Informatica®

Informatica® Cloud Data Integration

Cassandra V2 Connector

Informatica Cloud Data Integration Cassandra V2 Connector
October 2023

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Preface

Use Cassandra V2 Connector to learn how to read from or write to Cassandra by using Data Integration. Learn to create a Cassandra connection, run mappings in advanced mode and tasks in Data Integration.

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CHAPTER 1

Introduction to Cassandra V2 Connector

You can use Cassandra V2 Connector to read data from or write data to Cassandra.

Cassandra is an open source, distributed, NoSQL database service that you can use to create and update database schema and access data.

You can use a Cassandra V2 connection as a source and as a target only in mappings in advanced mode. When you run a Cassandra V2 mapping or task, the Secure Agent writes data to Cassandra based on the workflow and connection configuration.

Cassandra V2 Connector assets

Create assets in Data Integration to integrate data using Cassandra V2 Connector.

When you use Cassandra V2 Connector, you can include the following Data Integration assets:

- Mapping
- Mapping task

Important: You can use Cassandra V2 Connector only in mappings in advanced mode. You can run a task based on a mapping in advanced mode.

For more information about configuring assets and transformations, see *Mappings*, *Transformations*, and *Tasks* in the Data Integration documentation.

CHAPTER 2

Cassandra V2 connections

Use a Cassandra V2 connection to access a Cassandra table.

Use a Cassandra V2 connection to read data from or write data to Cassandra database. You can create a connection on the Connections page or when you create a mapping in advanced mode or a task. Create a connection and associate it with a mapping in advanced mode. When you create a Cassandra V2 connection, you define the connection attributes that Data Integration uses to connect to the Cassandra database.

Cassandra V2 connection properties

When you create a Cassandra V2 connection, you must configure the connection properties.

The following table describes the Cassandra V2 connection properties:

Property	Description
Connection Name	Name of the connection. Each connection name must be unique within the organization. Connection names can contain alphanumeric characters, spaces, and the following special characters: _ . + -, Maximum length is 255 characters.
Description	Description of the connection. Maximum length is 4000 characters.
Type	The Cassandra V2 connection type.
Runtime Environment	Name of the runtime environment where you want to run the tasks. You can specify a Secure Agent or serverless runtime environment.
Host	Host name or IP address of the Cassandra server.
Port	Port number of the Cassandra server. Default is **9042**.
Datacenter	Name of the Cassandra Datacenter to connect to. Default is **datacenter1**.
Keyspace	Name of the Cassandra Keyspace within the Cassandra Datacenter to connect to.
Username	User name to access the Cassandra server.

Property	Description
Password	Password to access the Cassandra server.
SSL Enabled	Choose from the following options: - Yes. Enable the SSL encryption. - No. Disable the SSL encryption. Default is **No**.
SSL KeyStore File Path	Applicable if you enable SSL. Absolute path of the SSL KeyStore file in the Secure Agent machine that contains private keys and certificates for the SSL server.
SSL KeyStore Password	Applicable if you enable SSL. Password for the SSL KeyStore.
SSL TrustStore File Path	Applicable if you enable SSL. Absolute path of the SSL TrustStore file in the Secure Agent machine that contains private keys and certificates for the SSL server.
SSL TrustStore Password	Applicable if you enable SSL. Password for the SSL TrustStore.

CHAPTER 3

Mappings with Cassandra V2

You can configure a mapping in advanced mode to read from and write to Cassandra.

Use the Data Integration Mapping Designer to define and configure a mapping in advanced mode for Cassandra V2 sources and targets. In advanced mode, the Mapping Designer updates the mapping canvas to include transformations and functions that enable advanced functionality.

You can configure a Source or Target transformation to represent a Cassandra V2 object. Add the Source and Target transformations in the mapping canvas and configure the Cassandra V2 source and target properties. You cannot configure a filter in the Source transformation. However, you can configure a Filter transformation to filter records from the source. Configure the Filter transformation right after the Source transformation to push the filter to the Cassandra V2 source.

When you run a mapping in advanced mode, Data Integration analyzes the data logic defined in the mapping to automatically assign data logic to run on an advanced cluster.

Cassandra V2 sources in mappings

To read data from Cassandra, configure a Cassandra V2 object as a Source transformation in a mapping in advanced mode.

Specify the name and description of the Cassandra V2 source. When you configure a Source transformation, you can add or remove source fields of primitive data types.

The following table describes the source properties that you can configure for a Cassandra V2 source:

Property	Description
Connection	Name of the Cassandra V2 source connection. You can select an existing connection or create a new connection. You can also click **New Parameter** to define a parameter for the source connection.
Source Type	Type of the source object. Select one of the following options: - Single Object - Multiple Objects - Parameter Default is Single Object.
Object	Name of the Cassandra V2 source object based on the selected source type. Select the source object for a single source. When you select the multiple source option, you can add multiple source objects and configure a relationship between them.

The following table describes the query option that you can configure for a Cassandra V2 source:

Property	Description
Select distinct rows	Applies to Single object and Parameter. Select this option to read only distinct rows.

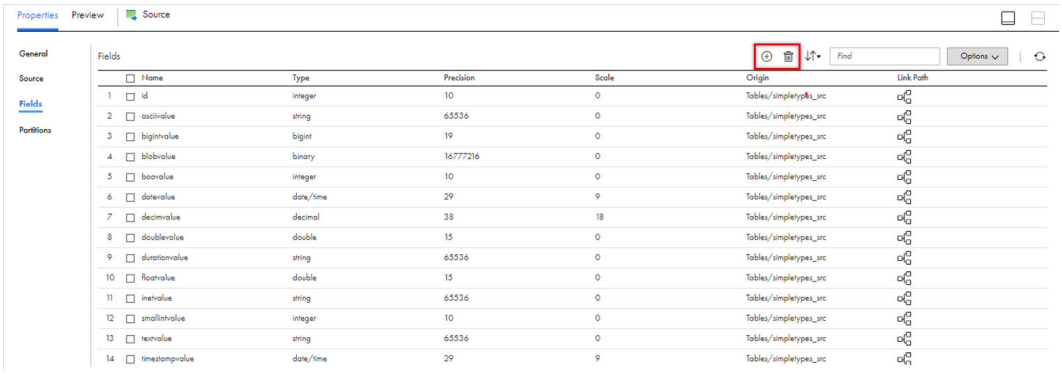
The following table describes the advanced source properties that you can configure for a Cassandra V2 source:

Property	Description
Tracing Level	Sets the amount of detail that appears in the log file. Select one of the following options: - Terse - Normal - Verbose initialization - Verbose Default is Normal.

Adding and removing source fields

You can configure the source fields that you want to use in the data flow.

You can add fields to a mapping source and retrieve a field from the source object that is not displayed in the list. To add a field, click ⊕, and then enter the field name, type, precision, and scale. You can also remove fields that you do not want to use in the mapping. To remove a field, select the field and then click 🗑.



Cassandra V2 targets in mappings

To write data to a Cassandra V2 target, configure a Cassandra V2 object as a Target transformation in a mapping in advanced mode.

Specify the name and description of the Cassandra V2 target.

The following table describes the target properties that you can configure for a Cassandra V2 target:

Property	Description
Connection	Name of the Cassandra V2 connection that is associated with a dataset. You can select an existing connection or create a new connection. You can also click **New Parameter** to define a parameter for the target connection.
Target Type	Type of target object. Select Single Object or Parameter. You can add multiple Cassandra V2 targets in a mapping in advanced mode.
Object	Name of the Cassandra V2 target object based on the target type selected. You can select an existing target object or create a new target object at runtime.
Create New at Runtime	Creates a Cassandra target table at runtime. To create a target table at runtime, provide the following parameters: - **Name**. Enter a name for the target object. - **Primary key name(s)**. Required. Enter the primary key of the target table separated by a comma. - **Path**. Not Applicable.
Operation	The target operation. You can select the **Insert** operation. Other operations are not applicable.

Edit metadata in a Cassandra V2 source and target

You can edit data types to customize the precision, scale, and data types of fields. You can edit the field metadata in a Source or Target transformation to change primitive data types, precision, and scale. To edit metadata, use the **Edit Metadata** option for the source and target fields on the **Fields** tab of the Properties panel.

Reading and writing hierarchical data in mappings

You can use the Hierarchy Processor transformation in a mapping in advanced mode to process data from complex data sources. You can read complex data types with hierarchical input and write as relational output. You can also read complex data types with relational input and write as hierarchical output.

When you configure a mapping in advanced mode to convert relational to hierarchical output, you can join data sources, group by and order by data fields, filter for specific information, and aggregate both the input and output data. When you configure a mapping in advanced mode to convert hierarchical to relational output, you can read from a single hierarchical data source and write to multiple relational data targets.

For more information about configuring a Hierarchy Processor transformation, see the Hierarchy Processor transformation section in *Transformations* in the Data Integration help.

Rules and guidelines for Cassandra V2 mappings in advanced mode

Consider the following guidelines before you run a mapping in advanced mode:

- The mapping from source to target must have same schema. Otherwise, the mapping fails.
- If a Cassandra source contains the DATE data type and you create a Cassandra target at runtime, the Secure Agent writes TIMESTAMP data to the target.
- When you write data to an existing target where the source table contains null values of tuple data type, the target table must contain UDT data type for the corresponding tuple data type value. Otherwise, the mapping fails.
- You cannot read or write Cassandra column or table names that have more than 48 characters.
- The source tables must not be empty. Otherwise, the mapping fails.
- You can only use alphanumeric characters and underscore in Cassandra source and target table names.

CHAPTER 4

Data type reference

Data Integration uses the following data types in mappings with Cassandra V2:

Cassandra V2 native data types

Cassandra V2 data types appear in the Fields tab for Source and Target transformations when you choose to edit metadata for the fields.

Transformation data types

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

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

Cassandra V2 and transformation data types

The following table describes the Cassandra V2 data types that Data Integration supports and the corresponding transformation data types:

Cassandra V2 Data Types	Transformation Data Types	Range and Description
Ascii	String	1 to 104,857,600 characters.
BigInt	BigInt	-9,223,372,036,854,775,808 to 9,223,372,036,854,775,807.
Blob	Binary	1,67,77,216. Represented as a hexadecimal number.
Boolean	Integer	1 or 0. True is equivalent to the integer 1 and False is equivalent to the integer 0.
Counter	BigInt	-9,223,372,036,854,775,808 to 9,223,372,036,854,775,807.
Date	Date/Time	January 1, 1000 to December 31, 9999.

Cassandra V2 Data Types	Transformation Data Types	Range and Description
Decimal	Decimal	Precision 1 to 38 digits. You cannot use decimal values with precision greater than 38.
Double	Double	Precision 15.
Duration	String	Valid values for hours are integer values between 0 and 23. Valid values for minutes and seconds are integer values between 0 and 59. If a field does not have a value, specify 0.
Float	Double	Precision 15.
Inet	String	1 to 104,857,600 characters.
Int	Integer	-2,147,483,648 to 2,147,483,647 Precision 10.
List	Array	Sorted collection of non-unique values where elements are ordered by their position in the list.
Map	Map	Sorted set of key-value pairs, where keys are unique and the map is sorted by its keys.
Set	Array	Sorted collection of unique values.
SmallInt	Integer	-32,768 to 32,767.
Text	String	1 to 104,857,600 characters.
Time	BigInt	Time of the day. Precision to nanoseconds.
Timestamp	Date/Time	January 1, 0001 00:00:00 to December 31, 9999 23:59:59.997. Precision to microsecond. You cannot set the precision to nanoseconds.
TimeUUID	String	1 to 104,857,600 characters.
TinyInt	Integer	-128 to 127.
Tuple	Struct	1 to 32,768 elements.
User-defined Type	Struct	Set of typed and named fields.
UUID	nstring	128-bit generated value consisting of lowercase and uppercase hexadecimal digits.
Varchar	String	1 to 104,857,600 characters.
VarInt	Decimal	Precision 0 to 38 digits, scale 0 to 38. You cannot use decimal values with precision greater than 38.

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