BRISTLECONE

Using Google Sheets Adapter in Oracle Integration

Table of Contents

1. Learn about the Google Sheets Adapter

Explore the key concepts to understand the Google Sheets Adapter and how to use it as a connection in integrations in Oracle Integration.

Topics Covered:

1.1. Features and Capabilities

The Google Sheets Adapter, developed by **Bristlecone** for Oracle Integration, enables direct connectivity with Google Sheets. It is a prebuilt **invoke** connection component used to streamline integration workflows.

The Google Sheets Adapter provides the following capabilities:

- **Create** and **retrieve** spreadsheets or work with a specific range within a sheet.
- **Copy** data from one spreadsheet to another.
- Retrieve, update, or delete individual or multiple values within a sheet.
- **Append** new values to existing spreadsheets.
- Authenticate securely using the **Authorization Code Credentials policy**.
- Enables integration with **publicly** accessible resources via direct internet connectivity.

2. Creating and configuring a Google Sheets adapter connection

Before you can use the adapter in an integration, you must create a connection in Oracle Integration. The following section explains how to set up and configure the connection:

2.1. Prerequisites for Creating a Connection

You must complete the steps below before setting up the connection:

- Create a Google Cloud Project
  - Set up a new project in the Google Cloud Console and note the Project ID. See, Create a Google Cloud project. [1]

- **Register** a web application
  - Register the application in the Google Cloud Console to generate a **Client ID** and **Client Secret**. See OAuth client ID credentials. [2]
  - During connection setup in Oracle Integration, enter these in the **Google Client ID** and **Google Client Secret** fields on the Connections page.

2.2. Steps to Create a Connection

Follow the steps mentioned below to set up a connection with the applications you want to exchange data with.

1. Navigate to **Design** >**Connections** in Oracle Integration
2. Click **Create**.
   - Note: You can also create a connection directly from the integration canvas. Refer Define Inbound Triggers, Outbound Invokes, and Actions [3] For more details.
3. In the **Create Connection** panel, find the adapter you want to use by either scrolling through the list or typing its name in the search bar.
4. Fill in the connection details.:
5. **Name**: Provide a clear and descriptive name. The system will automatically turn it into an uppercase Identifier (e.g., GOOGLESHEETS_INVOKE). Avoid using spaces.
6. **Role**: Select the connection Role -invoke, trigger, or both.
   - **Note**: The list will show only the roles that the adapter will support. If you choose only one role and later try to use the other, you may encounter errors. For example, a Google Sheets Adapter set as invoke only will not work as a trigger.
7. **Optional**: You add Keywords to identify the connection later and a description to explain its purpose
8. Click **Create**.

Your connection is now created. The next step is to configure connection settings like properties, security, and agent group (if needed).

2.2.1. Configure Connection Properties

Enter the necessary information to set up the connection-

1. Navigate to the **Properties** section.
2. In the **Project ID** field, input the Project ID. See,
3. Prerequisites for Creating a **Connection**
4. Enter the Service Account in the Service Account Field. You may want to learn Create a Service Account [4]

2.2.2. Configure Connection Security

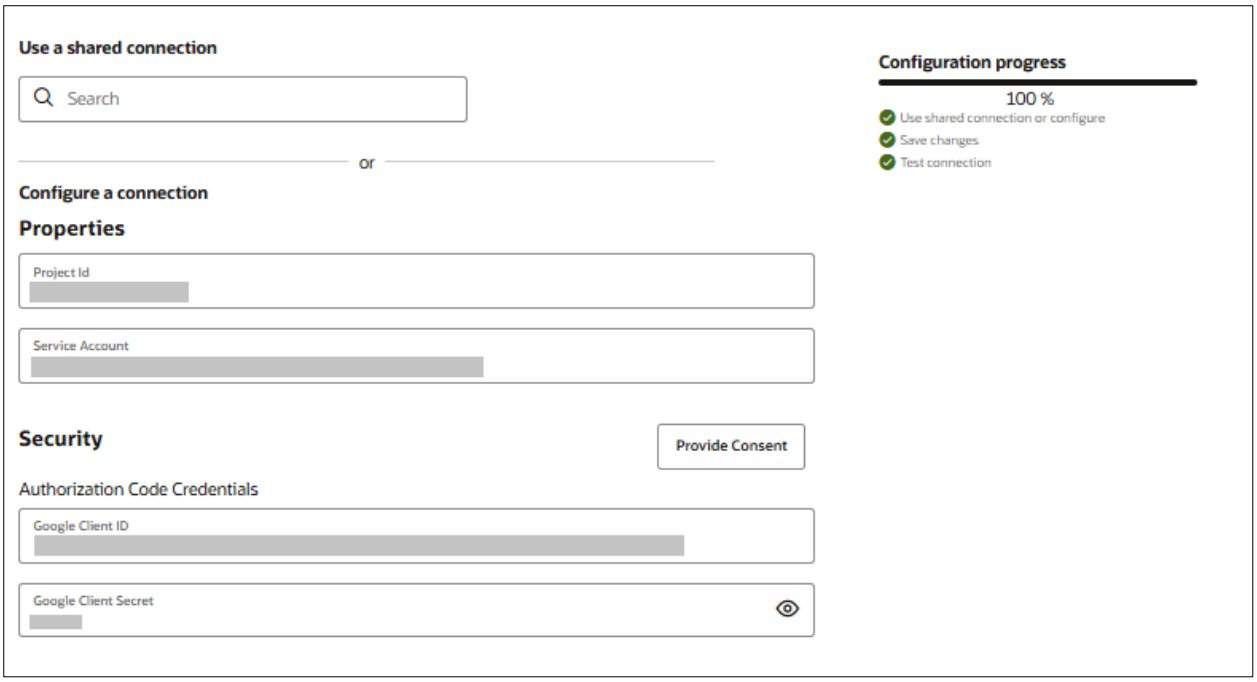
Configure security for your Google Sheets Adapter connection.

1. Go to the **Security** section.
2. The adapter supports **Authorization Code Credentials** for the invoke role.
3. In the **Google Client ID** field, input your Client ID.
4. In the **Google Client Secret** field, input your Client Secret.
    - Note: See,
    - Prerequisites for Creating a **Connection**.
5. Click **Provide Consent** and log in with the relevant Google account.
6. Once you see an Authenticated message, you can test your connection.

2.2.3. Test the Connection

Test your connection to ensure that it is configured successfully.

1. In the page title bar, click **Test**.
2. A confirmation message indicates whether the connection is configured properly or not.
3. If the test was successful, then the connection has been configured.
4. If the test fails, review, cross-check for typos, and confirm the accuracy of URLs and credentials. Update and retest until you can test the connection successfully.
5. When complete, once again click **Save**, then click.


Use a shared connection
Search
or
Configure a connection
Properties
Project Id
Service Account
Security
Provide Consent
Authorization Code Credentials
Google Client ID
Google Client Secret
Configuration progress
100 %
Use shared connection or configure
Save changes
Test connection

3. Adding the Adapter to an Integration

Once the connection is created, you can add it to an integration flow. When you drop the Google Sheets Adapter onto the canvas, the Adapter Endpoint Configuration Wizard launches.

The following sections describe the wizard pages that guide you through the configuration of the Google Sheets Adapter as an invoke in the integration.

Topics:

- Basic Info Page
- Configuration Page
- Summary Page

2.3. Basic Info Page

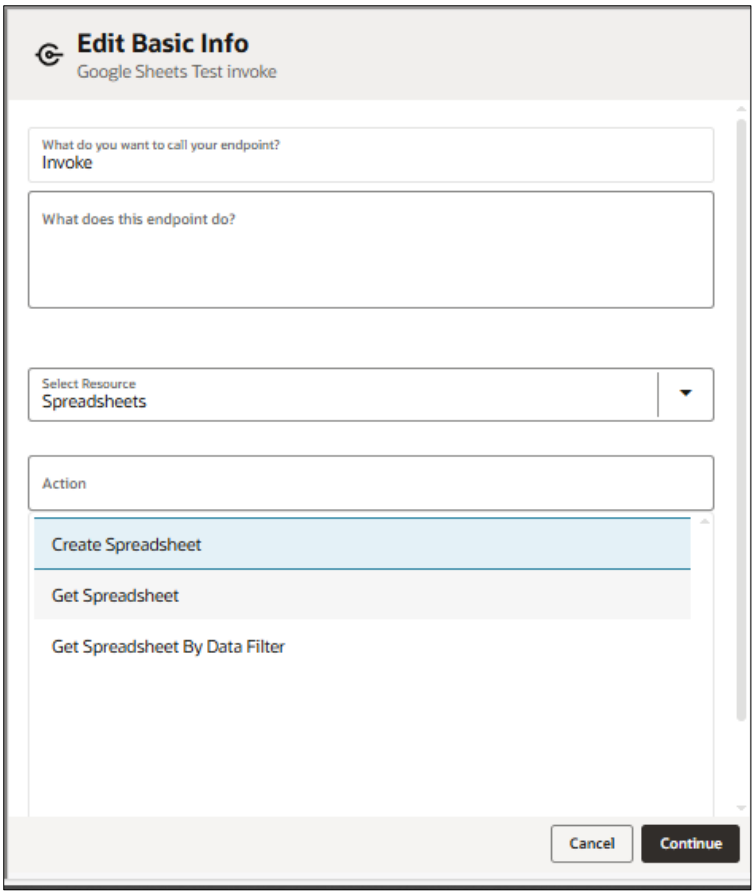
Specify a **name** and description on the Basic Info page of each adapter in your integration. Also, select **Resource** and the actions that you want to perform on this resource.

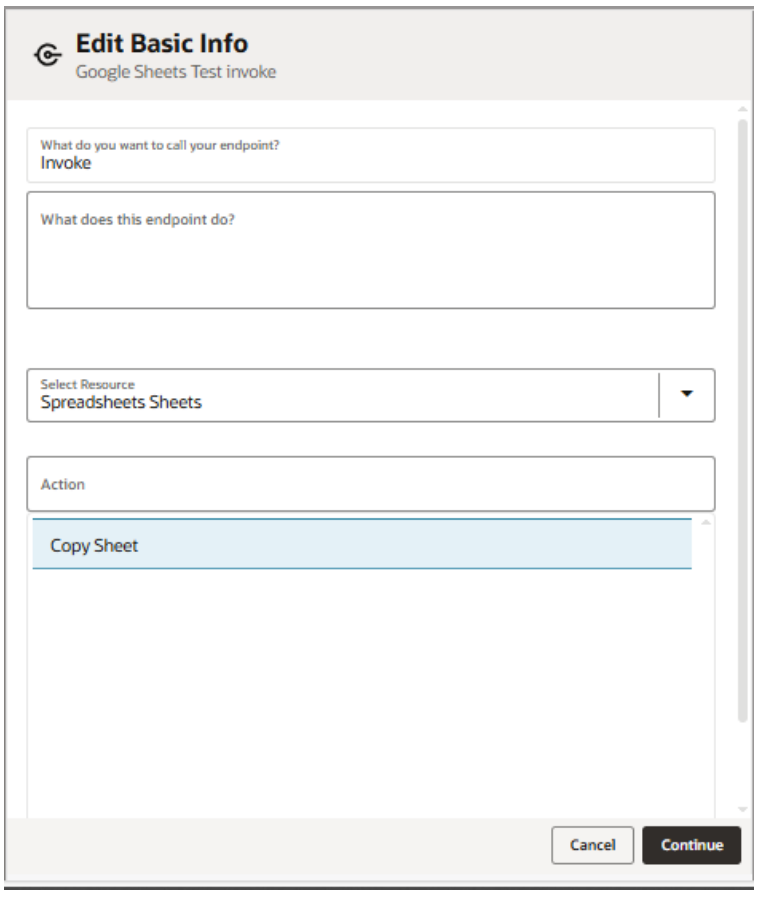
Element	Description

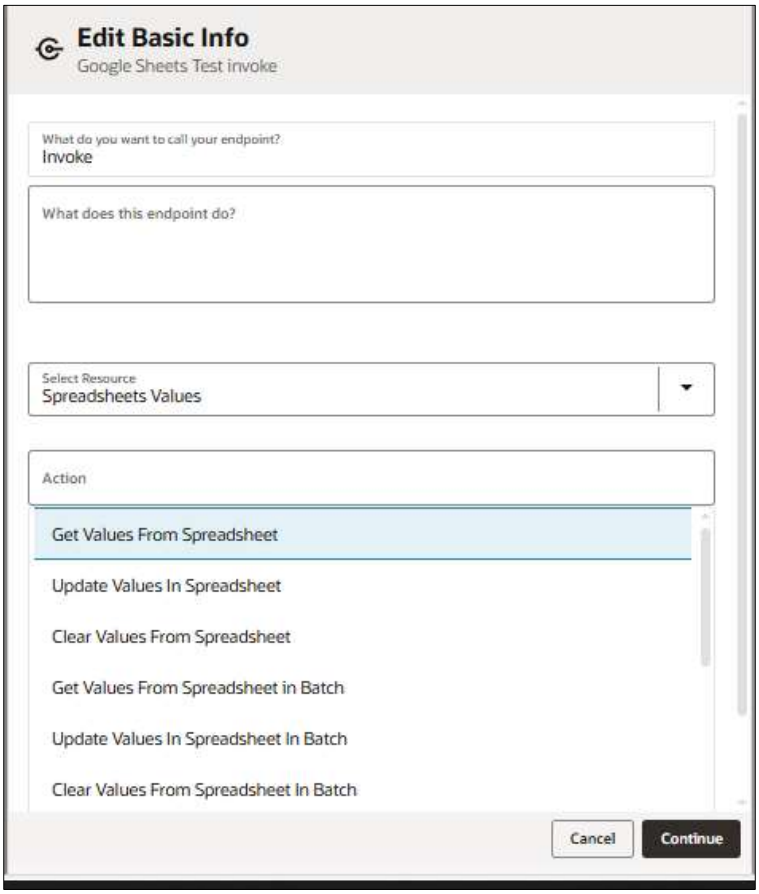
What Do You Want to Call Your Endpoint?	Provide a clear and descriptive name that helps others understand the purpose of the connection.
	For instance, if you're setting up a database connection to add new employee data, a suitable name could be CreateEmployeeInDB.
	Naming rules:
	• You may use letters (a-z, A–Z), numbers (0–9), dashes(-), and underscores (_)
	• **Do not use:**
	  ○ Spaces (e.g., My DB Connection)
	  ○ Special characters (e.g., #;83& or righ(t)now4)
	  ○ Multibyte characters

What does this endpoint do?	Optionally, you can enter a description stating the use of this connection.
Select Resource	Select the Resource on which you want to perform an operation. You can select any one of these resources: • Spreadsheets • Spreadsheets Sheets • Spreadsheets Values

Element	Description
Action	Displays the list of operations that can be performed on a selected resource. • If you select **Spreadsheets** as the resource, the supported actions are: **Create Spreadsheets, Get Spreadsheets, or Get Spreadsheets by Data Filter** • If your selected resource is **Spreadsheet Sheets**, then the available action is **Copy Sheet** • Similarly, if you choose **Spreadsheet Values** as the resource, then you can perform any of the following actions o **Get** Values from Spreadsheet, Get Values from Spreadsheet in Batch, Get by Data Filter from Spreadsheet in Batch o **Update** Values in Spreadsheet, Update Values in Spreadsheet in Batch, Update by Data Filter in Spreadsheet in Batch o **Clear** Values from Spreadsheet, Clear Values from Spreadsheet in Batch, Clear by Data Filter from Spreadsheet in Batch o **Append** Values to Spreadsheet


Edit Basic Info
Google Sheets Test invoke
What do you want to call your endpoint?
Invoke
What does this endpoint do?
Select Resource
Spreadsheets
Action
Create Spreadsheet
Get Spreadsheet
Get Spreadsheet By Data Filter
Cancel
Continue


Edit Basic Info
Google Sheets Test invoke
What do you want to call your endpoint?
Invoke
What does this endpoint do?
Select Resource
Spreadsheets Sheets
Action
Copy Sheet
Cancel
Continue



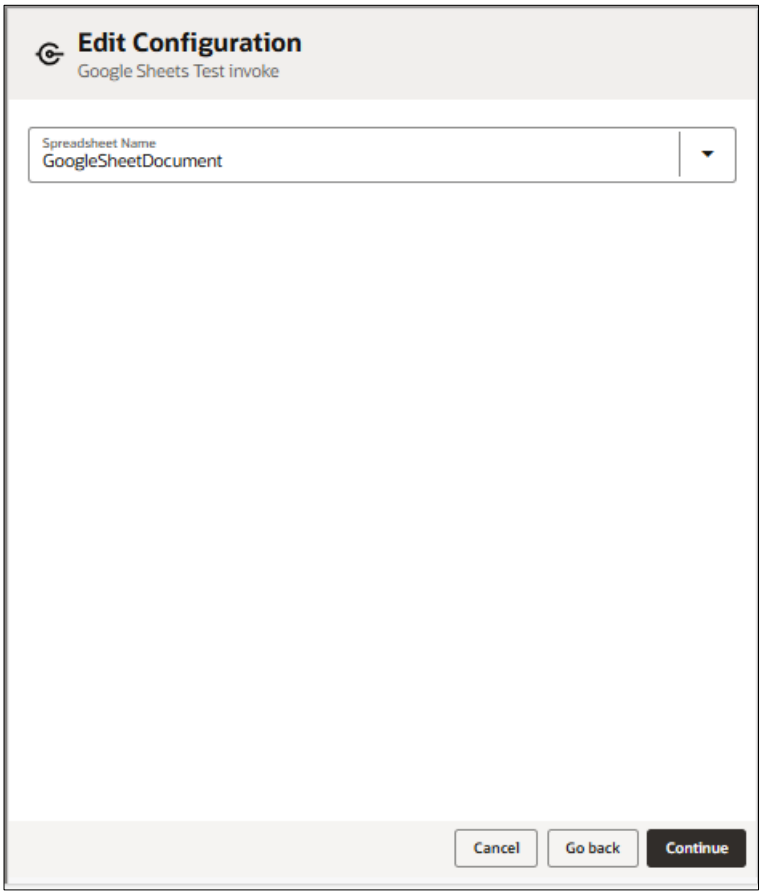
2.4. Configuration Page

Resource: Spreadsheets

You can perform following operations on Spreadsheet

Action	Parameters Required
Create Spreadsheet Creates a spreadsheet in Google Sheets application.	-
Get Spreadsheet Retrieves the data present in the selected spreadsheet	**Spreadsheet Name**-Select the spreadsheet from which you want to retrieve the data

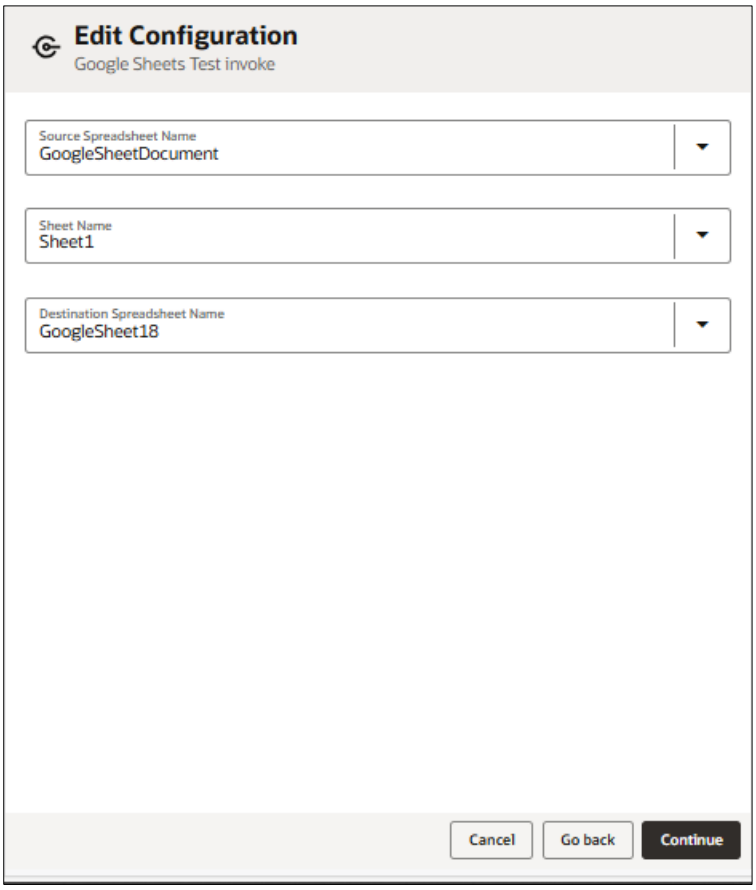
Action	Parameters Required
Get Spreadsheet by Data Filter Fetches data that matches the range from single or multiple sheets within the selected spreadsheet. **Note**: You can specify the range in A1 or R1C1 notations either at the mapper level or at run time. See, Define your cell Range [5] for more details.	**Spreadsheet Name-** Select the spreadsheet from which you want to retrieve the data



Resource: Spreadsheets Sheets

You can perform following operation on Spreadsheets sheets:

Action	Parameters required
Copy Sheet Copies a sheet from one spreadsheet (Source spreadsheet) to another (Destination spreadsheet).	• **Source Spreadsheet Name** - Select the spreadsheet from which you want to copy the sheet • **Sheet Name -** Select the sheet which you want to copy • **Destination Spreadsheet Name-** Select the spreadsheet in which you want to copy the selected sheet



2.4.1. Resource: Spreadsheets Values

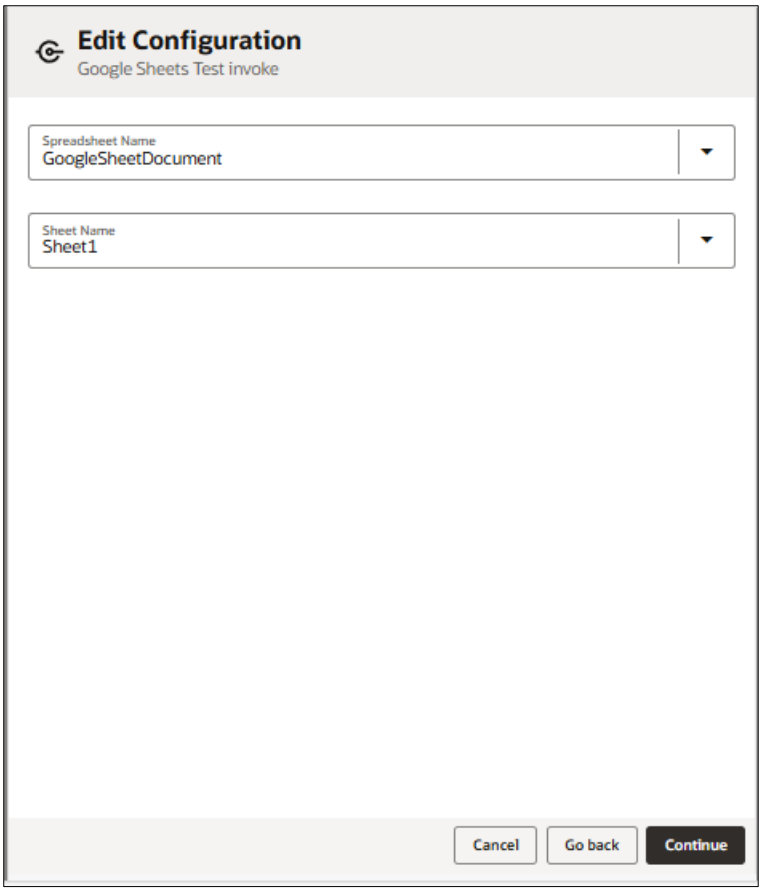
You can modify single or multiple cell data in a spreadsheet using the following actions:

Action	Parameters required
Get Values from Spreadsheet Fetches all the data present in the selected sheet of a spreadsheet.	• **Spreadsheet Name** - Select the spreadsheet from which you want to retrieve data. • **Sheet Name -** Select the specific sheet within the chosen spreadsheet.
Get Values from Spreadsheet in Batch Retrieves data from one or more sheets based on a specified range	• **Spreadsheet Name -** Select the spreadsheet from which you want to retrieve the data
Get by data Filter from the Spreadsheet in Batch Fetches data from one or more sheets using a dynamic range specified in a Data Filter object	• **Spreadsheet Name -** Select the spreadsheet from which you want to retrieve the data

Update Values in Spreadsheet
Updates values in a specific range within a spreadsheet.
	• **Spreadsheet Name** - Select the spreadsheet in which you want to update the data
	• **Sheet Name -** Select the sheet within the selected spreadsheet
	• **Cell Range-** Specify the cell range where the data should be updated, using either A1 or R1C1 notation. See Define your cell Range [5] for more details.
	• Note:
	  ○ If you are specifying the cell range on the wizard page, you can skip including the sheet name. as it has already been selected. For example **(A1:B2)**
	  ○ In case you want to override the cell range in the mapper, you must include the sheet name along with the cell range. For example **(Sheet1! A1:B2)**

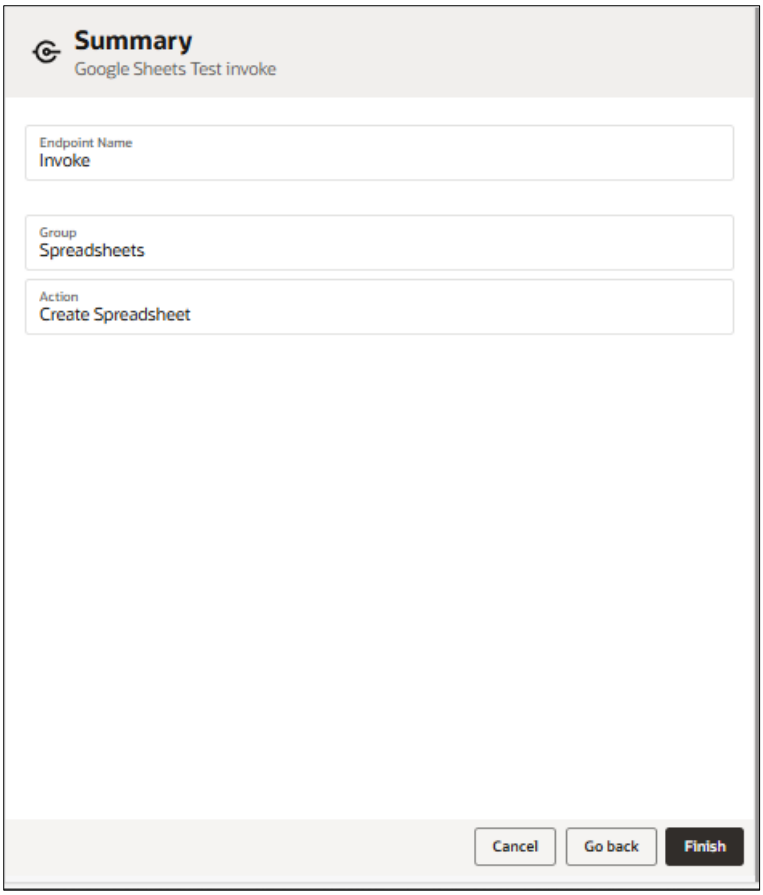
Update Values in Spreadsheet in Batch
Updates data in a spreadsheet using a specified range
	• **Spreadsheet Name** - Select the spreadsheet in which you want to update the data
	• **Sheet Name -** Select the sheet within the selected spreadsheet.
	• **Cell Range-** Specify the cell range where the data should be updated, using either A1 or R1C1 notation. See Define your cell Range [5] for more details.
	• Note:
	  ○ Specify the cell range on the wizard page using **A1 notation**. Also, you can skip including the sheet name, as it has already been selected. For example **(A1:B2)**
	  ○ In case you want to override the cell range in the mapper, you must include the sheet name along with the cell range. Here, you can use either **A1 or R1C1notations** to define the cell range. For example **(Sheet1! A1:B2)**

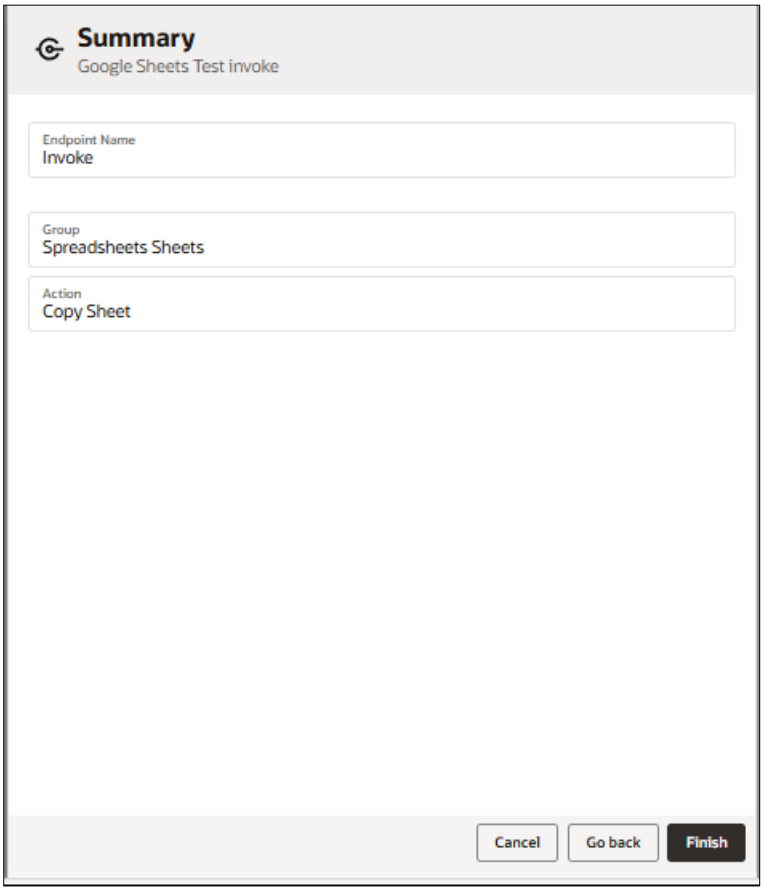
Action	Parameters required
Update by Data Filter in the Spreadsheet in Batch Updates data in a spreadsheet using a dynamic range specified in a Data Filter object.	• **Spreadsheet Name -** Select the spreadsheet in which you want to update the data
Clear Values from Spreadsheet Clears data from a specified range in the spreadsheet.	• **Spreadsheet Name** - Select the spreadsheet from which you want to clear the data • **Sheet Name -** Select the sheet within the selected spreadsheet • **Cell Range -** Specify the cell range where the data should be deleted, using either A1 or R1C1 notation. See Define your cell Range [5] for more details. • **Note:** ○ Specify the cell range on the wizard page using **A1 notation**. Also, you can skip including the sheet name, as it has already been selected. For example **(A1:B2)** ○ In case you want to override the cell range in the mapper, you must include the sheet name along with the cell range. Here, you can use either **A1 or R1C1notations** to define the cell range. For example **(Sheet1! A1:B2)**
Clear Values from Spreadsheet in Batch Clears specified data in a spreadsheet	• **Spreadsheet Name-** Select the spreadsheet from which you want to clear the data
Clear by Data Filter from the Spreadsheet in Batch Clears data from a spreadsheet using a dynamic range specified in a Data Filter object.	• **Spreadsheet Name-** Select the spreadsheet from which you want to clear the data
Append Values to Spreadsheet Appends new data to the spreadsheet.	• **Spreadsheet Name** - Select the Spreadsheet in which you want to append data • **Sheet Name -** Select the sheet in the selected spreadsheet. • **Cell Range-** Specify the cell range where the data should be appended, using either **A1 or R1C1 notation**. See Define your cell Range [5] for more details. • **Note:** ○ Specify the cell range on the wizard page using **A1 notation**. Also, you can skip including the sheet name, as it has already been selected. For example **(A1:B2)** ○ To override the cell range in the mapper, specify both the sheet name and the range to target a specific sheet. Otherwise, the range applies to the first visible sheet. You can use either **A1 or R1C1** notation to define the cell range. For example **(Sheet1! A1:B2)**



2.5. Summary Page

Element	Description
Summary	Displays a summary of the configuration values you entered in the previous steps of the wizard. • To modify any settings, click **Go Back**. • To discard your changes, click **Cancel**. • To save and complete the configuration, click **Finish.**


Summary
Google Sheets Test invoke
Endpoint Name
Invoke
Group
Spreadsheets
Action
Create Spreadsheet
Cancel
Go back
Finish


Summary
Google Sheets Test invoke
Endpoint Name
Invoke
Group
Spreadsheets Sheets
Action
Copy Sheet
Cancel
Go back
Finish

4. Implementing business use cases using the Google Sheets Adapter

You can use the Google Sheets Adapter to implement the following common pattern:

Synchronise Asana project tasks to a Google Spreadsheet using the Google Sheets Adapter

This use case describes how tasks under a project in the Asana application can be appended to an existing Google spreadsheet using the Google Sheets Adapter.

This use case involves the following adapters and their respective operations:

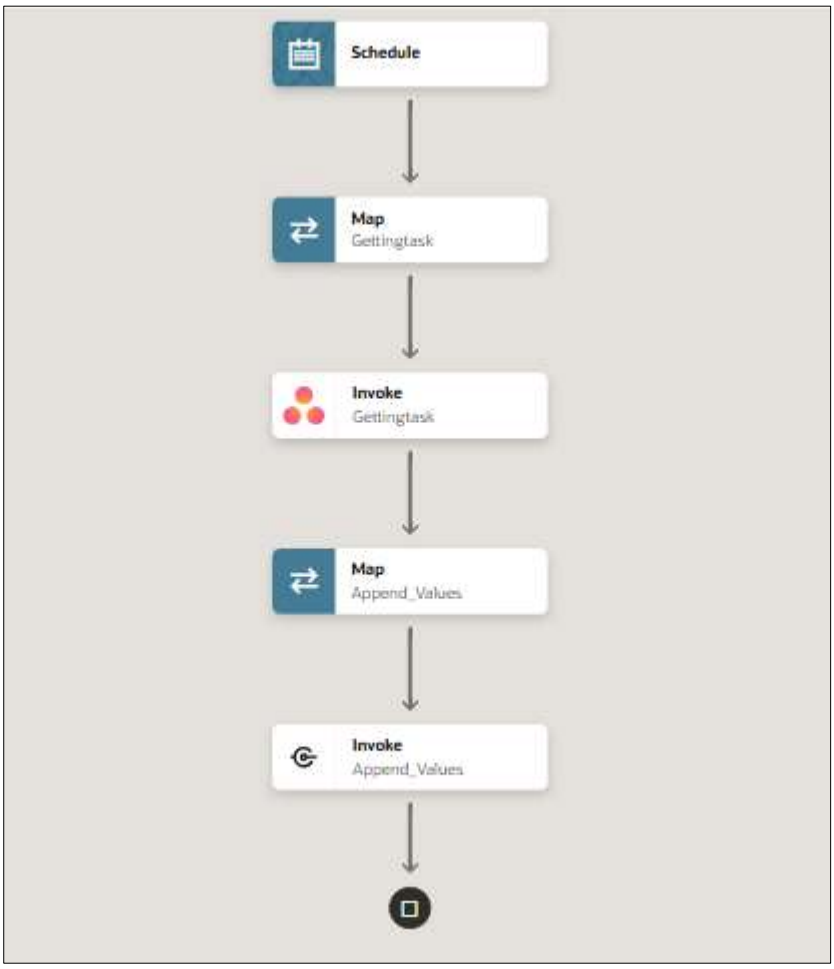
- Asana Adapter (invoke connection): retrieves tasks defined on the Asana application
- Google Sheets Adapter (invoke connection): appends tasks retrieved by the asana adapter to the chosen spreadsheet.

Follow the steps below to implement the use case

1. Create a Google Sheet Adapter and Asana as invoke connections in Oracle Integration.
2. Create a new scheduled integration
3. Drag an Asana Adapter into the integration canvas
4. Configure the **Asana** adapter endpoint as follows:
    a. Provide a meaningful name on Basic Info Page.
    b. Select Object as Task and Action as Get multiple tasks on the same page.
    c. Review your selections on the summary page.
5. Drag the **Google Sheet** into the integration canvas
6. Configure the **Google Sheet** adapter endpoint as follows:
    a. Provide a meaningful name on the Basic Info Page.
    b. Now, select resource as **Spreadsheets values** and action as **Append Values to Spreadsheet.**
    c. On the **configuration** page, select Spreadsheet Name, Sheet Name, and enter the cell range.
    d. Review and confirm your selections on the Summary page.
7. In the mapper, map the fields from the Asana response to the Google Sheet request wrapper.
8. Add the hard-coded values like Template Parameters (Spreadsheet Id, Range), Query Parameters (Value Input Option, Include Values In Response), and Major Dimensions
9. Click Validate
10. Add the tracking element in the Business identifier field and save the flow
11. Once Complete, activate the integration.

The Google Sheets adapter now successfully appends the Asana project tasks to the specified spreadsheet.

Refer to the image below to know how the complete integration looks like:



5. References

[1] Google Workspace, “Create a Google Cloud Project,” [Online]. Available: https://developers.google.com/workspace/guides/create-project .

[2] Google Workspace , “OAuth client ID credentials,” [Online]. Available: https://developers.google.com/workspace/guides/create-credentials#oauth-client-id.

[3] Oracle Helpcenter , “Define Inbound Triggers, Outbound Invokes, and Actions,” [Online]. Available: https://docs.oracle.com/en/cloud/paas/application-integration/integrations-user/define-inbound-triggers-and-outbound-invokes.html#ICSUG-GUID-A43E50D1-5A83-4B67-A952-CF04BD6B6369.

[4] Oracle Helpcenter, “Creating a Service Account,” [Online]. Available: https://docs.oracle.com/en/cloud/paas/api-platform-cloud-um/apfad/create-service-account.html.

[5] Google Workspace , “Google Sheets API Overview,” [Online]. Available: https://developers.google.com/workspace/sheets/api/guides/concepts#cell.