Informatica®

Informatica® Cloud Data Integration

Google PubSub Connector

Informatica Cloud Data Integration Google PubSub Connector
April 2024

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Preface

Use *Google PubSub 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 Connector

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

You can use a Google PubSub 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 PubSub 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 Connector assets

Create assets to integrate data using Google PubSub Connector.

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

When you use Google PubSub 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 assets operations that Google PubSub Connector supports:

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

Object Name	Read	Insert	Delete
snapshots_Create	NA	Yes	NA
snapshots_Delete	NA	NA	Yes
snapshots_List	Yes	NA	NA
snapshots_TestIamPermissions	NA	Yes	NA
snapshots_Update	NA	Yes	NA
subscription_Get	Yes	NA	NA
subscription_GetIamPolicy	Yes	NA	NA
subscription_Update	NA	Yes	NA
subscription_pull	Yes	NA	NA
subscriptions_Create	NA	Yes	NA
subscriptions_Delete	NA	NA	Yes
subscriptions_List	Yes	NA	NA
subscriptions_ModifyAckDeadline	NA	Yes	NA
subscriptions_ModifyPushConfig	NA	Yes	NA
subscriptions_Seek	NA	Yes	NA
subscriptions_SetIamPolicy	NA	Yes	NA
subscriptions_TestIamPermissions	NA	Yes	NA
topics_SetIamPolicy	NA	Yes	NA
topics_SubscriptionList	Yes	NA	NA
topics_TestIamPermissions	NA	Yes	NA
topics_Update	NA	Yes	NA
topics_create	NA	Yes	NA
topics_delete	NA	NA	Yes
topics_get	Yes	NA	NA
topics_getIamPolicy	Yes	NA	NA
topics_list	Yes	NA	NA
topics_publish	NA	Yes	NA

Administration of Google PubSub Connector

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

1. Ensure that your organization has the Google PubSub Connector license.
2. Ensure that you have a Google service account to access Google PubSub.
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 connection in Data Integration.
4. Ensure that you have enabled the **Google PubSub API** for your Google Cloud project. Google PubSub Connector uses the Google APIs to integrate with Google PubSub.

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 availableGoogle Cloud regions around the world.

CHAPTER 2

Google PubSub connections

Create a Google PubSub 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 connections in mappings and mapping tasks.

Google PubSub connection properties

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

The following table describes the Google PubSub 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 **GooglePubSub** 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.
maxMessageForBatch	Specifies the number of messages that the Secure Agent can publish in a batch. Default is 100. The maximum value is 1000.

CHAPTER 3

Mappings and mapping Tasks with Google PubSub Connector

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

Describe the flow of data from the source and target along with the required transformations before the Secure Agent reads data from and writes data to the Google PubSub source. In advanced mode, the Mapping Designer updates the mapping canvas to include transformations and functions that enable advanced functionality. Use the Mapping Task wizard to create a mapping task and select the mapping that you configured. The mapping task processes data based on the data flow logic you define in the mapping.

Google PubSub 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, topics_SubscriptionsList, subscriptions_Get, subscriptions_List, subscription_GetIamPolicy, subscriptions_pull, 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 source connection.
Source Type	Type of the Google PubSub source object available. You can pull messages from a single Google PubSub source object. **Note:** You cannot pull messages from multiple objects or parameterize a Google PubSub source object.
Object	Name of the source object for the mapping.

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 PubSub:

- TopicsGet
- TopicsList
- TopicsGetIamPolicy
- TopicsSubscriptionList
- SnapshotsList
- SnapshotsGetIamPolicy
- SubscriptionGet
- SubscriptionGetIamPolicy
- SubscriptionList
- SubscriptionPull.

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
TopicsSubscriptionList	Topic	String	Topic = topicname

Object	Filters Fields	Datatype	Example
	NestpageToken	String	nextPageToken = abcdefghijk
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
SubscriptionPull	MaxMessages	Integer	MaxMessages = 34
	ACK	Boolean	ACK = true

Google PubSub 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, topics_publish, 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 target connection.
Target Type	Type of the Google PubSub target objects available. You can publish messages to a single Google PubSub target object. **Note:** 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.

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 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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