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Nastel Navigator User's Guide

Version 10

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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

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.

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.

1.7 AutoPilot M6 for Middleware Installation Support (32-bit/64-bit)

See *Figure 1.7-A* below, AutoPilot M6 for Middleware Installation Support. This platform is for the Workgroup server and databases supported. Agents may be available for other versions of operating systems and middleware versions. Contact your support representative if your platform is not listed.

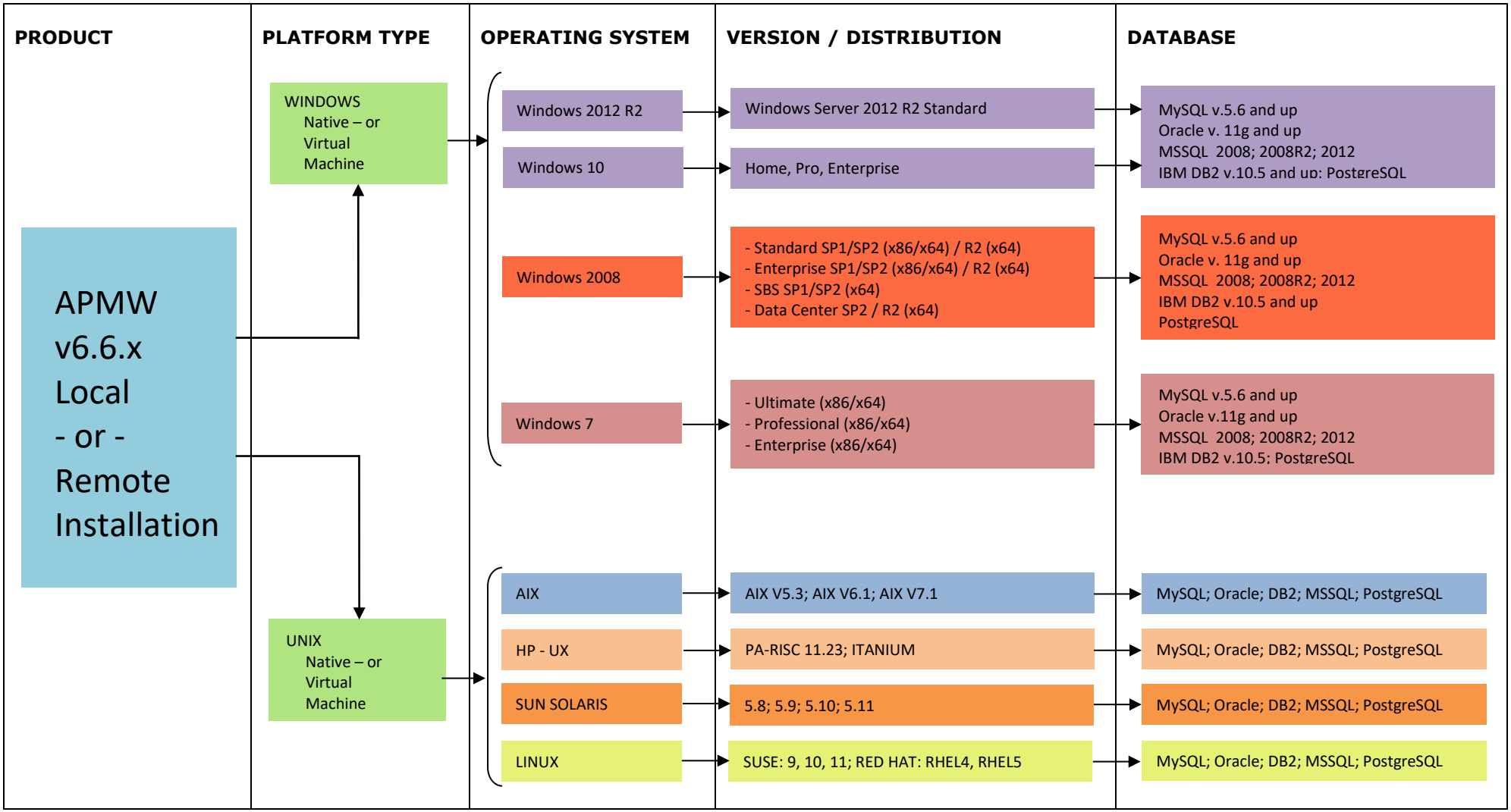

Figure 1.7-A. AutoPilot M6 for Middleware (APMW) Installation Support (32-bit/64-bit)

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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.

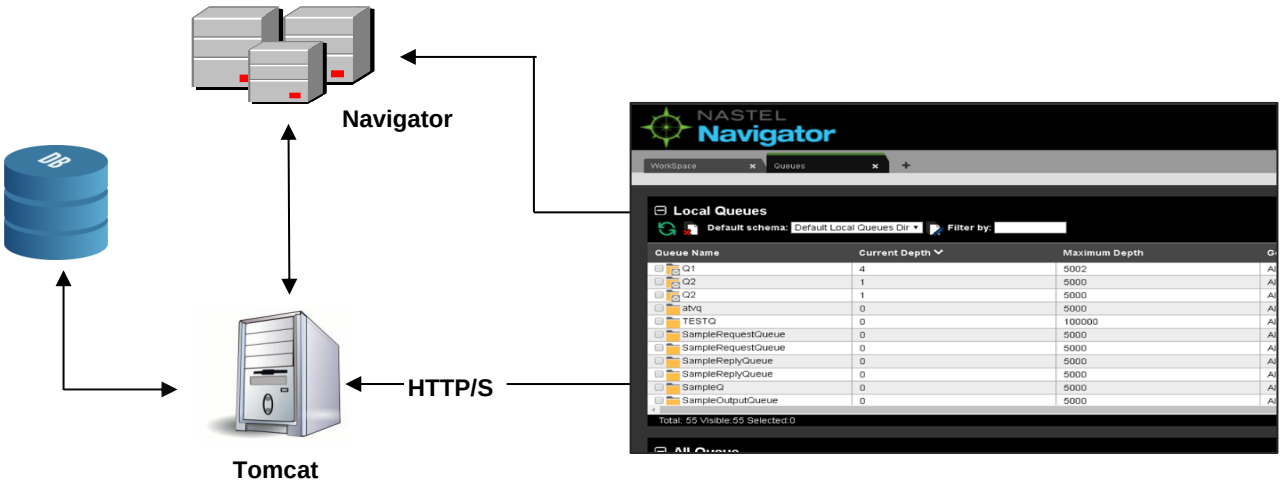

Figure 2.1-A. Message Management Flow Chart

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*

2.2 Differences Between APMW and Nastel Navigator

The differences between APMW and Nastel Navigator:

- Tree view removed – users no longer have to drill down
- Layout uses tabs versus lists
- Viewlet – provides quick access to the data you need
- Compare function – quickly compare and analyze data
- Supports EMS objects
- Provides scheduling

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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.

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 and you can start using Nastel Navigator as described in *Chapter 4*.

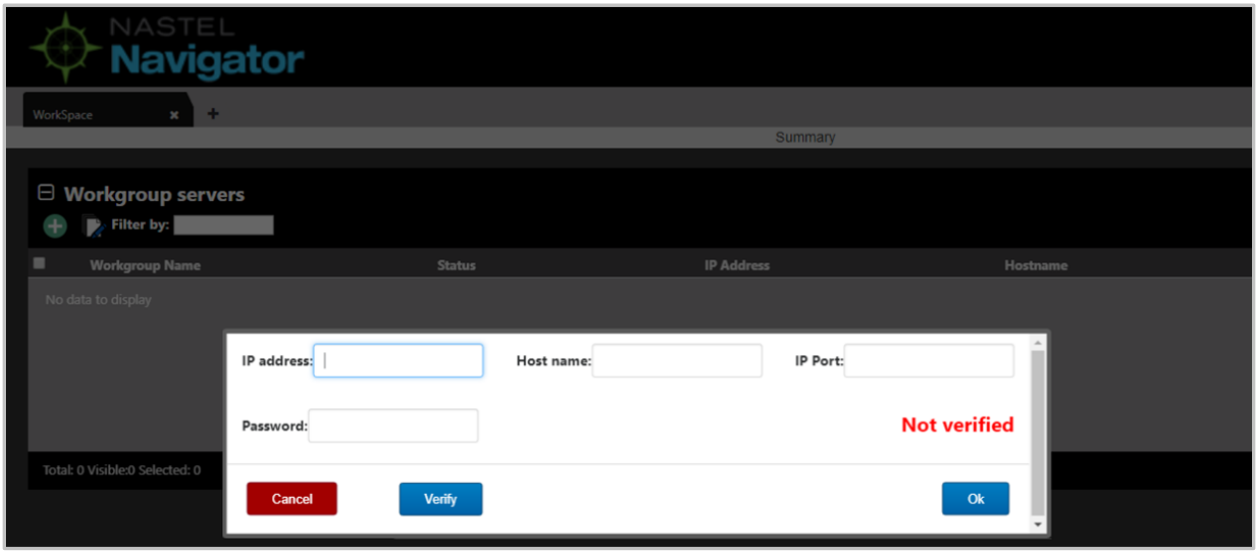


Figure 3.2-A. Connecting to a Workgroup Server

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.

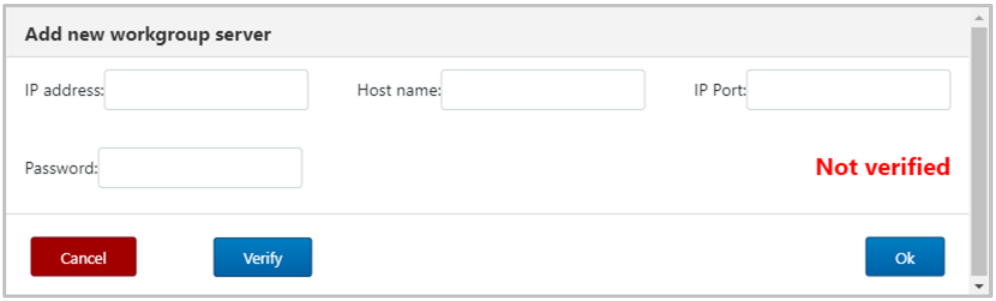


Figure 3.2.1-A. Add New Workgroup Server

2. Input the workgroup server's (later referred to as **WGS**) connection information:
   - **IP address** – IP address of the node where the workgroup agent is running. (Required)
   - **Host name** – Host name of the machine where the workgroup agent is running.
   - **IP Port** – Workgroup agent'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

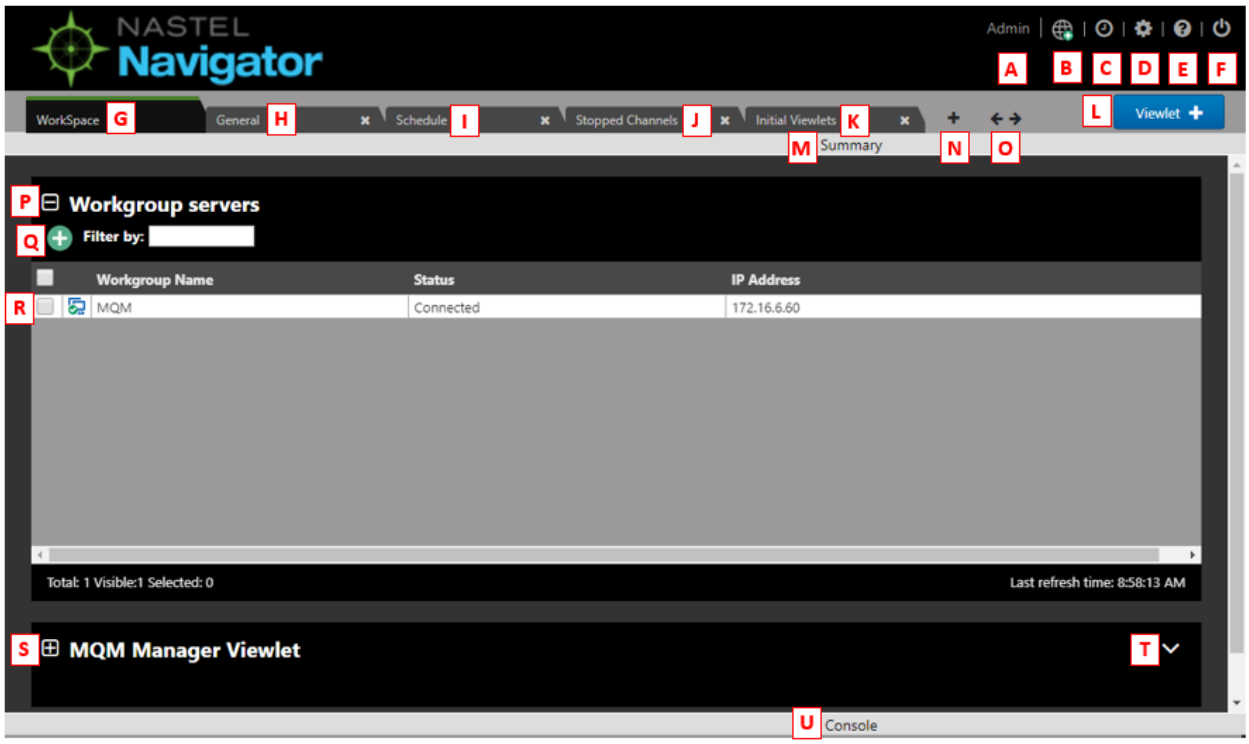


Figure 4.1-A. Nastel Navigator General Features

- A: Username
- B: This is the **Connect** button. Click to open the *Renew token* (*Figure 4.4.1-A*) dialog box.
- C: Opens the *Schedules* dialog box (*Section 4.6*).
- D: Click to display *Settings* dialog box (*Section 4.4.3*).
- E: Opens the online help system (*Section 4.3.9*).
- F: **Log Out** button.
- G - K: Dashboards (*4.2 Dashboards*).
- L: Create a new viewlet (*4.3.1 Creating Viewlets*).
- M: **Summary** panel (*4.2.5 Summary and Console*).
- N: **Create dashboard** button (*4.2.2 Create New Dashboard*).
- O: Navigation between dashboards (*4.2.3 Displaying Additional Dashboards*).
- P: **Collapse** button. Collapses a viewlet (*4.3.7.4 Collapse / Expand Viewlets*).
- Q: **Add** button. The viewlets of nodes, processes, queue managers, topics and queues have this button to quickly create a particular object (*Section 4.7, Create Objects*).
- R: Click checkbox to display *Workgroup Servers* viewlet pop-up menu (*4.2.1.1 Workgroup Servers Viewlet Menu*).
- 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.

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*.
- *Manager* viewlet: This is the second viewlet appearing on the *Workspace* dashboard. Displays all managers you have visibility to, such as queue managers, EMS servers, etc. (one per Workgroup server). You must scroll down to view the *Manager* viewlet. Please see *Section 4.3.3* for more information on *Manager* viewlet options.

NOTE	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.

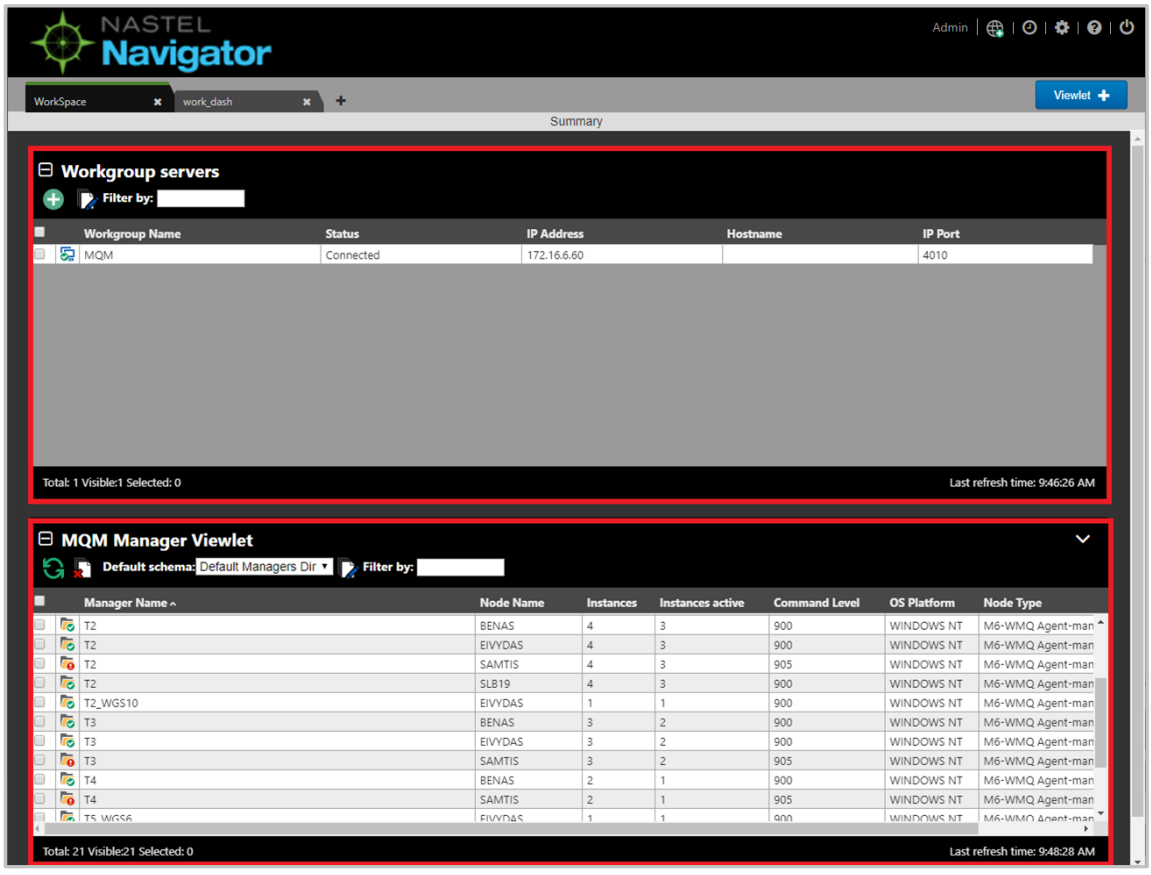


Figure 4.2.1-A. Workspace Dashboard

Table 4.2.1-A. Workgroup Servers Viewlet	
Column	**Description**
Workgroup Name	Provides the workgroup agent's name.
Status	Provides the workgroup agent's connection status (Connected, Not Connected, Verified, Not Verified).
IP Address	Provides the IP address of the node where the workgroup agent is running.
Hostname	Provides the hostname of the machine where the workgroup agent is running. The same host name can be used for more than one connection as long as the port numbers are different.
IP Port	Scroll right to view. Provides the workgroup agent's IP port number.

The table below describes the functionality available from the *Workgroup servers* viewlet.

Table 4.2.1-B. Workgroup Servers Viewlet Toolbar		
Field	**Name**	**Description**
	**Add**	Displays the *Add new workgroup server* dialog box (*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 Workgroup Servers Viewlet Pop-Up Menu

Select a workgroup server to display the pop-up menu.

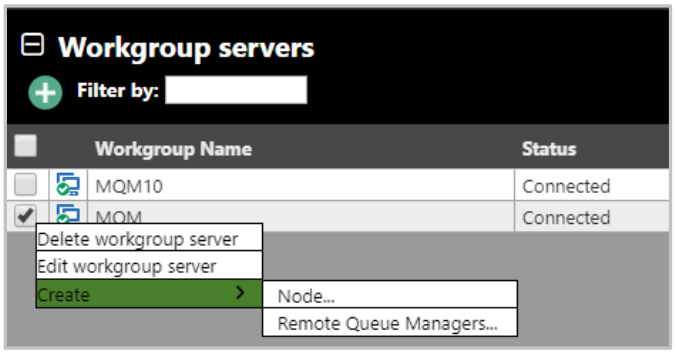


Figure 4.2.1.1-A. Workgroup Server Pop-up Menu

You can perform one of the following from the pop-up menu:

- Delete the workgroup server.

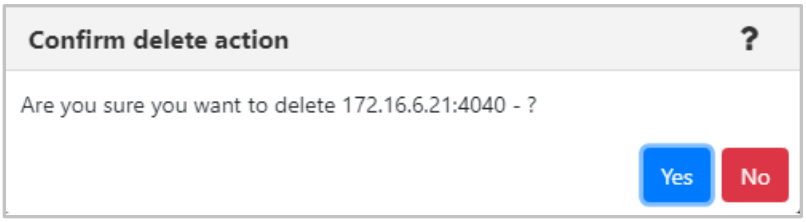


Figure 4.2.1.1-B. Confirm Delete Action

- Edit the workgroup server settings. The *Edit workgroup server dialog box* is similar to the *Add new workgroup server* screen (see *Figure 3.2.1-A*).
- Create a node. See *Section 4.2.1.1.1, Create a Node*, below
- Create a remote queue manager. See *Section 4.2.1.1.2, Create a Remote Queue Manager*.

4.2.1.1.1 Create a Node

Whether you select to create a node from the *Workgroup server's* pop-up menu (*Figure 4.2.1.1-A*) or by clicking the **Add** button within a *nodes* viewlet (see *Section 4.7, Create Objects*), the *Properties* window opens.

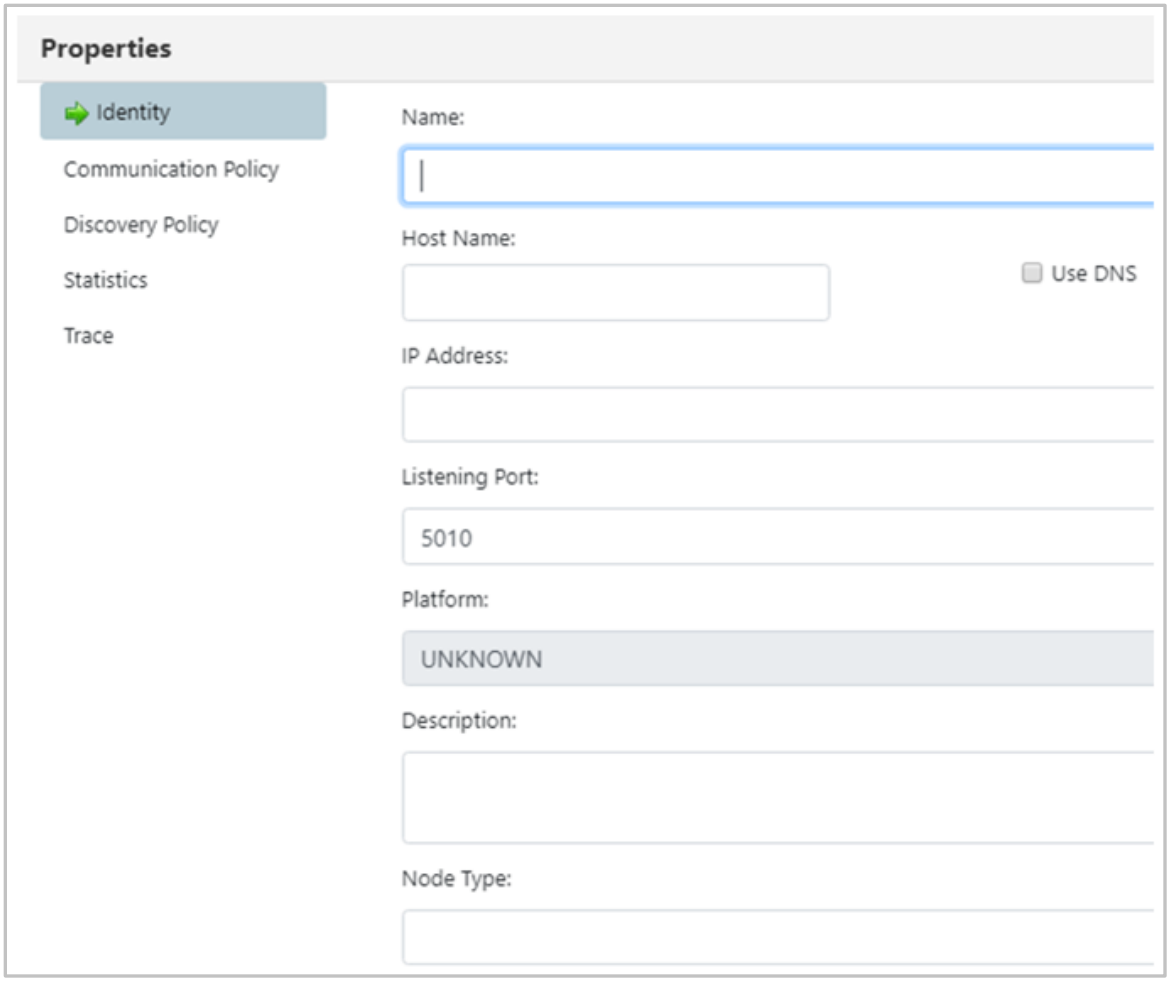


Figure 4.2.1.1.1-A. Create Node Properties

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.

4.2.1.1.2 Create Remote Queue Manager

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

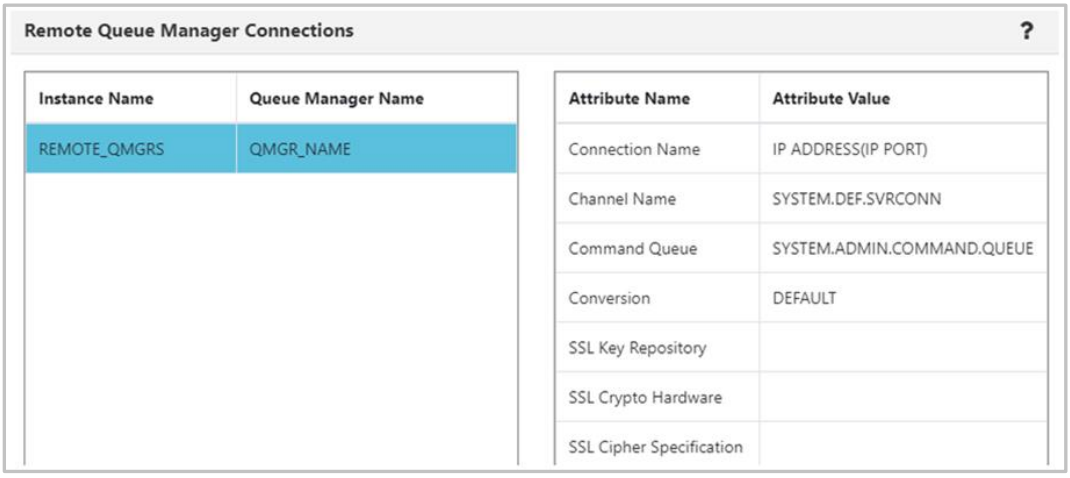


Figure 4.2.1.1.2-A. Remote Queue Manager Connections

Click the **Add** button to add a new remote queue manager connection. To update an existing remote queue manager, select it and click **Modify** (opens the same window as the **Add** button). To delete a connection, select it and click **Delete**. 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	*Figure 4.2.1.1.2-B*
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.
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 *Cryptographic hardware* field. Click the **Settings** button to specify cryptographic hardware settings (*Figure 4.2.1.1.2-F*).

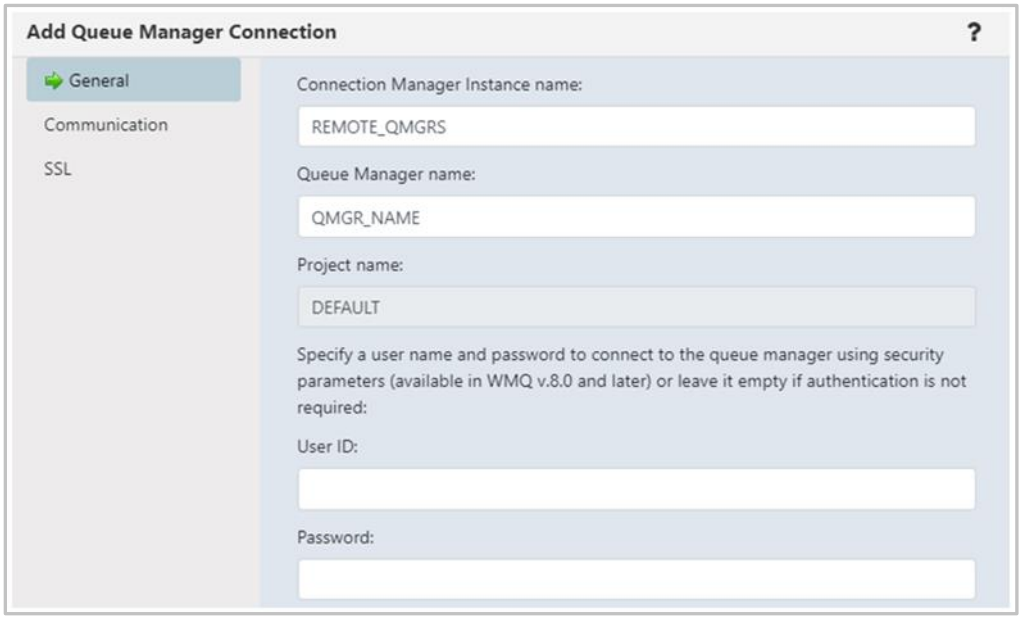


Figure 4.2.1.1.2-B. Remote Queue Manager Connections – General Tab

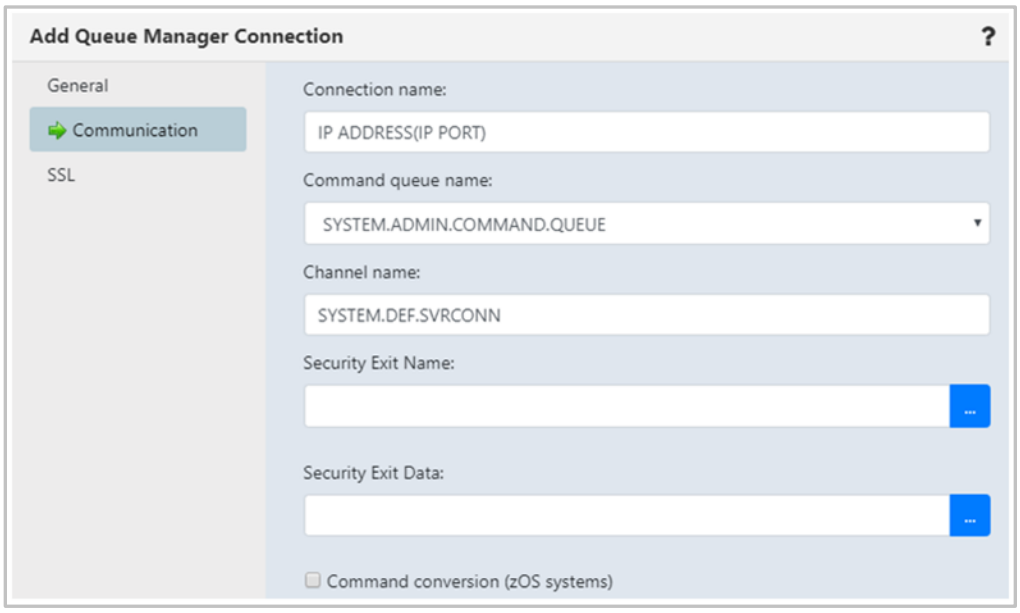


Figure 4.2.1.1.2-C. Remote Queue Manager Connections – Communication Tab

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.

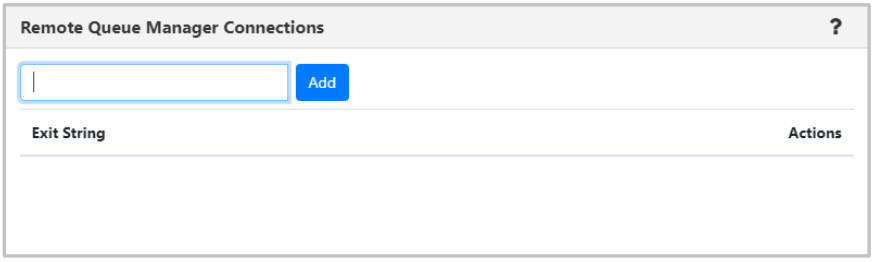


Figure 4.2.1.1.2-D. Remote Queue Manager Connections – Communication Tab – Exit Strings

On the SSL tab window, populate the fields as noted in *Table 4.2.1.1.2-A*.

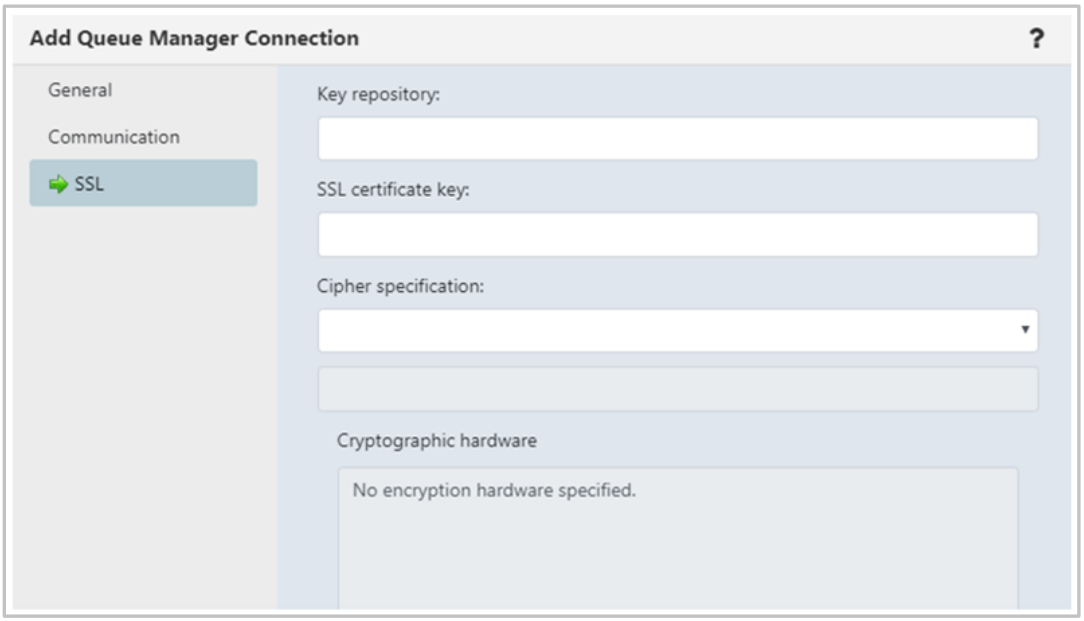


Figure 4.2.1.1.2-E. Remote Queue Manager Connections – SSL Tab

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.

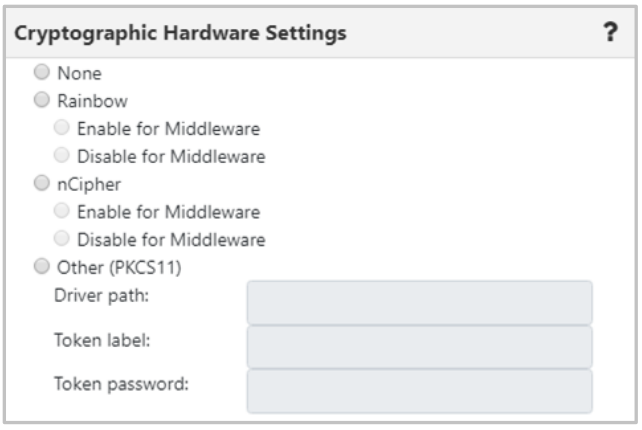


Figure 4.2.1.1.2-F. Remote Queue Manager Connections – Settings

When creating a viewlet, you can see a remote queue manager's objects by selecting it from the Node drop-down (***Figure 4.3.1.1-A***).

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.

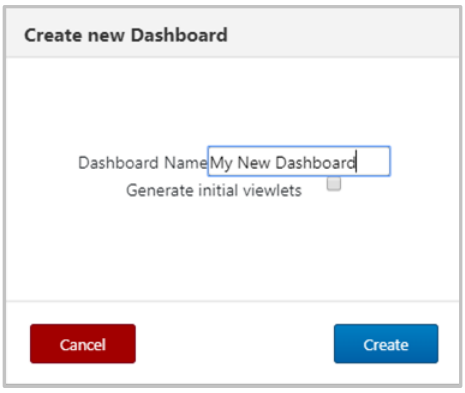


Figure 4.2.2-A. Create New Dashboard

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

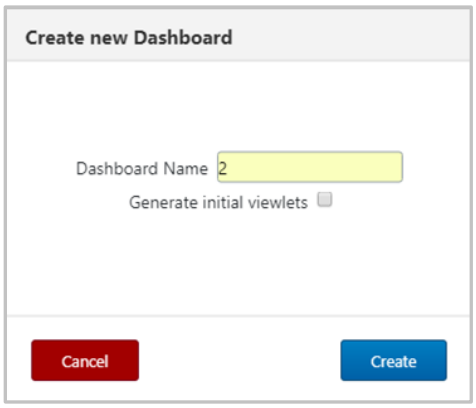


Figure 4.2.2-B. Create New Dashboard – Existing Dashboard Name

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**.

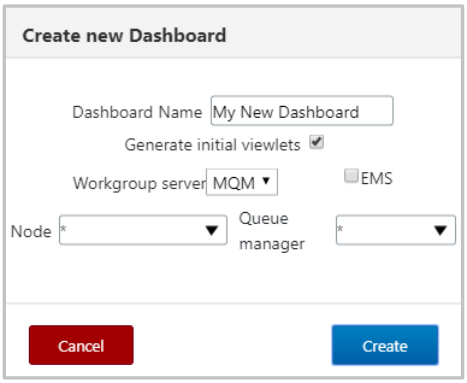


Figure 4.2.2-C. Generate Initial Viewlets

Initial viewlets will look similar to the following figure.

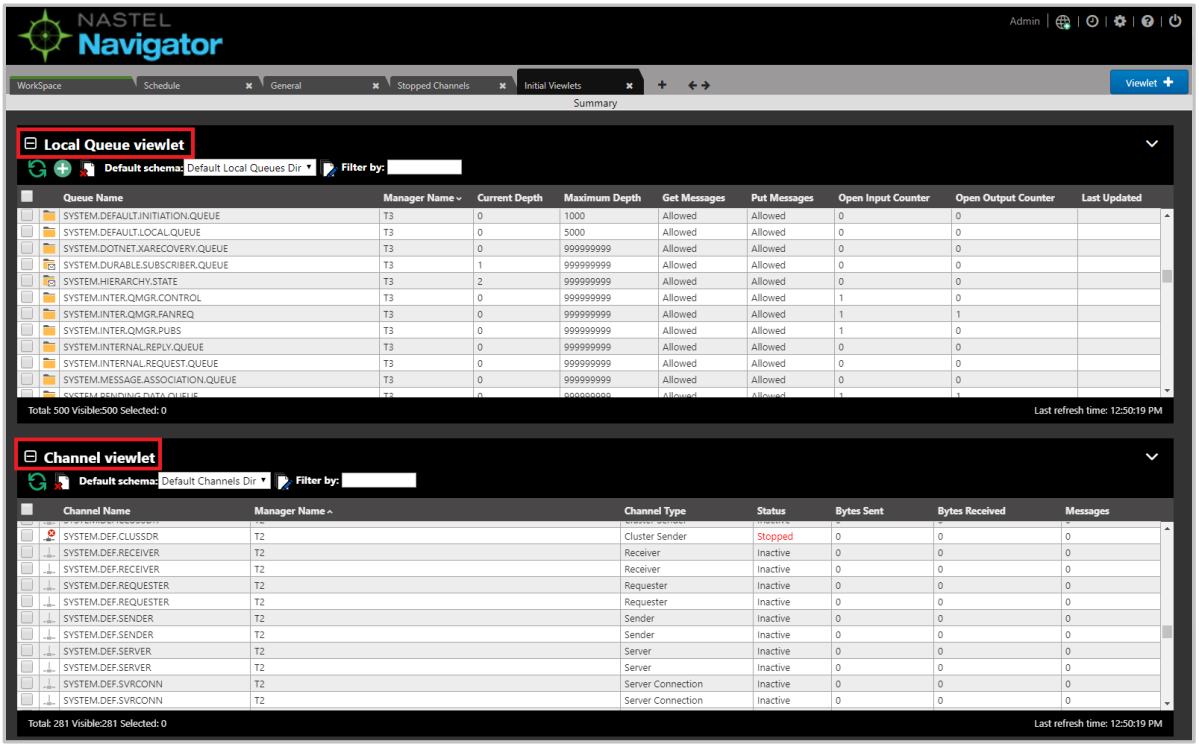


Figure 4.2.2-D. Default Local Queue and Channel Viewlets

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.

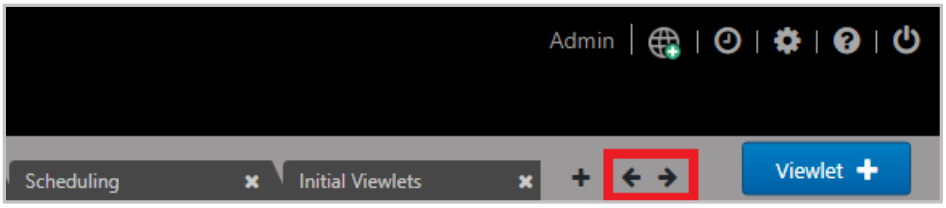


Figure 4.2.3-A. Displaying Additional Dashboards

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.

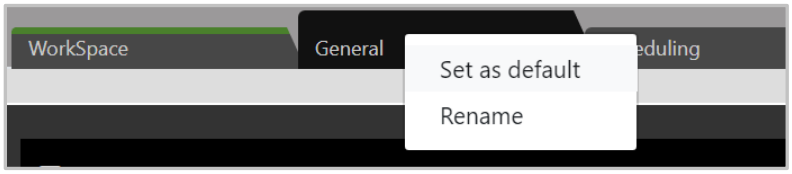


Figure 4.2.4-A. Dashboard Menu

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.

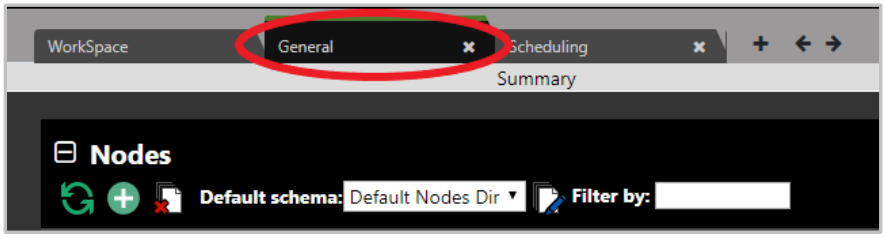


Figure 4.2.4.1-A. Default Dashboard

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**.

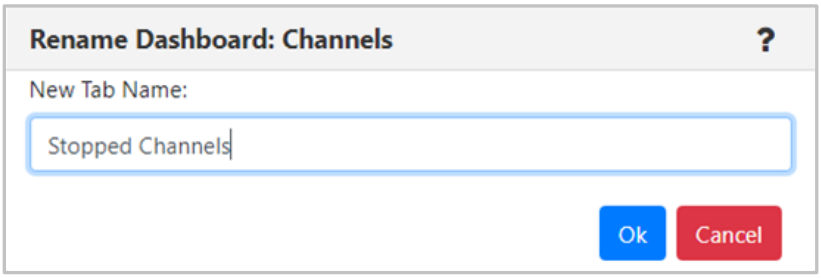


Figure 4.2.4.2-A. Rename Dashboard

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.

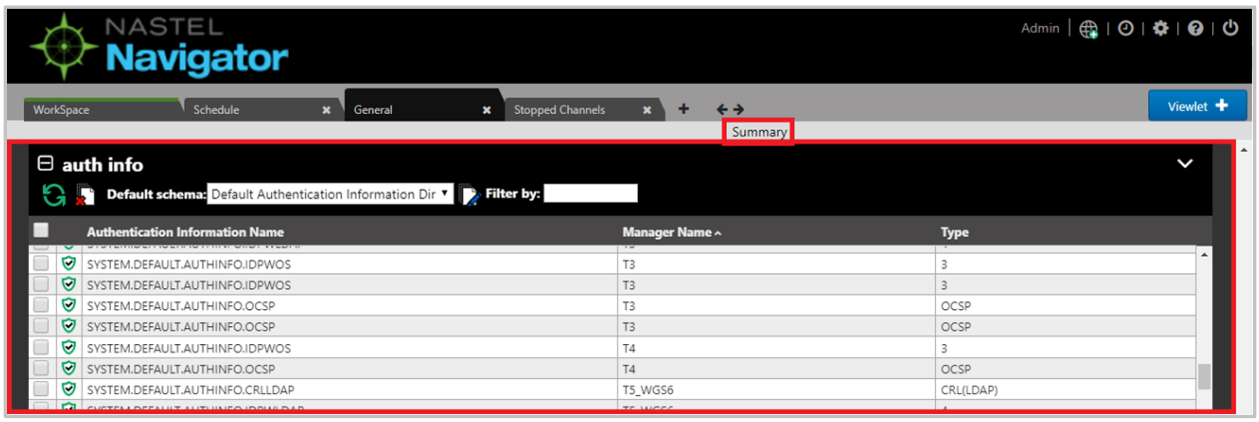


Figure 4.2.5-A. Summary

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*).

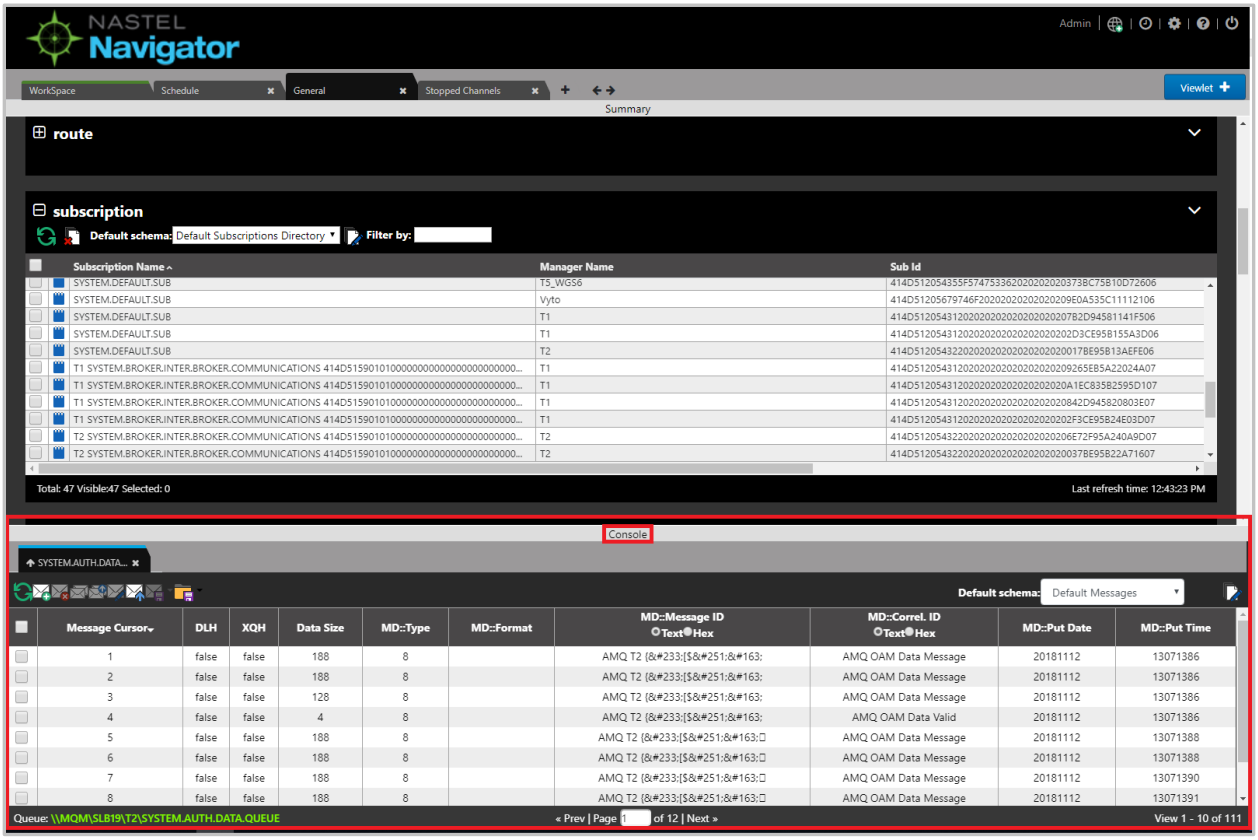


Figure 4.2.5-B. Console

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.

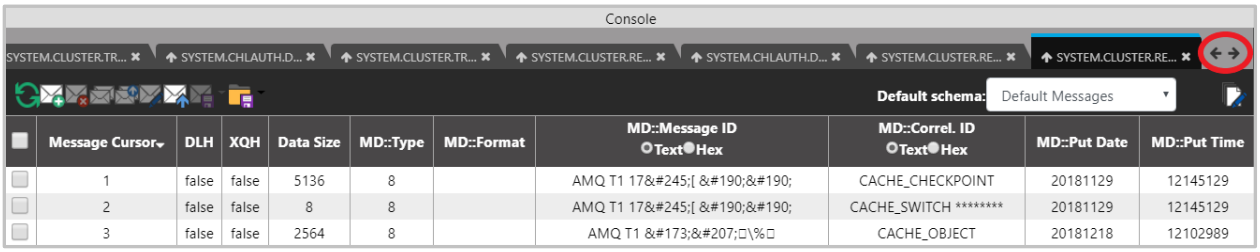


Figure 4.2.5-C. Viewing Console Tabs

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.

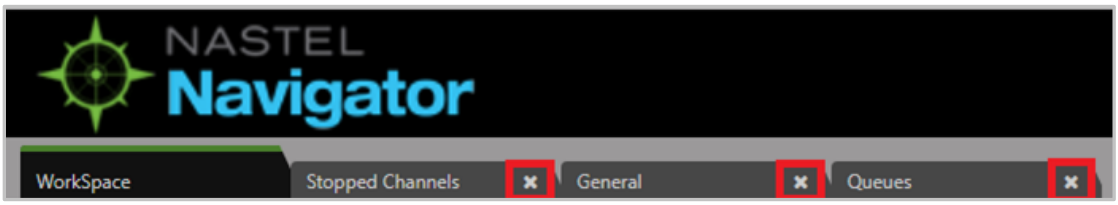


Figure 4.2.6-A. Delete Dashboards

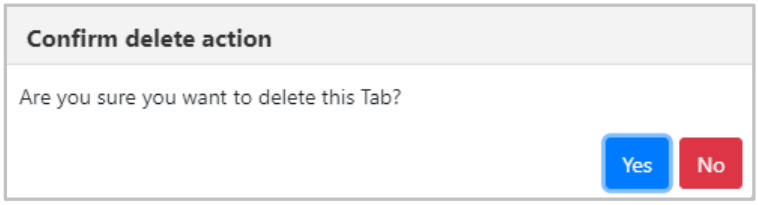


Figure 4.2.6-B. Delete Confirmation

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 Creating 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.

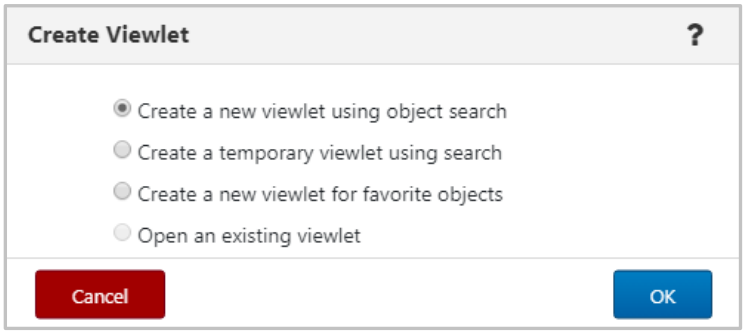


Figure 4.3.1-A. Create Viewlet

4.3.1.1 Creating New / Temporary Viewlets

The *Create new viewlet* dialog box 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. If you would like to create a viewlet with scheduling functionality, select a **Workgroup server** from the drop-down which has been configured for scheduling (see *Section 4.6.1, Scheduling*). Click **Save Changes** when done. The viewlet will appear at the bottom of the current dashboard.

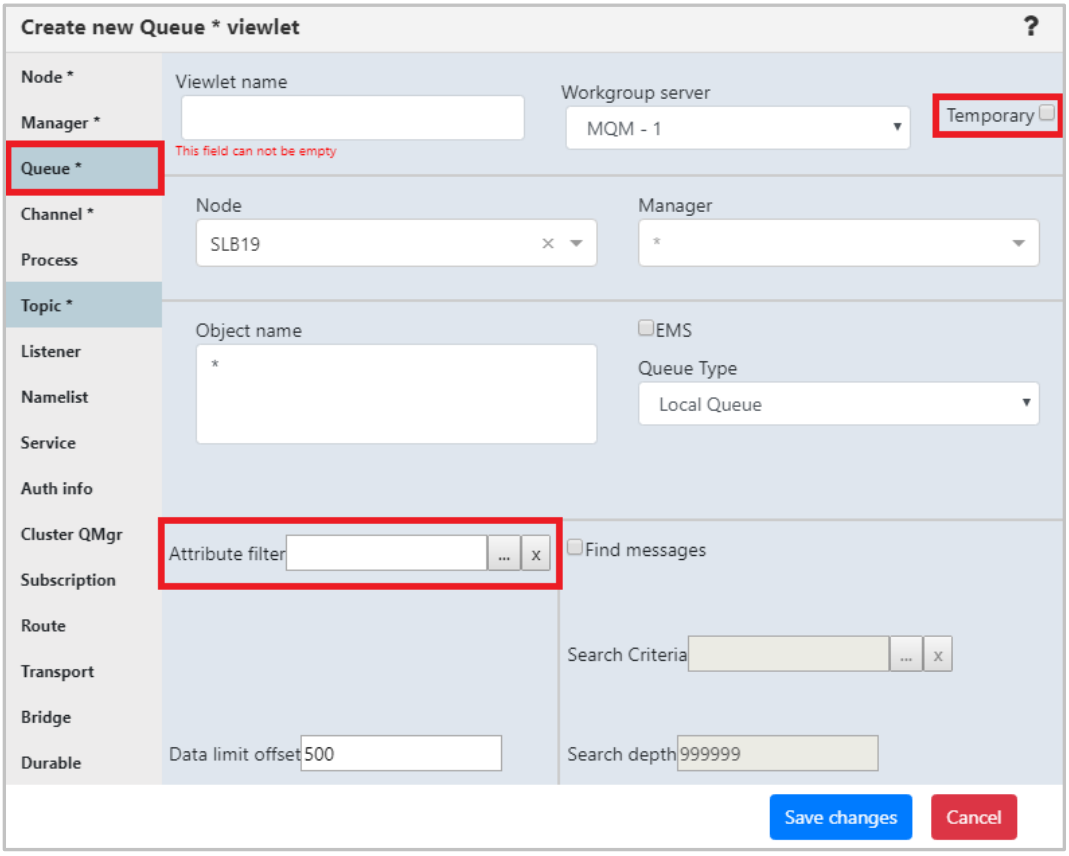


Figure 4.3.1.1-A. Create New Queue Viewlet

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*).

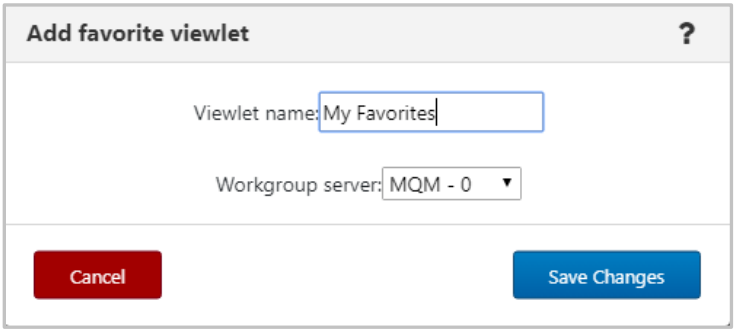


Figure 4.3.1.2-A. Add Favorite Viewlet Dialog Box

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**.
4. 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.

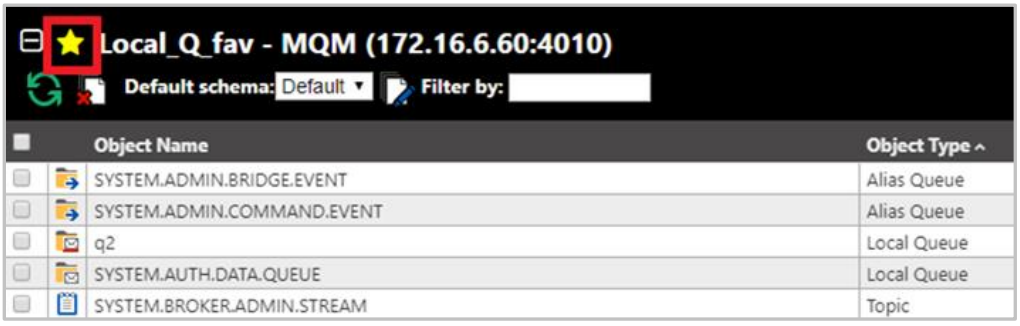


Figure 4.3.1.2-B. Favorites Viewlet

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.

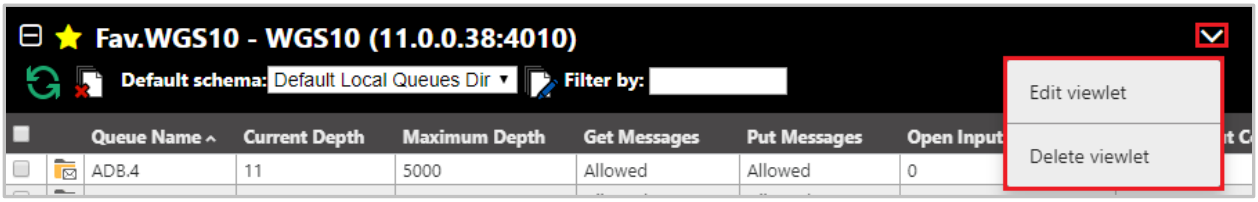


Figure 4.3.1.2-C. Edit / Delete Favorite Viewlet

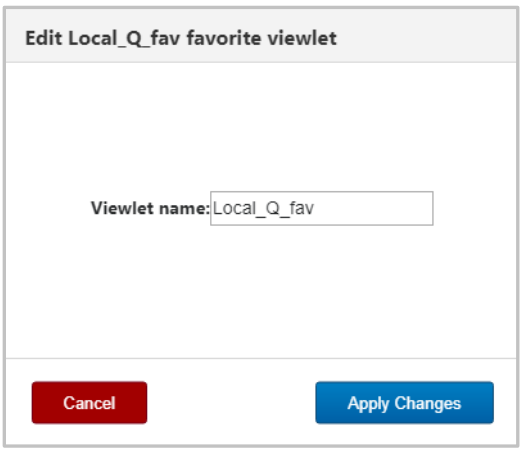


Figure 4.3.1.2-D. Edit Favorite Viewlet

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.

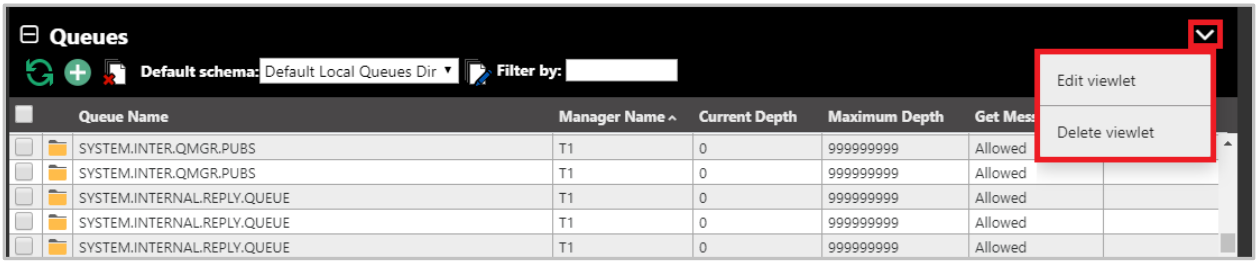


Figure 4.3.1.3-A. Viewlet Menu

4.3.1.3.1 Edit Viewlet

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

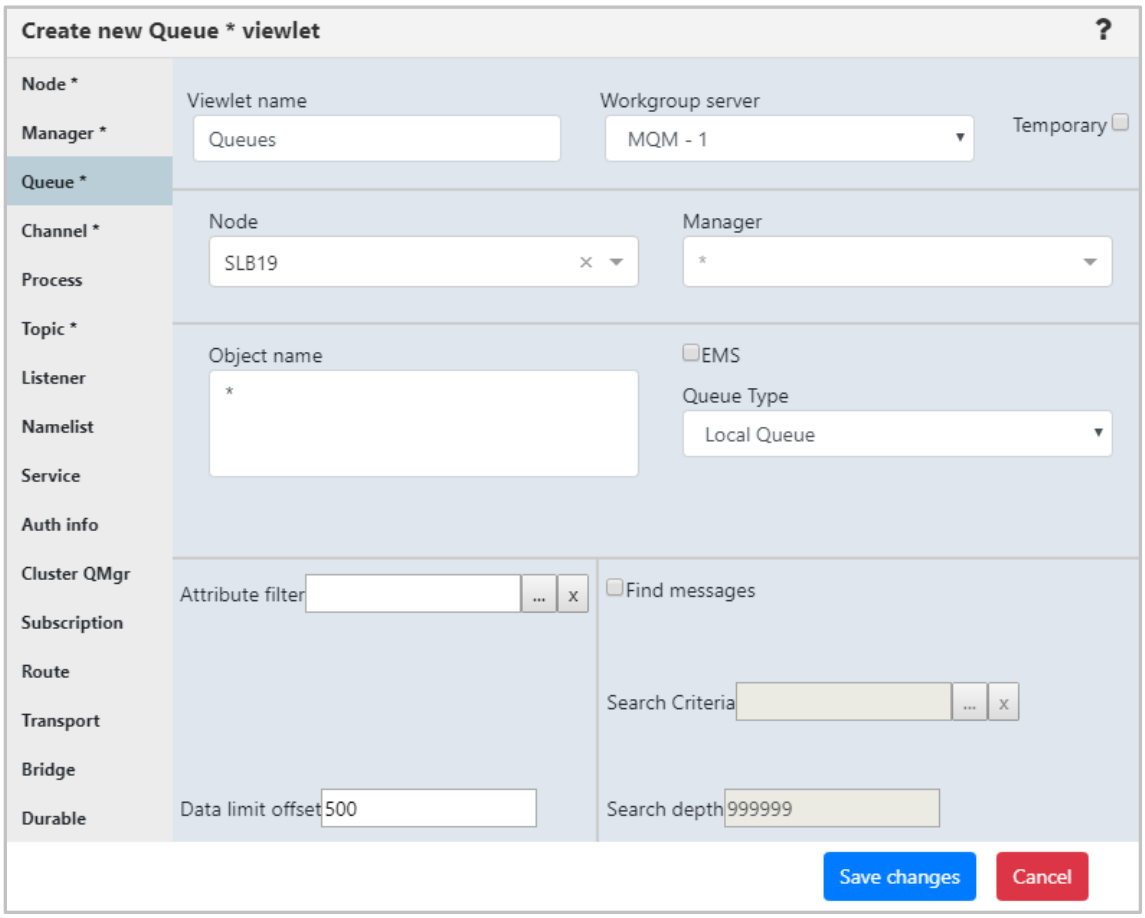


Figure 4.3.1.3.1-A. Edit Viewlet

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) dialog boxes.

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

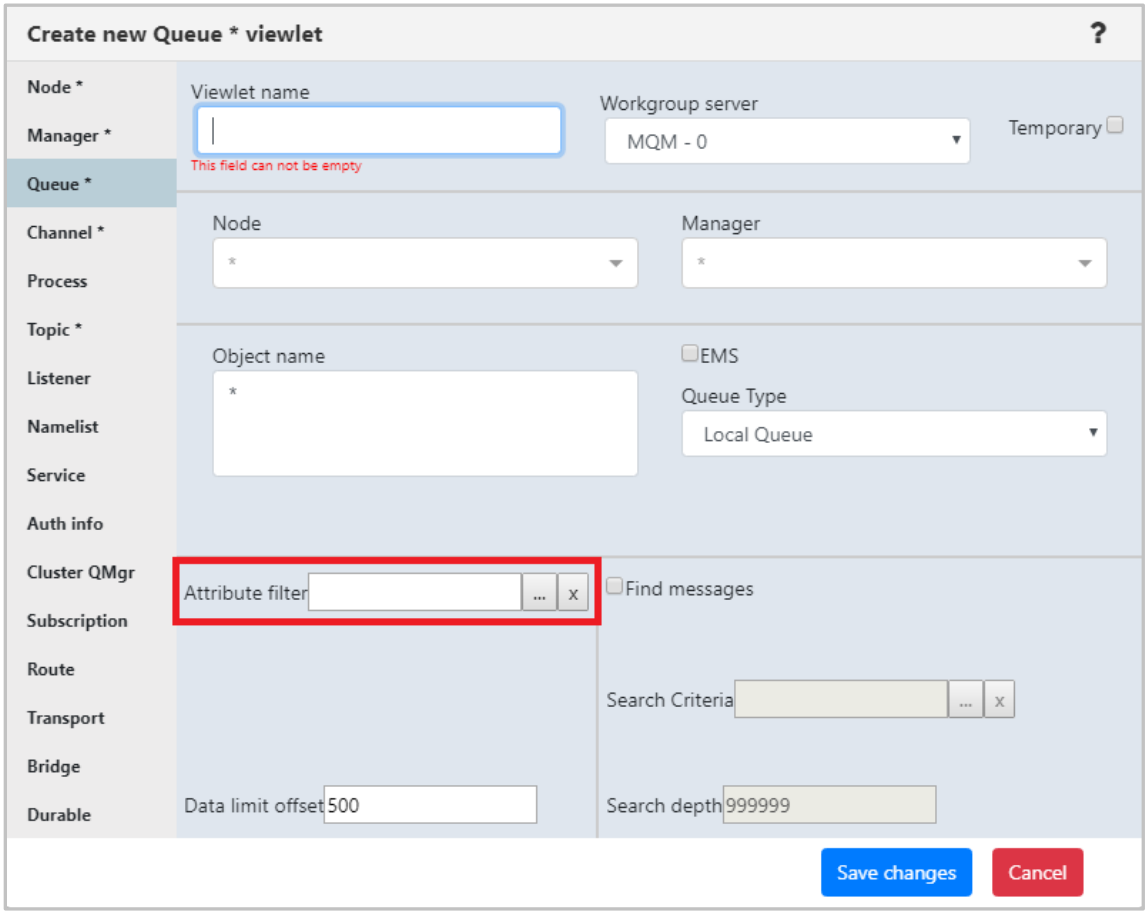


Figure 4.3.1.4-A. Attribute Filter Option

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**.

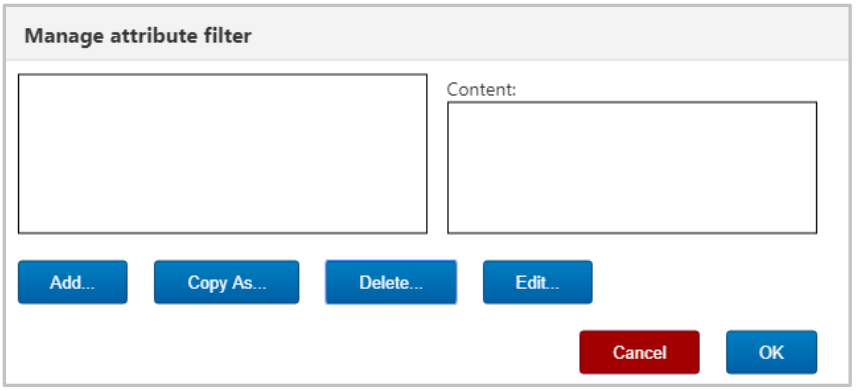


Figure 4.3.1.4-B. Manage Attribute Filter

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 dialog box 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).

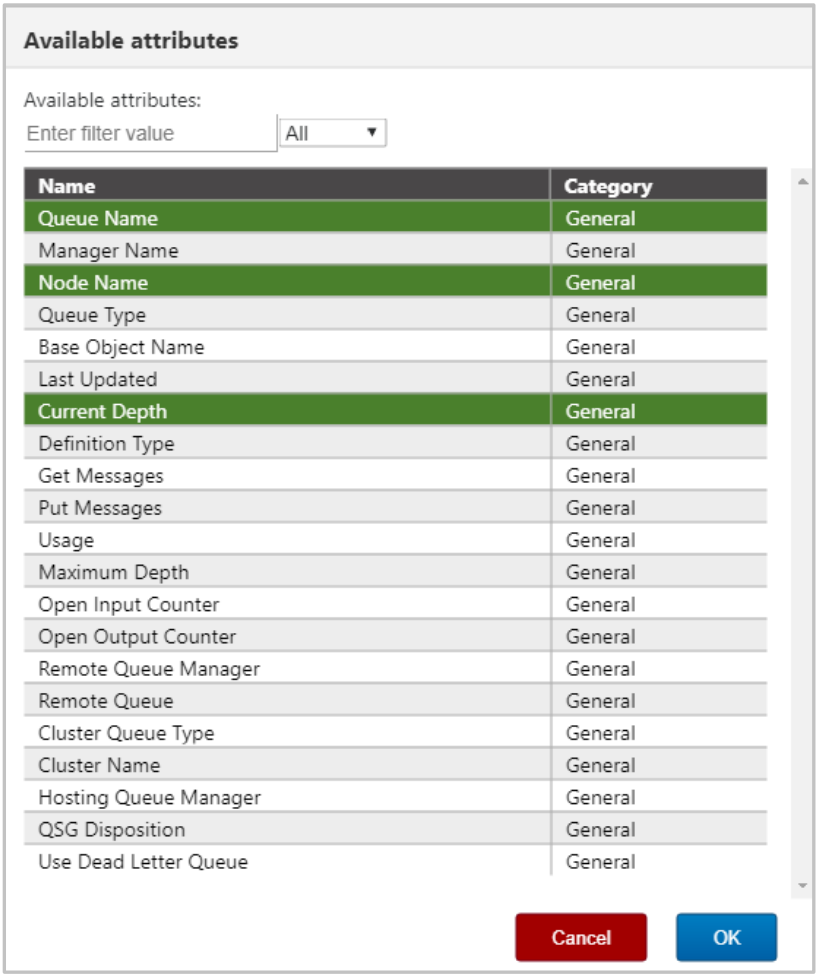


Figure 4.3.1.4-D. Available Attributes

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.

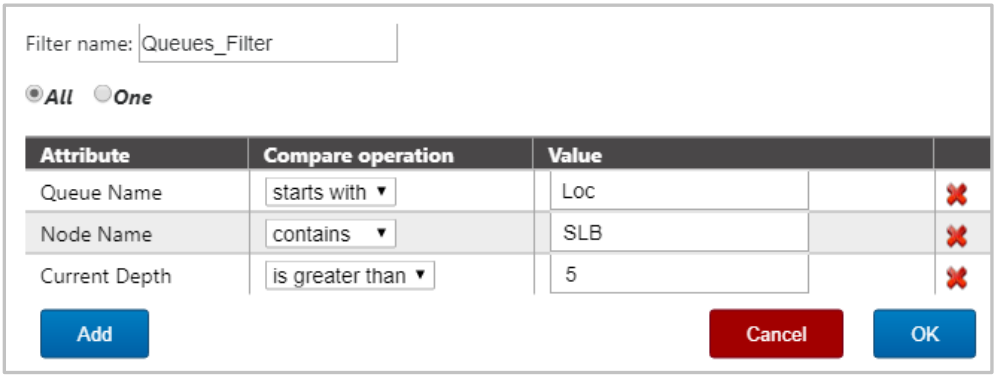


Figure 4.3.1.4-E. Configuring Attributes

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*).

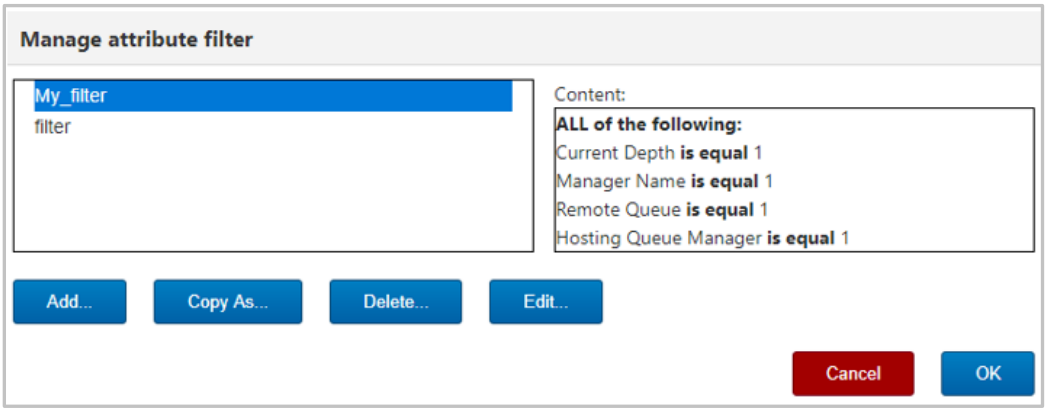


Figure 4.3.1.4-F. Manage Attribute Filter – All Attributes

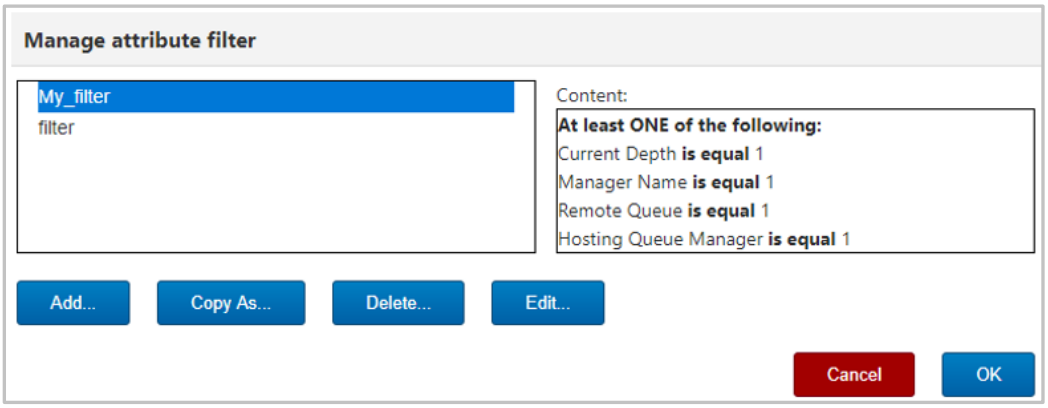


Figure 4.3.1.4-G. Manage Attribute Filter – At Least One Attribute

4.3.1.3.1.2 Find Messages

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

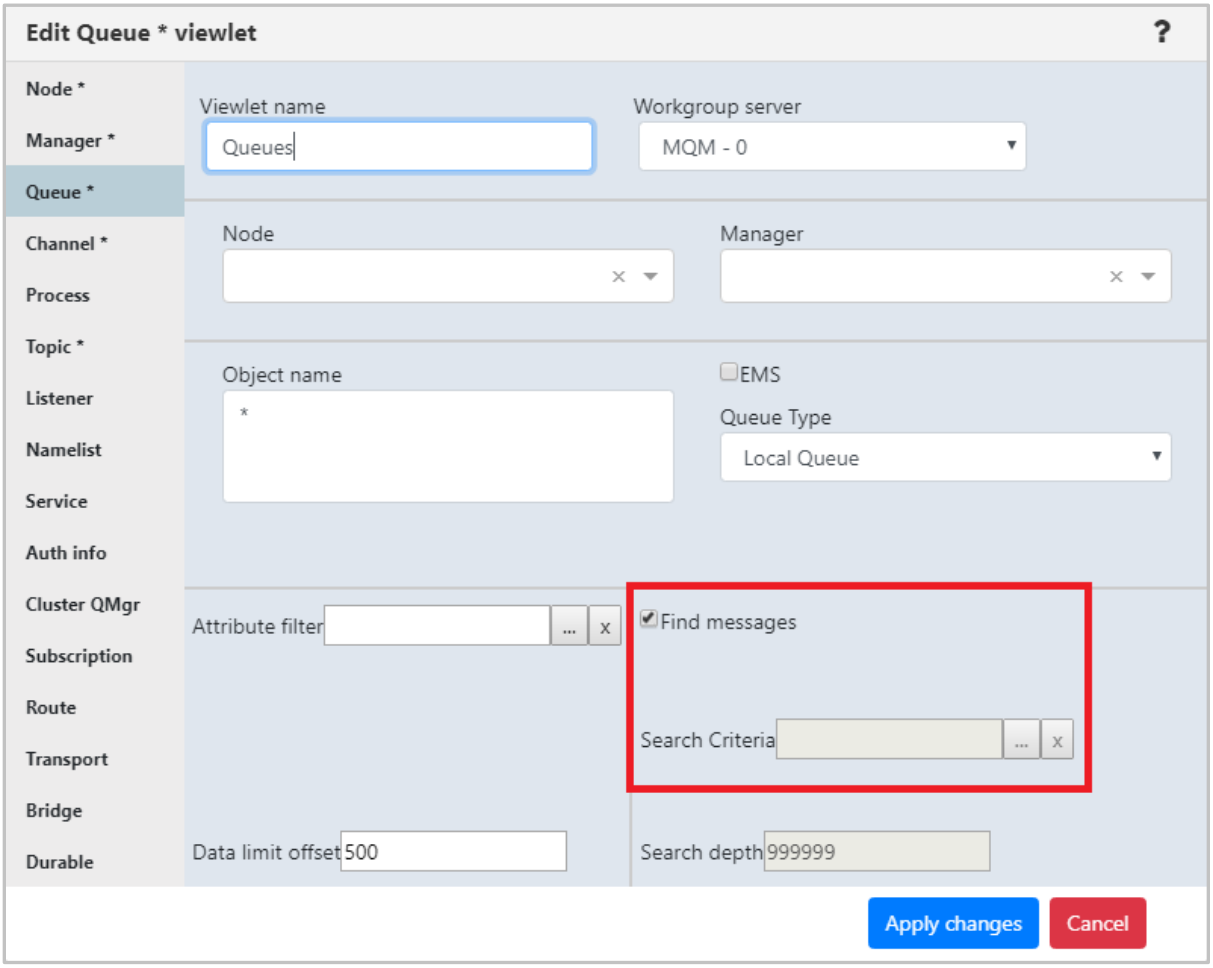


Figure 4.3.1.3.1.2-A. Find Messages

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

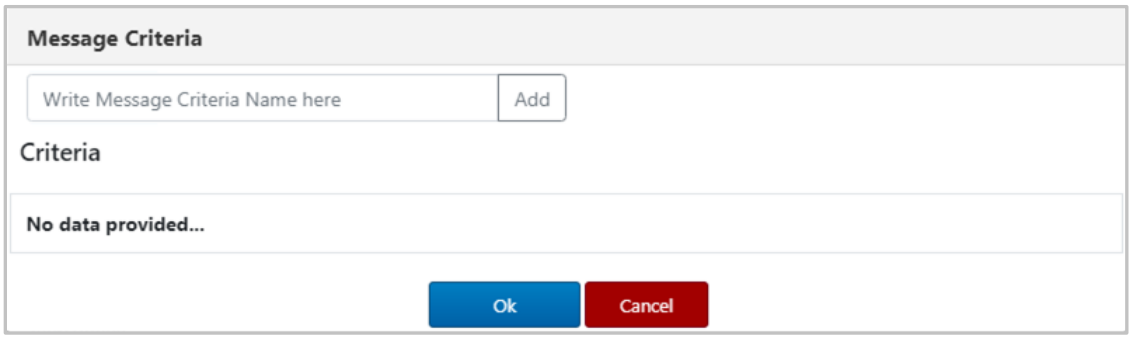


Figure 4.3.1.3.1.2-B. Message Criteria

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.

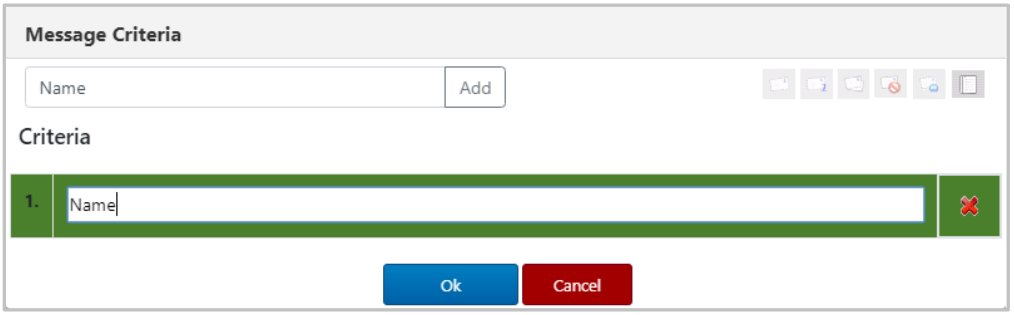


Figure 4.3.1.3.1.2-C. Enter Search Criteria Name

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.

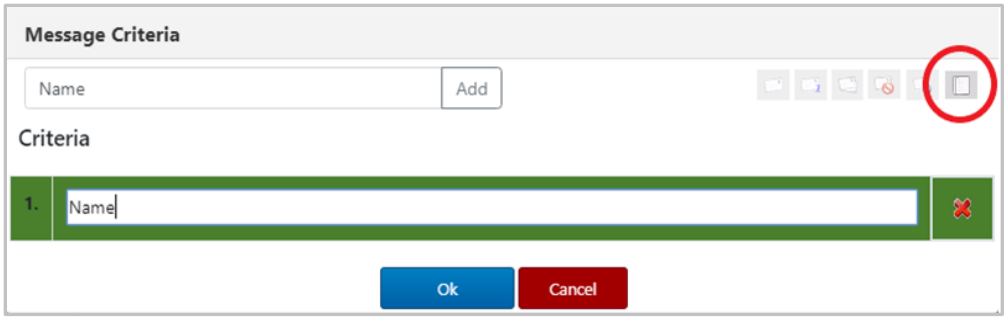


Figure 4.3.1.3.1.2-D. Enter Data

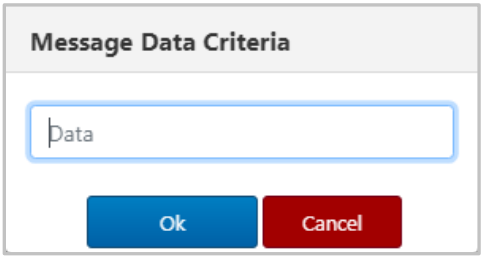


Figure 4.3.1.3.1.2-E. Enter Data

Back on the *Edit Queue viewlet* dialog box, 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 contain queue managers.

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 nodes pop-up menu includes **Show Object Attributes**, **Show Topology** (see *Section 4.3.8, Topology*), **Create Queue Manager** (*see Section 4.7.3, Create a Queue Manager*), **Events**, **Manage**, **Discover now** (when **Manage** is marked with a check mark, meaning that the management of the node is turned on), and **Delete** and **Properties** (when **Manage** is unchecked).

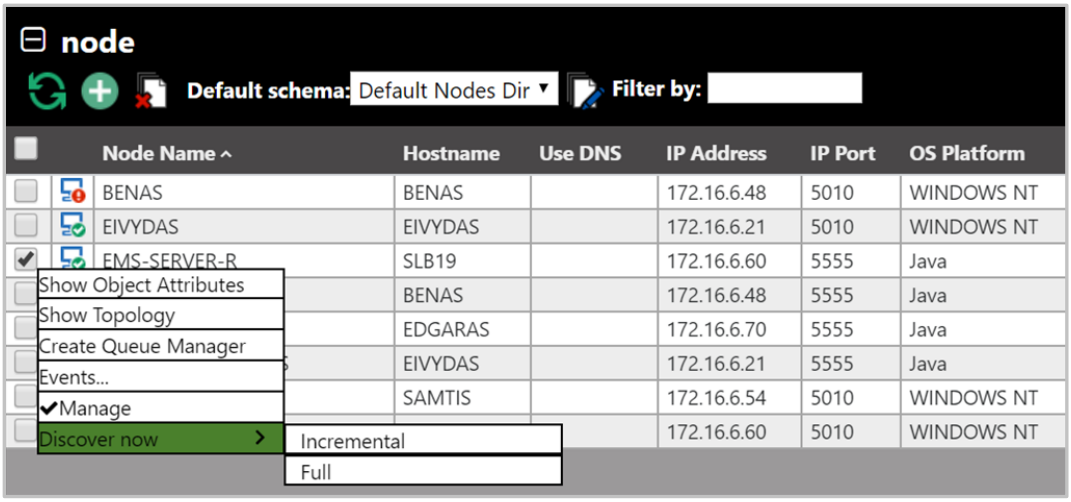


Figure 4.3.2-A. Nodes Pop-Up Menu

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 *Table 4.3.3-A* for more information on discovery modes.

4.3.3 Queue Managers

The *Queue Manager Viewlet* provides a list of queue managers. Hover over the Manager Name to display the object path. For example: **Object Path: \\MQM\HPENVY0113\V905Test.** This object path functionality is common to all viewlets in the Summary section.

Queue manager status is represented by the folder icon appearing immediately before the Manager Name. A green check mark folder represents an active queue manager. A stopped queue manager will have a red exclamation point folder. A queue manager with an unknown status is represented by a folder without any symbols.

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*).

Select a queue manager to display the pop-up menu. Options are described in Table 4.3.3-A.

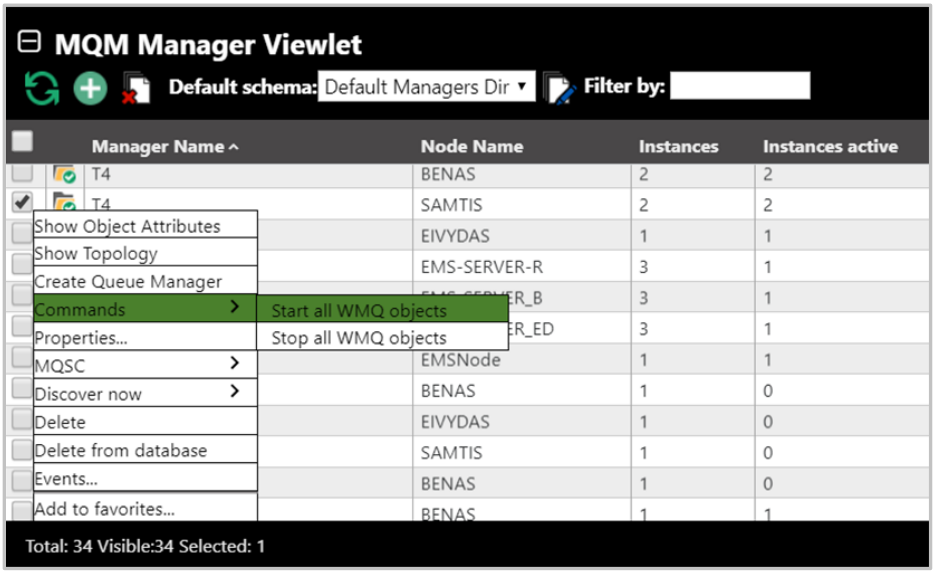


Figure 4.3.3-A. Queue Manager Viewlet

Table 4.3.3-A. Queue Manager Viewlet Pop-up Menu

Option	Description
Show Object Attributes	Displays the *Attribute* viewlet (*Section 4.3.3.1*)
Show Topology	View a graphic representation of queue relationship (*Section 4.3.8*)
Create Queue Manager	Create a new Queue Manager (*Section 4.7.3*)
Start all WMQ objects	Allows you to start WMQ objects *(Section 4.3.3.2)*. Not available for EMS queue managers.
Stop all WMQ objects	Allows you to select the shutdown method *(Section 4.3.3.2)*. Not available for EMS queue manager.
Properties	Displays the *Properties* dialog box (*Section 4.3.3.3*)
MQSC / EMS Scripts	The **MQSC** option will appear in the pop-up menu if the selected queue manager includes MQ objects. If the queue manager includes EMS objects, then the pop-up menu will have the **EMS Scripts** option instead. After clicking **Console**, a command window (*Figure 4.3.3.6-A*) opens, allowing you to run MQSC commands or EMS scripts for the queue manager (*Section 4.3.3.6*).
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 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 4.3.3.4*).
Add to favorites	Allows you to create a shortcut in a selected **Favorites** folder (*Section 4.3.3.5*)

4.3.3.1 Attributes

When **Show Object Attributes** is selected from the *Queue Manager* viewlet pop-up menu (*Figure 4.3.3-A*), the *Attributes* viewlet opens. This viewlet displays the attributes of the selected object. Scroll down to see additional attributes.

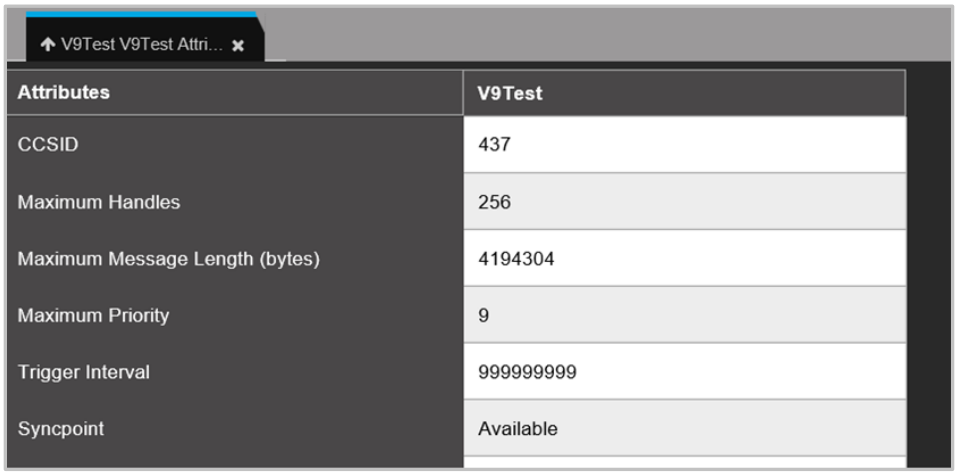


Figure 4.3.3.1-A. Queue Manager Attributes

4.3.3.2 Starting / Stopping all WMQ Objects

To start or shutdown queue managers, select either **Start all WMQ objects** or **Stop all WMQ objects** from the *Queue Manager* viewlet pop-up menu (*Figure 4.3.3-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*

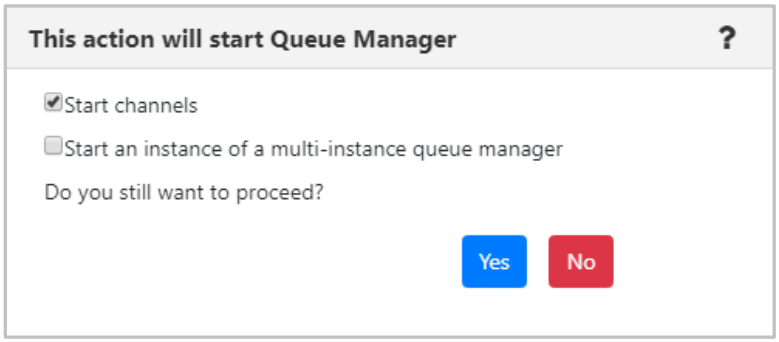


Figure 4.3.3.2-A. Start Queue Manager

Stop Queue Manager

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

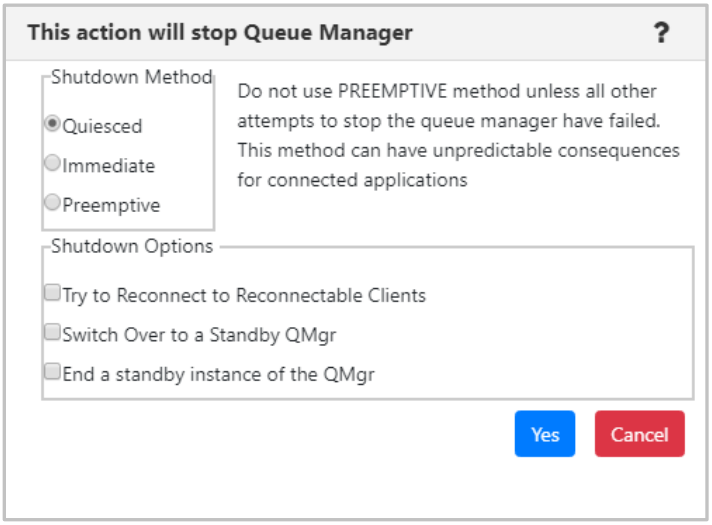


Figure 4.3.3.2-B. Stop Queue Manager

4.3.3.3 Properties

When **Properties** is selected from the *Queue Manager* viewlet pop-up menu (*Figure 4.3.3-A*), the *Properties* dialog box 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.

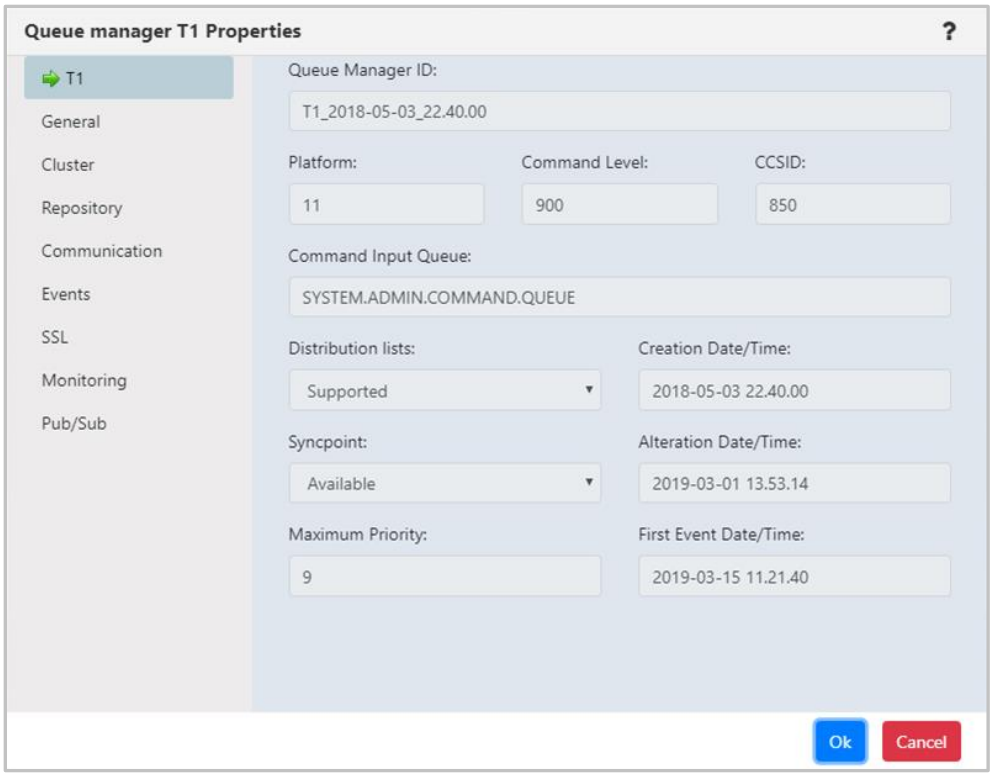


Figure 4.3.3.3-A. Queue Manager Properties

4.3.3.4 Events

When Events is selected from the *Queue Manager* viewlet pop-up menu (*Figure 4.3.3-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* dialog box.

Figure 4.3.3.4-A. Events Viewlet

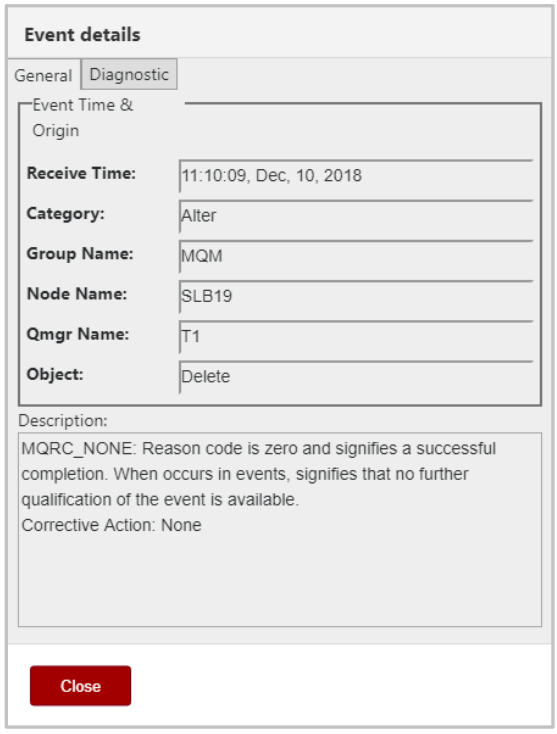


Figure 4.3.3.4-B. Event Details – General Tab

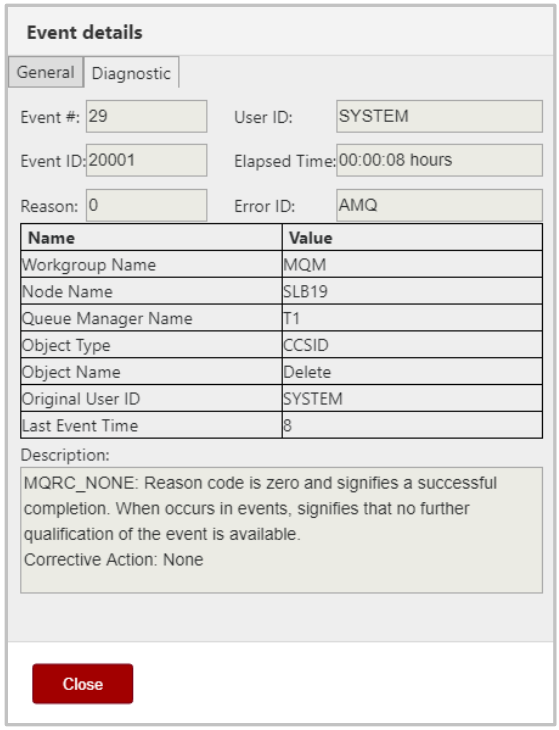


Figure 4.3.3.4-C. Event Details – Diagnostic Tab

4.3.3.5 Favorites

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

To access the *Add Favorite Viewlet* dialog box (*Figure 4.3.1.2-A*), select **Add to favorites** from the *Queue Manager* viewlet pop-up menu (*Figure 4.3.3-A*).

If no favorite viewlets exist, you will see the following screen (*Figure 4.3.3.5-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*.

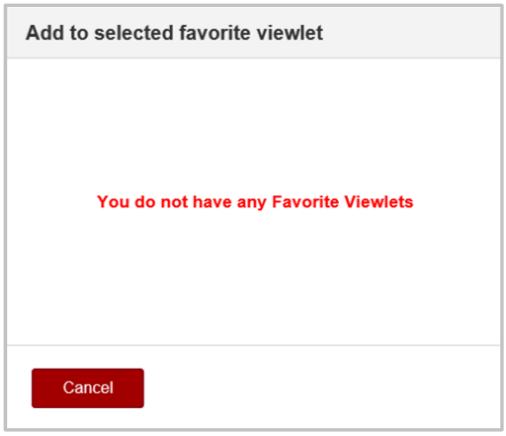


Figure 4.3.3.5-A. No Favorites Dialog Box

Add to Selected Favorite Viewlet

1. After selecting **Add to favorites** from the *Queue Manager Viewlet* pop-up menu (*Figure 4.3.3-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**.

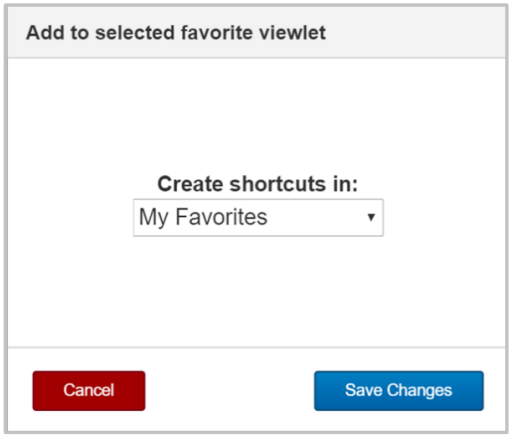


Figure 4.3.3.5-B. Add to Favorite Viewlet

4.3.3.6 MQSC / EMS Scripts Command Window

After selecting **MQSC** or **EMS Scripts** and **Console** from a queue manager's pop-up menu (*Figure 4.3.3-A*), the below command window opens. At the top of the window is a field to type in a command. Please see the following links for more information on MQSC and EMS commands:

- IBM online Knowledge Center: *https://www.ibm.com/support/knowledgecenter/en/SSFKSJ_7.5.0/com.ibm.mq.ref.adm.doc/q085130_.htm*
- TIBCO User's Guide: *https://docs.tibco.com/pub/ems/8.4.0/doc/pdf/TIB_ems_8.4_users_guide.pdf*

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).

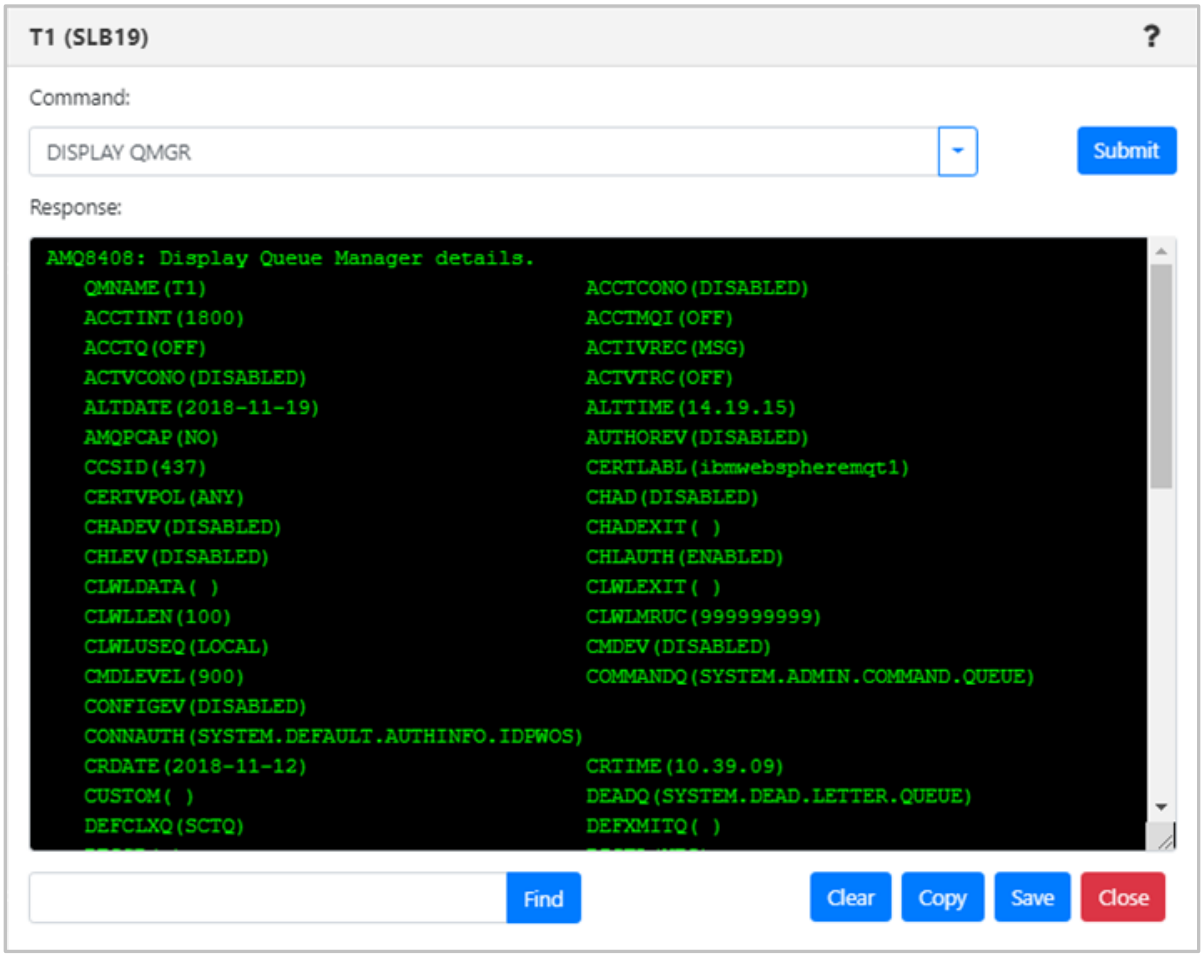


Figure 4.3.3.6-A. MQSC Command Window

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.

4.3.4 Queues

Select a queue by checking off the check box to display the pop-up menu. Menu options are described in *Table 4.3.4-A*. Clicking on a queue name will open the queue's attribute viewlet.

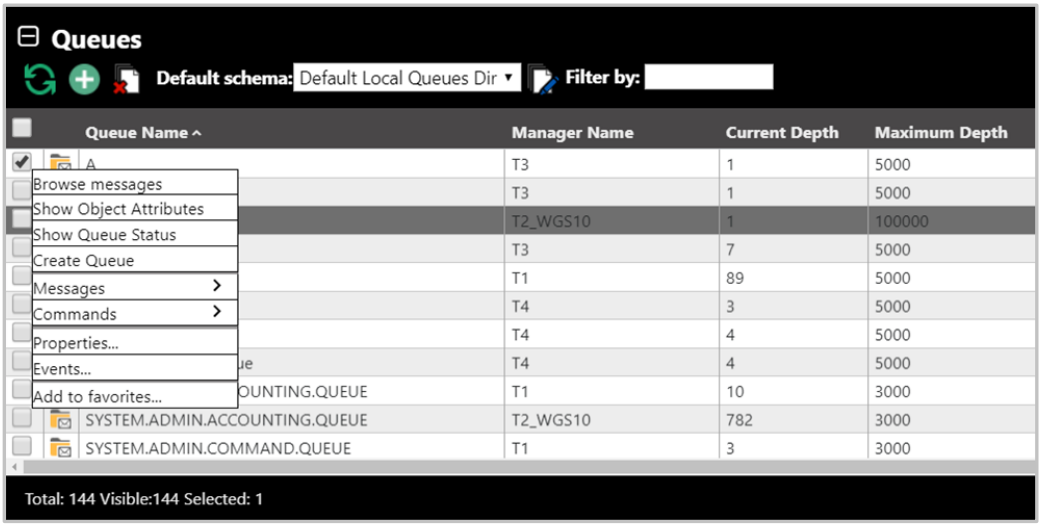


Figure 4.3.4-A. Queue Viewlet

TIP

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.

Table 4.3.4-A. Queue Menu Options

Option	Description
Browse message	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	Displays the following Messages sub-menu options: • Put New Message: Displays the *Put New* dialog box (*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 *Copy messages* dialog box (*Figure 4.3.4.3.3-A*) where a user can define how and where messages should be copied. • Move All: Displays the *Move messages* dialog box (*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 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	Displays the following Commands sub-menu options: • 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*)
Properties	Displays the queue properties. (*Figure 4.3.3.3-A*)
Events	Displays the Events viewlet (*Figure 4.3.3.4-A*)
Add to favorites	Allows you to add the selected queue to a *Favorites* viewlet. (*Figure 4.3.1.2-A*)

4.3.4.1 Queue Status

After selecting **Show queue status** from the *Queue* viewlet pop-up menu (*Figure 4.3.4-A*), the *Queue Status* viewlet is displayed.

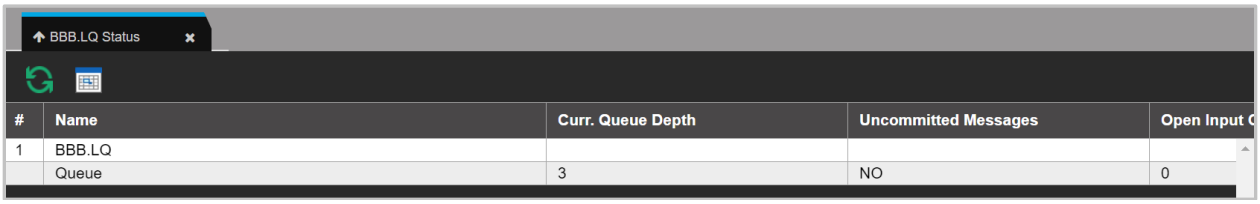


Figure 4.3.4.1-A. Show Queue Status

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

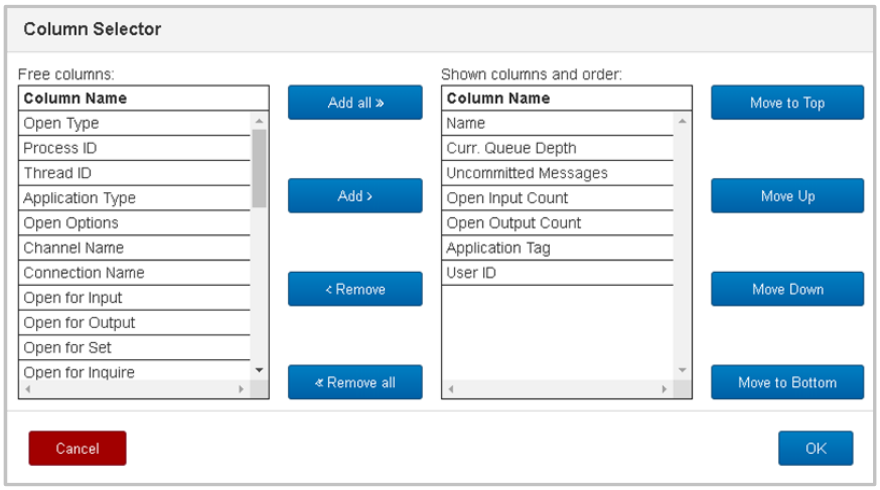


Figure 4.3.4.1-B. Select Columns

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* viewlet pop-up menu (*Figure 4.3.4-A*), the *Properties* dialog box 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

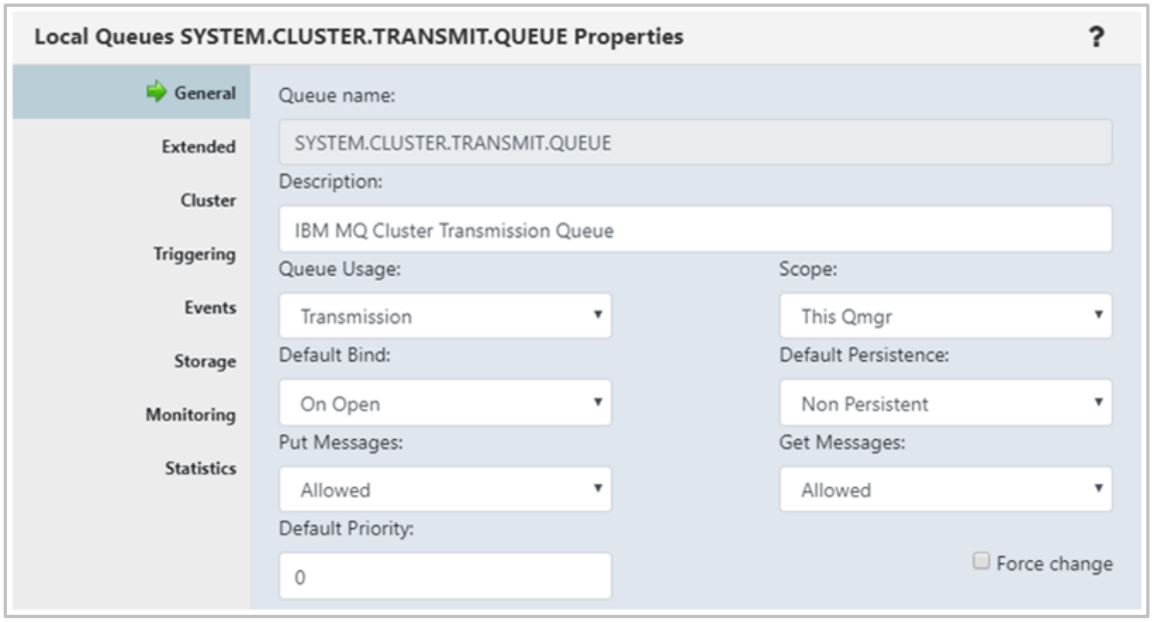


Figure 4.3.4.2-A. Local Queues Properties

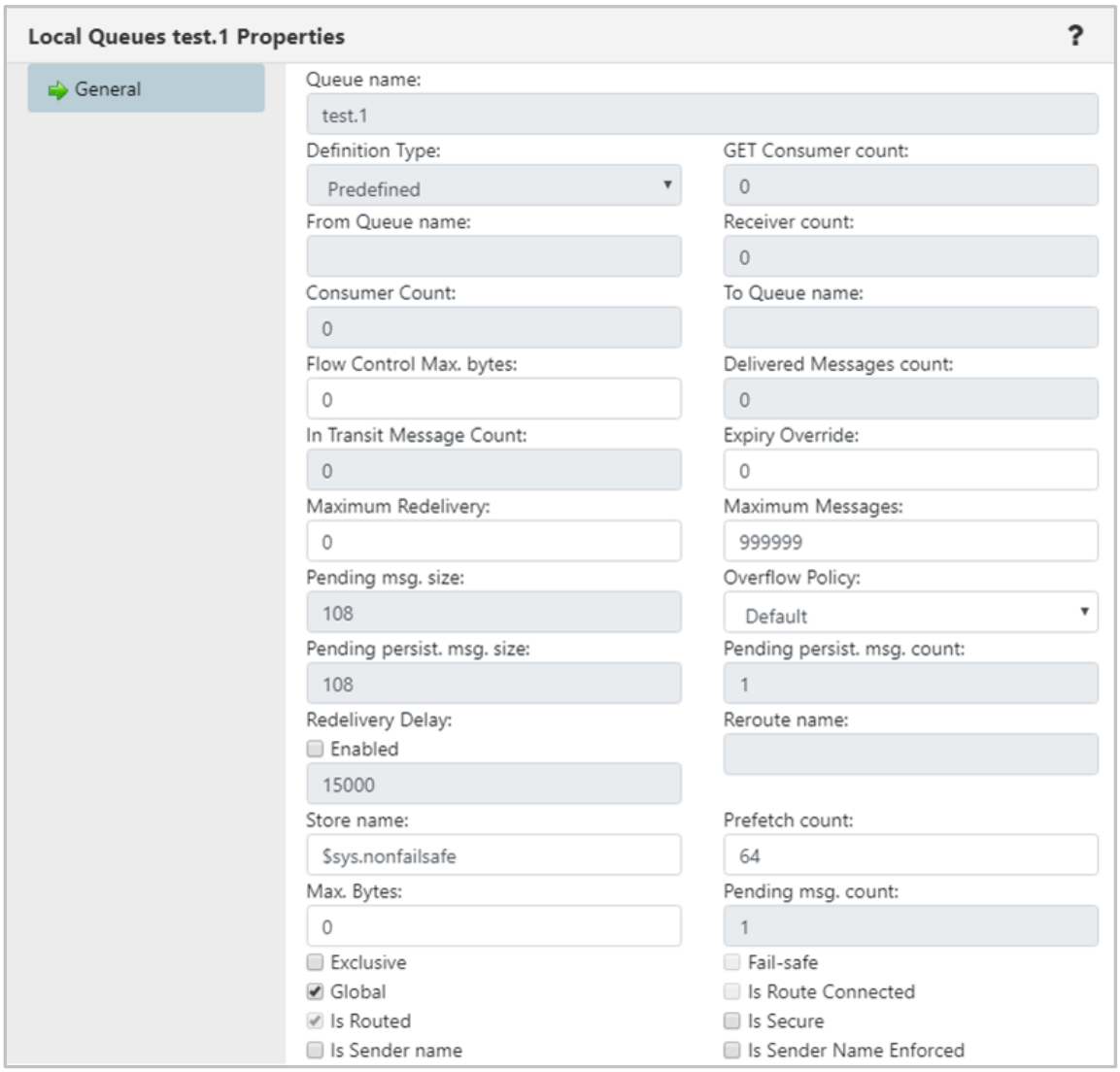


Figure 4.3.4.2-B. Local Queues EMS Properties

4.3.4.3 Messages

A 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* viewlet pop-up menu (*Figure 4.3.4-A*), or clicking a value in the **Current Depth** column, 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.

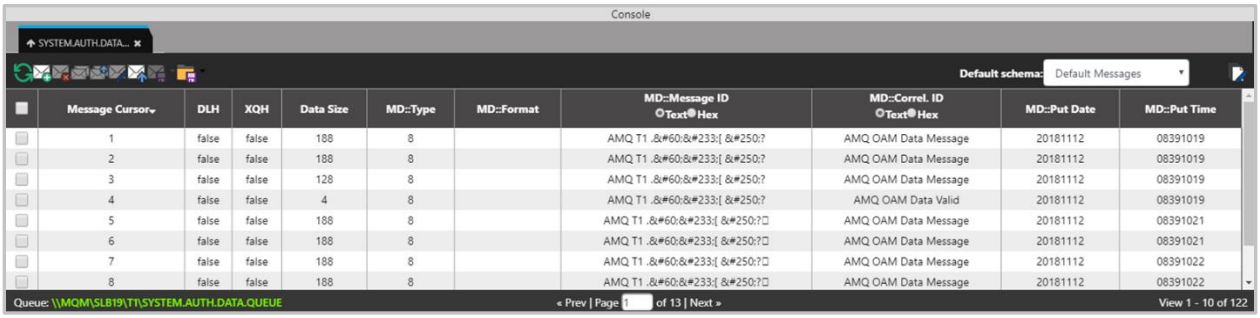


Figure 4.3.4.3-A. Messages Viewlet

Table 4.3.4.3-A. Message Viewlet Toolbar

Icon	Name	Description
	Refresh	Refreshes the displayed object.
	Put New	Displays the *Put New* dialog box (*Figure 4.3.4.3.1-A*) to create and put new message(s) into selected queue.
	Delete	Allows you to delete the message.
	Copy message	Displays the *Copy messages* dialog box (*Figure 4.3.4.3.3-A*) where a user can define how and where messages should be copied.
	Move message	Displays the *Move messages* dialog box (*Figure 4.3.4.3.3-B*) where a user can define how and where messages should be moved.
	Edit message	Displays the *Edit message* dialog box (*Figure 4.3.4.3.4-A*) where a user can edit message information and data.
	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*).
	Save selected messages	Exports selected message(s) to either an MMF or text file.
	Save all messages	Exports all messages to either an MMF or text file.

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**).

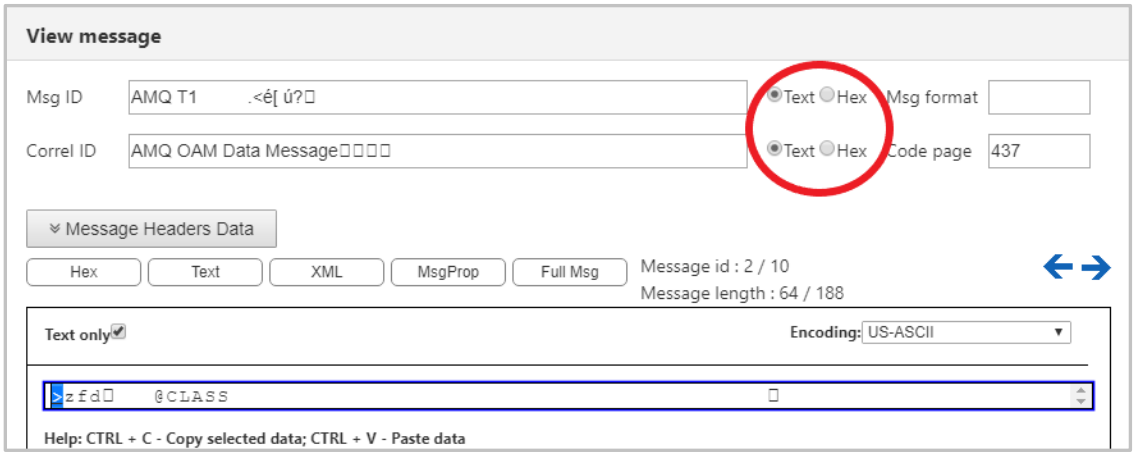


Figure 4.3.4.3-B. View Message

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

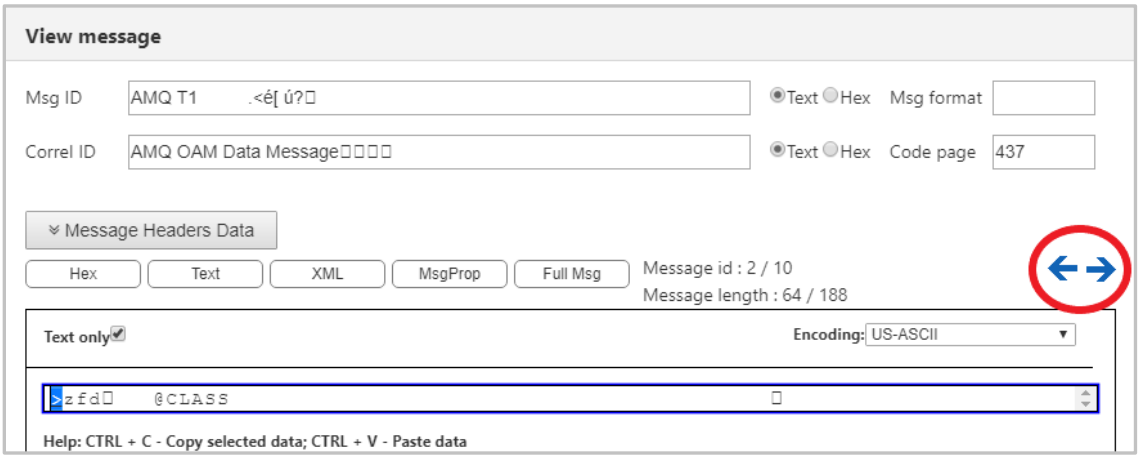


Figure 4.3.4.3-C. Navigate Between Messages

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

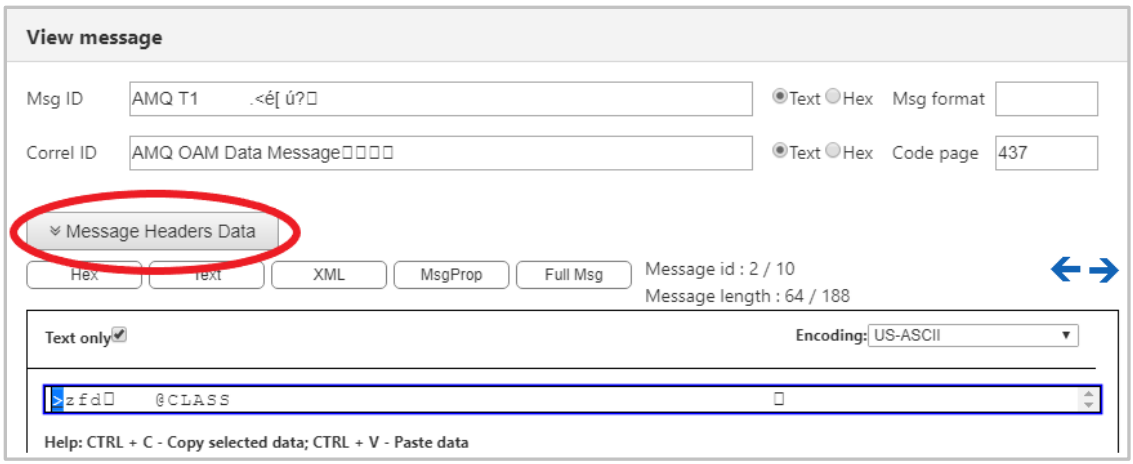


Figure 4.3.4.3-D. Message Headers Data Button

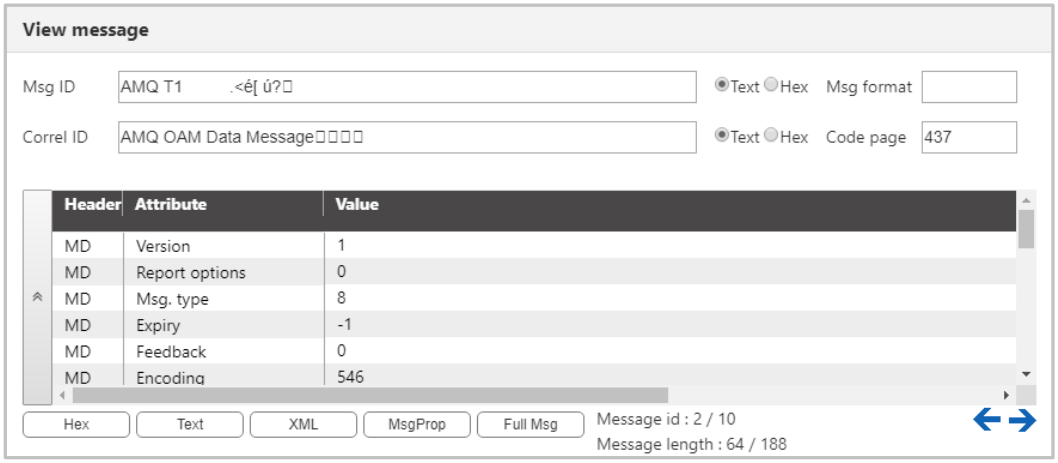


Figure 4.3.4.3-E. Message Headers

The message can be displayed in either Hexadecimal or Text. Click either the **Hex** or **Text** button, or check the **Text only** check box to easily toggle between Hex and Text mode. To view the entire message, click the **Full Msg** button.

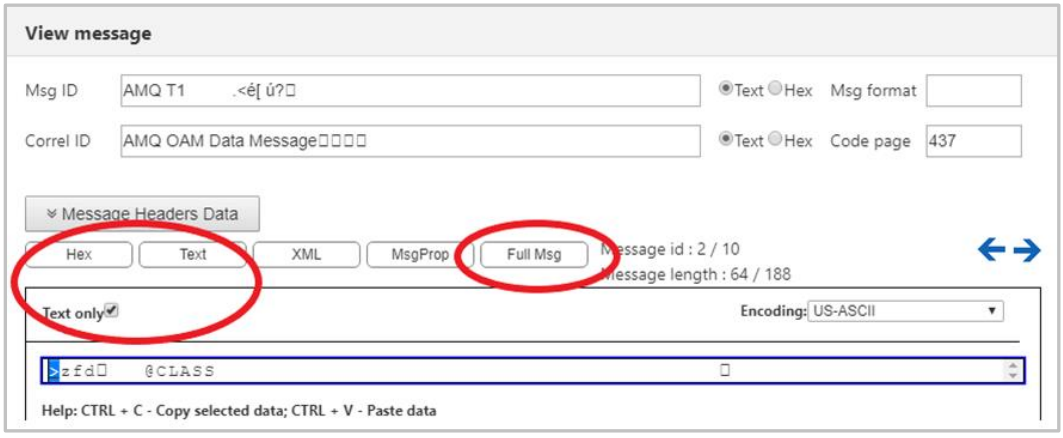


Figure 4.3.4.3-F. Hex or Text Message Mode / Full Message

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

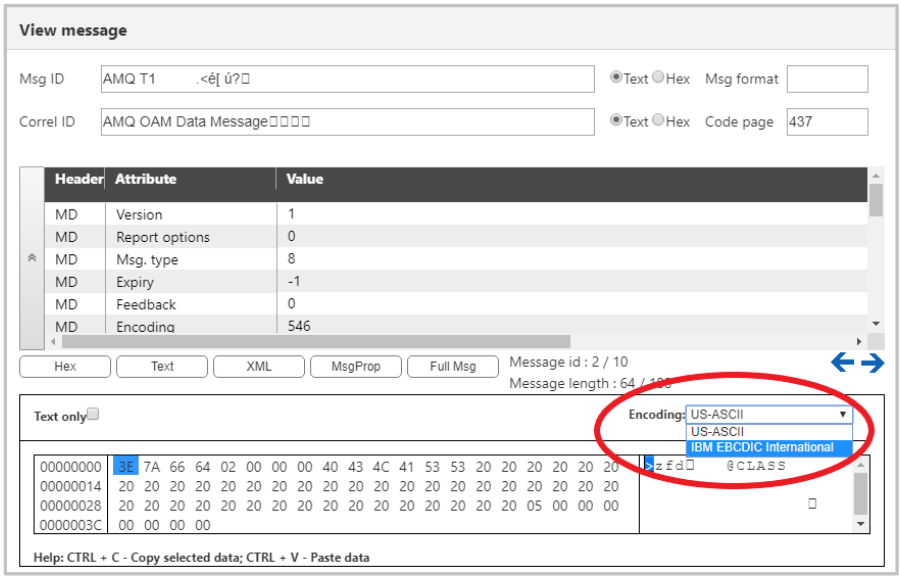


Figure 4.3.4.3-G. Message Encoding

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

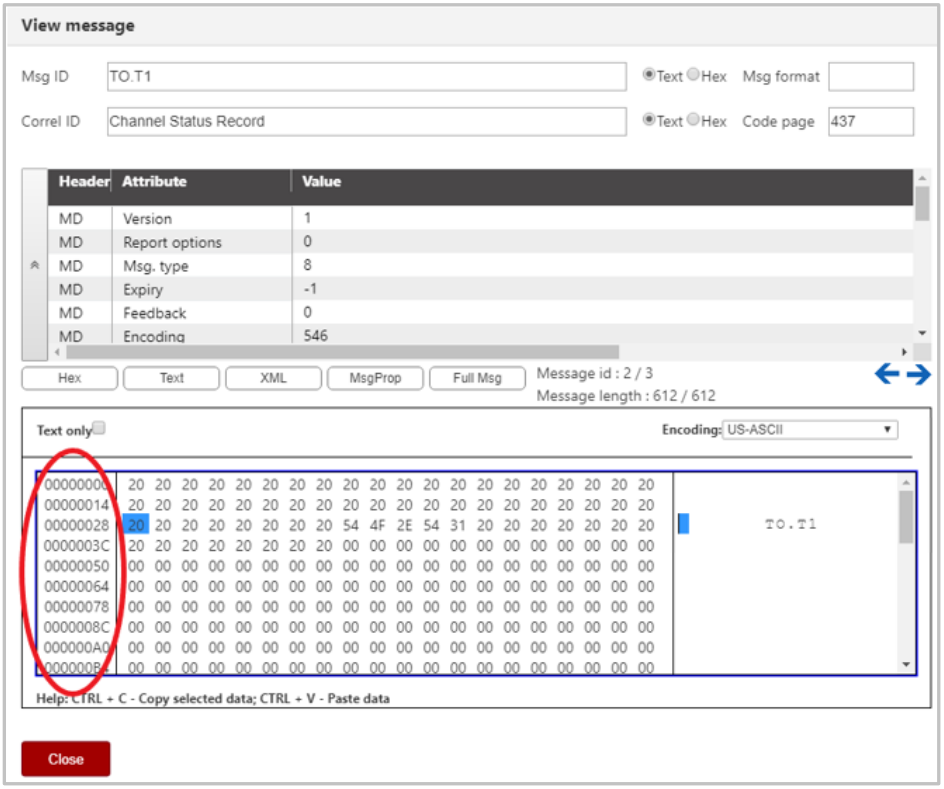


Figure 4.3.4.3-H. Address of First Byte

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

Message Viewlet Pop-up Menu

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

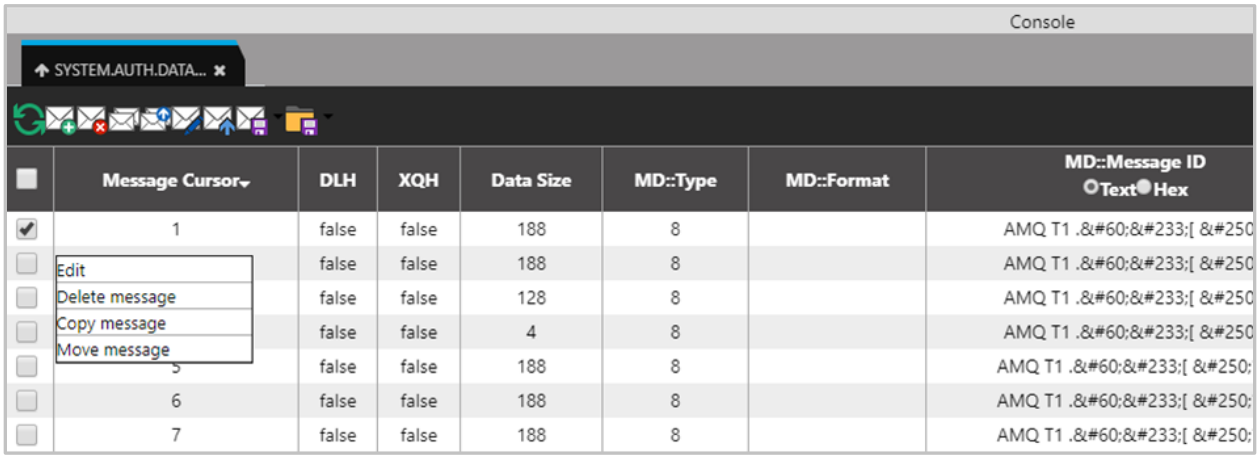


Figure 4.3.4.3-I. Message Viewlet Pop-Up Menu

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.

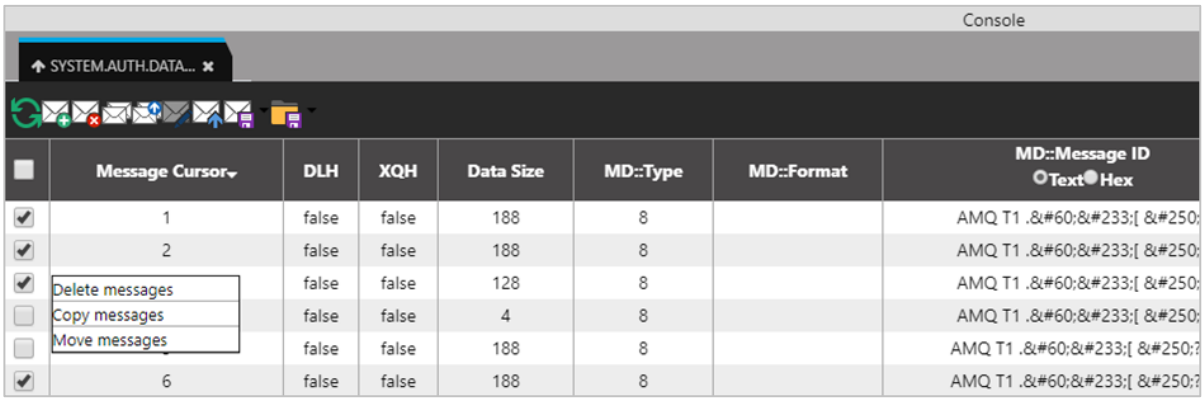


Figure 4.3.4.3-J. Multiple Messages Viewlet Pop-up Menu

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.

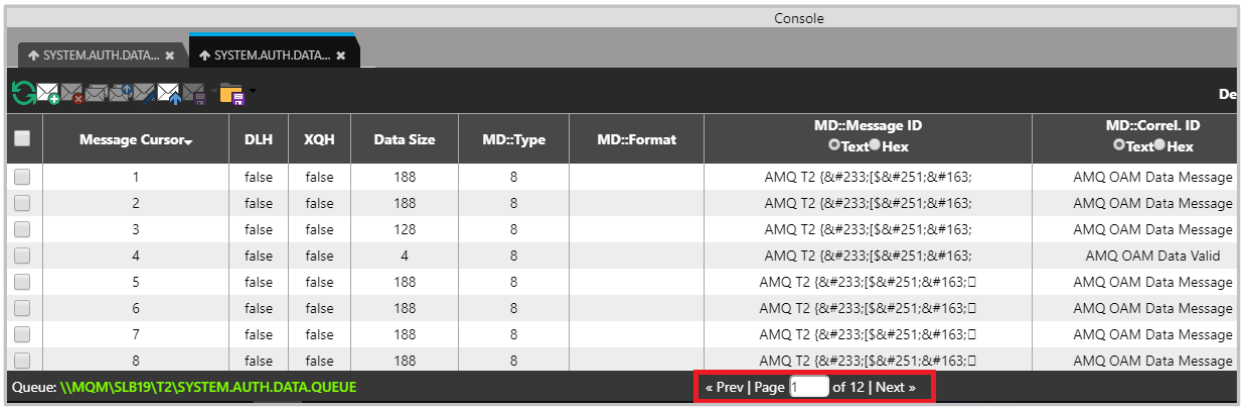


Figure 4.3.4.3-K. Load More Messages / Navigate to a Page

4.3.4.3.1 Put New

The *Put New* dialog box is displayed when the **Put New** icon is selected from the *Message* viewlet (*Figure 4.3.4.3-A*) or selected from the *Queue* viewlet's Messages 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.

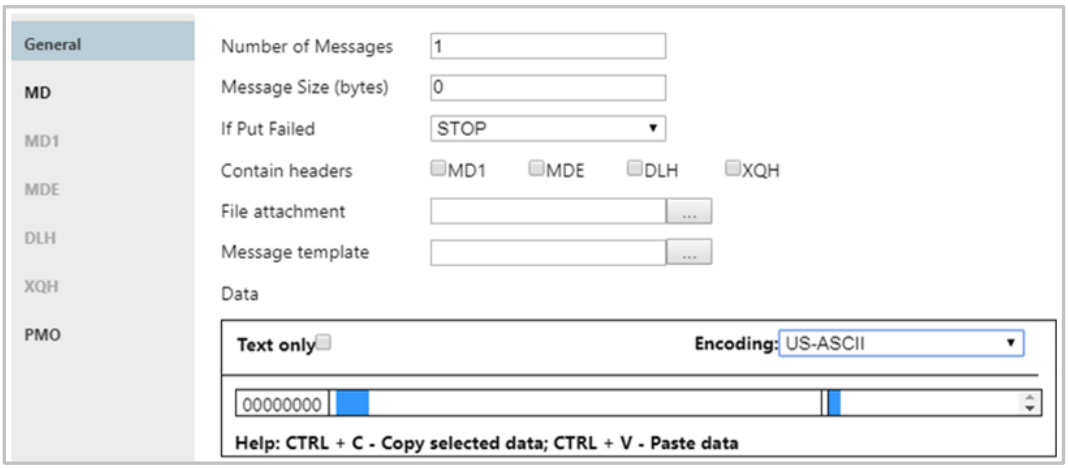


Figure 4.3.4.3.1-A. Put New Dialog Box

TIP	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.

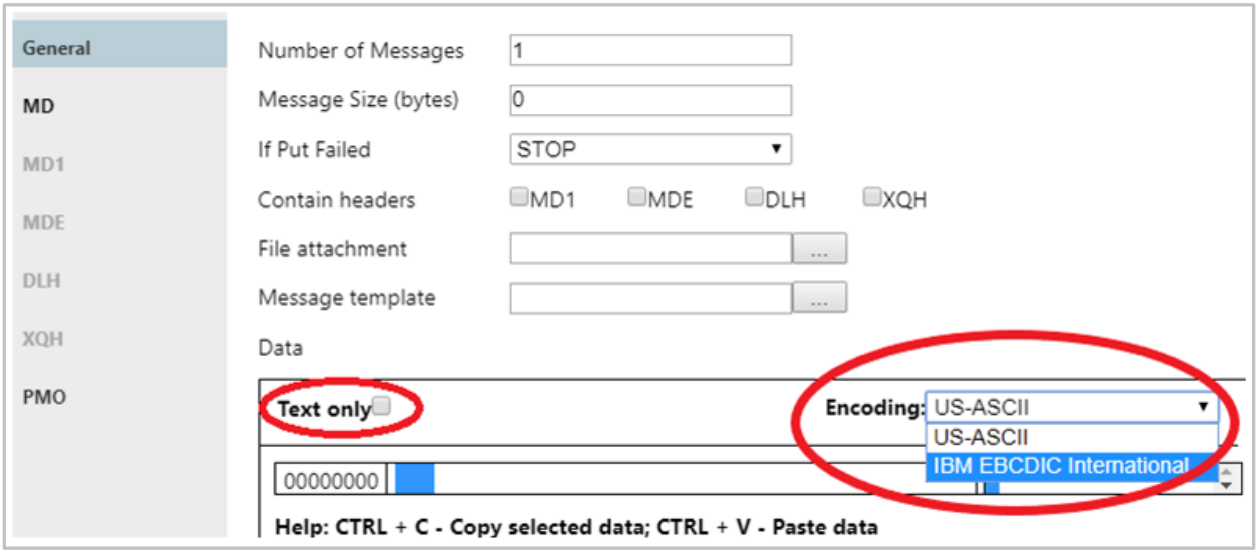


Figure 4.3.4.3.1-B. Put New Dialog Box – Encoding on General Tab

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 *Open File* 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)	
MD	Displays the *Message Descriptor Properties* dialog box (*Figure 4.3.4.3.1-C*) where the user can edit the MD	Enabled only if MD1 checkbox is *not* selected.

Table 4.3.4.3.1-A. Put New Message		
Control	**Description**	**States and Conditions**
	header of the message.	
MD1	Displays the *Message Descriptor Properties* dialog box (*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 *Message Descriptor Extension* dialog box (*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 *Dead Letter Queue Header* dialog box (*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 *Transmission Queue Header* dialog box (*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 *Message Put Options* dialog box (*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.

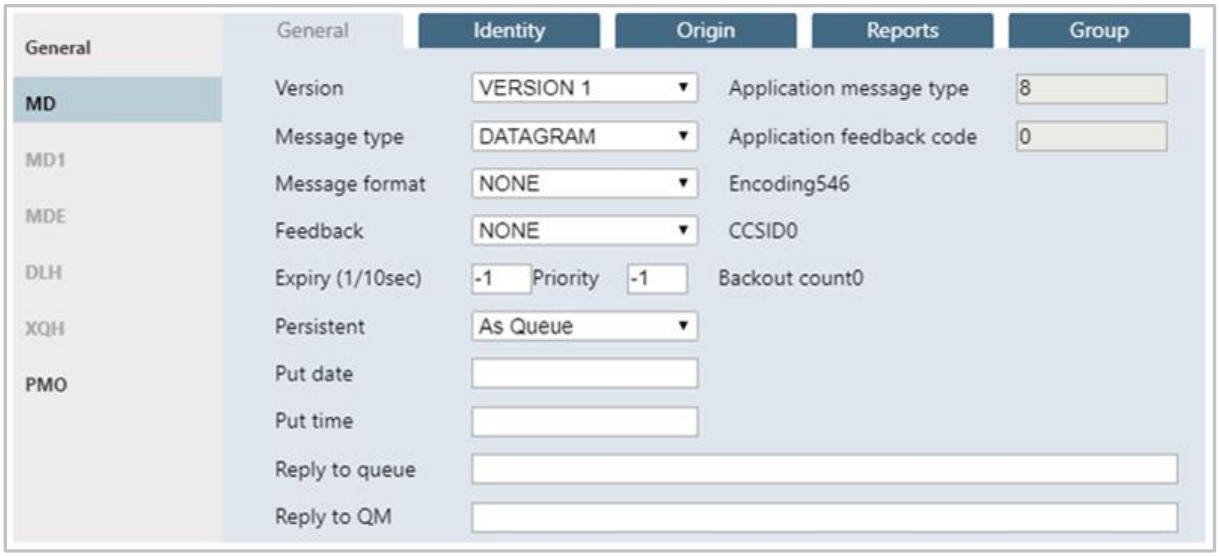


Figure 4.3.4.3.1-C. Message Descriptor Properties – General

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.

Table 4.3.4.3.1-B. Message Descriptor Properties – General		
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 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.

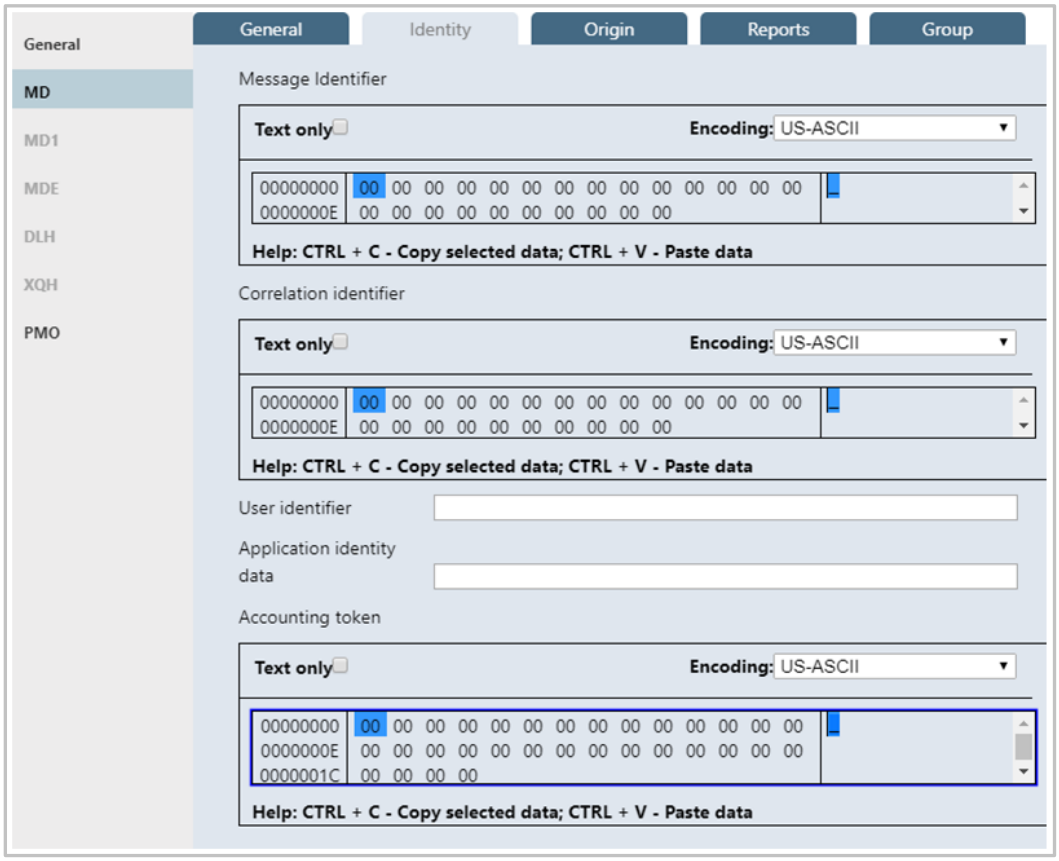


Figure 4.3.4.3.1-D. Message Descriptor Properties – Identity

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.	

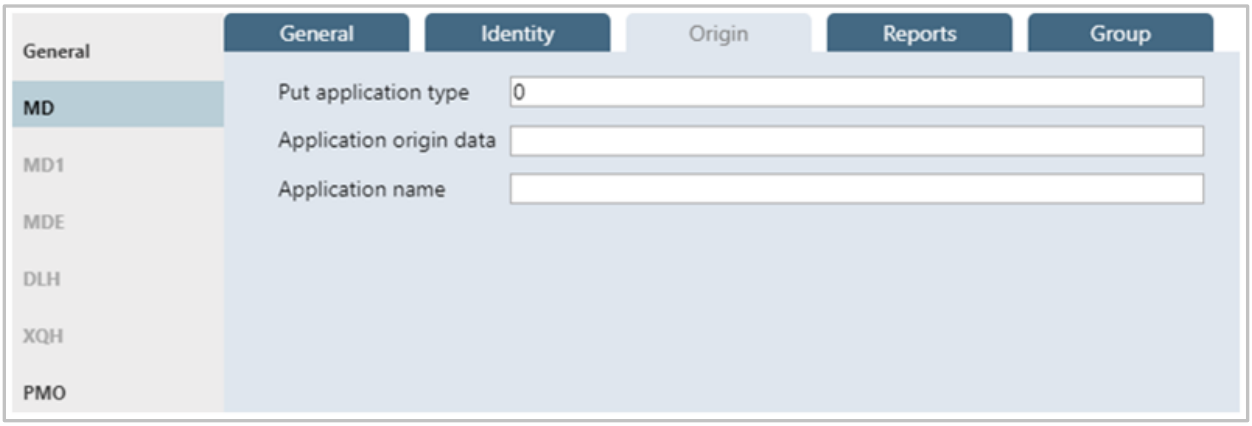


Figure 4.3.4.3.1-E. Message Descriptor Properties – Origin

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.	

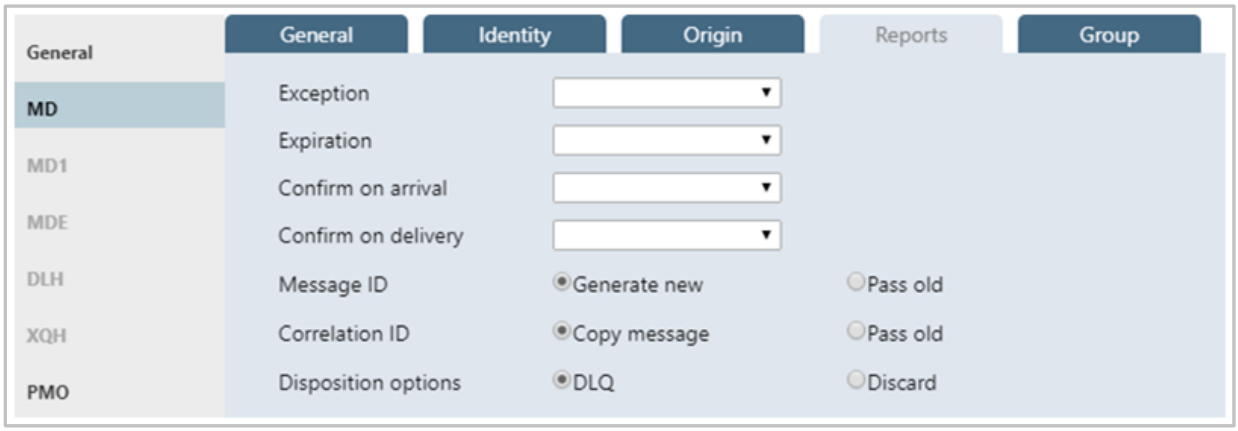


Figure 4.3.4.3.1-F. Message Descriptor Properties – Reports

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.
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.	

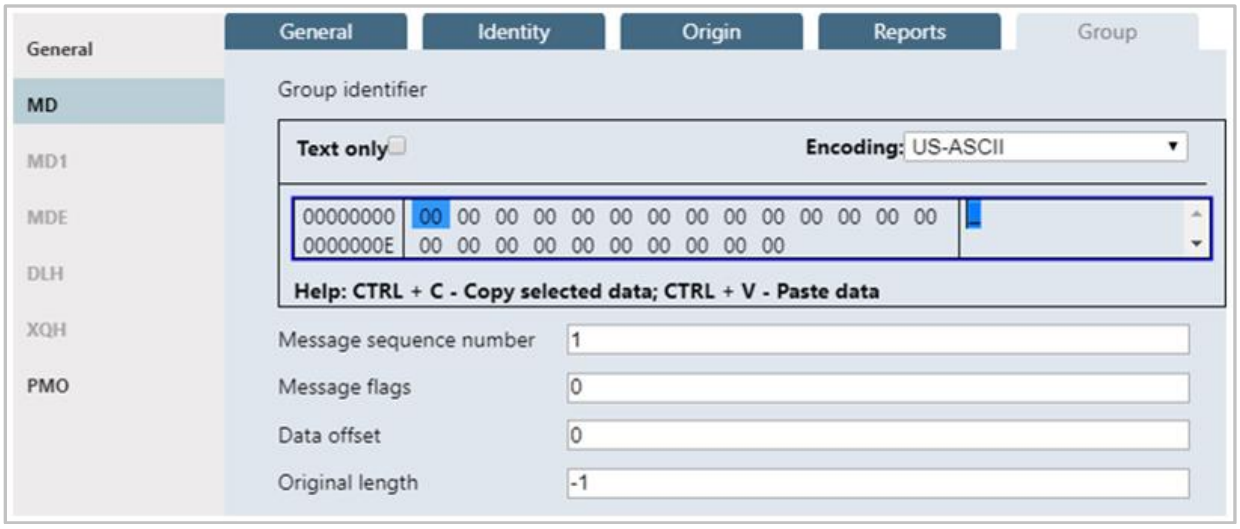


Figure 4.3.4.3.1-G. Message Descriptor Properties – Group

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

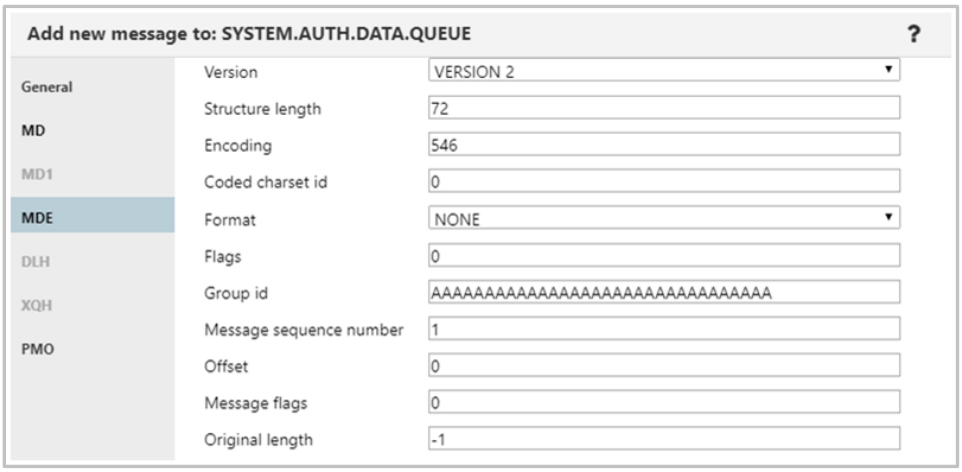


Figure 4.3.4.3.1-H. Message Descriptor Extension

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

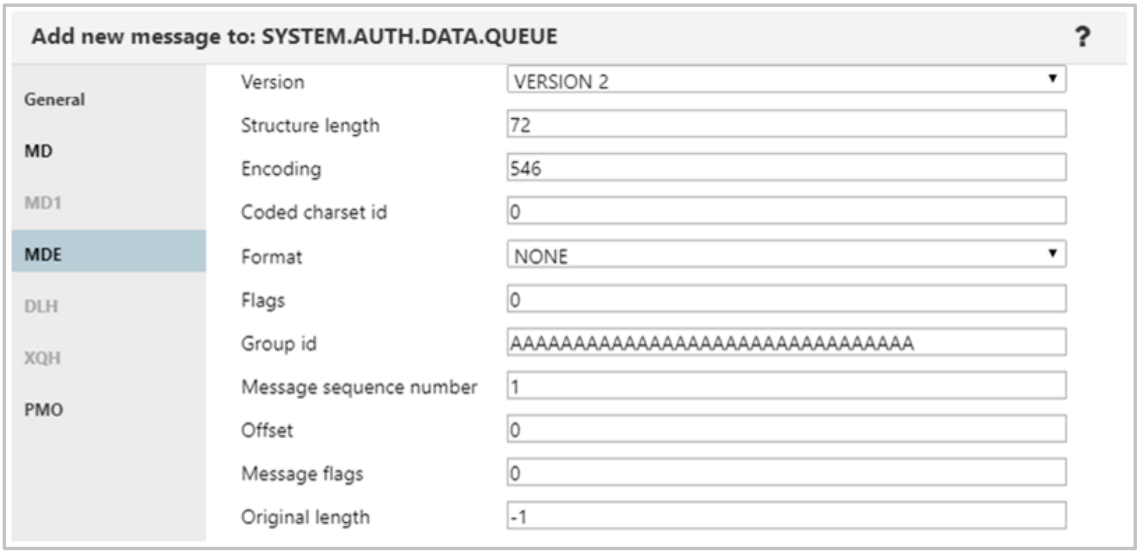


Figure 4.3.4.3.1-I. Dead Letter Queue Header

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

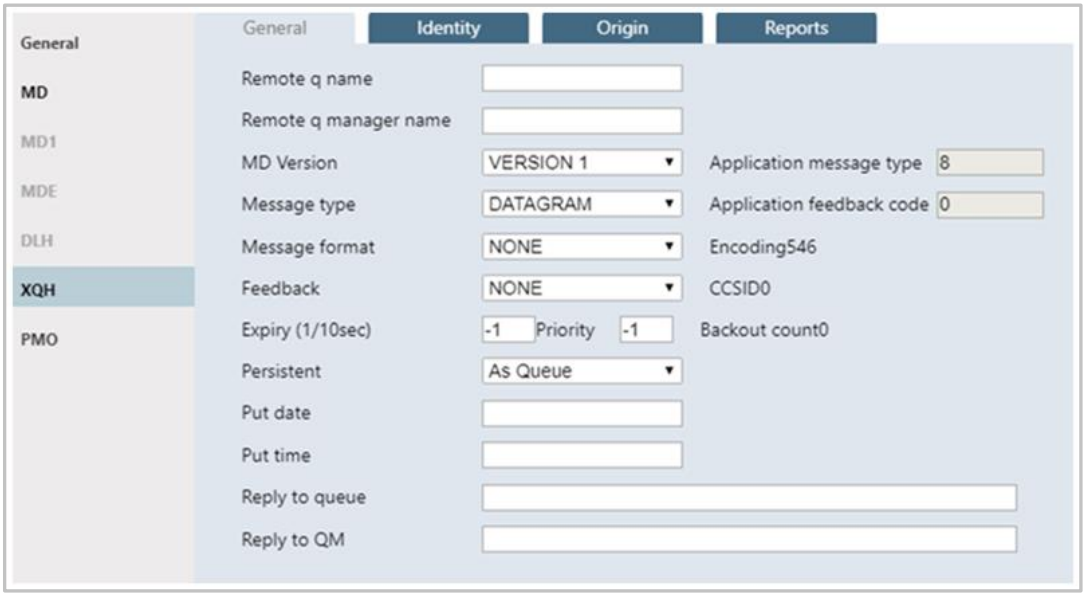


Figure 4.3.4.3.1-J. Transmission Queue Header – General

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.	
Reply to QM	Input name of the queue manager to which the reply or report message should be sent.	

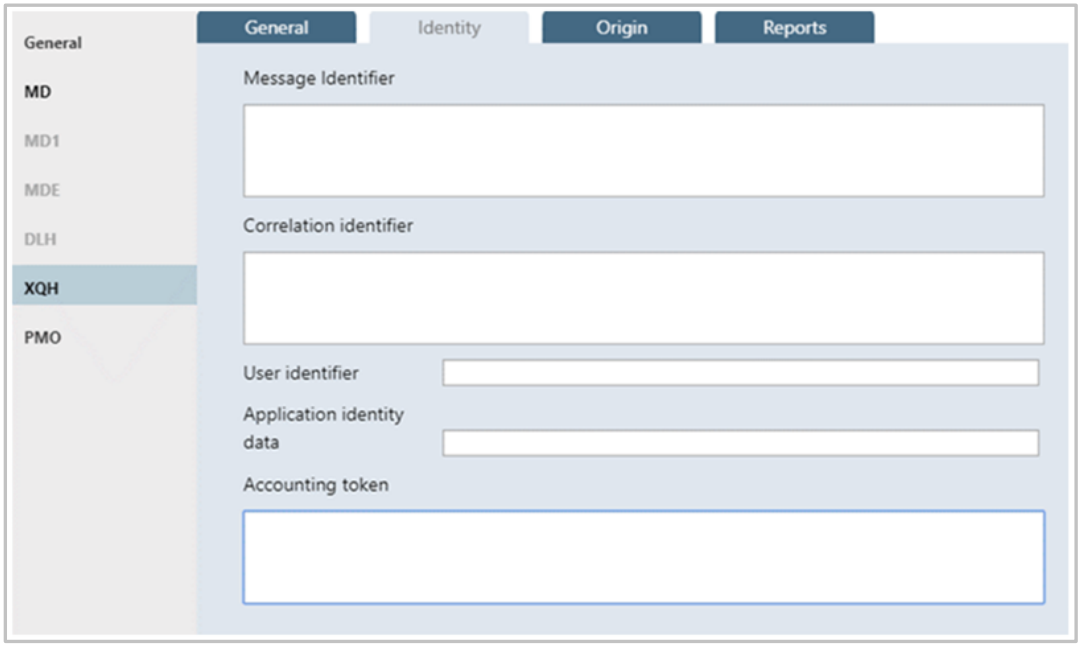


Figure 4.3.4.3.1-K. Transmission Queue Header – Identity

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.	

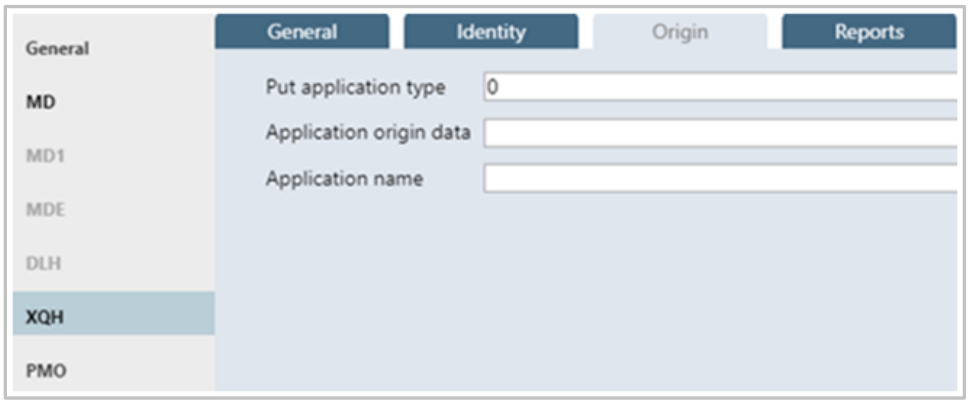


Figure 4.3.4.3.1-L. Transmission Queue Header – Origin

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.

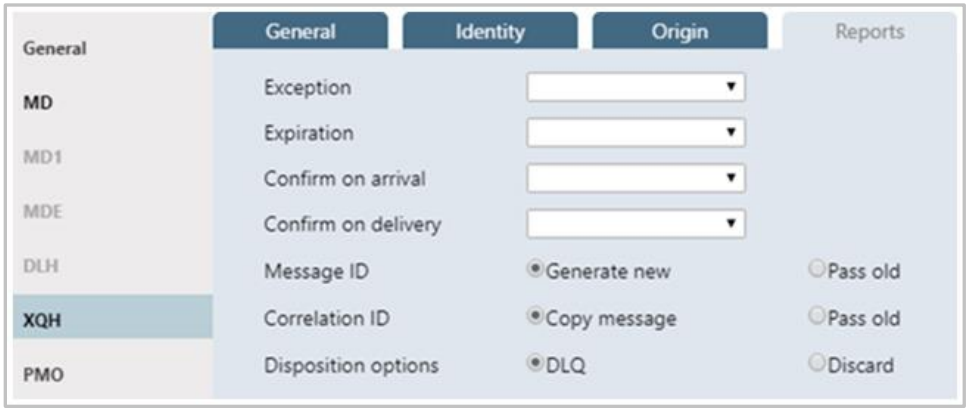


Figure 4.3.4.3.1-M. Transmission Queue Header – Reports

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

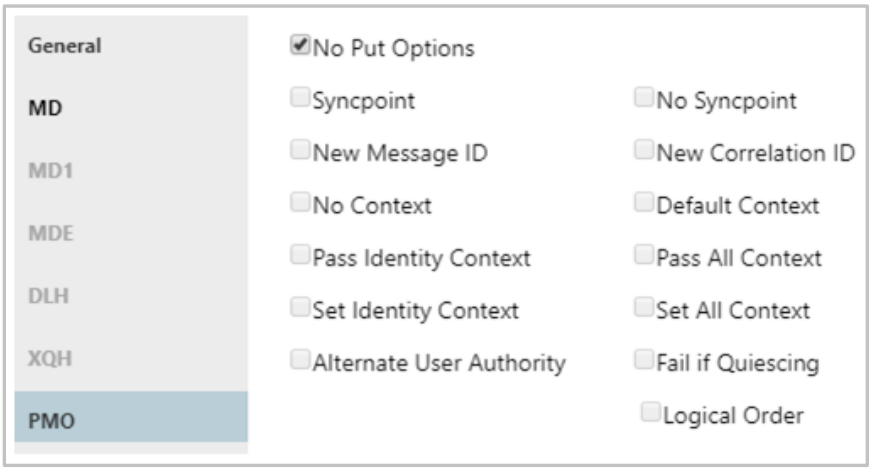


Figure 4.3.4.3.1-N. Message Put Options

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.	Enabled only when **No Put Options** is **NOT** selected.
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 *Message* viewlet (*Figure 4.3.4.3-A*), **Delete message(s)** is selected from the *Message* viewlet pop-up menu (*Figure 4.3.4.3-I* / *Figure 4.3.4.3-J*), or **Delete All** is selected from the *Queue vi*ewlet Messages menu options (*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.

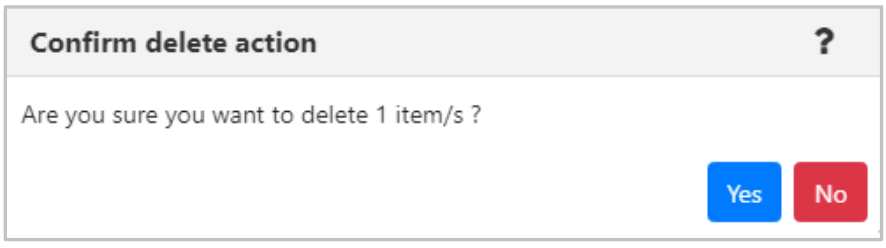


Figure 4.3.4.3.2-A. Delete Confirmation

4.3.4.3.3 Copy / Move

The *Copy messages* or *Move messages* dialog boxes are displayed when one or more messages are selected and the **Copy message/Move message** icons / are selected from the *Message* viewlet, (*Figure 4.3.4.3-A*), **Copy message(s)/Move message(s)** is selected from the *Message* viewlet pop-up menu

(*Figure 4.3.4.3-I* / *Figure 4.3.4.3-J*), or **Copy All**/**Move All** is selected from the *Queue* viewlet Messages menu options (*Figure 4.3.4-A*). Messages can be copied/moved into all queues available in the **Queue name** list.

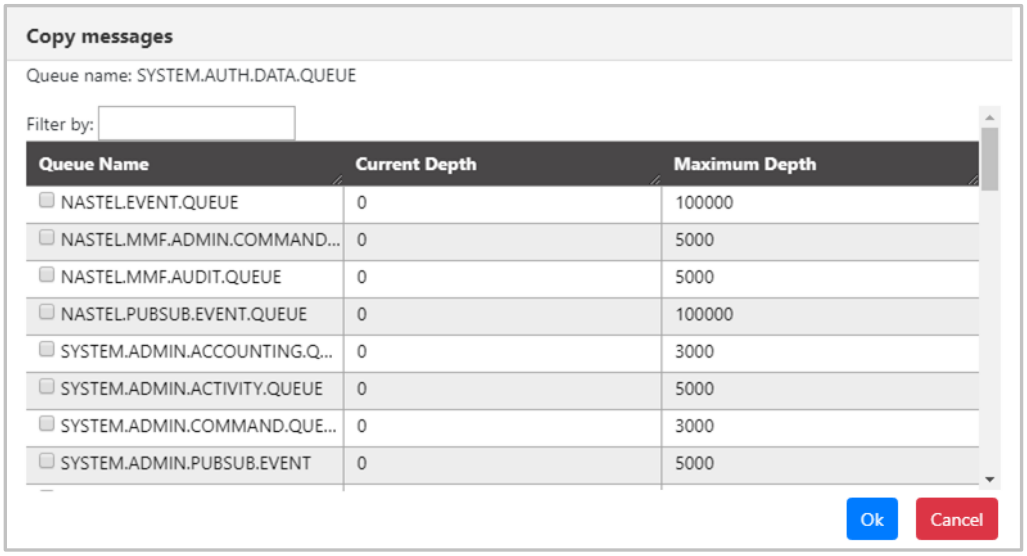


Figure 4.3.4.3.3-A. Copy Messages

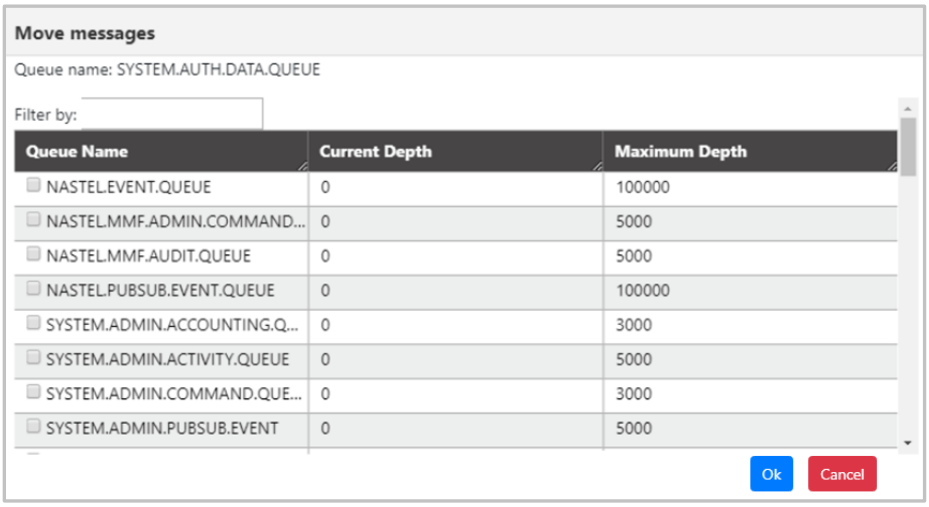


Figure 4.3.4.3.3-B. Move Messages

4.3.4.3.4 Edit

The *Edit message* dialog box is displayed when **Edit** is selected from the *Message* viewlet pop-up menu (*Figure 4.3.4.3-I*) 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 queue messages cannot be edited.

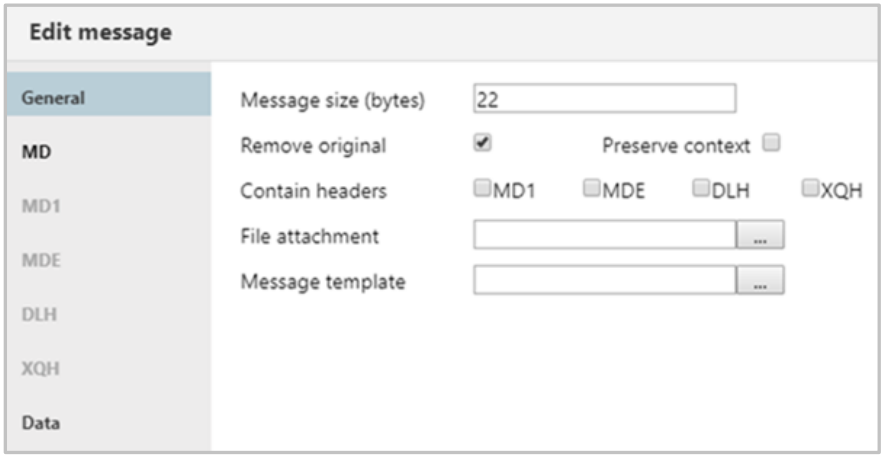


Figure 4.3.4.3.4-A. Edit Message

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 *Message Descriptor Properties* dialog box where user can view/edit MD header of message *(Figure 4.3.4.3.1-C)*.	Enabled only if MD1 checkbox is *not* selected.
MD1 button	Displays *Message Descriptor Properties* dialog box where user can view/edit MD1 header of message *(Figure 4.3.4.3.1-C)*.	Enabled only if MD1 checkbox is selected.
MDE button	Displays *Message Descriptor Extension* dialog box 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 *Dead Letter Queue Header* dialog box 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 *Transmission Queue Header* dialog box 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 *Message Data* dialog box where user can view/edit message data (*Figure 4.3.4.3.4-B*).	Always enabled.

The *Message Text Data* dialog box is displayed when the **Data** button is clicked on the *Edit Message* dialog box (*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.

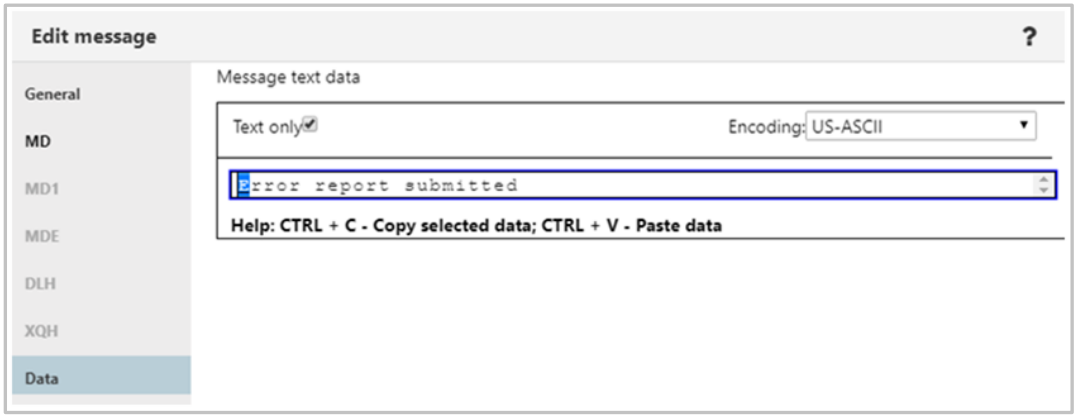


Figure 4.3.4.3.4-B. Message Text Data

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 dialog box (*Section 4.4.3.3*).

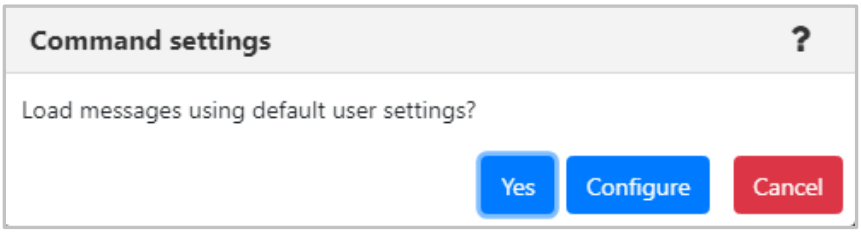


Figure 4.3.4.3.5-A. Load from File Command Settings

4.3.4.3.6 Export All Messages

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

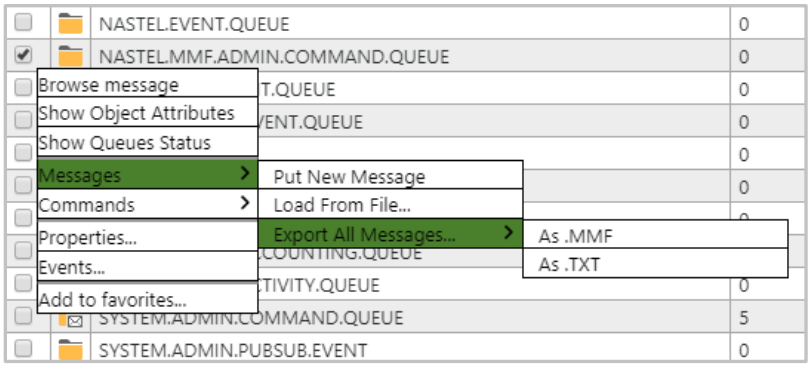


Figure 4.3.4.3.6-A. Export All Messages

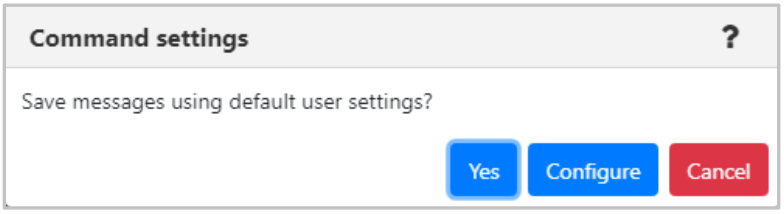


Figure 4.3.4.3.6-B. Export all Messages Command settings

4.3.4.4 Commands

The Commands menu is accessed from the *Queue* viewlet 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* viewlet **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.

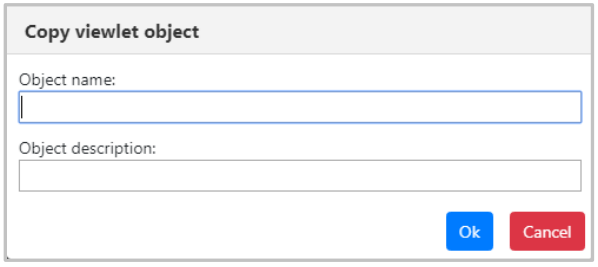


Figure 4.3.4.4-A. Copy Viewlet Object

Delete Queue

The **Delete Queue** option allows users to delete the queue. When selected from the *Queue* viewlet **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.

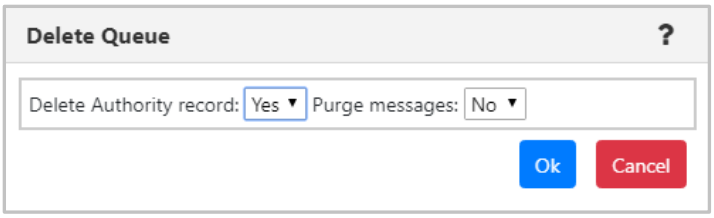


Figure 4.3.4.4-B. Delete Queue

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.

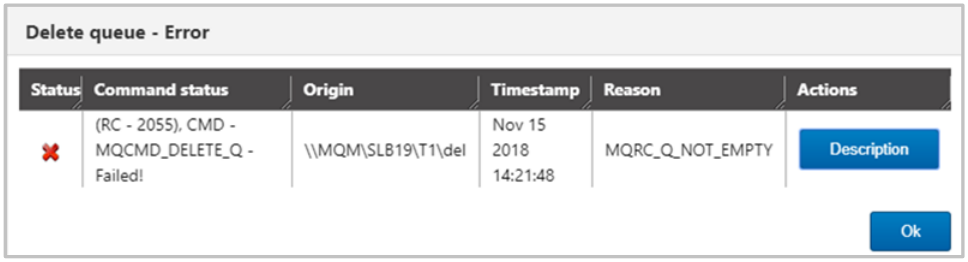


Figure 4.3.4.4-C. Delete Queue – Error

4.3.5 Channels

A *Channels* 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 *Table 4.3.5-A* for more information. 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*).

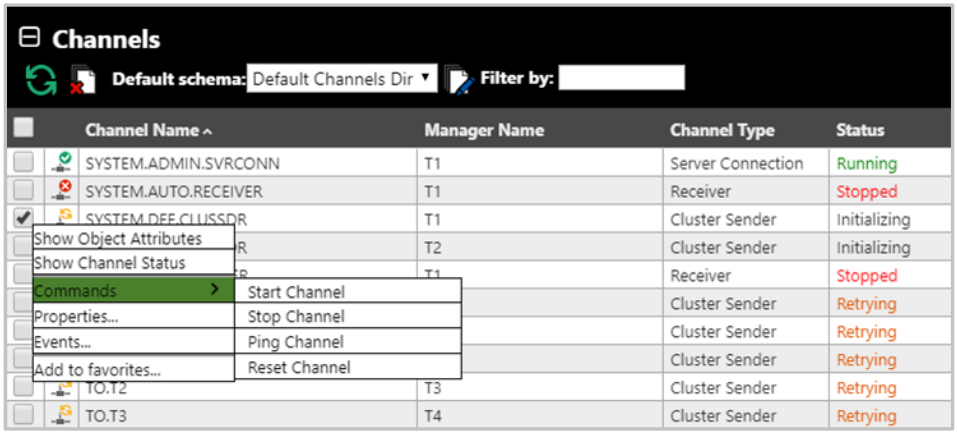


Figure 4.3.5-A. Channel Pop-up Menu

Table 4.3.5-A. Channel Viewlet Pop-up Menu

Option	Description
Show Object Attributes	Displays the selected channel's *Attribute* viewlet (*Section 4.3.5.1*).
Show Channel Status	Displays the selected channel's *Status* viewlet (*Section 4.3.5.2*).
Commands	Gives the option to Start, Stop, Ping, or Reset the selected channel (*Section 4.3.5.3*).
Properties	Displays the selected channel's *Properties* dialog box (*Section 4.3.5.4*).
Events	Displays the selected channel's Events viewlet (*Section 4.3.5.5*).
Add to favorites	Allows you to create a shortcut for the channel on a *Favorites* viewlet (*Section 4.3.5.6*).

4.3.5.1 Channel Attributes

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

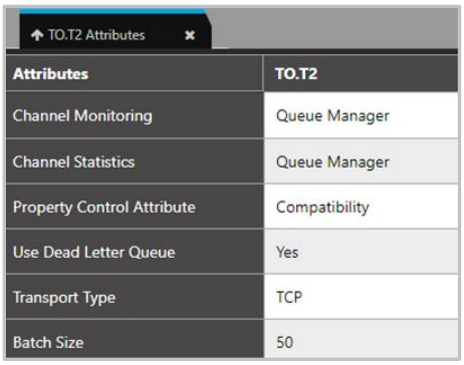


Figure 4.3.5.1-A. Channel Attributes

4.3.5.2 Channel Status

Selecting **Show Channel Status** from the *Channels* viewlet 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 to customize the columns displayed in this viewlet.

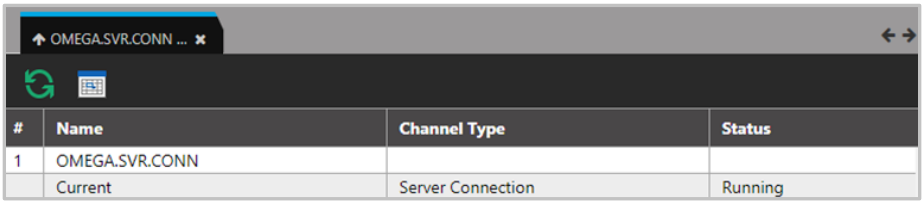


Figure 4.3.5.2-A. Channel Status

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 *Channels* viewlet pop-up menu (*Figure 4.3.5-A*) gives the option to start, stop, ping, or reset channels. These options can differ depending on the channel type.

Start Channel

After selecting **Start Channel**, the Start *Channel dialog* 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.

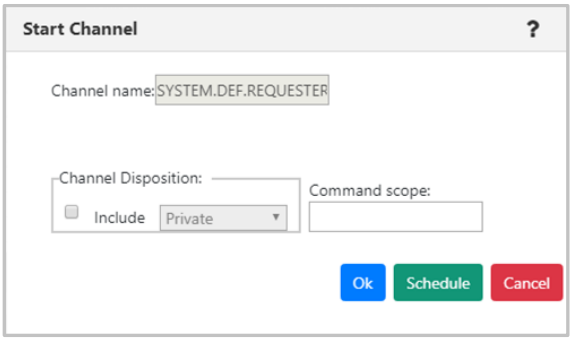


Figure 4.3.5.3-A. Start Channel Dialog Window

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.

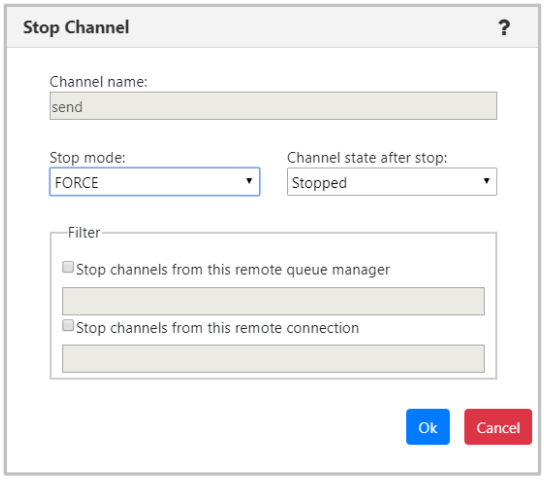


Figure 4.3.5.3-B. Stop Channel

Ping Channel

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

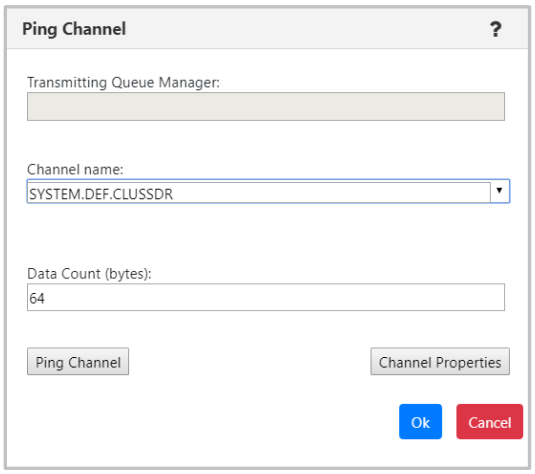


Figure 4.3.5.3-C. Ping Channel

Reset Channel

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

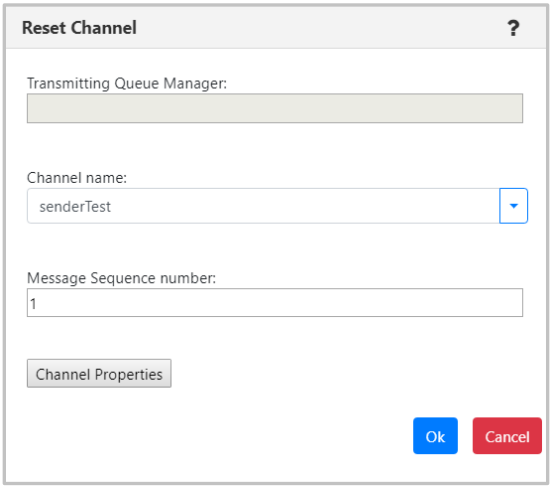


Figure 4.3.5.3-D. Reset Channel

4.3.5.4 Channel Properties

Clicking **Properties** from the *Channels* viewlet pop-up menu (*Figure 4.3.5-A*) will open the channel's *Properties* dialog box.

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

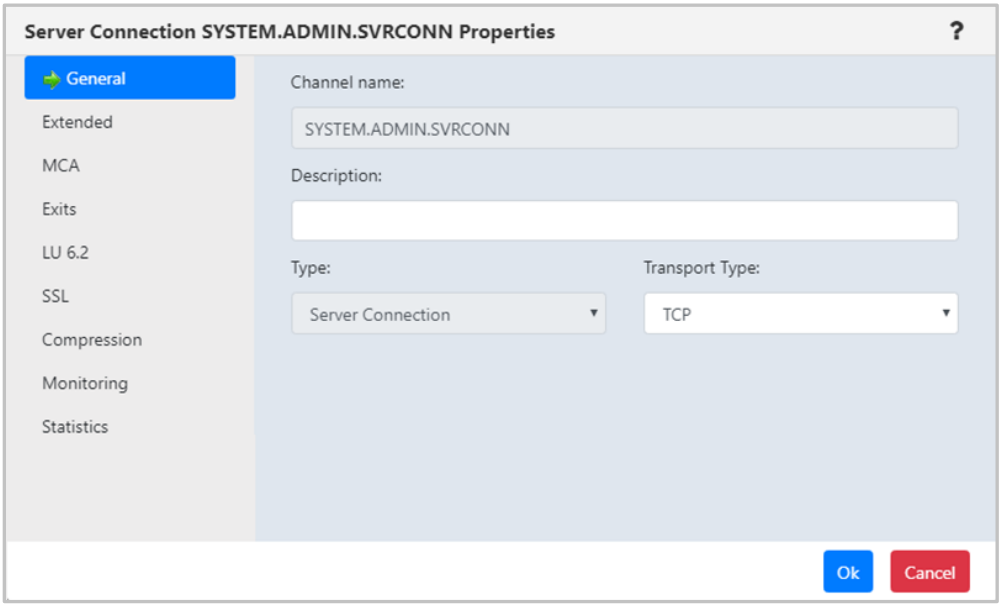


Figure 4.3.5.4-A. Channel Properties

4.3.5.5 Channel Events

Clicking **Events** from a *Channels* viewlet pop-up menu (*Figure 4.3.5-A*) will display the *Events* viewlet of the channel.

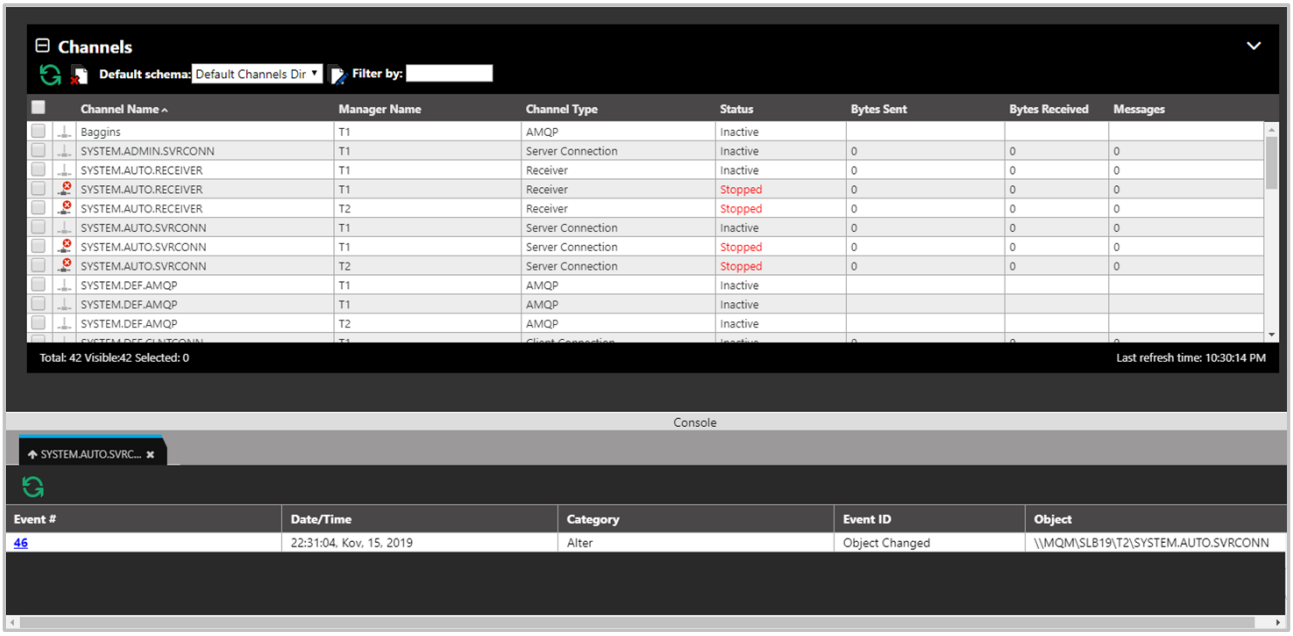


Figure 4.3.5.5-A. Channel Events Viewlet

Clicking a blue event number will open the *Event details* dialog box 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*).

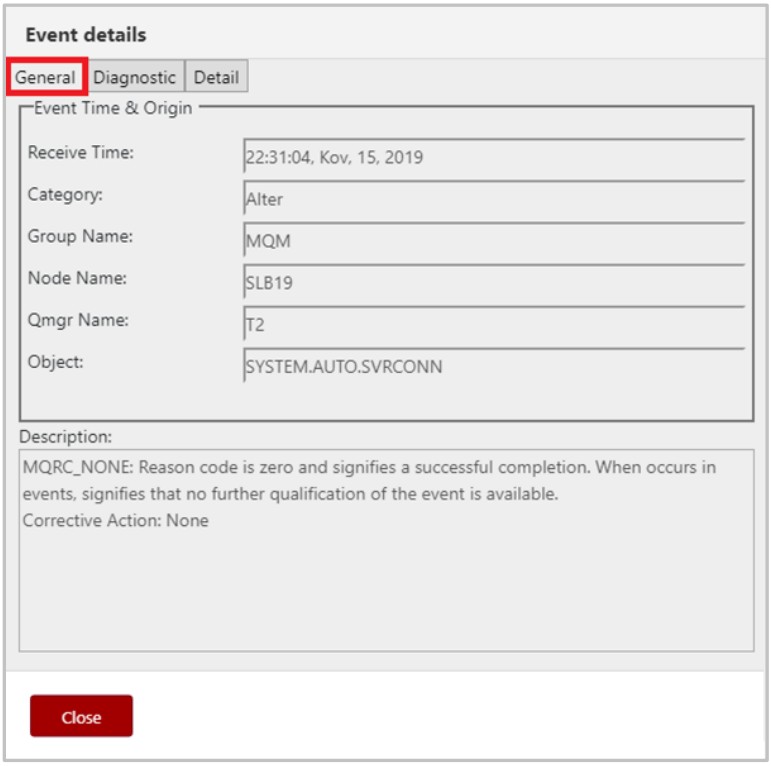


Figure 4.3.5.5-B. Event Details – General Tab

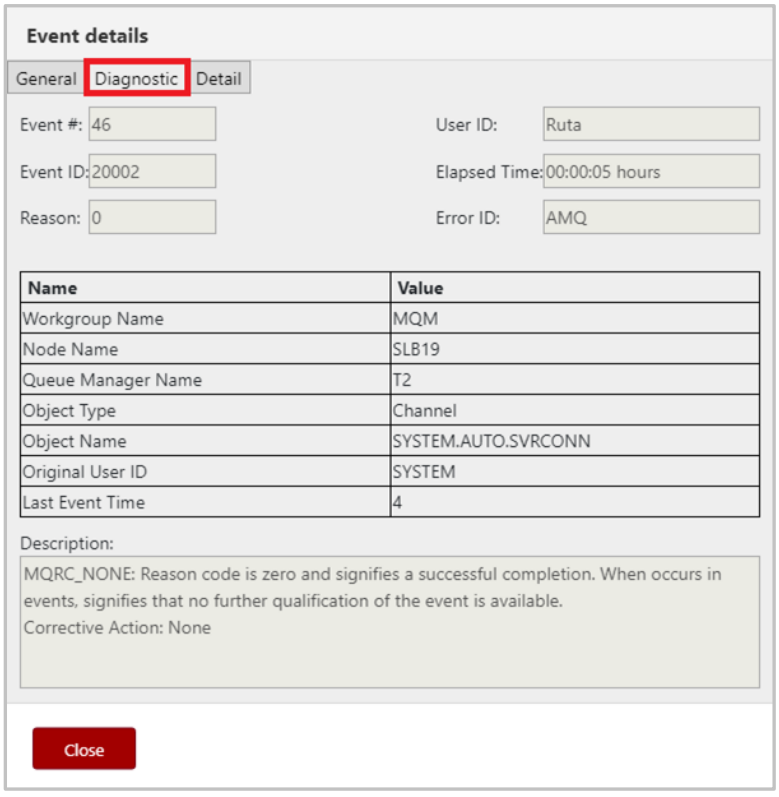


Figure 4.3.5.5-C. Event Details – Diagnostic Tab

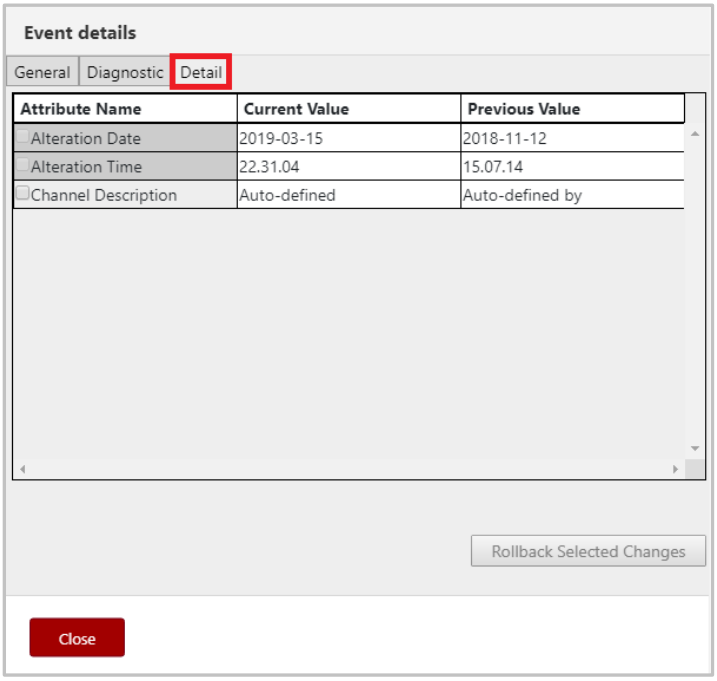


Figure 4.3.5.5-D. Event Details – Detail Tab

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.

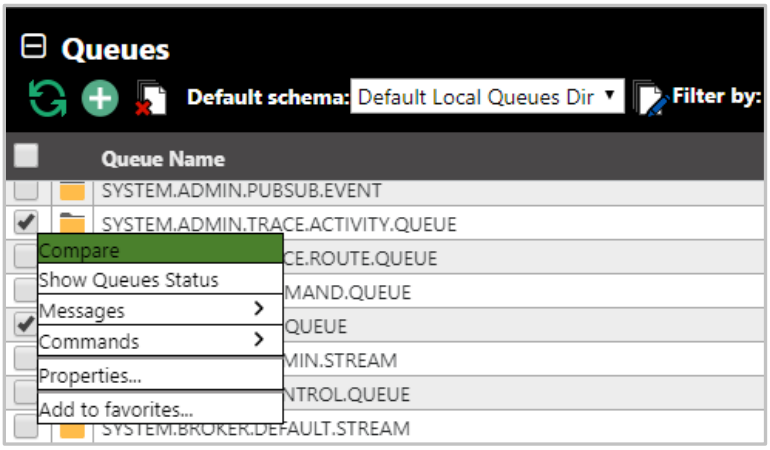
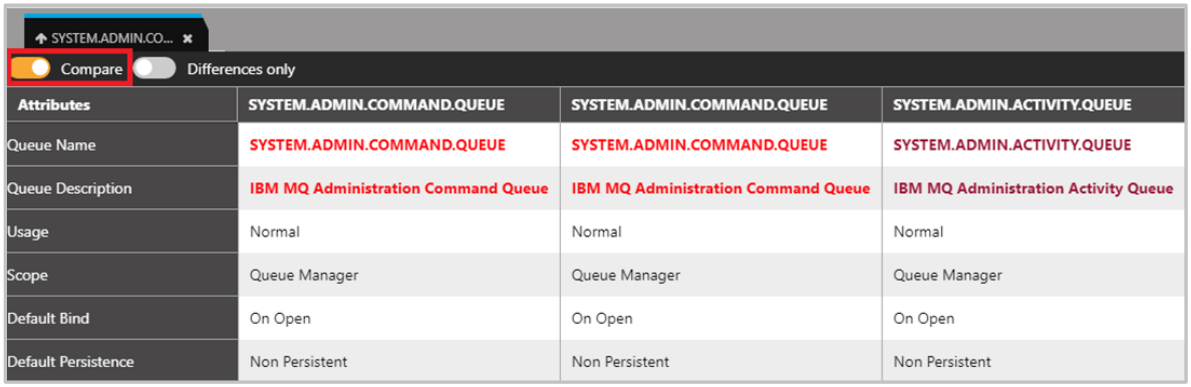


Figure 4.3.6-A. Compare Option

NOTE	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.

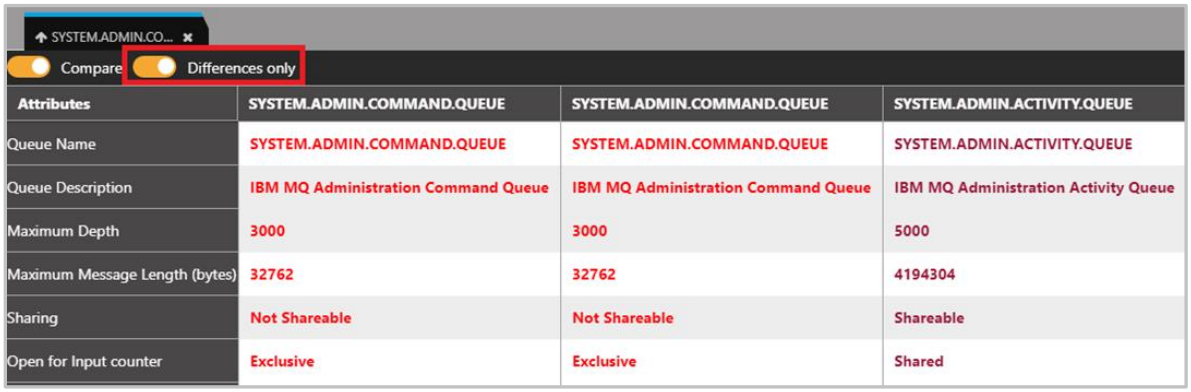
Within the comparison table, matching values will appear in the same color. This feature is controlled by the **Compare** option (*Figure 4.3.6-B*).



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
Default Persistence	Non Persistent	Non Persistent	Non Persistent

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
Open for Input counter	Exclusive	Exclusive	Shared

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 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.

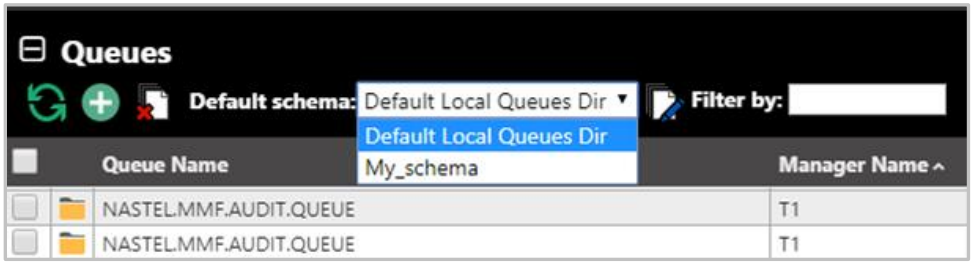


Figure 4.3.7.1-A. Default Schema

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

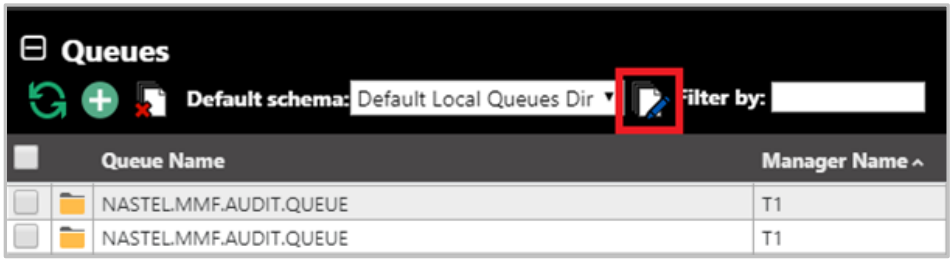


Figure 4.3.7.1-B. Manage Viewlet Schemas Button

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

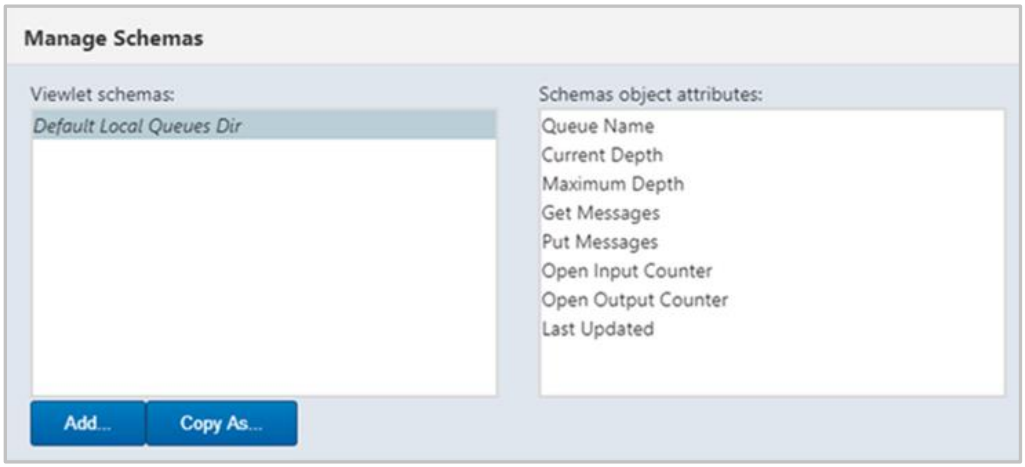


Figure 4.3.7.1-C. Manage Schemas – Adding a New Schema

The *Edit Schema* dialog box opens.

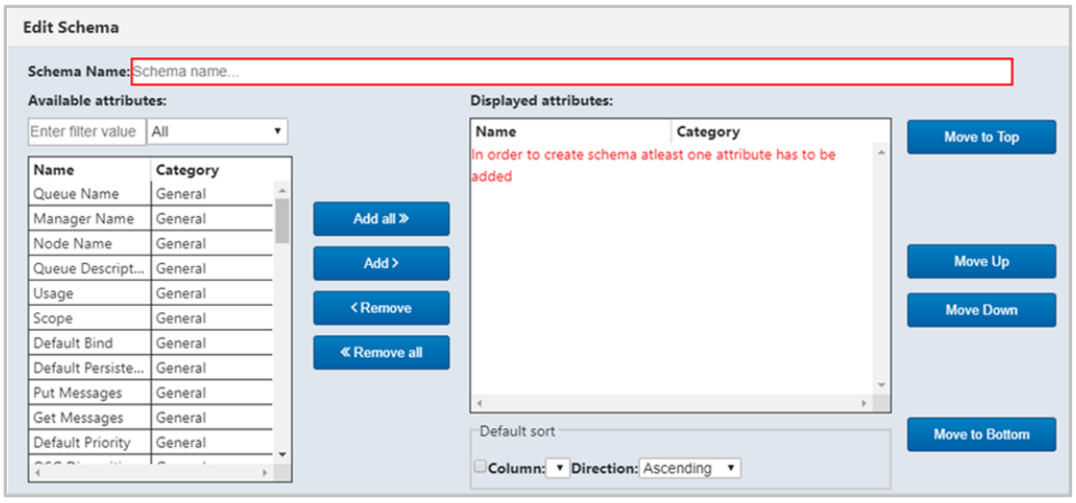


Figure 4.3.7.1-D. Edit Schema

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.

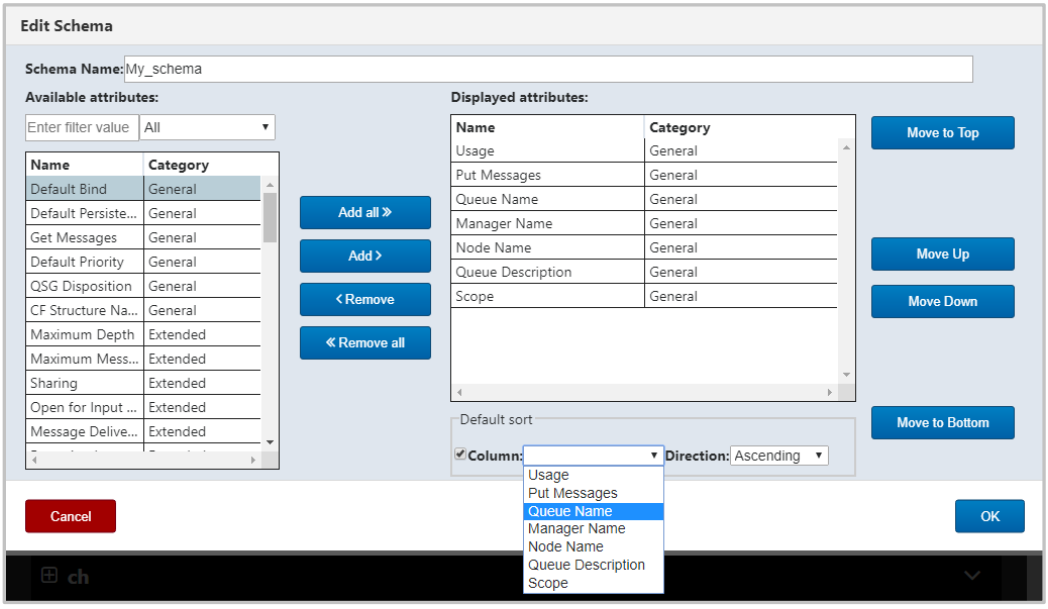


Figure 4.3.7.1-E. Edit Schema – Adding Attributes

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

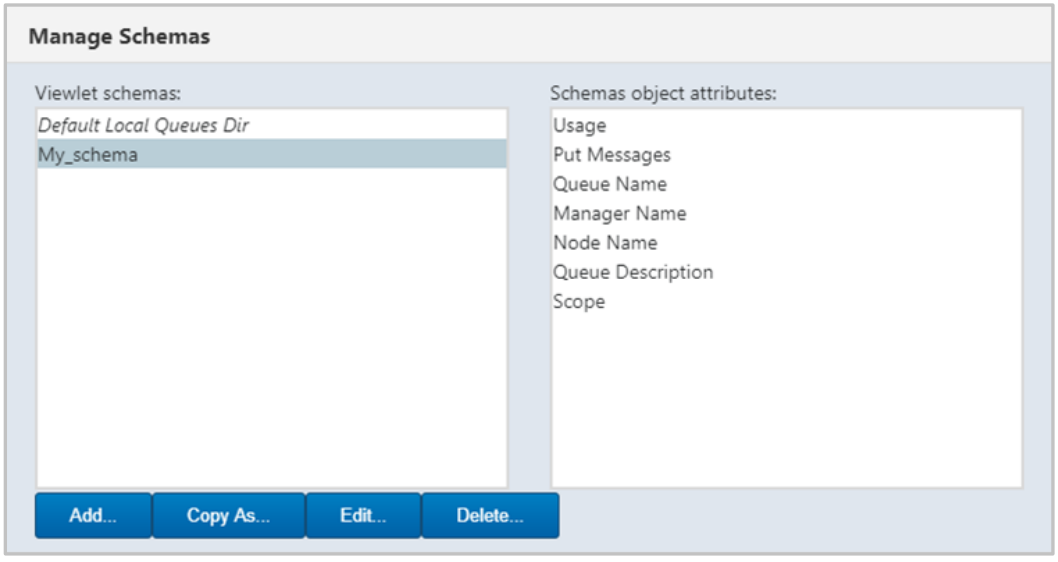


Figure 4.3.7.1-F. Manage Schemas

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

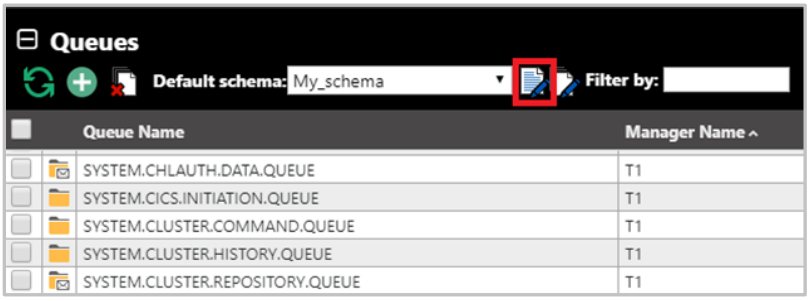


Figure 4.3.7.1-G. Edit Schema Button

To customize message viewlets, create a new schema or apply an existing one by clicking the **Create** or **Edit Schema** button as described above.

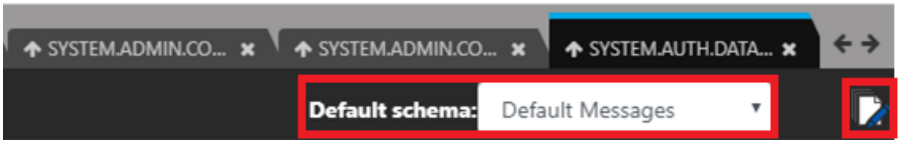


Figure 4.3.7.1-H. Schemas for Messages Viewlet

When you click the **Create 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.

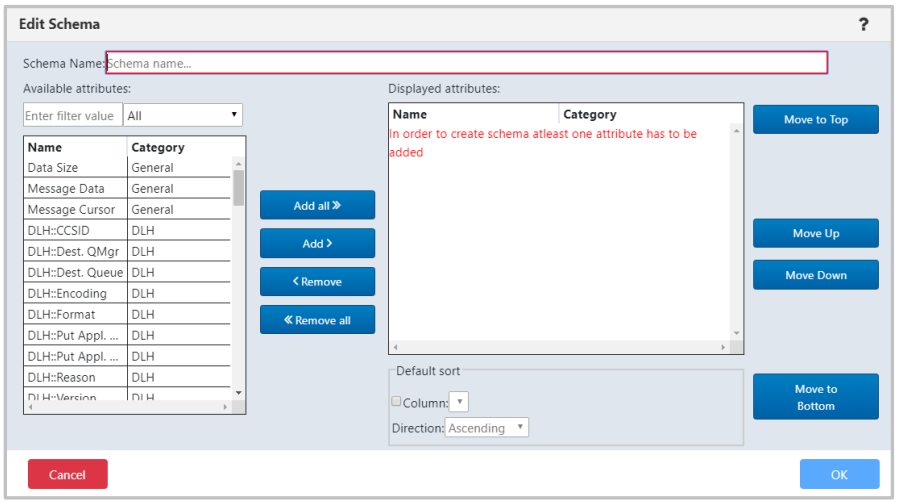


Figure 4.3.7.1-I. Edit Schema

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 (ˇ). To go back to the viewlet's default sorting, click the **Default table sorting** button .

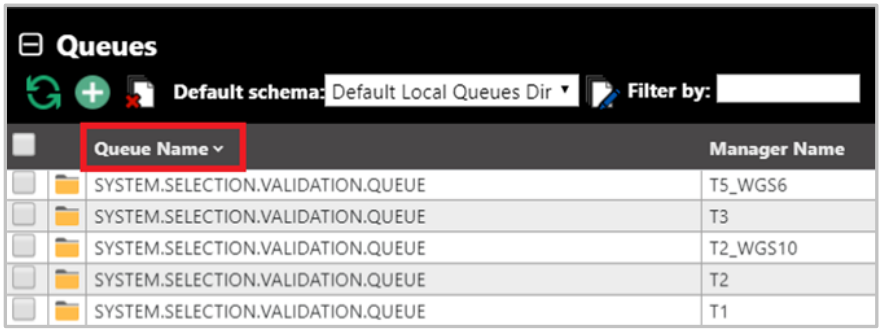


Figure 4.3.7.2-A. Column Sorting

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.

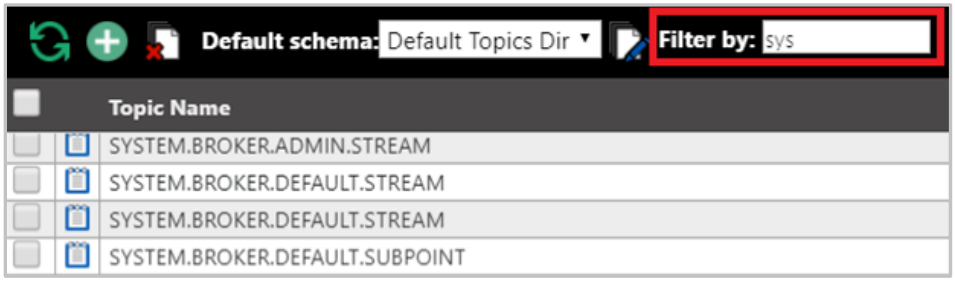


Figure 4.3.7.3-A. Filter By

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.

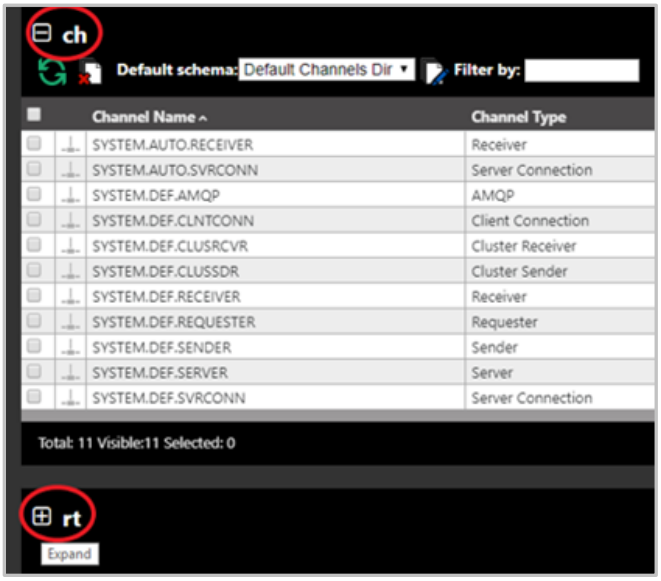


Figure 4.3.7.4-A. Collapse / Expand Viewlets

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-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.

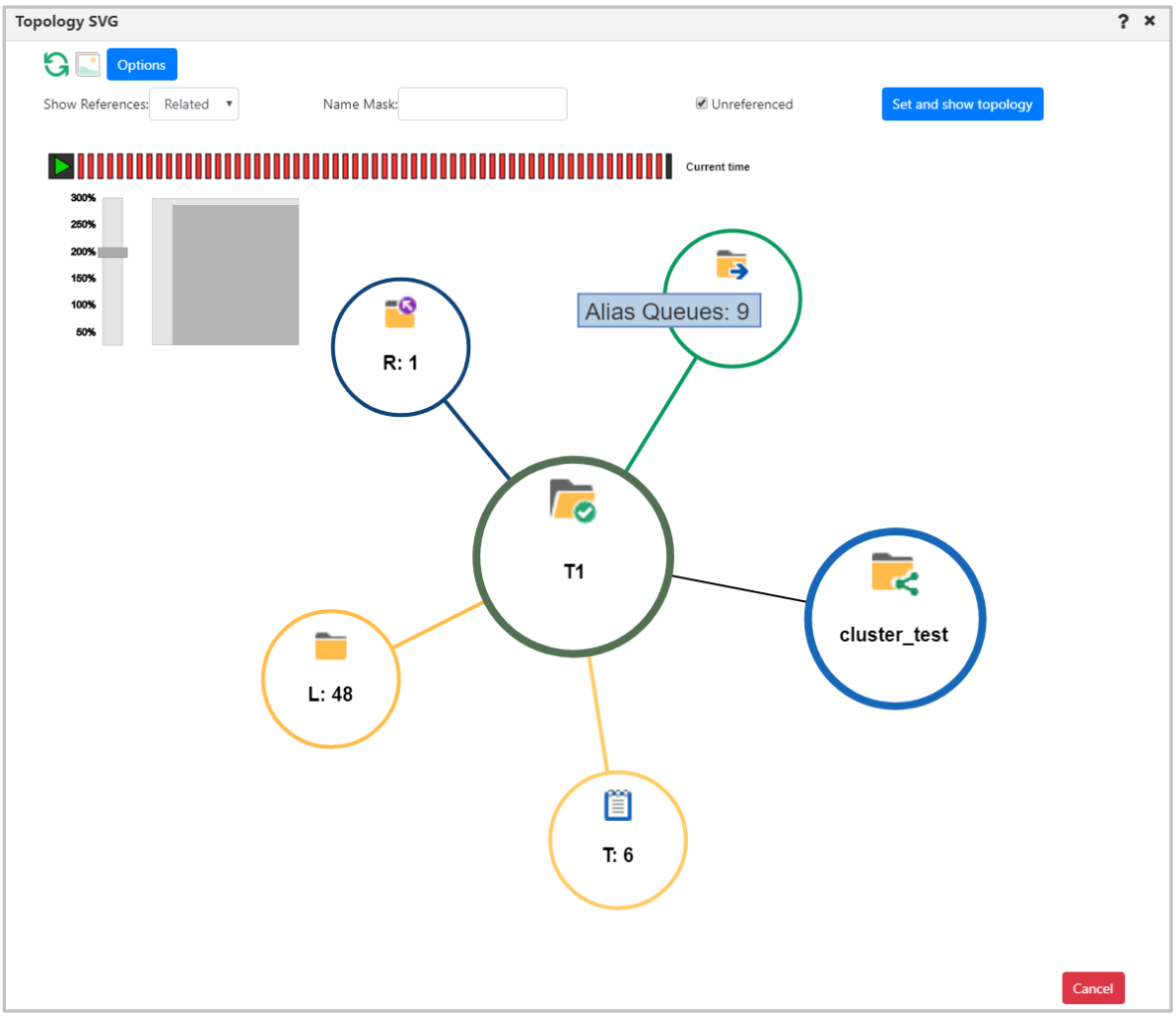


Figure 4.3.8-A. Topology

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.

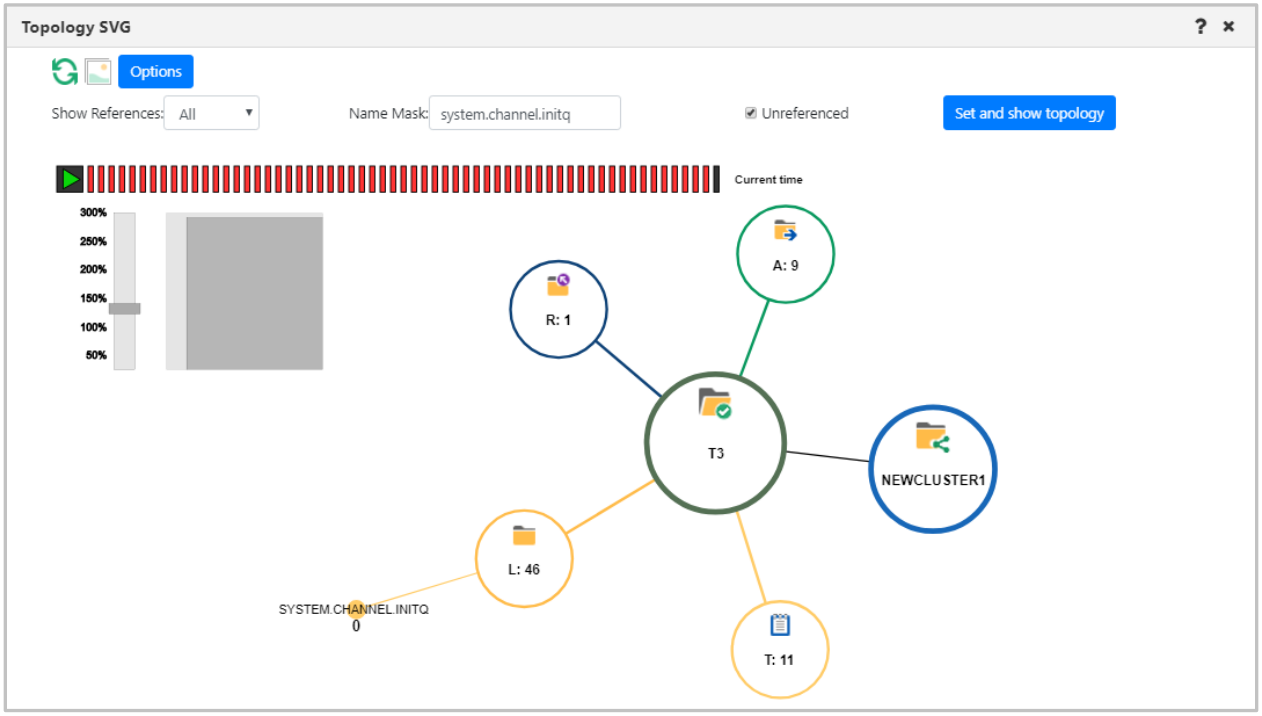


Figure 4.3.8.1-A. Customized Topology

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.

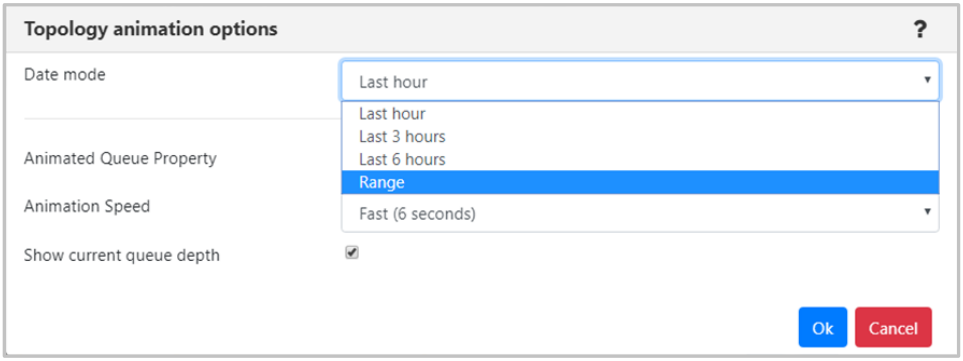


Figure 4.3.8.1.1-B. Topology Animation Options

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.

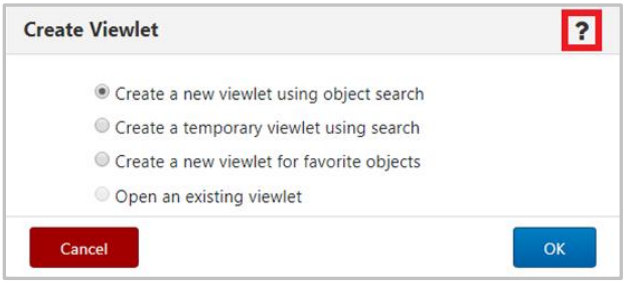


Figure 4.3.9-A. Help Option

You can also reach the online help documentation by selecting the **Help** button from the toolbar. See the section below for more information.

4.4 Toolbar Options

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

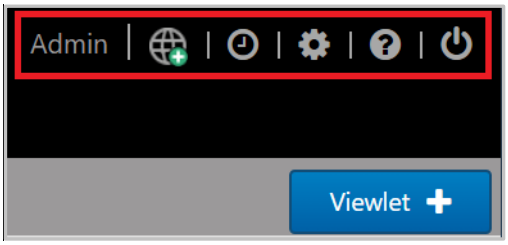


Figure 4.4-A. Toolbar Options

Table 4.4-A. Toolbar Options

Icon	Name	Description
Admin	**User Name**	Displays the user's name.
	Connect	Displays the *Renew token* dialog box.
	Schedules	Opens the *Schedules* dialog box. A list of scheduled commands and their statuses are displayed. (*Section 4.4.2*).
	Settings	Displays the **Settings window** dialog box. See *User Settings* 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

After clicking the **Connect** icon from the top right of the screen (*Figure 4.4-A*), the *Renew token* dialog box opens. Use this screen 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**.

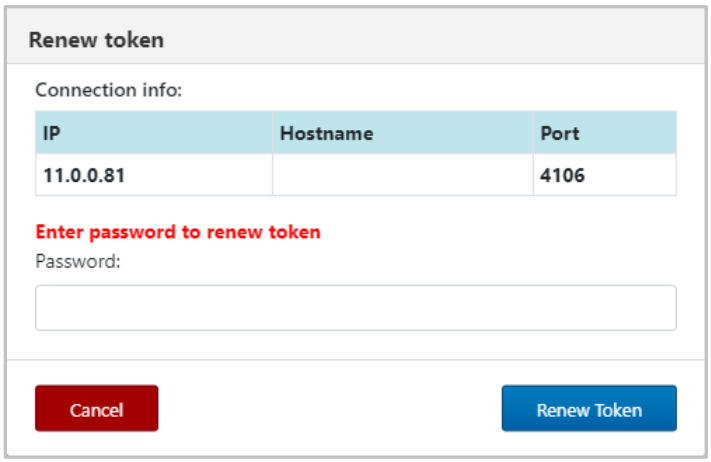


Figure 4.4.1-A. Renew Token

4.4.2 Schedules

After clicking the Schedules icon from the top of the screen (*Figure 4.4-A*), the *Schedules* dialog box 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 dialog box 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*.

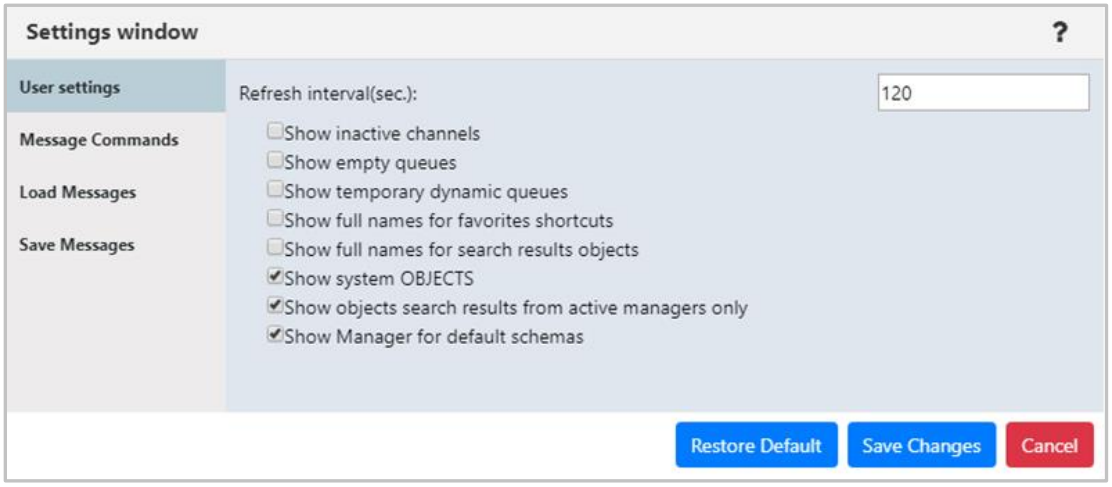


Figure 4.4.3.1-A. User Settings

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 active queue managers only	Select to only search active queue managers. If off, all objects are shown even from queue managers that are not currently active (will produce

Table 4.4.3.1-A. User Settings	
Name	**Description**
	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*.

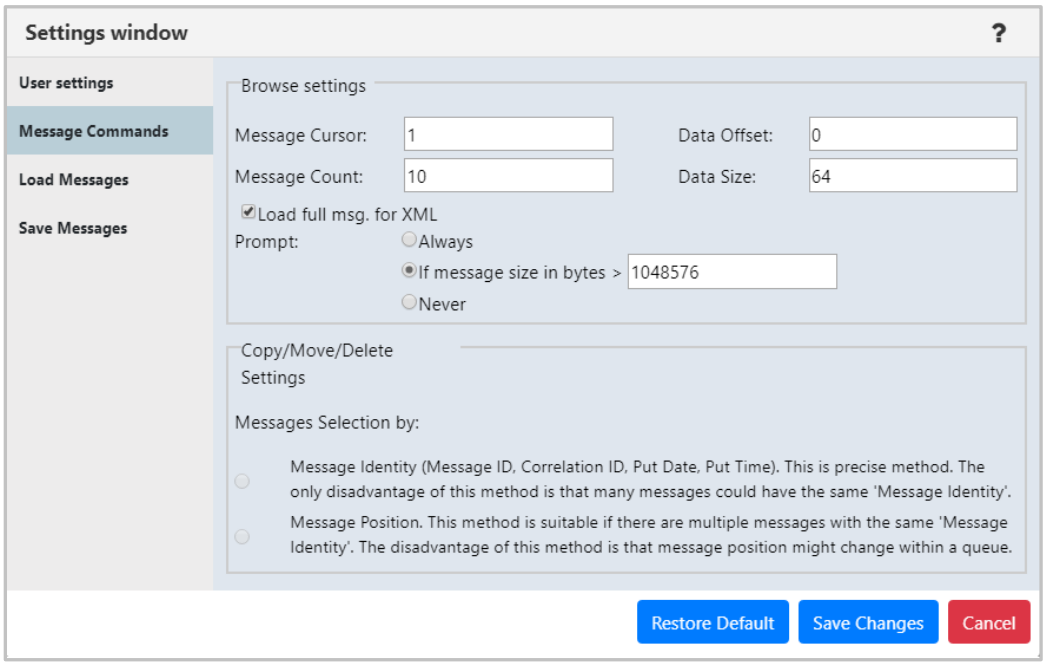


Figure 4.4.3.2-A. Message Commands

Table 4.4.3.2-A. Message Commands	
Name	**Description**
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	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.

Table 4.4.3.2-A. Message Commands	
Name	**Description**
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: • **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.

4.4.3.3 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.

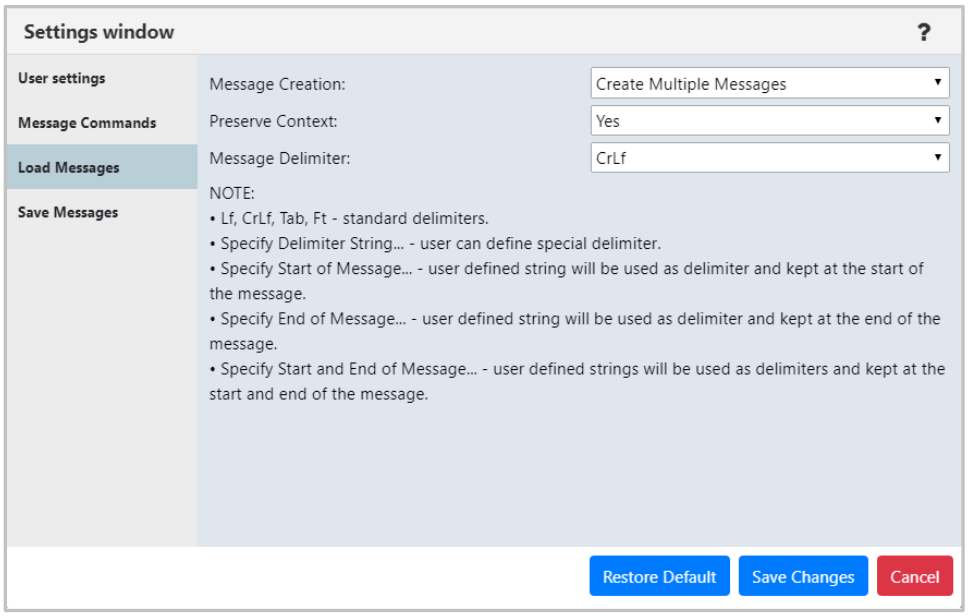


Figure 4.4.3.3-A. Load Messages

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.

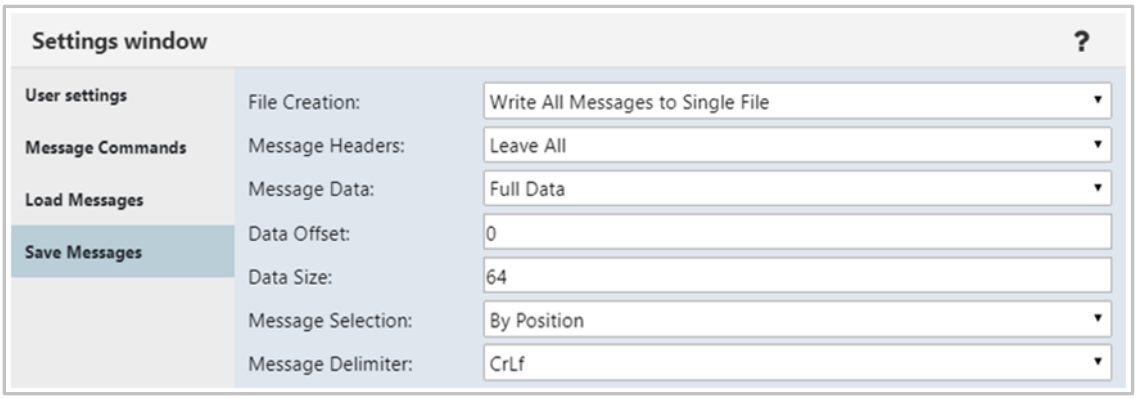


Figure 4.4.3.4-A. Save Messages

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.

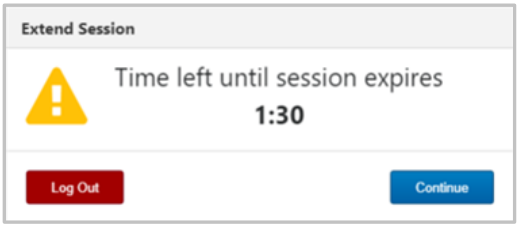


Figure 4.5.1-A. Extend Session

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.

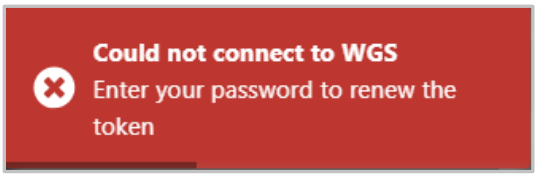


Figure 4.5.2-A. Could Not Connect to WGS

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/AP_WGS_Expert-101.004.pdf* for more information on the required workgroup server configuration.

When creating a viewlet in the *Create new <object> viewlet* dialog 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*).

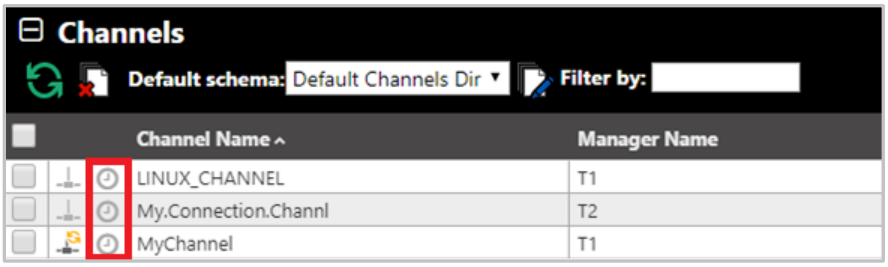


Figure 4.6-A. Schedule Icon

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.

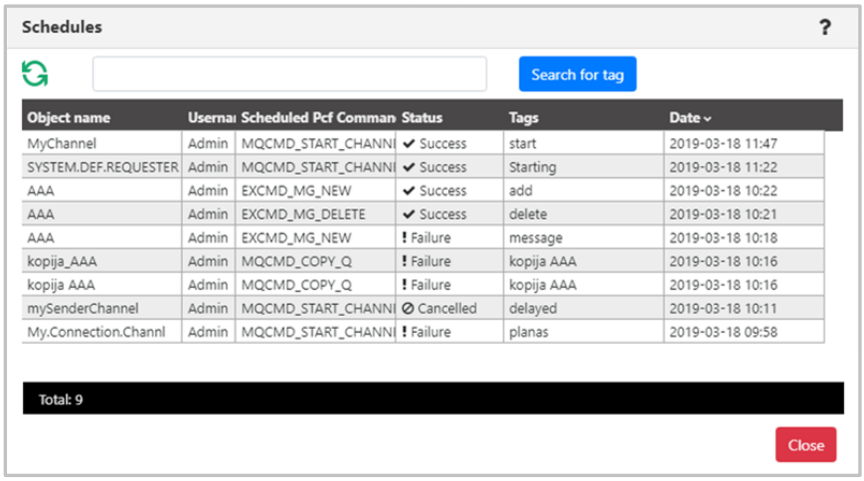


Figure 4.6-B. Schedules List

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.

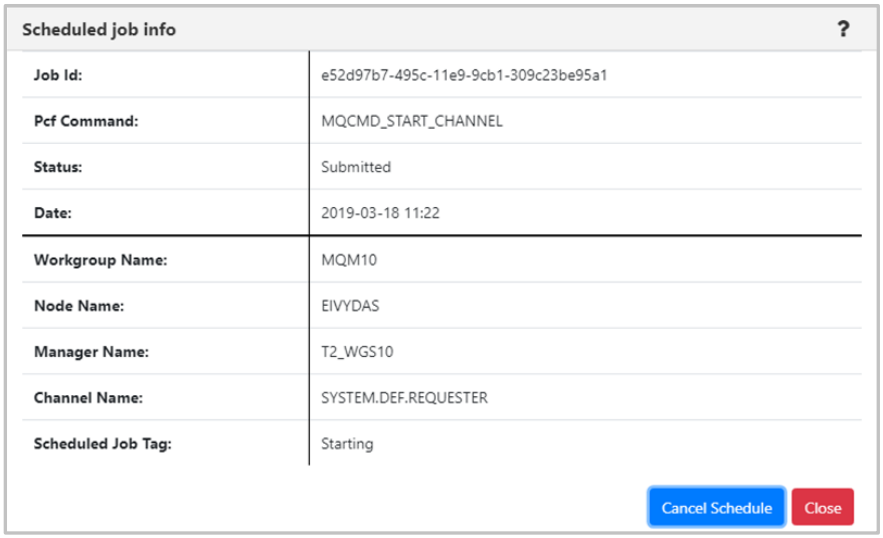


Figure 4.6-C. Scheduled Action Details

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: ▪ Put New ▪ Load from File… ▪ Copy All ▪ Move All ▪ Delete All ▪ Clear All - Commands ▪ 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.

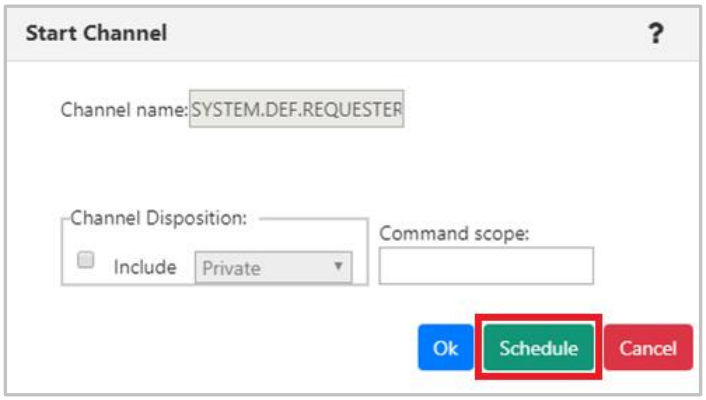


Figure 4.6.1-A. Start Channel – Schedule

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.

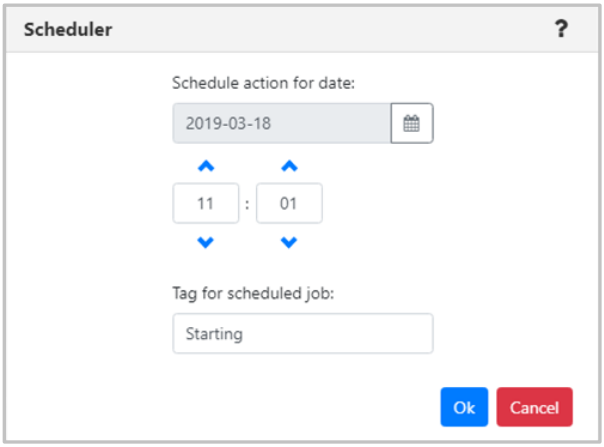


Figure 4.6.1-B. Schedule Channel Start

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

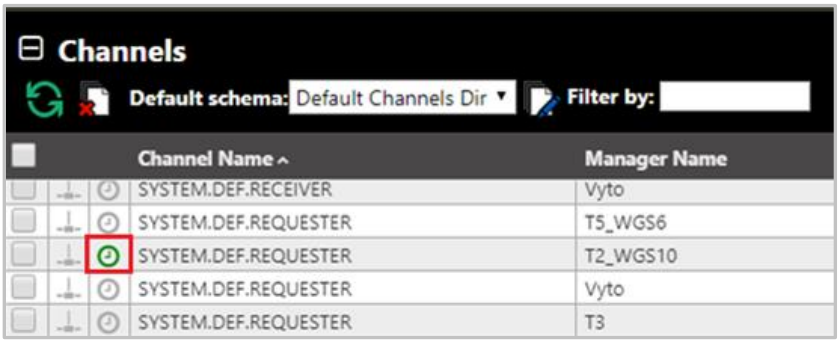


Figure 4.6.1-C. Channel with Scheduled Task

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

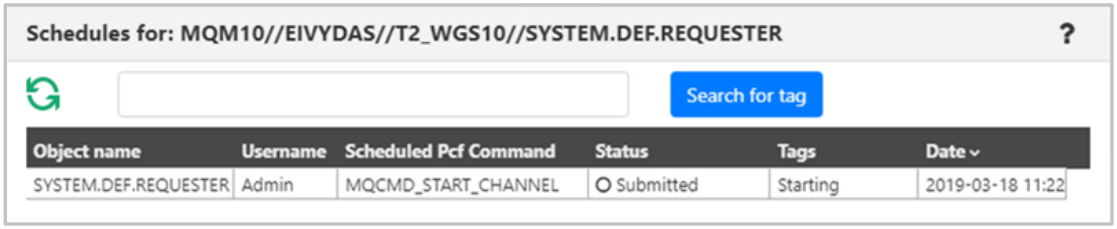


Figure 4.6.1-D. Scheduled Command to Start Channel

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

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 below. Please see sections 4.7.1 – 4.7.4 on how to use these methods to create processes, queue managers, topics and queues. For information on creating nodes and remote queue managers, see sections *4.2.1.1.1, Create Node* and *4.2.1.1.2, Create Remote Queue 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 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.

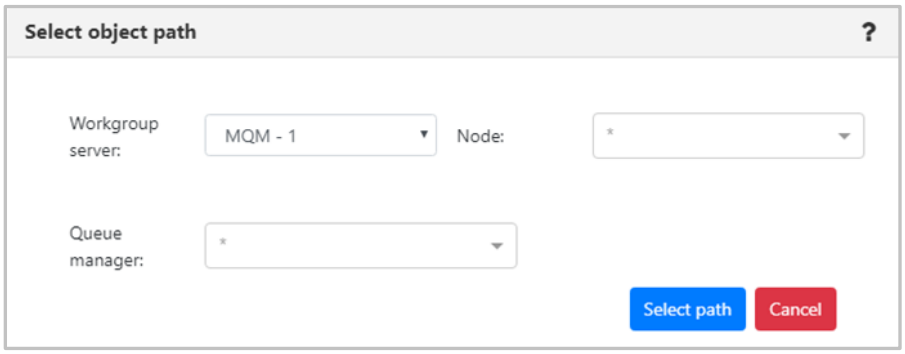


Figure 4.7-A. Select Object Path

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.

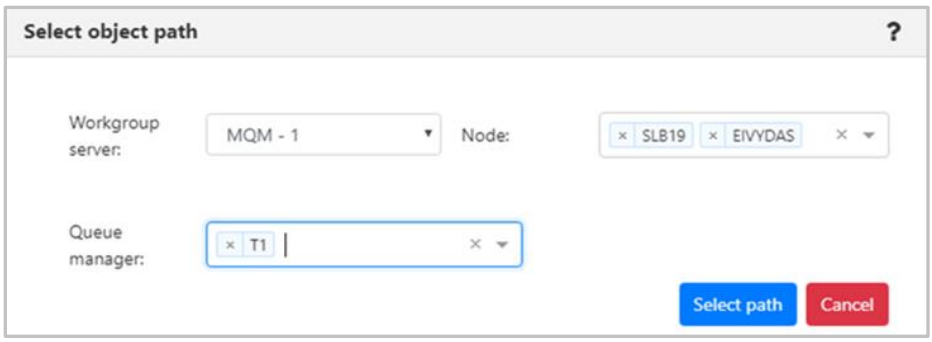


Figure 4.7-B. Select Object Path – Multiple

4.7.1 Create a 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.

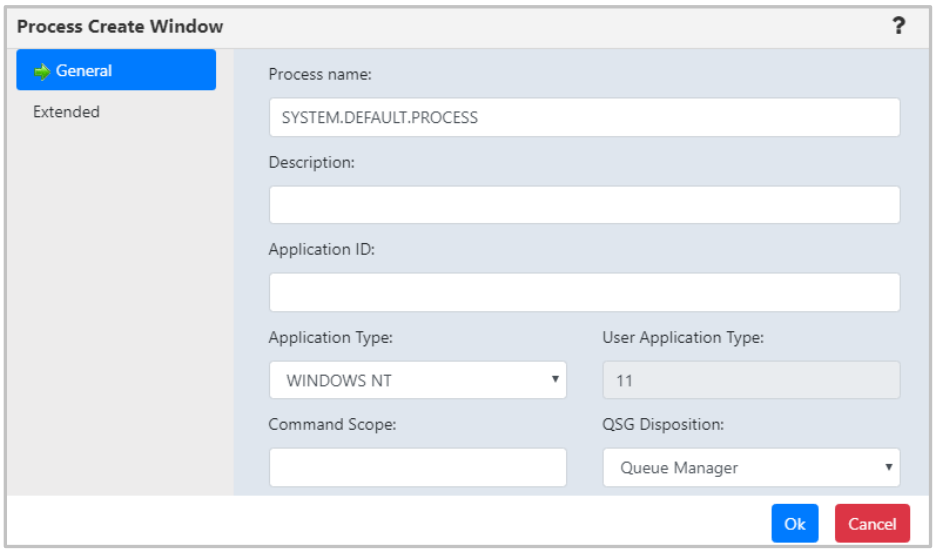


Figure 4.7.1-A. Process Create Window

4.7.2 Create a 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.

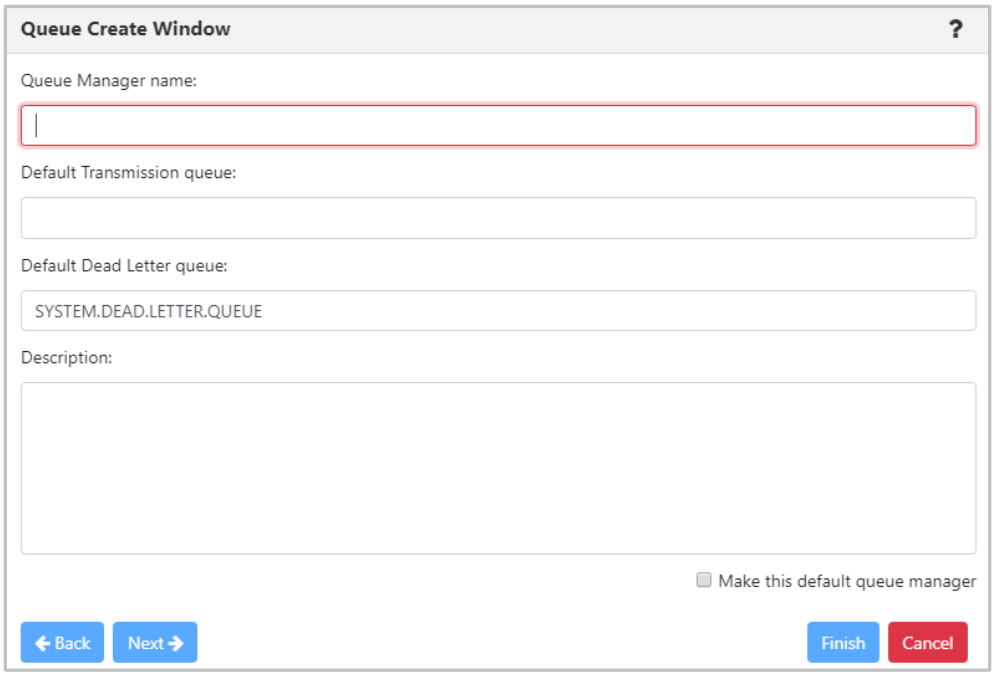


Figure 4.7.2-A. Create Queue Manager Window

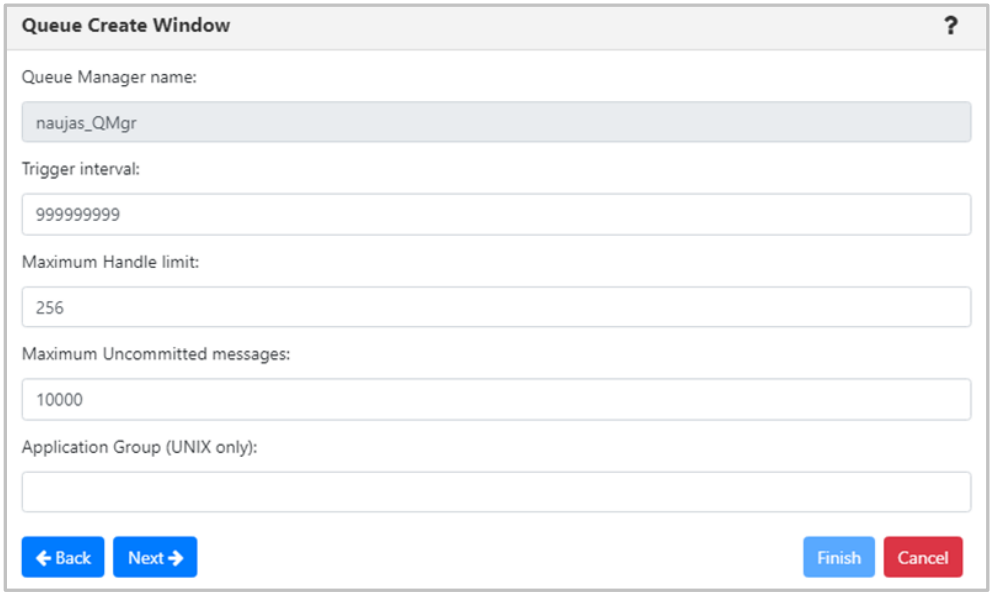


Figure 4.7.2-B. Create Queue Manager Window

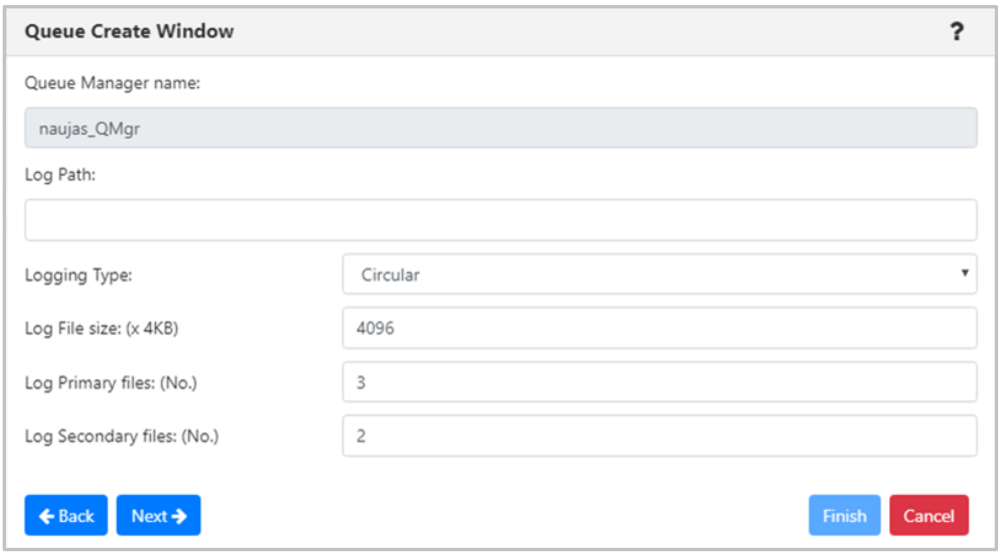


Figure 4.7.2-C. Create Queue Manager Window

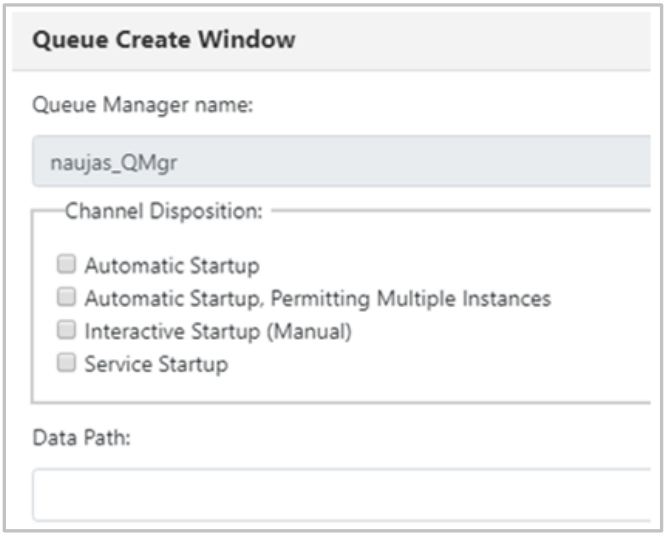


Figure 4.7.2-D. Create Queue Manager Window

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

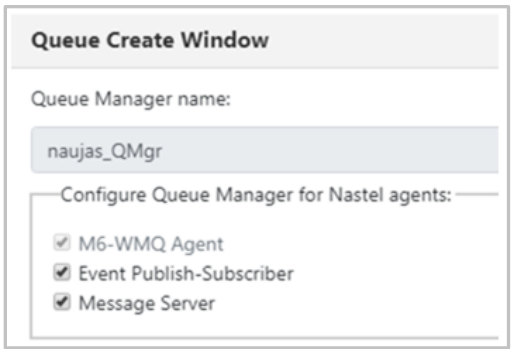


Figure 4.7.2-E. Create Queue Manager Window

4.7.3 Create a 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.

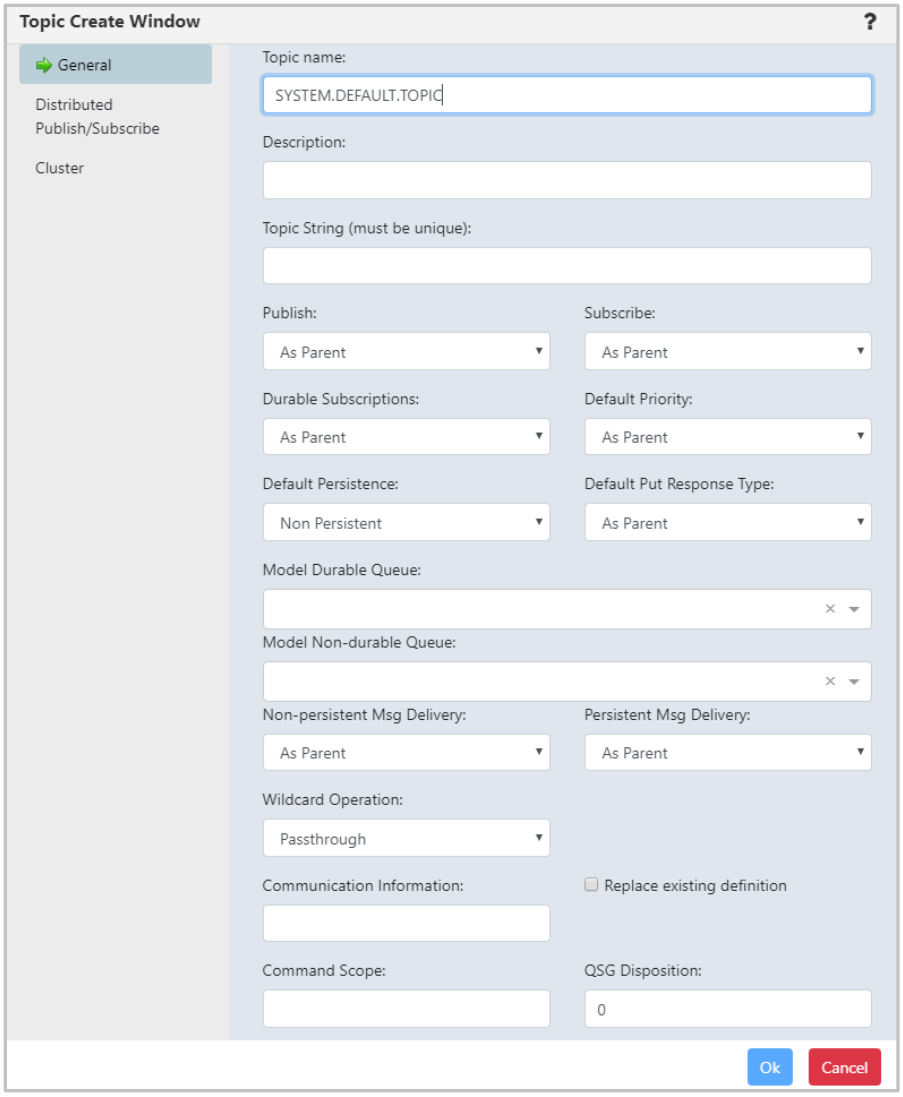


Figure 4.7.3-A. Topic Create Window

4.7.4 Create a Queue

From a Queue viewlet, select **Create Queue** or **Create EMS Queue** from the pop-up menu or click the **Add** button. The *Queue Create Window (Figure 4.7.4-A)* or *EMS Queue Create Window* (*Figure 4.7.4-B*) 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*.

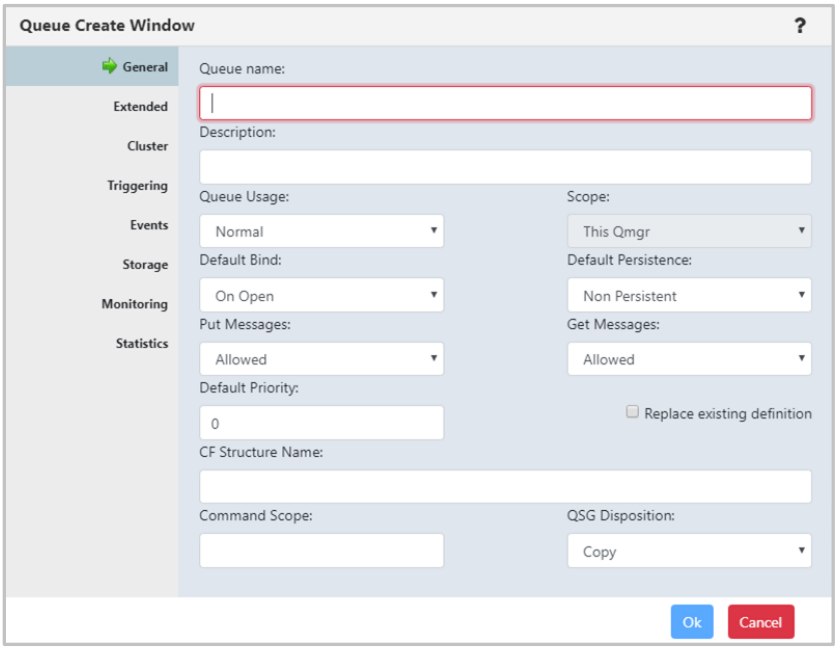


Figure 4.7.4-A. Queue Create Window

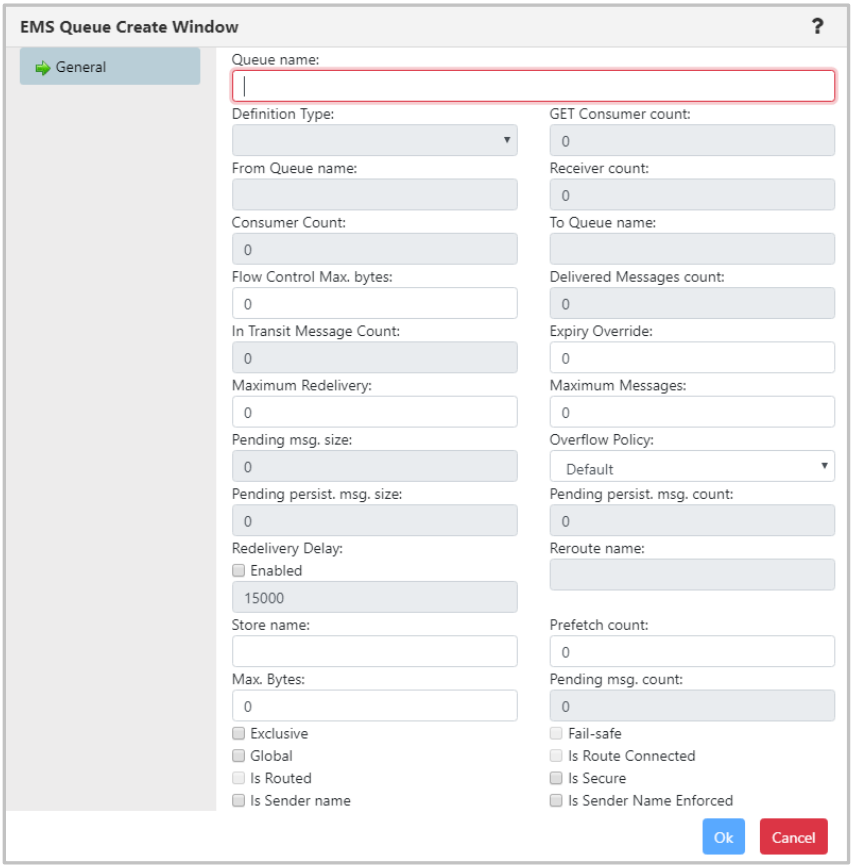


Figure 4.7.4-B. EMS Queue Create Window

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Appendix A: References

A.1 Nastel Documentation

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

A.2 Tomcat

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

A.3 Java™

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

A.4 MS Windows

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

A.5 UNIX

http://www.unix.org/

A.6 Solaris

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

A.7 HP-UX

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

A.8 Linux

http://www.linux.org/

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Appendix B: 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://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.
	Manager	Queue 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.
	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 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.
EMS Objects		
	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.

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