



IBM Software Group

WebSphere® Message Broker Version 6

Message Broker Toolkit Overview Part 1



@business on demand.

© 2006 IBM Corporation
Updated May 21, 2007

This presentation is the first of two modules presenting the capabilities of the WebSphere Message Broker Toolkit Version 6.

Agenda

- Introduction
- System administration
 - ▶ Resource management
 - ▶ Configuration manager proxy
- Application development
 - ▶ Message flow editor
 - ▶ ESQL editor
 - ▶ Mapping editor
 - ▶ Message set and message definition editors
 - ▶ Java perspective
 - ▶ Data tools
 - ▶ Multiple data base support
- Summary and references



The first module provides an introduction to the Message Broker Toolkit capabilities and covers system administration features. The second module discusses broker application features of the toolkit followed by a summary.

Section

Introduction

This section provides a brief introduction to the toolkit.

WebSphere Message Broker Toolkit

- Integrated development environment
- GUI based on Eclipse platform
- Application developers use to develop message sets and message flows
- Broker administrators use to manage broker domains
- Single Message Broker Toolkit window is the workbench
- Perspectives have views and editors for specific tasks



The WebSphere Message Broker Toolkit is an Eclipse-based Unified Modeling Language (UML) visualization and Java™ Development tool that has been extended with tools specifically for WebSphere Message Broker. It is an integrated development environment and graphical user interface based on the Eclipse platform. A single toolkit window is a workbench and application developers work in separate instances of the WebSphere Message Broker Toolkit to develop message sets and message flows. The Toolkit communicates with one or more configuration managers, and you can use it to manage broker domains.

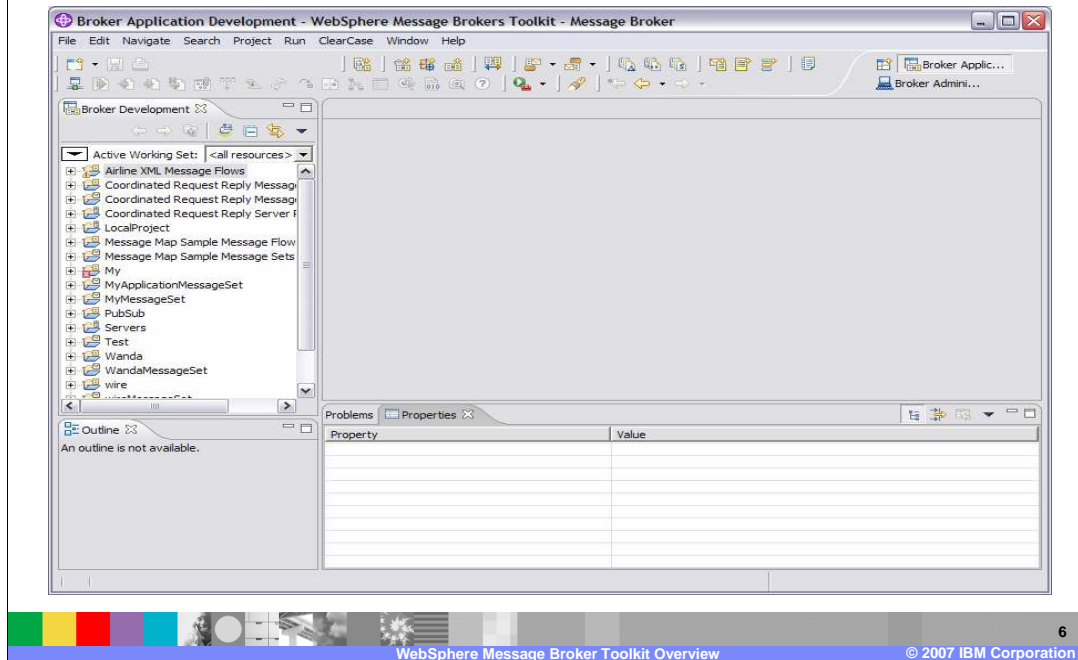
Toolkit capabilities

- Message flow development
- Message set development
- User-defined node development
- Broker domain administration
- Flow debugger

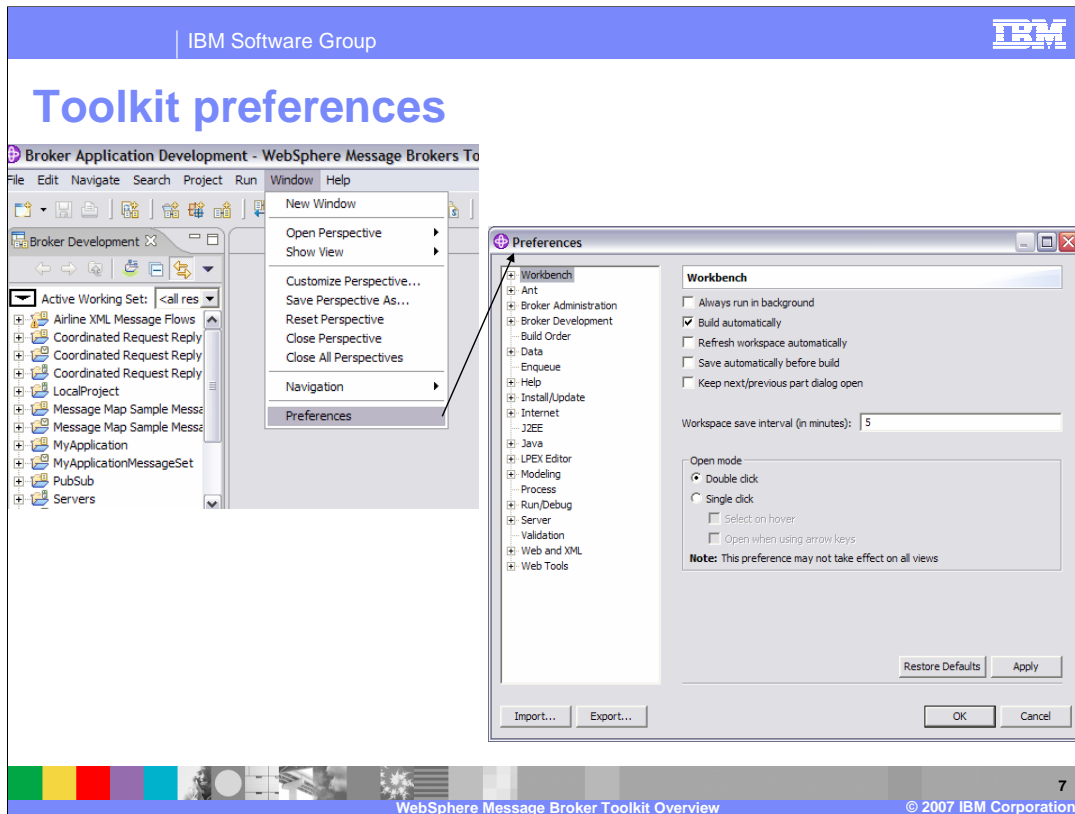


The WebSphere Message Broker Toolkit provides the capabilities to develop message flows and message sets. User-defined nodes (plug-ins) are developed and broker domains administered in the toolkit. The toolkit also provides a flow debugger.

WebSphere Message Brokers Toolkit



When you start the Message Brokers Toolkit, a single window called the workbench is displayed, which contains one or more perspectives. A perspective is a collection of views and editors that help you complete a specific task or work with specific types of resource. This screen capture shows the WebSphere Message Broker Toolkit in the Broker Application Development perspective, which is displayed the first time you open it.




You can customize the environment by selecting Window, then preferences. There are preferences for administration, for many development categories and for the appearance of the workbench.

IBM Software Group IBM

Perspectives

There are many perspectives available; some more common ones are:

- Broker Application Development perspective
- Broker Administration perspective
- Debug perspective
- Plug-in Development perspective



8

WebSphere Message Broker Toolkit Overview © 2007 IBM Corporation

The Message Broker Toolkit contains a number of perspectives. A perspective is a group of views and editors that show various aspects of the resources in the workbench, and helps you complete specific tasks. The screen capture here shows the perspectives available by selecting Window , then Open perspective, then Other.

The Broker Application Development perspective is where application developers work to develop and modify message sets and message flows.

The Broker Administration perspective is where administrators work to manage the resources in the broker domain that are defined on one or more Configuration Managers. It is a broker administration console that communicates with one or more Configuration Managers

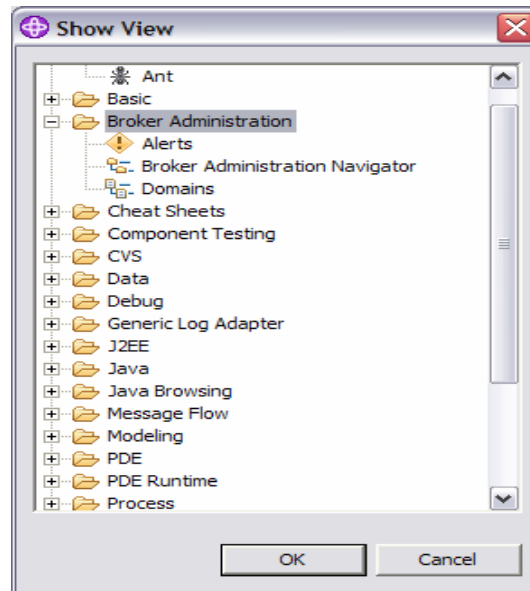
The debug perspective is where application developers test and debug message flows.

The Plug-in Development perspective is where application developers develop plug-ins for user-defined extensions.

Views

Many views available;
for example

- Alerts
- Problems
- Javadoc



To open a view that is not available on your workbench select Windows, Show View, then Other. The selected view is normally opened in the lower right pane and multiple views, each with an identifying tab, can be opened in that pane.

Resources

- Stored in the local file system; defaults are:
 - ▶ Windows C:\Documents and Settings\user\IBM\wmbt6.0\workspace
 - ▶ Linux /home/user/IBM/wmqi6.0/workspace.
- Displayed in the navigator
 - ▶ Lists resources specific to the perspective
 - ▶ Upper left of the workbench
- Application resources stored in projects which provide
 - ▶ Verification
 - ▶ Building
 - ▶ Version management
 - ▶ Sharing
 - ▶ Resource organization
- Can be shared between users and systems



Resources in the Message Broker Toolkit are stored in the local file system, and the default locations are shown here. Broker application resources and other files are stored in the local file system in a directory called the workspace, which is chosen when the Message Broker Toolkit is started.

Resources created with the Message Broker Toolkit are saved to the workspace directory and are displayed in the Navigator in the upper left pane of the workbench. It is also possible to Import resources from other locations into the workspace using the toolkit; a reference to the resources is created within the tooling, making them visible through the Navigator.

Broker application resources are stored in projects in the Message Broker Toolkit workspace. Message flows are stored in message flow projects and message sets are stored in message set projects. Projects have associations with the Message Broker Toolkit that are involved with verification, building, version management, sharing, and resource organization.

Resources can be shared between users and systems by moving them between systems. They can also be shared with supported development repositories and version control systems such as CVS, IBM Rational ClearCase®, or any other repository with an Eclipse 3.0 client.

Editors

- Broker Administration perspective
 - ▶ Broker Topology editor
 - ▶ Event Log editor
 - ▶ Subscriptions Query editor
 - ▶ Topics Hierarchy editor

- Broker Application Development perspective
 - ▶ Broker Archive editor
 - ▶ ESQL editor
 - ▶ Message Category editor
 - ▶ Message Definition editor
 - ▶ Message Flow editor
 - ▶ Message mapping editor
 - ▶ Message Set editor

- Plug-in Development perspective
 - ▶ Message Node editor



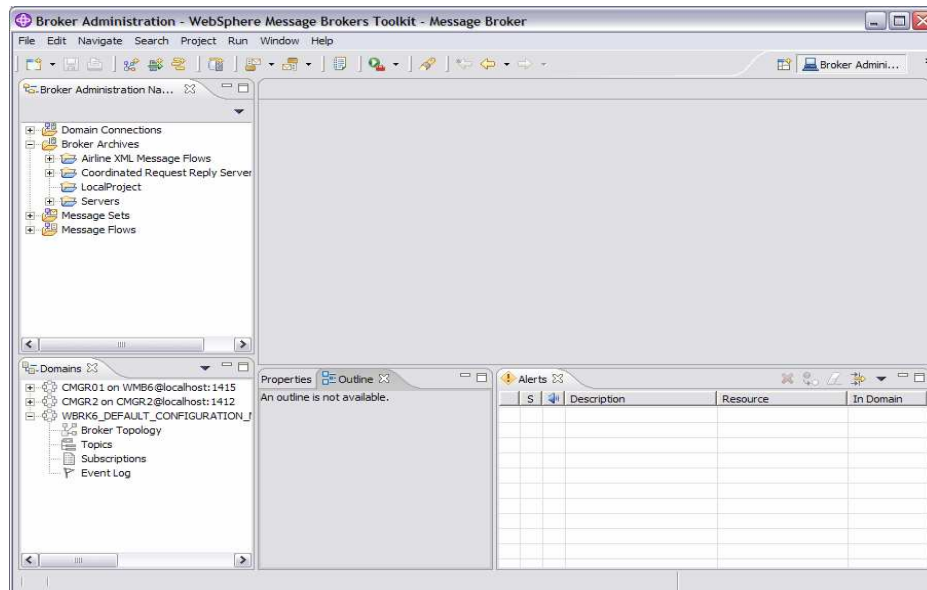
An editor is a component of the workbench that is typically used to edit or browse a resource. When you open a file for editing, for example by double-clicking it in the resource navigator view, the default editor associated with that file opens in the editor area of the current perspective. By default, the editor area is in the top-right hand portion of the workbench window.

Section

System administration

This section discusses the tools provided for Message Broker system administration.

Broker Administration perspective



Broker Administration perspective is where the broker domain resources (also referred to as *domain objects*) that are defined on one or more Configuration Managers are managed. The default workbench layout of the Broker Administration perspective is shown here.

Broker Administration perspective

- Set up broker domain
 - ▶ Creating and removing domain connections
 - ▶ Connecting and removing brokers
- Adding and removing execution groups
- Creating and deploying broker archive (bar) files
- Defining and managing publish/subscribe
 - ▶ topic hierarchies
 - ▶ Subscriptions
- Workbench housekeeping



Setting up the broker domain, which involves creating collectives, creating and removing domain connections, and connecting and removing brokers, is one important task accomplished in this perspective.

This perspective provides tools to add and remove execution groups, create and deploy broker archive files, and define and manage publish/subscribe applications.

There are also tools to manage and clean the workbench.

Broker Administration Navigator view

- View and work with broker domain resource files
- Deploy and delete resource files created in the Broker Application Development perspective
- Files displayed in navigator:
 - ▶ Domain connections
 - ▶ Broker archive (bar) files
 - ▶ Message sets (mset) files
 - ▶ Message flow (msgflow) files



The Broker Administration Navigator view, which is where you view and work with any of the broker domain resource files, is in the upper left of the workbench. You can also deploy and delete any resource file that has been created in the Broker Application Development perspective. The broker domain resource files displayed in the navigator view are:

Domain Connections defined to multiple local and remote Configuration Managers

Broker Archives (bar) files

Message set (mset) files

and

Message flow (msgflow) files

Domains view

- View and work with broker domain objects connected to a Configuration Manager
 - ▶ Broker Topology
 - ▶ Topics
 - ▶ Subscriptions
 - ▶ Event Log entries
- Manage deployed configurations
- Deploy bar files on execution groups
- Start and stop message sets and flows



The domains view is where you view and work with any of the broker domain objects listed here when a broker domain is connected to a Configuration Manager.

You can manage deployed configurations in this view and double-clicking an object launches the appropriate editor in the editor view. You can also deploy bar files on execution groups, and start and stop message sets and message flows.

Broker Administration Perspective editors

- Broker Topology editor
- Event Log editor
- Subscriptions Query editor
- Topics Hierarchy editor



You can open any broker domain resource to launch its default editor in the editor view. The editors listed here are available in the Broker Administration Perspective.

Broker Topology editor

- Manages brokers and collectives
- Save topology changes to the Configuration Manager
- Use to
 - ▶ Create, rename or delete brokers
 - ▶ Change broker properties
 - ▶ Connect pub/sub brokers to collectives or remove connections between pub/sub brokers and collective
 - ▶ Delete collectives

The Broker Topology editor is the default editor that is provided by the Broker Administration perspective for managing brokers and collectives, and for saving topology changes to the Configuration Manager in a single step.

The Broker Topology editor is launched in the editor area of the Broker Administration perspective when you double-click Broker Topology in the Domains view.

Use the Broker Topology editor to create, rename, or delete brokers, or change broker properties. In the workbench, a broker is a representation of a physical broker that exists in the domain. When you create or rename a broker in the Broker Topology editor, you must use the name of the physical broker that exists in the domain. You can also use the Topology editor to connect brokers to collectives, remove connections between brokers and collectives, or delete collectives in publish/subscribe applications

Event Log editor

- View message in the Event Log editor following configuration deploys
- Two panes
 - ▶ Logs shows summary of all events
 - ▶ Details provides complete message for a selected log entry
- Menu options
 - ▶ Clear Log
 - ▶ Filter log
 - ▶ Revert
 - ▶ Save log



The event messages are stored and managed by the Configuration Manager and can be viewed in the Event Log editor following configuration deployments by double-clicking the Event Log in the Domains view.

The Event Log editor has two panes; Logs and Details. The Logs pane displays a summary of each event in the Event Log editor. These summaries include a message identifier, the source of the message, for example the Configuration Manager or a broker, and the date and time the message was generated. The Details pane displays the complete message, and any corrective action for the log entry selected in the Logs pane.

Right-clicking in the Logs pane displays the menu items listed here. Clear Log clears all log entries from the Event Log editor and deletes the log entries from the configuration repository. You cannot retrieve a message that has been cleared and messages are automatically cleared after 72 hours. Filter Log displays the Log Filter, where you can filter on the type, source and timestamp of the message to restrict the number of log entries displayed in the Event Log editor. You can also mask events to make the other entries easier to view in the Event log editor and the filter settings you define are kept for your next session. Revert refreshes the Event Log editor with the most recent log entries from the Configuration Manager. You should only use this option if the workbench is not synchronized with the Configuration Manager. Option Save Log As saves the messages to a filename and path of your choice.

Subscriptions Query editor

- Publish/subscribe system actions:
 - ▶ View and delete subscriptions
 - ▶ Set query parameters
 - ▶ Submit subscription queries
- Manage subscriptions by
 - ▶ Topics
 - ▶ Brokers
 - ▶ Users
 - ▶ Subscription points



The Subscriptions Query editor is the default editor provided by the Broker Administration perspective for managing subscriptions. Use this editor to view and delete subscriptions in your publish/subscribe system. The editor allows you to set query parameters, submit subscription queries, and delete subscriptions.

The entry fields allow you to limit the displays to only the topics, brokers or users requested and you can use wildcard characters to display a range of items.

Topics Hierarchy editor

- Manage the publish/subscribe topic hierarchy
- Create, modify, and delete topics
- Define or modify your topic Access Control Lists (ACLs)



The Topics Hierarchy editor is the default editor provided by the Broker Administration perspective for managing the publish/subscribe topic hierarchy and is used to create, modify, and delete topics, or to define or modify your topic Access Control Lists.

References

- WebSphere Message Broker library:

<http://www-306.ibm.com/software/integration/wbmessagebroker/library/>

- WebSphere Message Broker Information Center:

<http://publib.boulder.ibm.com/infocenter/wmbhelp/v6r0m0/index.jsp>

- ▶ Especially topics ab00030 and ab35805

- Eclipse

<http://www.eclipse.org/>



Shown here is a list of additional references and resources.

Trademarks, copyrights, and disclaimers

The following terms are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both:

IBM	CICS	IMS	MQSeries	Tivoli
IBM (logo)	Cloudscape	Informix	OS/390	WebSphere
e(logo)/business	DB2	iSeries	OS/400	xSeries
AIX	DB2 Universal Database	Lotus	pSeries	zSeries

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Microsoft, Windows, Windows NT, and the Windows logo are registered trademarks of Microsoft Corporation in the United States, other countries, or both.

Intel, ActionMedia, LANDesk, MMX, Pentium and ProShare are trademarks of Intel Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Linux is a registered trademark of Linus Torvalds.

Other company, product and service names may be trademarks or service marks of others.

Product data has been reviewed for accuracy as of the date of initial publication. Product data is subject to change without notice. This document could include technical inaccuracies or typographical errors. IBM may make improvements and/or changes in the product(s) and/or program(s) described herein at any time without notice. Any statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only. References in this document to IBM products, programs, or services does not imply that IBM intends to make such products, programs or services available in all countries in which IBM operates or does business. Any reference to an IBM Program Product in this document is not intended to state or imply that only that program product may be used. Any functionally equivalent program, that does not infringe IBM's intellectual property rights, may be used instead.

Information is provided "AS IS" without warranty of any kind. THE INFORMATION PROVIDED IN THIS DOCUMENT IS DISTRIBUTED "AS IS" WITHOUT ANY WARRANTY, EITHER EXPRESS OR IMPLIED. IBM EXPRESSLY DISCLAIMS ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT. IBM shall have no responsibility to update this information. IBM products are warranted, if at all, according to the terms and conditions of the agreements (e.g., IBM Customer Agreement, Statement of Limited Warranty, International Program License Agreement, etc.) under which they are provided. Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products in connection with this publication and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. IBM makes no representations or warranties, express or implied, regarding non-IBM products and services.

The provision of the information contained herein is not intended to, and does not, grant any right or license under any IBM patents or copyrights. Inquiries regarding patent or copyright licenses should be made, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. All customer examples described are presented as illustrations of how those customers have used IBM products and the results they may have achieved. The actual throughput or performance that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput or performance improvements equivalent to the ratios stated here.

© Copyright International Business Machines Corporation 2006. All rights reserved.

Note to U.S. Government Users - Documentation related to restricted rights-Use, duplication or disclosure is subject to restrictions set forth in GSA ADP Schedule Contract and IBM Corp.