Informatica® Cloud Data Integration
July 2024

Db2 Data Map Connector

Informatica Cloud Data Integration Db2 Data Map Connector
July 2024

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Preface

Learn how to use the *Db2 Data Map Connector* to retrieve Db2 records from a PowerExchange environment and write the data to a supported target. The Db2 Data Map Connector works with Cloud Data Integration mappings, mapping tasks, and taskflows. Learn how to configure connections, mappings, and mapping tasks and to run and monitor mapping tasks.

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CHAPTER 1

Introduction to Db2 Data Map Connector

You can use Db2 Data Map Connector to connect to a PowerExchange Db2 Data Map environment to retrieve records for registered Db2 data map sources. The PowerExchange Listener retrieves metadata from the data map repository and records from the Db2 data map sources. The data is returned to the PowerExchange Bulk Reader, which sends the records to Data Integration. Data Integration can then send the records to a supported target.

Db2 Data Map Connector must be able to connect to an active PowerExchange environment that includes the PowerExchange Listener. You do not need to copy the PowerExchange dbmover configuration file to the Db2 Data Map Connector system. For more information about configuring PowerExchange for Db2 Data Map Connector, see the *PowerExchange Bulk Data Movement Guide*.

Db2 Data Map Connector works with the Informatica Cloud Secure Agent. When you install and start the Secure Agent, it downloads the Db2 Data Map Connector components and the PowerExchangeClient packages. When you define a runtime environment, you configure a Secure Agent group.

To retrieve source records from the data map repository, you must run a mapping or a mapping task.

When you define mappings in Data Integration, you select the data maps that PowerExchange generated for the Db2 data map source data sets. The Db2 Data Map Connector metadata adapter can then retrieve the source metadata from the data maps and store this information in the cloud.

Note: Db2 Data Map Connector does not work with the Hosted Agent.

Db2 Data Map Connector usage scenario

You can use the browser-based Informatica Intelligent Cloud Services interfaces to define Db2 data map connections, mappings, and mapping tasks.

With Informatica Intelligent Cloud Services interfaces, you gain access to easy-to-use, browser-based interfaces for defining mappings and mapping tasks and running and monitoring mapping tasks. When you run the mapping and mapping tasks, Db2 Data Map Connector components in conjunction with Data Integration, read and process the records that Db2 Data Map Connector read from the Db2 data map.

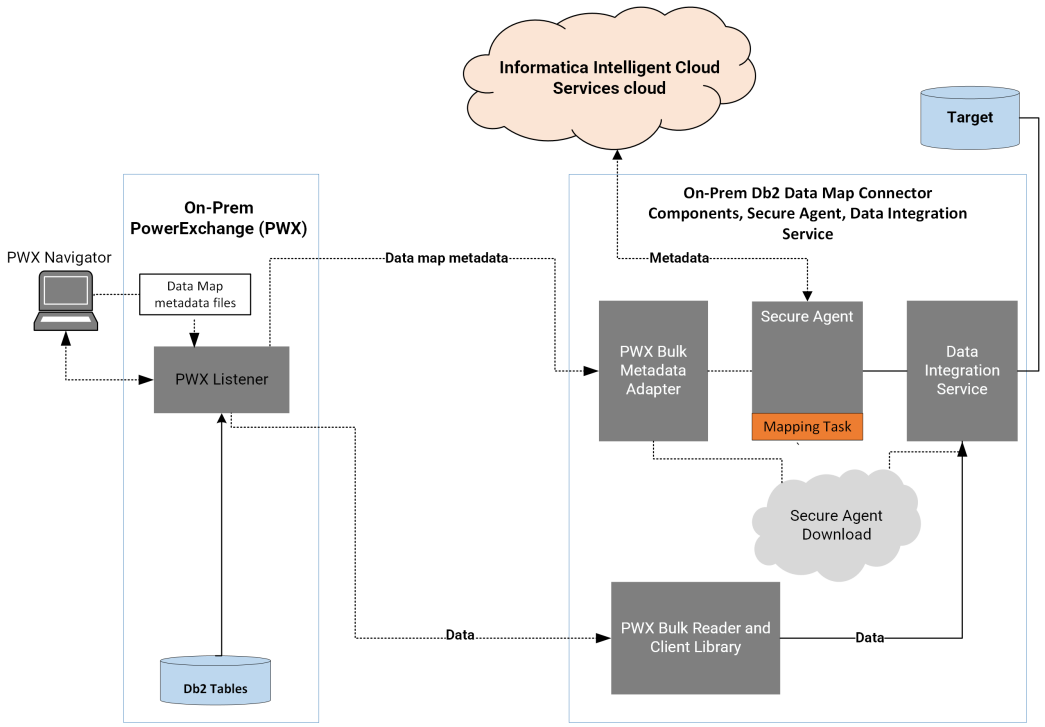
Integration with the PowerExchange environment

You must have a functional on-premises PowerExchange environment that can retrieve records from Db2 data map sources on a z/OS system. The Db2 Data Map Connector retrieves records by using the data map metadata.

PowerExchange, in conjunction with Data Integration, can move bulk data from Db2 data map sources on z/OS. These types of sources and targets use the DB2 access method. Hereafter, the term *Db2 data map* is used to refer to Db2 data maps on z/OS.

You must have a license that allows your organization to use the Db2 Data Map Connector and PowerExchangeClient packages on a z/OS system. On each system from which you plan to use Db2 Data Map Connector, install the Secure Agent. After you start the Secure Agent the first time, the Db2 Data Map Connector and PowerExchangeClient package are installed locally. You then can use Cloud Data Integration, Administrator, and Monitor interfaces to configure Db2 data map connections, mappings, and mapping tasks and to run and monitor mapping tasks.

The following image shows the general architecture of the Db2 Data Map Connector components in relation to Cloud Data Integration and the remote source system:



This configuration spans the following on-premises systems:

- The Windows system where the PowerExchange Navigator client runs.
- The system where the data sets and PowerExchange Listener run.
- The system where the Db2 Data Map Connector components and Secure Agent run.

Based on this configuration, the following processing occurs:

1. You defined a data map for each Db2 source in the PowerExchange Navigator. The data map provides a relational type view of the records. It is used to provide metadata and data access.

2. When you design a mapping in Data Integration, you associate the Source transformation with a Db2 Data Map connection. You can define the connection in either Data Integration or Administrator. The PWX Bulk Metadata Adapter then uses the connection to connect to the PowerExchange Listener and retrieve data map metadata files for the source from the PowerExchange Listener.

   In the mapping, you must also define a Target transformation and connection and map the source fields to target fields.
3. The Secure Agent in conjunction with Data Integration sends the data map metadata to the Informatica Intelligent Cloud Services repository in the cloud.
4. When you run the mapping task that is associated with the mapping, all of the metadata, connection properties, mapping information, advanced source properties, runtime properties, and advanced session properties are pushed down to the on-premises Secure Agent in the form of a session .xml file.
5. The PWX Bulk Reader on the Secure Agent machine communicates with the PowerExchange Listener to retrieve the records from the PowerExchange Listener.
6. Data Integration transmits the records to the mapped target.

Alternative configurations of PowerExchange with the Db2 Data Map Connector components and Cloud Data Integration are possible. For example:

- The PowerExchange Navigator can run on any supported Windows system, including a Windows system where the Db2 Data Map Connector and Secure Agent run.

Db2 Data Map Connector asset types

The following table lists the Data Integration asset types that the Db2 Data Map Connector uses:

Asset Type	Required or Optional?
Mapping	Required
Mapping task	Optional
Taskflow	Optional

Software requirements

Verify that your PowerExchange system and Db2 Data Map Connector system meet the following software requirements for integration with Informatica Cloud Data Integration:

- You must have a remote PowerExchange installation on the source system. You also must have a local or remote PowerExchange installation wherever you plan to run the PowerExchange Navigator. For all PowerExchange installations, the following PowerExchange versions are supported:
  - PowerExchange 10.5.*x*
  - PowerExchange 10.4.1
  - PowerExchange 10.4.0 HotFix 1

- PowerExchange 10.4.0

- Db2 Data Map Connector components run on the same Linux and Windows operating systems that are supported for the Informatica Secure Agent. For more information, see the Product Availability Matrix (PAM) for Informatica Intelligent Cloud Services (IICS) <*current_version*>, which is available on Informatica Network at https://network.informatica.com/community/informatica-network/product-availability-matrices. You must have a login to access this location.
- The supported versions of source databases and operating systems are the same as those that PowerExchange supports. For more information, see the **PWX Classic** tab in the Product Availability Matrix (PAM) for Informatica <current_pwx_version>, which is available on Informatica Network at https://network.informatica.com/community/informatica-network/product-availability-matrices.

Supported targets

Db2 Data Map Connector is certified with the following target types:

- Amazon Redshift
- Aurora PostgreSQL
- Db2 for z/OS
- Db2 for i
- Google BigQuery
- Microsoft SQL Server and Amazon Relational Database Service (RDS) for SQL Server
- MySQL
- Oracle and Amazon RDS for Oracle
- PostgreSQL
- Snowflake

Other Cloud Data Integration targets are expected to work. However, these targets have not been fully certified with this source connector. Use them in your test environment first.

Db2 Data Map Connector rules and guidelines

Review the Db2 Data Map Connector rules and guidelines before you begin configuring connections, mappings, and mapping tasks.

- You can use Db2 Data Map connections for Db2 Data Map sources only.
- Db2 Data Map Connector connects to the PowerExchange Listener by using the **Listener Location** property that you specify in the Db2 Data Map connection definition. On the connector system, you do not need to create a local copy of the DBMOVER configuration file that contains a NODE statement pointing to the PowerExchange Listener.
- If you upgrade your system to a later PowerExchange version, you must stop the Secure Agent that connects to the older PowerExchange Listener before you try to connect to the upgraded PowerExchange Listener. After you edit the connection properties to specify the upgraded PowerExchange Listener, restart

the Secure Agent before you try to establish the connection again. For more information, see "Db2 Data Map Connector rules and guidelines" on page 10.

- The PowerExchange Listener on the LUW system can compress or encrypt the data that it sends to the PWX Bulk Reader component of Db2 Data Map Connector depending on how you set the **Compression** and **Encryption** properties for the source connection.

Prerequisite tasks for using Db2 Data Map Connector

Before you begin configuring Db2 Data Map connections, mappings, and mapping tasks, you must complete several prerequisite tasks in PowerExchange and in Informatica Intelligent Cloud Services Administrator. Make sure you have a user role that allows you to perform these tasks.

- Verify that the PowerExchange installations on the source system and PowerExchange Navigator system use a PowerExchange version that the Db2 Data Map Connector supports. Test your configuration by verifying that PowerExchange is able to retrieve records from source data sets.
- If your site uses TLS or SSL security, verify that valid certificates are available for the source and target servers and that the PWX_CONFIG environment variable points to the dbmover configuration file that includes the SSL configuration for the PowerExchange Listener. For more information about configuring TLS or SSL security, see the *PowerExchange Reference Manual*.
- If you localize PowerExchange messages in Japanese, before you start the Secure Agent, create a copy of the PowerExchange dbmover_ja.cfg file. Then set the PWX_CONFIG environment variable to point to the copy. For more information about the dbmover_ja.cfg configuration file, see the *PowerExchange Reference Manual*.
- Download the Secure Agent. The Secure Agent can then download the Db2 Data Map Connector components and PowerExchangeClient packages based on your licensing. The download also creates a Secure Agent group that contains a Secure Agent as the runtime environment. You can add another Secure Agent to the group. You must have at least one runtime environment in each organization so that users in the organization can run tasks.

  Note: Db2 Data Map Connector does not support the Hosted Agent.
- In Administrator, configure user roles if the predefined roles are not sufficient. Then assign one or more roles to each user or user group. The roles must provide the privileges that the users require to perform all of their tasks. Usually, the organization administrator configures user roles.
- If you do not want users to run scheduled mapping tasks during a certain period, define a blackout period for all schedules on the **Schedules** page in Administrator.

Task flow for using Db2 Data Map Connector

To use Db2 Data Map Connector, create a source connection, mapping, and mapping task. Also create a target connection if one is not already defined.

Before you begin, in the Administrator, you must complete the prerequisite tasks. See "Prerequisite tasks for using Db2 Data Map Connector" on page 11.

1. In Administrator, create a source connection with the type of **Db2 Data Map**. Test the connection.

   Alternatively, you can create a source connection in Data Integration when you configure a mapping. When you create a connection, you must set some connection properties that are specific to Db2 Data Map Connector. For more information, see " Db2 Data Map connection properties" on page 13.

   Db2 Data Map Connector uses this connection to retrieve source metadata and data records from PowerExchange.
2. Create a target connection with a supported target type, if one is not already defined.
3. In Data Integration, configure a mapping. Validate the mapping and then save it.
4. Optional. Create a mapping task that is associated with the mapping.
5. Run the mapping task manually, or create a schedule to run it on a recurring basis. For more information, see Running a mapping task.
6. Monitor the job status for the mapping task instance. For more information, see Monitoring a mapping task.

   If a job has the status of Failed or Warning, check the session log for related error or informational messages. Then try to correct the issues that caused the failure and rerun the mapping task.

CHAPTER 2

Db2 Data Map Connections

You must create a Db2 Data Map connection to connect to a PowerExchange Listener to read from one or more source Db2 Data Maps.

The PWX Bulk Reader that is on the system where the Secure Agent runs requires the connection information to retrieve records from PowerExchange.

You can create a Db2 Data Map connection in Administrator or Data Integration, provided that your assigned user role allows this action. Use one of the following methods:

- In Administrator, click **Connections** on the navigation bar. On the **Connections** page, click **New Connection** and then enter connection details and properties for a connection that has the type of **Db2 Data Map**.
- In Data Integration, when you create a mapping, click **Source** on the mapping canvas and then click **Source** in the **Properties: Source** panel. To create a connection, click **New Connection** and define a connection that has the type of **Db2 Data Map**. Alternatively, if you previously defined a Db2 Data Map connection, select it from the **Connection** list.

When you configure a connection, you must specify a runtime environment for the connection. The runtime environment must contain a Secure Agent with the status "Up and Running."

After you create a Db2 Data Map connection, it becomes available for use within the organization and can be used in multiple mappings.

Db2 Data Map connection properties

When you configure a Db2 Data Map connection, you must set the connection properties.

The following table describes the Db2 Data Map connection properties:

Property	Description
Connection Name	A name for the Db2 Data Map connection. This name must be unique within the organization. Connection names can contain alphanumeric characters, spaces, and the following special characters: _ . + - Spaces at the beginning or end of the name are trimmed and are not saved as part of the name. Maximum length is 100 characters. Connection names are not case sensitive.
Description	Optional description for the Db2 Data Map connection. Maximum length is 4000 characters.
Type	Type of connection. For Db2 data maps, the type must be **Db2 Data Map**.

Property	Description
Runtime Environment	Name of the runtime environment that contains the Secure Agent that you want to use to run mapping tasks.

Listener Location	Host name or IP address of the system where the PowerExchange Listener that processes requests for Db2 Data Map runs. Also include the Listener port number. Enter the value in the following format, where *host_name* can be a host name or IP address:
	`host_name:port_number`
	For example:
	`LSNR1:1467`

User Name	A user name that can be used to access the PowerExchange Listener when PowerExchange Listener security is enabled. For more information, see the SECURITY statement in the *PowerExchange Reference Manual*.
Password	Password that is associated with the user name that is specified in the **User Name** property.
Schema Name	The schema name of the data map.
Code Page	The code page that the Secure Agent for the Data Integration Service uses to extract data from the source file.
Offload Processing	Controls whether to use offload processing. Offload processes transfers bulk data processing from the source system to the target system. Options are: - **Auto**. Cloud Data Integration determines whether to use offload processing. - **Filter After**. Offloads the filtering of data and bulk data processing to the target. - **Filter Before**. Filters data on the source system and offloads bulk data processing to the target. - **No**. Disables offload processing. Default is No.
Offload Threads	The number of threads that Cloud Data Integration uses to process bulk data. For optimal performance, this value should not exceed the number of installed or available processors on the machine where the Secure Agent runs. Valid values are 1 through 64. Default is 0, which disables multithreading. Not all connection types support offload threads. If the **Offload Threads** connection attribute for one of these connections is set to a nonzero value, processing continues without threads.
Array Size	The size of the storage array, in number of records, that is used for partitioned or multithreaded sessions. For partitioned sessions, this array size is shared across the partitions. For multithreaded sessions, each thread has this array size. Valid values are from 1 through 5000. Default is 25. To tune partitioned sessions, particularly when the **Write Mode** attribute specifies **Confirm Write On**, increase the array size.
Replace Low Values with Spaces	Controls whether to replace embedded nulls in character data with spaces. Select this property to replace embedded nulls. By default, this property is selected.

Property	Description
Connection Retry Period	Number of seconds after the initial connection attempt fails that the PowerExchange Bulk Reader tries to reconnect to the PowerExchange Listener. If a connection cannot be established within the retry period, the mapping task fails. The default value is 0, which disables connection retries.
Custom Properties	Custom properties or connection property overrides. Custom properties are properties that you can specify to override PowerExchange default settings. You can enter multiple properties by using a semicolon (;) as the separator. For example: `<property>=<value>;<property>=<value>` Normally, you set custom properties only at the direction of Informatica Global Customer Support. **Note:** These properties are equivalent to the **PWX Override** options for the PowerExchange Client for PWX NRDB Batch connections in PowerCenter. You can also specify connection property overrides in this field or through a parameter file. To specify connection property overrides through a parameter file, you set a parameter in the form of `$<ParameterName>`, where you prefix a user-defined parameter name with a dollar sign character ($). Then configure a mapping task for the mapping to use a parameter file that contains the user-defined parameter definition by specifying the parameter file name in the **Parameter File Name** field on the **Runtime Options** tab. **Note:** - If you enter the same parameter for both the mapping and connection, the connection custom property takes precedence. - If you have a parameter file, the parameter name you specify in this field must match an entry defined in the parameter file. For more information, see the “Connection overrides reference” chapter.

CHAPTER 3

Mappings and mapping tasks with Db2 Data Map Connector

In Data Integration, create a mapping that includes a Db2 Data Map source and a target of a supported type. Then create a mapping task that is associated with the mapping to process data based on the mapping.

The mapping and mapping task information is stored in the Informatica Intelligent Cloud Services cloud.

To process the records, run the mapping task in your runtime environment. The mapping task runs on premises, on the same machine where the Secure Agent and PowerExchange client components run. The mapping task uses the mapping and mapping task information pushed down from the Informatica Intelligent Cloud Services cloud. During a mapping task run, the PWX Bulk Reader retrieves the captured records and Data Integration transmits the records to the target based on the mapping.

After a mapping task ends, you can determine its job status and view the session log from either the Data Integration or Monitor interface.

Mapping configuration

You must configure a mapping that contains a Db2 Data Map source transformation for a source and map it to a Target transformation.

To begin creating a mapping in Data Integration, click **New** > **Mappings** > **Mapping** and then click **Create**. In the **New Mapping** dialog box, click **Mapping** > **Continue**.

When you define a Source transformation in a mapping, specify a name for the transformation, a Db2 Data Map connection, the source type, and the data map tables for the Db2 Data Map source object. You can also set some additional source properties. The PWX Bulk Metadata Adapter retrieves metadata for the source table from the PowerExchange-generated data map, including the field definitions.

In the user's environment, the target can reside on premises or in a cloud. If you do not want to send all of the incoming fields to the target, you can define one or more exclusion field rules. As part of configuring the target, you must also map the incoming fields to the target fields. You can map fields automatically based on the field names or map them manually.

Db2 Data Map source properties in mappings

When you create a mapping, you configure a Source transformation for a source and set some source properties for the Source transformation.

Click the Source transformation box on the mapping canvas. Then configure the source properties in the **Source Properties** panel below the mapping canvas.

If you have multiple Source transformations in a mapping, configure source properties for each source. If you use a specific connection instead of a connection parameter, enter the same connection for all sources.

The **Source Properties** panel contains the following tabs on which you can enter information:

- **General** tab. Specify a user-defined name and optional description for the Db2 Data Map source.
- **Source** tab. Configure the source properties under **Details** and under **Advanced**. The advanced properties are available only if you enter a specific connection for the source. If you enter a parameter for the source connection, the advanced properties are not displayed. However, you can define these properties in the associated mapping task after you select a specific source connection for the task.

  Note: The Filter and Sort options under **Query Options** are not supported.

  The following table describes the Db2 Data Map source properties under **Details**:

Property	Description
Connection	*Required*. Select a source connection of the type **Db2 Data Map**, or click **New Connection** to create one. Alternatively, you can define a connection parameter in the mapping and enter a specific connection in each mapping task that is associated with the mapping. If you want to use a connection parameter with a specific source object, you must first select a specific connection so that you can access the source to select the tables from the **Select Source Tables** dialog. After you select the source tables, define the connection parameter. To define a connection parameter, click **New Parameter** next to the **Connection** property and enter the following information: - Enter a parameter name that begins with a letter and is up to 200 characters in length, including @, #, _, and alphanumeric characters. - In the **Type** property, verify that **connection** is selected. - Leave the **Connection Type** property blank. After you click **OK**, the parameter appears in the **Connection** property.
Source Type	*Required*. Select one of the following options: - **Single Object** lets you select a Db2 Data Map source object in the Object property. - **Parameter** selects an existing parameter for the source object, or allows you to define a new parameter for the mapping. The parameter defines a specific source object in each mapping task associated with the mapping.
Parameter	Parameter to use for the source object. This field only appears when you select **Parameter** as the source type. To parameterize a source object, click **New Parameter**. Enter the parameter name and then select the type **data object**. From the **New Input Parameter** dialog box, you can add a description, default value, and other information for the parameter.
Object	If you selected **Single Object** as the source type, you can select a Db2 Data Map source object. Click Select. Then in the **Select Source Object** dialog box, under **Packages**, click a listed value. This value is the schema name. The right pane lists the tables in the selected schema. The table metadata is stored in the Informatica Intelligent Cloud Services repository in the cloud. **Note:** The **Preview Data** feature is not supported.

The following table describes the optional source properties under **Advanced**:

Advanced Property	Description
Db2 Subsystem ID	For the DB2 Data Maps source type, overrides the DB2 subsystem ID in the PowerExchange data map.
Db2 Table Name	For the DB2 Data Maps source type, overrides the DB2 table name in the PowerExchange data map.

Filter Overrides	One or more conditions that filter the source records that the PWX Bulk Reader retrieves from the PowerExchange Listener. Based on the filter conditions, a WHERE clause is appended to the default SQL SELECT query that the PWX Bulk Reader uses to read the records.
	Db2 Data Map Connector supports two forms of filter condition syntax. For single record source definitions such as single record nonrelational data maps, specify a single filter condition statement. You can specify a single filter condition or join numerous filter conditions by using the conditional operands that PowerExchange supports for NRDB SQL statements. For example:
	`column1 is NULL and column2='A'`
	For multi-record nonrelational source definitions, you can also use the following syntax:
	`group_name1=filter_condition;group_name2=filter_condition;...`
	Use the group_name form to specify filter conditions for one or more record types in a multi-record source definition. To apply a filter condition to all records in a multi-record source definition, use a single filter condition without group_name. You cannot combine single filter conditions with group_name conditions.
	You must use the nonrelational SQL syntax that PowerExchange supports for comparison and LIKE operators. For more information, see the "PowerExchange Nonrelational SQL" chapter in the *PowerExchange Reference Manual*. If the filter includes a date or timestamp column, ensure that the range of years in the column data is within the range of years for PowerExchange data filtering, as controlled by the DATERANGE statement in the DBMOVER configuration file. The default range is 1800 to 2200.
	For example, to select records in which the TYPE column has a value of A or D, specify the following condition:
	`TYPE='A' or TYPE='D'`
	Maximum length of the entire SELECT statement that PowerExchange builds, including the WHERE clause with the filter conditions, is 8192 bytes.
	Note: If you specify the **Filter Overrides** attribute and also specify an **SQL Query Override** attribute value that contains a filtering WHERE clause, the resulting SELECT statement contains a WHERE clause that uses the AND operator to associate the Filter Overrides filter conditions with the SQL Query Override conditions. For example:
	`SELECT * from schema.table WHERE Filter_Overrides_conditions AND SQL_Query_Override_conditions`

Map Name Override	Overrides the data map name of the source PowerExchange data map.
Map Schema Override	Overrides the schema name in the source PowerExchange data map.

Advanced Property	Description

SQL Query Override	An SQL statement that overrides the default SQL query that the PWX Bulk Reader uses to retrieve records from PowerExchange.
	The connector replaces the default SQL query with the SQL statement that you enter and passes the SQL statement to Cloud Data Integration for processing.
	You must use the nonrelational SQL syntax that PowerExchange supports. For more information, see the "PowerExchange Nonrelational SQL" chapter in the *PowerExchange Reference Manual*.
	If the override statement includes a date or timestamp column, ensure that the range of years in the column data is within the range of years for PowerExchange data checking and filtering, as controlled by the DATERANGE statement in the DBMOVER configuration file. The default range is 1800 to 2200.
	For example, to select records for the USER source table when the TYPE column has the value of A or D, specify the following query:
	`SELECT ID, NAME from USER where TYPE='A' or TYPE='D';`
	Maximum length of the SELECT query override statement is 8192 bytes.
	Note: If you specify an **SQL Query Override** attribute value that contains a filtering WHERE clause and also specify the **Filter Overrides** attribute, the resulting SELECT statement contains a WHERE clause that uses the AND operator to associate the SQL Query Override conditions with the Filter Overrides filter conditions. For example:
	`SELECT * from schema.table WHERE Filter_Overrides_conditions AND SQL_Query_Override_conditions`
	For a multiple-record source, use the following syntax:
	`group_name1=sql_query_override1; group_name2=sql_query_override2;...`
	For example, you can select only records with ID column values that contain DBA for a multi-record source with two records called USER1 and USER2 by specifying the following SQL query override:
	`USER1=Select ID, NAME from USER1 where ID='DBA'; USER2=Select ID, NAME from USER2 where ID='DBA';`

Tracing Level	The level of detail that appears in the session log for a Source transformation. Select one of the following options, which are listed in order of increasing detail: - **Terse** - **Normal** - **Verbose Initialization** - **Verbose Data** Default is **Normal**.

- **Fields** tab. Select the fields that you want to use in the data flow. You can edit field metadata such as precision and scale if necessary.

Note: Ignore the **Partitions** tab. Key-range partitioning is not supported.

Targets in mappings with Db2 Data Map sources

To configure a target in a mapping, click the Target transformation box on the mapping canvas. Then configure the target properties in the **Target Properties** panel below the mapping canvas.

Note: To determine which target types are supported by the Db2 Data Map Connector, see "Supported targets " on page 10.

In the **Target Properties** panel, enter information on the following tabs:

- **General** tab. Specify a user-defined name and optional description for the target.
- **Incoming Fields** tab. Optionally review the included fields and define field exclusion rules and renaming criteria.
- **Target** tab. Configure the target properties under **Details** and under **Advanced**. The advanced properties are available only if you enter a specific connection for the target.

  The following table describes the target properties under **Details**:

Property	Description
Connection	Select an existing Oracle or SQL Server target connection, or create a target connection that has a type of **Oracle** or **SQL Server**. Alternatively, you can use a connection parameter in the mapping and then enter a specific connection in each mapping task that is associated with the mapping. If you want to use a connection parameter with a specific target object, you must first select a specific connection so that you can access the target to select the target object in the **Object** field. After you select the target object, define the connection parameter. If you want to use parameters for both the connection and target object, you do not need to first select a specific connection. You can just define the parameters in either order. To define a connection parameter, click **New Parameter** and enter the following information: - Enter a parameter name that begins with a letter and is up to 200 characters in length, including @, #, _, and alphanumeric characters. - In the **Type** property, verify that **connection** is selected. - Leave the **Connection Type** property blank.
Data Driven Condition	Enables you to define expressions that flag rows for an insert, update, delete, or reject operation. Appears only when the operation type is **Data Driven** but is not required for this operation type.
Target Type	Select **Single Object** if you want to specify a target table. Alternatively, select **Parameter** and then 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	Click **Select**. In the **Target Object** dialog box, select **Existing** and then select an existing target table. Alternatively, select **Create New at Runtime** and enter the name of a target table to generate at runtime.
Parameter	Select or create a parameter for the target object. Appears only when the target type is **Parameter**.
Operation	Select **Data Driven** to properly handle insert, update, and delete records from the source. By default, inserts, updates, and deletes are applied as inserts, updates, and deletes, respectively.
Update Columns	Click **Add** to select the columns that you want to use as a logical primary key for performing update, upsert, and delete operations on the target. Appears only when the operation type is **Data Driven**. This field is not required if the target table already has a primary key.
Truncate target	Select this option if you want to clear the target table each time the mapping task runs. However, if you select this option and set the **Operation** property to **Data Driven**, update operations on the target will fail.

The following table describes the advanced target properties that appear under **Advanced**:

Advanced Property	Description
Forward Rejected Rows	Select this option to have the Target transformation pass rejected records to a reject file that is generated in the following directory: `\agent_install_directory\apps\Data_Integration_Server\data\error` Clear this option to ignore the rejected records. **Note:** This field is not displayed if a parameter is specified for the target connection.
Pre SQL	SQL statements that run on the target before the extracted data is written to a target. Maximum length is 5000 characters.
Post SQL	SQL statements that run on the target after the extracted data is written to a target. Maximum length is 5000 characters.
Update Override	An override SQL update statement to update the data in a Microsoft SQL Server or Oracle target table. The override SQL update statement you specify overrides the default update statements that the Secure Agent uses to update targets based on key columns. You define an override update statement to update target tables based on non-key columns. In the override statement, you must enclose all reserved words in quotation marks.

- **Target Fields** tab. Optionally add fields, delete fields, or edit field metadata such as native data type, precision, and scale.
- **Field Mapping** tab. Map the incoming fields to the target fields. You can manually map an incoming field to a target field or automatically map fields based on the field names. If you entered a connection parameter, you must select **Automatic** as the field map option to be able to validate the mapping. Alternatively, you can completely or partially parameterize field mappings, and then define the specific field mappings in the mapping task. For more information, see Transformations > Target Transformation > Target Transformation Field Mappings in the Data Integration Help.

Mapping task configuration

Configure a mapping task for a mapping with a Db2 Data Map source. When you run the mapping task, the records are transmitted to the target. You cannot run mappings for the Db2 Data Map Connector.

Note: SQL ELT optimization and Visio templates are not supported for Db2 Data Map mapping tasks.

To begin configuring a mapping task, perform one of the following actions:

- In Data Integration, click **New** > **Mapping Task** and then click **Create**.
- While the mapping is open, select **New Mapping Task** from the **Actions** menu.

Then enter information on some or all of the following pages in the mapping task wizard:

- **Definition**. Enter a name for the mapping task, a project or folder location for the mapping task, and the runtime environment that contains the Secure Agent or Secure Agent Group under which the mapping task will run. If you began creating the mapping task without first opening the mapping, you must also select the mapping with which to associate the mapping task. The description is optional.

- **Sources**. This page appears only if you defined a parameter for the connection or source object in the mapping. If you defined a connection parameter, select or create the specific connection that you want the mapping task to use.
- **Targets**. This page appears only if you defined a parameter for the target connection or object in the mapping. For more information about configuring targets in mapping tasks, click the help icon on this page.
- **Runtime Options**. Optionally define a schedule for running the mapping task.

Properties for parameterized sources and connections

The **Sources** page appears in the mapping task wizard if you defined a parameter for the connection or source object in the associated mapping.

If you defined a parameter for the source connection in the mapping, you must select or create a specific connection for the mapping task. Ensure that the connection type is consistent with the source object type. After a connection is selected, you can click **Advanced Options** to configure the optional advanced properties. For more information about these advanced properties, see " Db2 Data Map source properties in mappings" on page 17.

Note: If the mapping uses a specific source connection and a parameter for the source object, you can specify these advanced properties in the mapping and also specify them in the mapping task. In this case, the properties in the mapping task override those in the mapping.

If you are parameterizing a source object, select the objects that correspond to the groups you selected in the mapping from the mapping task **Sources** tab. The number of objects you select must match the number of groups that were added in the multi group data object parameter. To select the source objects, click **Select**.

Note: To parameterize a source object, you must define a parameter of the type **data object** for the mapping.

When you finish entering information on the **Sources** page, click **Validate** to validate your entries.

Note: If the mapping specifies a connection parameter and you edit the mapping to change the source object, check the specific connection in the mapping task to determine if you need to reset it and then **Validate** the mapping task again.

Running a mapping task

A mapping task runs on premises under control of the Secure Agent.

To run the mapping task, use any of the following methods:

- After you finish configuring the mapping task, click **Run**.
- Manually start the mapping task from the **Explore** page.
- Create a schedule that runs the mapping task based on a date, time, and repeat frequency, such as hourly, daily, weekly, or monthly.
- Include the mapping task in a taskflow and then run the taskflow.

Monitoring a mapping task

After you run a mapping task, you can check the job status for the task to determine if the job succeeded, completed with warnings, or failed. If the job failed or ended with a warning, you can view the session log for the job to identify the error or warning conditions.

Each time a user or schedule starts a mapping task, Informatica Intelligent Cloud Services creates a job to run the task.

1. To view a list of mapping task jobs, use one of the following methods:
   - In Data Integration, select **My Jobs**. The **My Jobs** page lists all jobs that you, the user who is currently logged in, started. It does not include jobs that were started by a schedule.
   - In Monitor, select **All Jobs** or **Running Jobs**. The **All Jobs** page lists all of the running and completed jobs that members of your organization started or that were started by a schedule. The **Running Jobs** page lists only the jobs that are currently running or that have completed within the last 5 minutes.
2. On the **My Jobs**, **All Jobs**, or **Running Jobs** page, review the information about the jobs you're interested in. The following information is displayed by default and shown for each job instance:
   - Start date and time
   - End date and time
   - Number of rows processed
   - Current state, which can be one of the following values: Queued, Starting, Running, Success, Stopped, Suspended, Warning, or Failed.

   Tip: You can change the columns that are displayed by right-clicking the column-heading area and selecting or deselecting column names in the list.

   For more information about a job, click the job name to open a page that contains job details and a download link for the session log. You can also download the session log by moving the cursor to the right end of the row for a job and clicking the **Download Log** icon.
3. If the job state is Failed or Warning, gather more information about the error or warning condition in the following ways:
   - For a Failed job, hover the cursor over the Failed icon in the **State** column. A brief description of the error condition appears, which you can copy.
   - Download the session log and look for error or warning messages that begin with the message ID prefix of "PWXPC" or "PWX."

   If possible, correct the error or warning condition and then restart the job. To restart the job from the **Jobs** or **My Jobs** page, move the cursor to the right end of the row for the job and click the **Restart** icon.

CHAPTER 4

Db2 Data Map Administration

As the organization administrator of a Db2 Data Map Connector implementation, you might need to perform some administrative tasks to keep processing of records running smoothly.

To learn about some common administrative issues and tasks, read the following topic:

- "Upgrading to a new version of PowerExchange" on page 24

Upgrading to a new version of PowerExchange

The connector can retrieve data from only a single version of PowerExchange. If you upgrade your on-premise environment to a later supported PowerExchange version, use this task to move your Informatica Intelligent Cloud Services Data Integration connections to the new PowerExchange environment.

1. Upgrade the PowerExchange installation. For more information, see the *PowerExchange Installation and Upgrade Guide*.
2. In Monitor, open the **Running Jobs** page.
3. Make sure that any running mapping tasks that connect to the previous PowerExchange version run to completion, or stop the task if necessary.
4. Stop the Secure Agent that is specified in the connection configuration for any connection to the previous PowerExchange version.
5. In Data Integration, edit the connections to point to the new PowerExchange version.
6. If necessary, edit the mapping task configurations to specify the appropriate connection to the new version of the PowerExchange environment.
7. Start the mapping tasks again, when appropriate.

CHAPTER 5

Data type reference

Data Integration uses the following data types in mappings and tasks with Db2 Data Map Connector:

Native data types

Native 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.

Db2 Data Map and transformation data types

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.

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

PowerExchange Datatype	Precision	Transformation Datatype	Range
BIN	10	Binary	1 to 104,857,600 bytes You can pass binary data from a source to a target, but you cannot perform transformations on binary data. PowerCenter does not support binary data for COBOL or flat file sources.
CHAR	10	String	1 to 104,857,600 characters Fixed-length or varying-length string.
DATE	10	Date/Time	Jan 1, 0001 A.D. to Dec 31, 9999 A.D. Combined date/time value, with precision to the nanosecond.
DOUBLE	18	Double	Precision of 15 digits Double-precision floating-point numeric value.
FLOAT	7	Double	Precision of 15 digits Double-precision floating-point numeric value.

PowerExchange Datatype	Precision	Transformation Datatype	Range
NUM8	3	Small Integer	Precision of 5 and scale of 0 Integer value.
NUM8U	3	Small Integer	Precision of 5 and scale of 0 Integer value.
NUM16	5	Small Integer	Precision of 5 and scale of 0 Integer value.
NUM16U	5	Integer	Precision of 10 and scale of 0 Integer value.
NUM32	10	Integer	Precision of 10 and scale of 0 Integer value.
NUM32U	10	Double	Precision of 15 digits Double-precision floating-point numeric value.
NUM64	19	Decimal	Precision 1 to 28 digits, scale 0 to 28 Decimal value with declared precision and scale. Scale must be less than or equal to precision. If you pass a value with negative scale or declared precision greater than 28, the PowerCenter Integration Service converts it to a double.
NUM64U	19	Decimal	Precision 1 to 28 digits, scale 0 to 28 Decimal value with declared precision and scale. Scale must be less than or equal to precision. If you pass a value with negative scale or declared precision greater than 28, the PowerCenter Integration Service converts it to a double.
NUMCHAR	-	String	1 to 104,857,600 characters Fixed-length or varying-length string.
PACKED	15	Decimal	Precision 1 to 28 digits, scale 0 to 28 Decimal value with declared precision and scale. Scale must be less than or equal to precision. If you pass a value with negative scale or declared precision greater than 28, the PowerCenter Integration Service converts it to a double.
TIME	5	Date/Time	Jan 1, 0001 A.D. to Dec 31, 9999 A.D. Combined date/time value, with precision to the nanosecond.
TIMESTAMP	5	Date/Time	Jan 1, 0001 A.D. to Dec 31, 9999 A.D. Combined date/time value, with precision to the nanosecond.
UPACKED	15	Decimal	Precision 1 to 28 digits, scale 0 to 28 Decimal value with declared precision and scale. Scale must be less than or equal to precision. If you pass a value with negative scale or declared precision greater than 28, the PowerCenter Integration Service converts it to a double.

PowerExchange Datatype	Precision	Transformation Datatype	Range
UZONED	15	Decimal	Precision 1 to 28 digits, scale 0 to 28 Decimal value with declared precision and scale. Scale must be less than or equal to precision. If you pass a value with negative scale or declared precision greater than 28, the PowerCenter Integration Service converts it to a double.
VARBIN	10	Binary	1 to 104,857,600 bytes You can pass binary data from a source to a target, but you cannot perform transformations on binary data. PowerCenter does not support binary data for COBOL or flat file sources.
VARCHAR	10	String	1 to 104,857,600 characters Fixed-length or varying-length string.
ZONED	15	Decimal	Precision 1 to 28 digits, scale 0 to 28 Decimal value with declared precision and scale. Scale must be less than or equal to precision. If you pass a value with negative scale or declared precision greater than 28, the PowerCenter Integration Service converts it to a double.

CHAPTER 6

Connection overrides reference

When you create a mapping that uses this connector type, you can specify a connection property that allows you to specify connection property overrides through a parameter file in the connection properties panel **Custom Properties** field.

Connection overrides

The following table lists the connection overrides that you can specify for nonrelational sources such as Adabas, Datacom, IDMS, IMS, sequential file, and VSAM connections:

Connection Override	Default	Valid Values
Array Size	25	1 to 100000
Connection Retry Period	0	0 to 1000000
Offload Processing	No	A - Auto F - Filter After N - No Y - Yes
Offload Threads	0	0 to 64
Password	no default	A valid password for the specified user
Replace Low-values With Spaces	no default	Y|N
User Name	no default	A user name
Confirm Network Write	Confirm Write On	Y|N

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