

Introduction

Ikigai enables you to build *artificial intelligence apps*, or AI apps, which support business intelligence, machine learning and operational actions. In short, it helps you make informed decisions on your data and take timely action to optimize your business.

Unlike many other AI solutions, Ikigai is for non-technical roles, such as inventory managers, supply chain analysts, financial analysts and accounting. Most other solutions require significant experience in programming languages, querying languages and are suited primarily for software developers and data scientists. With Ikigai, you can:

- Perform demand forecasting for products and services based on historical data, market trends and consumer data.
- Conduct demand planning and determine the best timing and to deliver product and services to meet customer needs.
- Optimize cash flow and working capital by improving automated accounts reconciliation between accounts payable and accounts receivable.

Key Concepts

To use Ikigai, you go through a process using all standard components in the platform. The sequence looks this:

Start by connecting to data, which can be in a variety of forms, such as records in a database, information in a spreadsheet or data in an application. To connect to different sources of data, you use *connectors*.

Once you can access data, you create *flows*, which are *pipelines* to process and transform the data. In each flow you can add pre-built building-blocks which perform operations on your data. We call these building-blocks *facets*. With flows, you can store rules which restrict who can access data, define how data should appear in a standardized form and transform data so it's easier to analyze. Flows are reusable, which means you or others can define them once and apply them to other projects.

After you transform data, you're ready to perform machine learning with our platform. There are two major types you can do:

- Generate predictions - for example predict home prices in Boston based on house age, number of rooms and other factors.
- Intelligently merge datasets - this is also known as *stitching* datasets using artificial intelligence. You could do this manually, however it's time consuming and error prone.

For example, if one dataset contains 123ABC and another abc123 and your logic for merging is inconsistent, you can accidentally merge this data.

Finally, you create AI apps, which report the different predictions resulting from machine learning. With AI apps you can also enable others to provide input, such as additional data which can fine-tune your machine learning model and generate better results.

Connect to Data

To use BI on your data, we need to access it and possibly perform transformations on it such as converting it into a format a computer can easily consume. Access data in Ikgai by connecting to a datasource or by uploading a spreadsheet.



Database



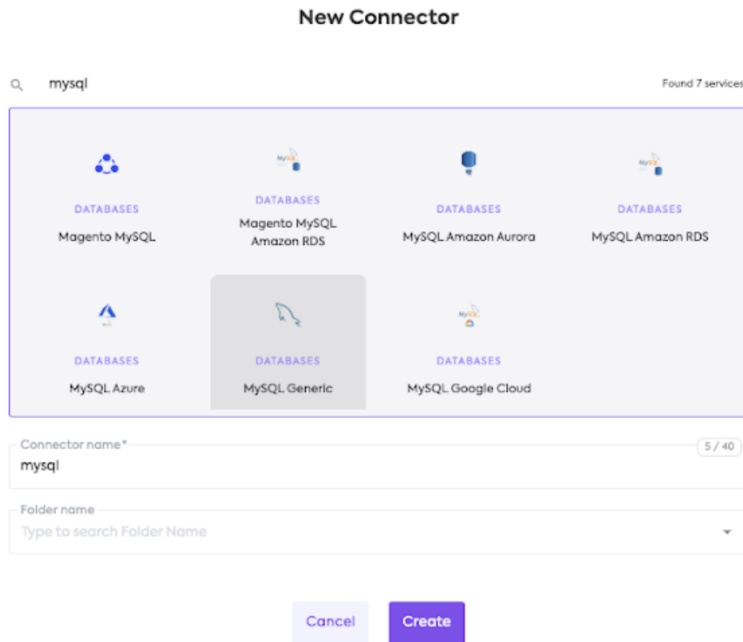
Spreadsheet

To access data on an ongoing basis, whether that data is in a database or other data sources, we use *data connectors*, which are pre-built components in Ikgai. With data connectors you can access data and Ikgai can later pull any updates made to the data source. This guide describes how you can connect to both databases and Google sheets as examples.

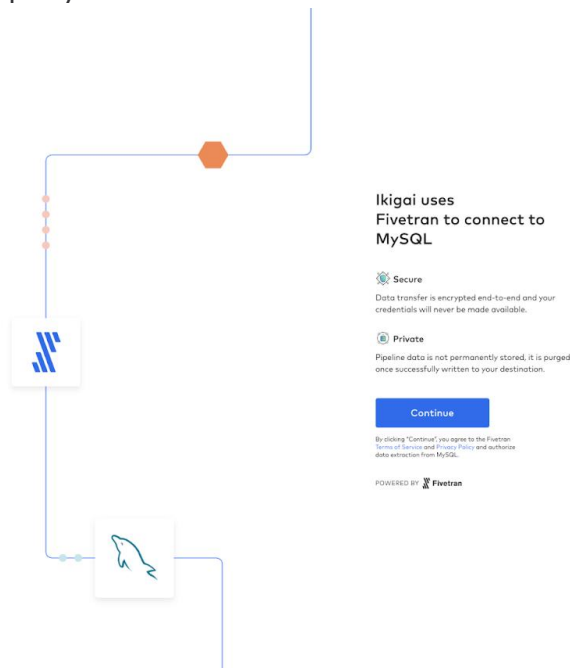
Accessing SQL Databases

With connectors, you can access SQL databases which are hosted behind your company's firewall or available in the cloud. If your database is within the corporate firewall, work with your IT department to make it available to the cloud so Ikgai connectors can access it. To create a connection, you need your database host's IP address or domain as well as port.

1. In the flow workspace, click + for Connectors. A new panel appears where you can search for MySQL:



2. Select your type of MySQL database or if you don't know, select MySQL Generic.
3. Click Create. A new panel appears where you provide database authentication. Ikigai uses [Fivetran](#), a third-party service for this.



3. Follow the setup instructions provided in Fivetran's Setup Guide to provide preferences and connection settings:

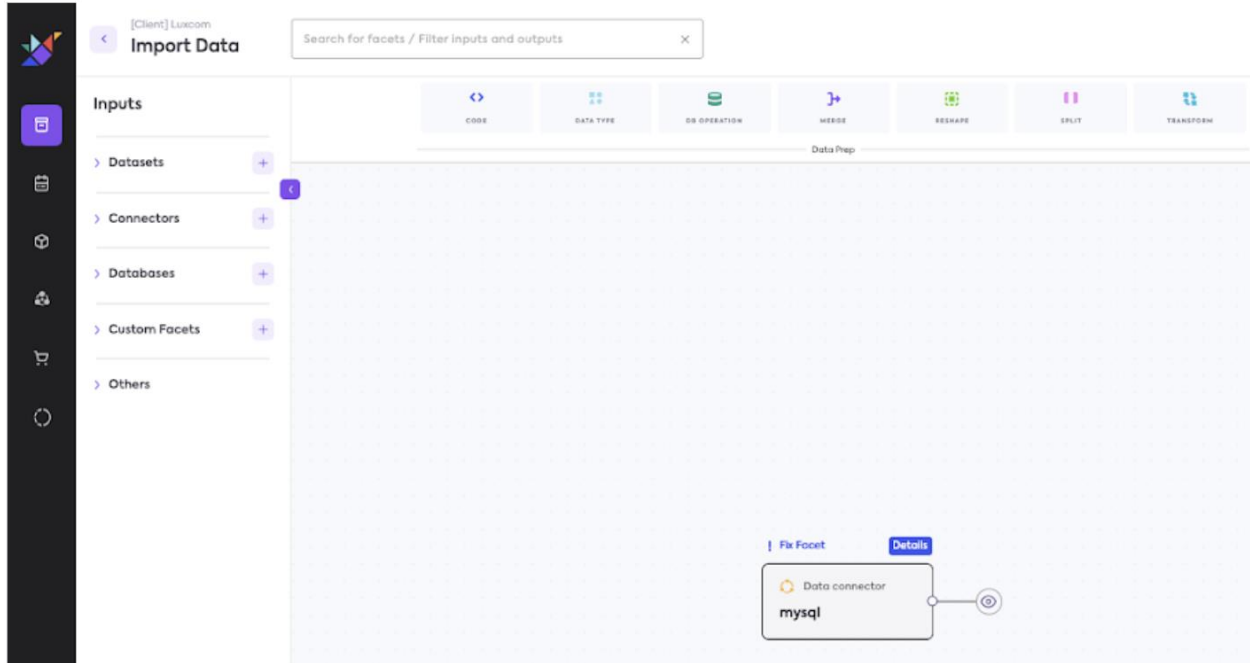
The screenshot shows the MySQL connection configuration form. It includes fields for Host (IP or domain), Port, User, and Password. Under Connection Method, 'Connect directly' is selected. Under Update Method, 'Read Changes via Binary Log' is selected. The Replica ID is set to 3341190857. There is a section for whitelisting Fivetran's IPs with a 'Save & Test' button at the bottom.

The screenshot shows the MySQL Setup Guide. It includes prerequisites such as MySQL version 5.5 or above and database host/port information. It also provides setup instructions, including a 'STEP 1: Choose incremental sync mechanism' and a 'STEP 2: Choose connection method'.

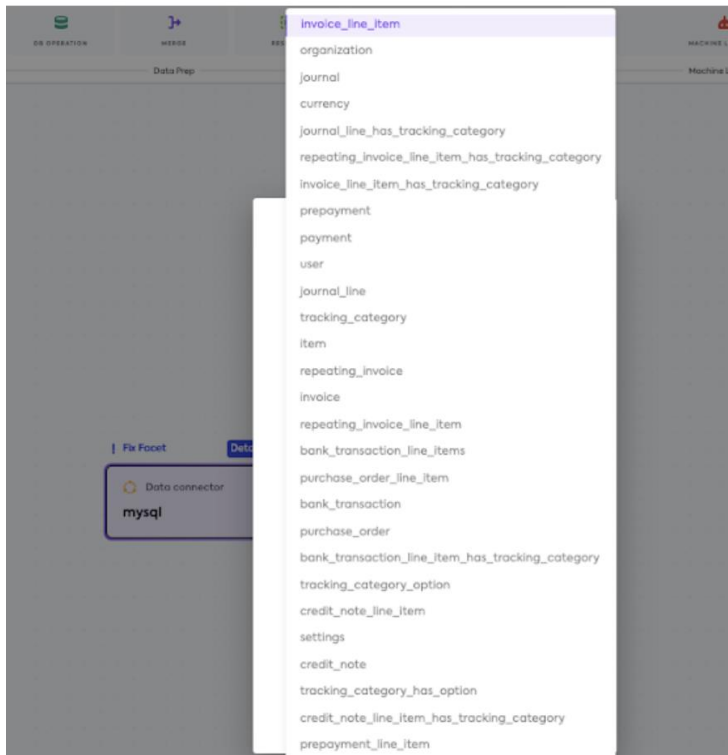
4. Click Save & Test. When you expand the Connectors menu, the new connector appears in it:

The screenshot shows the Fivetran interface. The 'Connectors' menu is expanded, showing a new 'mysql' connector. The interface also displays a search bar for facets and filter inputs, and a 'Data Prep' section with various data manipulation options like CODE, DATA TYPE, DB OPERATION, MERGE, RESHAPE, SPLIT, and TRANSFORM.

5. Drag and drop the new MySQL connector onto the flow canvas:



6. Edit the facet. Click on Table Name and select a table from the dropdown list:



7. Click Update.

Data Connector [Help?](#)
Input / Connector

Facet name (optional) 5 / 20
mysql

Use sqlite *
 True False

Connector Name*
mysql

Table name
invoice_line_item

Re-pull *
 True False

DATA TYPES [+ Add](#)

[Cancel](#) [Update](#)

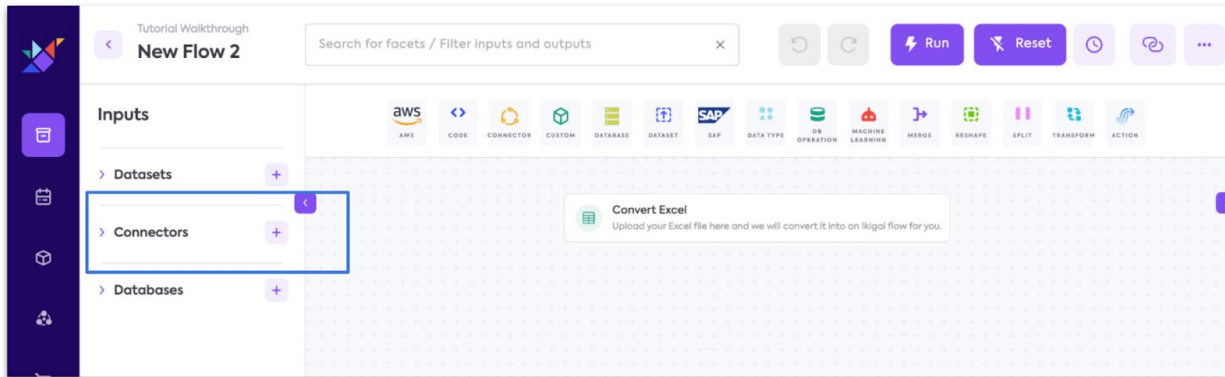
Now you have a connection with MySQL which you can use in your flow.

Connecting to Google Sheets

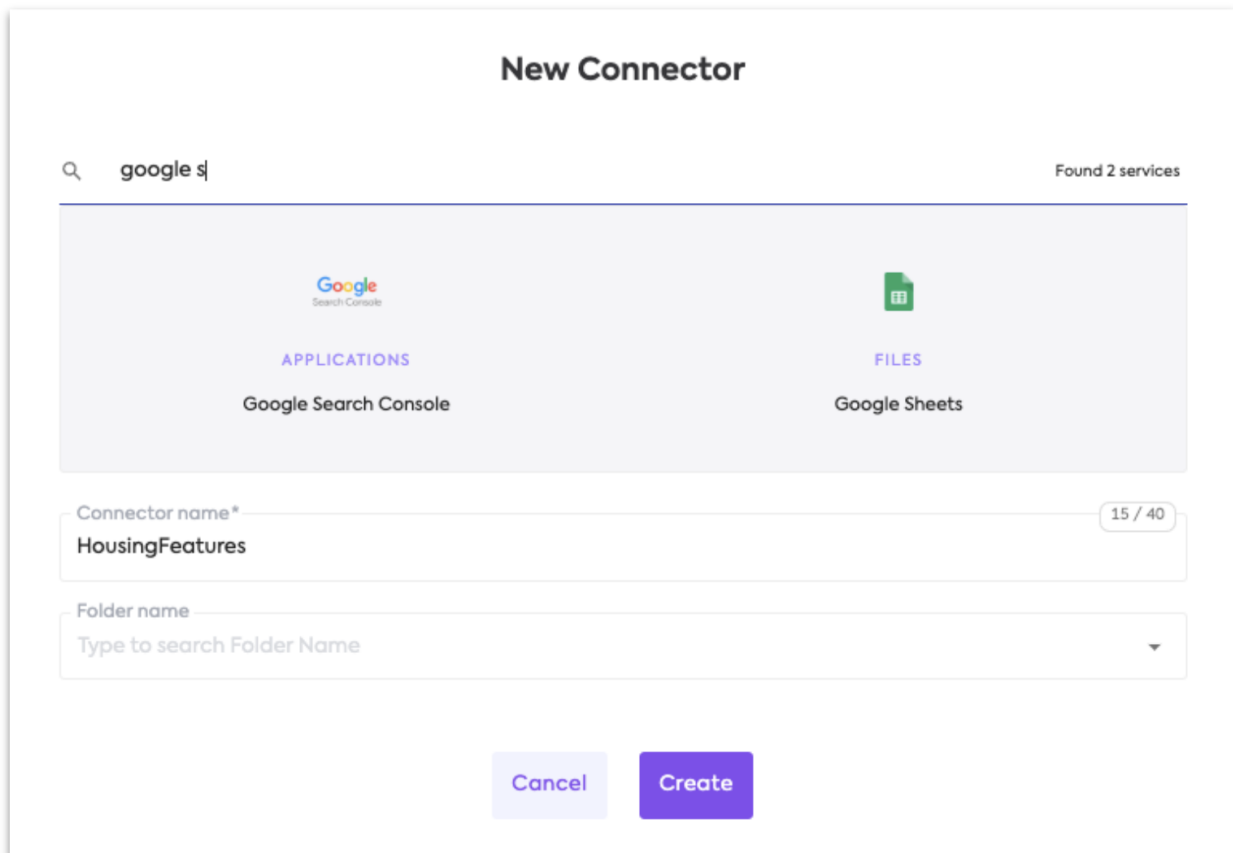
As we described earlier in the Getting Started, you can upload a spreadsheet, such as Google Sheets, and then use it in a flow's workspace. Ikigai creates a new dataset for the data in the spreadsheet.

Uploading is different from *connecting* to the sheet. If you connect to the sheet, Ikigai can check for updates in the sheet and pull in changes and new data each time you run a flow. You'll want to do this after you build and test your flow, especially if you expect changes to the spreadsheet.

1. Click + next to Connectors. A panel appears where you can create a connection.

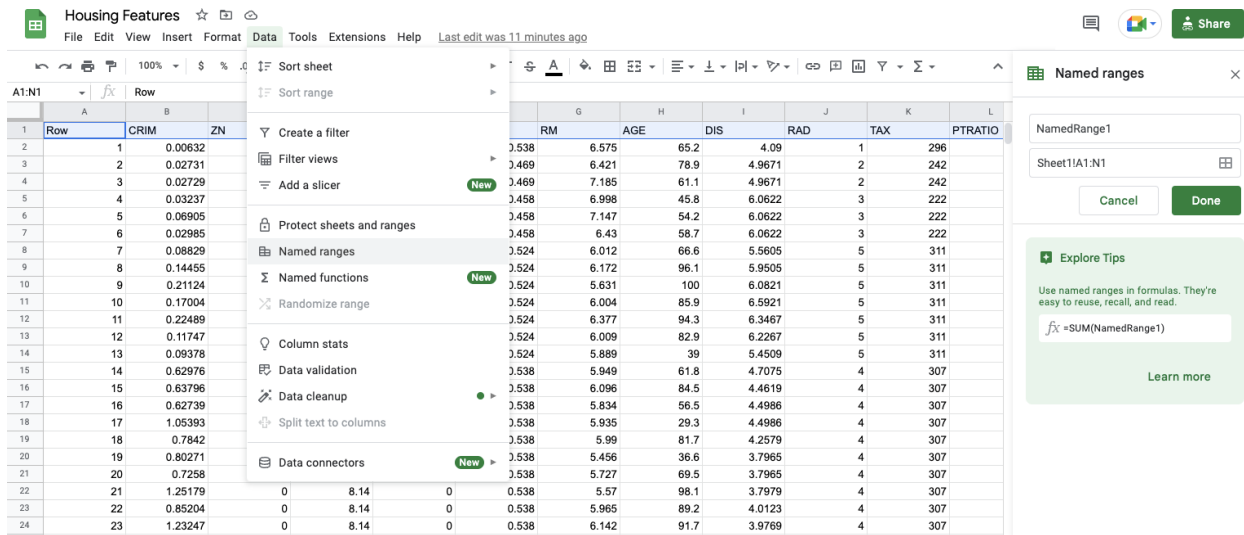


2. Search for the connector:



3. Select Google Sheets.
4. Name your connector.
5. Click Create. Ikgai uses a third party data connection platform, [Fivetran](#) to access Google Spreadsheets:
6. In the confirmation panel that appears, click Continue then Authorize.
7. Select your Google Account for the spreadsheet you want to access, then click Allow.

- In the panel that appears provide the URL for your Google Sheet.
- For Names Range, follow the instructions in the Fivetran Setup Guide. In your Google sheet, set up a Named Range which you specify in this field. This determines which range of data Ikigai tracks, synchronizes and refreshes when you run a flow. For example:



For this Google sheet, we select all columns in our spreadsheet, select Data | Named ranges, name it `NamesRatings1` and then click Done. With named range, we can connect to all columns of data in the sheet.

- After you provide your Named Range, click Save & Test. On success, you see confirmations from Fivetran and a message from Ikigai for successful authentication.
- Click Return to Ikigai. You return to the flow workspace. When you click the open arrow under Connectors, you see the new connection.

You can now use data in your flow by dragging the connector to the flow workspace.

Best Practices

Refreshing data

By default we set the re-pull property for every connector to False. If you change this setting, the flow triggers a data synchronization and gets any data updates each time you run the flow. This include every time you peek data in the flow or run the full flow. We recommend:

- Setting this to False while you build the flow so that peeks are fast, and
- Then setting this to True once you are done and you schedule the flow.

To update this property, click on the connector in your flow workspace, click the edit icon.

Troubleshooting

Security issues writing data back to mySQL

If you want to update data from Ikigai back into mySQL, you'll typically need to:

- Create a custom Python output facet,
- Add it to your flow, and
- Make sure Ikigai has access to your database.

For example, to export data from your data flow to a privately hosted mySQL database on Amazon Web Services. To write data to a hosted instance you need to update your Firewall or IP whitelisting rules in your AWS Security Groups.

Contact Ikigai and we will provide you with an IP address. Add this to your IP whitelist range and then you can connect from your Ikigai flows and export data out.

In short, if you have security issues with whitelisting IP addresses, contact us at support@ikigai.io and we will give you the IP address to whitelist.