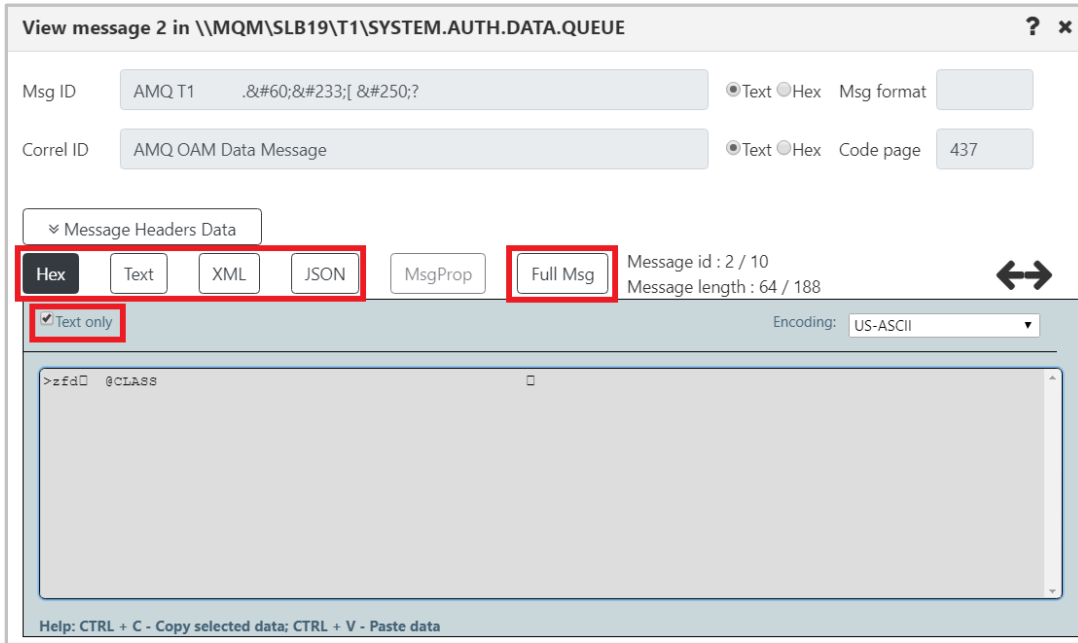


Figure 4.3.4.3-F. Hex or Text Message Mode / Full Message

The message encoding type can be changed. This is selected from the **Encoding** drop-down list.

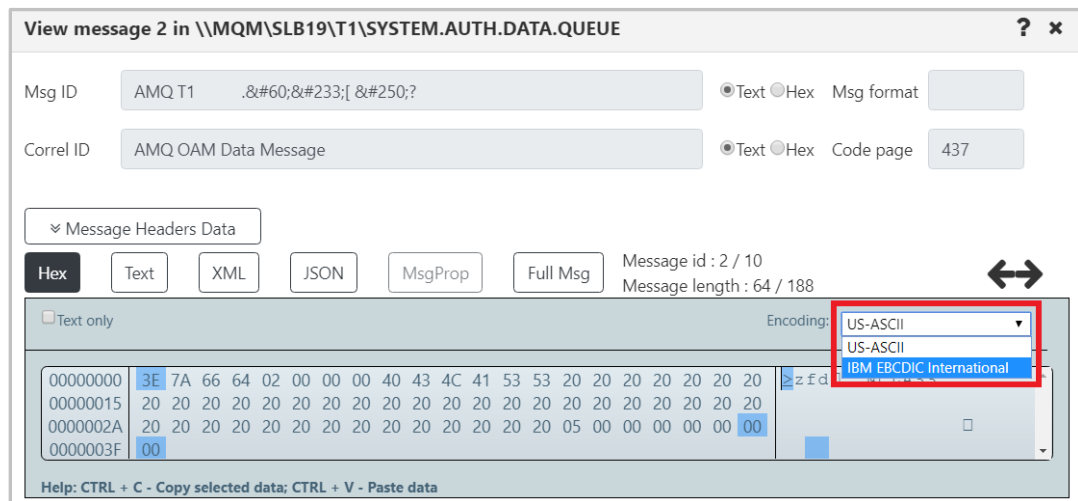


Figure 4.3.4.3-G. Message Encoding

To switch between decimal and hexadecimal mode for the address of the first byte, click anywhere in the address field.

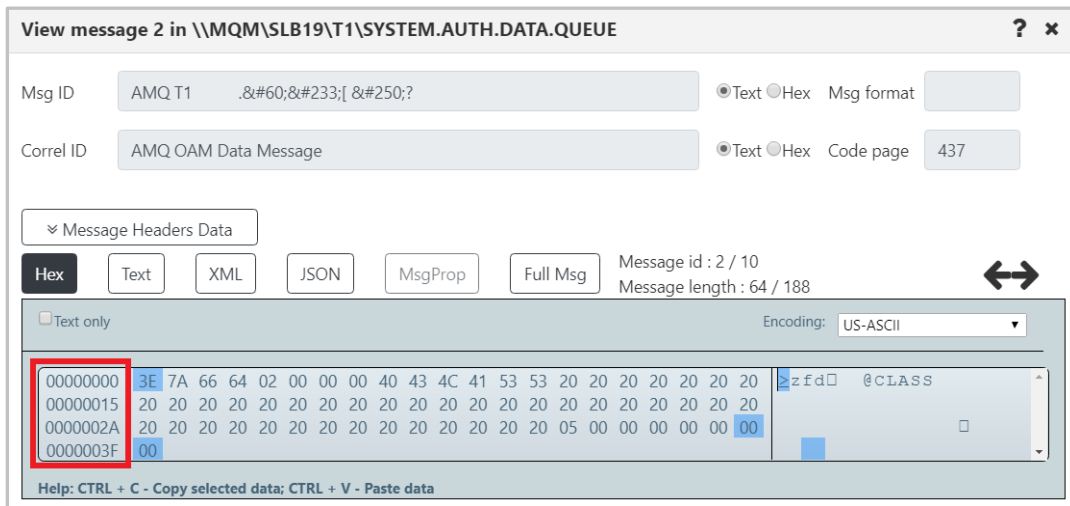


Figure 4.3.4.3-H. Address of First Byte

Message Action Menu

The following pop-up menu appears when a single message is selected.

Console

↑ SYSTEM.ADMIN.CO... x ↑ SYSTEM.AUTH.DATA... x

Message Action Menu (pop-up):

- Edit
- Delete message
- Copy message
- Move message

	Message Cursor	DLH	XQH	Data Size	MD::Type	MD::Format	MD::Message ID ○Text ●Hex
<input checked="" type="checkbox"/>	1	false	false	188	8		AMQ T1 .<é[ú?
<input type="checkbox"/>		false	false	188	8		AMQ T1 .<é[ú?
<input type="checkbox"/>		false	false	128	8		AMQ T1 .<é[ú?
<input type="checkbox"/>		false	false	4	8		AMQ T1 .<é[ú?
<input type="checkbox"/>	5	false	false	188	8		AMQ T1 .<é[ú? □

Figure 4.3.4.3-I. Message Action Menu

If multiple or all messages are selected, the following pop-up menu appears. To select all messages, click the **Select all** button located on the left side of the viewlet. Click the same button, now titled **Deselect all**, to unselect all messages.

Console


↑ SYSTEM.RETAINED.P... x

Message Action Menu (pop-up):

- Delete messages
- Copy messages
- Move messages

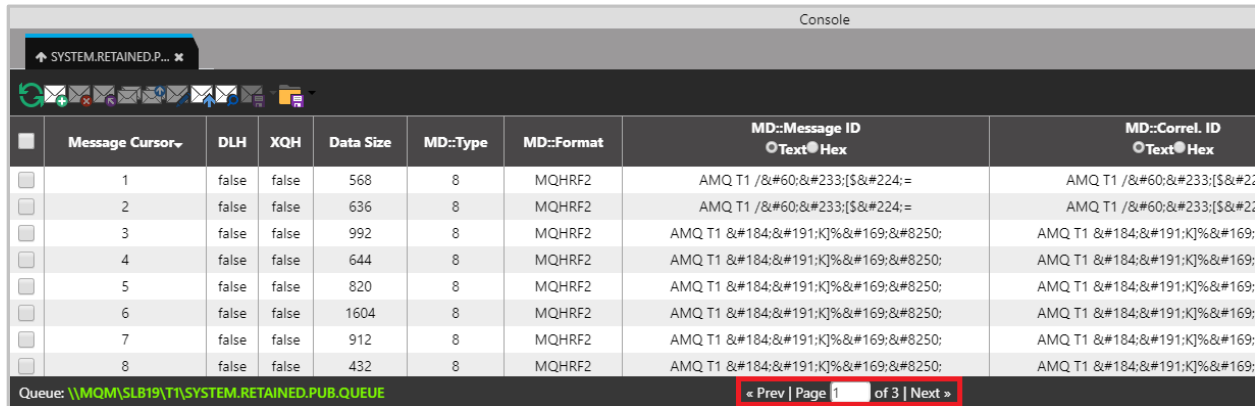
	Message Cursor	DLH	XQH	Data Size	MD::Type	MD::Format	MD::Message ID ○Text ●Hex
<input checked="" type="checkbox"/>	1	false	false	568	8	MQHRF2	AMQ T1 /<é[à=
<input checked="" type="checkbox"/>		false	false	636	8	MQHRF2	AMQ T1 /<é[à=
<input type="checkbox"/>		false	false	992	8	MQHRF2	AMQ T1 ¸¿K] %©›
<input type="checkbox"/>	4	false	false	644	8	MQHRF2	AMQ T1 ¸¿K] %©›

Figure 4.3.4.3-J. Action Menu for Multiple Messages

 **NOTE** The message action menu and viewlet toolbar options may differ due to the queue type. Please see [Table 4.3.4.3-A](#) for more information on the available options of each messages queue type.

Load More Messages / Navigate to a Page

To load additional messages, use the **Prev** and **Next** buttons located at the bottom of the viewlet or type a page number within the **Page** field.




Message Cursor	DLH	XQH	Data Size	MD::Type	MD::Format	MD::Message ID	MD::Correl. ID
1	false	false	568	8	MQHRF2	AMQ T1 /<é{à=	AMQ T1 /<é{à=
2	false	false	636	8	MQHRF2	AMQ T1 /<é{à=	AMQ T1 /<é{à=
3	false	false	992	8	MQHRF2	AMQ T1 ¸¿K}%©›	AMQ T1 ¸¿K}%©›
4	false	false	644	8	MQHRF2	AMQ T1 ¸¿K}%©›	AMQ T1 ¸¿K}%©›
5	false	false	820	8	MQHRF2	AMQ T1 ¸¿K}%©›	AMQ T1 ¸¿K}%©›
6	false	false	1604	8	MQHRF2	AMQ T1 ¸¿K}%©›	AMQ T1 ¸¿K}%©›
7	false	false	912	8	MQHRF2	AMQ T1 ¸¿K}%©›	AMQ T1 ¸¿K}%©›
8	false	false	432	8	MQHRF2	AMQ T1 ¸¿K}%©›	AMQ T1 ¸¿K}%©›

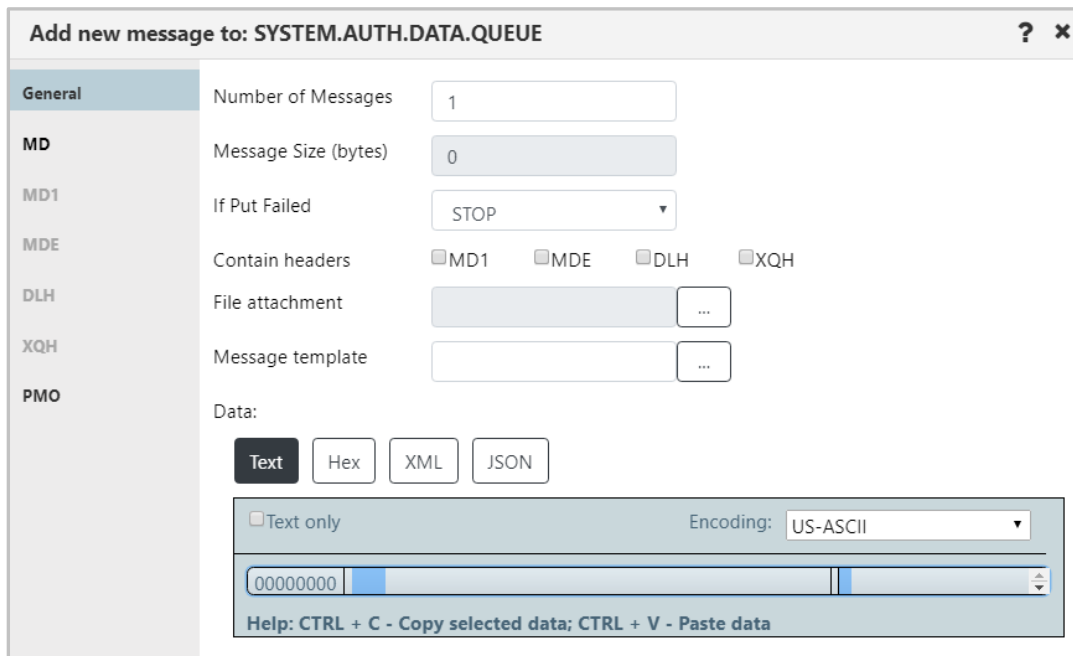
Queue: \\MQM\SLB19\T1\SYSTEM.RETAINED.PUB.QUEUE < Prev | Page 1 of 3 | Next >

Figure 4.3.4.3-K. Load More Messages / Navigate to a Page

4.3.4.3.1 Put New

The *Put New* window is displayed when the **Put New** icon  is selected from the *Message* viewlet ([Figure 4.3.4.3-A](#)) or **Messages > Put New** is selected from the queue's pop-up menu options ([Figure 4.3.4-A](#)). It is used to create new messages and put them into one or more destination queues.

See [Table 4.3.4.3.1-A](#) for an explanation of options on the **General** tab.



Add new message to: SYSTEM.AUTH.DATA.QUEUE

General Number of Messages: 1

MD Message Size (bytes): 0

MD1 If Put Failed: STOP

MDE Contain headers: MD1 MDE DLH XQH

DLH File attachment: [...]

XQH Message template: [...]

PMO Data: Text Hex XML JSON

Text only Encoding: US-ASCII

00000000

Help: CTRL + C - Copy selected data; CTRL + V - Paste data

Figure 4.3.4.3.1-A. Put New Window



To copy or paste data, select the data and use quick keyboard functions CTRL + C or CTRL + V, respectively.

Within the **Data** section, users can check the **Text only** checkbox to display the message content as text, or leave off to view message content as code. Also, the message encoding type can be changed. This is selected from the **Encoding** drop-down list (Figure 4.3.4.3.1-B).

To switch between decimal and hexadecimal mode for the address of the first byte, click anywhere in the address field. See *Address of First Byte* (Figure 4.3.4.3-H) for an example.

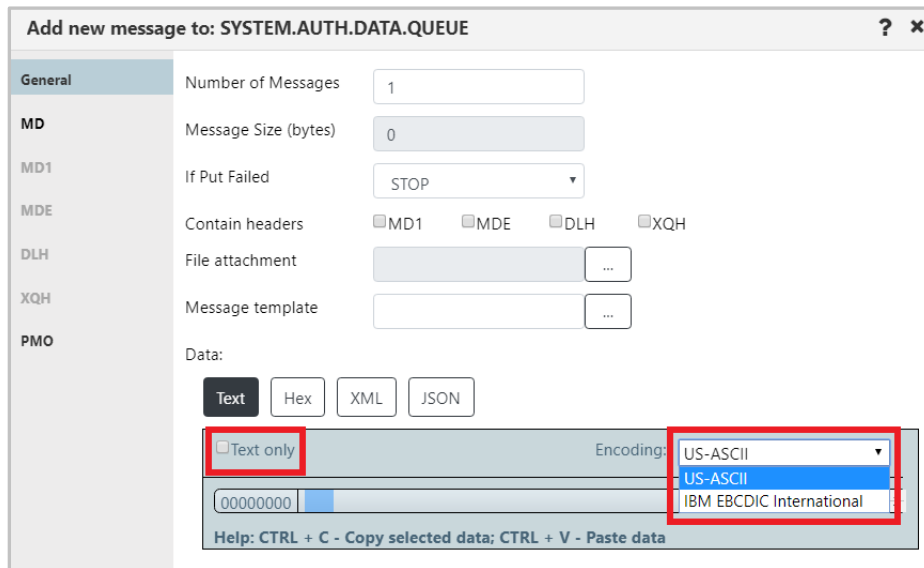


Figure 4.3.4.3.1-B. Put New Window – Encoding on General Tab

Table 4.3.4.3.1-A. Put New Message



Control	Description	States and Conditions
Number of Messages	Enter the number of messages to put into a queue.	Always enabled.
Message Size (bytes)	Displays the size of the message text being entered or created in the Data field.	
If Put Failed	Select the action that should be taken if Put command fails.	
Contains headers	The header(s) in the message. Select MD1, MDE, DLH and/or XQH. Please note that DLH and XQH cannot be selected together.	
File attachment	Enter the path of the file to attach to the message.	
File attachment button 	Displays the <i>Open File</i> dialog box to select the file to attach to this message.	
Message template	(Available in a future Nastel Navigator version)	
Message template button 	(Available in a future Nastel Navigator version)	

Table 4.3.4.3.1-A. Put New Message		
Control	Description	States and Conditions
MD	Displays the <i>Message Descriptor Properties</i> window (Figure 4.3.4.3.1-C) where the user can edit the MD header of the message.	Enabled only if MD1 checkbox is <i>not</i> selected.
MD1	Displays the <i>Message Descriptor Properties</i> window (Figure 4.3.4.3.1-C) where the user can edit the MD1 header of the message.	Enabled only if MD1 checkbox is selected.
MDE	Displays the <i>Message Descriptor Extension</i> window (Figure 4.3.4.3.1-H) where the user can edit the MDE header of the message.	Enabled only if MDE checkbox is selected.
DLH	Displays the <i>Dead Letter Queue Header</i> window (Figure 4.3.4.3.1-I) where the user can edit the DLH header of the message.	Enabled only if DLH checkbox is selected.
XQH	Displays the <i>Transmission Queue Header</i> window (Figure 4.3.4.3.1-J) where the user can edit the XQH header of the message.	Enabled only if XQH checkbox is selected.
PMO	Displays the <i>Message Put Options</i> window (Figure 4.3.4.3.1-N) where the user can set put message options.	Always enabled.

Message Descriptor Properties

The **MD** and **MD1** tabs are used to view/edit MD and MD1 message headers.

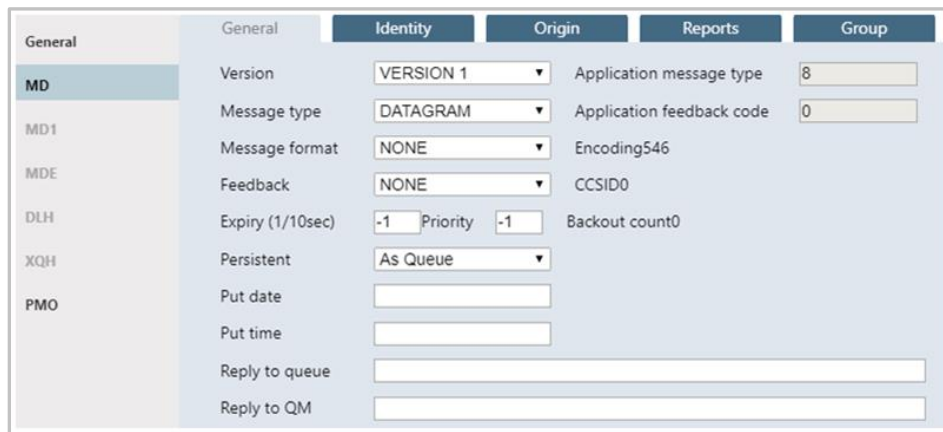


Figure 4.3.4.3.1-C. Message Descriptor Properties – General

Table 4.3.4.3.1-B. Message Descriptor Properties – General		
Control	Description	States and Conditions
Version	Select MD version from the list.	Always enabled.
Application message type	Input application message type.	Editable only if APPLICATION message type is selected from the Message Type drop-down menu.
Message type	Select message type from the list.	Always enabled.

Table 4.3.4.3.1-B. Message Descriptor Properties – General		
Application feedback code	Input application feedback code.	Editable only if APPLICATION feedback code is selected from the Feedback drop-down menu.
Message format	Select message format from the list.	Always enabled.
Encoding	Provides message data encoding.	Read only.
Feedback	Select message feedback code from the list.	Always enabled.
CCSID	Provides message coded character set identifier.	Read only.
Expiry	Input message expiry.	Always enabled.
Priority	Input message priority.	
Backout count	Provides backout counter.	Read only.
Persistent	Set message persistence.	Always enabled.
Put date	Provides date when message was put.	Always enabled.
Put time	Provides time when message was put.	
Reply to queue	Input name of a message queue to which the reply or report message should be sent.	
Reply to QM	Input name of the queue manager to which the reply or report message should be sent.	

Below are MD's **Identity** tab properties.

The screenshot shows the 'Add new message to: SYSTEM.AUTH.DATA.QUEUE' dialog box with the 'Identity' tab selected. The left sidebar lists properties: MD, MD1, MDE, DLH, XQH, and PMO. The main area contains the following fields and controls:

- Message Identifier:** A text input field with a 'Text only' checkbox and an 'Encoding: US-ASCII' dropdown. Below is a hexadecimal display area with the value '00000000 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00' and a 'Help: CTRL + C - Copy selected data; CTRL + V - Paste data' instruction.
- Correlation identifier:** A text input field with a 'Text only' checkbox and an 'Encoding: US-ASCII' dropdown. Below is a hexadecimal display area with the value '00000000 00 00 00 00 00 00 00 00 00 00 00 00 00 00' and a 'Help: CTRL + C - Copy selected data; CTRL + V - Paste data' instruction.
- User identifier:** A simple text input field.
- Application identity data:** A simple text input field.
- Accounting token:** A text input field with a 'Text only' checkbox and an 'Encoding: US-ASCII' dropdown. Below is a hexadecimal display area with the value '00000000 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 0000001C 00 00 00 00' and a 'Help: CTRL + C - Copy selected data; CTRL + V - Paste data' instruction.

Figure 4.3.4.3.1-D. Message Descriptor Properties – Identity

Table 4.3.4.3.1-C. Message Descriptor Properties – Identity		
Control	Description	States and Conditions
Message identifier	Edit message identifier.	Always enabled.
Correlation identifier	Edit message correlation identifier.	
User identifier	Enter user identifier.	
Application identity data	Enter application identity data.	
Accounting token	Edit message accounting token.	



Figure 4.3.4.3.1-E. Message Descriptor Properties – Origin

Table 4.3.4.3.1-D. Message Descriptor Properties – Origin		
Control	Description	States and Conditions
Put application type	Input put application type.	Always enabled.
Application origin data	Input application origin data.	
Application name	Input put application name.	



Figure 4.3.4.3.1-F. Message Descriptor Properties – Reports

Table 4.3.4.3.1-E. Message Descriptor Properties – Reports		
Control	Description	States and Conditions
Exception	Select an exception report message type from the list.	Always enabled.

Table 4.3.4.3.1-E. Message Descriptor Properties – Reports		
Expiration	Select an expiration report message type from the list.	
Confirm on arrival	Select confirm on arrival report message type from the list.	
Confirm on delivery	Select confirm on delivery report message type from the list.	
Message ID	Specify how the Message ID of the report message (or the reply message) is to be set.	
Correlation ID	Specify how the Correlation ID of the report message (or the reply message) is to be set.	
Disposition options	Specify message disposition type when a message cannot be delivered to its destination queue.	

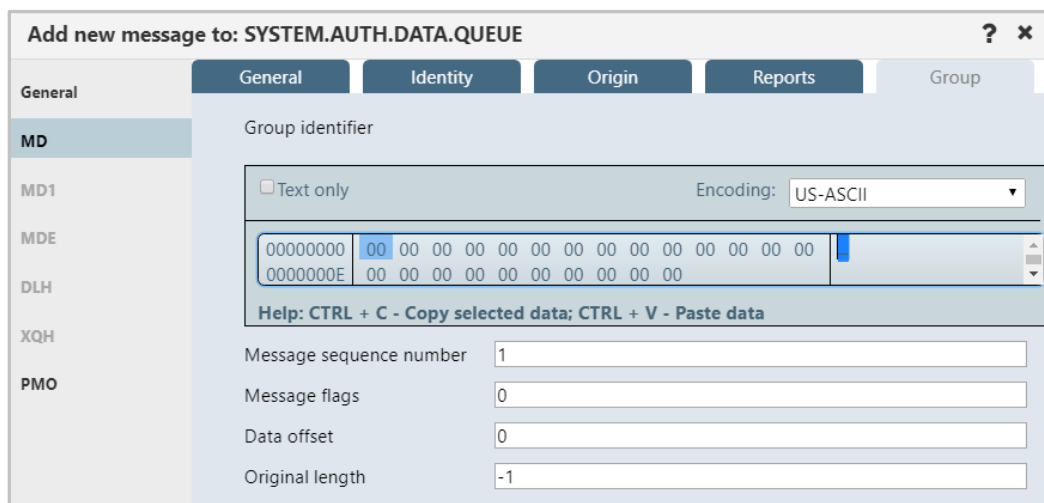


Figure 4.3.4.3.1-G. Message Descriptor Properties – Group

If it is a MD1 or XQH header, then the **Group** tab is removed.

Table 4.3.4.3.1-F. Message Descriptor Properties – Group		
Control	Description	States and Conditions
Group identifier	Edit group identifier.	Always enabled.
Message sequence number	Input sequence number of the logical message within the group.	
Message flags	Input message flags.	
Data offset	Input offset of data in physical message from the start of the logical message.	
Original length	Input length of original message.	

Message Descriptor Extension Properties

The *Message Descriptor Extension Properties* window is displayed when the **MDE** button is clicked from *Put New* window (Figure 4.3.4.3.1-A). The *Message Descriptor Extension Properties* window is used to edit the MDE message header.

Add new message to: SYSTEM.AUTH.DATA.QUEUE ?

General	Version	VERSION 2 ▼
MD	Structure length	72
MD1	Encoding	546
MDE	Coded charset id	0
DLH	Format	NONE ▼
XQH	Flags	0
PMO	Group id	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
	Message sequence number	1
	Offset	0
	Message flags	0
	Original length	-1

Figure 4.3.4.3.1-H. Message Descriptor Extension

Table 4.3.4.3.1-G. Message Descriptor Extension	
Control	Description
Version	Select version from the list.
Structure length	Specify structure length.
Encoding	Specify message data encoding.
Coded chartset id	Specify message coded character set identifier.
Format	Select message format from the list.
Flags	Specify a value for flags.
Group id	Edit group identifier.
Message sequence number	Input sequence number of logical message within group.
Offset	Input offset of data in physical message from the start of the logical message.
Message flags	Input flags that specify attributes of the message.
Original length	Input length of original message.

Dead Letter Queue Header Properties

The *Dead Letter Queue Header* window is displayed, when the **DLH** button is clicked from *Put New* window ([Figure 4.3.4.3.1-A](#)). The *Dead Letter Queue Header* window is used to edit the DLH message header.

Add new message to: SYSTEM.RETAINED.PUB.QUEUE ? x

General	Version	VERSION 1 ▾
MD	Reason	0
MD1	Dest q name	<input type="text"/>
MDE	Dest q manager name	<input type="text"/>
DLH	Encoding	0
XQH	Coded chartset id	0
PMO	Format	NONE ▾
	Put appl type	0
	Put appl name	<input type="text"/>
	Put date	<input type="text"/>
	Put time	<input type="text"/>

Figure 4.3.4.3.1-I. Dead Letter Queue Header

Table 4.3.4.3.1-H. Dead Letter Queue Header	
Control	Description
Version	Select version from the list.
Reason	Input reason code.
Dest q name	Input name of destination queue.
Dest q manager name	Input name of destination queue manager.
Encoding	Specify message data encoding.
Coded chartset id	Specify message coded character set identifier.
Format	Select message format from the list.
Put appl type	Input put application type.
Put appl name	Input put application name.
Put date	Provides date when message was put.
Put time	Provides time when message was put.

Transmission Queue Header Properties

The *Transmission Queue Header* window is displayed, when the **XQH** button is clicked from *Put New* window ([Figure 4.3.4.3.1-A](#)). The *Transmission Queue Header* window is used to view/edit the XQH message header.

Figure 4.3.4.3.1-J. Transmission Queue Header – General

Table 4.3.4.3.1-I. Transmission Queue Header – General

Control	Description	States and Conditions
Remote q name	The name of the remote queue.	Always enabled.
Remote q manager name	The name of the remote queue manager.	
MD Version	Select the MD version from the list.	
Application message type	Input application message type.	Editable only if APPLICATION message type is selected in Message Type combo box.
Message type	Select message type from the list.	Always enabled.
Application feedback code	Input application feedback code.	Editable only if APPLICATION feedback code is selected in Feedback combo box.
Message format	Select message format from the list.	Always enabled.
Encoding	Provides message data encoding.	Read only.
Feedback	Select message feedback code from the list.	Always enabled.
CCSID	Provides message coded character set identifier.	Read only.
Expiry (1/10sec)	Input message expiry.	Always enabled.
Priority	Input message priority.	Always enabled.
Backout count	Provides backout counter.	Read only.
Persistent	Select message persistence.	Always enabled.
Put date	Input date when message was put.	
Put time	Input time when message was put.	
Reply to queue	Input name of a message queue to which the reply or report message should be sent.	

Table 4.3.4.3.1-I. Transmission Queue Header – General		
Control	Description	States and Conditions
Reply to QM	Input name of the queue manager to which the reply or report message should be sent.	

The screenshot shows a web-based form titled "Add new message to: SYSTEM.RETAINED.PUB.QUEUE". It has four tabs: "General", "Identity", "Origin", and "Reports". The "Identity" tab is active. On the left is a sidebar with a tree view containing "General", "MD", "MD1", "MDE", "DLH", "XQH" (highlighted), and "PMO". The main area contains the following fields:

- Message Identifier: A text box containing "AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA"
- Correlation identifier: A text box containing "AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA"
- User identifier: A text box containing a single space character.
- Application identity data: A text box containing "AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA="
- Accounting token: A text box containing "AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA="

Figure 4.3.4.3.1-K. Transmission Queue Header – Identity

Table 4.3.4.3.1-J. Transmission Queue Header – Identity		
Control	Description	States and Conditions
Message identifier	Edit message identifier.	Always enabled.
Correlation identifier	Edit message correlation identifier.	
User identifier	Enter user identifier.	
Application identity data	Enter application identity data.	
Accounting token	Edit message accounting token.	

The screenshot shows the same dialog box as Figure 4.3.4.3.1-K, but with the "Origin" tab selected. The sidebar remains the same. The main area contains the following fields:

- Put application type: A text box containing the value "0".
- Application origin data: An empty text box.
- Application name: An empty text box.

Figure 4.3.4.3.1-L. Transmission Queue Header – Origin

Table 4.3.4.3.1-K. Transmission Queue Header – Origin		
Control	Description	States and Conditions
Put application type	Input put application type.	Always enabled.
Application origin data	Input application origin data.	
Put application name	Input put application name.	

Additional options for XQH messages are available to configure.

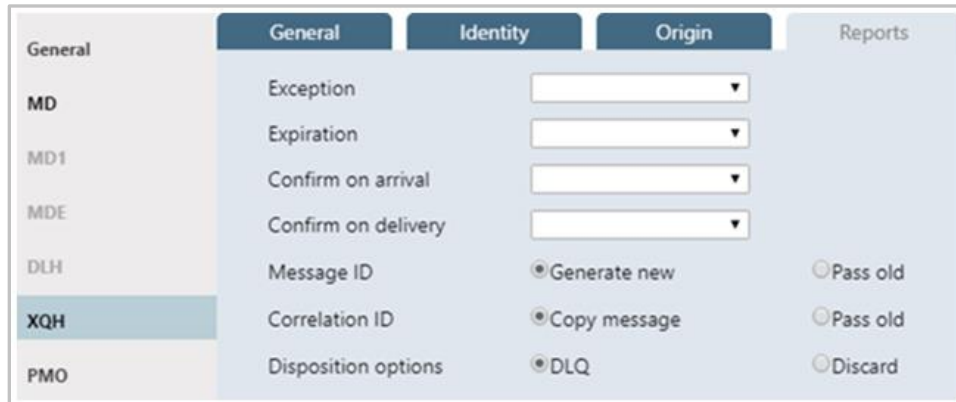


Figure 4.3.4.3.1-M. Transmission Queue Header – Reports

Table 4.3.4.3.1-L. Transmission Queue Header – Reports		
Control	Description	States and Conditions
Exception	Select an exception report message type from the list.	Always enabled.
Expiration	Select an expiration report message type from the list.	
Confirm on arrival	Select confirm-on-arrival report message type from the list.	
Confirm on delivery	Select confirm-on-delivery report message type from the list.	
Message ID	Specify how the Message ID of the report message (or the reply message) is to be set.	
Correlation ID	Specify how the Correlation ID of the report message (or the reply message) is to be set.	
Disposition options	Specify message disposition type when a message cannot be delivered to its destination queue.	

Message Put Options Properties

The *Message Put Options* window is displayed when **PMO** button on the *Put New* window ([Figure 4.3.4.3.1-A](#)) is clicked. The *Message Put Options* window is used to specify any options the user wants to use when putting a message onto a queue.

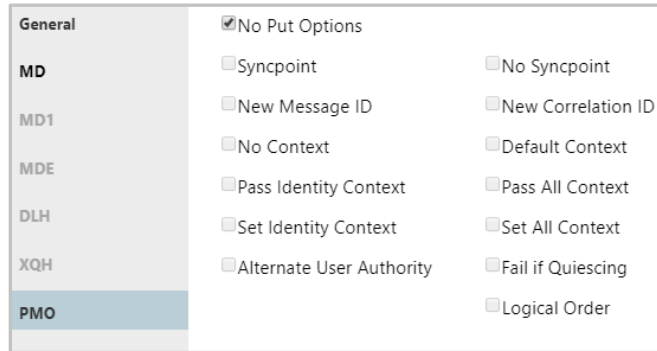



Figure 4.3.4.3.1-N. Message Put Options

Table 4.3.4.3.1-M. Message Put Options		
Control	Description	States and Conditions
No Put Options	Specifies that no options are used.	Disabled if another entry is selected.
Syncpoint	Operate within the normal unit-of-work protocols.	Enabled only when No Put Options is NOT selected.
No Syncpoint	Operate outside the normal unit-of-work protocols.	
New Message ID	Used to identify a new message identifier.	
New Correlation ID	Used to identify a new correlation identifier.	
No Context	Context field in MQMD are set to blanks, nulls, and zeros.	
Default Context	Message will have default context associated with it.	
Pass Identity Context	Passes identity context information from the original message to a new message.	
Pass All Context	Passes identity and origin context information from the original message to a new message.	
Set Identity Context	Sets identity context information from the original message to a new message.	
Set All Context	Sets identity and origin context information from the original message to a new message.	
Alternate User Authority	User identifier to validate authority to messages on the queue.	
Fail if Quiescing	Forces MQPUT or MQPUT1 call to fail if queue manager in quiescing state.	
Logical Order	Puts groups and segment information in logical order rather than physical order.	

4.3.4.3.2 Delete Messages

The *Confirm delete action* dialog box is displayed when one or more messages are selected and the **Delete** icon  is selected from the *Messages* viewlet (Figure 4.3.4.3-A), **Delete message(s)** is selected from the message(s) pop-up menu (Figure 4.3.4.3-I / Figure 4.3.4.3-J), or **Messages > Delete All** is selected from the queue's action menu in a queues viewlet (Figure 4.3.4-A). It is used to delete messages from the queue. Click **Yes** to delete the selected messages or **No** to cancel.

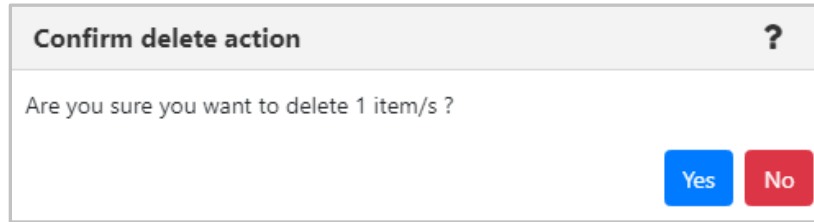




Figure 4.3.4.3.2-A. Delete Confirmation

4.3.4.3.3 Copy / Move

The *Copy messages* or *Move messages* windows are displayed when one or more messages are selected and the **Copy message/Move message** icons  /  are selected from the *Messages* viewlet, ([Figure 4.3.4.3-A](#)), **Copy message(s)/Move message(s)** is selected from the message(s) pop-up menu ([Figure 4.3.4.3-I](#) / [Figure 4.3.4.3-J](#)), or **Messages > Copy All/Move All** is selected from the queue's action menu in a queues viewlet ([Figure 4.3.4-A](#)). Messages can be copied/moved into all queues available in the **Queue name** list.

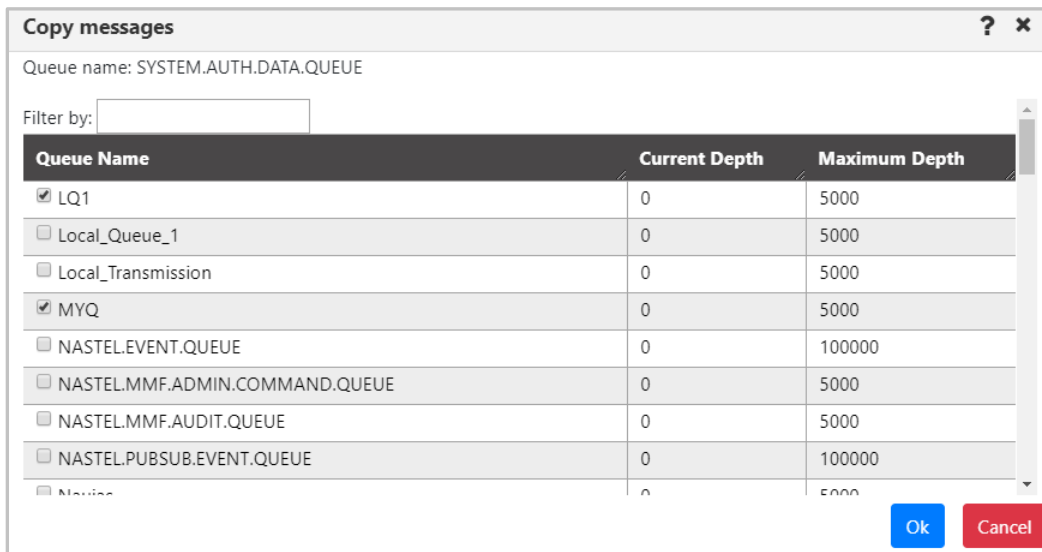


Figure 4.3.4.3.3-A. Copy Messages

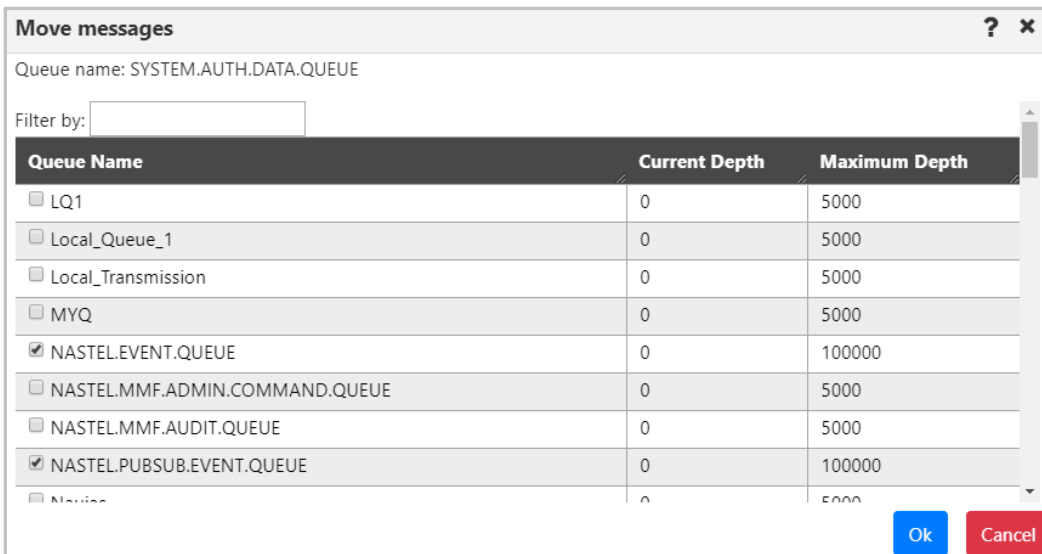



Figure 4.3.4.3.3-B. Move Messages

4.3.4.3.4 Edit

The *Edit message* window is displayed when **Edit** is selected from the message's pop-up menu ([Figure 4.3.4.3-1](#)) or by clicking the **Edit** icon  on the *Messages* viewlet ([Figure 4.3.4.3-A](#)). It is used to edit the message information and data. For more information about edit options, please see *Put New* ([Section 4.3.4.3.1](#)).

Please note that EMS and alias queue messages cannot be edited.

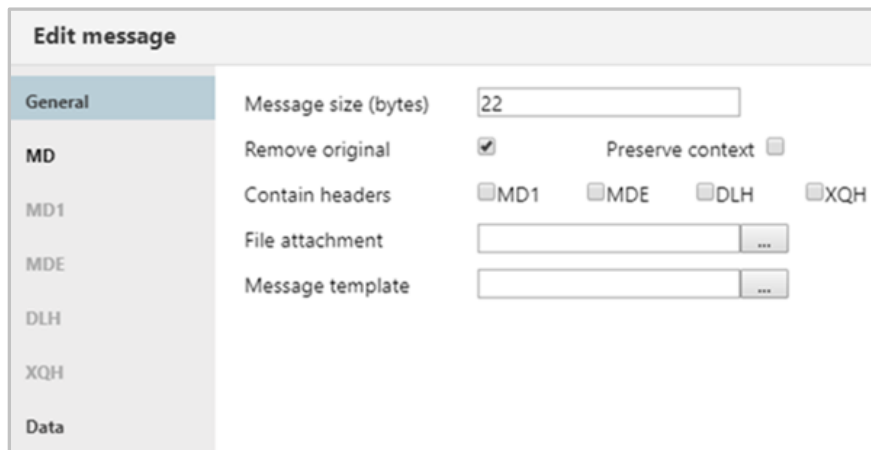


Figure 4.3.4.3.4-A. Edit Message

Table 4.3.4.3.4-A Edit Message		
Control	Description	States and Conditions
Message size (bytes)	Displays size of message without headers.	Always enabled.
Remove original	If checked, removes all original message headers when submitted.	
Preserve context	If checked, preserves message context.	
Contains headers	Selects which header(s) will be available in the message.	
MD button	Displays <i>Message Descriptor Properties</i> window where user can view/edit MD header of message (Figure 4.3.4.3.1-C).	Enabled only if MD1 checkbox is <i>not</i> selected.
MD1 button	Displays <i>Message Descriptor Properties</i> window where user can view/edit MD1 header of message (Figure 4.3.4.3.1-C).	Enabled only if MD1 checkbox is selected.
MDE button	Displays <i>Message Descriptor Extension</i> window where user can edit MDE header of message (Figure 4.3.4.3.1-H).	Enabled only if MDE checkbox is selected.
DLH button	Displays <i>Dead Letter Queue Header</i> window where user can view/edit DLH header of message (Figure 4.3.4.3.1-I).	Enabled only if DLH checkbox is selected.
XQH button	Displays <i>Transmission Queue Header</i> window where user can view/edit XQH header of message (Figure 4.3.4.3.1-J).	Enabled only if XQH checkbox is selected.
File attachment	Input file name to attach to this message.	Always enabled.
Message template	(Available in future Nastel Navigator release)	
Data button	Displays <i>Message Data</i> window where user can view/edit message data (Figure 4.3.4.3.4-B).	Always enabled.

The *Message Text Data* window is displayed when the **Data** button is clicked on the *Edit Message* window ([Figure 4.3.4.3.4-A](#)). It is used to view/edit the message data. **Text only** is the default option for displaying message text data.

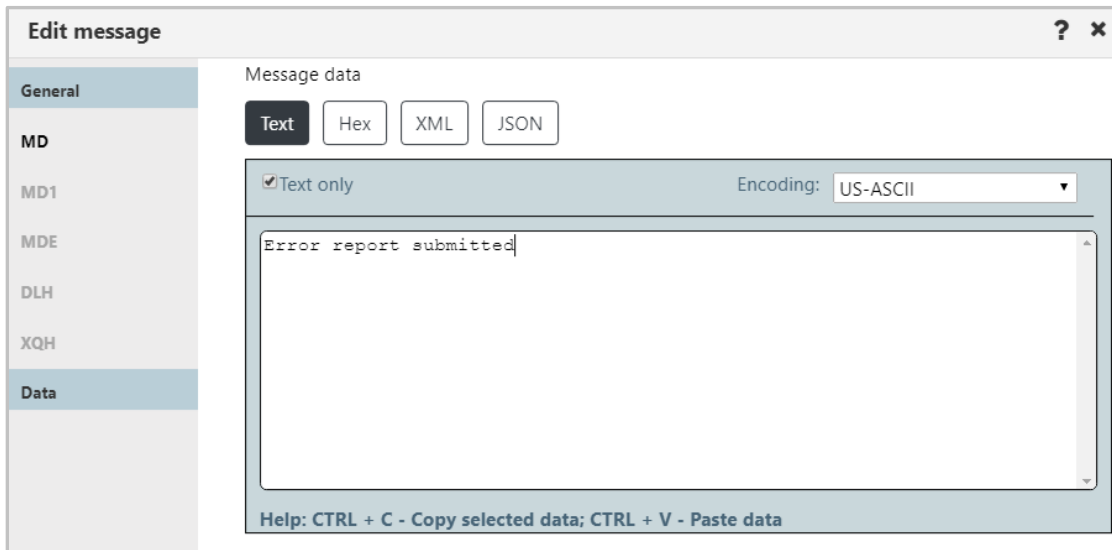



Figure 4.3.4.3.4-B. Message Text Data

4.3.4.3.5 Load from File

The *Command settings* dialog box for loading messages is displayed when **Load from File**  is selected from the *Messages* viewlet ([Figure 4.3.4.3-A](#)) or **Load from File** is selected from the Queue Viewlet Messages menu options ([Figure 4.3.4-A](#)). Users can load single or multiple messages from .mmf or .txt files.

Click **Yes** to load a file. Clicking **Configure** will open the *Load Message* settings window ([Section 4.4.3.3](#)).

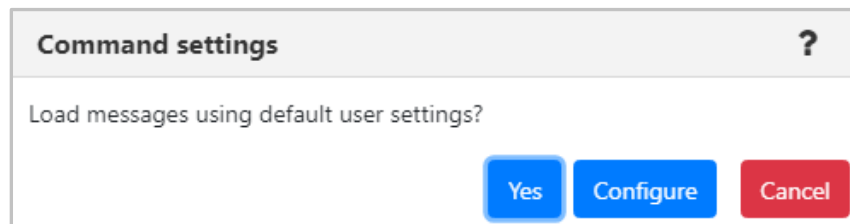


Figure 4.3.4.3.5-A. Load from File Command Settings

4.3.4.3.6 Export All Messages

To export all of a queue's messages, select **Messages > Export All Messages > .MMF** or **.TXT** from the queue's action menu options ([Figure 4.3.4-A](#)). The *Command settings* dialog box for exporting messages appears. Click **Yes** to export the messages. Clicking **Configure** will open the *Save Messages* settings window ([Section 4.4.1.4](#)). See *Save Messages* ([Section 3.4.1.4](#)) for more information.

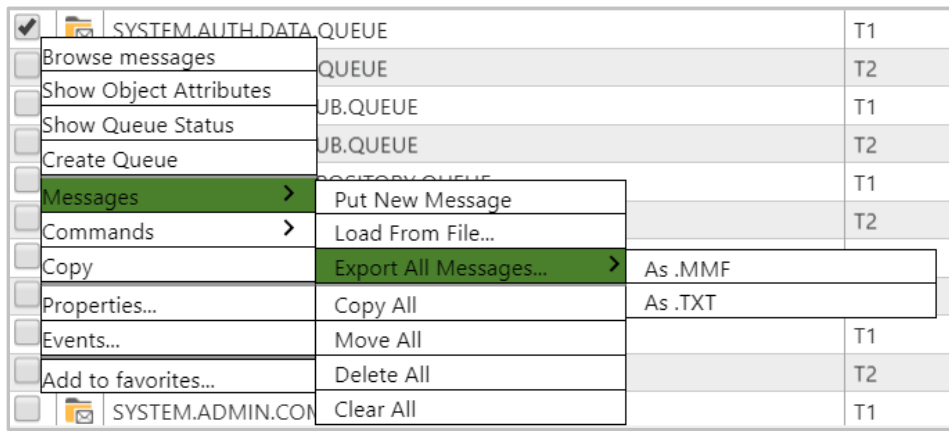


Figure 4.3.4.3.6-A. Export All Messages

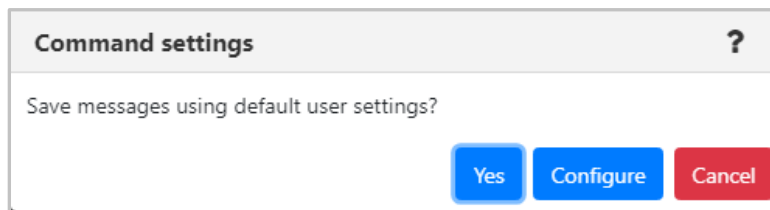


Figure 4.3.4.3.6-B. Export all Messages Command settings

4.3.4.3.7 Message Rerouting

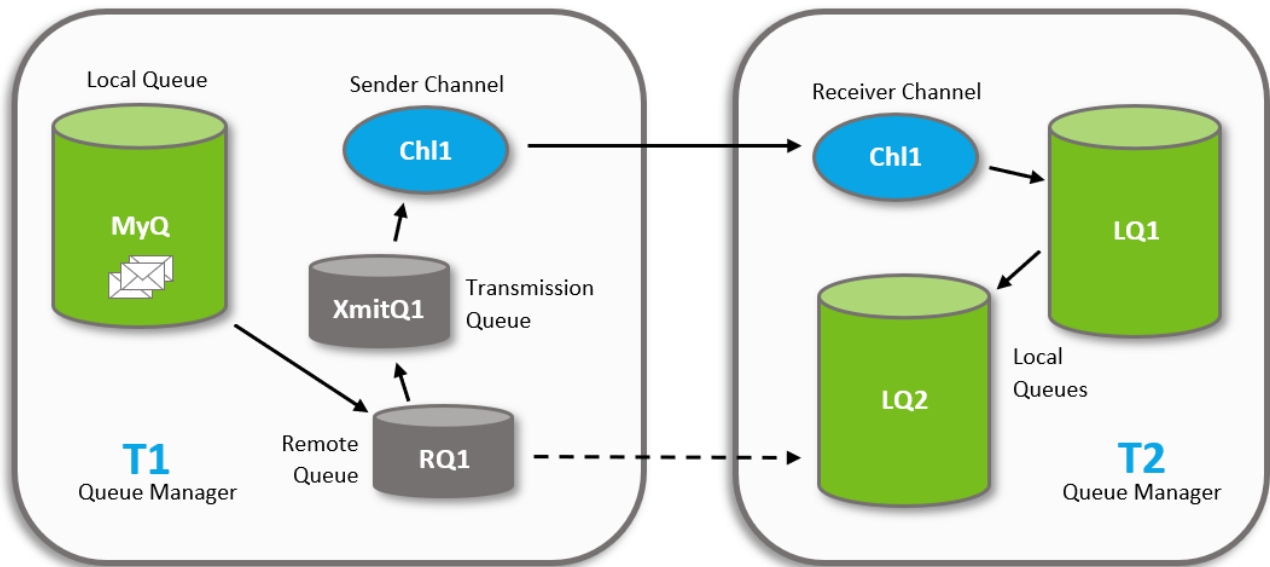


Figure 4.3.4.3.7-A. Message Rerouting Process

The reroute feature transmits messages from one queue manager to another, for example, sending messages from queue manager T1 to a local queue (LQ2) on remote queue manager T2. This feature works by dynamically altering definitions to enable the messages to be transmitted.

Rerouting Requirements

Rerouting messages requires the following:

1. **Channels:** Create a sender and receiver channel on each of the queue managers. This feature works by dynamically altering the definitions to enable the messages to be transmitted. The channels are one directional and must have the same name, for example:

Sender Channel (on T1): Ch11
Receiver Channel (on T2): Ch11

2. **Transmission Queue:** Create a transmission queue on the sending queue manager (T1), for example:
Transmission Queue: XmitQ1
3. **Remote Queue:** Create a remote queue on the sending queue manager (T1). It will need to point to the local queue (LQ2) receiving the messages (located on the receiving queue manager T2). For example:
Remote Queue: RQ1
4. **User Rights:** Users who will be rerouting messages need security rights to make definition changes to the objects listed above. These objects will need to be defined with special security rules, allowing them to be altered by users with the reroute rights.

The Rerouting Process

Using the diagram above, the Nastel components dynamically update the object definitions to reroute messages from MYQ on queue manager T1 to local queue LQ2 on queue manager T2 as follows:


- 1) Alter the remote queue (RQ1) on T1 to:
 - a. Point to the target local queue (LQ2) on T2.
 - b. Use T1's transmission queue (XmitQ1).
- 2) Alter the sending channel (Ch11) on T1 to:
 - a. To point at the connection for T2.
 - b. To use the transmission queue (XmitQ1).
- 3) Start the sending channel (Ch11).
- 4) Move the messages from MYQ to RQ1 on T1. This causes them to be placed on the transmission queue, picked up by the channel, transmitted to T2 and placed on LQ2.

Second Example: To move messages from MYQ to LQ1, the process is the same except RQ1 will need to point to LQ1 instead of LQ2. All other steps are the same and the same objects are used, pointing at LQ2 instead of LQ1.

Third Example: To move messages from MYQ to LQ1 on T3, the process is the same except the channel will be directed at T3 instead of T2. T3 needs a receiving channel Ch11 as well.

4.3.4.3.7.1 Reroute Configuration

Perform the following to reroute messages:

- 1) Open the messages to be rerouted in the Console section (see [Section 4.3.4.3, Messages](#), for information on viewing a queue's messages). Select the message(s) to be rerouted and click the **Reroute** button  from the Message Viewlet toolbar (see [Figure 4.3.4.3-A](#)). The *Reroute Messages* window opens.

Reroute Messages ? x

Re-route from:
Local_Queue_1

Current queue depth:
1

Routing template:
[Empty field] x ▾ **Delete Template**

Routing scope:

- Current Queue Manager**
Re-route messages to any queue within queue manager.
- Middleware Cluster**
Re-route messages to any queue shared within cluster.
- Nastel Workgroup**
Re-route messages to any queue within nastel Workgroup.

← Back **Next →** **Finish** **Cancel**

Figure 4.3.4.3.7.1-A. Reroute Messages – Routing Scope

The **Re-route from** and **Current queue depth** fields display the name of the messages' queue and the queue's depth. Please note that these fields are always inactive.

Select a **Routing template** from the drop-down list. To create a new template instead, enter a template name in the **Routing template** field and press the **Enter** key on your keyboard. To delete a template, select it and click the **Delete Template** button.

Select a **Routing Scope** (a description of each option appears immediately below the option name). It will be used when there is a need to reroute messages into a location not defined in message headers.

Click **Next** to continue configuring the reroute properties. The *Reroute Messages* window opens. Select a **Routing destination** option and click **Next**.

Reroute Messages ? x

Re-route from:
Local_Queue_1

Middleware Cluster:
cluster_test ▾

Routing destination:

- Original destination:**
Re-route messages to "destination queue" on "destination queue manager", identified in the dead letter header.
- Back to Sender**
Re-route messages to "reply to queue" on "reply to queue manager", identified in the original message descriptor.
- New destination**
Re-route messages to manually defined queue.

← Back **Next →** **Finish** **Cancel**

Figure 4.3.4.3.7.1-B. Reroute Messages – Routing Destination

If either **Original destination** or **Back to Sender** were selected for the **Routing destination**, the following window will open. Specify the properties and click **Next**.

The screenshot shows a dialog box titled "Reroute Messages" with a help icon and a close button in the top right corner. The dialog contains several configuration fields:

- Re-route from:** A text box containing "Local_Queue_1".
- If command failed:** A dropdown menu with "STOP ALL" selected.
- Strip message headers:** A dropdown menu with "STRIP ALL" selected.
- Message batch:** A text box containing "1000".
- Delete original messages:** A dropdown menu with "ON POSITIVE RESPONSE" selected.
- Request completion report:** A dropdown menu with "ONLY IF FAILED" selected.
- Report queue:** An empty dropdown menu.

At the bottom of the dialog, there are four buttons: "Back" (with a left arrow), "Next" (with a right arrow), "Finish" (blue), and "Cancel" (red).

Figure 4.3.4.3.7.1-C. Reroute Messages – Additional Options

A summary of the reroute plan for the selected messages displays. If everything is correct, click **Finish**.

The screenshot shows a dialog box titled "Reroute Messages" with a help icon and a close button in the top right corner. The dialog displays a summary of the reroute plan:

- Re-route 3 messages from:**
 - MQ Node - SLB19,
 - QMGR - T1,
 - Queue - Local_Queue_1 .
- Re-route to:**
 - Original destination.

At the bottom of the dialog, there are four buttons: "Back" (with a left arrow), "Next" (with a right arrow), "Finish" (blue), and "Cancel" (red).

Figure 4.3.4.3.7.1-D. Reroute Messages – Summary

If **New destination** was selected for the **Routing destination** (Figure 4.3.4.3.7.1-B above, this option is used to re-route messages from one queue to another, which belong to different queue managers), a window similar to the below will open. Select a **Destination Queue name** from the drop-down list.

Click **Next** for additional options (Figure 4.3.4.3.7.1-C above). Specify the properties and click **Next** to view the reroute summary.

Figure 4.3.4.3.7.1-E. Reroute Messages – Set Destination

4.3.4.4 Commands

The Commands menu is accessed from the queue's pop-up menu. **Copy As** and **Delete Queue** are the options available.

Copy As

The **Copy As** option creates a new object based on the definition of the currently selected object. When clicked from the queue's **Commands** menu options ([Figure 4.3.4-A](#)), the *Copy viewlet object* dialog box opens.

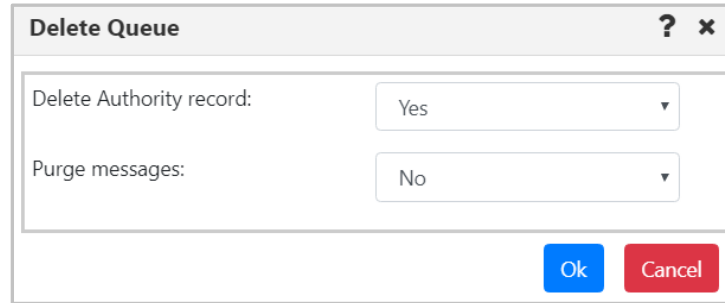
1. Enter a name and description
2. Click **Ok** to copy an object.

Figure 4.3.4.4-A. Copy Viewlet Object

Delete Queue

The **Delete Queue** option allows users to delete the queue. When selected from the queue's **Commands** menu options ([Figure 4.3.4-A](#)), the below dialog box appears.

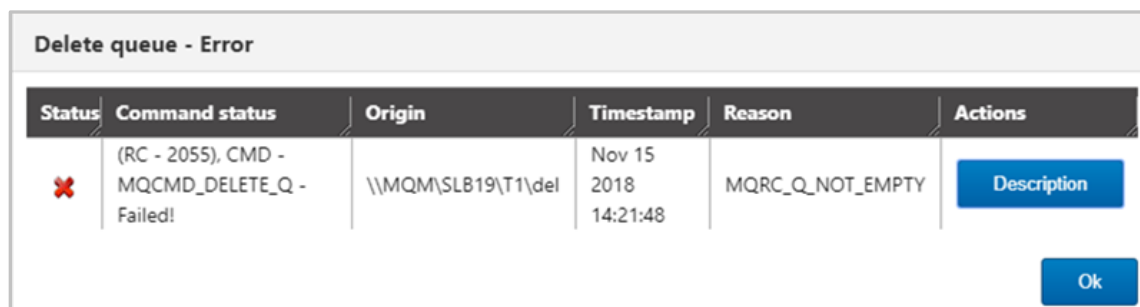
Please note that there are no delete options for EMS queues. All EMS queues and their messages will be deleted.




The dialog box titled "Delete Queue" contains two dropdown menus. The first is labeled "Delete Authority record:" and is set to "Yes". The second is labeled "Purge messages:" and is set to "No". At the bottom right, there are two buttons: "Ok" (blue) and "Cancel" (red).

Figure 4.3.4.4-B. Delete Queue

Specify if you would like the authority record deleted. When a queue contains messages, select **Yes** from the **Purge messages** option to delete both the queue and the messages it contains. If the queue contains messages and **No** is selected, an error notification similar to the below screenshot will appear. The **Description** button can be clicked for more details.



The error dialog box titled "Delete queue - Error" displays a table with the following data:





Status	Command status	Origin	Timestamp	Reason	Actions
	(RC - 2055), CMD - MQCMD_DELETE_Q - Failed!	\\MQM\SLB19\T1\del	Nov 15 2018 14:21:48	MQRC_Q_NOT_EMPTY	Description

An "Ok" button is located at the bottom right of the dialog.

Figure 4.3.4.4-C. Delete Queue – Error

4.3.5 Channels

A channel viewlet displays all related information to channels. The icons represent the status of the channels:

- Active Channel: 
- Inactive Channel: 
- Changing State: 
- Stopped Channel: 

A pop-up menu appears when a channel's check box is checked. See [Appendix C](#) for an explanation of these options. Clicking on a channel name will open the *Attribute* viewlet ([Section 4.3.5.1](#)). Clicking on a channel status will open the *<channel_name> Status* viewlet ([Section 4.3.5.2](#)).



Your pop-up menu options may differ according to your user permissions, which are managed by an admin.

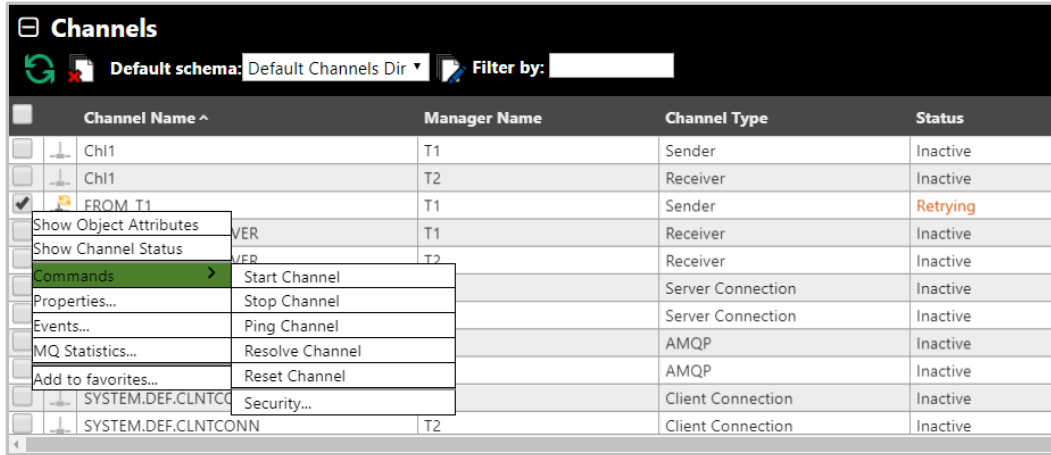


Figure 4.3.5-A. Channel Pop-up Menu

TIP If your *Channel* viewlet is empty, check if the **Show inactive channels** option is selected in the **Settings** window > **User Settings** tab (Figure 4.4.3.1-A).

4.3.5.1 Channel Attributes

Selecting **Show Object Attributes** from the channel's pop-up menu (Figure 4.3.5-A) will display the channel's *Attributes* viewlet.

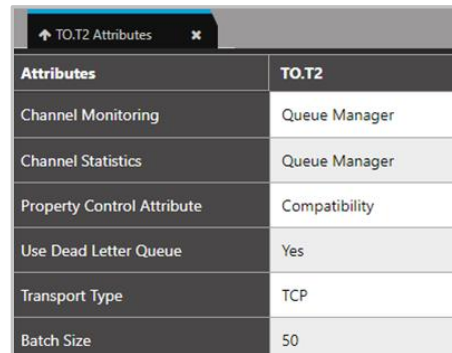



Figure 4.3.5.1-A. Channel Attributes

4.3.5.2 Channel Status

Selecting **Show Channel Status** from the channel's pop-up menu (Figure 4.3.5-A) or clicking the channel status within the **Status** column of the viewlet will display the *Status* viewlet of the channel. The following statuses are signified with specific colors: running (green), retrying (orange) and stopped (red).

The columns displayed in this viewlet can be customized by clicking the **Table** icon .

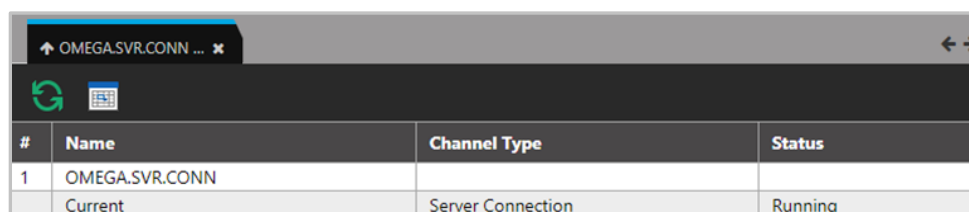


Figure 4.3.5.2-A. Channel Status

Table 4.3.5.2-A. Channel Status	
Status	Description
Inactive	Channel is not active.
Binding	Channel is negotiating with the partner.
Starting	Channel is waiting to become active.
Running	Channel is transferring or waiting for messages.
Stopping	Channel is in process of stopping.
Retrying	Channel is reattempting to establish connection.
Stopped	Channel is stopped.
Requesting	Requester channel is requesting connection.
Paused	Channel is paused.
Disconnected	Channel is disconnected.
Initializing	Channel is initializing.
Switching	Channel is switching transmission queues.

4.3.5.3 Channel Commands

The **Commands** submenu accessed from the channel's action menu ([Figure 4.3.5-A](#)) gives the option to start, stop, ping, resolve or reset channels. These options can differ depending on the channel type.

Start Channel

After selecting **Start Channel**, the *Start Channel* window opens. Within the **Channel Disposition** section, you can specify to include **Private**, **Shared** or **Shared-Linked** channel dispositions. Check the box and select the desired option from the drop-down menu. You can also specify the **Command scope** if needed. For more information on these options, please see the IBM online documentation: https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_7.5.0/com.ibm.mq.ref.adm.doc/q088420.htm

Click **Ok** to start the channel, or click **Schedule** to create a task to start the channel at a specified time (see [Section 4.6, Scheduling](#)). The **Schedule** button will not appear if your WGS is not configured for scheduling.

Figure 4.3.5.3-A. Start Channel Dialog Window

After selecting **Start Channel** the status will appear as **Initializing** or **Retrying** with the changing state icon



Stop Channel

After selecting **Stop Channel**, the *Stop Channel* dialog box appears. The stop options are selected on this screen.

Figure 4.3.5.3-B. Stop Channel

Ping Channel

After selecting **Ping Channel**, the *Ping Channel* dialog box appears.

Figure 4.3.5.3-C. Ping Channel

Resolve Channel

After selecting **Resolve Channel** (only Sender or Cluster Sender channels have this option available in their *Commands* menu), the *Resolve Channel* dialog window appears. Use this option when the link fails during the confirmation period and the connection cannot be reestablished.

The following buttons appear at the bottom of the dialog window. The **Commit** and **Backout** buttons are only available when the channel is in INDOUBT state. This means that the channel's sending end does not know if messages were received.

- **Commit:** The in-doubt messages will be deleted from the transmission queue.
- **Backout:** The in-doubt messages are returned to the transmission queue.
- **Channel Properties:** Update the channel's properties. See [Section 4.3.5.4, Channel Properties](#), for more information.

Figure 4.3.5.3-D. Resolve Channel

Click **Ok** when finished.

Reset Channel

Select **Reset Channel** to reset the message sequence number for an IBM MQ channel. The *Reset Channel* dialog window appears. Optionally, a sequence number can be specified within the **Message Sequence number** field to be used when the channel is started.

Figure 4.3.5.3-E. Reset Channel

4.3.5.4 Channel Properties

Clicking **Properties** from the channel's action menu ([Figure 4.3.5-A](#)) will open the channel's *Properties* window.

For more information on the properties of channels, please go to the IBM Knowledge Center: https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_7.5.0/com.ibm.mq.explorer.doc/e_properties_channels.htm

Server Connection SYSTEM.ADMIN.SVRCONN Properties ?

General

Extended

MCA

Exits

LU 6.2

SSL

Compression

Monitoring

Statistics

Channel name:
SYSTEM.ADMIN.SVRCONN

Description:

Type: Server Connection Transport Type: TCP

Ok Cancel

Figure 4.3.5.4-A. Channel Properties

4.3.5.5 Channel Events

Clicking **Events** from a channel's action menu ([Figure 4.3.5-A](#)) will display the *Events* viewlet of the channel.

Channels

Default schema: Default Channels Dir Filter by: _____

Channel Name	Manager Name	Channel Type	Status	Bytes Sent	Bytes Received	Messages
Baggins	T1	AMQP	Inactive			
SYSTEM.ADMIN.SVRCONN	T1	Server Connection	Inactive	0	0	0
SYSTEM.AUTO.RECEIVER	T1	Receiver	Inactive	0	0	0
SYSTEM.AUTO.RECEIVER	T1	Receiver	Stopped	0	0	0
SYSTEM.AUTO.RECEIVER	T2	Receiver	Stopped	0	0	0
SYSTEM.AUTO.SVRCONN	T1	Server Connection	Inactive	0	0	0
SYSTEM.AUTO.SVRCONN	T1	Server Connection	Stopped	0	0	0
SYSTEM.AUTO.SVRCONN	T2	Server Connection	Stopped	0	0	0
SYSTEM.DEF.AMQP	T1	AMQP	Inactive			
SYSTEM.DEF.AMQP	T1	AMQP	Inactive			
SYSTEM.DEF.AMQP	T2	AMQP	Inactive			
SYSTEM.DEF.CLATCONN	T1	Client Connection	Inactive	0	0	0

Total: 42 Visible: 42 Selected: 0 Last refresh time: 10:30:14 PM

Console

SYSTEM.AUTO.SVRC... x

Event #	Date/Time	Category	Event ID	Object
46	22:31:04, Nov. 15, 2019	Alter	Object Changed	\\MQM\SLB19\T2\SYSTEM.AUTO.SVRCONN

Figure 4.3.5.5-A. Channel Events Viewlet

Clicking a blue event number will open the *Event details* window for the event. There are three tabs: **General** ([Figure 4.3.5.5-B](#)), **Diagnostic** ([Figure 4.3.5.5-C](#)) and **Detail** ([Figure 4.3.5.5-D](#)).

On the **Detail** tab, an attribute can be selected to restore the attribute's previous properties. Select the attribute to revert and click **Rollback Selected Changes** ([Figure 4.3.5.5-D](#)).

Event details

General **Diagnostic** Detail

Event Time & Origin

Receive Time:	22:31:04, Kov, 15, 2019
Category:	Alter
Group Name:	MQM
Node Name:	SLB19
Qmgr Name:	T2
Object:	SYSTEM.AUTO.SVRCONN

Description:

MQRC_NONE: Reason code is zero and signifies a successful completion. When occurs in events, signifies that no further qualification of the event is available.
Corrective Action: None

[Close](#)

Figure 4.3.5.5-B. Event Details – General Tab

Event details

General **Diagnostic** Detail

Event #:	46	User ID:	Ruta
Event ID:	20002	Elapsed Time:	00:00:05 hours
Reason:	0	Error ID:	AMQ

Name	Value
Workgroup Name	MQM
Node Name	SLB19
Queue Manager Name	T2
Object Type	Channel
Object Name	SYSTEM.AUTO.SVRCONN
Original User ID	SYSTEM
Last Event Time	4

Description:

MQRC_NONE: Reason code is zero and signifies a successful completion. When occurs in events, signifies that no further qualification of the event is available.
Corrective Action: None

[Close](#)

Figure 4.3.5.5-C. Event Details – Diagnostic Tab

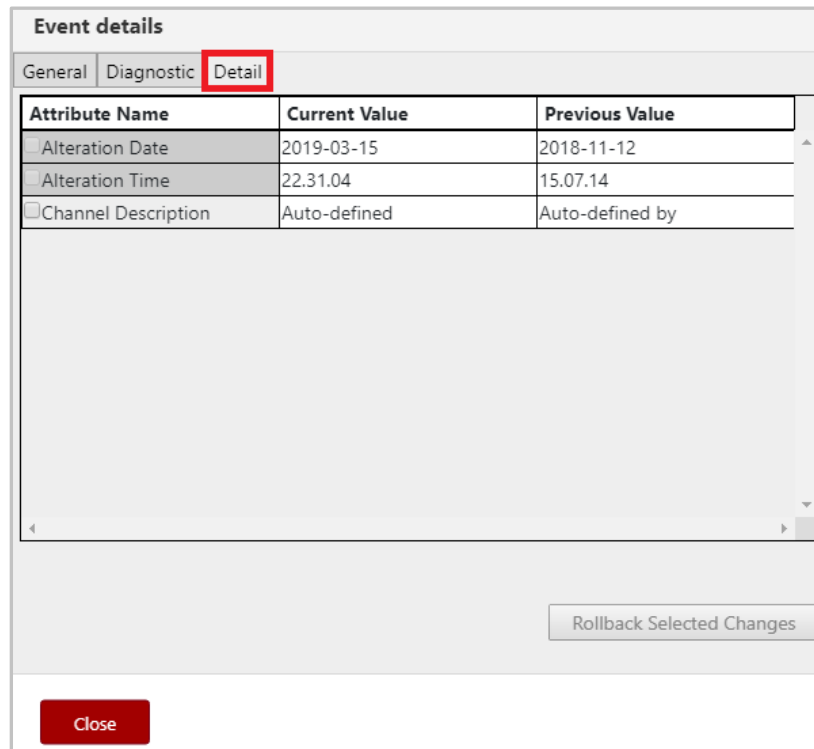


Figure 4.3.5.5-D. Event Details – Detail Tab

4.3.5.6 Add Channel to Favorites

Channels can be added to a *Favorites* viewlet. For more information on adding a favorites viewlet, please see *Create a New Viewlet for Favorite Objects* ([Section 4.3.1.2](#)).

4.3.6 Comparing Objects

Objects can be compared within a viewlet. To compare objects, either select all objects (by clicking on the Select All check box), or select multiple objects. Click **Compare** on the pop-up menu. A compare table appears in the *Console* section at the bottom of the screen.

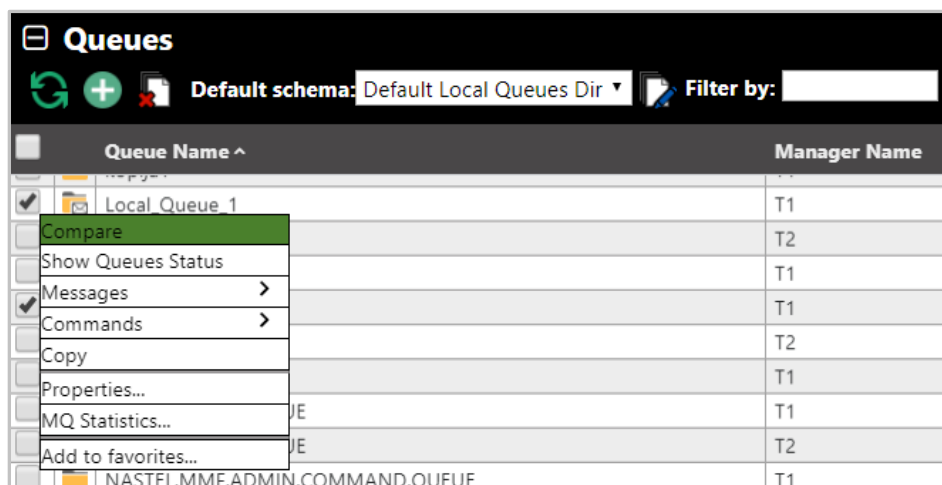


Figure 4.3.6-A. Compare Option



When comparing channels, only channels of the same type can be compared; the **Compare** option will only appear when the **Channel Type** is the same for all selected channels.

Within the comparison table, matching values will appear in the same color. If an attribute is identical for all objects, they will appear in black. This feature is controlled by the **Compare** option (Figure 4.3.6-B).

Attributes	SYSTEM.ADMIN.COMMAND.QUEUE	SYSTEM.ADMIN.COMMAND.QUEUE	SYSTEM.ADMIN.ACTIVITY.QUEUE
Queue Name	SYSTEM.ADMIN.COMMAND.QUEUE	SYSTEM.ADMIN.COMMAND.QUEUE	SYSTEM.ADMIN.ACTIVITY.QUEUE
Queue Description	IBM MQ Administration Command Queue	IBM MQ Administration Command Queue	IBM MQ Administration Activity Queue
Usage	Normal	Normal	Normal
Scope	Queue Manager	Queue Manager	Queue Manager
Default Bind	On Open	On Open	On Open

Figure 4.3.6-B. Compare Option

To only view objects with differences, turn on the **Differences Only** option (Figure 4.3.6-C).

Attributes	SYSTEM.ADMIN.COMMAND.QUEUE	SYSTEM.ADMIN.COMMAND.QUEUE	SYSTEM.ADMIN.ACTIVITY.QUEUE
Queue Name	SYSTEM.ADMIN.COMMAND.QUEUE	SYSTEM.ADMIN.COMMAND.QUEUE	SYSTEM.ADMIN.ACTIVITY.QUEUE
Queue Description	IBM MQ Administration Command Queue	IBM MQ Administration Command Queue	IBM MQ Administration Activity Queue
Maximum Depth	3000	3000	5000
Maximum Message Length (bytes)	32762	32762	4194304
Sharing	Not Shareable	Not Shareable	Shareable

Figure 4.3.6-C. Differences Only Option

4.3.7 Customizing Viewlets

The manner in which a viewlet is displayed can be changed by using schemas, sorting and filtering. Viewlets can also be customized by changing the width of the columns. Hover over the column headers until you see a double arrow, click and drag to increase or decrease the column width.

4.3.7.1 Schemas

Viewlet schemas control how a viewlet is displayed. The default schema can be used or users can create their own custom schema to select which attributes are displayed and in what order.

By default, the **Manager Name** column appears as the second column in most of the viewlets even though it does not appear in the **Schemas object attribute** list (Figure 4.3.7.1-C). To remove the **Manager Name** column, uncheck the **Show Manager for default schemas** option in *User Settings* (Section 4.4.3.1).

To change a viewlet's display, select a schema from the **Default schema** drop-down list. All available schemas will appear in this list.

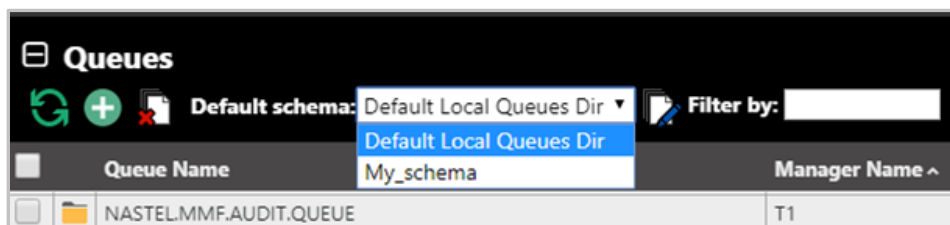


Figure 4.3.7.1-A. Default Schema

To create a schema, click the **Manage Viewlet Schemas** button.



Figure 4.3.7.1-B. Manage Viewlet Schemas Button

The *Manage Schemas* window appears. Click **Add** to add a new schema. You can also copy an existing schema by clicking the **Copy As** button.

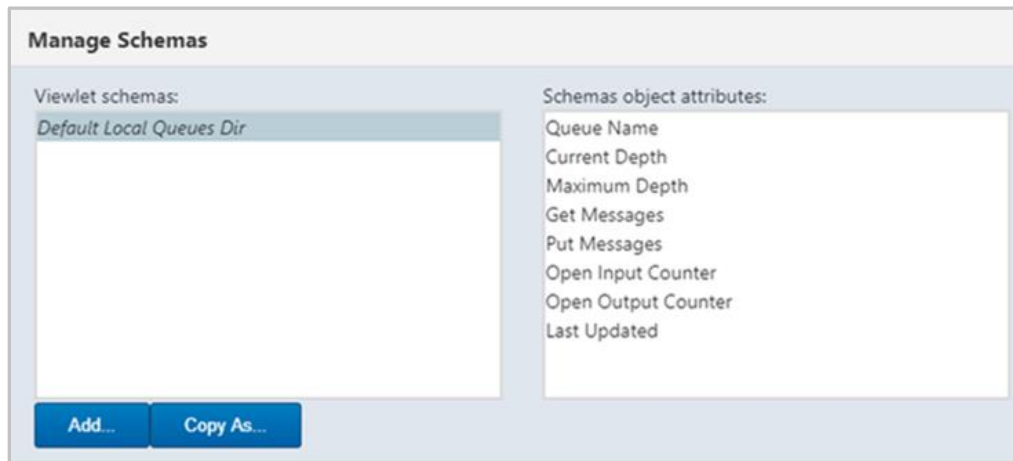


Figure 4.3.7.1-C. Manage Schemas – Adding a New Schema

The *Edit Schema* window opens.

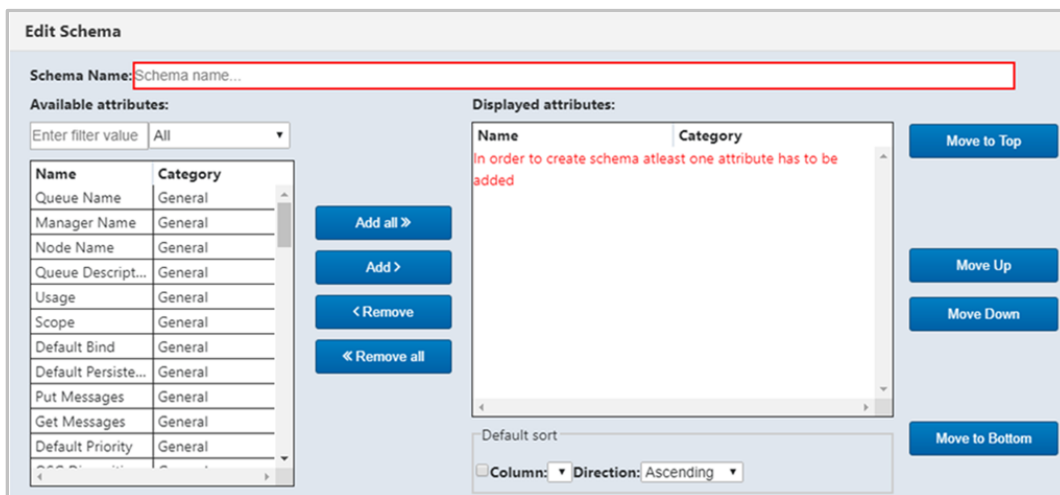


Figure 4.3.7.1-D. Edit Schema

Using the **Add all** and **Add** buttons, select attributes from the **Available attributes** table on the left side of the screen. They will now appear in the **Displayed attributes** table on the right side of the screen. Easily find attributes in the **Available attributes** table by using the filter immediately above the table.

To remove attributes from the **Displayed attributes** table, use the **Remove** and **Remove all** buttons.

The order the attributes appear within the **Displayed attributes** table is the order in which the attributes will appear in the viewlet. To change this order, select an attribute and use the **Move to Top**, **Move Up**, **Move Down** and **Move to Bottom** buttons.

The manner in which the viewlet's data will be sorted is specified within the **Default sort** section at the bottom right of the screen (Figure 4.3.7.1-E). Enable the **Column** checkbox and select the attribute to sort by. Select **Ascending** or **Descending** from the **Direction** drop-down list.

Click **OK** to add the new schema.

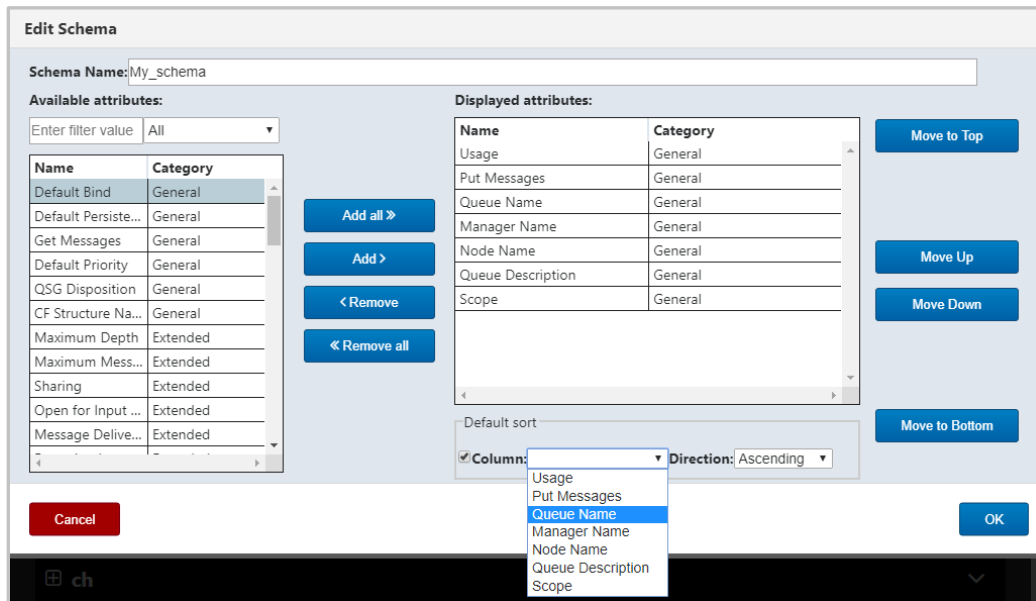


Figure 4.3.7.1-E. Edit Schema – Adding Attributes

The schema will now appear on the *Manage Schemas* window. On this screen, users can add, copy, edit or delete existing schemas.

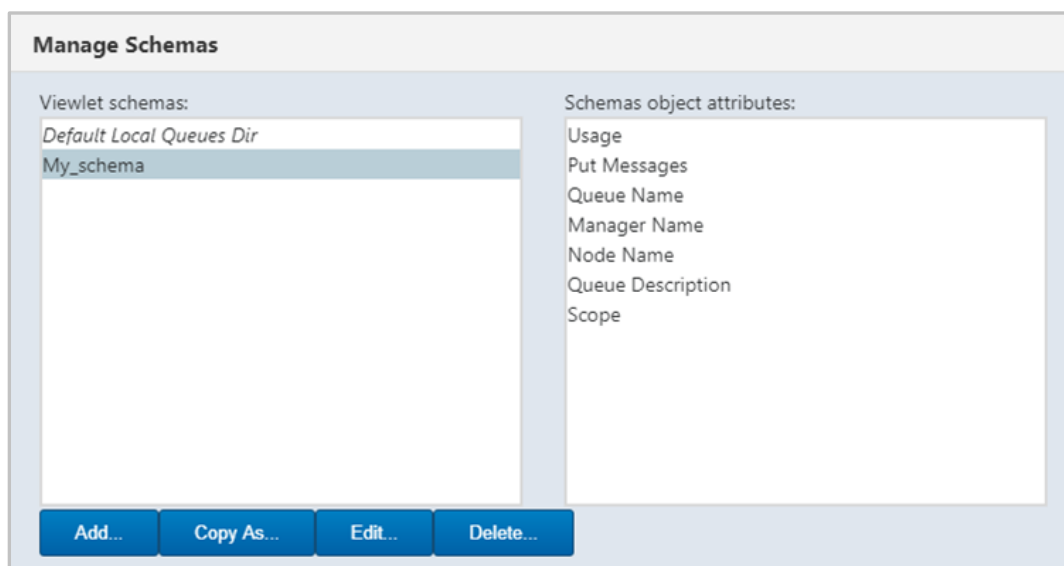



Figure 4.3.7.1-F. Manage Schemas

The **Edit Schema** button  now appears allowing you to edit your new schema.

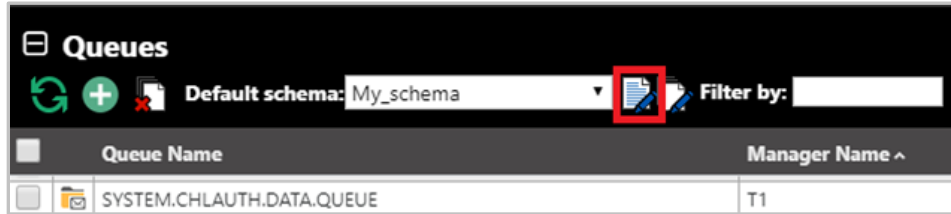


Figure 4.3.7.1-G. Edit Schema Button

To customize a messages viewlets, create a new schema or apply an existing one by clicking the **Manage viewlets schemas** or **Edit current schema** button as described above.

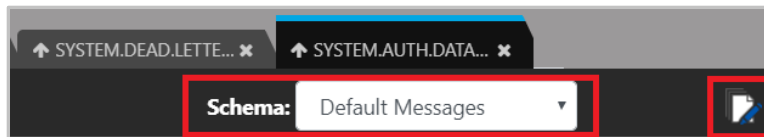


Figure 4.3.7.1-H. Schemas for Messages Viewlet

When you click the **Edit current Schema** button, the *Edit Schema* window opens. Within the *Available Attributes* list, there are several message attributes to select from. Perform the same steps as explained above to create or edit a schema.

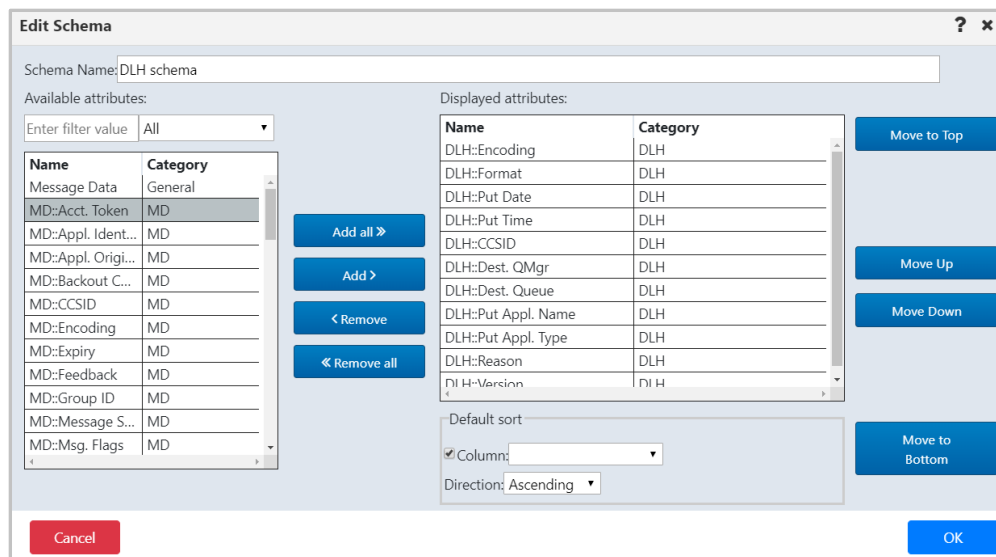



Figure 4.3.7.1-I. Edit Schema

4.3.7.2 Sorting

Click a column header to sort the data. The arrow immediately to the right of the column header name determines the direction of the data. An up arrow signifies ascending (^) and a down arrow signifies descending (v). To go back to the viewlet's default sorting, click the **Default table sorting** button .

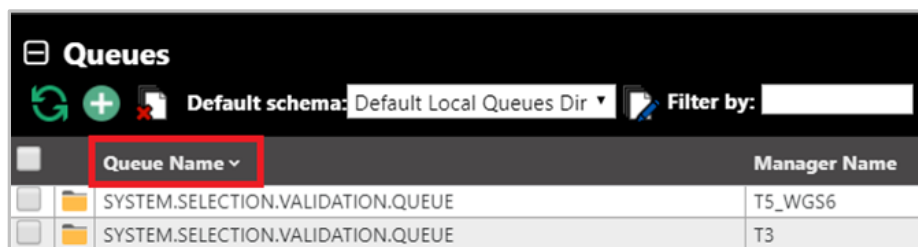


Figure 4.3.7.2-A. Column Sorting

4.3.7.3 Filtering

Use the **Filter by** field to key in any string of characters to filter objects within a viewlet. The filter applies to all of the viewlet's attributes.

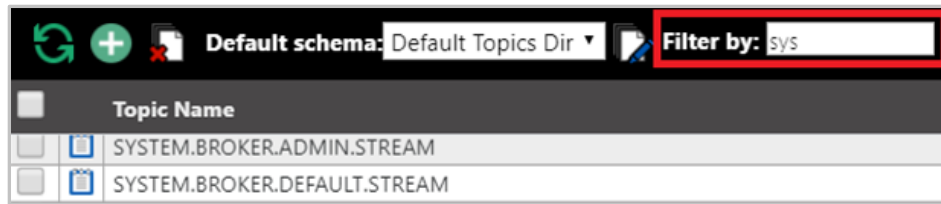




Figure 4.3.7.3-A. Filter By

4.3.7.4 Collapse / Expand Viewlets

Viewlets can easily be collapsed and expanded. Use the minus button  to collapse and the plus button  to expand.

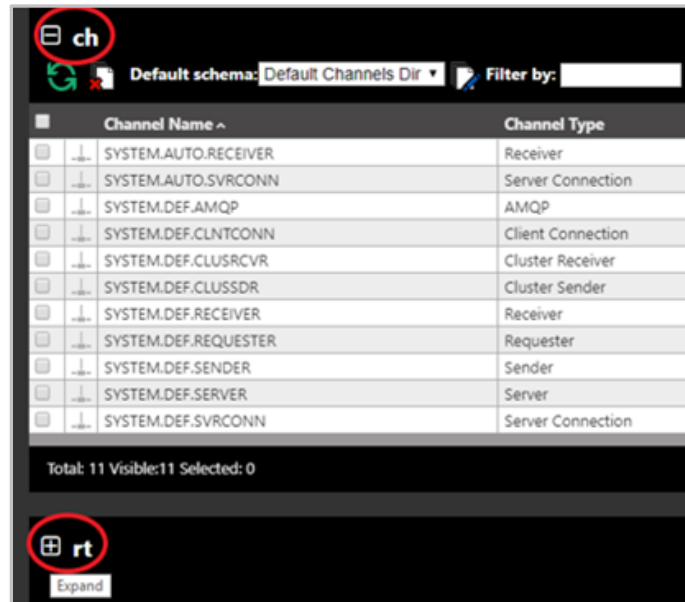


Figure 4.3.7.4-A. Collapse / Expand Viewlets

4.3.7.5 Moving Viewlets

Viewlets can be reordered within the dashboard. Click the top portion of the viewlet and drag and drop it to a new position.

4.3.8 Topology

From a queue manager ([Figure 4.3.3.1-A](#)) or node ([Figure 4.3.2-A](#)) pop-up menu, select **Show Topology**. The **Topology SVG** opens, displaying a graphic representation of queue relationships. The topology of multiple queue managers belonging to the same node can also be viewed.

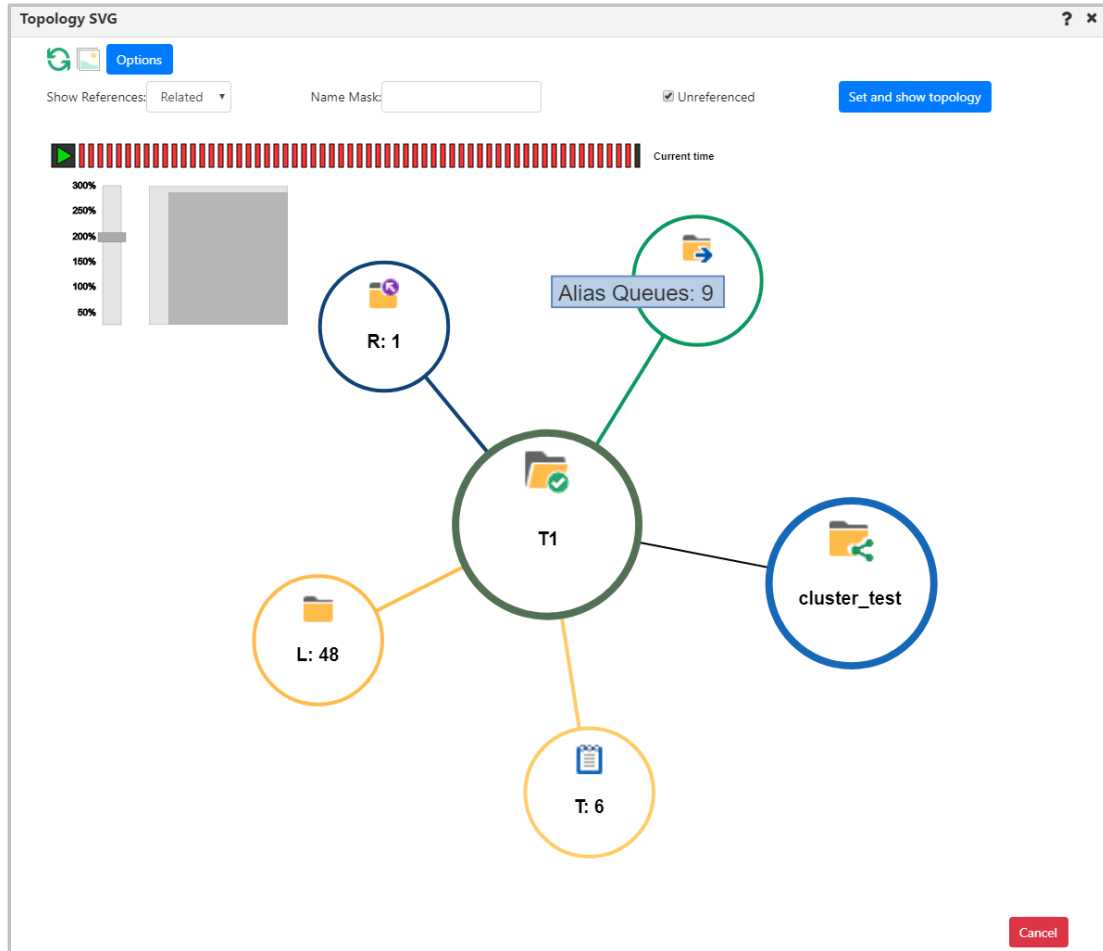


Figure 4.3.8-A. Topology

4.3.8.1 Topology Properties

Hover over the topology circles to view object names, as in the example above, “**Alias Queues: 9.**” Queues and topics are indicated by the following:

- 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**, signifies 14 alias queues.

Zoom in or out by scrolling your mouse scroll button or by dragging the size slider located on the left side of the window. Change a topology’s position by clicking the topology and drag and dropping it to a new position on the screen.

Click the refresh  button to refresh the topology.

From the **Show References** drop-down menu, select the type of references you would like the topology to display: **Related**, **All** or **Invalid**.

Use the **Name Mask** field to filter the lowest hierarchical level (the queues) of the topology. The default value of this field is an asterisk “*”, which means everything. You can search for objects using the asterisk

or enter an object's exact name. In the example below **system.channel.initq** was entered within the **Name Mask** field to display this exact queue.

Use the **Unreferenced** check box to specify whether or not to display unreferenced objects.

Click the **Set and show topology** button after you have specified all needed options.

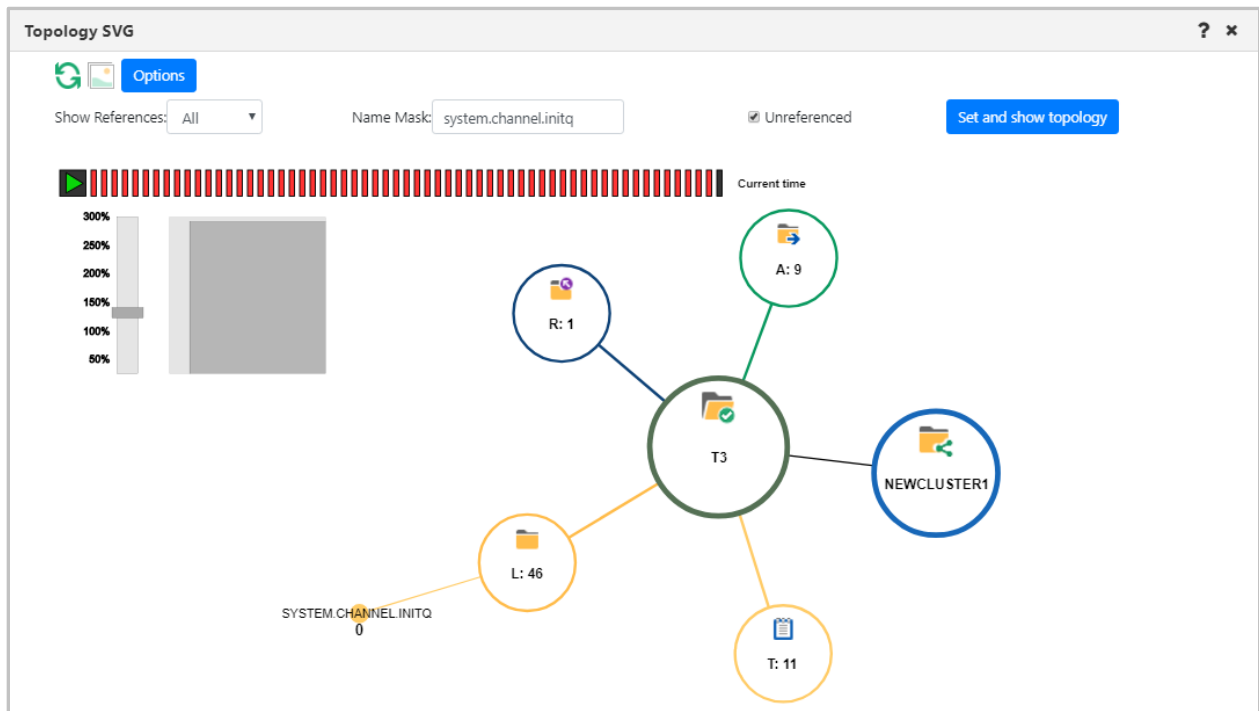


Figure 4.3.8.1-A. Customized Topology

4.3.8.1.1 Animation

The *Topology SVG* window has the option to display in animation form the dynamics of the selected queue manager or node's objects during a specified time range. Also, the structure of objects and their hierarchy are displayed.

Click the **Options** button to open the *Topology animation options* window to customize the animation.

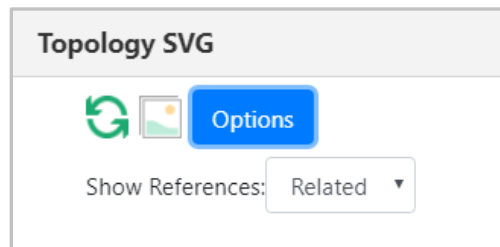


Figure 4.3.8.1.1-A. Options Button

Use drop-down menus to customize your selection. The options are described in *Table 4.3.8.1.1-A* below. Click **Ok** to save changes.

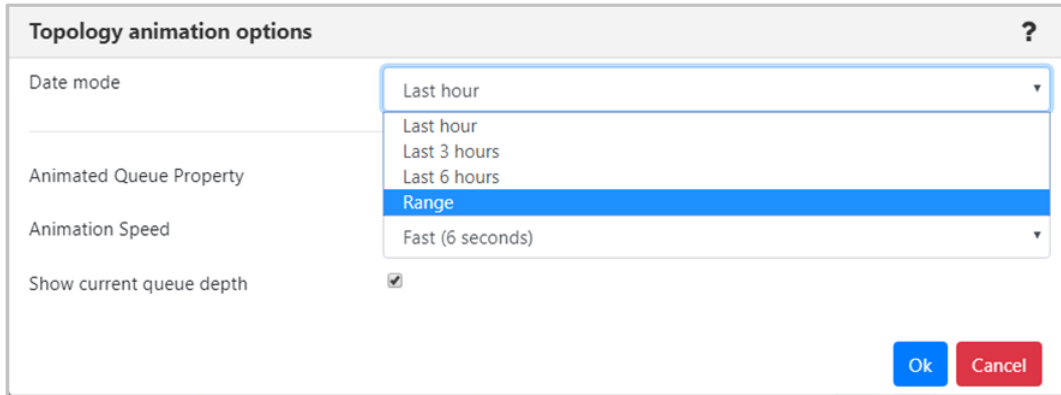



Figure 4.3.8.1.1-B. Topology Animation Options

Table 4.3.8.1.1-A Topology Animation Options	
Control	Description
Date mode	From the drop-down menu select the date range for the animation: Last hour , Last 3 hours , Last 6 hours or Range .
Animated Queue Property	From the drop-down menu select what to animate: Max. queue depth , Puts count (messages arrived), 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 (6 seconds) , Normal (12 seconds) or Slow (20 seconds) from the drop-down menu.
Show current queue depth	Check off the check box to show the current queue depth (recommended).

Click the **Play** button  to start the animation.

4.3.8.1.2 Export to Visio

Click the image button  to export the topology to Visio.

4.3.9 Help Button

There is a help button located at the top right corner of various windows. Click this button to get to the online help documentation.

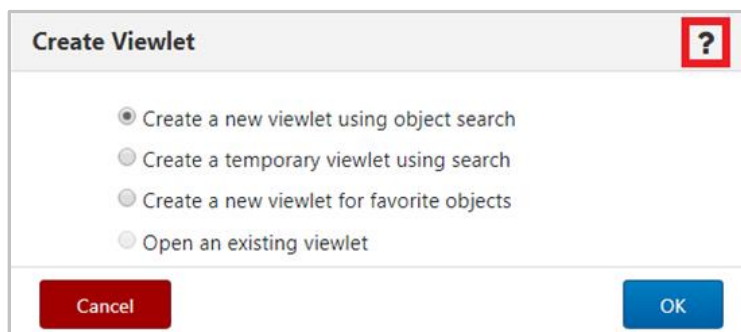



Figure 4.3.9-A. Help Option

You can also reach the online help documentation by selecting the **Help** button  from the toolbar (see [Section 4.4, Toolbar Options](#)).

4.3.10 MQ Statistics Viewlet

MQ statistics viewlets display all attributes of local MQ queues, channels and queue managers. The attributes displayed in these viewlets are determined by SQL queries created by you. The SQL queries are saved as schemas for easy retrieval for future use.

4.3.10.1 Viewing an MQ Statistics Viewlet

Multiple objects can be displayed in an MQ statistics viewlet. To view statistics for object(s), select them from a queue, channel or queue manager viewlet. Select **MQ Statistics** from the pop-up menu that appears.

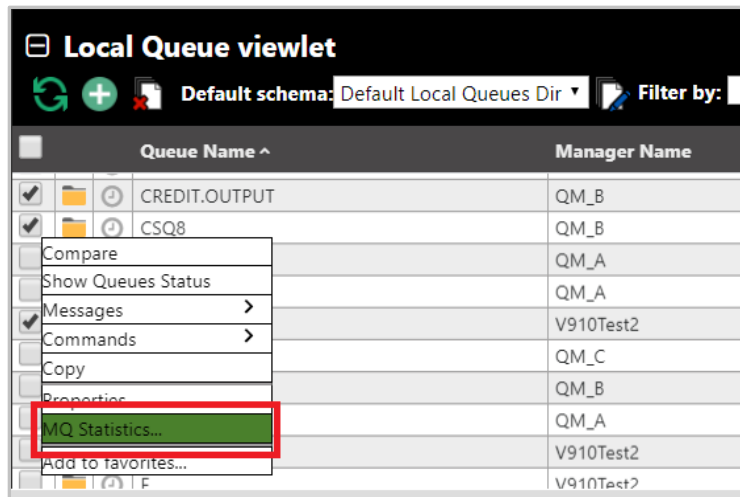




Figure 4.3.10.1-A. MQ Statistics Option on the Object's Menu

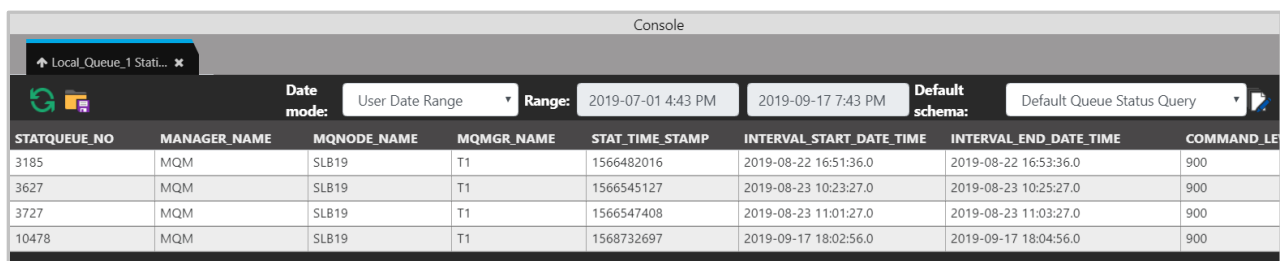
The SQL viewlet opens in the Console panel with all of the selected objects' attributes displayed. Be sure to scroll to the right to view all fields. To view data for a different time period, select the desired date option from the **Date mode** drop-down. The data can be sorted by clicking the column headers. Click the **Refresh** button  to confirm that viewlet is up to date. You can save the viewlet table to a CSV file by clicking the **Save Table As CSV** button .



NOTE

If you receive a message of "No data to display," check the following:

- Confirm that there is data for the time range specified.
-or-
- Statistical data collection may not be enabled. This is required to populate MQ Statistics viewlets. Speak to your administrator to confirm that the feature is enabled.





STATQUEUE_NO	MANAGER_NAME	MQNODE_NAME	MQMGR_NAME	STAT_TIME_STAMP	INTERVAL_START_DATE_TIME	INTERVAL_END_DATE_TIME	COMMAND_ID
3185	MQM	SLB19	T1	1566482016	2019-08-22 16:51:36.0	2019-08-22 16:53:36.0	900
3627	MQM	SLB19	T1	1566545127	2019-08-23 10:23:27.0	2019-08-23 10:25:27.0	900
3727	MQM	SLB19	T1	1566547408	2019-08-23 11:01:27.0	2019-08-23 11:03:27.0	900
10478	MQM	SLB19	T1	1568732697	2019-09-17 18:02:56.0	2019-09-17 18:04:56.0	900

Figure 4.3.10.1-B. MQ Statistics Viewlet

4.3.10.2 Changing the Data Displayed

The data displayed is controlled by the schema selected from the **Default schema** drop-down located at the top right of the viewlet. This is the schema that was selected during your previous session and will remain in effect until you select a different schema.

To change your view, select a different schema from the **Default schema** dropdown. You can also create a new schema by editing the current one  (please note that you cannot edit the **Default Queue Status Query** schema) or creating a completely new schema . After selecting one of these options to edit or create a new schema, the *Manage Statistics Schemas* window opens. This is where you specify the query to determine the attributes displayed.



TIP

When creating a new schema, it is recommended to make a copy of an existing schema and use that as a starting point (instead of overwriting an existing schema).

Figure 4.3.10.2-A. Manage Statistics Schemas Window

The left side of the window displays the existing schemas. Select a schema to view its' query on the right side of the window. The queries will have slight differences depending on the database you utilize.

See below for an explanation of the schema fields.

- **SELECT** statement: The attributes to display in the viewlet are specified within the **SELECT** statement. The **Default Queue Status Query** schema selects all attributes. You can change this by entering all desired attributes and separating them with a comma.



TIP

You can copy and paste attribute names from viewlet column headers right into the **Select** field of the query.

The column header names within the viewlet can be customized by using “as <ColumnTitle>” to change the column header names. Attributes containing numeric values can also be added together using +. As seen in the below examples, the put count fields were added together and display in one column titled “TOTALPUT.”



NOTE

Refer to [Appendix D](#) for a listing of all available statistic attributes.

Manage Statistics Schemas ? x

Statistics schema name:

SELECT:

```
MANAGER_NAME as Manager, MQNODE_NAME as MQNode, MQMGR_NAME as MQManager, Nonpers_put_count +
Pers_put_count + Nonpers_put1_count + Pers_put1_count as TotalPut
```

Figure 4.3.10.2-B. Adding Fields and Changing Display Names

MANAGER	MQNODE	MQMANAGER	TOTALPUT
MQM	HPENVY0113	V910Test	12
MQM	HPENVY0113	V910Test	12
MQM	HPENVY0113	V910Test	12
MQM	HPENVY0113	V910Test	12
MQM	HPENVY0113	V910Test	12

Figure 4.3.10.2-C. Using Views

- **FROM** statement: Defines the table name.
- **WHERE** statement: contains query conditions. It can have defined or dynamic parameters. Dynamic parameter values are filled automatically according to the selected object. Possible dynamic parameters:
 - {WGS_NAME} – workgroup server name
 - {NODE_NAME} – node name
 - {QMGR_NAME} – queue manager name
 - {OBJ_NAME} – object name
 - {INTERVAL_START} – interval start time Unix timestamp
 - {INTERVAL_END} – interval end time Unix timestamp
- **GROUP BY** or **LIMIT** statement: defines the sorting and/or the limiting of the column values (limit of record rows). I.e. Group by MQNODE_NAME asc LIMIT 1000 (the definition depends on database vendor).
- **Chart by** field: specify a data field to display the results as a graph. See [Section 4.3.10.3, Viewing a Statistics Graph](#).

If you have no SQL experience: As you can see, the *Manage Statistics Schemas* window is very advanced and requires knowledge of SQL. Ask your administrator for assistance. They can send you queries you can copy and paste into the *Manage Statistics Schemas* window.

An even easier method is to utilize Views. Views are queried tables saved in the database created by your administrator. Multiple views can be created. The View name will need to be specified within the **FROM** statement, as seen below. The **WHERE** statement remains the same.

Figure 4.3.10.2-D. Using Views

Example of MySQL Query

Two queues from different nodes (MQM/NODE1/T1/LQ1) and (MQM/NODE2/T2/LQ2) were selected. The local time specified in the statistics viewlet gets converted to a Unix timestamp:

```
start time (2019-08-21 10:00 AM) 1566370800,
end time (2019-08-21 11:15 PM) 1566418500
```

The following schema was used for the queue:

Manage Statistics Schemas
? x

Statistics schema name:

SELECT:

FROM:

WHERE:

GROUP BY or LIMIT:

Chart by:

Figure 4.3.10.2-E. MySQL Query Example

Actual query:

```

SELECT * FROM statqueue WHERE
(
    MANAGER_NAME = 'MQM' AND MQNODE_NAME = 'NODE1' AND MQMGR_NAME = 'T1'
    AND QUEUE_NAME = 'LQ1' AND STAT_TIME_STAMP >= 1566370800 AND STAT_TIME_STAMP
    <= 1566418500
)
OR
(
    MANAGER_NAME = 'MQM' AND MQNODE_NAME = 'NODE2' AND MQMGR_NAME = 'T2'
    AND QUEUE_NAME = 'LQ2' AND STAT_TIME_STAMP >= 1566370800 AND STAT_TIME_STAMP
    <= 1566418500
)
LIMIT 1000

```

Queries are run using the 'nastel_apwmq' database.



NOTE

The schemas are very flexible and different queries can be run. This includes queries not related to MQ statistics. The syntax is dependent on your SQL database, i.e. queries for the MySQL database can be different from the Postgre database.

4.3.10.3 Viewing a Statistics Graph

Statistics viewlets can be displayed as a graph by specifying the data field within the **Chart by** field. For example, to view message backout count (messages withdrawn from a queue due to transaction problems), enter the data field name, **BACKOUT_COUNT** within **Chart by**.

Manage Statistics Schemas ? x

Statistics schema name:
Statistics graph

SELECT:
*

FROM:
statmqi

WHERE:
MANAGER_NAME = {WGS_NAME} AND MQNODE_NAME = {NODE_NAME} AND MQMGR_NAME = {QMGR_NAME}
AND STAT_TIME_STAMP >= {INTERVAL_START} AND STAT_TIME_STAMP <= {INTERVAL_END}

GROUP BY or LIMIT:
LIMIT 1000

Chart by:
BACKOUT_COUNT

Save Cancel

Figure 4.3.10.3-A. Specify Column

Your viewlet will now display as a graph, displaying the dynamics of the backed out messages during the specified time period.

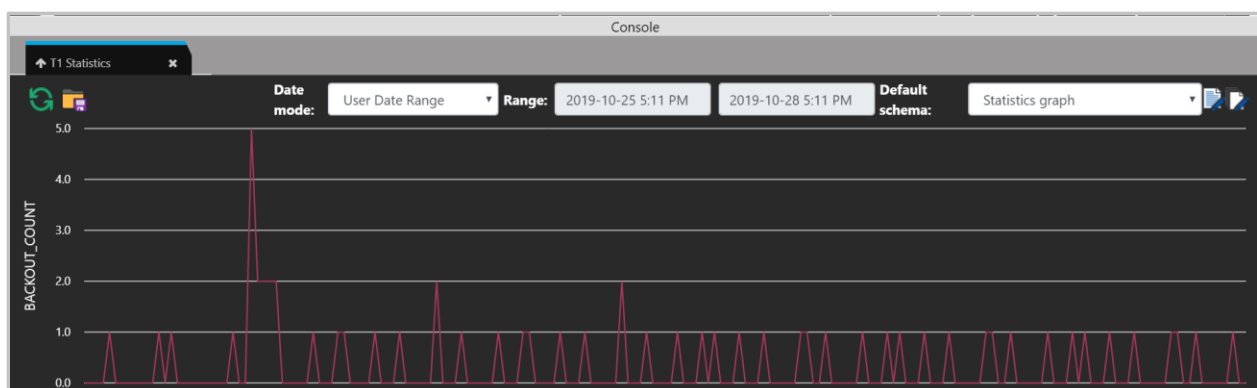


Figure 4.3.10.3-B. Statistics Graph

4.3.11 Viewing Properties of Multiple Objects

To view properties of multiple objects within a viewlet, select the objects and then click **Properties** from the action menu. The *Properties* window opens.

A blue tooltip box appears on the bottom right corner of the screen (as seen below) instructing you to hover over fields to display the values. Simply hover over any of the fields with a blue line appearing on the left side of the field box; these are the fields which contain multiple values.

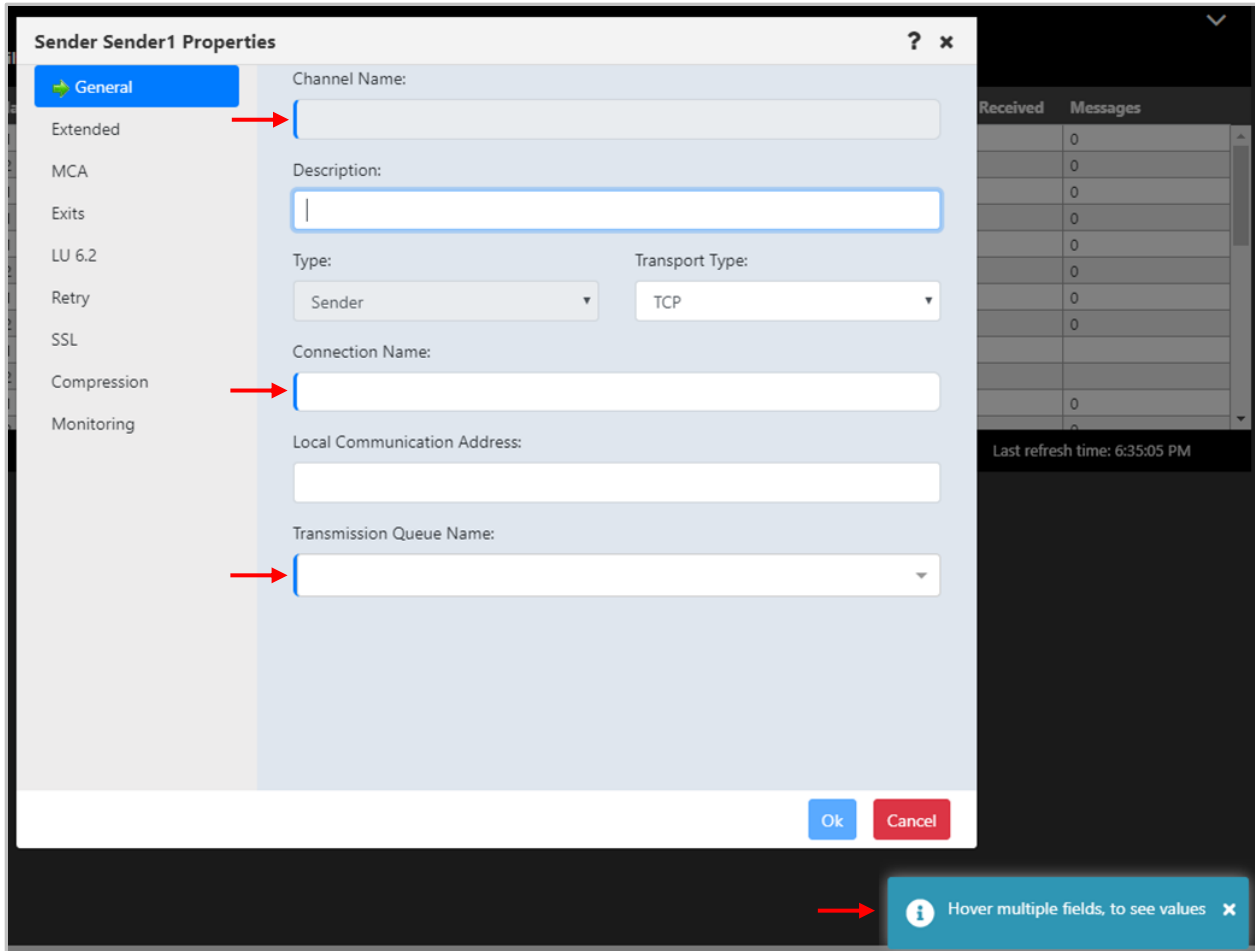


Figure 4.3.11.-A. Properties of Multiple Channels

After hovering over the fields, a black box will appear displaying all of the field's values.

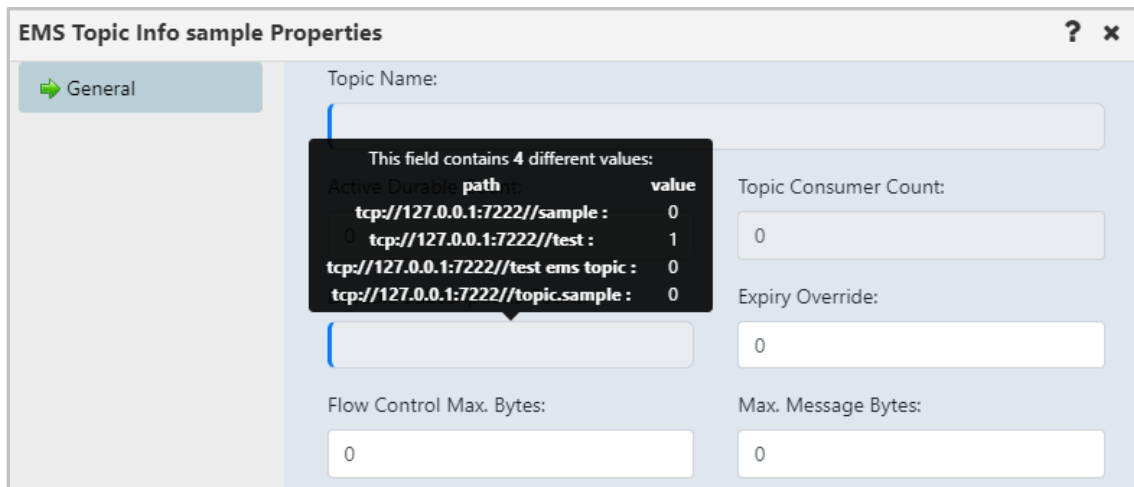


Figure 4.3.11.-A. Multiple Properties Tooltip Box

4.4 Toolbar Options

The toolbar appears at the top right of the screen. Functionality is explained in *Table 4.4-A* below.

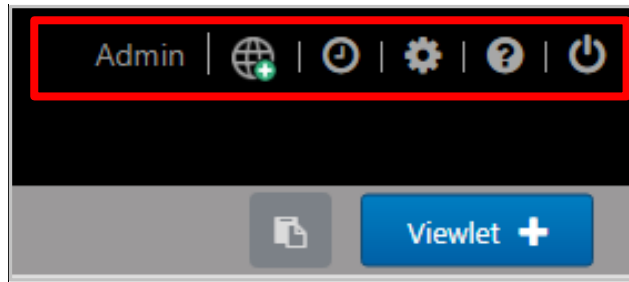


Figure 4.4-A. Toolbar Options

Table 4.4-A. Toolbar Options		
Icon	Name	Description
	User Name	Displays the user's name.
	Connect	Connect button. Reconnects workgroup server connections.
	Schedules	Opens the <i>Schedules</i> window. A list of scheduled commands and their statuses are displayed. (Section 4.4.2).
	Settings	Displays the Settings window . See <i>User Settings</i> below (Section 4.4.3) for more information.
	Help	Opens the online help system.
	Log Out	Logs the user out of the application.

4.4.1 Connect

Click the **Connect** button to reconnect the workgroup server when the status of the workgroup server is **Not Connected** or there are WGS issues. Enter the workgroup server's password and click **Renew Token**.

Renew token
?

Connection info:

IP	Hostname	Port
172.16.6.60		4010

Enter password to renew token


Password:

Cancel


Renew Token

Figure 4.4.1-A. Renew Token

4.4.2 Schedules

After clicking the Schedules icon  from the top of the screen ([Figure 4.4-A](#)), the *Schedules* window opens. Only users with the required WGS configuration will have the ability to use this feature. See [Section 4.6, Scheduling](#), for more information.

4.4.3 Settings Window

After clicking the **Settings** icon  from the top right of the screen ([Figure 4.4-A](#)), the *Settings window* is displayed. This window has four tabs:

- **User settings** ([Section 4.4.3.1](#))
- **Message Commands** ([Section 4.4.3.2](#))
- **Load Messages** ([Section 4.4.3.3](#))
- **Save Messages** ([Section 4.4.3.4](#))

4.4.3.1 User Settings

The **User settings** tab is shown below and described in [Table 4.4.3.1-A](#).

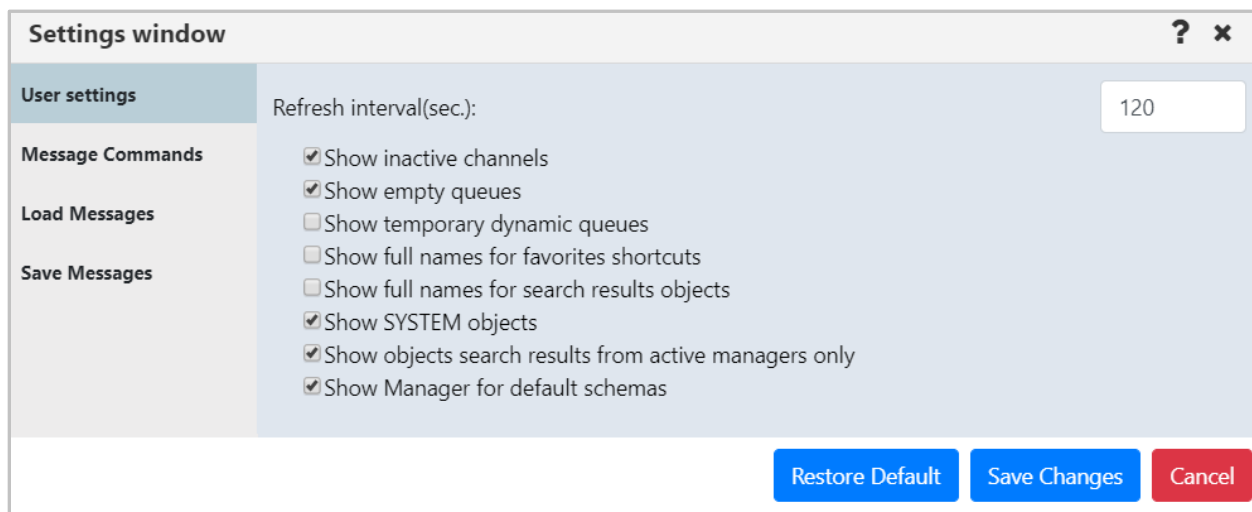


Figure 4.4.3.1-A. User Settings

Table 4.4.3.1-A. User Settings	
Name	Description
Refresh interval (sec.)	Automatically refreshes the displayed information at the specified interval (in seconds).
Show inactive channels	Select to show all inactive channels in the tree.
Show empty queues	Select to display all queues that have a current depth equal to zero.
Show temporary dynamic queues	Select to display temporary dynamic queues.
Show full names for favorites shortcuts	Displays entire object path names on the Favorites tab.
Show full names for search results objects	Displays entire object path names for all search results.
Show SYSTEM objects	Select to show SYSTEM objects (objects that begin with SYSTEM or NASTEL).
Show objects search results from	Select to only search active queue managers. If off, all objects are shown

Table 4.4.3.1-A. User Settings	
Name	Description
active queue managers only	even from queue managers that are not currently active (will produce duplicates of the same object). This option is selected by default.
Show Manager for default schemas	By default, the Manager Name is the second viewlet column displayed. Uncheck this setting to remove the Manager Name column.
Restore Default button	Select to restore to default settings.

4.4.3.2 Message Commands

The **Message Commands** tab provides global settings for browsing messages. The various options are described in *Table 4.4.3.2-A*.

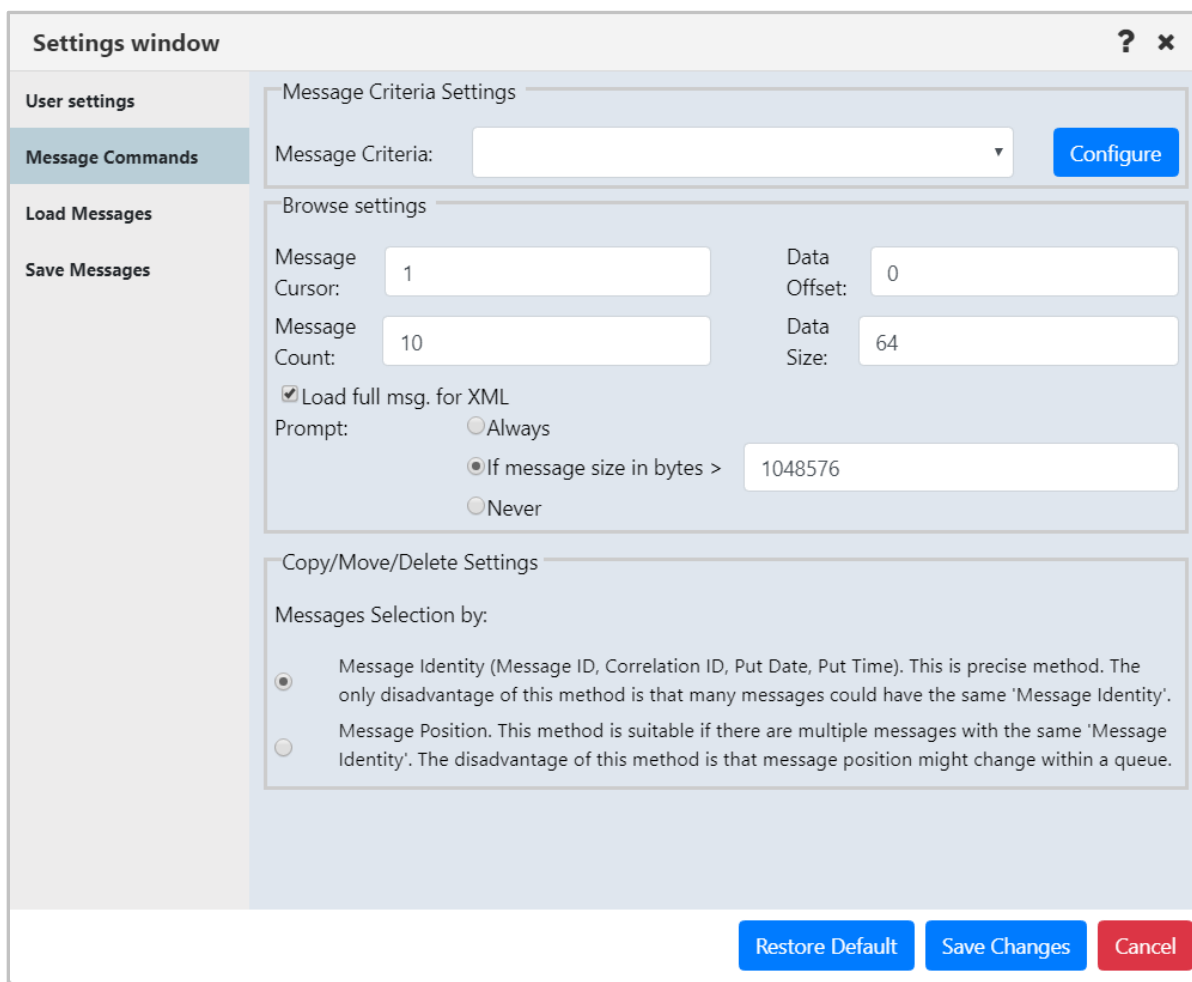


Figure 4.4.3.2-A. Message Commands

Table 4.4.3.2-A. Message Commands	
Name	Description
Message Criteria Settings	A filter for messages. When criteria set is specified, it can be used to browse, copy, move, re-route and delete messages which satisfy the selected criteria's specifications.
Message Criteria	Select an existing message criteria set from the drop-down list to apply to the messages. Only one message criteria set can be specified.

Table 4.4.3.2-A. Message Commands	
Name	Description
Configure button	Create, edit or delete message criteria (4.4.3.2.1 Message Criteria).
Browse Settings	The following describes browse options:
Message Cursor	Enter message cursor; that is, where to start reading the message. Range: 1 – 999999999. Default: 1 (Required)
Data Offset	Enter message data offset. (Required)
Message Count	Enter the number of messages to be displayed in the Message tab. (Required) The default setting is 500, but the Administrator can change this to any value from 1 to 1,000. 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.
Data Size	Enter the message data size (in bytes) you would like the system to load. (Required)
Load full msg. for XML and Decode views	Full messages are needed for XML and decode views. Enable this option to allow full messages to be loaded when in an XML or decode view. When enabled, the system can be configured so that a confirmation prompt can appear before loading the full message. See below Prompt options to select desired criteria.
Prompt	When the Load full msg. for XML and Decode views option is enabled, the Prompt options appear. These options control whether to display a confirmation prompt before loading a full message for XML and decode views. Select one of the following options: <ul style="list-style-type: none"> • Always: Before loading full messages, the system will ask the user if the full message should be loaded. • If message size in bytes >: Specify an amount. The prompt asking if the full message should load will only appear when the message size is larger than the size specified. • Never: a confirmation prompt will never appear.
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.
Restore Default button	Restores the default settings.

4.4.3.2.1 Message Criteria

When the **Configure** button from the **Message Commands** tab on the *Settings Window* is clicked, the *Message Criteria* window opens. Below the **name** header is the list of existing message criteria sets, i.e. *Count*. Use the buttons described below to create, edit or delete message criteria sets.

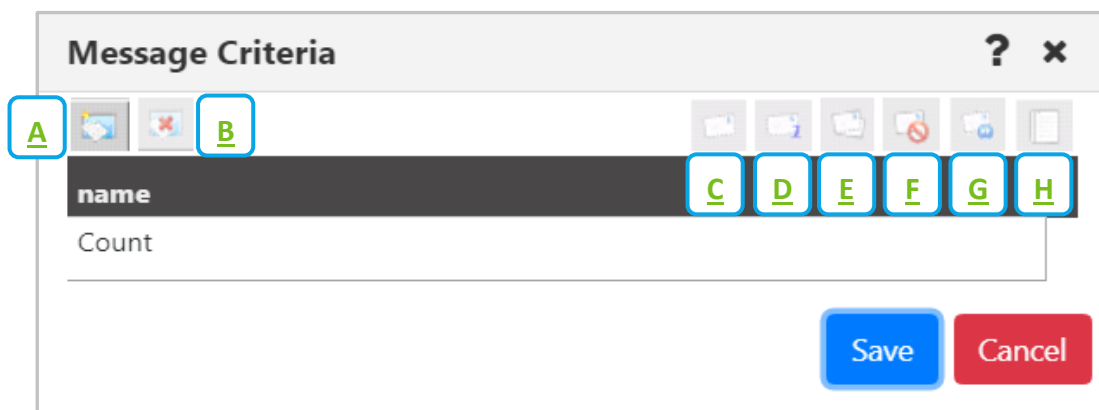


Figure 4.4.3.2.1-A. Message Criteria Window

A: Add new message criteria. After clicking this button, a new blank row appears. Double click on the new row to enter a name for the criteria set (do the same to rename an existing criteria). Customize its properties using the toolbar buttons. Click **Save** when finished.

B: Delete selected message criteria (please note, that there is no delete confirmation).

C: Customize Message Descriptor properties.

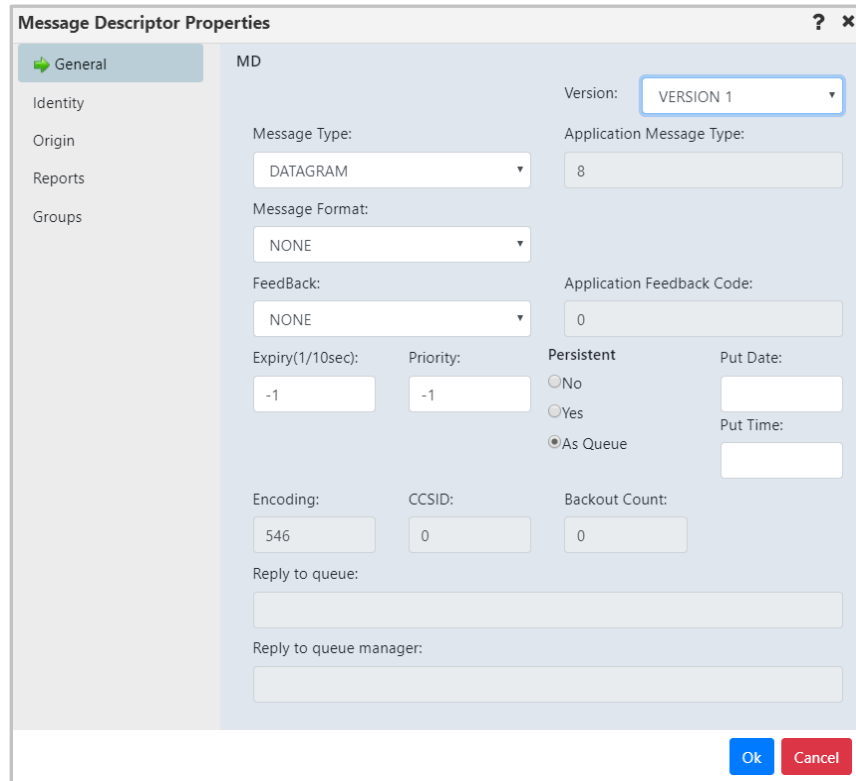


Figure 4.4.3.2.1-B. Message Descriptor Properties Window

D: MD1 – message descriptor properties. Opens the same windows when the MD option is clicked with the exception of the **Group** tab.

E: MDE – message descriptor extension properties.

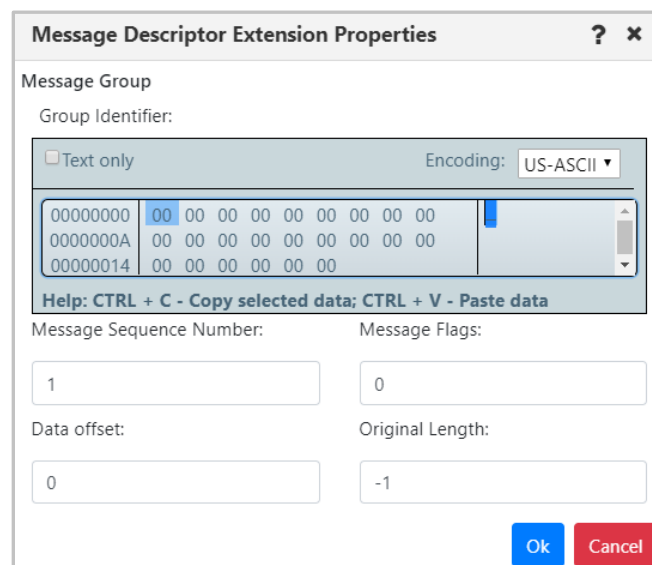


Figure 4.4.3.2.1-C. Message Descriptor Extension Properties Window

F: DLH – dead letter queue header properties.

Figure 4.4.3.2.1-D. DLH – Dead Letter Queue Header Properties

G: XQH – transmission queue header properties.

Figure 4.4.3.2.1-E. XQH – Transmission Queue Header Properties

Click the **Embedded MD** button to open the *Message Descriptor Properties* window ([Figure 4.4.3.2.1-B.](#)).

H: Data – message data criteria.

Figure 4.4.3.2.1-F. Message Data Criteria

4.4.3.3 Load Messages

The **Load Message** tab is shown below and described in *Table 4.4.3.3-A*. This tab is used for the configuration of loading messages into a queue from a file.

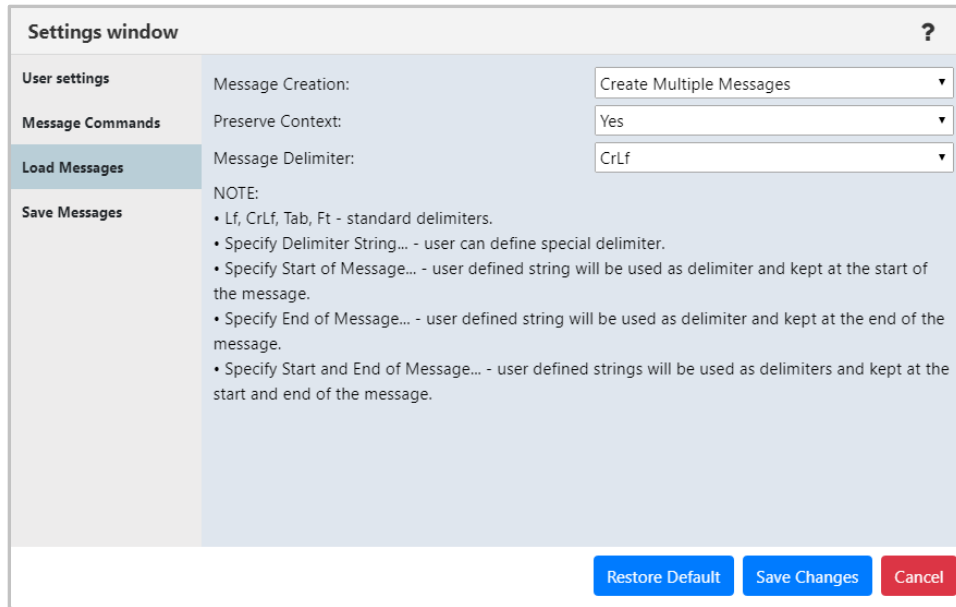


Figure 4.4.3.3-A. Load Messages

Table 4.4.3.3-A. Load Messages	
Name	Description
Message Creation	Specify if you would like a single message created or multiple messages.
Preserve Context	Specify if you would like the message context preserved.
Message Delimiter	Select the delimiter used from the Message Delimiter drop-down list. An explanation of the options appears immediately below the drop-down. Please note Ft represents the Form Feed delimiter.
Restore Default button	Restores the default settings.

4.4.3.4 Save Messages

The **Save Messages** tab is shown below and described in *Table 4.4.3.4-A*. Use this tab for the configuration of saving messages into a file from a queue.

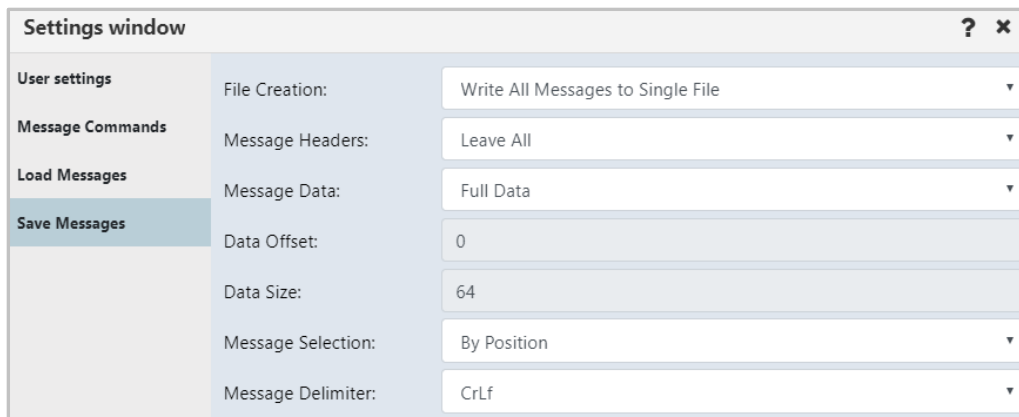


Figure 4.4.3.4-A. Save Messages

Table 4.4.3.4-A. Save Messages	
Name	Description
File Creation	Select if you would like messages saved to a single file or separate files.
Message Headers	Select either Leave All , Strip All or Strip MD . Please note that the Strip MD setting will strip message descriptors.
Message Data	Select either Full Data to save entire messages or Selected Data to only save a specified amount. The amount to save is specified within the Data Size field.
Data Offset	Enter the starting point of the data.
Data Size	This setting is only required when Selected Data is specified for the Message Data setting. Enter the desired message size to be saved.
Message Selection	Select whether you would like the message selection to be by position or identity. By Identity uses Message ID, Correlation ID, Put Date and Put Time. The disadvantage of using By Identity is that many messages could have the same message identity. Use the By Position option if there are multiple messages with identical message identities. The disadvantage of using this method is that the message position can change within a queue.
Message Delimiter	Select desired message delimiter for the saved messages. Please note Ft represents the Form Feed delimiter.
Restore Default button	Restores the default settings.

4.5 Inactivity

After 10 minutes of inactivity, dialog boxes will appear. Please see sections 4.5.1 – 4.5.2 below for more information.

4.5.1 Extend Session

The following dialog box appears after being inactive. Click **Continue** if you would like to remain in the session or click **Log Out** if you are finished.

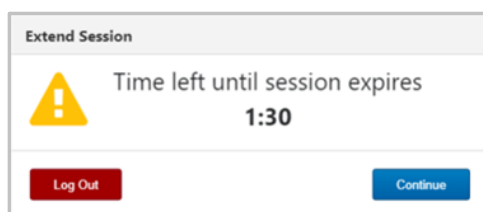


Figure 4.5.1-A. Extend Session

4.5.2 Renewing Workgroup Server Token

After being inactive the user will need to renew the workgroup server token. The below warning pop-up notification will appear and the *Renew Token* dialog box will display ([Figure 4.4.1-A](#)). Enter the workgroup server's password and click **Renew Token** to continue the session.

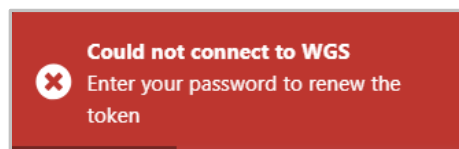





Figure 4.5.2-A. Could Not Connect to WGS

4.6 Scheduling

Nastel Navigator provides the ability to schedule actions for MQ and EMS objects. Actions can then take place at a later time, such as during a change or testing window. Scheduled items include creating, deleting, modifying objects as well as actions such as start or stop. Message actions, such as loading messages to a file or clearing a queue can also be scheduled.

Your workgroup server must have the *Scheduler* plugin to have the ability to schedule actions. See https://www.nastel.com/wp-content/uploads/2019/11/AP_WGS_Expert.pdf for more information on the required workgroup server configuration.

When creating a viewlet in the *Create new <object> viewlet* window ([Figure 4.3.1.1-A](#)), select the **Workgroup Server** configured for scheduling. All viewlets will now have a clock icon. The color of the clock icon represents the status of scheduled tasks for objects.

-  – Object with scheduled task(s)
-  – Object with executed or failed task(s)
-  – Object with no scheduled task(s)

Depending on the object type, various commands are available to schedule from the pop-up menus of objects (see [Section 4.6.1](#)).

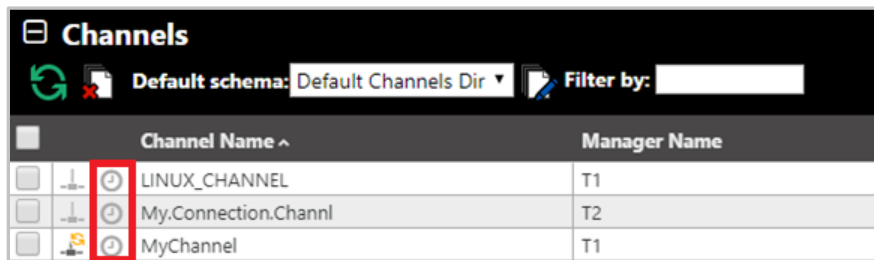

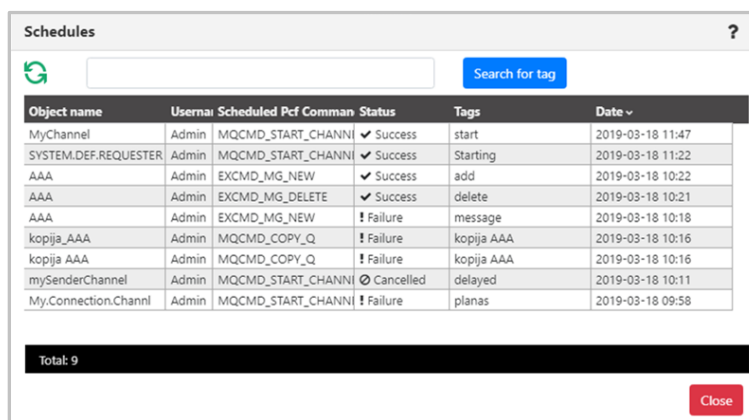


Figure 4.6-A. Schedule Icon


All past and future scheduled commands can be found by clicking the clock icon  from the toolbar at the top right of the screen ([Figure 4.4-A](#)). This opens the **Schedules** window.



Object name	User	Scheduled	Pcf	Comman	Status	Tags	Date
MyChannel	Admin	MQCMD_START_CHANNI	✓	Success	start	2019-03-18 11:47	
SYSTEM.DEF.REQUESTER	Admin	MQCMD_START_CHANNI	✓	Success	Starting	2019-03-18 11:22	
AAA	Admin	EXCMD_MG_NEW	✓	Success	add	2019-03-18 10:22	
AAA	Admin	EXCMD_MG_DELETE	✓	Success	delete	2019-03-18 10:21	
AAA	Admin	EXCMD_MG_NEW	!	Failure	message	2019-03-18 10:18	
kopija_AAA	Admin	MQCMD_COPY_Q	!	Failure	kopija AAA	2019-03-18 10:16	
kopija AAA	Admin	MQCMD_COPY_Q	!	Failure	kopija AAA	2019-03-18 10:16	
mySenderChannel	Admin	MQCMD_START_CHANNI	⊗	Cancelled	delayed	2019-03-18 10:11	
My.Connection.Channl	Admin	MQCMD_START_CHANNI	!	Failure	planas	2019-03-18 09:58	

Total: 9

Figure 4.6-B. Schedules List

If you have scheduled a command but it does not appear in the list, click the **Refresh** button  to reload the screen. Use the **Search** field to quickly filter and locate a scheduled task by entering its tag name and

clicking the **Search for tag** button. Click anywhere on the record's line to view details of the scheduled task. Tasks can also be cancelled from this screen.

Scheduled job info ?	
Job Id:	e52d97b7-495c-11e9-9cb1-309c23be95a1
Pcf Command:	MQCMD_START_CHANNEL
Status:	Submitted
Date:	2019-03-18 11:22
Workgroup Name:	MQM10
Node Name:	EIVYDAS
Manager Name:	T2_WGS10
Channel Name:	SYSTEM.DEF.REQUESTER
Scheduled Job Tag:	Starting

Cancel Schedule
Close

Figure 4.6-C. Scheduled Action Details

4.6.1 Schedule Commands

Refer to the table below for object commands that can be scheduled. From these command windows, click the **Schedule** button to create a task.

Table 4.6.1-A. Schedule Commands	
Object	Command
Bridges	- Delete
Channels	- Start - Stop - Ping - Reset
Durables	- Delete - Purge
Managers	- Create Queue Manager - Start all WMQ objects - Stop all WMQ objects
Nodes	- Create Queue Manager
Processes	- Create Process
Queues	- Create Queue - Messages: <ul style="list-style-type: none"> ▪ Put New ▪ Load from File... ▪ Copy All ▪ Move All ▪ Delete All ▪ Clear All

	- Commands <ul style="list-style-type: none"> ▪ Copy as... ▪ Delete Queues
Routes	- Delete
Topics	- Create

Example

As an example, select a channel to open its pop-up menu. Select **Commands** and the desired option ([Figure 4.3.5-A](#)), for example, **Start Channel**. The *Start Channel* dialog window opens. Click the green **Schedule** button to open the **Scheduler** dialog window.

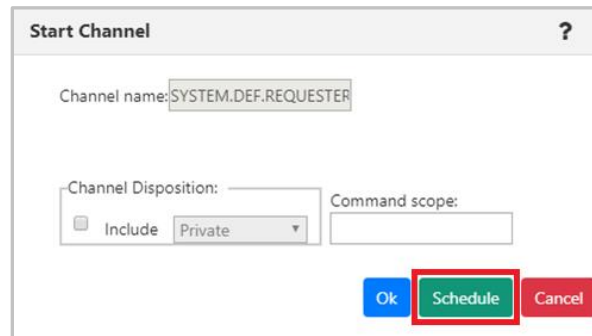


Figure 4.6.1-A. Start Channel – Schedule

Enter the date and time. Specify a name for the scheduled job within the **Tag for scheduled job** field. Click **Ok**. The action is now scheduled.

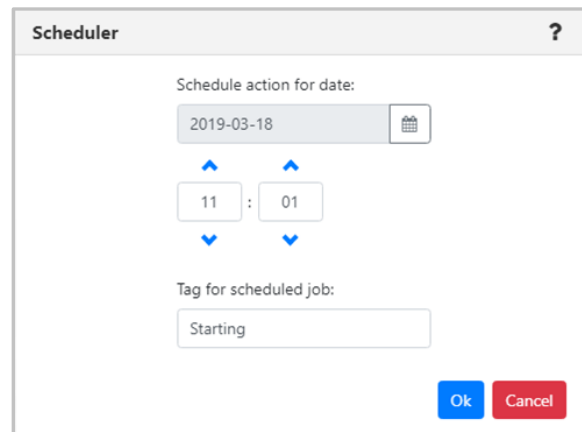


Figure 4.6.1-B. Schedule Channel Start

The clock icon of the modified object will now appear green.

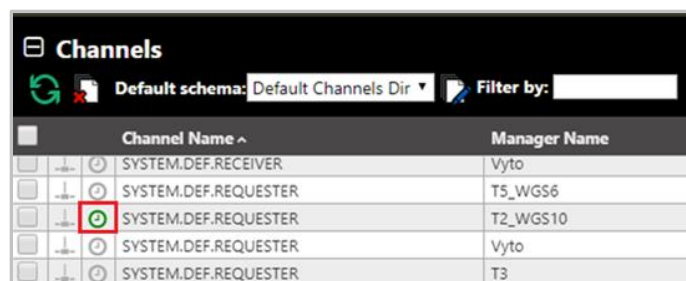
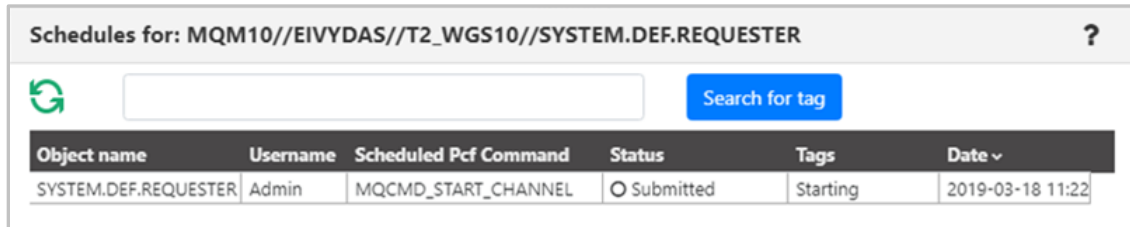


Figure 4.6.1-C. Channel with Scheduled Task

Click the green clock to view the selected object's scheduled commands.



Schedules for: MQM10//EIVYDAS//T2_WGS10//SYSTEM.DEF.REQUESTER					
Object name	Username	Scheduled Pcf Command	Status	Tags	Date
SYSTEM.DEF.REQUESTER	Admin	MQCMD_START_CHANNEL	Submitted	Starting	2019-03-18 11:22

Figure 4.6.1-D. Scheduled Command to Start Channel

The scheduled commands can have various statuses as seen in the figure below.

Status
<input type="radio"/> Submitted
<input checked="" type="radio"/> Cancelled
<input checked="" type="checkbox"/> Success
<input checked="" type="checkbox"/> Success
<input checked="" type="checkbox"/> Failure
<input checked="" type="checkbox"/> Success
<input checked="" type="checkbox"/> Success
<input checked="" type="checkbox"/> Success

Figure 4.6.1-E. Scheduled Commands Statuses

The viewlet can be updated for a customized view, see [Section 4.3.7, Customizing Viewlets](#), for more information. Please note that customizing column locations, width and/or order are not saved and will only exist in the current session.


4.7 Create Objects

There are two methods to create objects which are discussed in the below sections. For information on creating nodes, remote queue managers and remote EMS managers, see sections [4.2.1.1.1, Create Node](#), [4.2.1.1.2, Create Remote Queue Manager](#) and [4.2.1.1.3, Create Remote EMS Manager](#).

Method #1

Select the **Create** option from an object's pop-up menu. Objects created in this manner will automatically take on the path of the selected object. The dialog windows that will appear are described in sections 4.7.1 – 4.7.4 below.

Method #2

Click the **Add** button  within an object's viewlet. The *Select object path* window opens allowing you to fully customize the path of the new object.

Select the workgroup server, node and queue manager to create a specific path for the new object. Use the drop-down menus to select your options, or type your entries into the fields. Leave an asterisk to create a new object in every node and queue manager of the selected WGS.

Figure 4.7-A. Select Object Path

Multiple nodes and queue managers can be selected at a time; a new object will be created in each selection. Remove unwanted items by simply clicking the **X** icon immediately to the left of an item's name or clear an entire field by clicking the **X** icon on the right side of the field.

Click **Select path** to save. The following sections discuss the dialog windows that appear for each object.

Figure 4.7-B. Select Object Path – Multiple

4.7.1 Create Process

In a Process viewlet, after clicking the **Add** button  or selecting **Create Process** from the pop-up menu, the following window appears to customize the properties of the new process being created.

Populate the fields on the **General** and **Extended** tabs. Click **Ok** when finished to create the process.

Figure 4.7.1-A. Process Create Window

4.7.2 Create Queue Manager

From a Queue Manager viewlet, select **Create Queue Manager** from the pop-up menu to open the *Queue Create Window*. Enter the new queue manager name (required) and populate other needed details. Enable the **Make this default queue manager** checkbox if you would like it to be the default queue manager the applications connect to when there is no queue manager specified. Click **Next** and update options on the proceeding windows as needed.

The screenshot shows the 'Queue manager Create Window' with the following fields and controls:

- Queue Manager name: (empty text input field)
- Default Transmission queue: (empty text input field)
- Default Dead Letter queue: (text input field containing 'SYSTEM.DEAD.LETTER.QUEUE')
- Description: (empty text input field)
- Make this default queue manager: (checkbox, currently unchecked)
- Navigation buttons: Back, Next, Finish, Cancel

Figure 4.7.2-A. Create Queue Manager Window

The screenshot shows the 'Queue manager Create Window' with the following fields and controls:

- Queue Manager name: (text input field containing 'naujas_QMgr')
- Trigger interval: (text input field containing '99999999')
- Maximum Handle limit: (text input field containing '256')
- Maximum Uncommitted messages: (text input field containing '10000')
- Application Group (UNIX only): (empty text input field)
- Navigation buttons: Back, Next, Finish, Cancel

Figure 4.7.2-B. Create Queue Manager Window

The screenshot shows the 'Queue manager Create Window' with the following fields and controls:

- Queue Manager name: (text input field containing 'naujas_QMgr')
- Log Path: (empty text input field)
- Logging Type: (dropdown menu showing 'Circular')
- Log File size: (x 4KB) (text input field containing '4096')
- Log Primary files: (No.) (text input field containing '3')
- Log Secondary files: (No.) (text input field containing '2')
- Navigation buttons: Back, Next, Finish, Cancel

Figure 4.7.2-C. Create Queue Manager Window

Queue manager Create Window

Queue Manager name:

naujas_QMgr

Channel Disposition:

- Automatic Startup
- Automatic Startup, Permitting Multiple Instances
- Interactive Startup (Manual)
- Service Startup

Data Path:

Figure 4.7.2-D. Create Queue Manager Window

On the last screen, click **Finish**. The new queue manager is now created.

Queue manager Create Window

Queue Manager name:

naujas_QMgr

Configure Queue Manager for Nastel agents:

- M6-WMQ Agent
- Event Publish-Subscriber
- Message Server

Figure 4.7.2-E. Create Queue Manager Window

4.7.3 Create Topic

For information on the properties which can be modified when creating a topic, please see the online IBM documentation:

https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_7.5.0/com.ibm.mq.ref.adm.doc/q087060_.htm

Please note that the **Topic String** field is required.

Figure 4.7.3-A. Topic Create Window

4.7.4 Create Queue

From a Queue viewlet, select **Create Queue** or **Create EMS Queue** from the queue's action menu or click the **Add**  button.

Specify a Path for the New Queue

If the **Add** button was clicked, the *Select object path* window will open. Specify the workgroup server, node, queue manager (leave the asterisk to create a new queue in all of the workgroup server nodes and queue managers) and object subtype (*local*, *model*, *alias*, *remote* and *cluster* queues can be created). Click **Select path** to open the *Queue Create* window and move on to the next section.

Figure 4.7.4-A Create Queue – Select Object Path

Specify Queue Properties

When the *Queue Create Window* (Figure 4.7.4-B) or *EMS Queue Create Window* (Figure 4.7.4-C) opens, enter a queue name (required) and specify all desired options. Please see Section [4.3.4.2, Queue Properties](#), for more information on the queue properties in the *Queue Create Window*.

Figure 4.7.4-B. Queue Create Window

EMS Queue Create Window
?
×

➔ General

Queue Name:

Field is required

Definition Type:

▼

GET Consumer Count:

0

From Queue Name:

Receiver Count:

0

Consumer Count:

0

To Queue Name:

Flow Control Max. Bytes:

0

Delivered Messages Count:

0

In Transit Message Count:

0

Expiry Override:

0

Maximum Redelivery:

0

Maximum Messages:

0

Pending Msg. Size:

0

Overflow Policy:

Default
▼

Pending Persist. Msg. Size:

0

Pending Persist. Msg. Count:

0

Redelivery Delay:

Enabled

0

Store Name:

Prefetch Count:

0

Max. Bytes:

0

Pending Msg. Count:

0

Exclusive

Global

Routed

Sender Name

Fail-safe

Route Connected

Secure

Sender Name Enforced

Ok


Cancel

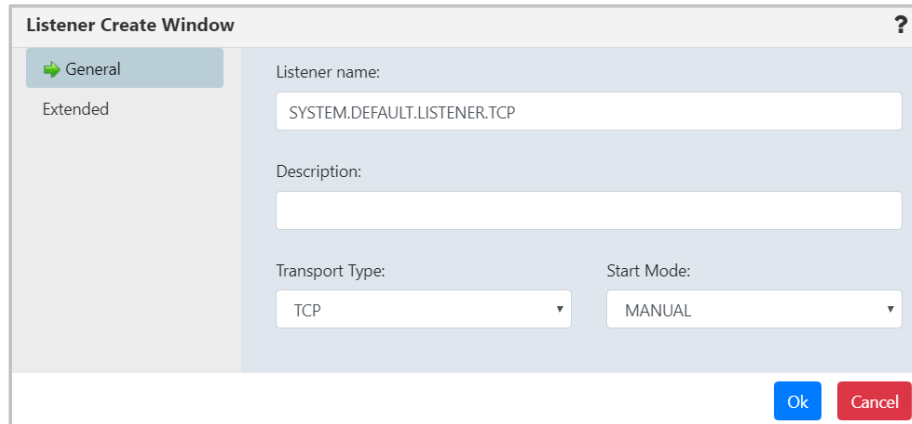
Figure 4.7.4-C. EMS Queue Create Window



If your newly created queue does not appear in a viewlet even after refreshing it, check if the **Show empty queues** option is selected in the **Settings** window > **User Settings** tab ([Figure 4.4.3.1-A](#)).

4.7.5 Create Listener

From a Listener viewlet, select **Create Listener** from the pop-up menu or click the **Add**  button. The following window appears. Specify the properties of the new listener and click **Ok**.




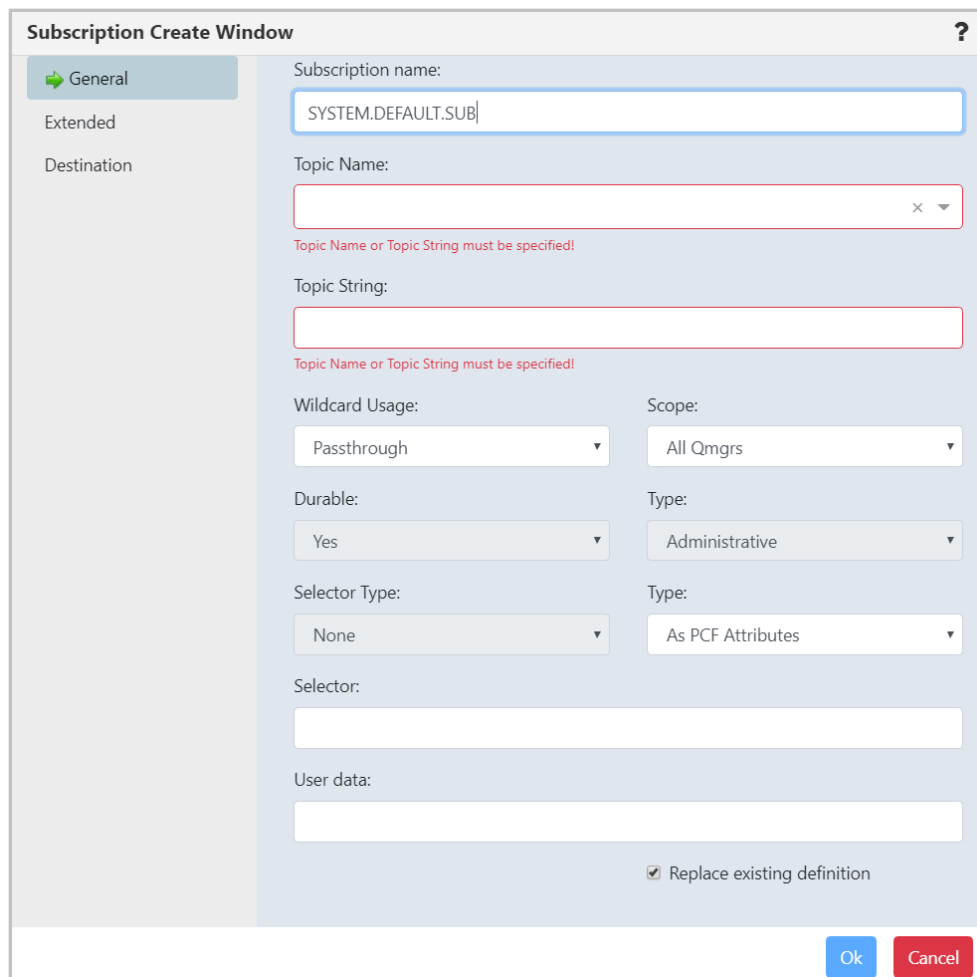
The screenshot shows the "Listener Create Window" dialog box. It has a title bar with a question mark icon. On the left, there is a sidebar with "General" (selected), "Extended", and "Destination" tabs. The main area contains the following fields and controls:

- Listener name:** A text input field containing "SYSTEM.DEFAULT.LISTENER.TCP".
- Description:** An empty text input field.
- Transport Type:** A dropdown menu with "TCP" selected.
- Start Mode:** A dropdown menu with "MANUAL" selected.
- Buttons:** "Ok" (blue) and "Cancel" (red) buttons at the bottom right.

Figure 4.7.5-A. Listener Create Window

4.7.6 Create Subscription

From a Subscription viewlet, select **Create Subscription** from the pop-up menu or click the **Add**  button. The following window appears. Specify the properties of the new subscription and click **Ok**.




The screenshot shows the "Subscription Create Window" dialog box. It has a title bar with a question mark icon. On the left, there is a sidebar with "General" (selected), "Extended", and "Destination" tabs. The main area contains the following fields and controls:

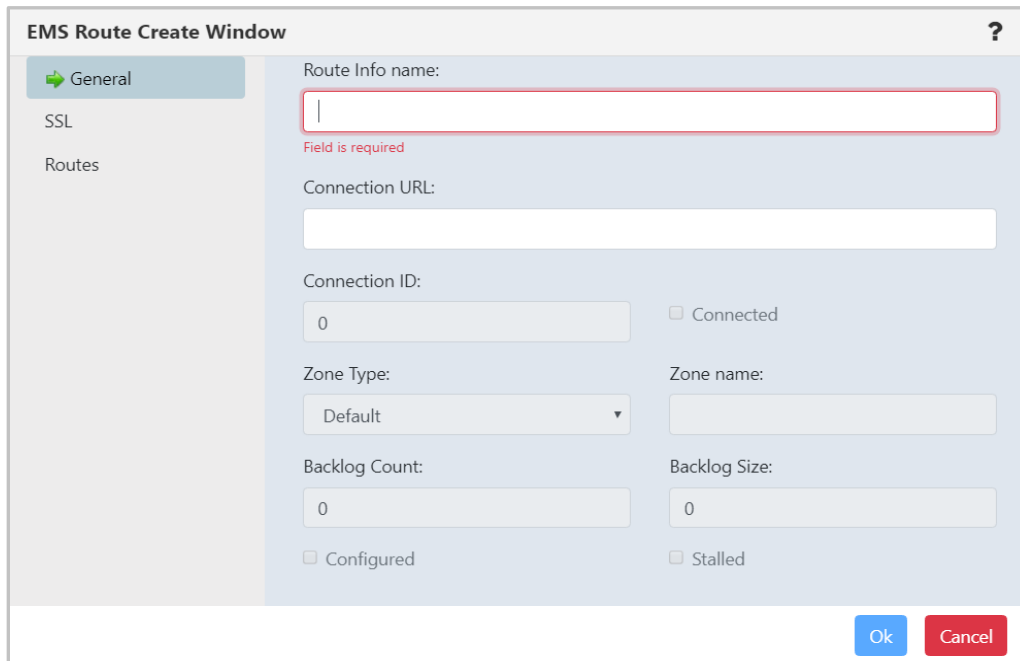
- Subscription name:** A text input field containing "SYSTEM.DEFAULT.SUB".
- Topic Name:** A dropdown menu with a red border and a red error message below it: "Topic Name or Topic String must be specified!".
- Topic String:** An empty text input field with a red border and a red error message below it: "Topic Name or Topic String must be specified!".
- Wildcard Usage:** A dropdown menu with "Passthrough" selected.
- Scope:** A dropdown menu with "All Qmgrs" selected.
- Durable:** A dropdown menu with "Yes" selected.
- Type:** A dropdown menu with "Administrative" selected.
- Selector Type:** A dropdown menu with "None" selected.
- Type:** A dropdown menu with "As PCF Attributes" selected.
- Selector:** An empty text input field.
- User data:** An empty text input field.
- Checkbox:** "Replace existing definition" is checked.
- Buttons:** "Ok" (blue) and "Cancel" (red) buttons at the bottom right.

Figure 4.7.6-A. Subscription Create Window

4.7.7 Create Route

Within a Route viewlet, click the **Add**  button. The *Select Object Path* window opens; specify the object path of the new route and click **Select path**.

The following window opens. Specify the configurations of the new route and click **Ok**.




The screenshot shows the "EMS Route Create Window" with a sidebar on the left containing "General", "SSL", and "Routes". The "General" tab is selected. The main area contains the following fields and options:

- Route Info name: A text input field with a red border and the text "Field is required" below it.
- Connection URL: A text input field.
- Connection ID: A text input field containing "0".
- Connected: A checkbox.
- Zone Type: A dropdown menu with "Default" selected.
- Zone name: A text input field.
- Backlog Count: A text input field containing "0".
- Backlog Size: A text input field containing "0".
- Configured: A checkbox.
- Stalled: A checkbox.

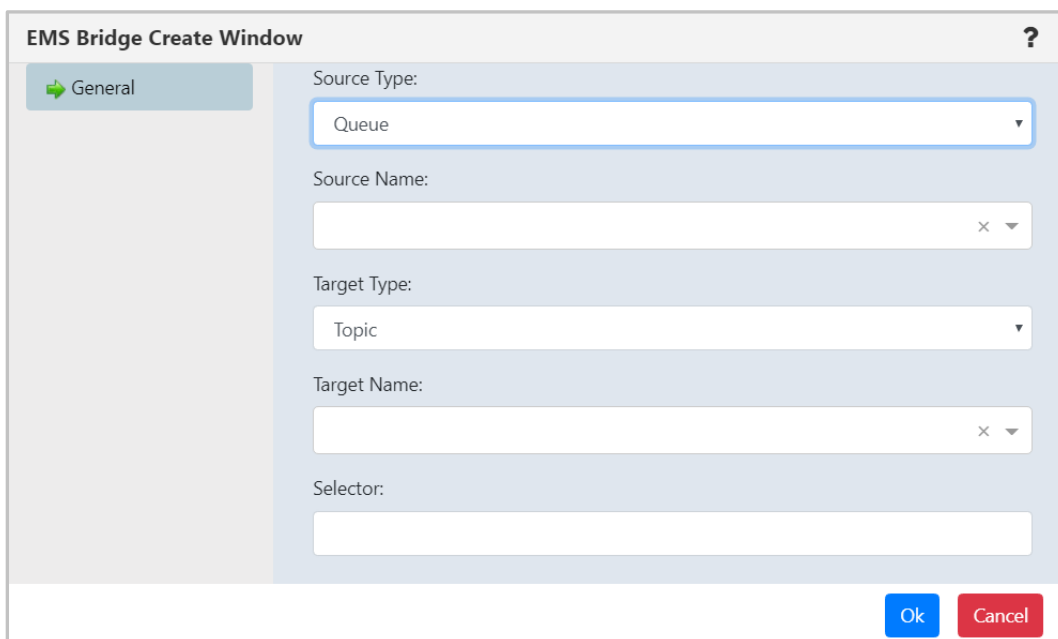
At the bottom right, there are "Ok" and "Cancel" buttons.

Figure 4.7.7-A. EMS Route Create Window

4.7.8 Create Bridge

Within a Bridge viewlet, click the **Add**  button. The *Select Object Path* window opens; specify the object path of the new bridge and click **Select path**.

The following window opens. Specify the configurations of the new bridge and click **Ok**.




The screenshot shows the "EMS Bridge Create Window" with a sidebar on the left containing "General". The "General" tab is selected. The main area contains the following fields and options:

- Source Type: A dropdown menu with "Queue" selected.
- Source Name: A text input field with a clear button (x) and a dropdown arrow.
- Target Type: A dropdown menu with "Topic" selected.
- Target Name: A text input field with a clear button (x) and a dropdown arrow.
- Selector: A text input field.

At the bottom right, there are "Ok" and "Cancel" buttons.

Figure 4.7.8-A. EMS Bridge Create Window

4.7.9 Create Durable

Within a Durable viewlet, click the **Add**  button. The *Select Object Path* window opens; specify the object path of the new durable and click **Select path**.

The following window opens. Specify the configurations of the new durable and click **Ok**.

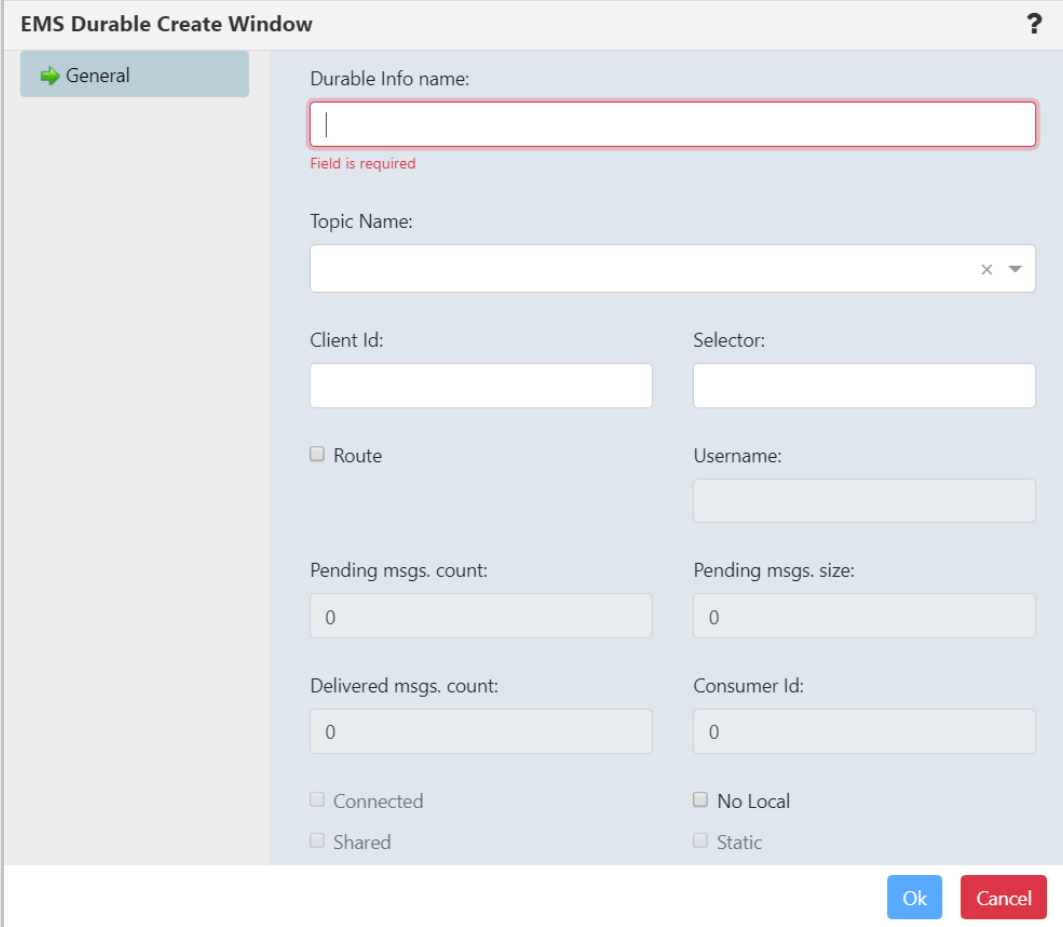



Figure 4.7.9-A. EMS Durable Create Window

4.7.10 Create Channel Authentication Record

Click the **Add**  button within a Channel authentication record (channel auth rec) viewlet to create a new record. The *Select Object Path* window opens. Specify the workgroup server, node, queue manager (leave the asterisk to create a new channel authentication record in all queue managers of the workgroup server) and object subtype. Click **Select path** to open the *Channel Authentication Record Create* window. *Block User Map*, *Block Address Map*, *SSL Peer Map*, *Address Map*, *User Map* or *Queue Manager Map* channel authentication record types can be created. For more information, please see the following IBM documentation:

https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_9.0.0/com.ibm.mq.explorer.doc/e_propertie_s_chlauth.html

Figure 4.7.10-A. Select Path for Channel Authentication Record

Every channel auth rec type has two common tabs: **General** and **Extended**. On the **General** tab specify the channel profile name and add the description.

Figure 4.7.10-B. General Tab

On the **Extended** tab, specify **Yes** or **No** from the **Warning** drop-down. Setting this option to **Yes** will use a warning instead of blocking access.

Within the **Custom** field, enter new feature configurations before separate attributes have been introduced.

Figure 4.7.10-C. Extended Tab

Block channel auth recs will have the **Block** tab as seen below. Specify users who should not have access to this channel (or channels). Creation of a Block User Map authentication record is displayed in the figure below.

Figure 4.7.10-D. Block Tab

Instead of the **User list** field as seen above, the **Block** tab of a Block Address Map will have an **Address list** field. Enter the IP address(es) or IP address pattern(s) to be blocked from connecting to this queue manager using any channel. The IP address pattern(s) can also include an asterisk as a wildcard to represent one or more parts of the address.

Figure 4.7.10-E. Block Tab

SSL Peer Map, Address Map, User Map and Queue Manager Map records have the **Address** tab. An **Address** field appears on this tab which is used as a filter. Specify the filter to be used to compare with the client or partner queue manager's IP address at the other end of the channel.

Figure 4.7.10-F. Address Tab

SSL Peer channel auth recs have the **SSL Peer** tab. This tab has fields to specify *SSL Peer* and *SSL/TSL Issuer's Distinguished Name*.

Figure 4.7.10-G. SSL Peer Tab


User Map channel auth recs also have a **ClientUser** tab to specify *Client user ID*.

Figure 4.7.10-H. ClientUser Tab

Queue Manager Map records have the **Queue Manager** tab to specify the *Remote queue manager*.

Figure 4.7.10-I. Queue Manager Tab

4.7.11 Create Channel

Within a Channel viewlet, click the **Add**  button to create a new channel. The *Select object path* window opens. Specify the channel's path and select its subtype from the drop-down menu. Click **Select path**.

Sender	retrying
AMQP	Inactive
Receiver	Inactive
Sender	Inactive

Figure 4.7.11-A. Select Object Path for a New Channel

The *Channel Create Window* opens. Specify the channel's properties.



The tabs of the **Channel Create Window** differ according to the channel's type. Consult IBM documentation for the descriptions of channel properties:

https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_7.5.0/com.ibm.mq.explorer.doc/e_properties_channels.htm

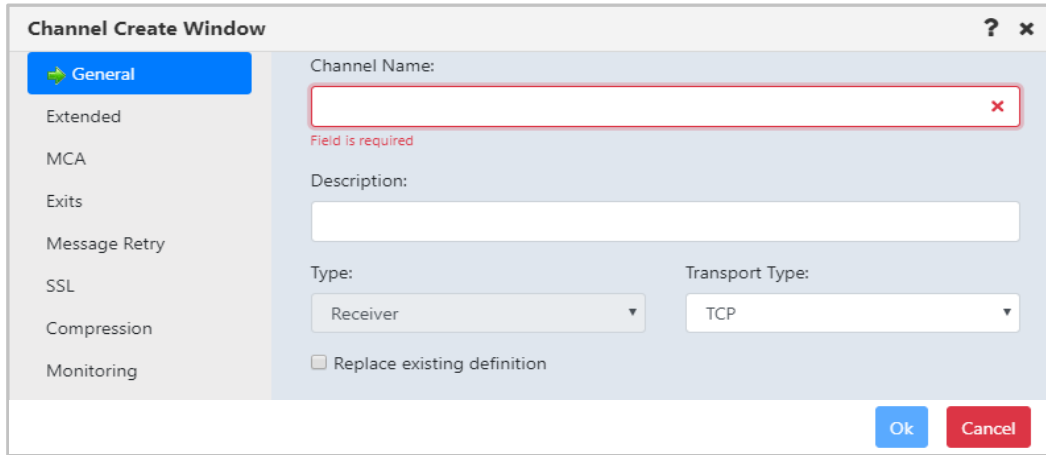




Figure 4.7.11-B. Channel Create Window – General Tab

4.8 Copy Objects

Select the object(s) to copy and use one of the following methods:

- click **Copy** in the object(s) pop-up menu
- or-
- use the keyboard shortcut keys, **Ctrl + C**

After performing one of the above actions, the **Paste** button  located at the top right corner of the screen becomes enabled and appears in yellow . Click this button to open the [Select object path](#) window and specify the workgroup server, node and queue manager the selected object(s) should be copied to and click the **Copy** button. Refresh the viewlet to see the changes.



The copy option is available for queues, listeners and processes.

Appendix A: References

A.1 Nastel Documentation

Table A-1. Nastel Documentation	
Document Number (or higher)	Title
APM6/INS 623.001	<i>Nastel AutoPilot M6 Installation Guide</i>
APM6/USR 623.001	<i>Nastel AutoPilot M6 User's Guide</i>
M6/WMQ 600.002	<i>Nastel AutoPilot M6 Plug-in for WebSphere MQ</i>
M6WMQ-ADM 656.002	<i>Nastel AutoPilot M6 for Middleware Administrator's Guide</i>
M6WMQ-INS 656.001	<i>Nastel AutoPilot M6 for Middleware Installation Guide</i>
M6-SM 660.001	<i>Nastel AutoPilot for Middleware Security Manager User's Guide</i>

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>

A.4 MS Windows

<http://www.microsoft.com/windows/default.msp>

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: Objects













The following table is a list of objects and their descriptions. For further information, please go to the following IBM and TIBCO Knowledge Centers (the latter provides EMS object descriptions):

[https://www.ibm.com/support/knowledgecenter/SSFKSJ_9.1.0/com.ibm.mq.pro.doc/q003080 .htm](https://www.ibm.com/support/knowledgecenter/SSFKSJ_9.1.0/com.ibm.mq.pro.doc/q003080.htm)

https://docs.tibco.com/pub/enterprise_message_service/8.1.0/doc/html/tib_ems_api_reference/api/javadoc/allclasses-noframe.html


Table B-1. Objects

Icon	Name	Description
	Node	A computer in a workgroup server. An EMS node contains EMS queue managers.
	Manager	Queue (or EMS) managers maintain their queues and provide queuing services to applications.
Queues		An IBM MQ queue is an object in which applications can put and get messages from.
	Local	Transmission, initiation, dead-letter, command, default, channel, and event queues are types of local queues. A queue is known to a program as local if it is owned by the queue manager to which the program is connected. You can get messages from, and put messages on, local queues.
	Model	A model queue is a queue definition template used when creating dynamic queues.
	Alias	An alias queue is an IBM MQ object that you can use to access another queue or a topic. This means that more than one program can work with the same queue, accessing it using different names.
	Remote	To a program, a queue is remote if it is owned by a different queue manager to the one to which the program is connected.
	Cluster	A cluster queue is a queue that is hosted by a cluster queue manager and made available to other queue managers in the cluster.
	Channel	A channel is a communication link used by distributed queue managers. Channels are objects that provide a communication path from one queue manager to another.
	Process	Process definition object is an IBM MQ object that contains the definition of an MQ application. Process definition objects allow applications to be started without the need for operator intervention by defining the attributes of the application for use by the queue manager.
	Topic	A topic object is an IBM MQ object that allows you to assign specific, non-default attributes to topics. Topics can be subscribed to and can be linked with particular messages.
	Listener	Listeners are processes that accept network requests from other queue managers, or client applications, and start associated channels.
	Namelist	A namelist is an IBM MQ object that contains a list of cluster names, queue names or authentication information object names. In a cluster, it can be used to identify a list of clusters for which the queue manager holds the repositories.
	Service	Service objects are a way of defining programs to be run when a queue manager starts

Table B-1. Objects		
		or stops.
	Auth info	An authentication information object provides the definitions required to perform certificate revocation checking.
	Cluster QMgr	A cluster queue manager is a queue manager that is a member of a cluster.
	Subscription	An object which requests topic information.
	Channel auth rec	Channel authentication records allow for more precise control over user access to connecting systems at a channel level.
EMS Objects		
	EMS Queue	Encapsulates a provider-specific queue name.
	EMS Topic	Subjects containing a set of related messages.
	EMS Channel	Each EMS channel is a client of an EMS server, which acts as a store-and-forward intermediary for all messages through the channel.
	Route	The configuration and optionally statistical data about the routed server are represented by an object of this class.
	Transport	The data and behavior common to transports of all types that are configured on the EMS server are represented by this abstract class. Transports are mechanisms for importing and exporting messages between EMS and other messaging systems. TIBCO Rendezvous and Rendezvous Certified Messaging are currently the only two types of transports supported.
	Bridge	Consists of a source destination name and type and 1 or more BridgeTarget objects.
	Durable	Represents a durable subscription on the Tibjms server which may be active and receiving messages or it may be dormant, with its messages being stored on the server until it is active again.
	Server Properties	A TIBCO Enterprise Management Service (EMS) server provides messaging services for applications that communicate by monitoring queues. It ensures that sent messages are directed to the correct receive queue or that messages are routed to another queue manager.
	Users	Users are specific IDs that allow you to identify yourself to the server. When logging in, the connect request should be accompanied by a username and password.
	Groups	Groups are classes of users. A user can belong to multiple groups. Permissions of a user are a combination of the permissions of the groups the user belongs to, in addition to any permissions granted to the user directly.
	Access Control Lists	This file defines all permissions on topics and queues for all users and groups.

Appendix C: Object Menus

A pop-up menu appears when an object is selected within a viewlet. The following table explains the menu options.



NOTE Your pop-up menu options may differ according to your user permissions, which are managed by an admin.

Table C-1. Object Menu Options		
Object	Option	Description
<u>Workgroup Server</u>	Delete workgroup server	Delete selected workgroup server. A window will appear confirming this action.
	Edit workgroup server	Edit the workgroup server settings. The <i>Edit workgroup server dialog box</i> is similar to the <i>Add new workgroup server screen</i> (see Figure 3.2.1-A).
	Default Connection	Sets the selected WGS as the default. Multiple WGS connections can be set as default. A default WGS connection cannot be edited or deleted (the pop-up menu will only have the Create option). Select the Default Connection option on the pop-up menu to enable/disable the WGS connection as a default. The Default Connection column displays which connection is set as the default. Please note that users who do not have permissions to update default workgroup server connections will not have the Default Connection menu option, or the ability to edit or delete default workgroup servers. However, they can create new (non default) workgroup server connections and edit or delete them.
	Create > <i>Node</i>	Create a node. See Section 4.2.1.1.1, Create a Node .
	<i>Remote Queue Managers</i>	Create a remote queue manager. Includes edit and delete options (Section 4.2.1.1.2).
	<i>Remote EMS Managers</i>	Create a remote EMS manager connection. Includes edit and delete options (Section 4.2.1.1.3).
	<u>Node</u>	Show Object Attributes
Show Topology		See Section 4.3.8, Topology
Create Queue Manager		See Section 4.7.3, Create a Queue Manager
Events		Opens a Console viewlet displaying events which occurred within the selected node.
Manage		Select the Manage option to activate an inactive node. Unselect this option to make a node inactive. When unselected, the Delete and Properties options become

Table C-1. Object Menu Options		
		available in the node menu. Note: An active node may need to be reactivated by unselecting and reselecting the Manage option.
	Discover Now > <i>Incremental</i> <i>Full</i>	See the next section, Manager, for more information on discovery modes.
	Add to Favorites	Create a shortcut to the selected node in a <i>Favorites</i> viewlet. (Section 4.3.3.1.5).
	Delete	Displays in the menu when the node is not active (un-managed). Deletes the selected node.
	Properties	This option is available in the menu when the node is inactive (unmanaged). Opens the <i>Properties</i> window where you can view and/or edit the node's configurations.
Manager (Queue or EMS)	Show Object Attributes	Displays the MQ or EMS object manager's <i>Attribute</i> viewlet (Section 4.3.3.1.1).
	Show Topology	View a graphic representation of queue relationship (Section 4.3.8)
	Show Status	Opens a Status viewlet within the <i>Console</i> panel.
	Create Queue Manager	Create a new Queue Manager (Section 4.7.2)
	Commands > <i>Start all WMQ objects</i>	Allows you to start WMQ objects (Section 4.3.3.1.2). Not available for EMS queue managers.
	<i>Stop all WMQ objects</i>	Allows you to select the shutdown method (Section 4.3.3.1.2). Not available for EMS queue manager.
	<i>Security</i>	View or set authority for queue manager's objects (Section 4.3.3.1.7).
	<i>View Error Log</i>	View and export error log files (Section 4.3.3.1.8).
	Cluster membership > <i>Join</i>	Joins the selected queue manager to a cluster. Includes cluster create option (Sections 4.3.3.1.9.1 and 4.3.3.1.9.2).
	<i>Refresh</i>	Refreshes queue manager clusters and repositories (Section 4.3.3.1.9.3).
	<i>Leave</i>	Removes the selected queue manager from the queue manager cluster (Section 4.3.3.1.9.4).
	Properties	Displays the <i>Properties</i> window (Section 4.3.3.1.3)
	MQSC / EMS Scripts	After clicking Console , a command window (Figure 4.3.3.1.6-A or Figure 4.3.3.2.2-A) opens, allowing you to run MQSC commands or EMS scripts for the queue or EMS managers.
	Discover Now (only available for MQ queue managers)	Incremental: the WGS maintains the last discovery time for each queue manager and sends this time with each discovery command. Incremental discovery logic will work

Table C-1. Object Menu Options		
		only if initial discovery is completed and queue managers are fully discovered. Full: when the WGS 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 queue manager 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 WGS.
	Delete	Remove the queue manager.
	Delete from Database	Allows you to delete the queue manager from the database. Please note that there is no confirmation dialog box for this action.
	Events	Displays the Events viewlet (Section 4.3.3.1.4).
	MQ Statistics	Displays a statistics viewlet generated by a SQL query (Section 4.3.10).
	Add to favorites	Allows you to create a shortcut for a MQ or EMS manager in a <i>Favorites</i> viewlet (Section 4.3.3.1.5).
Queue	Browse messages	Displays a list of messages. (Figure 4.3.4.3-A)
	Show Object Attributes	Displays the object attributes. (Figure 4.3.3.1-A)
	Show Queue Status / Show EMS Queue Status	Displays queue status. (Figure 4.3.4.1-A)
	Create Queue / Create EMS Queue	Opens the window to create a queue. (Section 4.7.4)
	Messages	Put New Message: Displays the <i>Put New</i> window (Figure 4.3.4.3.1-A) to create and put new message(s) into the selected queue.
		Load From File: Opens the dialog box to load single or multiple messages from .mmf or .txt files (Figure 4.3.4.3.5-A).
		Export All Messages: Exports all messages as .mmf or .txt files (Figure 4.3.4.3.6-A).
		Copy All: Displays the <i>Copy messages</i> window (Figure 4.3.4.3.3-A) where a user can define how and where messages should be copied.
		Move All: Displays the <i>Move messages</i> window (Figure 4.3.4.3.3-B) where a user can define how and where messages should be moved.
	Delete All: Allows the user to delete all messages within the selected queue. The system reads then deletes one message at a time. This function does not recognize uncommitted messages, which means that there could still be uncommitted messages on the queue. Also, the command might fail if the queue is already exclusively	

Table C-1. Object Menu Options		
		opened by another application.
		Clear All: This option will clear an entire queue without reading the messages. Please note that this function will not work if the queue is open by another application or if the queue contains uncommitted messages.
	Commands >	
	Copy As	Creates a new object based on the definition of the currently selected object. (Figure 4.3.4.4-A)
	Delete Queue	Allows users to delete the queue. (Figure 4.3.4.4-B)
	Security	View and set authority for MQ Queue objects. (Section 4.3.3.1.7)
	Copy	Copy the selected object to a specified path (the yellow Paste button needs to be used, see Section 4.8 Copy Objects).
	Properties	Displays the queue properties. (Figure 4.3.3.1.3-A)
	Events	Displays the Events viewlet (Figure 4.3.3.1.4-A)
	MQ Statistics	Displays a statistics viewlet generated by a SQL query (Section 4.3.10).
	Add to favorites	Allows you to add the selected queue to a <i>Favorites</i> viewlet. (Figure 4.3.1.2-A)
<u>Channel</u>	Show Object Attributes	Displays the selected channel's <i>Attribute</i> viewlet (Section 4.3.5.1).
	Show Channel Status	Displays the selected channel's <i>Status</i> viewlet (Section 4.3.5.2).
	Commands	Gives the option to Start, Stop, Ping, Resolve or Reset the selected channel (Section 4.3.5.3) and to view or edit Security permissions (Section 4.3.3.1.7).
	Properties	Displays the selected channel's <i>Properties</i> window (Section 4.3.5.4).
	Events	Displays the selected channel's Events viewlet (Section 4.3.5.5).
	MQ Statistics	Displays a statistics viewlet generated by a SQL query (Section 4.3.10).
	Add to favorites	Allows you to create a shortcut for the channel on a <i>Favorites</i> viewlet (Section 4.3.5.6).
<u>Process</u>	Show Object Attributes	Displays the selected process' <i>Attribute</i> viewlet.
	Commands	Gives the option to Copy As, Rename, Delete or manage Security for the selected process (Section 4.3.3.1.7).
	Create Process	Create a new process (Section 4.7.1).
	Properties	Opens the <i>Properties</i> window for the selected process.

Table C-1. Object Menu Options		
	Copy	Select to copy a process (Section 4.8).
	Events	Displays the selected processes <i>Events</i> viewlet.
	Add to favorites	Create a shortcut in a <i>Favorites</i> viewlet. (Section 4.3.3.1.5).
Topic	Show Object Attributes	Displays the selected topic's <i>Attribute</i> viewlet.
	Create Topic	Create a new topic (Section 4.7.3)
	Commands > Copy As	Creates a new topic based on the definition of the currently selected topic. Specify the topic string (optional).
	Delete	Deletes selected topic(s).
	Publish	Puts an IBM MQ message (containing information for the application) to a topic with a related subject.
	Security	Gives the option to view/edit Security permissions (Section 4.3.3.1.7).
	Properties	Displays the selected topic's <i>Properties</i> window.
	Events	Displays the selected topic's <i>Events</i> viewlet.
	Add to favorites	Allows you to create a shortcut for the listener in a <i>Favorites</i> viewlet.
Listener	Show Object Attributes	Displays the selected listener's <i>Attribute</i> viewlet.
	Create Listener	Create a new listener (Section 4.7.5).
	Commands	Gives the option to Start, Stop, Copy As, Rename, Delete or view/edit Security permissions (Section 4.3.3.1.7).
	Properties	Displays the selected listener's <i>Properties</i> window.
	Copy	Select to copy the listener (Section 4.8).
	Events	Displays the selected listener's <i>Events</i> viewlet.
	Add to favorites	Allows you to create a shortcut for the listener in a <i>Favorites</i> viewlet.
Namelist	Show Object Attributes	Displays the selected namelist's <i>Attribute</i> viewlet.
	Commands	View/edit Security permissions (Section 4.3.3.1.7).
	Events	Displays the selected namelist's <i>Events</i> viewlet.
	Add to favorites	Allows you to create a shortcut for the namelist in a <i>Favorites</i> viewlet.
Service	Show Object Attributes	Displays the selected service's <i>Attribute</i> viewlet.
	Commands	View/edit Security permissions (Section 4.3.3.1.7).
	Events	Displays the selected service's <i>Events</i> viewlet.
	Add to favorites	Allows you to create a shortcut for the service's in a <i>Favorites</i> viewlet.

Table C-1. Object Menu Options		
Auth Info	Show Object Attributes	Displays the selected auth info's <i>Attribute</i> viewlet.
	Commands	View/edit Security permissions (Section 4.3.3.1.7).
	Events	Displays the selected auth info's <i>Events</i> viewlet.
	Add to favorites	Allows you to create a shortcut for the auth info in a <i>Favorites</i> viewlet.
Cluster QMgr	Show Object Attributes	Displays the selected cluster queue manager's <i>Attribute</i> viewlet.
	Events	Displays the selected cluster queue manager's <i>Events</i> viewlet.
	Add to favorites	Allows you to create a shortcut for the cluster queue manager in a <i>Favorites</i> viewlet.
Subscription	Show Object Attributes	Displays the selected subscription's <i>Attribute</i> viewlet.
	Commands	Gives the option to Copy As, Rename or Delete.
	Create Subscription	Create a subscription (Section 4.7.6).
	Properties	Displays the selected subscription's <i>Properties</i> dialog box window.
	Events	Displays the selected subscription's <i>Events</i> viewlet.
	Add to favorites	Allows you to create a shortcut for the subscription in a <i>Favorites</i> viewlet.
Route	Show Routes Attributes	Displays the selected route's <i>Attribute</i> viewlet.
	Show Routes Status	Displays the selected route's <i>Status</i> viewlet.
	Commands > <i>Delete</i>	Delete the selected route.
	Properties	Displays the selected route's <i>Properties</i> window.
	Events	Displays the selected route's <i>Events</i> viewlet.
	Add to Favorites	Allows you to create a shortcut for the route in a <i>Favorites</i> viewlet.
Transport	Show Transport Attributes	Displays the selected transport's <i>Attribute</i> viewlet.
	Properties	Displays the selected transport's <i>Properties</i> window.
	Events	Displays the selected transport's <i>Events</i> viewlet.
	Add to Favorites	Allows you to create a shortcut for the transport in a <i>Favorites</i> viewlet.
Bridge	Show Bridge Attributes	Displays the selected bridge's <i>Attribute</i> viewlet.
	Commands > <i>Delete</i>	Delete selected bridge.
	Properties	Displays the selected bridge's <i>Properties</i> window.
	Events	Displays the selected bridge's <i>Events</i> viewlet.

Table C-1. Object Menu Options		
	Add to Favorites	Allows you to create a shortcut for the bridge in a <i>Favorites</i> viewlet.
<u>Durable</u>	Show Durable Attributes	Displays the selected durable's <i>Attribute</i> viewlet.
	Commands > <i>Delete</i>	Delete selected durable object.
	<i>Purge</i>	Purge messages in selected durable(s).
	Properties	Displays the selected durable's <i>Properties</i> window.
	Events	Displays the selected durable's <i>Events</i> viewlet.
	Add to Favorites	Allows you to create a shortcut to durables in a <i>Favorites</i> viewlet.
<u>Channel auth rec</u>	Add to Favorites	Allows you to create a shortcut for a channel auth rec in a <i>Favorites</i> viewlet.
	Commands > <i>Delete</i>	Delete selected channel auth rec object.
	Properties	Displays the selected channel auth rec's <i>Properties</i> window.
	Create ChAuthRec	Create channel auth rec (Section 4.7.10).
	Events	Displays the selected channel auth rec's events viewlet.

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Appendix D: MQ Statistics Table Attributes

The following is a listing of all available MQ statistic attributes. These fields are used when generating MQ statistics viewlets (see [Section 4.3.10](#)).

Table D1. STATQUEUE		
MANAGER_NAME	NONPERS_TIME_ON_Q_AVG	PERS_GET_BYTES
MQNODE_NAME	PERS_TIME_ON_Q_AVG	NONPERS_BROWSE_COUNT
MQMGR_NAME	NONPERS_PUT_COUNT	PERS_BROWSE_COUNT
STAT_TIME_STAMP	PERS_PUT_COUNT	BROWSE_FAIL_COUNT
INTERVAL_START_DATE_TIME	PUT_FAIL_COUNT	NONPERS_BROWSE_BYTES
INTERVAL_END_DATE_TIME	NONPERS_PUT1_COUNT	PERS_BROWSE_BYTES
COMMAND_LEVEL	PERS_PUT1_COUNT	EXPIRED_MSG_COUNT
QUEUE_NAME	PUT1_FAIL_COUNT	NOT_QUEUED_MSG_COUNT
QUEUE_TYPE	NONPERS_PUT_BYTES	PURGED_MSG_COUNT
Q_DEFINITION_TYPE	PERS_PUT_BYTES	CB_CRT_ALT_COUNT
CREATION_DATE	NONPERS_GET_COUNT	CB_REMOVE_COUNT
CREATION_TIME	PERS_GET_COUNT	CB_RESUME_COUNT
MIN_DEPTH	GET_FAIL_COUNT	CB_SUSPEND_COUNT
MAX_DEPTH	NONPERS_GET_BYTES	CB_FAIL_COUNT

Table D2. STATMQI		
MANAGER_NAME	CFSTRUCT_INQ_COUNT	TOPIC_INQ_COUNT
MQNODE_NAME	LSR_INQ_COUNT	TOPIC_INQ_FAIL_COUNT
MQMGR_NAME	SRVC_INQ_COUNT	TOPIC_SET_COUNT
STAT_TIME_STAMP	QUEUE_INQ_FAIL_COUNT	TOPIC_SET_FAIL_COUNT
INTERVAL_START_DATE_TIME	NLIST_INQ_FAIL_COUNT	SUB_DUR_CREATE_COUNT
INTERVAL_END_DATE_TIME	PROC_INQ_FAIL_COUNT	SUB_DUR_ALTER_COUNT
COMMAND_LEVEL	STGCLS_INQ_FAIL_COUNT	SUB_DUR_RESUME_COUNT
CONNECT_COUNT	QMGR_INQ_FAIL_COUNT	SUB_NDUR_CREATE_COUNT
CONNECT_FAIL_COUNT	CHL_INQ_FAIL_COUNT	SUB_NDUR_ALTER_COUNT

Table D2. STATMQI		
MAX_CONNECTIONS	AUTHINFO_INQ_FAIL_COUNT	SUB_NDUR_RESUME_COUNT
NORMAL_DISC_COUNT	CFSTRUCT_INQ_FAIL_COUNT	SUB_FAIL_COUNT
IMPLICIT_DISC_COUNT	LSR_INQ_FAIL_COUNT	UNSUB_DUR_CL_NOT_REM_COU
QMGR_DISC_COUNT	SRVC_INQ_FAIL_COUNT	UNSUB_DUR_CL_REM_COUNT
QUEUE_OPEN_COUNT	QUEUE_SET_COUNT	UNSUB_NDUR_CL_NOT_REM_CO
NLIST_OPEN_COUNT	NLIST_SET_COUNT	UNSUB_NDUR_CL_REM_COUNT
PROC_OPEN_COUNT	PROC_SET_COUNT	UNSUB_FAIL_COUNT
STGCLS_OPEN_COUNT	STGCLS_SET_COUNT	SUB_RQ_COUNT
QMGR_OPEN_COUNT	QMGR_SET_COUNT	SUB_RQ_FAIL_COUNT
CHL_OPEN_COUNT	CHL_SET_COUNT	CB_CRT_ALT_COUNT
AUTHINFO_OPEN_COUNT	AUTHINFO_SET_COUNT	CB_REMOVE_COUNT
CFSTRUCT_OPEN_COUNT	CFSTRUCT_SET_COUNT	CB_RESUME_COUNT
LSR_OPEN_COUNT	LSR_SET_COUNT	CB_SUSPEND_COUNT
SRVC_OPEN_COUNT	SRVC_SET_COUNT	CB_FAIL_COUNT
QUEUE_OPEN_FAIL_COUNT	QUEUE_SET_FAIL_COUNT	CTL_START_COUNT
NLIST_OPEN_FAIL_COUNT	NLIST_SET_FAIL_COUNT	CTL_STOP_COUNT
PROC_OPEN_FAIL_COUNT	PROC_SET_FAIL_COUNT	CTL_RESUME_COUNT
STGCLS_OPEN_FAIL_COUNT	STGCLS_SET_FAIL_COUNT	CTL_SUSPEND_COUNT
QMGR_OPEN_FAIL_COUNT	QMGR_SET_FAIL_COUNT	CTL_FAIL_COUNT
CHL_OPEN_FAIL_COUNT	CHL_SET_FAIL_COUNT	MQSTAT_COUNT
AUTHINFO_OPEN_FAIL_COUNT	AUTHINFO_SET_FAIL_COUNT	MQSTAT_FAIL_COUNT
CFSTRUCT_OPEN_FAIL_COUNT	CFSTRUCT_SET_FAIL_COUNT	SUB_HW_ALL_DUR_COUNT
LSR_OPEN_FAIL_COUNT	LSR_SET_FAIL_COUNT	SUB_HW_APP_DUR_COUNT
SRVC_OPEN_FAIL_COUNT	SRVC_SET_FAIL_COUNT	SUB_HW_ADMIN_DUR_COUNT
QUEUE_CLOSE_COUNT	NONPERS_PUT_COUNT	SUB_HW_PROXY_DUR_COUNT
NLIST_CLOSE_COUNT	PERS_PUT_COUNT	SUB_LW_ALL_DUR_COUNT
PROC_CLOSE_COUNT	PUT_FAIL_COUNT	SUB_LW_APP_DUR_COUNT
STGCLS_CLOSE_COUNT	NONPERS_PUT1_COUNT	SUB_LW_ADMIN_DUR_COUNT
QMGR_CLOSE_COUNT	PERS_PUT1_COUNT	SUB_LW_PROXY_DUR_COUNT
CHL_CLOSE_COUNT	PUT1_FAIL_COUNT	SUB_HW_ALL_NDUR_COUNT

Table D2. STATMQI		
AUTHINFO_CLOSE_COUNT	NONPERS_PUT_BYTES	SUB_HW_APP_NDUR_COUNT
CFSTRUCT_CLOSE_COUNT	PERS_PUT_BYTES	SUB_HW_ADMIN_NDUR_COUNT
LSR_CLOSE_COUNT	NONPERS_GET_COUNT	SUB_HW_PROXY_NDUR_COUNT
SRVC_CLOSE_COUNT	PERS_GET_COUNT	SUB_LW_ALL_NDUR_COUNT
QUEUE_CLOSE_FAIL_COUNT	GET_FAIL_COUNT	SUB_LW_APP_NDUR_COUNT
NLIST_CLOSE_FAIL_COUNT	NONPERS_GET_BYTES	SUB_LW_ADMIN_NDUR_COUNT
PROC_CLOSE_FAIL_COUNT	PERS_GET_BYTES	SUB_LW_PROXY_NDUR_COUNT
STGCLS_CLOSE_FAIL_COUNT	NONPERS_BROWSE_COUNT	TOPIC_PUT_PER_COUNT
QMGR_CLOSE_FAIL_COUNT	PERS_BROWSE_COUNT	TOPIC_PUT_NPER_COUNT
CHL_CLOSE_FAIL_COUNT	BROWSE_FAIL_COUNT	TOPIC_PUT_FAIL_COUNT
AUTHINFO_CLOSE_FAIL_COUNT	NONPERS_BROWSE_BYTES	TOPIC_PUT1_PER_COUNT
CFSTRUCT_CLOSE_FAIL_COUNT	PERS_BROWSE_BYTES	TOPIC_PUT1_NPER_COUNT
LSR_CLOSE_FAIL_COUNT	COMMIT_COUNT	TOPIC_PUT1_FAIL_COUNT
SRVC_CLOSE_FAIL_COUNT	COMMIT_FAIL_COUNT	TOPIC_PUT_PER_BYTES
QUEUE_INQ_COUNT	BACKOUT_COUNT	TOPIC_PUT_NPER_BYTES
NLIST_INQ_COUNT	EXPIRED_MSG_COUNT	PUB_MSG_PER_COUNT
PROC_INQ_COUNT	PURGED_MSG_COUNT	PUB_MSG_NPER_COUNT
STGCLS_INQ_COUNT	TOPIC_OPEN_COUNT	PUB_MSG_BYTES_PER_COUNT
QMGR_INQ_COUNT	TOPIC_OPEN_FAIL_COUNT	PUB_MSG_BYTES_NPER_COUNT
CHL_INQ_COUNT	TOPIC_CLOSE_COUNT	
AUTHINFO_INQ_COUNT	TOPIC_CLOSE_FAIL_COUNT	

Table D3. STATCHL		
MANAGER_NAME	CHANNEL_TYPE	EXIT_TIME_MIN
MQNODE_NAME	REMOTE_QMGR_NAME	EXIT_TIME_AVG
MQMGR_NAME	CONNECTION_NAME	EXIT_TIME_MAX
STAT_TIME_STAMP	CHL_MSG_COUNT	FULL_BATCH_COUNT
INTERVAL_START_DATE_TIME	CHL_MSG_BYTES	INCOMPLETE_BATCH_COUNT
INTERVAL_END_DATE_TIME	NET_TIME_MIN	BATCH_SIZE_AVG

Table D3. STATCHL		
COMMAND_LEVEL	NET_TIME_AVG	PUT_RETRY_COUNT
CHANNEL_NAME	NET_TIME_MAX	

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