



Informatica™

Informatica® Cloud Data Integration

Exasol Connector

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Preface

Use *Exasol Connector* to connect to Exasol database by using Cloud Data Integration. Learn how to read from and write to Exasol database by using Cloud Data Integration. Learn to create an Exasol connection, develop and run mappings and mapping tasks in Cloud Data Integration.

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CHAPTER 1

Introduction to Exasol Connector

This chapter includes the following topics:

- [Exasol Connector overview, 6](#)
- [Exasol supported task types and object types, 6](#)
- [Introduction to Exasol, 6](#)
- [Administration of Exasol Connector, 7](#)

Exasol Connector overview

You can use Exasol Connector to connect to Exasol from Cloud Data Integration and securely read data from or write data to an Exasol database. Exasol sources and targets represent records in Exasol.

Exasol supported task types and object types

You can perform insert, update, and delete operations on an Exasol target.

The following table lists the tasks and object types that Exasol Connector supports:

Task Type	Source	Target	Connected Lookup
Mapping	Yes	Yes	Yes

Introduction to Exasol

Exasol is an in-memory database for analytics, data warehousing, business intelligence, and reporting. Exasol combines in-memory technology, columnar compression and storage, self tuning, and massively parallel processing to achieve high performance with minimum maintenance.

The Exasol architecture supports advanced analytical tasks on large volumes of data in the database. You can easily add Artificial Intelligence (AI) and Machine Learning (ML) algorithms to the Exasol database and solve complex analytic challenges such as predictive analytics.

Administration of Exasol Connector

As a user, you can use Exasol Connector after the organization administrator performs the following tasks:

- Enables Exasol Connector.
- Installs the Secure Agent on a 64-bit machine.

CHAPTER 2

Exasol connections

This chapter includes the following topics:

- [Exasol connections overview, 8](#)
- [Exasol connection properties, 8](#)

Exasol connections overview

Create an Exasol connection to access data from an Exasol database. You can use Exasol connections to specify sources, lookups, and targets in mappings and mapping tasks.

You can create a connection on the Connections page or when you create a task. After you create a connection, it becomes available to all users who have access to the organization.

Exasol connection properties

When you create an Exasol connection, you must configure the connection properties.

The following table describes the Exasol connection properties:

Property	Description
Runtime Environment	Name of the runtime environment that contains the Secure Agent that you want to use to run mapping tasks.
User Name	User name to connect to the Exasol database.
Password	Password to connect to the Exasol database.
Host	Host name or IP address of the Exasol database server.
Port	Port number of the Exasol database.
Connection Timeout in milliseconds	The time in milliseconds to connect to the Exasol database. Default is 2000 milliseconds.

CHAPTER 3

Mappings and mapping tasks with Exasol Connector

This chapter includes the following topics:

- [Exasol sources in mappings and mapping tasks, 9](#)
- [Exasol targets in mappings and mapping tasks, 10](#)
- [Mapping example, 11](#)
- [Exasol lookups in mappings, 11](#)

Exasol sources in mappings and mapping tasks

When you configure a mapping to use an Exasol source, you can configure the source properties.

The following table describes the Exasol source properties:

Property	Description
Connection	Name of the source connection.
Source Type	Type of the source object. Select one of the following types: <ul style="list-style-type: none">- Single. Select to specify a single Exasol object.- Parameter. Select to define the source type when you configure the mapping task.
Object	The source object for the mapping.
Query Options	You can configure the following query options: <ul style="list-style-type: none">- Filter. Configure a simple filter to filter source data to limit the amount of source data that enters the data flow.- Sort. You can sort source data to provide sorted data to the mapping.

You can set the tracing level in the advanced properties to determine the amount of detail that appears in the logs.

The following table describes the tracing level values:

Tracing Level	Description
Terse	The Secure Agent logs initialization information, error messages, and notification of rejected data.
Normal	The Secure Agent logs initialization and status information, errors encountered, and skipped rows due to transformation row errors. Summarizes session results, but not at the level of individual rows.
Verbose Initialization	In addition to normal tracing, the Secure Agent logs additional initialization details, names of index and data files used, and detailed transformation statistics.
Verbose Data	In addition to verbose initialization tracing, the Secure Agent logs each row that passes into the mapping. Also notes where the Secure Agent truncates string data to fit the precision of a column and provides detailed transformation statistics. When you configure the tracing level to verbose data, the Secure Agent writes row data for all rows in a block when it processes a transformation.

Exasol targets in mappings and mapping tasks

When you configure a mapping to use an Exasol target, you can configure target properties.

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

Property	Description
Connection	Name of the target connection.
Target Type	Specify the type of the target object. Select from one of the following options: - Single. Select to specify a single Exasol object. - Parameter. Select to define the target type parameter when you configure the mapping task.
Object	You can select an existing object or create an object at runtime.
Operation	Specify the target operation. You can perform insert, update, and delete operation on an Exasol target.
Update columns	Updates the columns specified in the list of column names.

The following table describes the Exasol advanced target properties:

Property	Description
Schema Name	The source schema name for the update or delete operation.
Source Table Name	The name of the source table that temporarily holds the data that you want to update or delete.
Key Column	The primary key for the update or delete operation. If the target table does not have a primary key, you can define a composite key with multiple column names using a comma delimiter.

Rules and guidelines for Exasol targets

Consider the following rules and guidelines for the Exasol targets:

- To update or delete data in the target, ensure that you configure the Schema Name, Source Table Name and Key Column.
- Perform the following tasks to use the update or delete operation:
 - Use the insert operation to insert data into a temporary table in the Exasol database.
 - Specify the **Schema Name** and the **Source Table Name** in the advanced properties for the temporary table, to perform the update or delete operation.

Mapping example

You can create a mapping and then use the mapping in a mapping task

Perform the following steps to create a mapping task:

1. Select **Data Integration** from the menu.
The Data Integration Home page appears.
2. To create a mapping, click **New** and then in the **New Asset** dialog box, click **Mapping**.
3. Click **Create**.
The Mapping Designer appears with a new mapping displayed in the mapping canvas.
4. In the **Properties** panel, enter the mapping name and select the location you want the mapping to reside in, or use the default location.
5. On the mapping canvas, click the Source transformation to select it.
6. In the **Properties** panel, click **General** and enter a name for the Source transformation.
7. Click **Source** and configure the source properties and advanced source properties.
8. To view the source fields and field metadata, click the **Fields** tab.
9. To save the mapping and continue, click **Save**.
10. On the mapping canvas, click the Target transformation to select it.
11. In the **Properties** panel, click **General** and enter a name for the Target transformation.
12. Click **Target** and configure the target properties and advanced target properties:
13. In the **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.
14. Save and run the mapping.
After you validate the mapping, you can use the mapping to create a mapping task.

Exasol lookups in mappings

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

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

Property	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.
Multiple Matches	Behavior when the lookup condition returns multiple matches. Select Return any row, Return all rows, or Report error.
Filter	Not supported.
Sort	Not supported.

CHAPTER 4

Data type reference

This chapter includes the following topics:

- [Data type reference overview, 13](#)
- [Exasol and transformation data types, 14](#)

Data type reference overview

Data Integration uses the following data types in mappings and mapping tasks with Exasol.

Exasol native data types

Exasol data types appear in the source and target transformations when you choose to edit metadata for the fields.

For more information, see Exasol documentation at the following website:

https://docs.exasol.com/sql_references/data_types/datatypesoverview.htm

Transformation data types

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

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

Exasol and transformation data types

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

Exasol Data Type	Transformation Data Type	Range and Description
Bigint	Big integer	-9.999999999999999E+16 to 9.999999999999999E+17 . Precision of 18, scale of 0. Decimal value.
Boolean	String	You can specify the text for both options. When added to a form, the field properties control whether the attribute is displayed as two radio buttons, a check box, or a list. Input must be True or False.
Char	String	1 to 104857600 characters.
Date	Date	Jan 1, 0001 A.D. to Dec 31, 9999 A.D. Precision of 29, scale of 9 (precision to nanosecond).
Decimal	Decimal	You can specify the level of precision up to ten decimal places and the minimum and maximum values from -1,000,000,000 to 1,000,000,000.
Double	Double	Double-precision floating-point numeric value. Precision 15.
Int	Integer	-999999999 to 999999999. Precision of 9, scale of 0. Decimal value.
Interval Year to Month	Big integer	-999999999-11 to 999999999-11.
Interval Day to Sec	Big integer	-999999999 23:59:59.999 to 999999999 23:59:59.999.
Timestamp	Time	January 1,0001 00:00:00 to December 31,9999 23:59:59.997997.
Timestamp with local TZ	Time	January 1,0001 00:00:00 to December 31,9999 23:59:59.997997.
Varchar	String	1 to 104857600 characters.

The following table lists the aliases for Exasol Decimal data types:

Exasol Decimal Data Type	Exasol Data Type	Description
Decimal (9,0)	Integer	To enable the alias data type, specify the following entry in the query: 'EXA_TYPE_ALIAS=INTEGER'
Decimal (18,0)	Bigint	To enable the alias data type, specify the following entry in the query: 'EXA_TYPE_ALIAS=BIGINT'

Example of a query to enable alias data types

```
Create table aliasdataTable (intColumn D(9,0) comment is 'EXA_TYPE_ALIAS=INTEGER',  
bigintColumn decimal(18,0) comment is 'EXA_TYPE_ALIAS=BIGINT');
```

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