Informatica

Informatica® Cloud Data Integration
July 2024

IMS Connector Guide

Informatica Cloud Data Integration IMS Connector Guide
July 2024

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Preface

Learn how to use the *IMS Connector* to move IMS data from a PowerExchange environment and write the data to a supported target. The 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.

CHAPTER 1

Introduction to IMS Connector

You can use IMS Connector to connect to a PowerExchange environment to move records from an IMS source database on a z/OS system and write the data in batch to a supported target.

IMS 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 IMS Connector system. For more information about configuring PowerExchange for IMS Connector, see the *PowerExchange Bulk Data Movement Guide*.

IMS Connector works with the Informatica Cloud Secure Agent. When you install and start the Secure Agent, it downloads the IMS Connector components and the PowerExchange Client packages. When you define a runtime environment, you configure a Secure Agent group.

To move IMS source data, you run a mapping or a mapping task.

When you define mappings in Data Integration, you select the IMS source database. The IMS Connector metadata adapter can then retrieve the source metadata and store this information in the cloud.

After you materialize a target, you can use PowerExchange Change Data Capture (CDC), if this option is available at your site, to update the target on a continuous basis. By moving only the change data, you can refresh data on the target faster.

Note: IMS Connector does not work with the Hosted Agent.

IMS Connector usage scenario

You can use IMS Connector to connect to an on-premises PowerExchange for IMS system from a Linux and Windows system where the Secure Agent is installed.

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

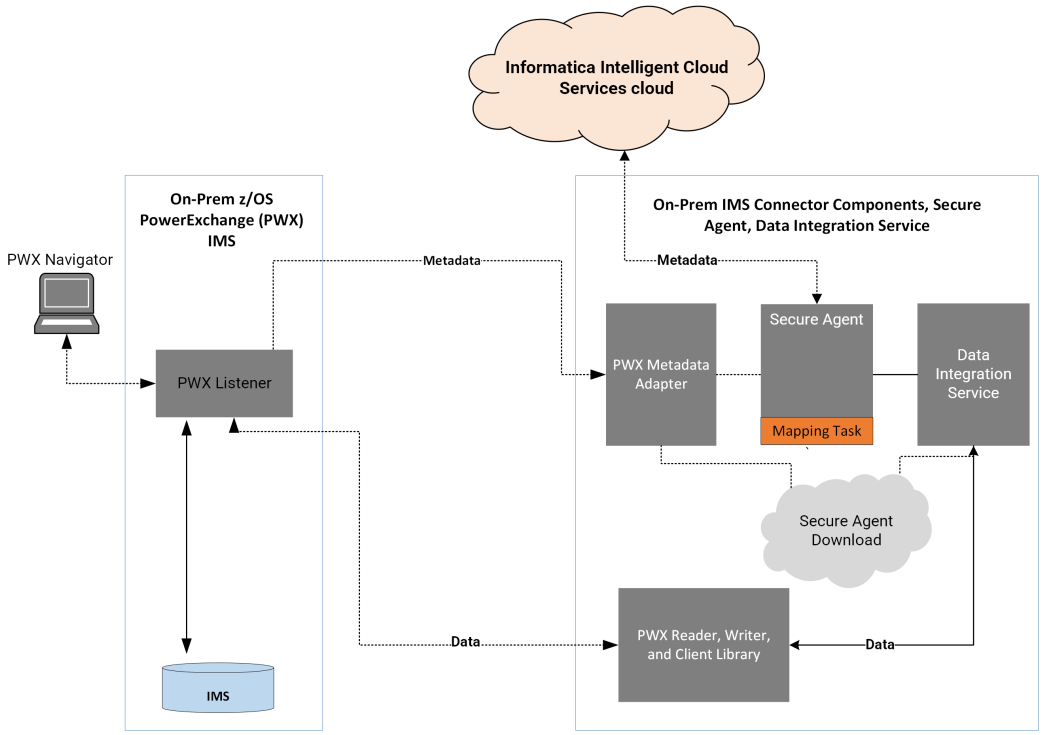
With Informatica Intelligent Cloud Services interfaces, you gain access to easy-to-use, browser-based interfaces for defining mappings and mapping tasks and running and monitoring mapping tasks. When you run the mapping and mapping tasks, IMS Connector components, in conjunction with Data Integration,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

Integration with the PowerExchange environment

You must have a functional on-premises PowerExchange for IMS environment that can capture records from IMS source tables and log the changes to PowerExchange Logger log files. Also, you must have a license that allows your organization to use the IMS Connector and PowerExchange Client packages on Linux and Windows.

On each system from which you plan to use IMS Connector, you must install the Secure Agent. After you start the Secure Agent the first time, the IMS Connector and PowerExchange Client components are installed locally. You then can use Cloud Data Integration, Administrator, and Monitor interfaces to configure IMS connections, mappings, and mapping tasks and to run and monitor mapping tasks.

The following image shows the general architecture of the IMS Connector components with Cloud Data Integration and a remote PowerExchange source system:



This configuration spans the following on-premises systems:

- The Windows system where the PowerExchange Navigator client runs.
- The z/OS system where the IMS database and PowerExchange Listener run.
- The system where the IMS Connector components and Secure Agent run.

Based on this configuration, the following processing occurs:

1. PowerExchange retrieves records from IMS database and sends the data to the PowerExchange Listener for z/OS.

   You defined a source transformation for each IMS source table in the PowerExchange Navigator. The PowerExchange Navigator generated a corresponding data map, which will be used to retrieve the records.

2. When you design a mapping in Data Integration, you associate the Source transformation with a IMS 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 on z/OS and retrieve metadata files for the IMS 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 metadata to the Informatica Intelligent Cloud Services repository in the cloud.
4. When you run the mapping or mapping task, 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 on the z/OS machine to retrieve the records from the PowerExchange Listener.
6. Data Integration transmits the records to the mapped target.

IMS Connector asset types

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

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

Software requirements

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

- You must have a local or remote PowerExchange installation. The following PowerExchange versions are supported:
  - PowerExchange 10.5.*x*
  - PowerExchange 10.4.1
  - PowerExchange 10.4.0 HotFix 1
  - PowerExchange 10.4.0
- IMS 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.

- IMS Connector supports the same IMS source databases and operating systems that are supported in 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

IMS 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

Important: Other Cloud Data Integration targets are expected to work but have not been fully tested and certified with this source type. Informatica recommends that you use other targets in your test environment first.

IMS Connector rules and guidelines

Review the IMS Connector rules and guidelines before you begin creating connections, mappings, and mapping tasks.

- You can use IMS connections for sources and targets.
- IMS Connector connects to a PowerExchange Listener on the PowerExchange source system by using the **Listener Location** property in the IMS 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 "Upgrading to a new version of PowerExchange" on page 25.
- The PowerExchange Listener can compress or encrypt the change data that it sends to the PWX Reader component of IMS Connector depending on how you set the **Compression** and **Encryption** properties for the connection.

- If you include multiple IMS source objects in a mapping, the PWX Bulk Reader automatically uses group source processing to read data for all of the objects in a single pass.
- IMS Connector supports PowerExchange Logger group definition files. A *group definition file* creates a separate set of PowerExchange Logger log files for each defined group of IMS source objects. When a mapping task runs, the PWX Reader reads only the subset of log files for the group that contains the source table.
- If you change the source object in a mapping that has been used for processing, create a new mapping task for the mapping.

Prerequisite tasks for using IMS Connector

Before you begin configuring IMS 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 a supported PowerExchange version is installed and that PowerExchange is configured and able to move data from IMS source objects.
- In the PowerExchange Navigator, check that an active PowerExchange capture registration and extraction map exists for each IMS source object. The extraction map name must begin with "d" for default, which indicates the default extraction map that PowerExchange generates.
- 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 IMS Connector components and PowerExchange Client 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: IMS 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 IMS Connector

To use IMS Connector, create a source connection, mapping, and optional 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 IMS Connector" on page 9 for more information.

1. In Administrator, create a source connection with the type of **IMS**. Test the connection.

   Alternatively, you can create a source connection in Data Integration when you configure a mapping.

   IMS Connector uses this connection to move source metadata anddata from PowerExchange.
2. Create a target connection that has a supported target type, if one is not already defined.
3. In Data Integration, configure a mapping. Validate the mapping and then save it. Optionally, create a mapping task.
4. Run the mapping or mapping task manually, or create a schedule to run the mapping task on a recurring basis. For more information, see "Running a mapping task" on page 23.
5. Monitor the job status for the mapping task instance. For more information, see "Monitoring a mapping task" on page 23.

   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 restart the mapping or mapping task.

CHAPTER 2

IMS connections

You must create an IMS connection to connect to one or more IMS source files.

The PWX Reader that is on the system where the Secure Agent runs requires the connection information to move data from IMS source files.

You can create an IMS 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 **IMS**.
- 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 **IMS**. Alternatively, if you previously defined an IMS 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 an IMS connection, it becomes available for use within the organization and can be used in multiple mappings.

IMS connection properties

When you configure an IMS connection, you must set the connection properties.

The following table describes the IMS connection properties:

Property	Description
Connection Name	A name for the IMS 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	Description of the IMS connection. Maximum length is 4000 characters.
Type	Type of connection. For IMS, the type must be **IMS**.
Runtime Environment	Name of the runtime environment that contains the Secure Agent that you want to use to run mapping tasks.

Property	Description

Listener Location	Host name or IP address of the system where the PowerExchange Listener that processes requests for IMS 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:
	`PWXMLSNR:14673`

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 IMS source.
Code Page	The code page that the Secure Agent for the Data Integration Service uses to extract data from the source database.
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 bulk data processing to the target, including the filtering of data. - **Filter Before**. Offloads processing to the target but continues to filter data on the source system. - **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	For IMS data sets and sequential files, 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.
Connection Retry Period	Number of seconds that the PowerExchange Bulk Reader tries to reconnect to the PowerExchange Listener after the initial connection attempt fails. If a connection cannot be established within the retry period, the mapping task fails. The default is 0, which disables connection retries.

Property	Description
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.
Write Properties	Write Mode. Options are: - **Confirm Write On**. Sends data to the PowerExchange Listener and waits for a success or no success response before sending more data. This mode sends data synchronously to the PowerExchange Listener rather than buffering the data. - **Confirm Write Off**. Sends data asynchronously to the PowerExchange Listener by buffering the data. This mode does not wait for a success or no success response. Default is **Confirm Write On**.

CHAPTER 3

Mappings and mapping tasks with IMS Connector

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

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

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

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

Mapping configuration

You must configure a mapping that contains a source transformation for an IMS 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**.

A mapping must contain at least one Source transformation mapped to one Target transformation. Alternatively, a mapping can contain multiple IMS sources and multiple targets. For example, you can define multiple one-to-one mappings, map one source to multiple targets, or map multiple sources to one target. To map multiple sources to the same target, you can create multiple one-to-one mappings that map each source separately to the same target. In this case, each source must have a different primary key value.

Important: If you include multiple sources in a mapping, all of the Source transformations must use the same IMS connection, which connects to the same PowerExchange Listener and source location.

A mapping can also contain other transformation types, such as a Joiner transformation or Lookup transformation, as needed. If you include a Lookup transformation, make sure that you select either the **Lookup Source is Static** or **Lookup Cache Persistent** advanced property for the transformation. Otherwise, any associated mapping task for which the **Recovery Strategy** advanced session property is set to **Resume from last checkpoint**, as recommended, will fail.

When you define a Source transformation in a mapping, specify a name for the transformation, an IMS connection that can connect to the PowerExchange Listener on the PowerExchange Logger system, the source type, and the extraction map for the IMS source object. You can also set some additional source properties. The PWX Metadata Adapter retrieves metadata for the source table from the PowerExchange extraction map, including the field definitions.

When you define a Target transformation, specify a name for the transformation, a connection to the target, the target type, and the operation type. 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 manually map them.

Instead of selecting specific connections and objects in the Source and Target transformations, you can define a parameter for the connection, the source or target object, or both. You then must enter a specific connection or object in the associated mapping tasks. If you want to use a parameter for the source or target connection, you must perform one of the following actions before the mapping can be successfully validated:

- Set the **Source Type** or **Target Type** field to **Parameter** and then enter a parameter for the source or target object in the **Parameter** field. On the **Field Mapping** tab of the Target transformation, you must set the map option to **Automatic** for the mapping to be validated.
- If you want to use a specific source or target object with a connection parameter, first select a specific connection, set the **Source Type** or **Target Type** field to **Single Object**, select a source or target object in the **Object** field, validate the mapping, and then enter the connection parameter.

  Tip: If you want to validate the source-to-target field mappings, map the fields in the Target transformation before validating the mapping. After the mapping is confirmed as valid, enter connection parameters.

You can also completely or partially parameterize field mappings, and then define specific mappings in the mapping tasks.

IMS source properties in mappings

When you create a mapping, you configure a Source transformation for a IMS 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.

Note: If a mapping includes source tables or columns that have special characters in their names, the associated mapping task fails because it cannot import the source metadata. Special characters include s #, $, @, %, *, !, and ~. Therefore, ensure that none of the source tables and mapped columns have names with any special character. Rename the tables and columns if necessary.

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 IMS 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 for IMS connections. If you specify a parameter for the source connection, the **Sort** and **Filter** options are available but will be ignored if you configure them.

The following table describes the IMS source properties under **Details**:

Property	Description
Connection	*Required*. Select a source connection of the type **IMS**, 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 source object in the **Object** field. After you select the source object, define the connection parameter. If you want to use parameters for both the connection and source 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** 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 **Parameter** to use a parameter for the source object or select **Multi Group**. To define a parameter, select **Parameter** and then specify the parameter in the **Parameter** property. To read data from a nonrelational data source and write multiple record types to a nonrelational target, select **Multi Group**.
Schema, Data Map, and Tables	Click the pencil icon to specify the source schema, a data map if available, and one or more tables to use for the mapping. For multiple record write, select **Use Sequence Fields (Select All Tables)** on the **Select Source Tables** dialog to preserve the data sequence as it passes to the target. When you select this option, all non-complex tables are automatically selected. Complex tables are not selected.
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 **multi group data object**. This type of parameter can accept a set of groups. From the New Input Parameter dialog box, you can add or delete groups for the parameter. When you create a multi-group data object parameter, the corresponding links are also created. You can use these links in the mapping to connect to downstream transformations.

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

Property	Description
Map Schema Override	A schema name that overrides the default schema for the IMS source.
Map Name Override	A data map name that overrides the default data map for the IMS source.

Property	Description
IMS Unload File Name	An IMS source UNLOAD file name.
IMS AM Override	An access method used by the IMS source. The value you select overrides the default value. Select **DL/1** or **ODBA**.
IMS SSID Override	An IMS SSID that overrides the default SSID.
IMS PSBNAME Override	An IMS PSB name that overrides the default name.
IMS PCBNAME Override	An IMS PCB name that overrides the default name.
IMS PCBNUMBER Override	An IMS PCB number that overrides the default name.
Flush After N Blocks	The maximum number of block flushes that can occur across all groups without a given block being flushed. Define this property to ensure that all blocks are flushed at regular intervals.

Filter Overrides	One or more conditions that filter the source records that the PWX Reader retrieves from the PowerExchange Logger log files. Based on the filter conditions, a WHERE clause is appended to the default SQL SELECT query that the PWX Reader uses to read the records.
	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`

Property	Description

SQL Query Override	An SQL statement that overrides the default SQL query that the PWX Reader uses to retrieve records from PowerExchange.
	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 schema.extract_map.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`

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 for IMS connections.

Targets in mappings with IMS 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 IMS Connector, see "Supported targets" on page 8.

- **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. Target properties vary based on the supported target that you select.
- **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.

IMS targets in a mapping

To write data to an IMS database, configure an IMS object as the Target transformation in a mapping.

Specify the name and description of the IMS target. Configure the target and advanced properties for the target object.

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

Property	Description
Connection	Select an existing IMS target connection, or create a target connection that has a type of **IMS**. 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.
Target Type	Select **Single Object** to specify a target table or select **Multi Group** to write multiple record types to an IMS target. If you selected **Multi Group** and **Use Sequence Fields (Select All Tables)** for the source, make sure **Use Sequence Fields (Select All Tables)** is also selected for the target. This setting is required for multiple-record write. **Note:** - For multiple-record writes, you must join source and target tables and manually map the source fields to the target fields through the **Target Field Group** field. - For multiple-record writes, if you select the same data map as a target, you must override the file name to avoid overwriting the source file.
Object	Click **Select**. In the **Target Object** dialog box, select **Existing** and then select an existing target table.
Operation	Select the target operation. You can perform the following operations on an IMS target: - Insert - Update - Upsert - Delete - Data Driven

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 SQL Override	Overrides the default Update SQL that is sent to PowerExchange.
Map Schema Override	A schema name that overrides the schema name in the PowerExchange data map.
Map Name Override	Overrides the target PowerExchange data map name.
Insert SQL override	Overrides the default Insert SQL sent to PowerExchange.
Delete SQL override	Overrides the default Delete SQL that is sent to PowerExchange.
Pre SQL run once per Connection	Runs the SQL that you specify in the Pre SQL attribute only once for a connection. Select this attribute in either of the following cases: - In the **Pre SQL** attribute for a session that uses writer partitioning, you specify a SQL statement such as CREATEFILE that can run only once for the session. If you do not select **Pre SQL run once per Connection**, the session tries to run the statement once for each partition. - In the **Pre SQL** attribute for a session that performs a multiple-record write, you specify a CREATEFILE statement that creates a new generation of a GDG or creates an empty file. If you do not select **Pre SQL run once per Connection**, the session creates a generation or tries to create a new empty file for each record that the session writes.
Truncate Target	Truncates, or deletes, table contents before loading new data.
IMS AM Override	Overrides the IMS access method in the imported data map for the target with the other allowable access method. The session then uses the override access method at run time. - If you imported a target data map that specifies the DL/1 BATCH access method, enter **O** to override it with the IMS ODBA access method. For ODBA access, you must also specify the **IMS PSBNAME Override** and **IMS PCBNAME Override** attributes. - If you imported a target data map that specifies the IMS ODBA access method, enter D to override it with the DL/1 BATCH access method, which provides DL/I or BMP access. You must also specify the **IMS PCBNUMBER Override** attribute. **Important:** Before you run the session with an access method override, ensure that you complete the PowerExchange configuration tasks for the new access method. For example, if the override is DL/1 BATCH, you must configure LISTENER and NETPORT statements in the DBMOVER member and configure the netport JCL. If the override is IMS ODBA, you must perform other configuration tasks. For more information, see "IMS Data Maps" in the *PowerExchange Navigator User Guide*.

Advanced Property	Description
IMS SSID Override	If you imported an IMS ODBA data map for the target and did not override the access method, use this value to override the IMS subsystem ID (SSID). If you specified ODBA access as an override in the **IMS AM Override** attribute, you must enter this value. An SSID is required for ODBA access. If you use the IMS DL/1 BATCH access method and a BMP netport job, you can use this override with the %IMSID substitution variable in the netport JCL. This override replaces the substitution variable to specify the IMS SSID to use for the session. By using the substitution variable and override together, you can use the same netport JCL to access multiple IMS environments, such as development, testing, and production environments. **Note:** An IMS SSID is not required for DL/I batch access to IMS data or for access to an IMS unload file.
IMS PSBName Override	If you imported an IMS ODBA data map for the target and did not override the access method, this value overrides the PSB name from the data map. If you specified ODBA access as an override in the **IMS AM Override** attribute, you must enter this value. A PSB name is required for ODBA access. If you use DL/I batch or BMP access and specify this override, you must also specify the PSB=%PSBNAME substitution variable in the netport JCL. The override value then replaces the substitution variable in the JCL. If you specify the PSB=%1 substitution variable instead of PSB=%PSBNAME in the netport JCL, the session uses the PSB name in the NETPORT statement, if specified. In this case, you need a separate NETPORT statement for each PSB. To avoid exceeding the limit of ten NETPORT statements, use this override with %PSBNAME substitution variable instead.
IMS PCBNAME Override	If you imported an IMS ODBA data map for the target and did not override the access method, this value overrides the PCB name from the data map. If you specified ODBA access as an override in the **IMS AM Override** attribute, you must enter this value. A PCB name is required for ODBA access. A PCB name is not used for DL/I or BMP access.
IMS PCBNUMBER Override	If you imported a DL/1 BATCH data map for the target and did not override the access method, this value overrides the PCB number from the data map. If you specified DL/I or BMP access as an override in the **IMS AM Override** attribute, you must enter this value. A PCB number is required for DL/I or BMP access. A PCB number is not used for IMS ODBA access.
IMS Unload File Override	Required for a multiple-record write to an IMS unload file.

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Lookup Transformation

You can configure a cached Lookup transformation when you use an IMS connection in a mapping to return data from an IMS source based on a specified lookup condition. However, the IMS Connector does not support uncached lookup.

For more information, see Cloud Data Integration *Transformations*.

Multiple-record writes to nonrelational targets

You can use a multiple-record data map to read data from a nonrelational data source and write the multiple record types in a single pass to a nonrelational target. This process is called a multiple-record write.

When Cloud Data Integration performs a multiple-record write, it preserves source sequencing information. To enable multiple-record writes with sequencing, select the **Use Sequence Fields (Select All Tables)** option in the **Select Source Tables** dialog box for both the source and target definition. When you select these options, Cloud Data Integration generates primary key (DTL_PK) and foreign key fields (DTL_FK) for each group in the source and target definitions, which enables Cloud Data Integration to reassemble the data in the correct sequence at the target.

You can perform multiple-record writes with the following types of sources and targets:

- Source and target IMS unload and VSAM data sets on z/OS
- Any combination of the following types of nonrelational sources and targets:
  - Files on Linux, UNIX, or Windows
  - Files on IBM i

Mapping task configuration

Configure a mapping task for a mapping with a IMS source. When you run the mapping task, the IMS records are transmitted to the target.

Note: SQL ELT optimization and Visio templates are not supported for IMS 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:

- **General**. 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. If you defined a source object parameter, select the extraction map for a specific source object. For more information, see "Properties for parameterized sources and connections" on page 23.
- **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.

Note: If the mapping uses a specific source connection and a parameter for the source object, you can specify these 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 defined a parameter for the source object in the mapping, you must select a specific source object for the mapping task. After you select a source object, the **Preview All Columns** button appears under **Data Preview**. However, you cannot preview data for a source object.

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 tables 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 **multi group data object** for the mapping.

By default, the object are associated with the groups in the order in which the tables appear in the object selection window. From the **Group Map** area, you can change the group to object association by using drag and drop to associate a group with an object.

When you finish entering information on the **Sources** page, click **Validate** to validate your entries and then click **Next** to proceed to the **Runtime Options** page.

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. If necessary, you can stop the mapping task from the Monitor.

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

IMS administration

As the organization administrator for a IMS Connector implementation, you might need to perform some administrative tasks to keep movement of data running smoothly.

For example, you might need to perform some administrative tasks when you upgrade PowerExchange.

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

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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