

WebSphere MQ V7.0.1

WebSphere MQ Explorer



This unit explains the multi-instance queue manager feature introduced in WebSphere® MQ version 7.0.1.

This unit assumes a reasonable understanding of how WebSphere MQ works.

Unit objectives

After you complete this unit, you should be able to:

- Understand the changes made in MQ Explorer to support WebSphere MQ version 7.0.1.

After you complete this unit, you should be able to understand the changes made to the MQ Explorer for WebSphere MQ version 7.0.1.

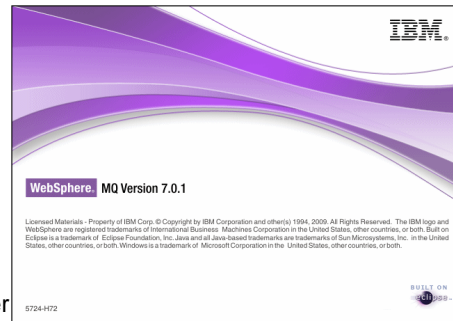
Many of these changes relate to support for multi-instance queue managers, in particular support for connection with a list of possible TCP/IP

This unit does not attempt to cover the full range of options available, for which you should refer to the product information center.



MQ Explorer SupportPac MS0T

- New fully supported (CAT3)
- Stand-alone delivery of Explorer.
 - Do not need product installation CD to install
- First released at V7.0.0.1, now updated for V7.0.1
- Available for Windows® and Linux®
- Same code as product shipped version of MQ Explorer
- SupportPac: WebSphere MQ Explorer:
 - <http://www.ibm.com/support/docview.wss?rs=171&uid=swg24021041>



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The first significant item is not strictly related to WebSphere MQ version 7.0.1. However the MQ Explorer is now available to download as a stand-alone installation, removing the need to have a product installation CD. This is a feature that has been requested for some time. It allows users with MQ at any level to use the latest level of explorer, and in particular gives Z/OS users access to the explorer.

Originally available for MQ 7.0.0.1 the version 7.0.1 version is now available. It is available for both Windows and Linux and is supported on the same variants that the product is supported on. This is a fully supported (category 3) Support Pack and is the same code as is shipped on the product CDs and will be updated inline with product changes.

The support pack can be downloaded from the URL displayed.

The next slides cover the support for multi instance queue managers.

Multi instance queue manager - 1

- Create Queue Manager wizard
- Default data and log paths can be changed (previously just log path)
- Checks for valid directory

Queue manager name: HA

Use circular logging
 Use linear logging

Log file size: (x4KB) 4096

Log primary files: 3

Log secondary files: 2

Data and Log paths

Use default paths

Data path: G:\Program Files\IBM\WebSphere.MQ\qmgrs Browse...

Log path: G:\Program Files\IBM\WebSphere.MQ\log Browse...

< Back Next > Finish Cancel

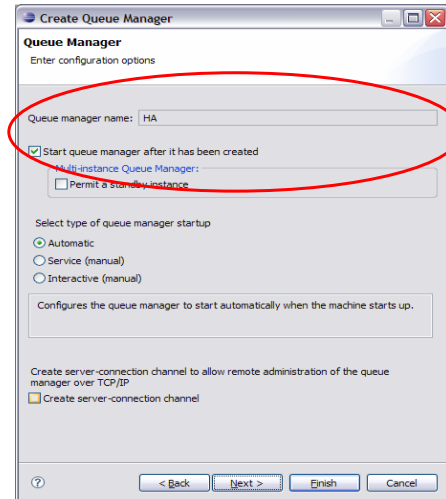
The first changes are in the create local queue manager wizard. The wizard has been extended to allow the default data and log paths to be changed. Previously only the log path could be changed.

This reflects the support for non default paths, and the fact that for a multi instance queue manager the paths must reside on a shared file system.

The explorer panel checks the validity of the paths being used.

Multi instance queue manager - 2

- Create Queue Manager wizard
- Queue manager can be started to permit failover
- Automatic and Permit standby equivalent to “strmqm -sax” options



The create local queue manager wizard is also changed to add a “Permit a standby instance” check box

Selecting the “Permit a standby instance” and start type of “Automatic” will start the queue manager as though a strmqm -sax command had been used. This start will permit a standby instance. In fact, if an active instance is running, this instance will start as the standby.

Multi instance queue manager - 3

- Remote queue manager wizard
- Extended for multi instance
- Multi instance
 - same channel name used for each instance
 - auto-reconnect enabled by default
 - further instances can be added using the Manage Instances dialog

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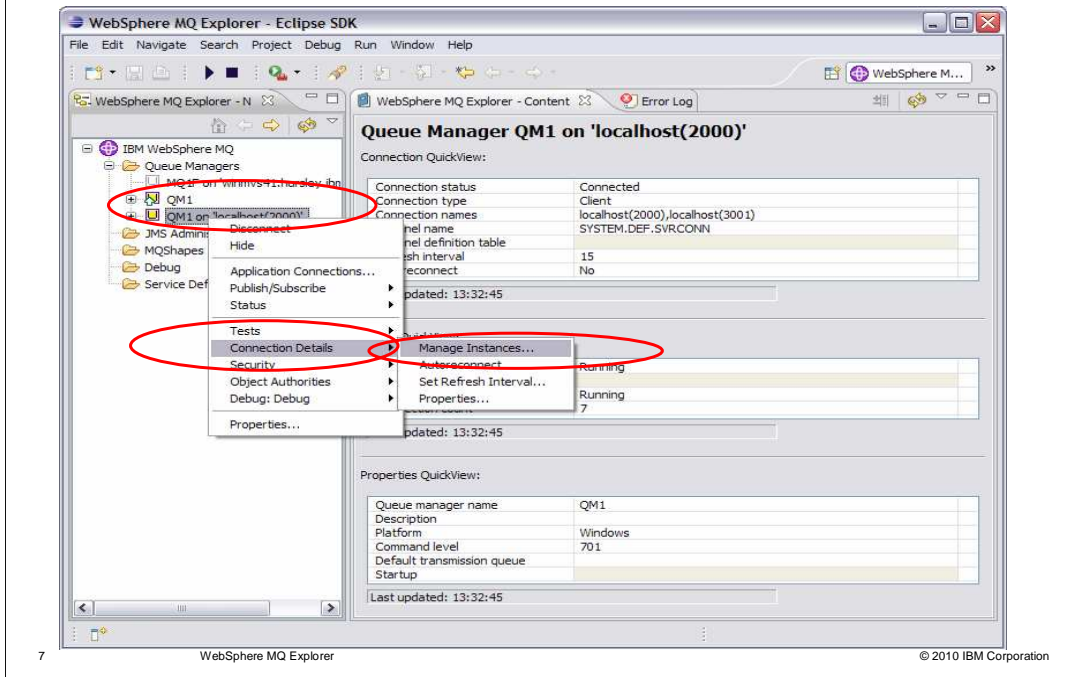
As well as extending the wizard that creates local queue managers the wizard that makes this copy of explorer aware of remote queue managers has also been updated.

In this case the wizard allows multiple definitions of the connection data to be made. In fact it allows just two connections to be defined using the wizard. Hostname or IP addresses and port numbers can be specified but the server channel name must be the same, in fact it is unavailable for the second connection instance.

By default the “Autoreconnect” option is set on, this means that explorer will automatically try to reconnect to this queue manager if connection is lost. This may result in connecting to a different instance.

After the wizard has been run the manage instances dialog can be run to add further instances or reorder the existing instances.

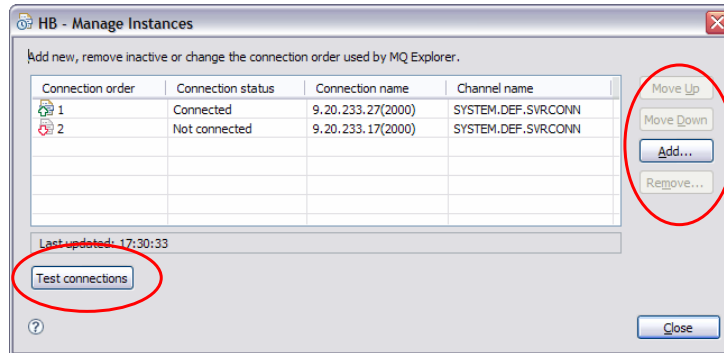
Manage instances management



Manage Instances dialog is invoked with right mouse clicks from the navigator's list of available queue managers.

Selecting a queue manager, right mouse click, select "Connection details", right mouse click again and select "Manage Instances". This option will be available for non Z/OS queue managers that have a command level greater than 701, or if the explorer has never connected to the queue manager and so is unaware of the operating system and command level.

Manage instances management



- Use buttons on right to add / remove and reorder.
 - Listed order is that used by MQ Explorer
 - cannot remove connected instance details
- Test connections
 - Tests each connection, reports - standby, not available, error

The Manage Instances dialog displays the currently defined instances, in the order that explorer will try and connect to them. Non multi-instance queue managers will show a single instance in the list, adding additional instances will make explorer treat them as multi instance, but the data and log directories may need to be changed appropriately.

The buttons on the right allow the addition of new instances, the removing of existing instances and the changing of the order that explorer tries to connect to them.

The Test connections button tests the ability of explorer to connect to each of the instances.

The tests report the instances' status. They might be active or standby, might be unreachable, or report an error if for example the queue manager at the IP address is not an appropriate instance but some other queue manager.

Queue manager main page

The screenshot displays the MQ Explorer interface for a Queue Manager. The main content area shows several quickview panels:

- Connection QuickView:**

Connection status	Connected
Connection type	Client
Connection names	9.20.233.27(2000),9.20.233.17(2000)
Channel name	SYSTEM.DEF.SVRCONN
Channel definition table	
- Status QuickView:**

Queue manager status	Running
Command permit status	Permitted
Channel initiator status	Running
Connection count	7
Standby	Permitted
- Properties QuickView:**

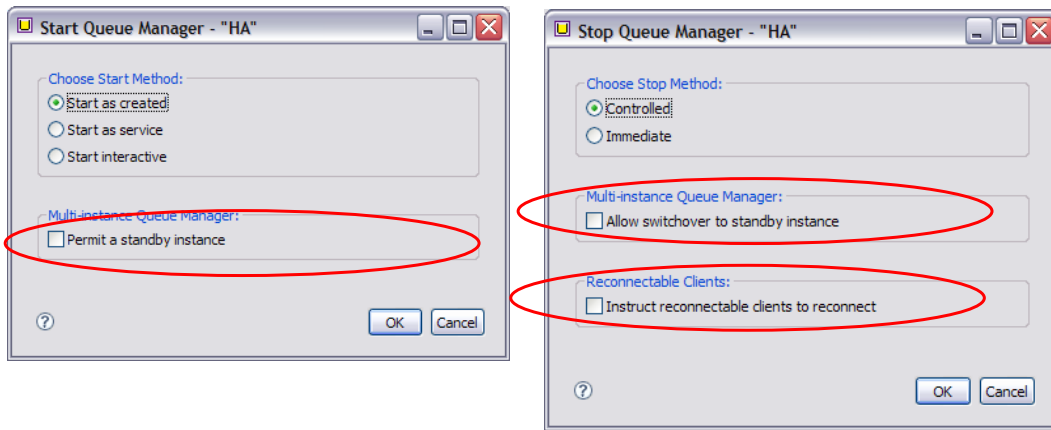
Queue manager name	HB
Description	
Platform	Unix
Command level	701
Default transmission queue	
Startup	

Red circles in the image highlight the 'Connection names' field in the Connection QuickView and the 'Standby' field in the Status QuickView.

As shown in this screen the Queue Manager Main page has been extended to show the connection name as a list of TCP/IP addresses.

The status quickview also shows both the actual status of this queue manager, and whether a standby instance is permitted.

Multi instance start/stop queue manager



- Reflect function of endmqm with “-x”, “-s”, “-r” options

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The dialogs for starting and stopping a multi-instance queue manager have also been extended.

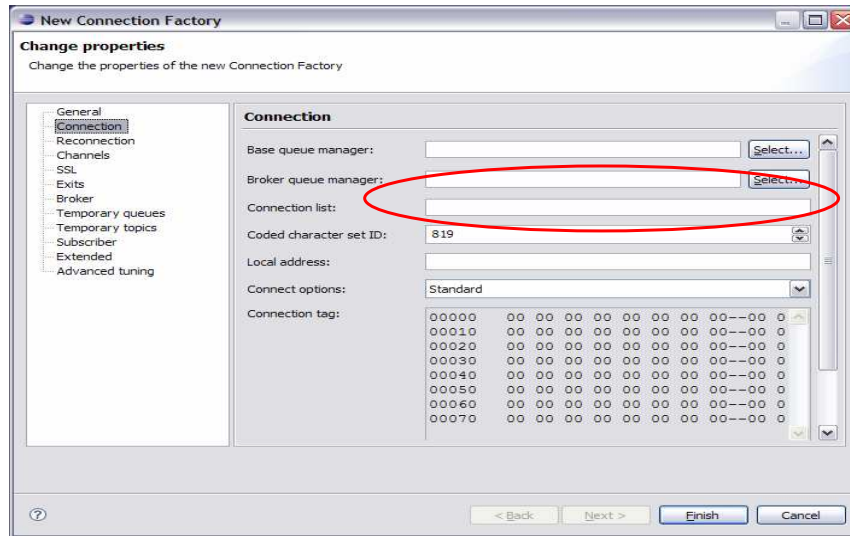
The start dialog for a multi-instance queue manager has the “Permit a standby instance” check box added. If checked the queue manager will either start as active and permit a standby instance, or if an instance is already running will start as a standby instance.

The stop dialog allows any of these:

- No check boxes selected equals normal shutdown, which means stop all instances and end all client connections.
- “Allow switchover to standby instance” checked, which means stop this instance (which must be the active) but activate the standby instance, all client connections will reconnect.
- Only “Instruct reconnectable clients to reconnect” checked, which means stop all instances and allow all client connections to reconnect. The clients may reconnect to another queue manager.

Stopping a single standby instance does have its own prompt.

Multi instance - JMS administrative plug-in



- Supports connection list

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WebSphere MQ Explorer

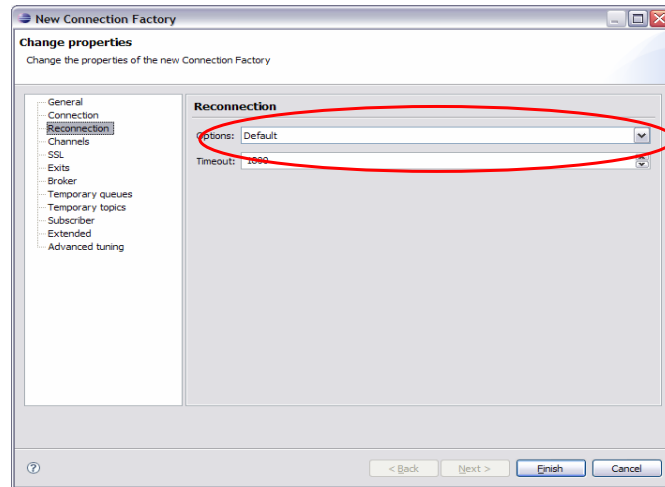
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As well as the main explorer dialogs the JMS administrative plug-in has been updated for use with multi-instance queue managers.

These changes are in the connection factory. As shown here the connection list field replaces the previous two host and port fields. The connection list is a comma separated list of IP address and port name.

Multi instance - JMS administrative plug-in

- Supports reconnection



In the same way, the connection factory is updated to support the reconnection options.

Multi instance - External class changes

- For Explorer plug-in developers
- MQMgrExtObject
 - isStarted() has been changed to return “true” if the queue manager is running as a standby instance
 - isStandby() is a new method and will return “true” if the queue manager is running as a standby instance
 - isStartedWithPermitStandby() is a new method and will return “true” if the queue manager was started to permit failover

For anyone writing their own plug-in the MQMgrExtObject has had one method changed and two new methods added.

The change is to the “isStarted” method. This will now return true for queue managers that are running active or standby. This may be significant as only active queue managers will accept connections.

The new “isStandby” method returns true if the queue manager is running as a standby instance of a queue manager.

And the new “isStartedWithPermitStandby” returns true if failover is permitted, if true, queue manager could be active or standby.

That completes the changes in explorer to support multi-instance queue managers.

Other changes

- Updates to
 - Splash screens, About graphics, Banners
 - Note: Some MQ Explorer changes (splash screen and Info Center banner) are determined by the Eclipse install, so will only be seen with a clean install not an upgrade from MQ 7.0.0
- Several new attributes were added to various MQ objects in the appropriate points in explorer. Including:
 - OCSP Support
 - Publish Exit
 - Z/OS Switch to enable new release function
 - Log Compression

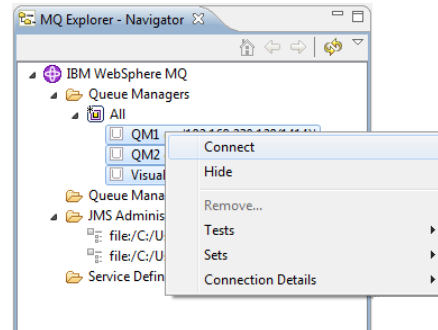
There has been some updating of the splash screens, graphics and banners involved with explorer and the information center. This new branding also occurs in information centers and the Postcard application. Some of these changes are determined by the underlying Eclipse system and so are only reflected in a clean install of explorer rather than an upgrade from MQ 7.0.0. You will also see some cosmetic changes on the welcome and other pages.

Various changes that have been made in the base product have also resulted in minor changes in various parts of explorer.

These include OCSP for certificate revocation; ability to specify a publish exit, and on Z/OS the migration switch and the log compression options.

Other changes: Multiple selection

- Multiple selection in Navigator view
- Some Explorer actions now support multiple selections:
 - Connecting, disconnecting, and hiding queue managers
 - Connecting and disconnecting JNDI contexts (JMS administration)
 - Drag queue managers between sets
- Other actions only make
 - sense for single selections
 - for example
 - Properties...



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One major change to MQ explorer behavior is to allow multiple select in the navigator view.

Some actions that are obtained by a right mouse click can apply to multiple objects at once. This especially makes sense for connecting or disconnecting to and from queue managers or JNDI contexts or dragging queue managers to and from sets.

Other actions remain defined only for single selection. For example display of properties that opens a dialog showing all the properties for a single object.

Other changes: Updates to RCP mode

- Search for updates in MQ Explorer RCP mode
 - Previously to search for updates (Eclipse fixes) had to change preferences to run MQ Explorer in an Eclipse Workbench and then restart
 - Help > Software Updates... menu now opens in both the default stand-alone (RCP) mode and in Eclipse Workbench mode
- Removed some menu actions from RCP mode
 - Removed actions to open and close perspectives as these are not helpful in stand-alone (RCP) mode

The last item in this presentation is a movement of some features between the Rich Client Platform (RCP) view of explorer and the Eclipse Workbench view.

Previously to search for eclipse fixes and updates the standard RCP explorer had to be closed and reopened in work bench mode. The RCP menus have been updated to allow the “Help” > “Software Updates” menu to be accessed directly.

To simplify the menus in RCP mode the actions to open and close perspectives have been removed.

Unit objectives

After you complete this unit, you should be able to:

- Understand the changes made in MQ Explorer to support WebSphere MQ version 7.0.1.

Now that you have completed this unit, you should be able to understand the main changes made to the MQ Explorer for WebSphere MQ version 7.0.1.

Many of these changes relate to support for multi-instance queue managers, in particular support for connection with a list of possible TCP/IP

This unit did not attempt to cover the full range of options available, for which you should refer to the product information center.



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