



Informatica® PowerExchange for MSMQ  
10.1.1

# User Guide for PowerCenter

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# Preface

The *Informatica PowerExchange® for MSMQ User Guide for PowerCenter®* provides information to build mappings to extract data from MSMQ messages and load data to MSMQ messages. It is written for the database administrators and developers who are responsible for extracting data from MSMQ messages and loading data into MSMQ messages.

This book assumes you have knowledge of relational database concepts and database engines, PowerCenter, and the MSMQ system. You should also be familiar with the interface requirements for other supporting applications.

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# CHAPTER 1

## Understanding PowerExchange for MSMQ

This chapter includes the following topic:

- [Understanding PowerExchange for MSMQ Overview, 7](#)

### Understanding PowerExchange for MSMQ Overview

MSMQ (Microsoft Message Queuing) is a Windows-based message queuing application that can contain data in any format that is understood by both the sender and the receiver. PowerExchange for MSMQ integrates with MSMQ to extract data from MSMQ sources and write data to MSMQ targets. With PowerExchange for MSMQ, you can define MSMQ sources and targets in the Designer. You can use MSMQ source and target definitions in a mapping to read messages from MSMQ sources and write messages to MSMQ intermediate queues. MSMQ then reads messages from the MSMQ intermediate queues and writes them to the targets.

When extracting data from MSMQ or writing data to MSMQ, the PowerCenter Integration Service connects to a Microsoft Messaging Queue. The message queue can be a public message queue or a private message queue. The message queue can also be transactional or non-transactional.

### MSMQ Delivery Options

MSMQ provides the following delivery options for sending messages:

- **Recoverable messaging.** MSMQ stores queue messages on disk during delivery. If any computer on which messages reside fails or shuts down during delivery, MSMQ can resend the messages after the Message Queuing service restarts. Recoverable messaging guarantees message delivery, but may decrease performance.
- **Express messaging.** MSMQ stores queue messages in memory during delivery until the target queue receives them. If a computer fails during delivery, MSMQ cannot recover any lost messages. However, if the network fails, MSMQ continues to store messages in memory until the network connection is restored. Express messaging may increase performance, but does not guarantee message delivery.

For non-transactional queues, you can configure MSMQ to use recoverable messaging or express messaging. For transactional queues, you must use recoverable messaging.

To write messages to an MSMQ target queue, you can select a delivery option in the session properties.

## CHAPTER 2

# Working with MSMQ Sources and Targets

This chapter includes the following topics:

- [Working with MSMQ Sources and Targets Overview, 8](#)
- [Creating MSMQ Source or Target Definitions, 9](#)

## Working with MSMQ Sources and Targets Overview

MSMQ source and target definitions represent metadata for MSMQ messages. When the PowerCenter Integration Service reads messages from MSMQ, it reads messages based on the message format of the source definition. When the PowerCenter Integration Service writes messages to an MSMQ intermediate queue, it writes messages based on the format of the target definition.

When you create MSMQ source and target definitions, the Designer displays a table with message fields and MSMQ datatypes. When the PowerCenter Integration Service reads data from MSMQ, it converts the data based on the datatypes in the Source Qualifier transformation associated with the source.

Every MSMQ source and target definition contains the following fields:

- **MSG\_BODY**. Contains the MSMQ message body.
- **LABEL**. Describes the message label.
- **CORRELATION\_ID**. Contains the correlation identifier of the message.

The following table lists the MSMQ datatypes that PowerExchange for MSMQ supports and the corresponding transformation datatype:

MSMQ Datatypes	Transformation Datatype	Description
VT_LPSTR	String	Variable length, null-terminated ASCII strings.
VT_LPWSTR	String	Variable length, null-terminated Unicode strings.
VT_BSTR	Binary	Variable length, Unicode strings that may or may not be null-terminated.
Binary	Binary	Strings and numeric data.

MSMQ Datatypes	Transformation Datatype	Description
UniString	String	Variable length, null-terminated Unicode strings.
Binary	Binary	Binary data.

If you specify the datatype for the MSG\_BODY field as VT\_LPSTR, VT\_LPWSTR, or VT\_BSTR in a source definition, the PowerCenter Integration Service processes only those messages that match the specified datatype. If you specify one of these datatypes and enable the Remove Message on Read option when you configure MSMQ session properties, the PowerCenter Integration Service removes all messages even if they have not been processed.

If you specify the datatype for the MSG\_BODY field in the source definition as Binary, the PowerCenter Integration Service processes all messages regardless of datatype.

The datatype for the LABEL field is UniString and cannot be edited. The datatype for the CORRELATION\_ID field is Binary and cannot be edited.

## Creating MSMQ Source or Target Definitions

You manually create MSMQ source and target definitions in the Designer. After you create an MSMQ definition, you can edit the definition to change the precision for the MSG\_BODY port.

To create a MSMQ source or target definition:

1. To create an MSMQ source definition, click Sources > Create in the Source Analyzer. To create an MSMQ target definition, click Targets > Create in the Target Designer.
2. Enter a name for the source or target definition.
3. If you are creating a source definition, enter a name in the Database Name field.
4. Select MSMQ as the database type.
5. Click Create.

The Select Message Body Datatype dialog box appears.

6. Select one of the following message body datatypes:
  - **VT\_LPSTR**. Variable length, null terminated ASCII string.
  - **VT\_LPWSTR**. Variable length, null terminated Unicode string.
  - **VT\_BSTR**. Variable length, Unicode strings that may or may not be null-terminated.
  - **BINARY**. Strings and numeric data.
7. Click OK.

An MSMQ source or target definition appears.

8. To add another source or target definition, enter a new source or target name. Click Create.
9. Click Done.

## CHAPTER 3

# Creating and Configuring MSMQ Workflows

This chapter includes the following topics:

- [Working with MSMQ Workflows, 10](#)
- [Configuring MSMQ Session Properties, 12](#)
- [Running MSMQ Workflows, 13](#)

## Working with MSMQ Workflows

When you configure an MSMQ workflow, you define the session and scheduler properties that determine how the PowerCenter Integration Service reads messages from an MSMQ source or writes messages to an MSMQ target.

When you configure an MSMQ session, you can set the following session properties:

- Terminating conditions
- Real-time processing
- Remove message on read
- Deliver messages in recoverable mode

You can also configure pipeline partitioning for the session.

## Configuring Terminating Conditions

Terminating conditions determine when the PowerCenter Integration Service stops reading from the source and ends the session. You can define the following terminating conditions:

- Idle Time
- Message Count

### Idle Time

Use idle time to indicate how many seconds the PowerCenter Integration Service waits when no messages arrive before it stops reading from the queue. For example, if you enter 30 for idle time, the PowerCenter Integration Service waits 30 seconds after reading from queue. If no new messages arrive in MSMQ within 30 seconds, the PowerCenter Integration Service stops reading from the queue.

## Message Count

Use message count to control the number of messages the PowerCenter Integration Service reads from MSMQ before stopping. For example, when you specify 100 for message count, the PowerCenter Integration Service reads 100 messages from MSMQ.

If you enter a message count value, and you configure the session to use pipeline partitioning, the session can run on a single node only. The PowerCenter Integration Service that runs the session cannot run on a grid or on primary and backup nodes.

## Configuring Real-time Processing

You can configure flush latency to process data in real time. A real-time session reads, processes, and writes data to targets continuously. Flush latency determines how often the PowerCenter Integration Service flushes data from the source.

## Removing Messages from the Source Queue

The Remove Message on Read option determines whether the PowerCenter Integration Service removes messages from the queue after reading. If the Remove Message on Read option is disabled, the PowerCenter Integration Service does not remove previously read messages from the queue. If there are multiple partitions in a pipeline, each partition may read duplicate messages.

## Configuring Delivery Options

When you want to write messages to an MSMQ target queue, you can use one of the following delivery options:

- **Recoverable Messaging.** MSMQ stores messages on disk until it writes them to an MSMQ target queue. MSMQ stores the messages on the disk of each machine through which MSMQ routes the messages.
- **Express Messaging.** MSMQ stores messages in memory until it writes them to an MSMQ target queue.

### Using Recoverable Messaging

You can configure a PowerCenter session to use recoverable messaging. The PowerCenter Integration Service extracts messages from a source and transforms the data according to the mapping logic. It then writes the messages to an MSMQ intermediate queue. MSMQ stores the messages on disk and writes them to the target queue. After MSMQ delivers messages to the target queue, it removes sent messages from disk at regular intervals.

If the PowerCenter session fails during delivery, MSMQ can recover all messages that the PowerCenter Integration Service sent to the intermediate queue but did not reach the target queue. However, MSMQ cannot recover messages that the PowerCenter Integration Service did not send to the intermediate queue.

If the target queue is transactional, you must use recoverable messaging. If you configure the PowerCenter session to use express messaging, MSMQ automatically delivers the messages using recoverable messaging.

### Using Express Messaging

You can configure a PowerCenter session to use express messaging. The PowerCenter Integration Service extracts messages from a source and transforms the data according to the mapping logic. It then writes the messages to an MSMQ intermediate queue. MSMQ stores the messages in memory until it delivers them to the target queue.

If the PowerCenter session fails during delivery, MSMQ cannot recover any messages that did not reach the target queue. If the target queue is non-transactional, you can use recoverable or express messaging.

## Pipeline Partitioning

You can increase the number of partitions in a pipeline to improve session performance. Increasing the number of partitions allows the PowerCenter Integration Service to create multiple connections to sources and targets and process partitions of sources and targets concurrently.

The following table describes the partition types for partition points in MSMQ mappings:

Partition Point	Partition Type
Application Source Qualifier for MSMQ sources	Pass-through
MSMQ target	Pass-through

## Configuring MSMQ Session Properties

Use the following procedure to configure MSMQ session properties.

To configure session properties:

1. In the Task Developer, double-click an MSMQ session to open the session properties.
2. From the Connections settings on the Mapping tab (Sources node), select an MSMQ queue connection for Application Source Qualifiers connected to MSMQ sources.
3. From the Connections settings on the Mapping tab (Targets node), select an MSMQ queue connection for each MSMQ target.
4. From the General Options on the Properties tab, select the commit type.
5. Optionally, edit the commit interval.
6. Select the Mappings tab.
7. From the Properties settings on the Mapping tab (Sources node), enter a value for Message Count of 1 or greater.

If you enter a value of -1, the session does not complete. You must abort the session.

8. Optionally, enter a value for Real-time Flush Latency.
9. Optionally, enter a value for Idle Time.
10. Optionally, select the Remove Message on Read option.
11. Optionally, select Deliver Messages in Recoverable Mode to use MSMQ recoverable messaging. Or, clear Deliver Messages in Recoverable Mode to use MSMQ express messaging.
12. Click OK.

## Running MSMQ Workflows

If you remove messages after the PowerCenter Integration Service reads them from the source, the MSMQ server deletes the messages from the queue after the PowerCenter Integration Service reads them.

If a mapping with an MSMQ target definition contains an Update Strategy transformation, the PowerCenter Integration Service only writes rows flagged as DD\_INSERT to the target. It discards all other rows.

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