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Overview

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Welcome to WebSphere MQ V7.0

Introduction to the documentation

WebSphere MQ in a nutshell

A brief introduction to WebSphere® MQ for programmers

What's new in WebSphere MQ V7.0 Changes from the previous version

New features and their supported APIs for Version 7.0
Use this information to learn about the WebSphere MQ Version 7.0 APIs with features and environments that might not be as fully supported as the C MOI.

What's changed in the documentation

Changes made to the documentation in this release of WebSphere MO

<u>Using this Information Center</u> Navigating the information; Search tips; Printing tips; Keyboard tips; Font size; Accessibility.

Syntax diagrams

The syntax for a command and its options is presented in the form of a diagram. There are two types of syntax diagram: railroad diagrams and dotted decimal diagrams

Notices

Legal notices

Trademarks

Trademarks in this Information Center

Feedback on the documentation

Mary 26, 2011 11:31:12

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1. Welcome to WebSphere MQ V7.0

Introduction to the documentation

The full name of this product is WebSphere MQ Version 7 Release 0 Modification 1, more usually expressed as WebSphere® MQ V7.0.

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2. WebSphere MQ in a nutshell

A brief introduction to WebSphere® MQ for programmers

What is WebSphere MQ?

• Software that enables programs to communicate across a network of unlike components (processors, operating systems, subsystems, and communication protocols) using a simple and consistent application programming interface. It is messaging and queuing middleware, with Overview Page 2 of 13

publish/subscribe:

- o Messaging: programs communicate by sending each other data in messages rather than by calling each other directly.
- o Queuing: the messages are placed on queues in storage, so that programs can run independently of each other, at different speeds and times, in different locations, and without having a logical connection between them.
- o Publish/subscribe: a program can send (publish) data to a single destination, and let WebSphere MQ deal with the distribution of that data to other programs (subscribers). The publisher defines a topic for the information, and the subscriber specifies what topics it wants to receive.

What can it do for me?

- WebSphere MQ sends and receives data between your applications, and over networks.
- Message delivery is assured and decoupled from the application.
- Your application programmers do not need to have communications programming knowledge.

How do I use it?

- Use the WebSphere MO Explorer workbench and its associated tools to create your initial configuration.
- Use the MQ API (MQI) in your application to connect to a queue manager, open queues and topics, and put and get messages.

How does it work?

- A queue or a topic is owned and run by a queue manager.
- Objects such as queues and queue managers exist as sets of information, together with their data, kept by WebSphere MQ in storage.
- The queue manager is started by a command you enter interactively, or by a program that runs when the operating system boots. For example, on Windows the queue manager can run under the WebSphere MQ Windows service (called IBM MQSeries).
- When your application wants to transfer data to another application, it puts data into messages, and then puts the messages onto a queue (or publishes them with a topic). Then there are four main ways the messages can be retrieved:
 - Another application on this computer (or another part of the same application) retrieves the messages from the same queue where they were
 put.
 - o The queue manager is configured to send the messages through a *channel* over the network to a *remote queue* on a queue manager on another computer. An application on that computer retrieves them from the remote queue.
 - $\circ\,$ An application on another computer pulls the messages across the network when it needs them.
 - o A subscriber application is sent the published message by a queue manager.
- You can have many queues and topics on one queue manager.
- You can have more than one queue manager on one computer.
- You can have a computer with a client installation with no queue manager. The client uses the queue manager on a server installation on another computer for messaging.

What tools and resources come with WebSphere MQ?

- On Windows, and Linux x86 and x86-64 platforms:
 - o The WebSphere MQ Explorer workbench, in which you manage your queue manager and queue configuration, and from where you can launch the following utilities:
 - o The Postcard application to quickly demonstrate messaging and verify your installation.
 - o An animated Product Tour.
 - o Tutorials
- On Windows only:
 - The API Exerciser in which, by clicking buttons, you run MQI commands just as they would be issued by your application program code, to check your program sequence without having to write the program.
- The control commands.
- The WebSphere MQ Script commands (MQSC).
- The Programmable Command Format (PCF) commands.
- Sample programs.
- The documentation (an Information Center of guide and reference material), supplied on CD in Eclipse plugin format, viewable and installable on Windows, and Linux.

See also:

- For a comprehensive introduction, see the Application Programming Guide section of this Information Center, beginning with <u>Introduction to message queuing</u> in the <u>Designing applications that use WebSphere MQ</u> section.
- For a more general introduction, with visual representations and some application scenarios, see the book MQSeries An Introduction to Messaging and Queuing order number GC33-0805, which you can find on the IBM® Web site http://www.ibm.com.

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3. What's new in WebSphere MQ V7.0

Changes from the previous version

Administration

- Consolidated administration and security for Publish and Subscribe, JMS, and XMS messaging into the standard WebSphere® MQ model.
- >Automated recovery of a failed queue manager by the queue manager running in standby mode on a different server. Supported on the IBM® i, Unix, and Windows Server platforms. See Multi-instance queue managers. <
- >Command and configuration events are now created on the IBM i, Unix, and Windows Server platforms, as well as z/OS®. See Event monitoring.

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Clients

- · Improvements to WebSphere MQ Clients for availability and throughput.
- >Automatic client reconnection after a queue manager or network failure. See Automated client reconnection.

i5/OS®

A different time stamping technique has been implemented for WebSphere MQ for i5/OS, Version 7.0 from earlier versions of WebSphere MQ for iSeries®. This avoids the problem of duplicate time stamps being created when clocks are put back by an hour. You no longer need to take any special action as a result of daylight savings time.

JMS

- Ease-of-use improvements for Java Message Service (JMS) users with graphical development, configuration, and deployment of JMS resources. See <u>Using WebSphere MQ Explorer for JMS configuration</u>.
- Optimizations to the JMS layer, tightly integrating JMS services into WebSphere MQ queue manager internals.

Programming

- Extensions to the Message Queue Interface (MQI) programming interface, providing new verbs and behaviors.
- These include new verbs to associate properties with messages and query those properties, and new options to select messages by property value.

Publish/Subscribe

- Tightly integrated support for Publish and Subscribe messaging that simplifies the development, configuration, and deployment of event-driven messaging. See Publish/Subscribe User's Guide.
- Publish/Subscribe support added to WebSphere MQ for z/OS.

WebSphere MQ Explorer

• See the WebSphere MQ Explorer's own help for details of the many changes.

>z/0S

>

- Batch and USS applications can use the z/OS XPLINK, which is a high performance calling interface to call WebSphere MQ. See <u>Building z/OS</u> batch applications using <u>Language Environment</u>.
- The WebSphere MQ for z/OS log records can be compressed and decompressed. See <u>Log compression</u>.
- The unit of recovery disposition allows transaction recovery within a queue-sharing group. See <u>Unit of recovery disposition</u>.
- The availability of certain new functions can be controlled with the new queue manager OPMODE property. This property is configured in the CSQ6SYSP macro. The availability of log compression and unit of recovery disposition are controlled by this property. See Controlling new functionality and backward migration using the OPMODE property.
- The queue manager has been modified to make use of 64-bit storage for a number of internal control blocks. These include those used for holding locks, indexing queues, and for security information. A reduction in 31-bit storage use might be seen in situations where there are large numbers of locks (large units of work), deep indexed queues (QSGDISP(QMGR) only) or a large number of security credentials being used. For more information, see Exploiting 64-bit storage.

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4. New features and their supported APIs for Version 7.0

Use this information to learn about the WebSphere® MQ Version 7.0 APIs with features and environments that might not be as fully supported as the C MQI.

The following topics contain tables that show supported WebSphere MQ Version 7.0 APIs.

New features and their supported APIs for Version 7.0: JMS

Use this information to learn about the WebSphere MQ Version 7.0 APIs with features and environments that might not be as fully supported as the C MQI.

New features and their supported APIs for Version 7.0: Java

Use this information to learn about the WebSphere MQ Version 7.0 APIs with features and environments that might not be as fully supported as the C MOI.

New features and their supported APIs for Version 7.0: XMS .NET

Use this information to learn about the WebSphere MQ Version 7.0 APIs with features and environments that might not be as fully supported as the C MQI.

New features and their supported APIs for Version 7.0: XMS C & C++

Use this information to learn about the WebSphere MQ Version 7.0 APIs with features and environments that might not be as fully supported as the C MQI.

New features and their supported APIs for Version 7.0: .NET

Use this information to learn about the WebSphere MQ Version 7.0 APIs with features and environments that might not be as fully supported as the C MQI.

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4.1. New features and their supported APIs for Version 7.0: JMS

Use this information to learn about the WebSphere® MQ Version 7.0 APIs with features and environments that might not be as fully supported as the C

JMS

The following table shows which features are supported for JMS.

	JMS												
	Distribu	ted platfo	rms			z/OS®							
API	Basic ¹	WAS ²	Other JEE	Other TM	DB2® SP ³	Basic	WAS ²	Other JEE	DB2 SP ³	Other TM	CICS®	IMS™	
V7 Publish Subscribe	Y	Y	Y	Y	N/A ⁴	Y	Y	N/A	N/A ⁴		N/A	N/A	
Browse with Mark	Y	Υ	Y	Y	N/A ⁴	Y	Y	N/A	N/A ⁴		N/A	N/A	
Message Properties	Y <u>5</u>	Υ <u>5</u>	Y <u>5</u>	Y <u>5</u>	N/A ⁴	Y <u>5</u>	Y <u>5</u>	N/A	N/A ⁴	Y <u>5</u>	N/A	N/A	
Message Selectors	Y	Y	Y	Y	N/A ⁴			N/A	N/A ⁴		N/A	N/A	
Asynchronous consume	Y	Y	Y	Y	N/A ⁴			N/A	N/A ⁴		N/A	N/A	
Content filtering Publish/Subscribe	N	N	N	N	N/A ⁴	N	N	N/A	N/A ⁴	N	N/A	N/A	
Group/Segment messages	N	N	N	N	N/A ⁴	N	N	N/A	N/A ⁴	N	N/A	N/A	
PCF Classes	Υ <u>6</u>	Υ <u>6</u>	Υ <u>6</u>	Υ <u>6</u>	N/A ⁴	Y <u>6</u>	Y <u>6</u>	N/A	N/A ⁴	Υ <u>6</u>	N/A	N/A	
Global TX Participant	Y <u></u>	Υ	Y	Y <u>Z</u>	N/A ⁴	Y <u>8</u>	Y	N/A	N/A ⁴	Y <u>8</u>	N/A	N/A	
Global TX Coordinator	N	N	N	N	N/A ⁴	N	N	N/A	N/A	N	N/A	N/A	

Note:

- 1. Also OSGI.
- 2. WebSphere Application Server.
- 3. DB2 Stored Procedures.
- 4. DB2 SP Distributed: cannot work reliably because of the restricted Java environment.
- 5. Cannot see the whole MQI namespace, therefore an MQI application might generate messages whose properties cannot be read.
- 6. Can build/parse messages but not use the MessageAgent classes & methods.
- 7. Open source JTA coordinators might not be supported.
- 8. RRS is the coordinator.

	JMS											
	Distribu	ted platfo	rms			z/OS						
Client communication (not running on top of C client)	Basic ¹	WAS ²	Other JEE	Other TM	DB2 SP ³	Basic	WAS ²	Other JEE	DB2 SP ³	Other TM	CICS	IMS
Read ahead	Υ	Y	Y	Y	N/A	N/A	Υ	N/A	N/A	N/A	N/A	N/A
Asynchronous put	Υ	Y	Y	Y	N/A	N/A	Υ	N/A	N/A	N/A	N/A	N/A
Pre-connect exit	N	N	N	N	N/A	N/A	N	N/A	N/A	N/A	N/A	N/A
CCDT	Υ	Υ	Y	Υ	N/A	N/A	Υ	N/A	N/A	N/A	N/A	N/A
Multiple CONNAME	Υ	Y	Y	Y	N/A	N/A	Υ	N/A	N/A	N/A	N/A	N/A
Auto reconnect	Y	Y <u>5</u>	Y <u>5</u>	Y	N/A	N/A	Y <u>5</u>	N/A	N/A	N/A	N/A	N/A
Channel compression	Υ	Υ	Υ	Υ	N/A	N/A	Υ	N/A	N/A	N/A	N/A	N/A
Exit chaining	Υ	Y	Y	Y	N/A	N/A	Υ	N/A	N/A	N/A	N/A	N/A
MQCSP/MQXR_SEC_PARMS	Y <u>4</u>	Y <u>4</u>	Y <u>4</u>	Y <u>4</u>	N/A	N/A	Y <u>4</u>	N/A	N/A	N/A	N/A	N/A
Native SSL	Y	Υ	Y	Y	N/A	N/A	Y	N/A	N/A	N/A	N/A	N/A

Note:

- 1. Also OSGI.
- 2. WebSphere Application Server.
- 3. DB2 Stored Procedures.
- 4. Not consistent across all clients.
- 5. Use RA features for reconnect, not the FAP-level operation.

Parent topic: New features and their supported APIs for Version 7.0

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4.2. New features and their supported APIs for Version 7.0: Java

Use this information to learn about the WebSphere® MQ Version 7.0 APIs with features and environments that might not be as fully supported as the C

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MQI.

Java

The following table shows which features are supported for Java.

	Base Ja	va										
	Distribu	ted platfo	rms			z/OS®)					
API	Basic ¹	WAS ²	Other JEE	Other TM	DB2® SP ³	Basic	WAS ²	Other JEE	DB2 SP ³	Other TM	CICS®	IMS™
V7 Publish Subscribe	Y	N/A	N/A ⁴	N/A	N/A ⁶	Y	N/A	N/A	N/A ⁶	N/A	Υ	N/A
Browse with Mark	Y	N/A	N/A ⁴	N/A	N/A ⁶	Y	N/A	N/A	N/A ⁶	N/A	Υ	N/A
Message Properties	N	N/A	N/A ⁴	N/A	N/A ⁶	N	N/A	N/A	N/A ⁶	N/A	N	N/A
Message Selectors	Y	N/A	N/A ⁴	N/A	N/A ⁶	Y	N/A	N/A	N/A ⁶	N/A	Y	N/A
Asynchronous consume	N	N/A	N/A ⁴	N/A	N/A ⁶	N	N/A	N/A	N/A ⁶	N/A	N	N/A
Content filtering Publish/Subscribe	N	N/A	N/A ⁴	N/A	N/A ⁶	N	N/A	N/A	N/A ⁶	N/A	N	N/A
Group/Segment messages	Y	N/A	N/A ⁴	N/A	N/A ⁶	Y	N/A	N/A	N/A ⁶	N/A	Y	N/A
PCF Classes	Υ	N/A	N/A ⁴	N/A	N/A ⁶	Υ	N/A	N/A	N/A ⁶	N/A	Υ	N/A
Global TX Participant	N	N/A	N/A ⁴	N/A	N/A ⁶	N	N/A	N/A	N/A ⁶	N/A	N	N/A
Global TX Coordinator	Y	N/A	N/A ⁴	N/A	N/A ⁶	N/A ⁵	N/A	N/A	N/A	N/A	N/A	N/A

Note:

- 1. Also OSGI.
- 2. WebSphere Application Server.
- 3. DB2 Stored Procedures.
- 4. While it might work (some customers have used this environment), it is not recommended or fully supported.
- 5. RRS is the coordinator.
- 6. DB2 SP on Distributed platform cannot work reliably because of the restricted Java environment.

	Base Ja	va										
	Distribu	ted platfo	rms			z/OS						
Client communication (not running on top of C client)	Basic ¹	WAS ²	Other JEE	Other TM	DB2 SP ³	Basic	WAS ²	Other JEE	DB2 SP ³	Other TM	CICS	IMS
Read ahead	Υ	N/A	N/A	N/A	N/A	N/A ⁵	N/A	N/A	N/A	N/A	N/A	N/A
Asynchronous put	Y	N/A	N/A	N/A	N/A	N/A ⁵	N/A	N/A	N/A	N/A	N/A	N/A
Pre-connect exit	N	N/A	N/A	N/A	N/A	N/A ⁵	N/A	N/A	N/A	N/A	N/A	N/A
CCDT	Y	N/A	N/A	N/A	N/A	N/A ⁵	N/A	N/A	N/A	N/A	N/A	N/A
Multiple CONNAME	N	N/A	N/A	N/A	N/A	N/A ⁵	N/A	N/A	N/A	N/A	N/A	N/A
Auto reconnect	N	N/A	N/A	N/A	N/A	N/A ⁵	N/A	N/A	N/A	N/A	N/A	N/A
Channel compression	Υ	N/A	N/A	N/A	N/A	N/A ⁵	N/A	N/A	N/A	N/A	N/A	N/A
Exit chaining	Y	N/A	N/A	N/A	N/A	N/A ⁵	N/A	N/A	N/A	N/A	N/A	N/A
MQCSP/MQXR_SEC_PARMS	Y <u>4</u>	N/A	N/A	N/A	N/A	N/A ⁵	N/A	N/A	N/A	N/A	N/A	N/A
Native SSL	Y	N/A	N/A	N/A	N/A	N/A ⁵	N/A	N/A	N/A	N/A	N/A	N/A

Note:

- 1. Also OSGI.
- 2. WebSphere Application Server.
- 3. DB2 Stored Procedures.
- 4. Not consistent across all clients.
- 5. Java client not supported in any environment on z/OS

Parent topic: New features and their supported APIs for Version 7.0

Mary 26, 2011 11:31:07

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4.3. New features and their supported APIs for Version 7.0: XMS .NET

Use this information to learn about the WebSphere® MQ Version 7.0 APIs with features and environments that might not be as fully supported as the C

XMS .NET

The following table shows which features are supported for XMS .NET. Support might be extended in later releases of WebSphere MQ.

XMS .NET

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	Distribute	d platforms			
API	Basic ¹	WAS ²	Other JEE	Other TM	DB2® SP3
V7 Publish Subscribe	Υ	N/A	N/A	N/A	N/A
Browse with Mark	Y	N/A	N/A	N/A	N/A
Message Properties	Y <u>4</u>	N/A	N/A	N/A	N/A
Message Selectors	Y	N/A	N/A	N/A	N/A
Asynchronous consume	Y	N/A	N/A	N/A	N/A
Content filtering Publish/Subscribe	N	N/A	N/A	N/A	N/A
Group/Segment messages	N	N/A	N/A	N/A	N/A
PCF Classes	N	N/A	N/A	N/A	N/A
Global TX Participant	Y <u>5</u>	N/A	N/A	N/A	N/A
Global TX Coordinator	N	N/A	N/A	N/A	N/A

Note:

- 1. Also OSGI.
- 2. WebSphere Application Server.
- 3. DB2 Stored Procedures.
- 4. Cannot see the whole MQI namespace, therefore an MQI application might generate messages whose properties cannot be read.
- 5. Works with Microsoft DTC only.

	XMS .NE	T			
	Distribu	ted			
Client communication (not running on top of C client)	Basic ¹	WAS ²	Other JEE	Other TM	DB2 SP3
Read ahead	Υ	N/A	N/A	N/A	N/A
Asynchronous put	Υ	N/A	N/A	N/A	N/A
Pre-connect exit	N	N/A	N/A	N/A	N/A
CCDT	Y	N/A	N/A	N/A	N/A
Multiple CONNAME	N	N/A	N/A	N/A	N/A
Auto reconnect	N	N/A	N/A	N/A	N/A
Channel compression	N	N/A	N/A	N/A	N/A
Exit chaining	N	N/A	N/A	N/A	N/A
MQCSP/MQXR_SEC_PARMS	N	N/A	N/A	N/A	N/A
Native SSL	N	N/A	N/A	N/A	N/A

Note:

- 1. Also OSGI.
- 2. WebSphere Application Server.
- 3. DB2 Stored Procedures.

Parent topic: New features and their supported APIs for Version 7.0

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This topic's URI

4.4. New features and their supported APIs for Version 7.0: XMS C & C++

Use this information to learn about the WebSphere® MQ Version 7.0 APIs with features and environments that might not be as fully supported as the C MQI.

XMS C & C++

The following table shows which features are supported for XMS C & C++. Support might be extended in later releases of WebSphere MQ.

	XMS C & C	++			
	Distribute	d			
API	Basic ¹	WAS ²	Other JEE	Other TM	DB2® SP3
V7 Publish Subscribe	Y	N/A	N/A	N/A	N/A
Browse with Mark	Y	N/A	N/A	N/A	N/A
Message Properties	Y	N/A	N/A	N/A	N/A
Message Selectors	Y	N/A	N/A	N/A	N/A
Asynchronous consume	Y	N/A	N/A	N/A	N/A
Content filtering Publish/Subscribe	N	N/A	N/A	N/A	N/A
Group/Segment messages	N	N/A	N/A	N/A	N/A
PCF Classes	N	N/A	N/A	N/A	N/A
Global TX Participant	N	N/A	N/A	N/A	N/A
Global TX Coordinator	N	N/A	N/A	N/A	N/A

Note:

- 1. Also OSGI.
- 2. WebSphere Application Server.
- 3. DB2 Stored Procedures.

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	XMS C &	C++					
	Distributed						
Client communication (not running on top of C client)	Basic ¹	WAS ²	Other JEE	Other TM	DB2 SP ³		
Read ahead	Υ	N/A	N/A	N/A	N/A		
Asynchronous put	Y	N/A	N/A	N/A	N/A		
Pre-connect exit	N	N/A	N/A	N/A	N/A		
CCDT	N	N/A	N/A	N/A	N/A		
Multiple CONNAME	N	N/A	N/A	N/A	N/A		
Auto reconnect	N	N/A	N/A	N/A	N/A		
Channel compression	Υ	N/A	N/A	N/A	N/A		
Exit chaining	Y	N/A	N/A	N/A	N/A		
MQCSP/MQXR_SEC_PARMS	N/A	N/A	N/A	N/A	N/A		
Native SSL	Y	N/A	N/A	N/A	N/A		

Note:

- 1. Also OSGI.
- 2. WebSphere Application Server.
- 3. DB2 Stored Procedures.

Parent topic: New features and their supported APIs for Version 7.0

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4.5. New features and their supported APIs for Version 7.0: .NET

Use this information to learn about the WebSphere® MQ Version 7.0 APIs with features and environments that might not be as fully supported as the C

.NET

The following table shows which features are supported for .NET. Support might be extended in later releases of WebSphere MQ.

	.NET							
	Distributed							
API	Basic <u>1</u>	WAS ²	Other JEE	Other TM	DB2® SP3			
V7 Publish Subscribe	Y	N/A	N/A	N/A	N/A			
Browse with Mark	Y	N/A	N/A	N/A	N/A			
Message Properties	Y <u>4</u>	N/A	N/A	N/A	N/A			
Message Selectors	Y	N/A	N/A	N/A	N/A			
Asynchronous consume	N	N/A	N/A	N/A	N/A			
Content filtering Publish/Subscribe	N	N/A	N/A	N/A	N/A			
Group/Segment messages	N	N/A	N/A	N/A	N/A			
PCF Classes	N	N/A	N/A	N/A	N/A			
Global TX Participant	Y <u>5</u>	N/A	N/A	N/A	N/A			
Global TX Coordinator	N	N/A	N/A	N/A	N/A			

Note:

- 1. Also OSGI.
- 2. WebSphere Application Server.
- 3. DB2 Stored Procedures.
- 4. Cannot see the whole MQI namespace, therefore an MQI application might generate messages whose properties cannot be read.
- 5. Works with Microsoft DTC only.

	.NET						
	Distributed						
Client communication (not running on top of C client)	Basic ¹	WAS ²	Other JEE	Other TM	DB2 SP ³		
Read ahead	Υ	N/A	N/A	N/A	N/A		
Asynchronous put	Υ	N/A	N/A	N/A	N/A		
Pre-connect exit	N	N/A	N/A	N/A	N/A		
CCDT	Υ	N/A	N/A	N/A	N/A		
Multiple CONNAME	N	N/A	N/A	N/A	N/A		
Auto reconnect	N	N/A	N/A	N/A	N/A		
Channel compression	N	N/A	N/A	N/A	N/A		
Exit chaining	N	N/A	N/A	N/A	N/A		
MQCSP/MQXR_SEC_PARMS	N	N/A	N/A	N/A	N/A		
Native SSL	N <u>4</u>	N/A	N/A	N/A	N/A		

Note:

- 1. Also OSGI.
- 2. WebSphere Application Server.
- 3. DB2 Stored Procedures.

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4. Support available in Unmanaged mode only.

Parent topic: New features and their supported APIs for Version 7.0

Mary 26, 2011 11:31:10

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5. What's changed in the documentation

Changes made to the documentation in this release of WebSphere® MQ

- The Using Java section has been divided into two main sections: WebSphere MQ classes for Java, and WebSphere MQ classes for Java Message Service (WebSphere MQ classes for JMS). For more details see: Should I use WebSphere MQ classes for Java or WebSphere MQ classes for JMS?
- The Portable Document Format (PDF) versions of these documentation plugins are no longer being maintained. You can find the old ones, last updated for V7.0.0.1 from the WebSphere MO Library webpage.

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6. Using this Information Center

Navigating the information: Search tips: Printing tips: Keyboard tips: Font size: Accessibility.

Summary

The sections on this page give specific tips on using this Eclipse Information Center for the WebSphere MQ documentation.

For full details on using the Eclipse help system generally, see Eclipse's own help: Viewing information in the help system.

Navigating the information center

- The Contents Pane is on the left and displays topic titles in a table of contents or navigation tree structure. Click topic titles to display content in the pane on the right. Also hover over a title to see a little down arrow (*) appear at its end click this to open a menu with local print and search options.
- The Topic Pane is the one you're reading these words in now, and it displays the current help topic.
- The *Toolbar* across the top of this Topic Pane provides buttons including: Go Back 💝; Go Forward 💝; Turn Highlight off/on 🚅; Show in Table of Contents 🕸; and Print 🕍 (and in Internet Explorer, Bookmark Page 🗐).
- The Toolbar above the Contents Pane provides buttons for other facilities, including Refresh / Show Current Topic %.
- The Toolbar above both panes provides search facilities.
- To return to the table of contents after running a search, click the Contents tab () at the bottom of the Contents pane.
- When you follow a link within a topic in the pane on the right, the navigation tree does not automatically change to display and highlight the new topic. To see where the new topic fits in the navigation tree and synchronize the two views, click the Show in Table of Contents button. The topic title for the currently displayed topic will be highlighted in the navigation tree.
- To view a subset of the information in another window, see the Print section below.

Accessibility

See Eclipse's own help: Accessibility and keyboard shortcuts in the help system.

Quick keyboard tips:

- To move between panes use function key F6, or Ctrl-F6 in Mozilla/Firefox.
- In any pane or toolbar, use the tab key to move between buttons or objects.
- To move back to the previously viewed topic use the backspace key. To move forward use Alt-RightArrow and to move backward use Alt-LeftArrow.

Searching, finding, and bookmarking

- Use the Search toolbar just above the Contents and Topic panes to find topics in the whole library; click the Search Scope link to restrict the scope of your search within the library.
- Alternatively to limit your search, hover over a title in the Contents pane to see a little down arrow () appear at its end click this to open a menu with local search options including Search this topic, and Search this topic and subtopics.
- On completion of a search, the Contents pane displays the top 500 ranked results. Click on a search result to view the topic. The words from your query are highlighted (to make the text more readable after a search, toggle the highlight off or on using the Turn Highlight off/on button). For best results, use the advanced search.
- To toggle between the navigation tree and the search results list, click the Contents tab () or the Search Results tab () at the bottom of the Contents pane.
- Searches are not case-sensitive.

Some tips:

- Use * for incomplete words, for example: admin* will find occurrences of administration, administer, and so on.
- Search for <u>multiple words</u> by separating them with spaces, for example: **queue manager** will find both topics with the word *queue*, <u>and</u> topics with the word *manager*.

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- Search for a phrase by enclosing it in double-quotes, for example: "queue manager" will find only topics with the whole phrase queue manager.
- The found words will be highlighted when you view the topic (to toggle the highlighting of the found words use the Turn Highlight off/on 🚄 on the topic toolbar).
- To find words in a displayed topic, click in the topic pane and press Ctrl-F.
- After finding a topic, locate the topic in the table of contents by clicking either the Show in Table of Contents 🗐 on the topic toolbar, or the Refresh / Show Current® Topic % on the contents toolbar.
- After a search to find a topic, to toggle the highlighting of the found words use the Turn Highlight off/on 🚄 on the topic toolbar.
- To copy a topic's location for future reference, right-click an entry in the Table of Contents and select: in Internet Explorer, Copy Shortcut, in Mozilla/Firefox Copy Link Location, to copy the location into the clipboard. Then you can paste it into wherever you want to record it, for example your browser bookmarks list, an e-mail, or a document.
- To bookmark a topic in Internet Explorer click the Bookmark Page [♠] on the topic toolbar.

Printing

- To print a single topic, click the *Print* in the topic toolbar, or click in the topic and press Ctrl-P.
- To print a number of topics, hover over a title in the Contents pane to see a little down arrow (🔊) appear at its end click this to open a menu with local print options including Print this topic, and Print this topic and subtopics - note that there is currently a limit of 100 subtopics that can be printed at a time. When you select this option a new browser window opens with the subtopics, and it has a table of contents at the top with clickable links, this can be useful for viewing a subsection even if you don't want to print. The subtopics appear to flow together below that, but when you print you will see page breaks, and headers and footers.

Font size

• Use your browser's own features to control the font size.

Parent topic: Overview

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7. Syntax diagrams

The syntax for a command and its options is presented in the form of a diagram. There are two types of syntax diagram: railroad diagrams and dotted decimal diagrams.

Both types of syntax diagram tell you what options you can supply with the command, and how to enter them, and indicate relationships between different options, and sometimes different values of an option.

- Railroad diagrams are a visual format suitable for sighted users.
- Dotted decimal diagrams are text-based diagrams that are helpful for blind or partially-sighted users, and work well with screen-reader software.

How to read railroad diagrams

Each railroad diagram begins with a double right arrow and ends with a right and left arrow pair. Lines beginning with a single right arrow are continuation lines. You read a railroad diagram from left to right and from top to bottom, following the direction of the arrows

How to read dotted decimal diagrams

In dotted decimal format, each syntax element is written on a separate line, starting with a dotted decimal number.

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7.1. How to read railroad diagrams

Each railroad diagram begins with a double right arrow and ends with a right and left arrow pair. Lines beginning with a single right arrow are continuation lines. You read a railroad diagram from left to right and from top to bottom, following the direction of the arrows

Other conventions used in railroad diagrams are:

Table 1. How to read railroad diagrams

Convention	Meaning
>>-ABC><	You must specify values A, B, and C. Required values are shown on the main line of a railroad diagram.
>>-++	You may specify value A. Optional values are shown below the main line of a railroad diagram.
>>-+-A-+	Values ${\tt A}, {\tt B},$ and ${\tt C}$ are alternatives, one of which you must specify.
>>-+>< +-A-+ +-B-+	Values ${\tt A},{\tt B},{\tt and}{\tt C}$ are alternatives, one of which you might specify.

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, V >>+	You might specify one or more of the values A, B, and C. Any required separator for multiple or repeated values (in this example, the comma (,)) is shown on the arrow.
++- '-,-' V	You might specify value A multiple times. The separator in this example is optional.
A >>-+	Values \mathbb{A} , \mathbb{B} , and \mathbb{C} are alternatives, one of which you might specify. If you specify none of the values shown, the default \mathbb{A} (the value shown above the main line) is used.
>>- Name	The railroad fragment Name is shown separately from the main railroad diagram.
Punctuation and uppercase values	Specify exactly as shown.

Parent topic: Syntax diagrams

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7.2. How to read dotted decimal diagrams

In dotted decimal format, each syntax element is written on a separate line, starting with a dotted decimal number.

If two or more syntax elements are always present together (or always absent together), they can appear on the same line, as they can be considered as a single compound syntax element.

Each line starts with a dotted decimal number, for example 3 or 3.1.1. To hear these numbers correctly, make sure that your screen reader is set to read out punctuation. All the syntax elements that have the same dotted decimal number (for example, all the syntax elements that have the number 3.1) are mutually exclusive alternatives. For example, if you hear the lines 3.1 USERID, 3.1 SYSTEMID, you know that your syntax can include either USERID or SYSTEMID, but not both.

The dotted decimal numbering level denotes the level of nesting. For example, if a syntax element with the dotted decimal number 3 is followed by a series of syntax elements with the dotted decimal number 3.1, all the syntax elements numbered 3.1 are subordinate to the syntax element numbered 3.

Characters such as commas that are used to separate a string of syntax elements, are shown in the syntax just before the items they separate. They might appear on the same line as each item, or on a separate line with the same dotted decimal number as the relevant items. The line might also show another symbol giving information about the syntax elements; all these symbols are explained below. For example, the lines 5.1*,,5.1 LASTRUN, 5.1 DELETE mean that if you use more than one of the syntax elements LASTRUN and DELETE, they must be separated by a comma. If no separator is given, assume that you use a blank to separate each syntax element.

If a syntax element is preceded by the % symbol, this indicates a reference that is defined elsewhere. The string following the % is the name of a syntax fragment, rather than a literal. For example, the line 2.1 %OP1 means that at this point, you should refer to the separate syntax fragment OP1. OP1, in the syntax from which this example was taken, gave a list of further options.

Certain words and symbols are used next to the dotted decimal numbers to add information about the syntax elements. Occasionally, these words and symbols might occur at the beginning of the element itself. For ease of identification, if the word or symbol is a part of the syntax element, it is preceded by the escape character, which is a \ (backslash). For example, the * symbol can be used next to a dotted decimal number to mean that this syntax element can be repeated. If a syntax element actually starts with the * symbol, for example a syntax element * FILE with the dotted decimal number 3, it is given in the format 3 * FILE. If the format is 3* FILE, this means that there is a syntax element FILE, which can be repeated. If the format was 3* * FILE, this means that there is a syntax element * FILE, which can be repeated.

The words and symbols used next to the dotted decimal numbers are as follows:

- ? means an optional syntax element. If a dotted decimal number is followed by the ? symbol, this means that all the syntax elements with that dotted decimal number, and any subordinate syntax elements that they each have, are optional. If there is only one syntax element with that dotted decimal number, the ? symbol appears on the same line as the syntax element, for example 5? NOTIFY. If there is more than one syntax element with that dotted decimal number, the ? symbol appears on a line by itself, followed by the syntax elements that are optional. For example, if you hear the lines 5 ?, 5 NOTIFY, 5 UPDATE, you know that the syntax elements NOTIFY and UPDATE are optional; you can choose one or none of them. The $\ensuremath{?}$ symbol is equivalent to a bypass line in a railroad diagram.
- ! means a default syntax element. If a dotted decimal number is followed by the ! symbol, appended to the last digit of the dotted decimal number, this means that this syntax element is the default of all the elements with the same dotted decimal number. Only one of the syntax elements that share the same dotted decimal number can specify a !. For example, if you hear the lines 2? FILE, 2.1! (KEEP), 2.1 (DELETE), you know that (KEEP) is the default option for the FILE keyword. If you include the FILE keyword but do not state your choice of option, the default option KEEP is applied. As well as the particular syntax element marked with the ! symbol, the default also applies to the next higher dotted decimal number. In the example above, the default applies to 2? FILE as well as to 2.1! (KEEP), meaning that if you omit the word FILE, the default FILE (KEEP) is used. However, you might instead hear the lines 2? FILE, 2.1, 2.1.1! (KEEP), 2.1.1 (DELETE). As the default only applies to the next higher dotted decimal number, which in this case is 2.1, it does not apply to 2? FILE. In this case, if you omit the word FILE, nothing is used.
- * means a syntax element that is optional and can be repeated. If a dotted decimal number is followed by the * symbol, this means that this syntax element it is optional, and can be repeated. For example, if you hear the line 5.1* data-area, you know that you can include more than one

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data area, or you can include none. If you hear the lines 3*, 3 HOST, 3 STATE, you know that you can include HOST, STATE, both, or nothing. Note that if a dotted decimal number has an asterisk next to it, and there is only one item with that dotted decimal number, you can repeat that same item more than once. If a dotted decimal number has an asterisk next to it, and several items have that dotted decimal number, you can use more than one item from the list, but you cannot use the items more than once each. In the example above, you could write HOST STATE, but you could not write HOST. The * symbol is equivalent to a loop back line in a railroad syntax diagram.

• + means a syntax element that must be included at least once, and can be repeated. If a dotted decimal number is followed by the + symbol, this means that this syntax element must be included at least once, and can be repeated. For example, if you hear the line 6.1+ data-area, you know that you must include at least one data area, and you can include more than one. If you hear the lines 2+, 2 HOST, 2 STATE, you know that you must include HOST, STATE, or both. As for the + symbol, you can only repeat a particular item if it is the only item with that dotted decimal number. The + symbol, like the * symbol, is equivalent to a loop back line in a railroad syntax diagram.

Parent topic: Syntax diagrams

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