Informatica® Cloud Data Integration

Google Drive Connector

Table of Contents

Preface

Use *Google Drive Connector* to learn how to read from or write to Google Drive by using Cloud Data Integration. Learn to create a connection, develop mappings, synchronization tasks, and run Data Integration and mapping tasks in Cloud Data Integration.

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CHAPTER 1

Introduction to Google Drive Connector

You can use Google Drive Connector to connect to Google Drive from Data Integration. Use Google Drive Connector to read data from and write data to Google Drive. Use Google Drive Connector to upload, download, and fetch files. You can use a Google Drive Connector to perform the following tasks:

- Create new files and update existing files.
- Get comments and replies on comments.
- Get user permissions on files.
- Update or fetch the details of file revisions.

You can use a Google Drive object as a source and a target in synchronization tasks, mapping tasks, and mappings.

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 APIs to integrate with Google Drive.

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 Drive Connector assets

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

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

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

- Mapping
- Mapping task
- Synchronization 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 Drive Connector supports:

Object	Read	Insert	Update	Upsert	Delete
About	Yes	No	No	No	No
Changes_GetStartPageToken	Yes	No	No	No	No
Changes_List	Yes	No	No	No	No
Comments_Create	No	Yes	No	No	No
Comments_Delete	No	No	No	Yes	No
Comments_Get	Yes	No	No	No	No
Comments_List	Yes	No	No	No	No
Comments_Update	No	No	Yes	No	No
Files_Create	No	Yes	No	No	No
Files_Delete	No	No	No	Yes	No
Files_Export	Yes	No	No	No	No
Files_ExportAll	Yes	No	No	No	No
Files_Get	Yes	No	No	No	No
Files_GetAll	Yes	No	No	No	No
Files_List	Yes	No	No	No	No
Files_Update	No	No	Yes	No	No
Folder_FilesGetAll	Yes	No	No	No	No
Permissions_Create	No	Yes	No	No	No
Permissions_Delete	No	No	No	Yes	No
Permissions_Get	Yes	No	No	No	No
Permissions_List	Yes	No	No	No	No
Permissions_Update	No	No	Yes	No	No
Replies_Create	No	Yes	No	No	No
Replies_Delete	No	No	No	Yes	No
Replies_Get	Yes	No	No	No	No
Replies_List	Yes	No	No	No	No
Replies_Update	No	No	Yes	No	No

Object	Read	Insert	Update	Upsert	Delete
Revisions_Delete	No	No	No	Yes	No
Revisions_Get	Yes	No	No	No	No
Revisions_List	Yes	No	No	No	No
Revisions_Update	No	No	Yes	No	No
SharedDrives_FilesList	Yes	No	No	No	No
Teamdrives_Get	Yes	NA	NA	NA	NA
Teamdrives_List	Yes	NA	NA	NA	NA
Teamdrives_Create	NA	Yes	NA	NA	NA
Teamdrives_Delete	NA	NA	NA	NA	Yes
Teamdrives_Update	NA	NA	Yes	NA	NA

Administration of Google Drive Connector

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

1. Create a Google account to access Google Drive.
2. On the **Dashboards** page of the Google API Console, https://console.developers.google.com/, enable the **Drive API**. Google Drive Connector uses the Google APIs to integrate with Google Drive.
   The following image shows the **Dashboard** page where you can enable the APIs:

3. On the **Credentials** page of the Google API console, click on **Create Credentials** > **OAuth client ID**.

The following image shows the **Credentials** page where you can create the credentials for your project:
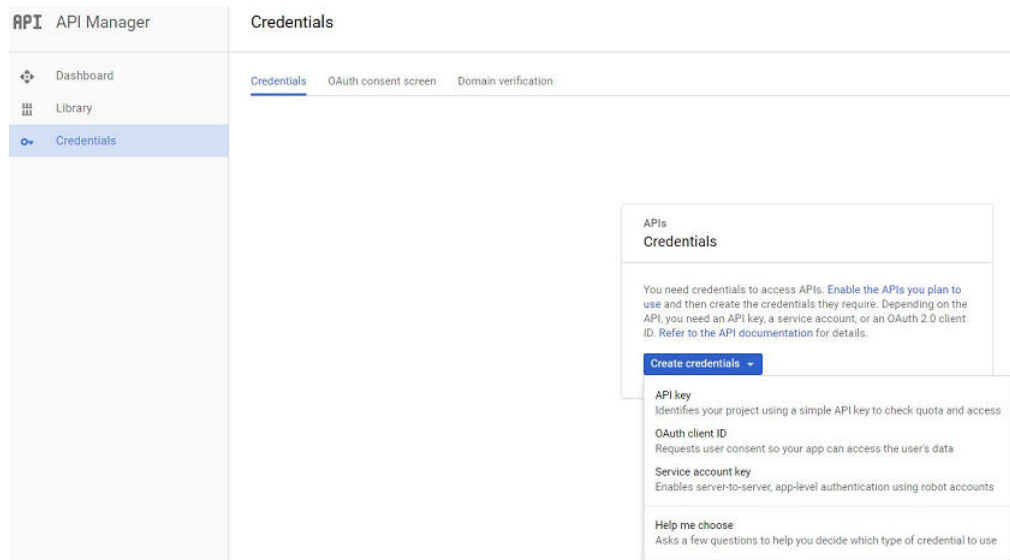
4. Fill the form on the **OAuth consent screen**.

5. Click **Save**.

6. Select **Application type** as **Other**.

7. Enter the **Name**.

8. Click **Create**.
   The Client ID and Client Secret appears on the screen. Copy the Client ID and Client secret.

9. After you create the OAuth Client, download the JSON file that contains the client_id, project_id, auth_uri, token_uri, auth_provider_x509_cert_url, client_secret, and redirect_uris values.

10. Generate the Google Drive tokens. You will need to enter these details when you create a Google Drive connection in Data Integration.
    For more information on generating the Authorization Code, Access token, and Refresh token, click the following URL: https://developers.google.com/identity/protocols/OAuth2InstalledApp

Google Drive connections

Create an Google Drive connection to access Google Drive data 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 Drive connections in synchronization tasks, mapping tasks, and mappings.

Google Drive connection properties

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

The following table describes the Google Drive connection properties:

Property	Description
Runtime Environment	Name of the runtime environment where you want to run the tasks.
Client ID	The Client ID from Google Developer Console.
Client Secret	The Client Secret from Google Developer Console.
Refresh Token	The Refresh Token received after exchanging authorization code.
File Download Path	The directory where file needs to be downloaded.
File Upload Path	The directory where file is stored and needs to be uploaded.
PageSize	The page size for the read operation. Default value is 10.

CHAPTER 3

Synchronization Tasks with Google Drive Connector

Use a Synchronization task to synchronize data between a source and target.

You can configure a synchronization task using the Synchronization Task wizard.

When you create a task, you can associate it with a schedule to run it at specified times or on regular intervals. Or, you can run it manually. You can monitor tasks that are currently running in the activity monitor and view logs about completed tasks in the activity log.

Google Drive sources in synchronization tasks

You can use a single object in a synchronization task.

You can use the following Google Drive objects as the source object in a synchronization task:

- About
- Changes_GetStartPageToken
- Changes_List
- Comments_Get
- Comments_List
- File_Export
- Files_ExportAll
- Files_Get
- Files_GetAll
- Files_List
- Permissions_Get
- Permissions_List
- Replies_Get
- Replies_List
- Revisions_Get
- Revisions_List
- SharedDrives_FilesList

- Teamdrives_Get
- Teamdrives_List

You can configure the Google Drive source properties on the **Source** page of the Synchronization Task wizard.

The following table describes the Google Drive source properties:

Property	Description
Connection	Name of the active Google Drive source connection.
Source Type	Type of the Google Drive source objects available. You can read data from a single Google Drive source object. You cannot read data from multiple objects or parameterize the object.
Source Object	Name of the Google Drive source object.
Display technical names instead of labels	This property is not applicable for Google Drive Connector because both the technical names and labels are the same for Google.
Display source fields in alphabetical order	Displays source fields in alphabetical order. By default, fields appear in the order returned by the source system.

Google Drive targets in the synchronization tasks

You can use a single Google Drive object as a target in a synchronization task.

You can use the following Google Drive objects as the target in a synchronization task:

- Comments_Create
- Comments_Delete
- Comments_Update
- Replies_Create
- Replies_Delete
- Replies_Update
- Files_Create
- Files_Delete
- Files_Update
- File Export
- Permissions_Create
- Permissions_Delete
- Permissions_Update
- Revisions_Delete
- Revisions_Update
- Teamdrives_Create

- Teamdrives_Update
- Teamdrives_Delete

The following table describes the Google Drive target properties:

Property	Description
Connection	Name of the active Google Drive target connection that is associated with a dataset.
Target Object	You can select an existing object from the list or create a target at run time.
Child Object	This property is not applicable for Google Drive Connector.
Display technical names instead of labels	This property is not applicable for Google Drive Connector because both the technical names and labels are the same for Google.
Display target fields in alphabetical order	Displays target fields in alphabetical order. By default, fields appear in the order returned by the target system.

Advanced Target Properties for Google Drive

You can configure advanced target properties on the **Schedule** page of the Synchronization task wizard.

You can configure the **MaxRowFailToAbort** advanced property for a Google Drive target to ensure that Secure Agent aborts a task immediately when a specified number of rows are not written to the target.

Data filters

Data filters help you to fetch specific data of a particular object. The synchronization task 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 Drive:

- Changes_List
- Comments_List
- Comments_Get
- Replies_List
- Replies_Get
- Files_Export
- Files_Get
- Files_List
- Revisions_List
- Revisions_Get
- Permissions_List
- Permisssions_Get
- TeamDrives_Get

- SharedDrives_FilesList

You can create advanced data filters for the Files_List object in Google Drive. You cannot create advanced data filters for any other object in Google Drive.

Filter fields

The following tables provides information on various filter fields available for Google Drive objects.

Object	Filters Fields	Operators	Data Type
Changes_List	pageToken	=	String
	includeRemoved	=	Boolean
	restrictToMyDrive	=	Boolean
	spaces	=	String
Comments_List	fileId	=	String
Comments_Get	id	=	String
	fileId	=	String
Replies_Get	replyId	=	String
	commentId	=	String
	includeDeleted	=	Boolean
	fileId	=	String
Replies_List	commentId	=	String
	fieldId	=	String
	includeDeleted	=	Boolean
	pageToken	=	String
Revisions_List	id	=	String
Revisions_Get	fileID	=	String
	revisionID	=	String
	acknowledgeAbuse	=	Boolean
Permissions_List	fileID	=	String
Permissions_Get	permissionId	=	String
	fileId	=	String
Files_Export	fileID	=	String

Object	Filters Fields	Operators	Data Type
	mimeType	contains , = , !=	String
Files_Get	id	=	String
Files_List	appProperties	has	Collection
	fullText	contains	String
	mimeType	contains, =, !=	String
	createdTime/modifiedTime	<=, <, =, !=, >, >=	Date and Time
	name	contains, =, !=	String
	owners	in	Collection
	parents	in	Collection
	properties	has	Collection
	readers	in	Collection
	sharedWithMe	=, !=	Boolean
	starred	=, !=	Boolean
	trashed	=, !=	Boolean
	viewedByMeTime	<=, <, =, !=, >, >=	Date
	writers	in	Collection
Teamdrives_Get	teamDriveId	=	String

Uploading files to Google Shared drives

Google Shared drives is a shared storage drive that can be accessed by members in a team. Users can create new files or upload existing files in the Shared drives.

You can use Google Drive Connector to access, export, upload, and delete files in the Google Shared drives. You can use the Files_Get, Files_GetAll, Files_Export, Files_ExportAll, and Files_Delete objects to access, export, and delete files available in the Google Shared drives.

You can also use the following objects for specific tasks:

- SharedDrives_Filelist object. Lists all the files available in the Google Shared drives.
- Folder_FilesGetAll object. Downloads all the non-Google docs files in a folder when you specify the folder ID in the filter.

To upload files to a Google Shared drive, you must set the **supportsAllDrives** field in the Files_Create object to **true**.

CHAPTER 4

Mappings and mapping tasks with Google Drive

When you configure a mapping, you describe the flow of data from the source to the target.

A mapping defines reusable data flow logic that you can use in mapping tasks.

When you create a mapping, you define the Source, Target, and Lookup transformations to represent a Google Drive object. Use the Mapping Designer in Data Integration to add the Source, Target, or Lookup transformations in the mapping canvas and configure the Snowflake Data Cloud source, target, and lookup properties. In advanced mode, the Mapping Designer updates the mapping canvas to include transformations and functions that enable advanced functionality.

You can use Monitor to monitor the jobs.

Google Drive sources in mappings and mapping tasks

To read data from Google Drive, configure a Google Drive object as the Source transformation in a mapping or mapping task.

Specify the name and description of the Google Drive source. Configure the source, query options, and advanced properties for the source object.

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

Property	Description
Connection	Name of the active Google Drive source connection.
Source Type	Type of the Google Drive source objects available. You can read data from a single Google Drive source object. You cannot read data from multiple objects or parameterize the object.

Property	Description
Object	Name of the Google Drive source object based on the source type selected. Data Integration supports About, Changes_GetStartPageToken, Changes_List, Comments_List, Comments_Get, Replies_List, Replies_Get, Files_List, Files_Get, Files_GetAll, Files_Export, Files_ExportAll, Permissions_List, Permissions_Get, Revisions_List, Revisions_Get, SharedDrives_FilesList, Teamdrives_Get, and Teamdrives_List objects for Google Drive sources.
Filter	Configure a simple filter or an advanced filter to remove rows at the source. You can improve efficiency by filtering early in the data flow. A simple filter includes a field name, operator, and value. Use an advanced filter to define a more complex filter condition, which can include multiple conditions using the AND or OR logical operators.

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

Property	Description
File Download Path	Path to download the file from the drive location. Specify the path to download the file.
FileIdPath	ID of the file in the drive location. Specify the ID to access the file.

You can also 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:

Property	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.

Google Drive targets in mappings and mapping tasks

To write data to a Google Drive target, configure a Google Drive object as the Target transformation in a mapping or mapping task.

Specify the name and description of Google Drive target. Configure the target and advanced properties for the target object.

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

Property	Description
Connection	Name of the active Google Drive connection that is associated with a dataset.
Target Type	Type of the Google Drive target objects available. You can write data to a single Google Drive target object. You cannot write data to multiple objects or parameterize the object.
Object	Name of the Google Drive target object based on the target type selected. Data Integration supports Comments_Create, Comments_Delete, Comments_Update, Replies_Create, Replies_Delete, Replies_Update, Files_Create, Files_Delete, Files_Update, Permissions_Create, Permissions_Delete, Permissions_Update, Revisions_Delete, Revisions_Update, Teamdrives_Create, Teamdrives_Update, and Teamdrives_Delete objects for Google Drive targets.
Operation	You can select one the following operations: - Insert - Update - Upsert - Delete - Data Driven

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

Property	Description
MaxRowFailToAbort	Secure Agent aborts a task immediately when the specified number of rows are not written to the target.
File Upload Path	Path to upload the file from the drive location. Specify the path to upload the file.
Success File Directory	Not applicable for Google Drive Connector.
Error File Directory	Not applicable for Google Drive Connector.
Forward Rejected Rows	Not applicable for Google Drive Connector.

Data type reference

Data Integration uses the following data types in mappings, synchronization tasks, and mapping tasks with Google Drive:

Google Drive native data types

Google Drive 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..

Google Drive and transformation data types

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

Google Drive Data Type	Transformation Data Type	Range and Description for the Transformation Data Type
DATETIME	Date/Time	Jan 1, 0001 A.D. to Dec 31, 9999 A.D. (precision to the nanosecond)
DOUBLE	Double	Precision 15, scale 0
FLOAT	Double	Precision 15, scale 0
INTEGER	Integer	- 2,147,483,648 to 2,147,483,647 Precision 10, scale 0
LONG	BigInt	9,223,372,036,854,775,808 to 9,223,372,036,854,775,807 Precision 19, scale 0
STRING	String	1 to 104,857,600 characters

INDEX