Informatica®

Informatica® Cloud Data Integration

Google PubSub V2 Connector

Informatica Cloud Data Integration Google PubSub V2 Connector
April 2024

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Preface

Use *Google PubSub V2 Connector* to learn how to pull message from or publish message to Google PubSub by using Cloud Data Integration. Learn to create a connection, develop mappings and run mapping tasks in Cloud Data Integration.

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CHAPTER 1

Introduction to Google PubSub V2 Connector

You can use Google PubSub V2 Connector to connect to Google Pub/Sub from Data Integration. Use Google PubSub V2 Connector to pull the message from Google Pub/Sub and push the message to Google Pub/Sub. You can use Google PubSub V2 Connector to read, create, and delete Google Pub/Sub topics, subscriptions, and snapshots.

You can use a Google Pub/Sub object as a source and target in mappings and mapping tasks.

You can switch mappings to advanced mode to include transformations and functions that enable advanced functionality.

When you run a task or mapping, the Secure Agent uses the JAVA client libraries of the Google Pub/Sub APIs to integrate with Google Pub/Sub.

Note: This connector is developed by Informatica partners, third-party system integrators, or customers. You can look up the Product Availability Matrix or Informatica Marketplace for more information.

Google PubSub V2 Connector assets

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

You can perform insert, update, and delete operations on a Google PubSub target. You cannot perform an upsert operation on a Google PubSub target.

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

- Mapping
- Mapping task

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

The following table lists the objects and task operations that Google PubSub V2 Connector supports:

Object Name	Read	Insert	Update	Delete
snapshot_GetIamPolicy	Yes	NA	NA	NA
snapshot_SetIamPolicy	NA	Yes	NA	NA

Object Name	Read	Insert	Update	Delete
snapshots_Create	NA	Yes	NA	NA
snapshots_Delete	NA	NA	NA	Yes
snapshots_List	Yes	NA	NA	NA
snapshots_TestIamPermissions	NA	Yes	NA	NA
snapshots_Update	NA	NA	Yes	NA
subscription:< subscriptionName>	Yes	NA	NA	NA
subscription_Get	Yes	NA	NA	NA
subscription_GetIamPolicy	Yes	NA	NA	NA
subscription_Update	NA	NA	Yes	NA
subscriptions_Create	NA	Yes	NA	NA
subscriptions_Delete	NA	NA	NA	Yes
subscriptions_List	Yes	NA	NA	NA
subscriptions_ModifyAckDeadline	NA	Yes	NA	NA
subscriptions_ModifyPushConfig	NA	Yes	NA	NA
subscriptions_Seek	NA	Yes	NA	NA
subscriptions_SetIamPolicy	NA	Yes	NA	NA
subscriptions_TestIamPermissions	NA	Yes	NA	NA
topic:<topicName>	NA	Yes	Yes	NA
topics_SetIamPolicy	NA	Yes	NA	NA
topics_TestIamPermissions	NA	Yes	NA	NA
topics_Update	NA	NA	Yes	NA
topics_create	NA	Yes	NA	NA
topics_delete	NA	NA	NA	Yes
topics_get	Yes	NA	NA	NA
topics_getIamPolicy	Yes	NA	NA	NA
topics_list	Yes	NA	NA	NA

Administration of Google PubSub V2 Connector

Before you use Google PubSub V2 Connector, you must complete the following prerequisite tasks:

1. Ensure that your organization has the Google PubSub V2 Connector license.
2. Ensure that you have a Google service account to access Google Pub/Sub.
3. Ensure that you have the client_email, project_id, and private_key values for the Google service account. You will need to enter these details when you create a Google PubSub V2 connection in Data Integration.
4. Ensure that you have enabled the **Google Cloud Pub/Sub API** for your Google Cloud project. Google PubSub V2 Connector uses the Google APIs to integrate with Google Pub/Sub.

Introduction to Google Pub/Sub

Google Pub/Sub is an asynchronous messaging service that decouples services that produce events from services that process events.

You can use Google Pub/Sub as a messaging-oriented middleware or for event ingestion and delivery for streaming analytics pipelines.

Google Pub/Sub offers durable message storage and real-time message delivery with high availability and consistent performance at scale. You can run Google Pub/Sub servers in all the available Google Cloud regions around the world.

CHAPTER 2

Google PubSub V2 connections

Create a Google PubSub V2 connection to access Google PubSub messages from Data Integration. 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.

You can use Google PubSub V2 connections in mappings and mapping tasks.

Google PubSub V2 connection properties

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

The following table describes the Google PubSub V2 connection properties:

Property	Description
Connection Name	The name of the connection. The name is not case sensitive and must be unique within the domain. You can change this property after you create the connection. The name cannot exceed 128 characters, contain spaces, or contain the following special characters:~ ` ! $ % ^ & * ( ) - + = { [}] | \ : ; " ' < , > . ? /
Description	Optional. The description of the connection. The description must not exceed 4,000 characters.
Type	The **GooglePubSubV2** connection type.
Runtime Environment	Name of the runtime environment where you want to run the tasks.
Service Account ID	Specifies the client_email value available in the JSON file that you download after you create a service account.
Service Account Key	Specifies the private_key value available in the JSON file that you download after you create a service account in a secured way.
Project ID	Specifies the project_id value available in the JSON file that you download after you create a service account.

CHAPTER 3

Mappings and mapping tasks with Google PubSub V2 Connector

Use the Data Integration Mapping Designer to create a mapping. When you create a mapping, you configure a source or target to represent an Google PubSub V2 object.

In advanced mode, the Mapping Designer updates the mapping canvas to include transformations and functions that enable advanced functionality.

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 task, select the mapping that you want to use. Use the Mapping Task wizard to create a mapping task. Validate and run the mapping to read data from sources and write to a target. The mapping task processes data based on the data flow logic you define in the mapping.

Google PubSub V2 sources in mappings

To pull messages from a Google PubSub object, configure a Google PubSub object as a Source transformation in a mapping.

Specify the name and description of the Google PubSub source. Configure the source and advanced properties for the source object.

Data Integration supports topics_Get, topics_List, topics_GetIamPolicy, subscriptions_Get, subscriptions_List, subscription_GetIamPolicy, subscription: <subscriptionName>, snapshots_List, and snapshots_GetIamPolicy objects for Google PubSub sources.

The following table describes the properties that you can configure for a Google PubSub source:

Property	Description
Connection	Name of the Google PubSub V2 source connection.
Source Type	Type of the Google PubSub source object available. You can pull messages from a single Google PubSub source object. You cannot pull messages from multiple objects or parameterize a Google PubSub source object.
Object	Name of the source object for the mapping.

The following table describes the advanced properties that you can configure for a Google PubSub source:

Property	Description
ACK	Indicates whether the Secure Agent must acknowledge the received messages. Default is unselected.
maxMessages	Specifies the maximum number of messages that the Secure Agent pulls in a batch. Default is 95. The maximum value is 1000.

You can set the tracing level in the advanced properties session to determine the amount of details that logs contain.

The following table describes the tracing levels that you can configure:

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.

Data filters

Data filters help you to fetch specific data of a particular object. The mapping will process the data based on the filter field assigned to the object.

You can create simple data filters for the following objects in Google Pub/Sub:

- TopicsGet
- TopicsList
- TopicsGetIamPolicy

- SnapshotsList
- SnapshotsGetIamPolicy
- SubscriptionGet
- SubscriptionGetIamPolicy
- SubscriptionList

Filter fields

The following tables provides information on various filter fields that you must configure to pull messages from or push messages to the Google PubSub objects:

Object	Filters Fields	Datatype	Example
TopicGet	Topic	String	Topic = topicname
TopicsList	NextPageToken	String	nextPageToken = djdefkikaks
TopicsGetIamPolicy	resource	String	Resource = topicname
SnapshotList	NextPageToken	String	nextPageToken = djdefkikaks
SnapshotGetIamPolicy	Resource	String	Resource = snapshotName
SubscriptionGet	Subscription	String	Subscription = subscriptionName
SubscriptionGetIamPolicy	Resource	String	Resource = subscriptionName
SubscriptionList	NextPageToken	String	nextPageToken = djdefkikaks

Google PubSub V2 targets in mappings

To publish message to a Google PubSub target, configure a Google PubSub object as a Target transformation in a mapping.

Specify the name and description of the Google PubSub target. You can configure the target and advanced properties for the target object.

Data Integration supports topics_Create, topics_SetIamPolicy, topics_TestIamPermissions, topic:<topicName>, subscriptions_Create, subscriptions_Seek, subscriptions_SetIamPolicy, subscriptions_TestIamPermissions, subscriptions_ModifyAckDeadline, subscriptions_ModifyPushConfig, snapshots_Create, snapshots_TestiamPolicy, snapshot_SetIamPolicy, topics_Delete, subscriptions_Delete, snapshots_Delete, topics_Update, subscription_Update, and snapshots_Update objects for Google PubSub targets.

The following table describes the properties that you can configure for a Google PubSub target:

Property	Description
Connection	Name of the Google PubSub V2 target connection.
Target Type	Type of the Google PubSub target objects available. You can publish messages to a single Google PubSub target object. You cannot publish message to multiple objects or parameterize a Google PubSub target object.
Object	Name of the Google PubSub target object.
Operation	Select insert or delete as the target operation. You cannot perform update or upsert operations on a Google PubSub object.
topicName	Specifies the topic where you want to publish the message. Appears only when you select topics_publish as the target object.

The following table describes the advanced properties that you can configure for a Google PubSub source:

Property	Description
maxMessageForBatch	Specifies the number of messages that the Secure Agent can publish in a batch. Default is 100. The maximum value is 1000.
Forward Rejected Rows	Determines whether the transformation passes rejected rows to the next transformation or drops rejected rows. By default, the agent forwards rejected rows to the next transformation.

APPENDIX A

Data type reference

Data Integration uses the following data types in mappings and mapping tasks with Google PubSub:

Google PubSub native data types

Google PubSub 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 the 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..

Google PubSub V2 and transformation data types

The following table describes the data types that Data Integration supports for Google PubSub sources and targets:

Google PubSub Data Type	Transformation Data Type	Range and Description for the Transformation Data Type
String	String	1 to 104,857,600 characters

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