



Informatica® Cloud (Version Spring 2017)

ODBC Connector Guide

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Preface

The *Informatica Cloud ODBC Connector Guide* contains information about how to set up and use ODBC Connector.

The *Informatica Cloud ODBC Connector Guide* explains how organization administrators and business users can use ODBC connections to securely read data from or write data to ODBC compliant applications.

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CHAPTER 1

Introduction to ODBC Connector

This chapter includes the following topics:

- [ODBC Connector Overview, 8](#)
- [ODBC Connector Task and Object Types, 8](#)
- [Introduction to ODBC, 9](#)
- [Configuring the Teradata ODBC Driver on Linux, 9](#)

ODBC Connector Overview

You can use ODBC Connector to read data from and write data to any application that is ODBC compliant. Use ODBC connections in Data Synchronization tasks, mappings, and Mapping Configuration tasks to connect to sources, targets and lookups. You can write data to a flat file target.

Example

You want to migrate sales data from DB2 to Salesforce. You do not have a DB2 Connector to read sales data from DB2 source. You can use ODBC Connector to migrate sales data from DB2 to Salesforce.

ODBC Connector Task and Object Types

When you create an ODBC connection to perform a task, you can select objects supported by ODBC Connector for the task.

The following table provides the list of tasks and object types supported by ODBC Connector:

Task Type	Source	Target	Lookup
Data Synchronization	Yes	Yes	Yes
Mappings	Yes	Yes	Yes
Mapping Configuration	Yes	Yes	Yes

Introduction to ODBC

Open Database Connectivity (ODBC) is an open standard application programming interface (API) for accessing relational and non-relational database management systems. You can use ODBC connection to access files in a number of different databases including Informix, Microsoft Access, dBase, DB2, NetSuite, Teradata, Netezza, Greenplum, Microsoft Excel , IBM DashDB, Microsoft Azure SQL Data Warehouse, and Text. ODBC is based on Structured Query Language (SQL) as a standard for accessing data.

You require the following components to use ODBC:

- ODBC Client is a front-end application installed in your machine. You use the ODBC Client application to connect to databases.
- ODBC Driver is a back-end application installed on a computer that is used to store data for access by several users. An ODBC driver processes ODBC function calls, submits SQL requests to a specific data source, and returns results to the client application.

Any ODBC client can access any database for which there is an ODBC Driver.

Configuring the Teradata ODBC Driver on Linux

Before you can run tasks to connect to Teradata using the ODBC connection from Linux, you must set the ODBCINI and LD_LIBRARY_PATH environmental variables for the driver and create the DSN entries.

1. Add the path of the `odbc.ini` file to the ODBCINI environment variable. For example,

```
setenv ODBCINI "/data/home/adputf_9/cloud_td/ODBCINI/odbc.ini"
```

2. To set the LD_LIBRARY_PATH environment variable, use the following syntax:

```
setenv LD_LIBRARY_PATH "/opt/teradata/client/<Version>/lib64"
```

3. Add entries for the Teradata data sources in the `odbc.ini` file.

The following section shows a sample entry in the `odbc.ini` file:

```
[Sample Teradata ODBC DSN]
[ODBC Data Sources]
<DSN_NAME>=tdata.so

[<DSN_NAME>]
Driver=<Teradata_ClientHome>/lib64/tdata.so
Description=DataDirect 7.1 Teradata
AccountString=
AuthenticationDomain=
AuthenticationPassword=
AuthenticationUserid=
CharacterSet=ASCII
DBCName=<Teradata_Server>
Database=
EnableDataEncryption=0
EnableExtendedStmtInfo=0
EnableLOBs=1
EnableReconnect=0
IntegratedSecurity=0
LoginTimeout=20
LogonID=
MapCallEscapeToExec=0
MaxRespSize=8192
Password=
PortNumber=1025
```

```
PrintOption=N
ProcedureWithSplSource=Y
ReportCodePageConversionErrors=0
SecurityMechanism=
SecurityParameter=
ShowSelectableTables=1
TDProfile=
TDRole=
TDUserName=
```

4. Restart the Secure Agent after you configure the environment variables.

CHAPTER 2

ODBC Connections

This chapter includes the following topics:

- [ODBC Connections, 11](#)
- [ODBC Connection Properties, 11](#)
- [ODBC Connection Rules and Guidelines, 14](#)
- [Configuring an ODBC Connection for Siebel, 15](#)

ODBC Connections

ODBC connections enable you to connect to a database. You can use ODBC connections in Data Synchronization tasks, mappings, and Mapping Configuration tasks. When you create the system DSN, you must specify the data source name and the connect string. Choose a database driver that is compatible with the database to which you want to connect.

If you use the MySQL ODBC 3.51 driver for an ODBC connection and you select a MySQL target that has a column with a Double datatype, an error similar to the following is displayed:

```
Column [A1_NUMBER_18_0] has scale greater than precision.
```

To resolve the error, upgrade to the MySQL ODBC 5.1 driver.

Note: Before you configure the ODBC connection in Informatica Cloud, you must create a system Data Source Name (DSN).

ODBC Connection Properties

Use an ODBC connection to connect to an ODBC object.

The following table describes the properties:

Connection Property	Description
Runtime Environment	Runtime environment that contains the Secure Agent you can use to access the system.
User Name	User name for the database login.

Connection Property	Description
Password	Password for the database login. The password cannot contain a semicolon.
Data Source Name	System DSN.
Schema	Schema used for the source or target.

Connection Property	Description
Code Page	<p>The code page of the database server or flat file defined in the connection. Select one of the following code pages:</p> <ul style="list-style-type: none"> - MS Windows Latin 1. Select for ISO 8859-1 Western European data. - UTF-8. Select for Unicode data. - Shift-JIS. Select for double-byte character data. - ISO 8859-15 Latin 9 (Western European). - ISO 8859-2 Eastern European. - ISO 8859-3 Southeast European. - ISO 8859-5 Cyrillic. - ISO 8859-9 Latin 5 (Turkish). - IBM EBCDIC International Latin-1. - Japanese Extended UNIX Code (incl. JIS X 0212) - Japanese EUC (with \<-> Yen mapping) - Japanese EUC (Packed Format) - IBM EBCDIC Japanese - IBM EBCDIC Japanese CP939 - Japanese EBCDIC Fujitsu - HITACHI KEIS Japanese - NEC ACOS JIPSE Japanese - UNISYS Japanese - MITSUBISHI MELCOM Japanese - Japanese EBCDIC-Kana Fujitsu - HITACHI KEIS-Kana Japanese - NEC ACOS JIPSE-Kana Japanese - UNISYS-Kana Japanese - MITSUBISHI MELCOM-Kana Japanese - EBCDIC Japanese - EBCDIK Japanese - PC Japanese SJIS-78 syntax (IBM-942) - PC Japanese SJIS-90 (IBM-943) - EBCDIC Japanese Katakana SBCS - EBCDIC Japanese Katakana (w/ euro) - EBCDIC Japanese Latin-Kanji (w/ euro) - EBCDIC Japanese Extended (DBCS IBM-1390 combined with DBCS IBM-1399) - EBCDIC Japanese Latin (w/ euro update) - EBCDIC Japanese Katakana SBCS (w/ euro update) - MS Taiwan Big-5 w/ HKSCS extensions - MS Windows Traditional Chinese, superset of Big 5 - Taiwan Big-5 (w/ euro update) - Taiwan Big-5 (w/o euro update) - PC Chinese GBK (IBM-1386) - Chinese EUC - Simplified Chinese (GB2312-80) - Hong Kong Supplementary Character Set - ISO 8859-8 Hebrew - PC Hebrew (old) - PC Hebrew (w/o euro update) - PC Hebrew (w/ euro update) - MS Windows Hebrew (older version) - MS Windows Hebrew (w/o euro update) - Lotus MBCS encoding for Windows Hebrew - EBCDIC Hebrew (updated with sheqel, control characters) - EBCDIC Hebrew (w/ euro) - EBCDIC Hebrew (updated w/ euro and new sheqel, control characters) - Israeli Standard 960 (7-bit Hebrew encoding)

Connection Property	Description
ODBC Subtype	<p>Categorizes the type of the connection so that pushdown optimization support can be enabled. Specify any one of the following subtypes:</p> <ul style="list-style-type: none"> - Redshift. When you read from or write to Amazon Redshift, select Redshift. - Other. When you read data from or write data to any other databases, select Other. For example, to connect to other databases such as Microsoft Access, IBM DashDB, NetSuite, Microsoft Excel, and Teradata, you must select Other. Default is Other.
Driver Manager for Linux	<p>When you create a new ODBC connection on Linux platform, you can select a driver manager for the Linux Secure Agent. Select one of the following driver managers:</p> <ul style="list-style-type: none"> - Data Direct - unixODBC2.3.0 - unixODBC2.3.4 <p>The default driver manager is UnixODBC2.3.0.</p> <p>To connect to Teradata, you can use only Data Direct as the driver manager on Linux.</p>

ODBC Connection Rules and Guidelines

Consider the following rules and guidelines when you create an ODBC connection:

- ODBC connections support system DSNs, not user DSNs.
- It is recommended to use a predefined connection instead of an ODBC connection for databases. For example, use the Oracle connection type to connect to an Oracle database.
- When you create or edit a task with an ODBC connection, database tables from other schema in the database might appear in the wizard. The wizard does not filter tables based on the schema specified for the ODBC connection.
- ODBC connections do not support Unicode (UTF-8) data. No tasks can read or write Unicode data using an ODBC connection.
- The data preview area might not display data from an ODBC connection if the database table or column name is also a database key word.
- If you use an ODBC connection for an Oracle database target, ensure that Oracle table columns with the following data types do not exceed the specified maximum precision: char(1999), varchar(3999), nvarchar(3998), and nchar(3998).
- You cannot use an ODBC connection to perform update or delete operation on an Excel target.
- If you use an ODBC connection for an Excel source or target file, ensure that named ranges are defined in the Excel file.
- Do not use an ODBC connection to perform upserts on a MySQL database. Use a MySQL connection to perform upserts.
- When you use an ODBC connection to include multiple MySQL tables in Mapping Configuration tasks, use an advanced relationship instead of an existing or custom relationship. In Data Synchronization tasks, use a user-defined join.

Configuring an ODBC Connection for Siebel

You can use an Informatica Cloud ODBC connection to connect to Siebel. To ensure connectivity, configure an ODBC connection for Siebel.

1. On the Secure Agent machine, use the ODBC Administrator to configure a system DSN.
2. In the Informatica Cloud organization, configure an ODBC connection to use the system DSN and an SQL authenticated login.

CHAPTER 3

Data Synchronization Tasks with ODBC Connector

This chapter includes the following topics:

- [ODBC Sources in Data Synchronization Tasks, 16](#)
- [ODBC Targets in Data Synchronization Tasks, 17](#)
- [Rules and Guidelines for Data Filters, 18](#)

ODBC Sources in Data Synchronization Tasks

You configure ODBC source properties on the **Source** page of the Data Synchronization Task wizard.

The following table describes the ODBC source properties:

Property	Description
Connection	Name of the source connection.
Source Type	Type of the source object. Select Single, Multiple or Saved Query.
Source Object	Name of the source object. Select the source object for a single source or multiple related sources.
Display source fields in alphabetical order	Displays source fields in alphabetical order instead of the order returned by the source system.

When you configure a Data Synchronization task to use an ODBC source, you can configure advanced source properties. Advanced source properties appear on the **Schedule** page of the Data Synchronization Task wizard.

The following table describes the ODBC advanced source properties:

Advanced Property	Description
Preprocessing Commands	Enter pre-processing script that should be executed before running the Data Synchronization task.
Post-processing Commands	Enter post-processing script that should be executed after running the Data Synchronization task.
Parameter File Name	File that contains the parameters to be used in filters or expressions. Ensure that you have saved the parameter file in the <Secure Agent installation directory>/apps/Data_Integration_Server/data/userparameters directory.
Execution Mode	Sets the amount of detail that appears in the log file. Select Standard or Verbose. Default is Standard. Select Verbose for troubleshooting.

Rules and Guidelines for ODBC Sources

Consider the following rules and guidelines when you configure an ODBC source:

- ODBC source connections do not detect primary-foreign-key relationships. Therefore, these tables do not appear related when you add multiple source objects.
- If you add multiple MySQL tables as the source for a task and you use an ODBC connection to connect to MySQL, you must use a user-defined join. If you create the relationship and run the task, the task fails.
- You cannot use the `select * from <table_name>` command in a saved query. You must provide the explicit column list.

ODBC Targets in Data Synchronization Tasks

You can use an ODBC object as a target in a Data Synchronization task.

You can configure ODBC target properties on the **Target** page of the Data Synchronization Task wizard.

You can configure target objects to perform the following operations:

- Insert
- Update
- Upsert
- Delete

The following table describes the ODBC target properties:

Property	Description
Connection	Name of the target connection.
Target Object	Name of the target object.

Property	Description
Truncate Target	Truncates an ODBC target before writing data to the target. Select True or False. Note: When you truncate a target through an ODBC connection, it executes a DELETE FROM statement to truncate the table.
Display target fields in alphabetical order	Displays target fields in alphabetical order instead of the order returned by the source system.

When you configure a Data Synchronization task to use ODBC targets, you can configure advanced target properties. Advanced target properties appear on the **Schedule** page of the Data Synchronization Task wizard.

The following table describes the ODBC advanced target properties:

Advanced Property	Description
Preprocessing Commands	Enter pre-processing script that should be executed before running the Data Synchronization task.
Post-processing Commands	Enter post-processing script that should be executed after running the Data Synchronization task.
Parameter File Name	File that contains the parameters to be used in filters or expressions. Ensure that you have saved the parameter file in the Secure Agent /main/rdtmDir/userparameters directory.
Execution Mode	Sets the amount of detail that appears in the log file. Select Standard or Verbose. Default is Standard. Select Verbose for troubleshooting.

Rules and Guidelines for Data Filters

Use the following rules and guidelines for data filters:

- Do not use data filter variables with ODBC source connections.
- When you run a task that contains a simple data filter on a date field from a Microsoft Access, MySQL, or Oracle database and the connection type is an ODBC connection, the task fails with an error similar to one of the following errors:

```
RR_4035 SQL Error [ FnName: Execute -- [Microsoft][ODBC Microsoft Access Driver] Data
type mismatch in criteria expression.].
RR_4035 SQL Error [ FnName: Execute -- [Oracle][ODBC][Ora]ORA-01843: not a valid
month ].
```

By default, a simple data filter applies a double quotation mark to escape the column name in an ODBC connection, which causes the error. To resolve the error, create an advanced data filter and apply the correct escape character to the column names.

- If you change the data type of a Microsoft Access or ODBC source column to binary, varbinary, longvarbinary, or ntext in a Data Synchronization task, you cannot create a simple data filter on the column. You can create an advanced data filter.

CHAPTER 4

Mappings and Mapping Configuration Tasks with ODBC Connector

This chapter includes the following topics:

- [Mappings and Mapping Configuration Tasks with ODBC Connector Overview, 19](#)
- [ODBC Sources in Mappings, 20](#)
- [ODBC Targets in Mappings, 21](#)
- [ODBC Lookups in Mappings, 22](#)
- [ODBC Mapping Example, 23](#)
- [Pushdown Optimization for Teradata ODBC Connection, 23](#)
- [Supported Transformations for Pushdown Optimization , 25](#)
- [Pushdown Optimization Functions, 25](#)
- [Configuring Pushdown Optimization, 26](#)

Mappings and Mapping Configuration Tasks with ODBC Connector Overview

Use the Informatica Cloud Mapping Designer to create a mapping. When you create a mapping, you configure a source or target to represent an ODBC object.

Validate and run the mapping to read data from sources, and write to a target.

Describe the flow of data from source and target along with the required transformations before the agent writes data to the target. When you create a Mapping Configuration task, select the mapping that you want to use. Use the Mapping Configuration Task wizard to create a Mapping Configuration task. The mapping configuration task processes data based on the data flow logic you define in the mapping.

ODBC Sources in Mappings

In a mapping, you can configure a Source transformation to represent a single ODBC source, multiple ODBC sources, ODBC query or ODBC parameter.

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

Property	Description
Connection	Name of the source connection.
Source Type	Type of source object. Select Single Object, Multiple Objects, Query or Parameter.
Object	Name of the source object. Select the source object for the task.
Objects and Relationships	Adds multiple objects. Click on Add Source Object. Note: The Objects and Relationships property appears only if you select Multiple Objects as the source type.
Query	Click on Define Query and enter a valid custom query. Note: The Query property appears only if you select Query as the source type.
Parameter	The parameter for the source object. Create or select the parameter for the source object. Note: The parameter property appears only if you select Parameter as the source type.
Filter	Filters records and reduces the number of rows that the Secure Agent reads from the source. Add conditions in a read operation to filter records from the source.
Sort	Sorts records based on the conditions you specify.
Select distinct rows only	Eliminates duplicate rows. Select one of the following options: <ul style="list-style-type: none">- True. Eliminates duplicate rows before inserting new rows.- False. Inserts new rows without eliminating duplicate rows.
Tracing Level	Sets the amount of detail that appears in the log file. Select Normal, Verbose Initialization or Verbose Data. Default is normal.
Pre SQL	Executes SQL query before loading records to the database. For example, if you want to delete the records from database before the latest records load, write a Pre SQL.
Post SQL	Executes SQL query after loading records to the database.
Output is Deterministic	Specify only when the source output does not change between session runs.
Output is Repeatable	Specify only when the order of the source output is same between the session runs. Select Never or Always.

Key Range Partitioning

You can configure key range partitioning when you use a Mapping Configuration task to read data from ODBC sources. With key range partitioning, the Secure Agent distributes rows of source data based on the field that you define as partition keys. The Secure Agent compares the field value to the range values for each partition and sends rows to the appropriate partitions.

Use key range partitioning for columns that have an even distribution of data values. Otherwise, the partitions might have unequal size. For example, a column might have 10 rows between key values 1 and 1000 and the

column might have 999 rows between key values 1001 and 2000. If the mapping includes multiple sources, use the same number of key ranges for each source.

When you define key range partitioning for a column, the Secure Agent reads the rows that are within the specified partition range. For example, if you configure two partitions for a column with the ranges as 10 through 20 and 30 through 40, the Secure Agent does not read the rows 20 through 30 because these rows are not within the specified partition range.

You can configure a partition key for fields of the following data types:

- String
- Any type of number data type. However, you cannot use decimals in key range values.
- Date/time type. Use the following format: MM/DD/YYYY HH24:MI:SS

You cannot use key range partitions when a mapping includes any of the following transformations:

- Web Services
- XML to Relational

Configure Key Range Partitioning

Perform the following steps to configure key range partitioning for ODBC sources:

1. In the Source Properties, click the **Partitions** tab.
2. Select the required partition key from the list.
3. Click **Add New Key Range** to define the number of partitions and the key ranges based on which the Secure Agent must partition data.

Use a blank value for the start range to indicate the minimum value. Use a blank value for the end range to indicate the maximum value.

The following image displays the **Partitions** tab:

Set up key ranges to process data in parallel. Select the partition key and then specify the range for each partition. Use a blank value

Partition key:

Partition	Start range	End range
#1	10	100
#2	100	1000
#3	1000	10000
#4	10000	20000

[Add New Key Range](#)

ODBC Targets in Mappings

In a mapping, you can configure a Target transformation to represent a single ODBC target.

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

Property	Description
Connection	Name of the target connection.
Target Type	Type of target object. Select Single Object or Parameter.
Object	The target object for the task. Select the target object.
Parameter	The parameter for the target object. Create or select the parameter for the target object. Note: The parameter field appears only if you select parameter as the target type.
Operation	The target operation. Select the target operation. Select Insert, Update, Upsert, Delete or Data Driven.
Truncate Target	Truncates the database target table before inserting new rows. Select one of the following options: <ul style="list-style-type: none"> - True. Truncates the target table before inserting all rows. - False. Inserts new rows without truncating the target table Default is False. Note: The truncate target property is not applicable for virtual tables.
Forward Rejected Rows	Determines whether the transformation passes rejected rows to the next transformation or drops rejected rows. By default, the Mapping Configuration task forwards rejected rows to the next transformation.

ODBC Lookups in Mappings

You can create lookups for objects in ODBC connection. You can retrieve data from an ODBC lookup object based on the specified lookup condition.

When you configure a lookup in ODBC, you select the lookup connection and lookup object. You also define the behavior when a lookup condition returns more than one match.

The following table describes the ODBC lookup object properties that you can configure in a Lookup transformation:

Lookup Object Properties	Description
Connection	Name of the lookup connection.
Source Type	Type of the source object. Select Single Object or Parameter.
Lookup Object	Name of the lookup object for the mapping.
Parameter	The parameter for the lookup object. Create or select the parameter for the lookup object. Note: The parameter property appears only if you select parameter as the source type.
Multiple Matches	Select Return first row, Return last row, Return any row, Return all rows or report error.
Filter	Not supported.
Sort	Not supported.
Advanced	Not supported.

ODBC Mapping Example

You work in the human resource management team of a manufacturing organization and you need to migrate employee data from DB2 to Informix database. Create a Mapping Configuration task to use the insert operation. You use the following objects in the ODBC mapping:

Source Object

The source object for the Mapping Configuration task is Employee. Use the ODBC connection to connect to DB2 database and read data from the DB2 Employee object. Use the Employee object as a single source in the Mapping Configuration task.

Target Object

The target for the Mapping Configuration task is an Informix table. The target includes the EMPID, EMPNAME, AGE, DOB, DEPTID_EMP, LOCATION, DESIGNATION, and SALARY fields.

Mapping

Map the fields of the Employee source to the Informix target.

The following image shows the ODBC mapping:



The following image shows the mapped fields of the DB2 source with the Informix target object:

The screenshot shows the 'Informix_ODBC Properties' dialog box. The 'Field Mapping' tab is selected. On the left, under 'Incoming Fields: (8 of 8 mapped)', the fields are: EMPID, EMPNAME, AGE, DOB, DEPTID_EMP, LOCATION, DESIGNATION, and SALARY. On the right, under 'Target Fields: (8 of 8 mapped)', the fields are: empid, empname, age, dob, deptid_emp, location, designation, and salary. The 'Mapped Field' column shows the mapping from the incoming field to the target field.

Field Name	Mapped Field
empid	EMPID
empname	EMPNAME
age	AGE
dob	DOB
deptid_emp	DEPTID_EMP
location	LOCATION
designation	DESIGNATIO
salary	SALARY

When you run the mapping, the agent writes the Employee details to the Informix table.

The following image shows the Employee details that the agent writes based on the fields you mapped in the Mapping Configuration task:

The screenshot shows a data table with columns: empid, empname, age, dob, deptid_emp, location, designation, and salary. The table contains three rows of data.

empid	empname	age	dob	deptid_emp	location	designation	salary
1	ABC	25	1985-04-01	100	INDIA	ASST.	1000.00
2	XYZ	45	1965-04-01	101	INDIA	Manager	100000.00
3	PQR	35	1975-04-01	102	INDIA	SUPER	10000.00

Pushdown Optimization for Teradata ODBC Connection

When you use the ODBC connection to read data from a Teradata source, transform the data, and write the data to a Teradata target, you can configure pushdown optimization to push the transformation logic to the

source or target database system. If the source and target databases are the same, you can configure full pushdown optimization for improved performance.

When the Secure Agent applies pushdown optimization, it pushes transformation logic to the database. The Secure Agent translates the transformation logic into SQL queries and sends the SQL queries to the database. The Teradata database runs the SQL queries to process the transformations. The amount of transformation logic that the Secure Agent pushes to the database depends on the database, the transformation logic, and the mapping configuration. The Secure Agent processes all transformation logic that it cannot push to a database.

Pushdown optimization improves mapping performance because the database processes the transformation logic faster than the Secure Agent. The amount of data that the Secure Agent needs to read from the database is reduced.

When you configure pushdown optimization for the mapping, the Secure Agent analyzes the optimized mapping from the source to the target or until it reaches a downstream transformation that it cannot push to the source database. The Secure Agent generates and executes a SELECT statement for each source that has transformation logic pushed down. Then, it reads the results of this SQL query and processes the remaining transformations in the mapping.

Note: When you push down transformation logic to the database, ensure that the database has enough resources to process the queries faster. Otherwise, there could be a performance degradation.

Source Pushdown

When the Secure Agent applies source pushdown, it analyzes the mapping from source to target or until it reaches a downstream transformation it cannot push to the source database.

The Secure Agent generates and executes a SELECT statement based on the transformation logic for each transformation it can push to the database. The Secure Agent then reads the results of this SQL query and processes the remaining transformations.

You can configure a mapping to use source pushdown if the source and target reside in different databases. For example, if a mapping contains a Teradata source and an Oracle target, you can configure source pushdown to push some transformation logic for processing to the Teradata source.

Full Pushdown

You can configure full pushdown optimization only when the source and target are in the same database.

When you configure full pushdown, the Secure Agent attempts to push all transformation logic in the mapping to the target database. If the Secure Agent cannot push all transformation logic to the database, it performs both source-side and target-side pushdown optimization.

When you run a mapping configured for full pushdown optimization, the Secure Agent analyzes the mapping from the source to the target or until it reaches a downstream transformation it cannot push to the target database. It generates and executes SQL statements against the source or target based on the transformation logic it can push to the database.

Supported Transformations for Pushdown Optimization

When you configure pushdown optimization for the Teradata database, the Secure Agent tries to push the configured transformation to the database.

The Secure Agent can push the following transformation logic to a Teradata source or target:

Transformations	Supported Pushdown Type
Aggregator	Source, Full
Expression	Source, Full
Filter	Source, Full
Joiner	Source, Full
Sorter	Source, Full
Union	Source, Full
Router	Full

Pushdown Optimization Functions

When you enable pushdown optimization, the Secure Agent converts the expression in the transformation by determining equivalent functions in the Teradata database. If there is no function in the database, the Secure Agent processes the transformation logic.

The following table summarizes the pushdown optimization type for the available pushdown functions in the Teradata database:

Functions	Pushdown Type
ABS()	Source, Full
AVG()	Source, Full
COS()	Source, Full
COUNT()	Source, Full
DATE_COMPARE()	Source, Full
DECODE()	Source, Full
EXP()	Source, Full
IIF()	Source, Full

Functions	Pushdown Type
IN()	Source, Full
ISNULL()	Source, Full
LOWER()	Source, Full
MAX()	Source, Full
MIN()	Source, Full
POWER()	Source, Full
SIN()	Source, Full
SQRT()	Source, Full
SUM()	Source, Full
TAN()	Source, Full
UPPER()	Source, Full

Configuring Pushdown Optimization

Configure a mapping for Teradata source or full pushdown optimization in the **Advanced Session Properties** section.

Before you configure pushdown optimization, verify that the ODBC subtype is Other in the ODBC connection properties. If you connect from Linux, you must select Data Direct as the Driver Manager for Linux.

1. In the **Schedule** tab of the Mapping Configuration task, navigate to the **Advanced Session Properties** section.
2. Click **Add** to add a new session property.
3. From the **Session Property Name** list, select **Pushdown Optimization**.
4. From the **Session Property Value** list, select the required type of pushdown optimization.

The following image shows the pushdown optimization options:



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