Sterling B2B Integrator

IBM

WebSphere MQ Suite

Version 5.2

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Contents

WebSphere MQ Suite

The WebSphere MQ Suite is a group of services that provide maximum flexibility and functionality by enabling you to script a complete MQ session using a business process. The suite also includes an adapter that you can use for asynchronous receiving - the WebSphere MQ Async Receiver adapter.

Sterling B2B Integrator still includes the original WebSphere MQ adapter, which may serve your needs better if your MQ communications are fairly basic.

For information about the original adapter, see *WebSphere MQ Adapter*.

WebSphere MQ Suite - Security Considerations (V5.2.6 and higher)

For better security, TLS 1.2 is set as the default security protocol in Sterling B2B Integrator for all WebSphere MQ Suite services and adapters.

To use Sterling B2B Integrator in a secure manner, consider the following items before using the WebSphere MQ Suite services and adapters:

- In Sterling B2B Integrator, the TLS level is determined by the cipher chosen. There are three parameters in `wsmq.properties` that control the ciphers used for each TLS version:
  - **tls1Ciphers** - list of ciphers for TLS 1.0
  - **tls1.1Ciphers** - list of ciphers for TLS 1.1
  - **tls1.2Ciphers** - list of ciphers for TLS 1.2
- All ciphers supported by TLS1.2 are not listed in **DefaultCipherSuite** in `wsmq.properties`. You can add any supported ciphers, but read the WebSphere MQ documentation first so that you add them to the appropriate property file for each TLS level.
- When setting **SSLProtocol** in `wsmq.properties` to the desired TLS level for the Dashboard and GPM, consider that there are no supported WebSphere MQ ciphers for TLS 1.1. You should not set **SSLProtocol** to TLS 1.1 if you are using WebSphere MQ. The valid values for **SSLProtocol** are listed below:
  - **TLS1–TLS1.2** - for TLS1.0, TLS1.1, and TLS1.2
  - **TLS1** - for TLS1.0 only
  - **TLS1.1** - for TLS 1.1 only
  - **TLS1.2** - for TLS1.2 only
- Any service or adapter configured prior to V5.2.6 to use a cipher that does not match the value of **SSLProtocol** in `wsmq.properties`, runs but logs an error message for the insecure cipher. If you edit the service or adapter after upgrading to V5.2.6, you only have ciphers to select from that match the TLS level configured in **SSLProtocol**.
- WebSphere MQ version prior to V7.5 FP2 do not have ciphers that support TLS 1.2. If you use WebSphere MQ V7.5 FP2 or lower, you must set **SSLProtocol** in `wsmq.properties` to **TLS1**.

WebSphere MQ Suite - Available Services and Adapters

The WebSphere MQ Suite includes a communications adapter and eight services that enable you to use Sterling B2B Integrator to perform many functions with a WebSphere MQ server. Optionally, you can use the WebSphere MQ Suite adapter to connect to a remote WebSphere MQ server.

Note: When using WebSphere MQ Suite, the workflow can start on any node in the cluster. However, once the Open Session occurs, the rest of the WebSphere MQ Suite calls that use that session must complete on the same node. This is because the session ID is saved on that node only. To make this work, add one extra line to the business process: <assign to="mandatoryNode" from="sci-get-property('noapp','servername')">. This assign must occur before the call to the WebSphere MQ Suite Open Session Service. Make sure that ReleaseService does not delete this value from ProcessData.

The following services and adapters are available:

- *WebSphere MQ Suite Async Receiver Adapter* – Receives messages as soon as they are available on the queue instead of waiting for a scheduled job to poll the queue.
- *WebSphere MQ Suite Open Session Service* – Opens a session, which establishes a connection to a WebSphere MQ Queue Manager.
- *WebSphere MQ Suite Open Queue Service* – Opens a queue.
- *WebSphere MQ Suite Get Message Service* – Gets or browses messages in a queue.
- *WebSphere MQ Suite Put Message Service* – Puts messages in a queue.
- *WebSphere MQ Suite Commit Service* – Commits SyncPoint operations for a given WebSphere MQ Queue Manager.
- *WebSphere MQ Suite Backout Service* – Backs out SyncPoint operations for a given WebSphere MQ Queue Manager.
- *WebSphere MQ Suite Close Session Service* – Closes an existing session and disconnect from the WebSphere MQ Queue Manager.
- *WebSphere MQ Suite Close Queue Service* – Closes a queue.

WebSphere MQ Suite and Adapter Functionality Comparison

The WebSphere MQ Suite is a group of services that provide maximum flexibility and functionality by enabling you to script a complete MQ session using a business process. The suite also includes an adapter that you can use for asynchronous receiving - the WebSphere MQ Async Receiver adapter.

The following table contains a comparison of the original WebSphere MQ adapter and the WebSphere MQ Suite of services:

Function	WebSphere MQ Suite	WebSphere MQ Adapter
Reuse	The eight default services can access multiple MQ Queue Managers or MQ Queue combinations – you do not have to create new configurations of each service for different MQ Queue Managers or MQ Queue combinations.	Requires a separate adapter configuration for one MQ Queue Manager and one MQ Queue combination.

Function	WebSphere MQ Suite	WebSphere MQ Adapter
Control over the process	Enables you to determine exactly how and when each operation should be performed and can work with multiple MQ Queues and/or MQ Queue Managers within one SyncPoint operation	Runs entire session in one invocation call from the business process. It connects to the configured MQ Queue Manager and MQ Queue (or re-uses an existing connection from the pool), sends or receives messages, and performs the commit or backout as appropriate.
Browsing capability? (getting messages without removing them from the queue)	Yes	No
Batch mode support	Supports enhanced batch mode functionality for both sending and receiving, including in AsyncRcv mode.	Limited batch mode support (sending multiple workflow documents in one call), for Send operations only.

WebSphere MQ Suite Configuration Checklist

Use the WebSphere MQ Suite Configuration checklist to gather necessary information prior to configuring the WebSphere MQ Suite components.

WebSphere MQ Suite Configuration Checklist

Information	Description	Your Notes
Business process to invoke	What business process should the WebSphere MQ Suite Async Receiver adapter invoke when a message is received?	
Channel	What channel should be used for the Async Receiver adapter?	
Document name	What document name should be associated with the data received?	
Failure workflow	What business process should be invoked if retries are exhausted?	
Host name	What is the host name or IP address of the WebSphere MQ server?	
Metadata to include	Which metadata fields from the message should be included with the document in process data?	
Message handling	What type of message handling should be used?	
Queue manager	What queue manager should be used?	
Queue name	What previously opened queue should be used to PUT messages?	
Password	What is the password, if required for access to the WebSphere MQ server?	

Information	Description	Your Notes
Listening port	What is the listening port of the WebSphere MQ server?	
Get type	What type of Get should be performed? • GETONE (default) • GETALL • GETUNDERCURSOR • BROWSEALL • BROWSENEXT • BROWSEFIRST • BROWSEUNDERCURSOR	
User identifier	What is the user identifier, if required, to access WebSphere MQ server?	
Run as User	What is the Sterling B2B Integrator user account to use for the invoked business process?	

Obtain and Install Third Party Files for WebSphere MQ Suite

Before using the WebSphere MQ Suite, you must obtain a vendor library package. The WebSphere MQ Client JAR files, which include the WebSphere MQ classes for Java, must be installed on the host computer where Sterling B2B Integrator is installed.

About this task

For more information about the WebSphere MQ Classes for Java, go to the IBM WebSphere MQ site at http://www.ibm.com/software/integration/wmq/.

Note: Ensure that other versions of the WebSphere MQ Client JAR files have been uninstalled prior to installing the latest WebSphere MQ Client JAR files.

To install the necessary files:

Procedure

1. Stop Sterling B2B Integrator if it is running.
2. Install the WebSphere MQ Client JAR files, following the instructions at: http://www.ibm.com/support/docview.wss?uid=swg21670087.
3. Restart Sterling B2B Integrator.

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