Informatica®

Informatica® Cloud Data Integration

Db2 Warehouse on Cloud Connector

Informatica Cloud Data Integration Db2 Warehouse on Cloud Connector
July 2024

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Preface

Use *Db2 Warehouse on Cloud Connector* to learn how to read from or write to Db2 Warehouse on Cloud by using Cloud Data Integration. Learn to create a Db2 Warehouse on Cloud connection, develop mappings, and run mapping, dynamic mapping, and data transfer tasks in Cloud Data Integration.

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CHAPTER 1

Introduction to Db2 Warehouse on Cloud Connector

This chapter includes the following topics:

- Db2 Warehouse on Cloud Connector Overview, 6
- Db2 Warehouse on Cloud Supported Task Types and Object Types, 7

Db2 Warehouse on Cloud Connector Overview

You can use Db2 Warehouse on Cloud Connector to securely read data from or write data to IBM Db2 Warehouse on Cloud.

The IBM Db2 Warehouse on Cloud is a fast, fully managed, data warehouse and analytics service provisioned on the Cloud.

You can create a connection of Db2 Warehouse on Cloud type in Data Integration and use the connection in mappings and mapping tasks to read from or write data to IBM Db2 Warehouse. Db2 Warehouse on Cloud sources and targets in mappings represent tables in IBM Db2 Warehouse on Cloud. Create a mapping task to process data based on the data flow logic defined in a mapping or integration template.

You can switch mappings to advanced mode to include transformations and functions that enable advanced functionality.

When you run a Db2 Warehouse on Cloud mapping task, the Secure Agent either reads or writes data to IBM Db2 Warehouse based on the defined data logic and the configured Db2 Warehouse on Cloud connection.

Example

You work as a data analyst in a retail corporation that has outlets across various countries. You want to assess your retain store performance across geographical distributions and produce a report that identifies the likelihood of future sales outcomes based on existing data. You want to use the built-in analytics, R predictive modeling, and business intelligence tools in IBM Db2 Warehouse on Cloud. The solution speeds up the process and helps you analyze your data and get precise insights quickly.

You design a mapping to read data from Salesforce and other transactional systems and aggregate the data. Use Db2 Warehouse on Cloud Connector to write aggregated data to IBM Db2 Warehouse and then use the predictive modeling algorithms to identify your potential stores across geographical locations, track your leads, and come up with a future course of action.

Db2 Warehouse on Cloud Supported Task Types and Object Types

The following table lists the tasks and object types that Db2 Warehouse on Cloud Connector supports:

Task Type	Source	Target
Synchronization	No	No
Mapping	Yes	Yes
Dynamic mapping	Yes	Yes
Data transfer	Yes	Yes

For more information about configuring dynamic mapping and data transfer tasks, see *Tasks*.

CHAPTER 2

Db2 Warehouse on Cloud Connections

This chapter includes the following topics:

- Db2 Warehouse on Cloud Connections Overview, 8
- Db2 Warehouse on Cloud connection properties, 8

Db2 Warehouse on Cloud Connections Overview

You can use a Db2 Warehouse on Cloud connection to read data from or write data to IBM Db2 Warehouse on Cloud. You can use the connections to specify sources or targets in mappings and mapping tasks.

Create the connection on the **Connections** page and associate it with a mapping or mapping task. Define the source and target properties to read or write data to IBM Db2 Warehouse.

Db2 Warehouse on Cloud connection properties

When you set up a Db2 Warehouse on Cloud connection, you must configure the connection properties.

The following table describes the Db2 Warehouse on Cloud connection properties:

Connection property	Description
Connection name	The name of the connection.
Description	Description of the Db2 Warehouse on Cloud connection. Maximum length is 255 characters.
Type	Type of connection. Select **Db2 Warehouse on Cloud**.
Runtime Environment	The name of the runtime environment where you want to run the tasks. Specify a Secure Agent, Hosted Agent, or serverless runtime environment.
User ID	User ID to log into IBM Db2 Warehouse on Cloud.

Connection property	Description
Password	Password for the user ID to connect to IBM Db2 Warehouse on Cloud.
Host name	Host name of IBM Db2 Warehouse on Cloud.
Port number	Network port number used to connect to the IBM Db2 Warehouse server.
Database name	Database name of IBM Db2 Warehouse that you want to connect to.
SSL connection	Determines whether the Secure Agent establishes a secure connection with IBM Db2 Warehouse. Select SSL to establish a secure connection to IBM Db2 Warehouse. **Note:** When you use a serverless runtime environment, you cannot configure a Db2 Warehouse connection to use SSL to securely communicate with the Db2 Warehouse database.
Advanced connection properties	Optional. Additional connection parameters that you want to use. Specify the connection parameters as key-value pairs in the following format, and separate each key-value pair with a semicolon: `<param1>=<value>&<param2>=<value>&<param3>=<value>....`
Schema	The schema name in IBM Db2 Warehouse on Cloud from where you want to fetch the metadata. **Note:** The Secure Agent browses all schemas in IBM Db2 Warehouse on Cloud if you do not specify a schema name.

CHAPTER 3

Mappings and Mapping Tasks with Db2 Warehouse on Cloud Connector

Use the Data Integration Mapping Designer to create a mapping. When you create a mapping, you configure a source or target to represent the object.

In advanced mode, the Mapping Designer updates the mapping canvas to include transformations and functions that enable advanced functionality.

Db2 Warehouse on Cloud Objects in Mappings

When you create a mapping, you can configure a Source or Target transformation to represent a Db2 Warehouse on Cloud object.

Db2 Warehouse on Cloud Sources in Mappings

In a mapping, you can configure a Source transformation to represent a IBM Db2 Warehouse source.

The following table describes the source properties that you can configure in a Source transformation:

Property	Description
Connection	Name of the source connection. You cannot parameterize the connection at runtime.
Source type	Type of the source object. Select Single Object, Multiple Objects, or Parameter. To define a parameter, select **Parameter** as the source type, and then specify the parameter in the **Parameter** property.
Object	Name of the source object.
Parameter	Select a parameter for the source object, or click **New Parameter** to define a new parameter for the source object. The **Parameter** property appears only if you select Parameter as the source type.

The following table describes the query options that you can configure in a Source transformation:

Property	Description
Filter	Filter value in a read operation. Click **Configure** to add conditions to filter records and reduce the number of rows that the Secure Agent reads from the source. You can specify the following filter conditions: - **Not parameterized**. Use a basic filter to specify the object, field, operator, and value to select specific records. - **Completely parameterized**. Use a parameter to represent the field mapping. - **Advanced**. Use an advanced filter to define a more complex filter condition.
Sort	Add conditions to sort records. You can specify the following sort conditions: - **Not parameterized.** Select the fields and type of sorting to use. - **Parameterized.** Use a parameter to specify the sort option. - **Sort Order.** Sorts data in ascending or descending order, according to a specified sort condition.

The following table describes the advanced source properties that you can configure in a Source transformation:

Property	Description
Pre-SQL	The pre-SQL commands to run a query before you read data from IBM Db2 Warehouse.
Post-SQL	The post-SQL commands to run a query after you write data to a target.
Tracing Level	Sets the amount of details that appear in the log file. You can choose terse, normal, verbose initialization, or verbose data. Default is normal.

Configuring Key Range Partition

Configure key range partition to partition Db2 Warehouse on Cloud data based on field values. Key range is supported for only the numeric and date/time data types.

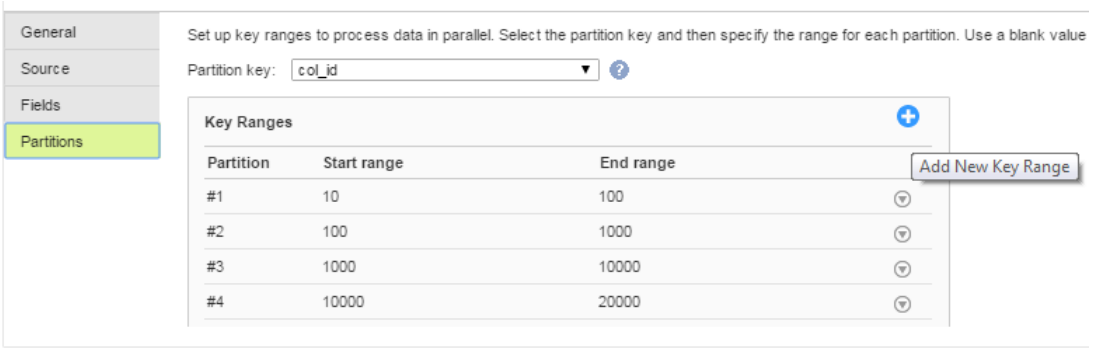
You can configure key ranges for the following data types:

- String
- Numeric
- Date/Time. Use the following format:YYYY-MM-DD HH24:MI:SS.MS

Perform the following steps to configure a key range partition:

1. In **Source Properties**, click the **Partitions** tab.
2. Select the required **Partition Key** from the list.
3. Click **Add New Key Range** to add partitions.

The following image displays the details of the **Partitions** tab.



4. Specify the **Start range** and **End range**.

Db2 Warehouse on Cloud Targets in Mappings

To write data to IBM Db2 Warehouse, configure a IBM Db2 Warehouse object as the target in a mapping.

Specify the name and description of the IBM Db2 Warehouse target. Configure the target and advanced properties for the target object

The following table describes the target properties that you can configure in a Target transformation:

Property	Description
Connection	Name of the target connection. You cannot parameterize the connection at runtime.
Target Type	Type of the target object. Select Single Object or Parameter. If you select **Parameter**, specify an input parameter for the target object in the **Parameter** property. When you use a parameter, you specify the target table for the parameterized object on the **Targets** page of each mapping task associated with the mapping.
Object	Name of the target object. You can select an existing target object from the displayed list. **Create New at Runtime** property is not applicable.
Parameter	Select or create a parameter for the target object. Appears only when the target type is **Parameter**.
Operation	Target operation. Select Insert, Update, Upsert, Delete, or Data Driven.

The following table describes the advanced target properties:

Property	Description
Update Mode	Specifies the mode to write data to IBM Db2 Warehouse target. You can specify the following modes: - Update As Update. Updates all rows flagged for update if the entries exist. - Update Else Insert. Updates all rows flagged for update if the entries exist in the target. If the entries do not exist, the Secure Agent inserts the entries.
Truncate Target	The Secure Agent truncates the target before writing the data.
Pre-SQL	The pre-SQL commands to run a query before you read data from a source.

Property	Description
Post-SQL	The post-SQL commands to run a query after you write data to IBM Db2 Warehouse.
Forward Rejected Rows	Determines whether the transformation passes rejected rows to the next transformation or drops rejected rows. By default, the agent forwards rejected rows to the next transformation.

Db2 Warehouse on Cloud Objects in Mapping Tasks

When you configure a mapping task, you can configure advanced properties for Db2 Warehouse on Cloud targets.

Db2 Warehouse on Cloud Sources in Mapping Tasks

For Db2 Warehouse on Cloud source connections used in template-based mapping tasks, you can configure advanced properties in the **Sources** page.

The **Sources** page appears only if you defined a parameter for the source connection or object in the mapping. If you defined a connection parameter, select or create the specific connection that you want the mapping task to use. If you defined a source object parameter, select the mapping for a specific source object.

You can configure the following advanced properties:

Property	Description
Pre-SQL	The pre-SQL commands to run a query before you read data from IBM Db2 Warehouse.
Post-SQL	The post-SQL commands to run a query after you write data to a target.
Tracing Level	Sets the amount of details that appear in the log file. You can choose terse, normal, verbose initialization, or verbose data. Default is normal.

Db2 Warehouse on Cloud Targets in Mapping Tasks

For Db2 Warehouse on Cloud target connections used in mapping tasks, you can configure advanced target properties in the **Targets** page of the Mapping Task wizard.

The **Targets** page appears only if you defined a parameter for the target connection or object in the mapping.

You can configure the following advanced target properties:

Property	Description
Update Mode	Specifies the mode to write data to IBM Db2 Warehouse target. You can specify the following modes: - Update As Update. Updates all rows flagged for update if the entries exist. - Update Else Insert. Updates all rows flagged for update if the entries exist in the target. If the entries do not exist, the Secure Agent inserts the entries.
Truncate Target	The Secure Agent truncates the target before writing the data.
Pre-SQL	The pre-SQL commands to run a query before you read data from a source.
Post-SQL	The post-SQL commands to run a query after you write data to IBM Db2 Warehouse.
Forward Rejected Rows	Determines whether the transformation passes rejected rows to the next transformation or drops rejected rows. By default, the agent forwards rejected rows to the next transformation.

CHAPTER 4

Data Type Reference

This chapter includes the following topics:

- Data Type Reference Overview, 15
- Db2 Warehouse on Cloud and Transformation Data Types, 15

Data Type Reference Overview

Data Integration uses the following data types in mappings and mapping tasks with IBM Db2 Warehouse:

Db2 Warehouse on Cloud native data types

Db2 Warehouse on Cloud data types appear in the source and target transformations when you choose to edit metadata for the fields.

Transformation data types

Set of data types that appear in the transformations. They are internal data types based on ANSI SQL-92 generic data types, which the Secure Agent uses to move data across platforms. Transformation data types appear in all transformations in a mapping.

When Data Integration reads source data, it converts the native data types to the comparable transformation data types before transforming the data. When Data Integration writes to a target, it converts the transformation data types to the comparable native data types.

Db2 Warehouse on Cloud and Transformation Data Types

The following table lists the Db2 Warehouse on Cloud data types that Data Integration supports and the corresponding transformation data types:

Db2 Warehouse on Cloud Data Type	Transformation Data Type	Description
Smallint	integer	Precision 10; scale 0
Integer	integer	Precision 10; scale 0

Db2 Warehouse on Cloud Data Type	Transformation Data Type	Description
Bigint	biginteger	Precision 19; scale 0
Decimal	decimal	Precision 1 to 28; scale 0 to 28
Numeric	decimal	Precision 1 to 28; scale 0 to 28
Real	double	Precision 15; scale 0
Double	double	Precision 15; scale 0
Decfloat	decimal	Precision 1 to 28; scale 0 to 28
Char	string	Precision 254
Varchar	string	Precision 32672
Clob	text	Precision 104857600
Graphic	string	Precision 127
Vargraphic	string	Precision 16336
Binary	binary	Precision 255
Varbinary	binary	Precision 32672
DBclob	text	Precision 104857600
Blob	binary	Precision 104857600
Date	date	Precision 10; - Month: 1 - Day: 1 - Year: 0001 - Month: 12 - Day: x, where x is 28, 29, 30, or 31, and depends on the month. - Year: 9999
Time	date	Precision 8; - Hour : 0 - Minute : 0 - Second : 0 - Hour : 24 - Minute : 59 - Second : 59
Timestamp	date	Precision 26; Jan 1, 0001 A.D. to Dec 31, 9999 A.D. (precision to the nanosecond)
Boolean	integer	Precision 1

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