



Informatica® PowerExchange CDC Publisher
1.2.0

Release Guide

Informatica PowerExchange CDC Publisher Release Guide

1.2.0

January 2019

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Preface

The *PowerExchange CDC Publisher Release Guide* describes the cumulative changes for Informatica® PowerExchange® CDC Publisher releases that are currently supported, beginning with version 1.0.

Review this guide to get an overview of the changes in each release. The guide lists new features and enhancements, behavior changes, and new and changed commands and parameters. The guide also covers any changes to supported operating systems, PowerExchange versions, and target versions.

Informatica Resources

Informatica provides you with a range of product resources through the Informatica Network and other online portals. Use the resources to get the most from your Informatica products and solutions and to learn from other Informatica users and subject matter experts.

Informatica Network

The Informatica Network is the gateway to many resources, including the Informatica Knowledge Base and Informatica Global Customer Support. To enter the Informatica Network, visit <https://network.informatica.com>.

As an Informatica Network member, you have the following options:

- Search the Knowledge Base for product resources.
- View product availability information.
- Create and review your support cases.
- Find your local Informatica User Group Network and collaborate with your peers.

Informatica Knowledge Base

Use the Informatica Knowledge Base to find product resources such as how-to articles, best practices, video tutorials, and answers to frequently asked questions.

To search the Knowledge Base, visit <https://search.informatica.com>. If you have questions, comments, or ideas about the Knowledge Base, contact the Informatica Knowledge Base team at KB_Feedback@informatica.com.

Informatica Documentation

Use the Informatica Documentation Portal to explore an extensive library of documentation for current and recent product releases. To explore the Documentation Portal, visit <https://docs.informatica.com>.

Informatica maintains documentation for many products on the Informatica Knowledge Base in addition to the Documentation Portal. If you cannot find documentation for your product or product version on the Documentation Portal, search the Knowledge Base at <https://search.informatica.com>.

If you have questions, comments, or ideas about the product documentation, contact the Informatica Documentation team at infa_documentation@informatica.com.

Informatica Product Availability Matrices

Product Availability Matrices (PAMs) indicate the versions of the operating systems, databases, and types of data sources and targets that a product release supports. You can browse the Informatica PAMs at <https://network.informatica.com/community/informatica-network/product-availability-matrices>.

Informatica Velocity

Informatica Velocity is a collection of tips and best practices developed by Informatica Professional Services and based on real-world experiences from hundreds of data management projects. Informatica Velocity represents the collective knowledge of Informatica consultants who work with organizations around the world to plan, develop, deploy, and maintain successful data management solutions.

You can find Informatica Velocity resources at <http://velocity.informatica.com>. If you have questions, comments, or ideas about Informatica Velocity, contact Informatica Professional Services at ips@informatica.com.

Informatica Marketplace

The Informatica Marketplace is a forum where you can find solutions that extend and enhance your Informatica implementations. Leverage any of the hundreds of solutions from Informatica developers and partners on the Marketplace to improve your productivity and speed up time to implementation on your projects. You can find the Informatica Marketplace at <https://marketplace.informatica.com>.

Informatica Global Customer Support

You can contact a Global Support Center by telephone or through the Informatica Network.

To find your local Informatica Global Customer Support telephone number, visit the Informatica website at the following link:

<https://www.informatica.com/services-and-training/customer-success-services/contact-us.html>.

To find online support resources on the Informatica Network, visit <http://network.informatica.com> and select the eSupport option.

CHAPTER 1

Version 1.2

This chapter includes the following topics:

- [New Features and Enhancements , 6](#)
- [Configuration Property Changes, 7](#)
- [Changes to Software Requirements, 7](#)

New Features and Enhancements

PowerExchange CDC Publisher 1.2 introduces the following features and enhancements:

Composite Message Key

PowerExchange CDC Publisher can now generate a composite message key for each source table based on rules that you define. The message key is included in the messages that CDC Publisher sends to the target messaging system. The target messaging system can use the message key to write messages with a specific key value to the same partition in the target topics. For more information, see the chapter "Configuring PowerExchange CDC Publisher" in the *PowerExchange CDC Publisher User Guide*.

Runtime Statistics at Shutdown

PowerExchange CDC Publisher can print runtime statistics to the message log at shutdown if you set the new `Connector.logConnectorStatsOnExit` property to true in the `cdcPublisherKafka.cfg` configuration file. The statistics are printed in message CDCPUB_15034 and are the same as the statistics produced by the `PWXCDCINFO STATS=TOPIC` command. For more information, see the chapter "Configuring PowerExchange CDC Publisher" in the *PowerExchange CDC Publisher User Guide*.

Support for Exactly-Once Delivery of Messages

To support exactly-once delivery of messages to the target, PowerExchange CDC Publisher now detects when the Kafka `enable.idempotence` property is set to true in the `producer.properties` file. When idempotence is enabled, the `retries` parameter in the Kafka Streams client configuration must be set to a value greater than 0. Previously, CDC Publisher reset the `retries` parameter to 0 when using *guaranteed delivery*. Now, CDC Publisher honors the existing `retries` parameter value greater than 0 when idempotence is enabled and *guaranteed delivery* is in use.

Support for Periods and Dashes in Kafka Topic Names

PowerExchange CDC Publisher now supports the use of period (.) and dash (-) characters in Kafka topic names if you set the new `Connector.kafkaTopicAllowSpecialCharacters` parameter to true. If you use the default value of false, CDC Publisher converts period and dash characters to an underscore (_) character.

Documentation Enhancement - New Release Guide

A new Release Guide publication has been created to track product changes across versions.

Configuration Property Changes

PowerExchange CDC Publisher 1.2 provides some new configurations properties.

The following table identifies the added properties:

Property	Configuration File	Added, Removed, or Changed
Connector.kafkaProducerPartitionID	cdcPublisherKafka.cfg	Added
Connector.kafkaTopicAllowSpecialCharacters	cdcPublisherKafka.cfg	Added
Connector.logConnectorStatsOnExit	cdcPublisherKafka.cfg	Added
Connector.sendMaintainOrder	cdcPublisherKafka.cfg	Added
Formatter.captureColumnValuesFile	cdcPublisherAvro.cfg	Added

For more information, see the chapter "Configuring PowerExchange CDC Publisher" in the *PowerExchange CDC Publisher User Guide*.

Changes to Software Requirements

PowerExchange CDC Publisher 1.2 introduces changes to supported target versions and PowerExchange versions. No changes to supported operating system versions occurred in this release.

PowerExchange Versions

PowerExchange Version 10.2 HotFix 1 EBF 07 is required for PowerExchange CDC Publisher Version 1.2 if your PowerExchange system includes MySQL version 5.7 as a data source.

Target Versions

PowerExchange CDC Publisher 1.2 introduces the following changes to supported target versions:

Target Type	Version	Added or Dropped
Apache Kafka ¹	2.1	Added
Apache Kafka	0.10.2.0 0.9.0.1	Dropped

Target Type	Version	Added or Dropped
MapR Streams ²	6.0 6.1	Added
MapR Streams	5.2.2	Dropped
<p>1. For Apache Kafka, you can download the version from any available binary download. The Scala version is immaterial.</p> <p>2. The MapR versions are supported with the Apache Kafka API.</p>		

Note: If you use Confluent Schema Registry in the Kafka target environment, versions 5.1 and 3.2.1 are supported.

CHAPTER 2

Version 1.1

This chapter includes the following topics:

- [New Features and Enhancements, 9](#)
- [Configuration Property Changes, 10](#)
- [Behavior Changes, 11](#)
- [Changes to Software Requirements, 11](#)

New Features and Enhancements

PowerExchange CDC Publisher 1.1 introduces the following features and enhancements:

Support for Confluent Schema Registry

PowerExchange CDC Publisher supports Apache Kafka environments that use Confluent Schema Registry. For more information, see the chapter "Target Messaging Systems" in the *PowerExchange CDC Publisher User Guide*.

Commit Messages

You can generate messages for transaction commit operations. You can then use the messages to detect transaction boundaries. To enable the generation of commit messages, set the new `Formatter.generateCommitDML` property to `LAST_TABLE` or `ALL_TABLES`. Optionally, you can also set the new `Connector.kafkaCommitDmlTopic` and `Connector.kafkaCommitDmlTopicFiltering` properties to control how these messages are sent to topics. For more information, see the chapter "Configuring PowerExchange CDC Publisher" in the *PowerExchange CDC Publisher User Guide*.

Timestamp for Change Record Processing

You can add a timestamp column to the generated Avro schema and formatted messages to indicate the time at which the CDC Publisher Formatter processed the change records. To do so, specify the new `Formatter.formatterAddTimestampColumn=true` property in the `cdcPublisherAvro.cfg` file. You can optionally also set the `Formatter.formatterAddedTimestampColumnFormat`, `Formatter.formatterAddedTimestampColumnTimezone`, and `Formatter.formatterAddedTimestampColumnName` properties to specify the timestamp format, time zone, and column name. For more information, see the chapter "Configuring PowerExchange CDC Publisher" in the *PowerExchange CDC Publisher User Guide*.

Table Name As a Message Key Value

You can use a source table name as the message key value in messages that PowerExchange CDC Publisher sends to a partitioned Kafka topic. To use the table name as the message key value, set the new `Connector.kafkaMessageKey` property to `USE_TABLE_NAME`.

Publish Messages to Topics in a MapR Stream

PowerExchange CDC Publisher can publish messages to topics in a MapR target messaging system that uses the Kafka API. The topics must be in a single MapR stream. For more information, see the chapter "Target Messaging Systems" in the *PowerExchange CDC Publisher User Guide*.

Configuration Property Changes

PowerExchange CDC Publisher 1.1 includes some added and changed configurations properties.

The following table identifies these properties:

Property	Configuration File	Added, Removed, or Changed
<code>Connector.queueType</code>	<code>cdcPublisherKafka.cfg</code>	Changed - New option for MapR Streams targets
<code>Connector.kafkaMaprStreamName</code>	<code>cdcPublisherKafka.cfg</code>	Added
<code>Connector.kafkaTopic</code>	<code>cdcPublisherKafka.cfg</code>	Changed - Topic names for MapR Streams targets include the stream name
<code>Connector.kafkaCommitDmlTopic</code>	<code>cdcPublisherKafka.cfg</code>	Added
<code>Connector.kafkaCommitDmlTopicFiltering</code>	<code>cdcPublisherKafka.cfg</code>	Added
<code>Connector.kafkaMessageKey</code>	<code>cdcPublisherKafka.cfg</code>	Added
<code>Extract.pwxOffloadOption</code>	<code>cdcPublisherPowerExchange.cfg</code>	Added
<code>Extract.pwxReadLatency</code>	<code>cdcPublisherPowerExchange.cfg</code>	Added
<code>Formatter.avroDisplaySchemaWithEscapedQuotes</code>	<code>cdcPublisherAvro.cfg</code>	Added
<code>Formatter.formatterAddTimestampColumn</code>	<code>cdcPublisherAvro.cfg</code>	Added
<code>Formatter.formatterAddedTimestampColumnFormat</code>	<code>cdcPublisherAvro.cfg</code>	Added
<code>Formatter.formatterAddedTimestampColumnName</code>	<code>cdcPublisherAvro.cfg</code>	Added
<code>Formatter.formatterAddedTimestampColumnTimezone</code>	<code>cdcPublisherAvro.cfg</code>	Added
<code>Formatter.generateCommitDML</code>	<code>cdcPublisherAvro.cfg</code>	Added

For more information see the chapter "Configuring PowerExchange CDC Publisher" in the *PowerExchange CDC Publisher User Guide*.

Behavior Changes

PowerExchange CDC Publisher 1.1 introduces the following behavior change:

Offload Processing

Previously, offload processing was enabled by default and you could not disable it. Now, offload processing is disabled by default and you can intentionally enable it by setting the new `Extract.pwxOffloadOption` property in the `cdcPublisherPowerExchange.cfg` file to `Y`.

Changes to Software Requirements

PowerExchange CDC Publisher 1.1 introduces changes to supported operating systems and target versions. No changes to supported PowerExchange versions occurred in this release.

Operating Systems

PowerExchange CDC Publisher 1.1 introduces the following changes to supported operating systems:

- RedHat Linux 7.4 is added.
- SUSE Linux 11 is dropped.

Target Versions

PowerExchange CDC Publisher 1.1 adds support for the following target versions:

Target Type	Version	Added or Deprecated
Apache Kafka ¹	1.1.0 0.11.0. <i>n</i>	Added
MapR Streams ²	6.0 5.2.2	Added
<p>1. For Apache Kafka, you can down the version from any available binary download. The Scala version is immaterial.</p> <p>2. The MapR Streams versions are supported with the Apache Kafka API.</p>		

CHAPTER 3

Version 1.0

This chapter includes the following topics:

- [Introducing PowerExchange CDC Publisher, 12](#)
- [Software Requirements, 13](#)

Introducing PowerExchange CDC Publisher

The PowerExchange CDC Publisher is a new Java-based tool that streams change data that has been captured from a PowerExchange data source to a target Apache Kafka messaging system. This tool is licensed as an option of the PowerExchange CDC product.

The following PowerExchange data sources are supported:

- On z/OS: Adabas, Datacom, DB2 for z/OS, IDMS, IMS, CICS/VSAM, and Batch VSAM
- On i5/OS: DB2 for i
- On Linux, UNIX, and Windows: DB2 for Linux, UNIX, and Windows, Microsoft SQL Server, and Oracle

The only supported target is currently Apache Kafka.

The PowerExchange CDC Publisher must run on a Red Hat Linux or Windows machine. Because the CDC Publisher retrieves change data from PowerExchange Logger for Linux, UNIX, and Windows log files, it requires that you use the PowerExchange Logger in your PowerExchange environment. You can run the CDC Publisher on the PowerExchange Logger or data source machine or on a machine that is remote from the PowerExchange Logger and data source. The CDC Publisher acts like a client of PowerExchange and target messaging system.

The PowerExchange CDC Publisher consists of the following command-line utilities:

- PwxCDCPublisher - The main utility for streaming PowerExchange change data to the target messaging system.
- PwxCDCAdmin - The utility for performing administrative functions, such as shutting down the PwxCDCPublisher process.
- PwxCDCInfo - The utility for reporting the color-coded status of the PwxCDCPublisher process and each of its main subprocesses. This utility can also report statistics and state information for each Kafka topic and for diagnostic attributes.

When you start the main PwxCdcPublisher utility from a command prompt, it performs the following processing:

1. Retrieves the PowerExchange extraction maps that define the data source objects.
2. If you configure filtering criteria, filters the extraction maps.

3. Starts an extraction process that reads change data from PowerExchange Logger log files for the source objects.
4. When the first change for an extraction map is received, generates an Avro schema.
5. Formats the change data into Kafka messages based on the Avro schema.
6. Connects to the Kafka target and sends the messages to the target. Consumer applications can then read the data from Kafka.

For detailed information about installing, configuring, and using the CDC Publisher, see the *PowerExchange CDC Publisher User Guide*.

Software Requirements

The Product Availability Matrix (PAM) identifies the versions of operating systems and target software that PowerExchange CDC Publisher 1.0 supports. If you are an Informatica Network member, you can access the PAM at <https://network.informatica.com/community/informatica-network/product-availability-matrices>.

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