

[Documentation](#) → [Modules](#) → [Commerce](#) → [Commerce Module Interface](#) →

Transformation Operations



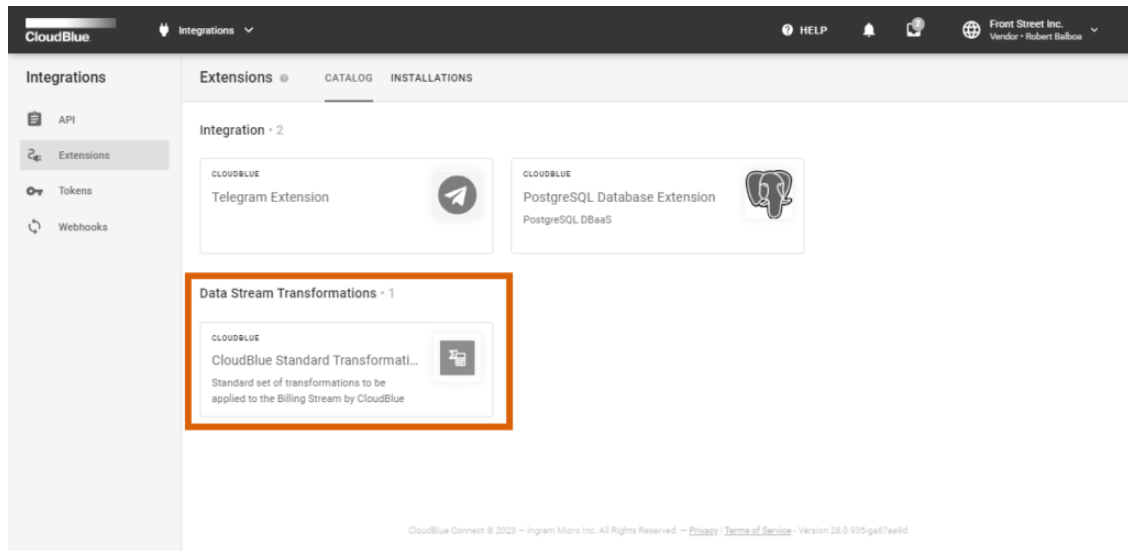
This article has been generated from the online version of the documentation and might be out of date. Please, make sure to always refer to the online version of the documentation for the up-to-date information.

Auto-generated at May 12, 2024

Transformation operations are used to modify or update data that is provided in your streams. The system allows you to create multiple transformations within a single stream that help to define the output for generated batches. Transformation operations for each batch can be performed within the batch details interface.

Prerequisite

To use transformations, you need to install the *CloudBlue Standard Transformations Library* extension:

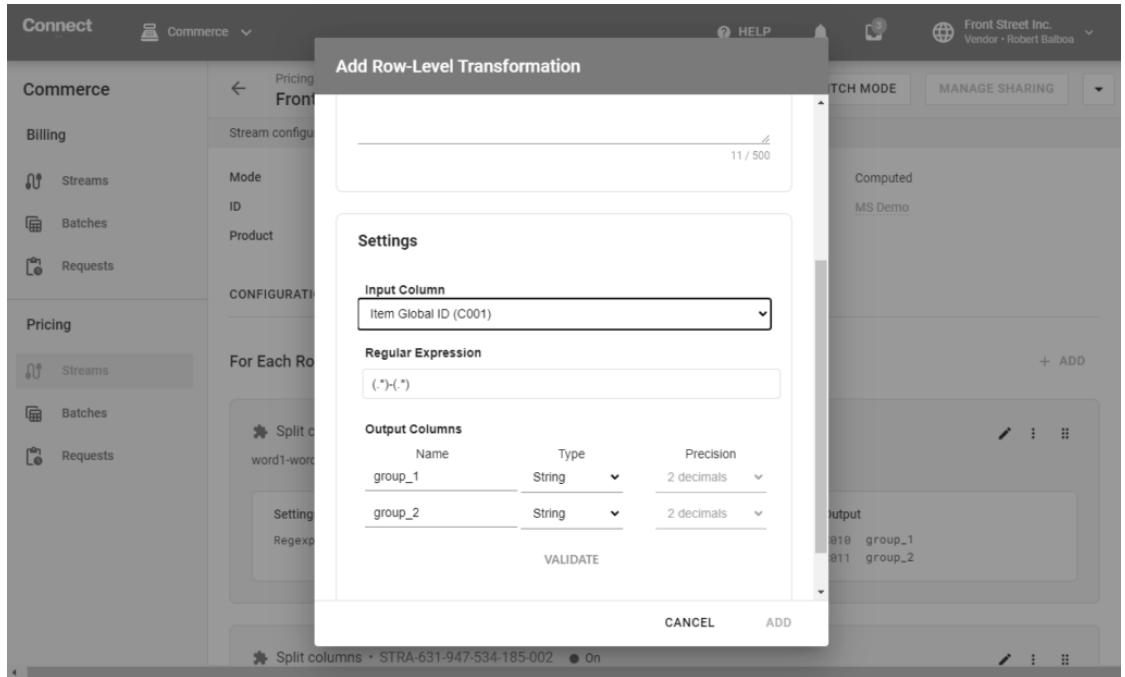
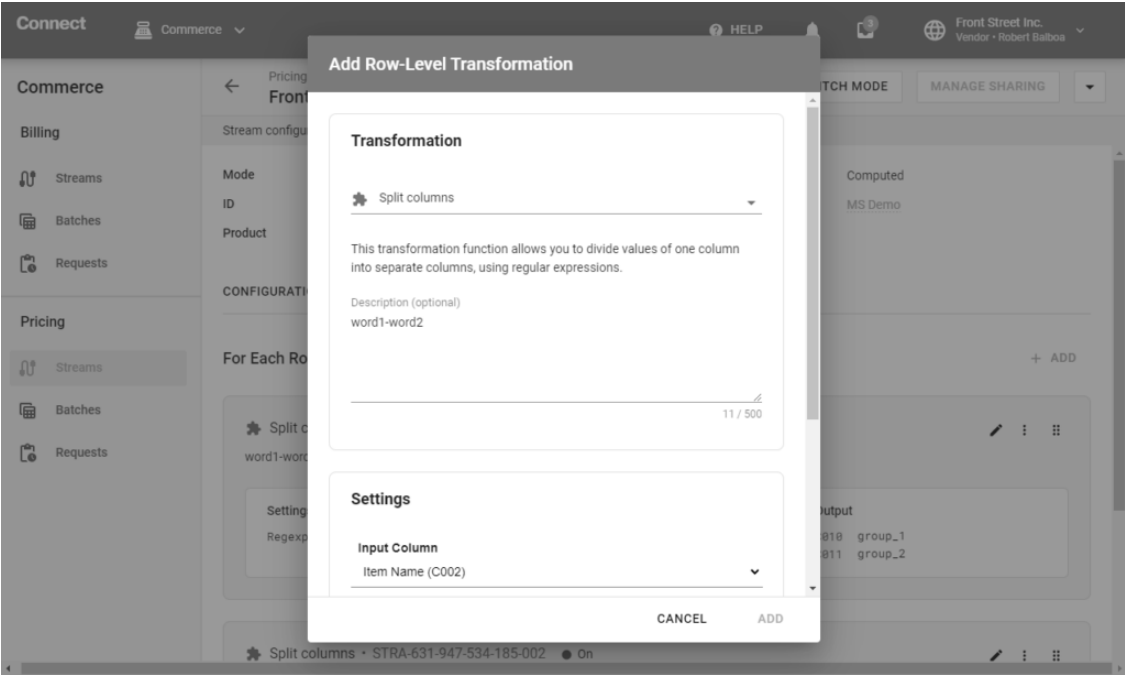


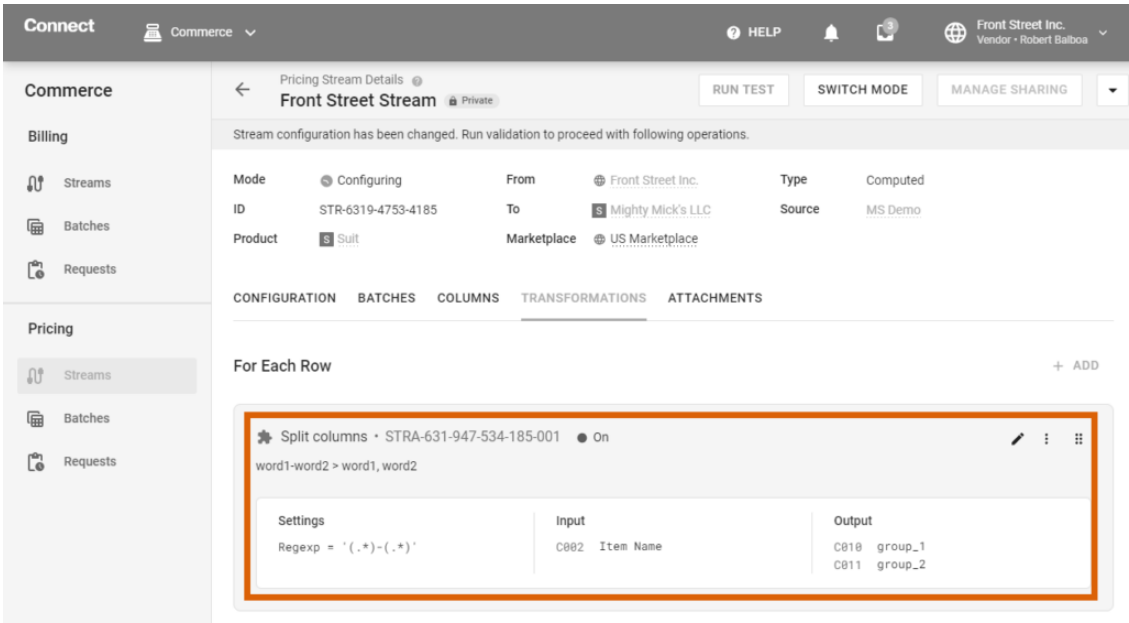
Transformation Types

Split columns

This transformation function allows you to divide values of one column into separate columns, using regular expressions.

For example, you can split the **word1-word2** cell value into **word1** and **word2**, using the **(.*)-(.*)** regular expression.

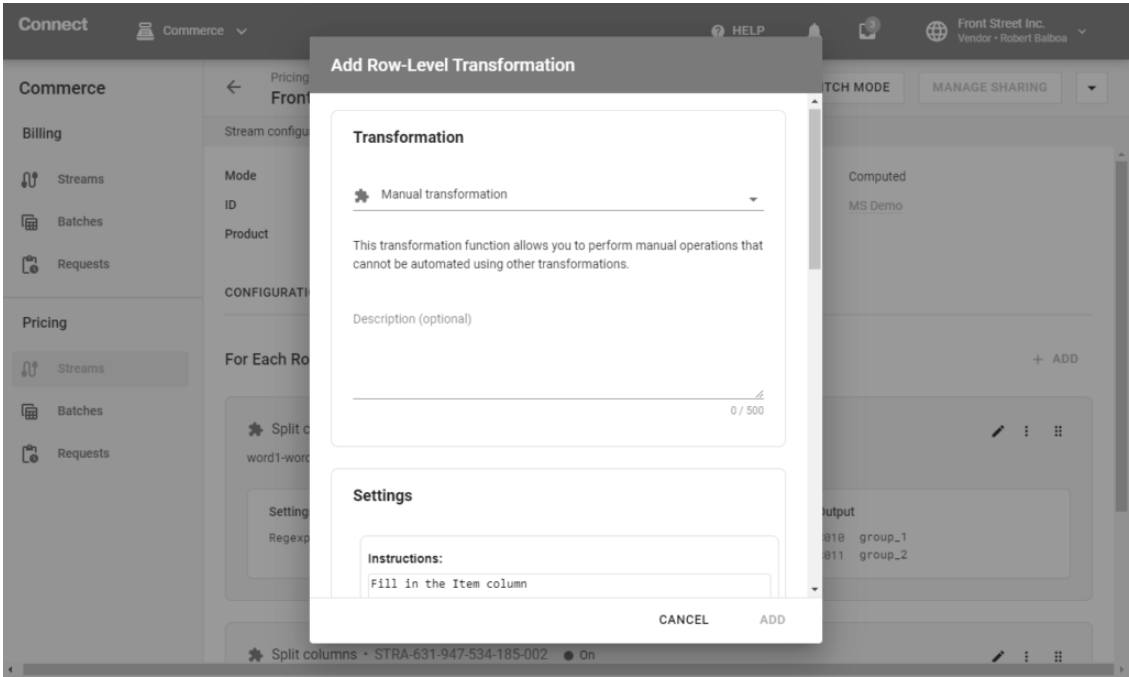


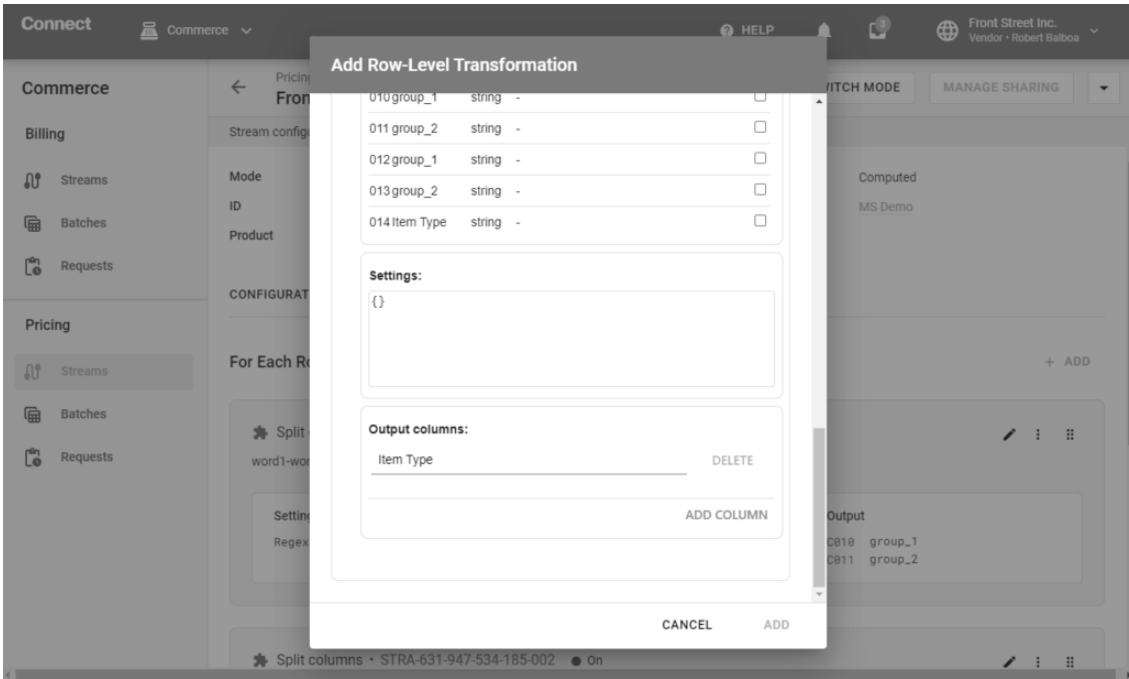
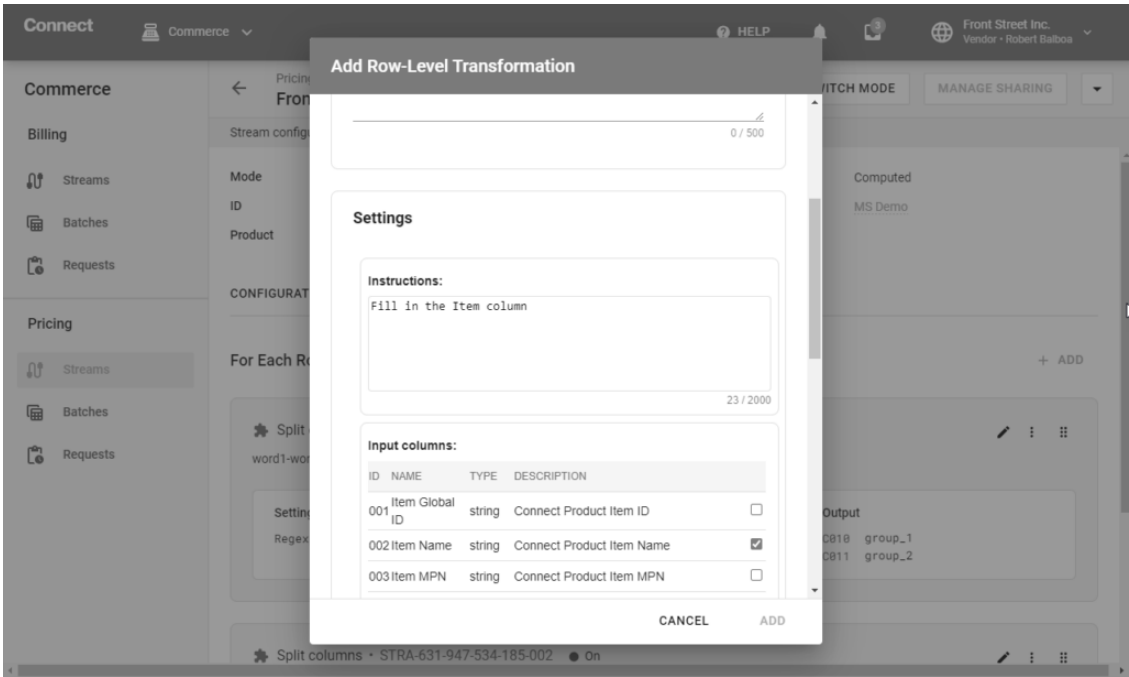


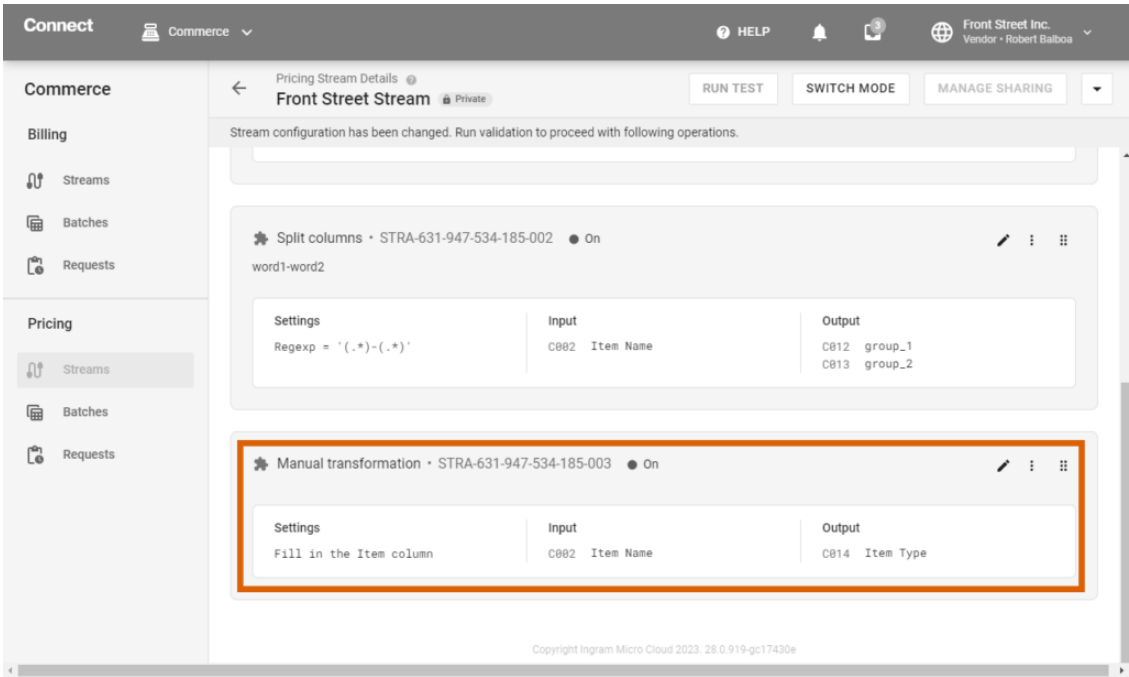
Manual transformation

This transformation function allows you to perform manual operations that cannot be automated using other transformations.

For example, you can pass **Item name** as an input column and have **Item type** returned as the output column which you will need to fill in manually.



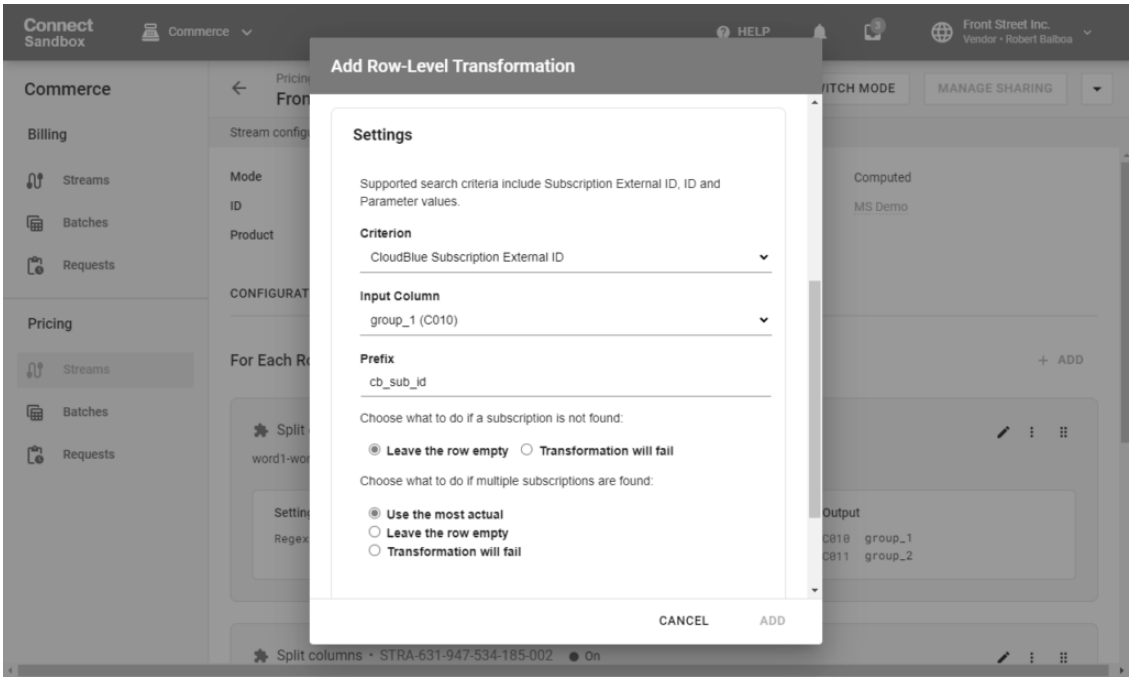
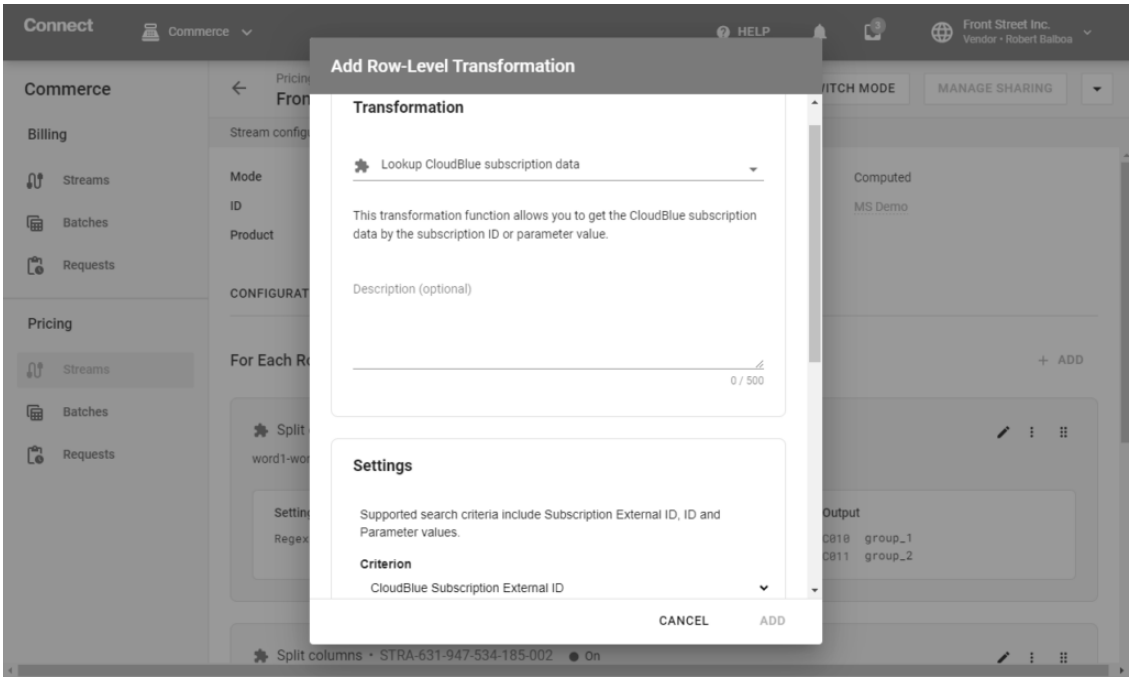


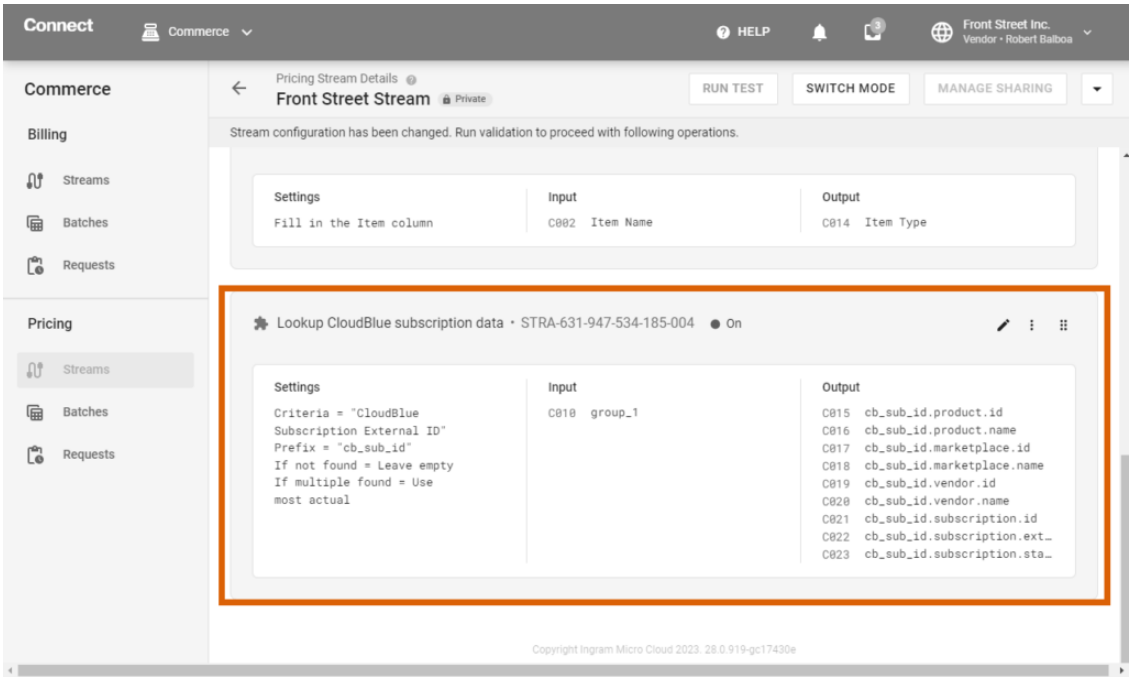


Lookup CloudBlue subscription data

This transformation function allows you to get an extended Cloudblue subscription data by a subscription ID or parameter value.

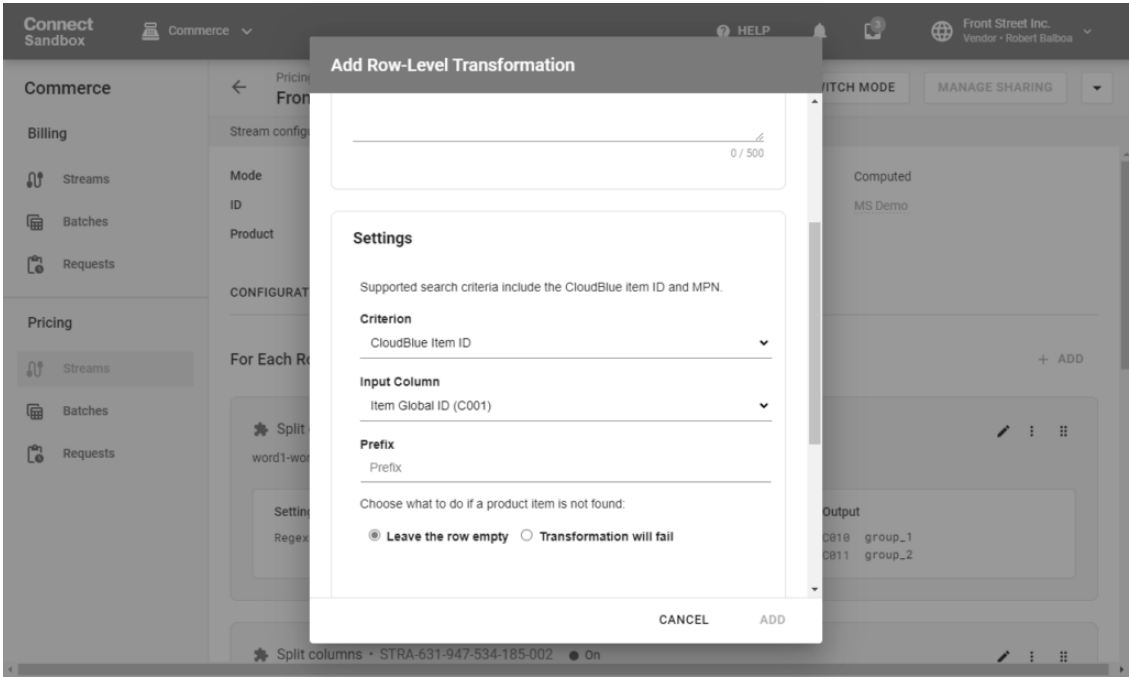
For example, you can pull Product ID and name, Vendor ID and name, Marketplace ID and name, as well as other data by passing the subscription ID or parameter value to the Connect API.

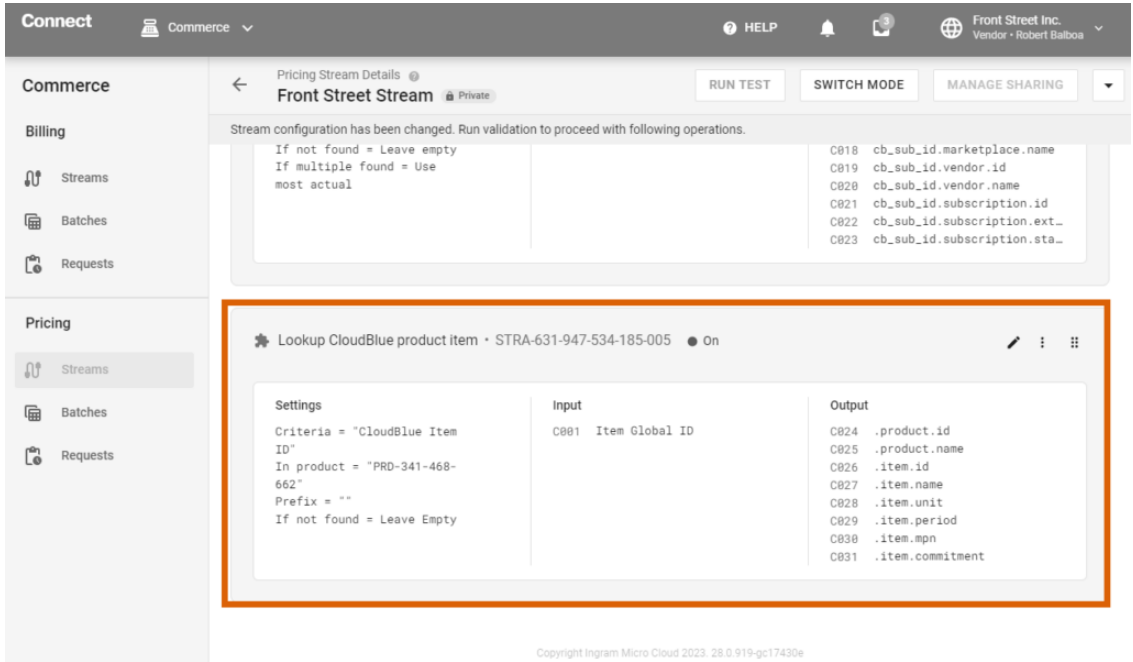
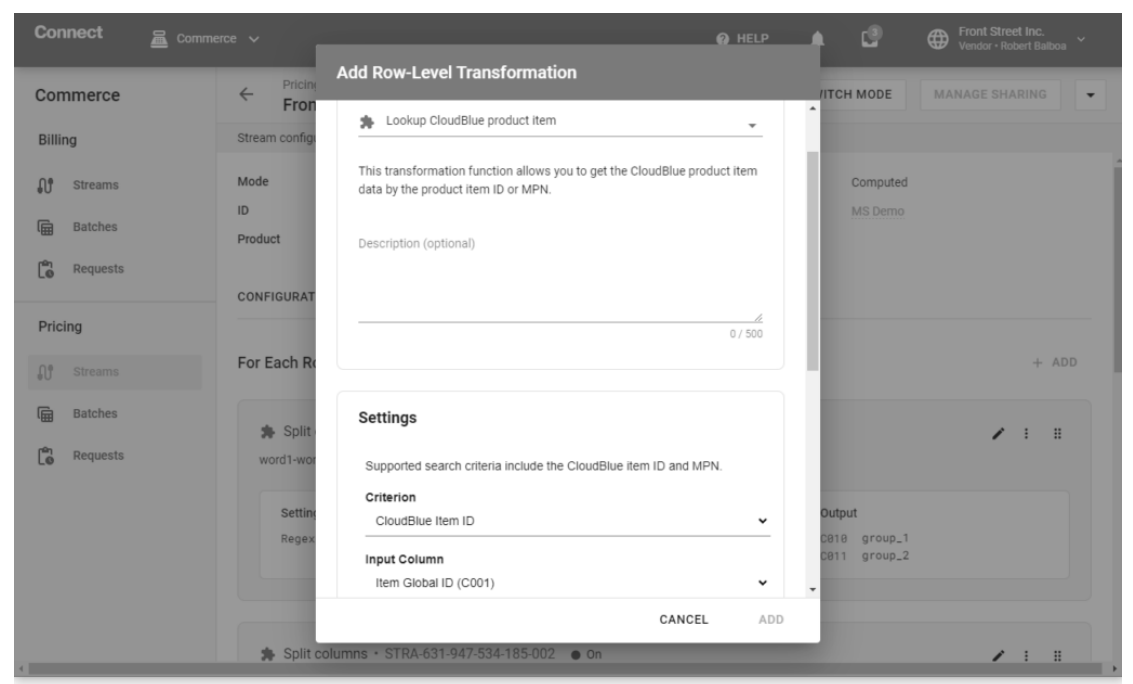




Lookup CloudBlue product item

This transformation function allows you to get an extended CloudBlue product item data by a product item ID or MPN.



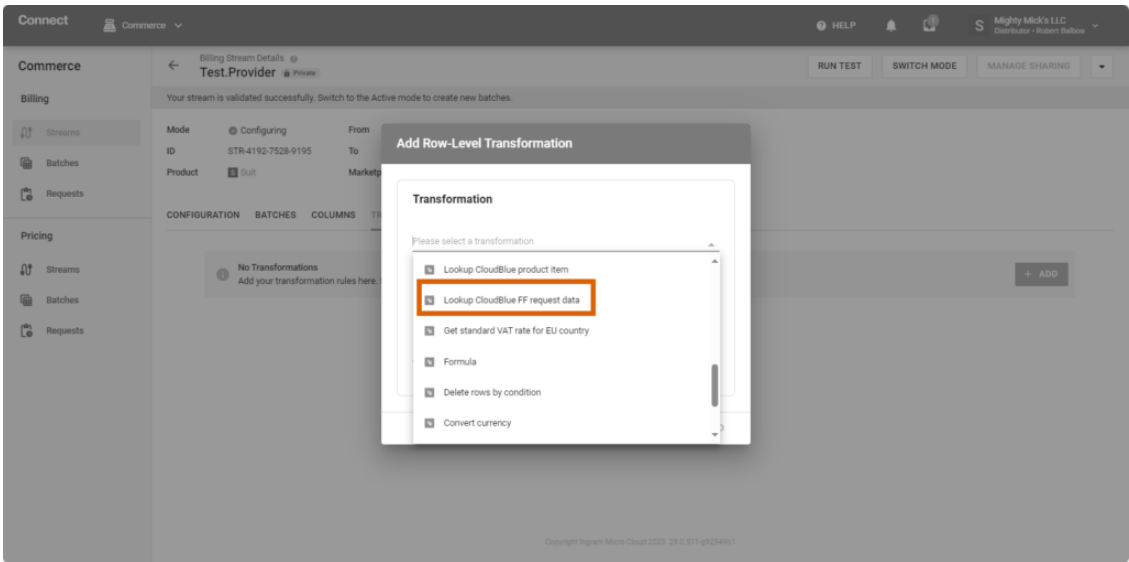


Information

If there is no product linked to your stream, you need to indicate Product ID manually or specify the column from which Product ID must be taken.

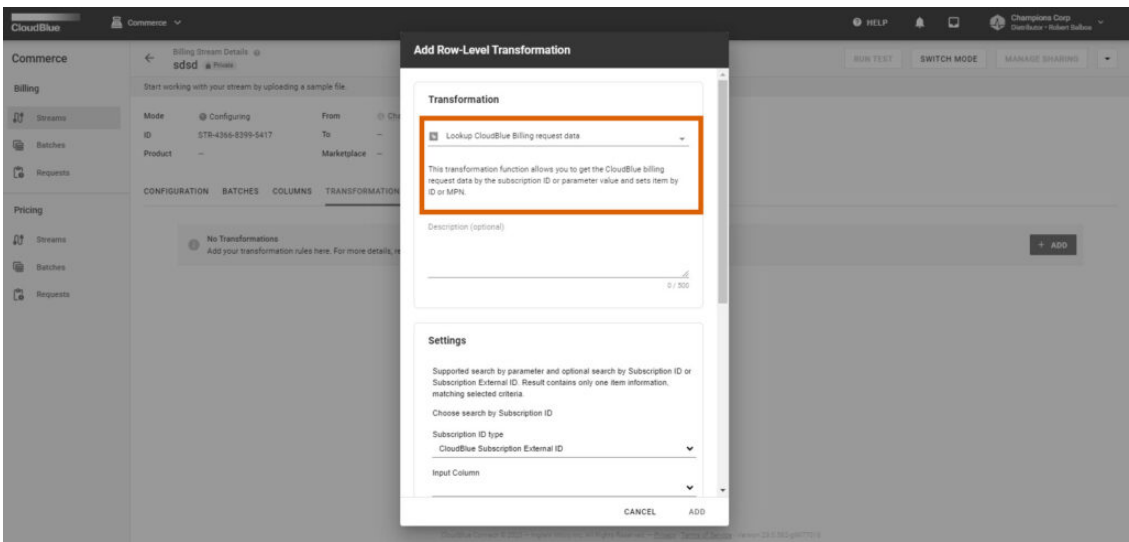
Lookup CloudBlue fulfillment request data

This transformation function allows you to get the CloudBlue fulfillment request data by the parameter value as a mandatory search criterion and subscription id as an optional one:



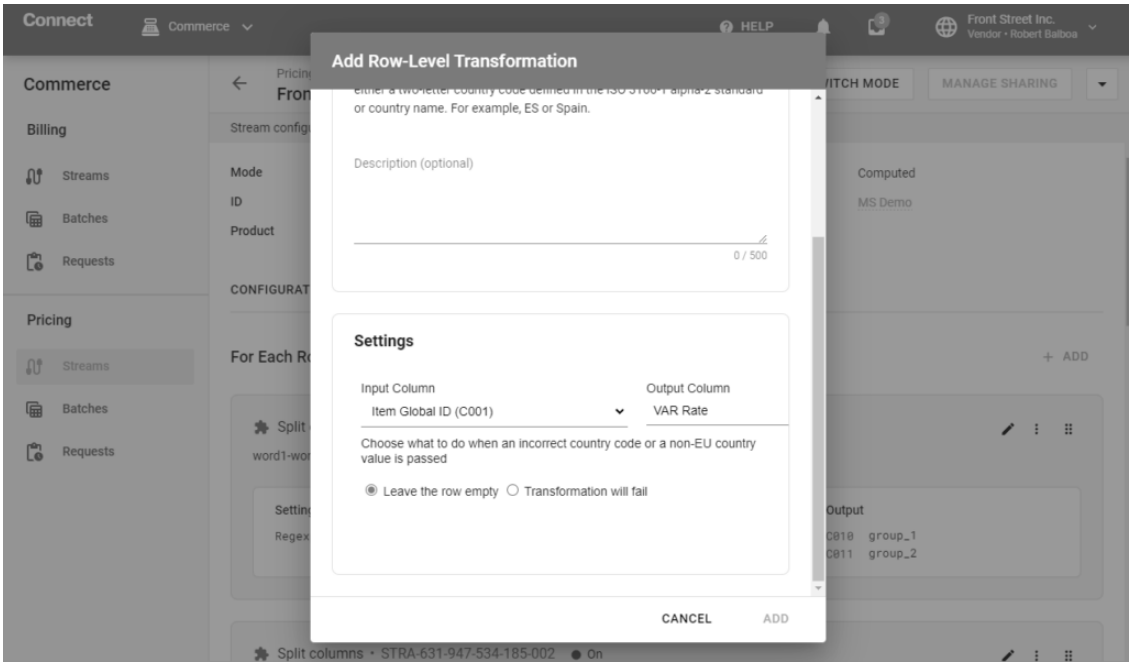
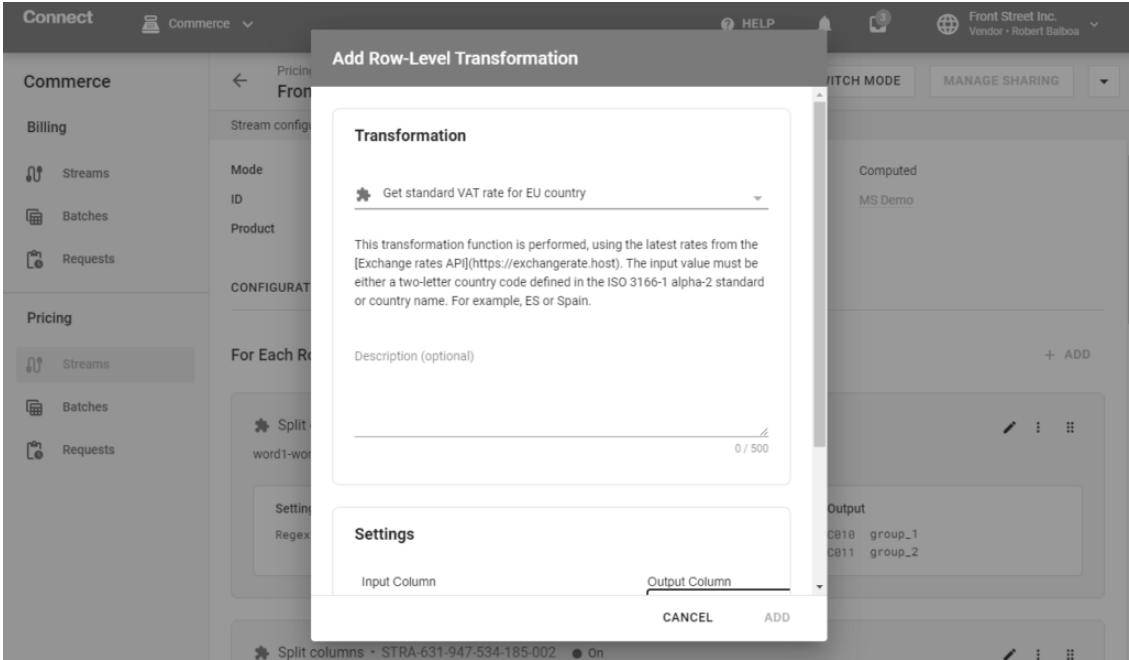
Lookup CloudBlue billing request data

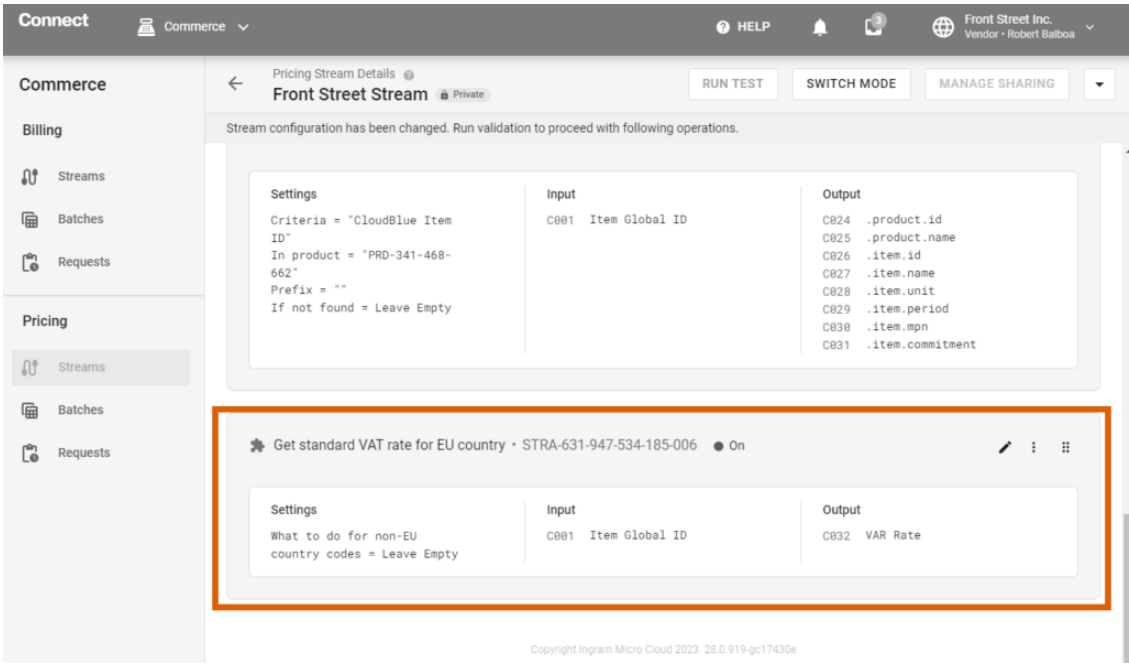
This transformation function allows you to get the CloudBlue billing request data by the subscription ID or parameter value:



Get standard VAT rate for EU country

This transformation function is performed using the latest rates from the *LINK* API. The input value must be either a two-letter country code defined in the ISO 3166-1 alpha-2 standard or country name. For example, ES or Spain.

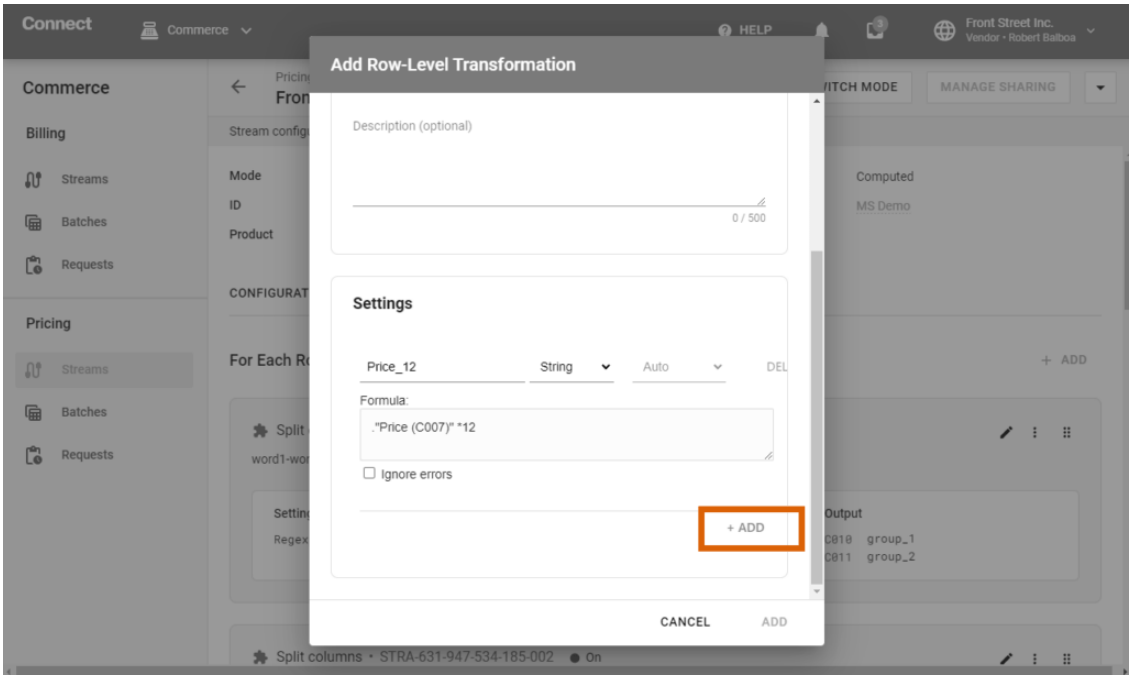
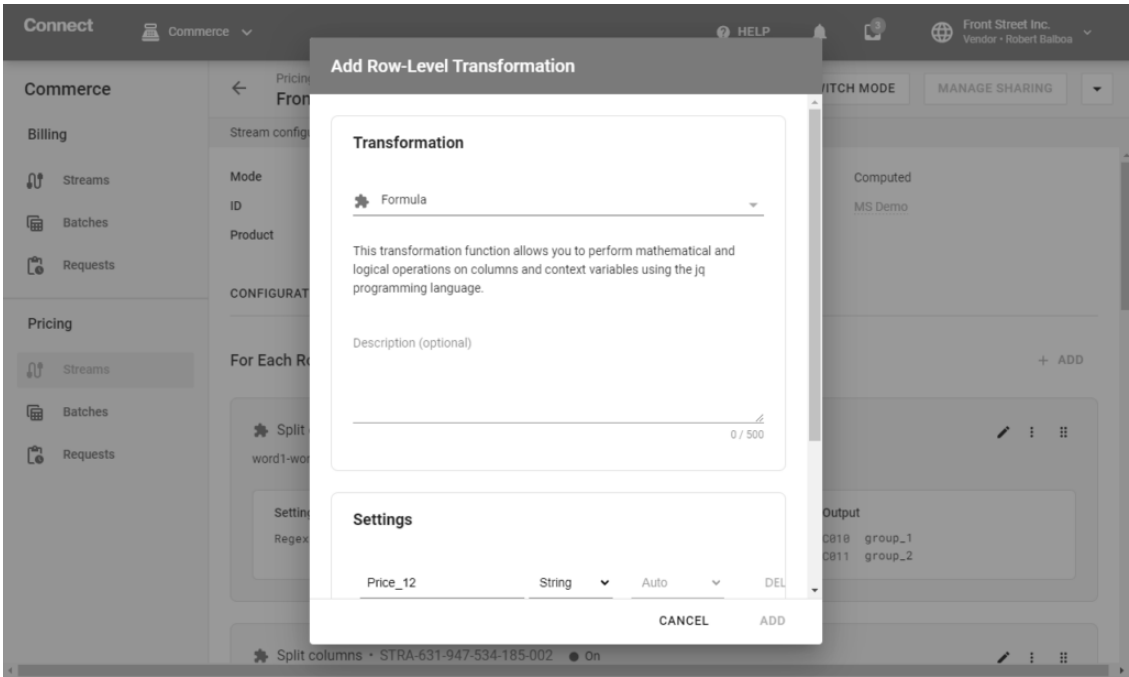


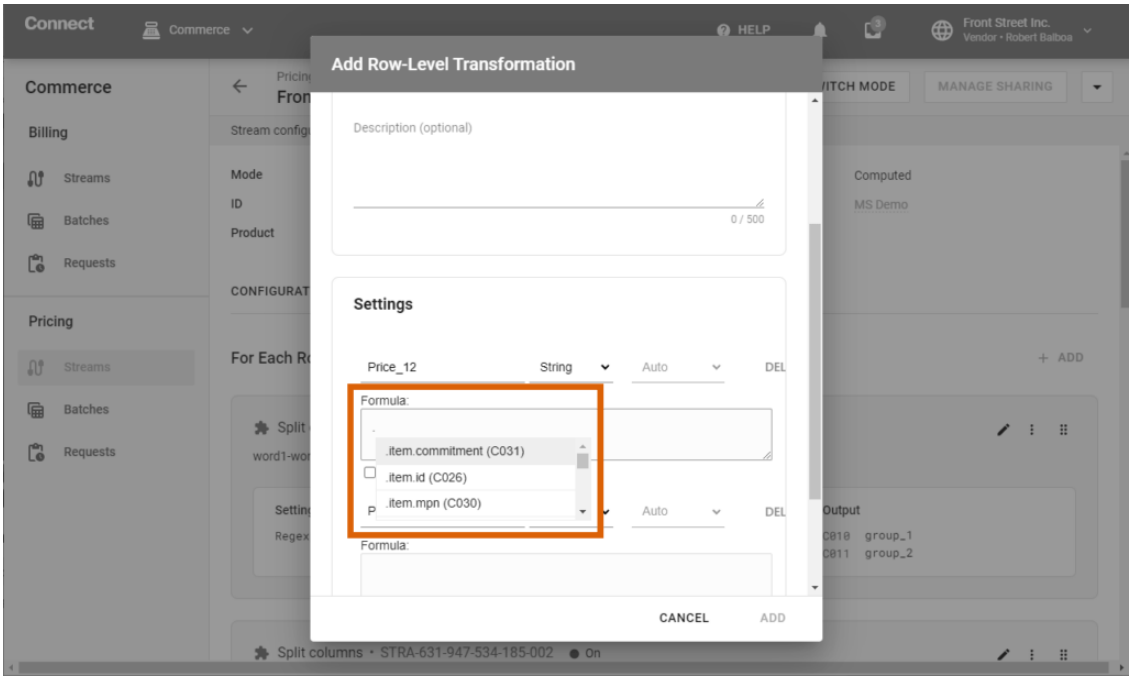
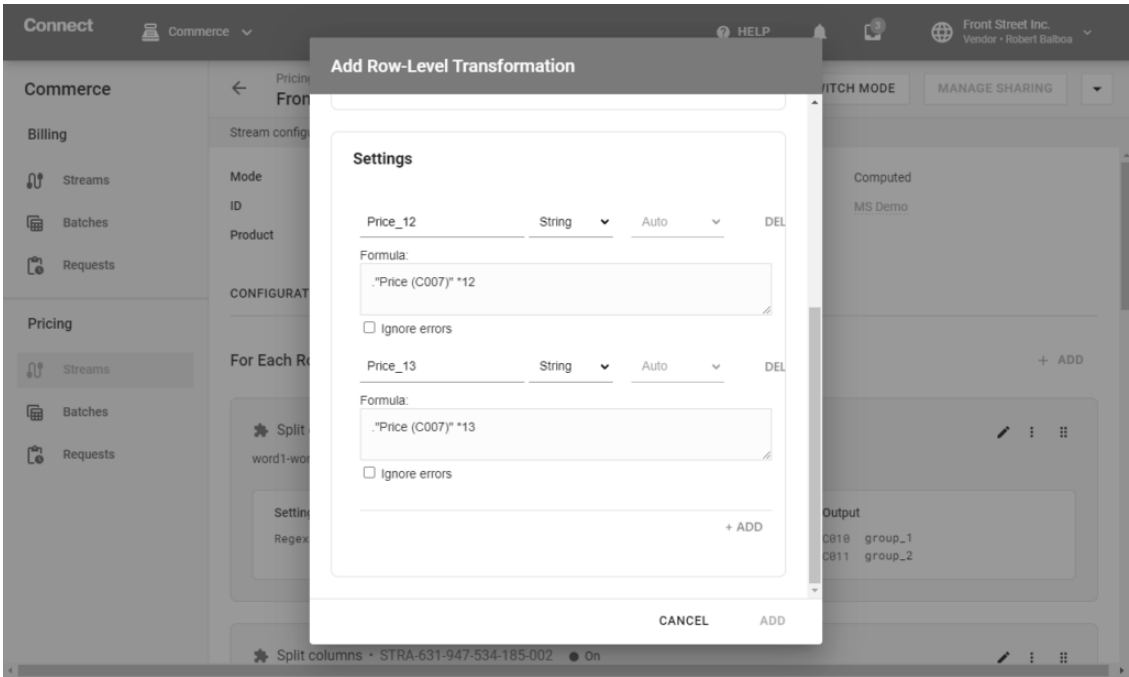


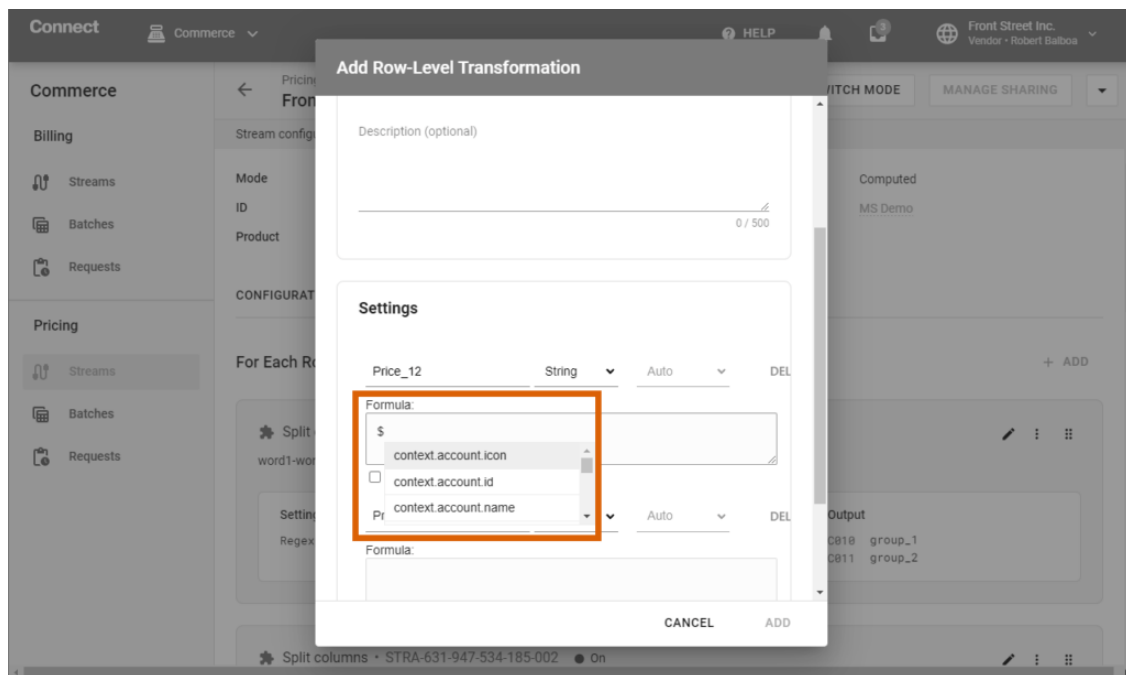
Formula

This transformation function allows you to perform mathematical and logical operations on columns and context variables using the jq programming language.

You can add several formulas to one transformation rule. For example, first, you may need to get price multiplied by 12 and then price multiplied by 13 – you can make this calculation using two different transformations or add both operations to one transformation.





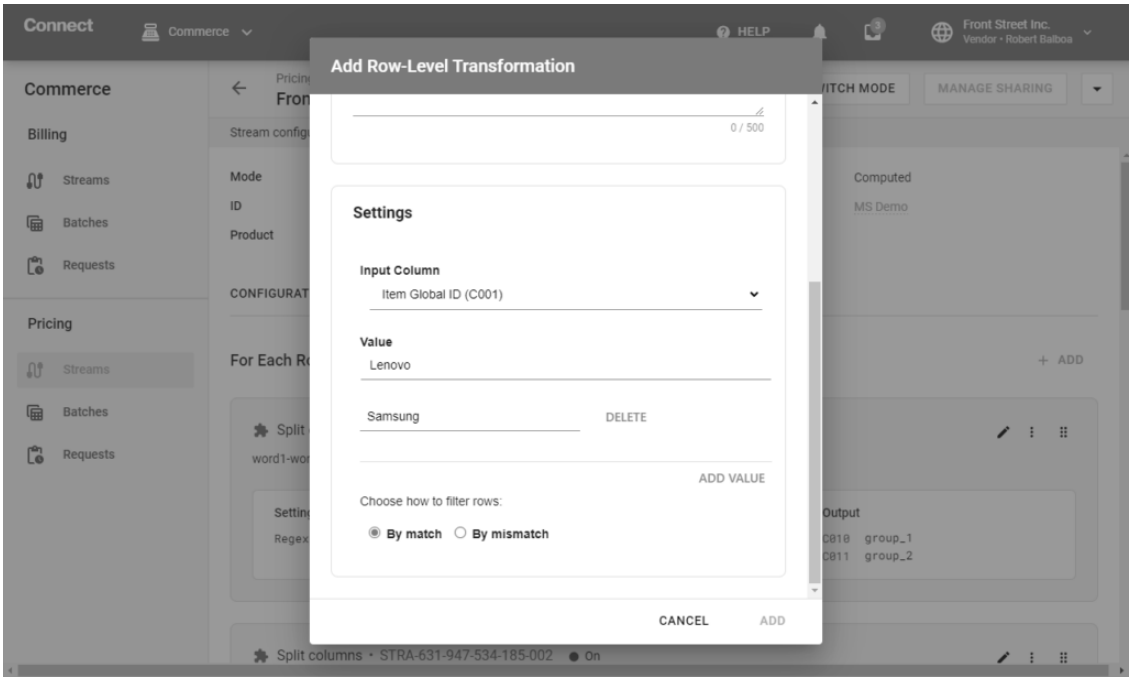
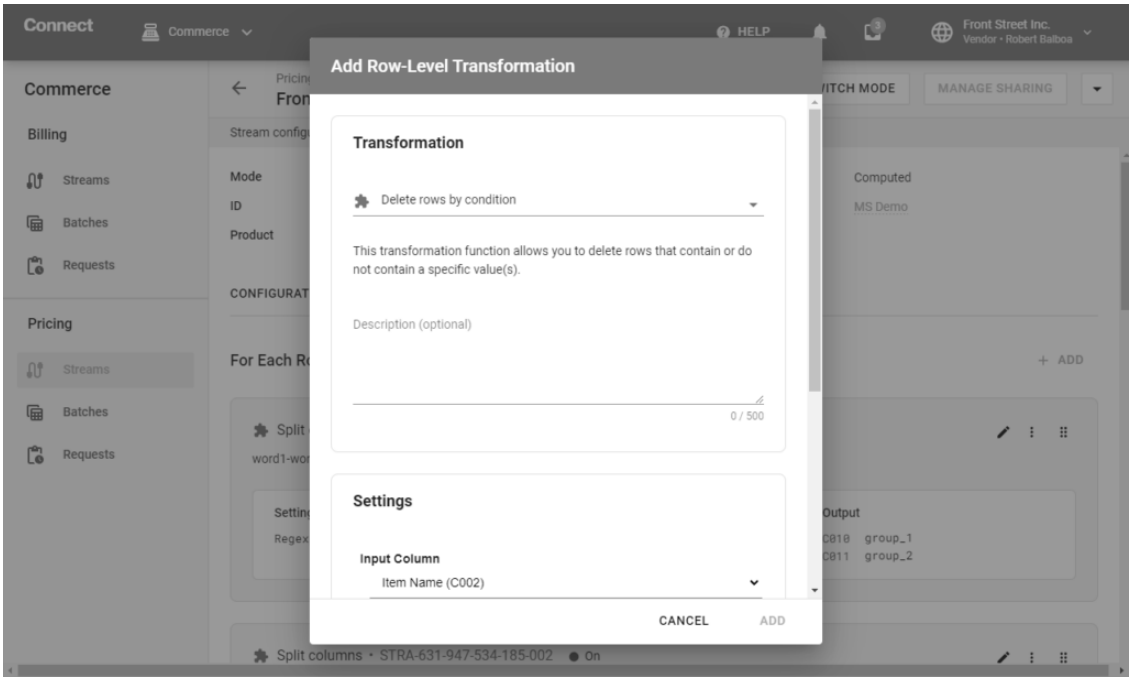


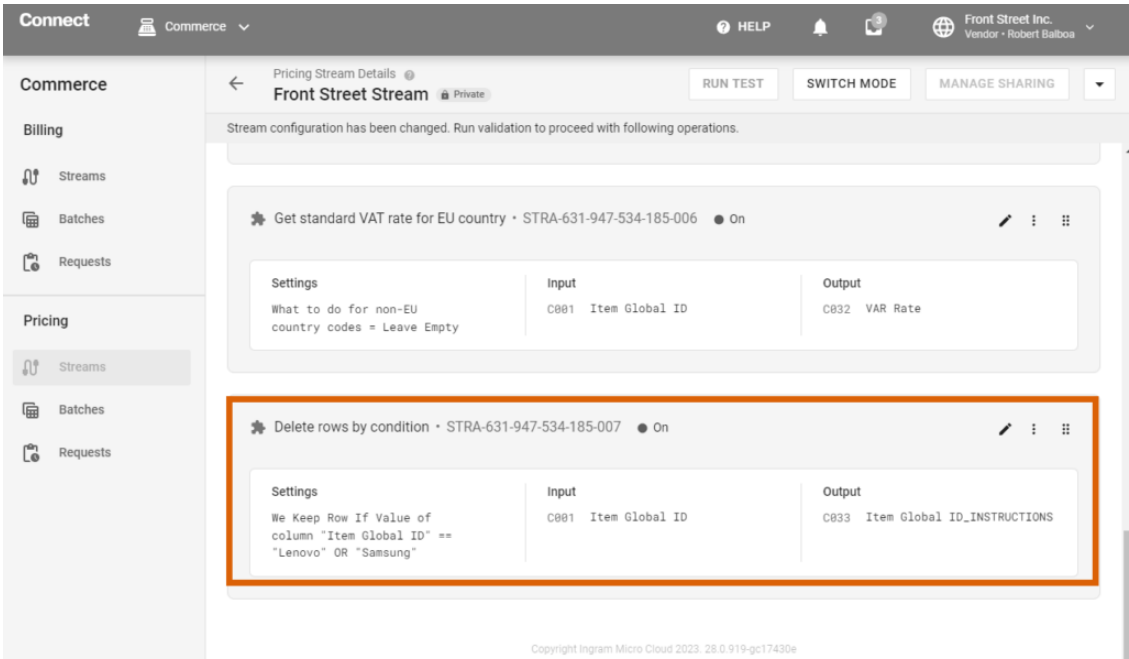
Information

When adding formula-based transformations, you can see the list of suggested columns by typing “.” and the list of context variables by typing the “\$” sign.

Delete rows by condition

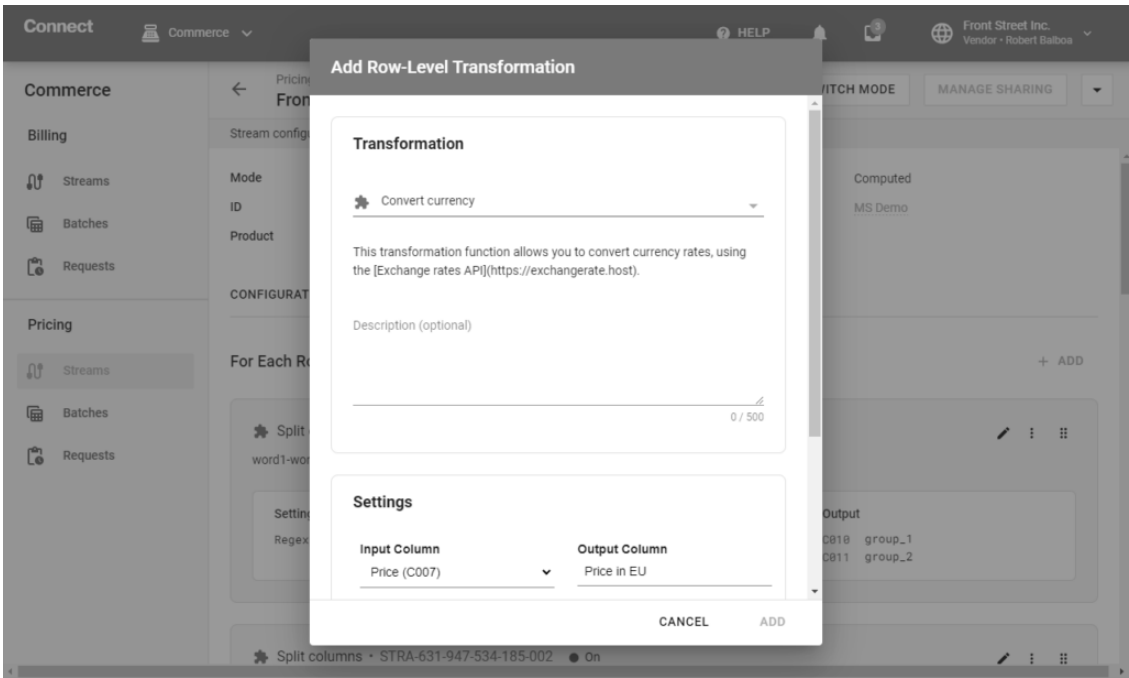
This transformation function allows you to delete rows that contain or do not contain a specific value or values. Rows can be filtered and removed by a value match or mismatch.

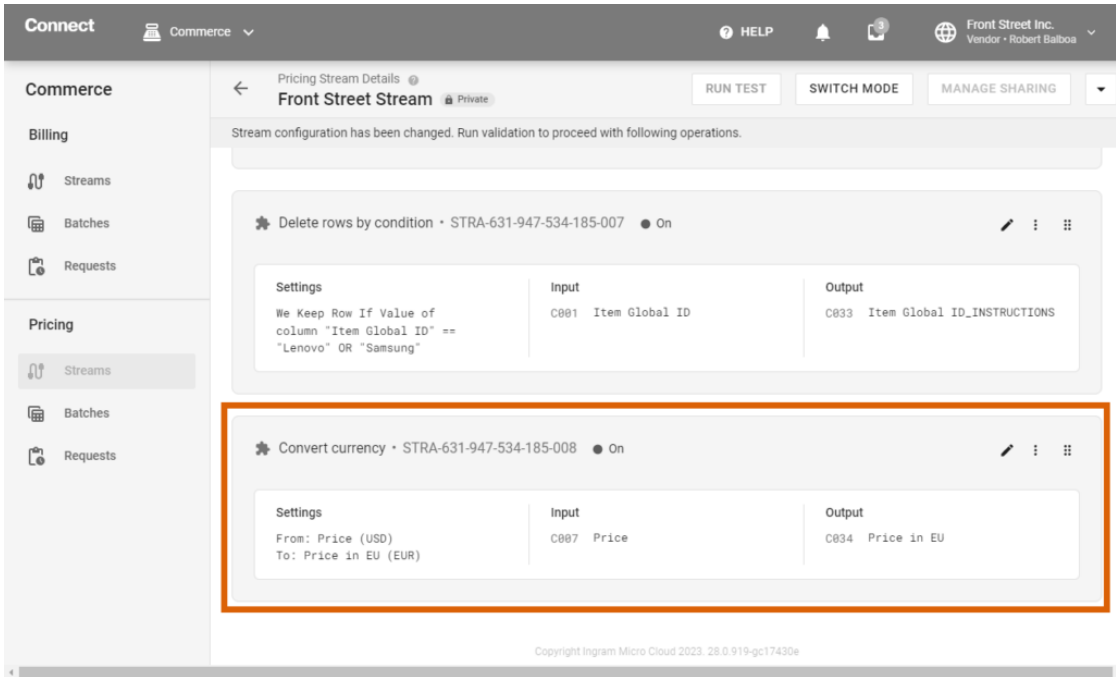
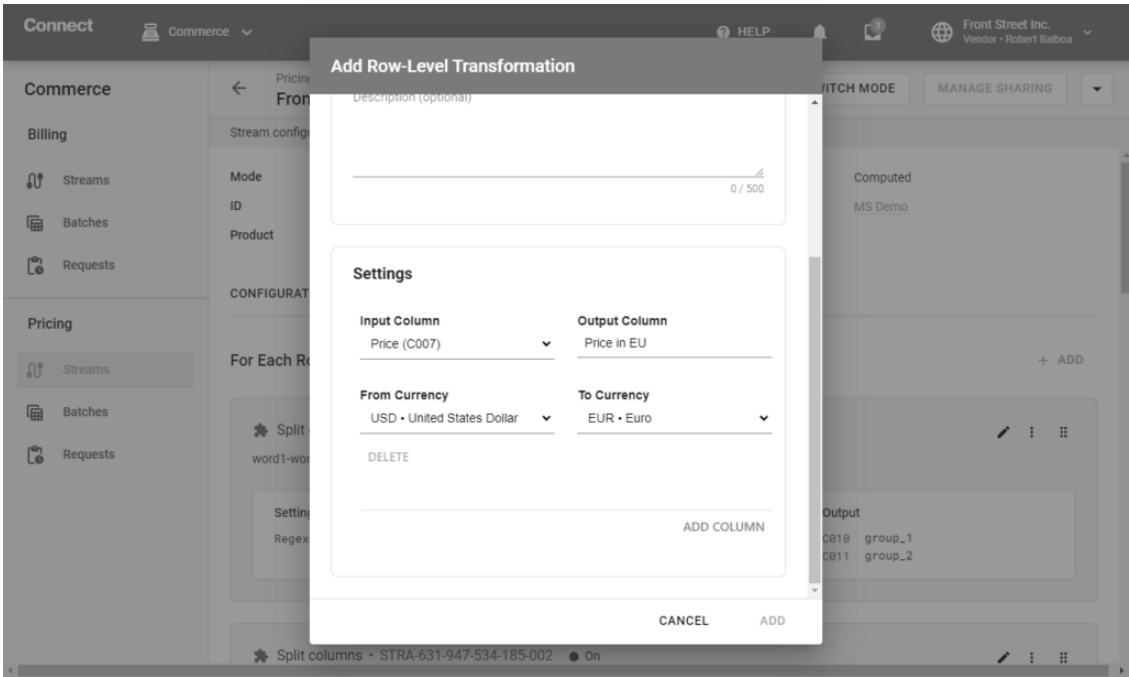




Convert currency

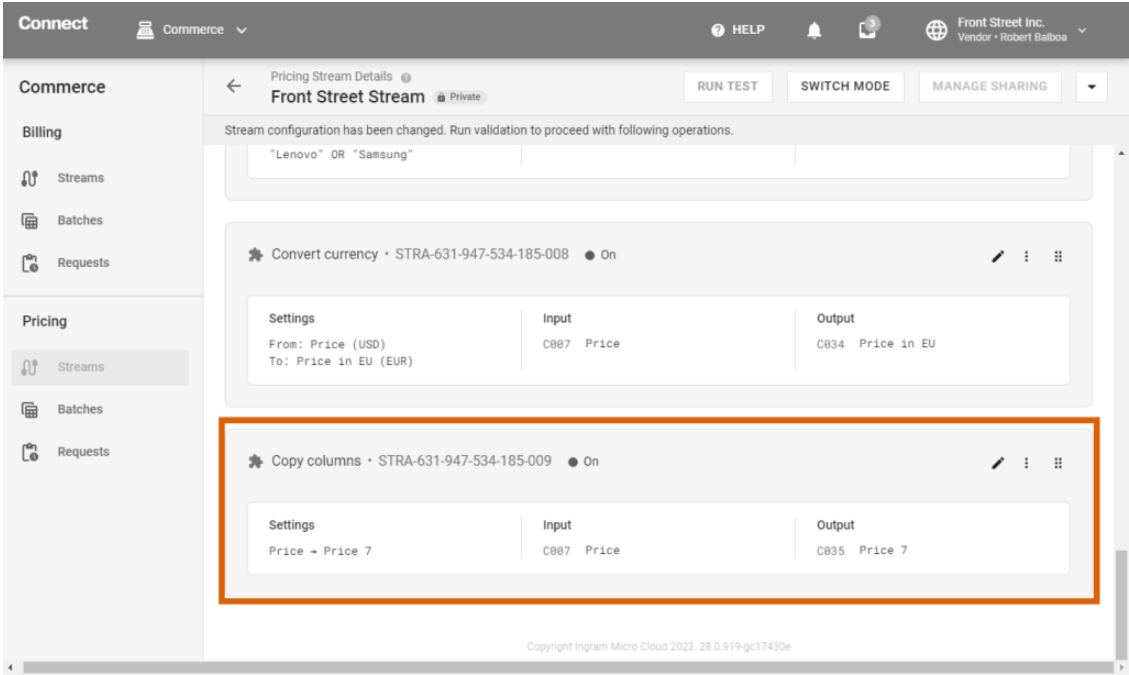
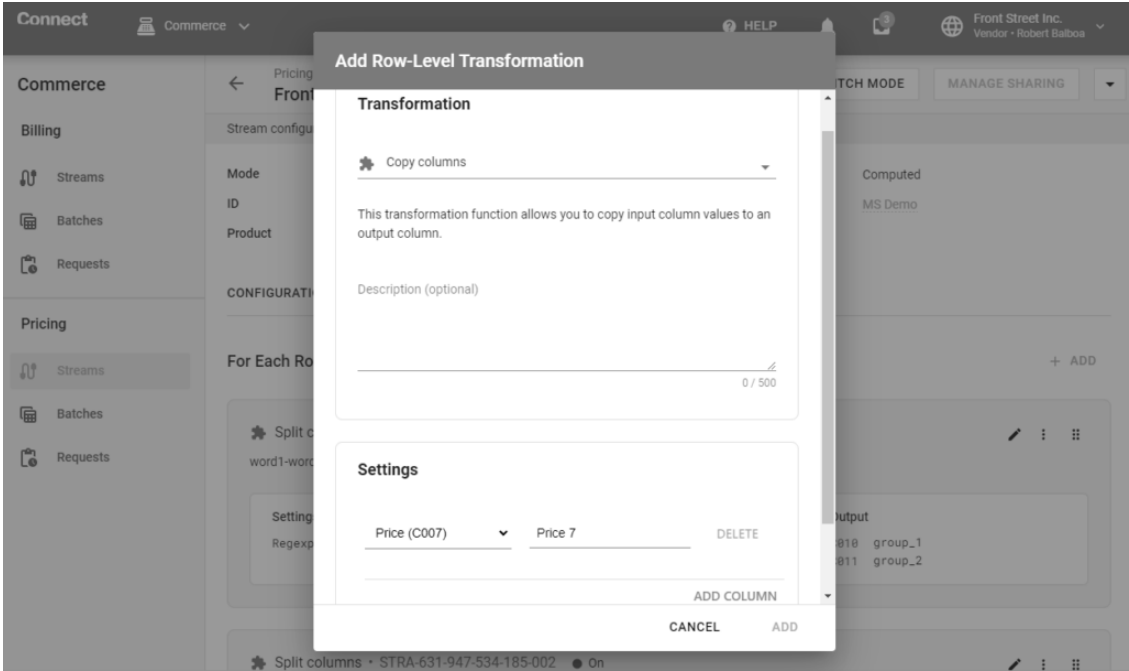
This transformation function allows you to convert currency rates using the `exchangerate.host` API.





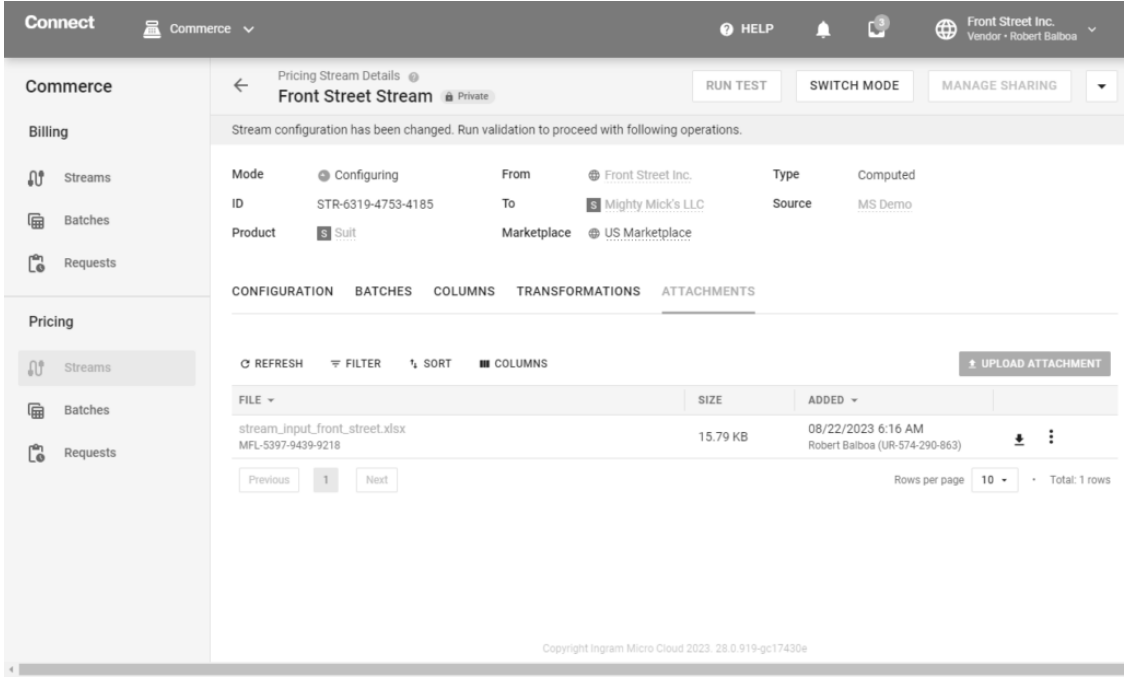
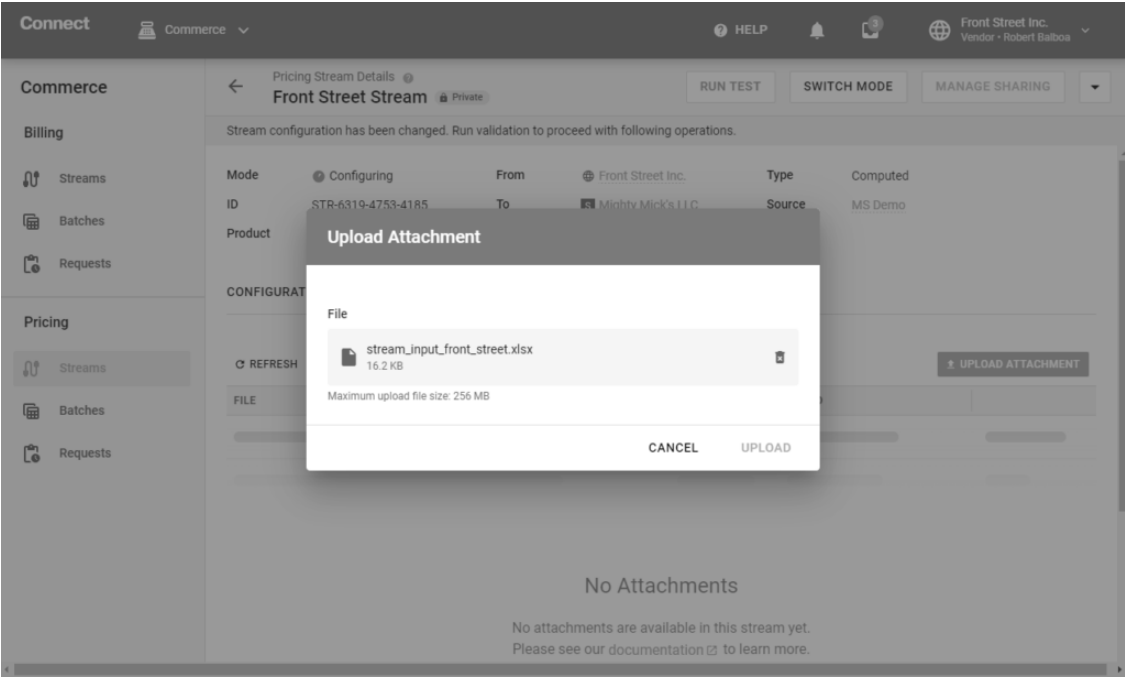
Copy columns

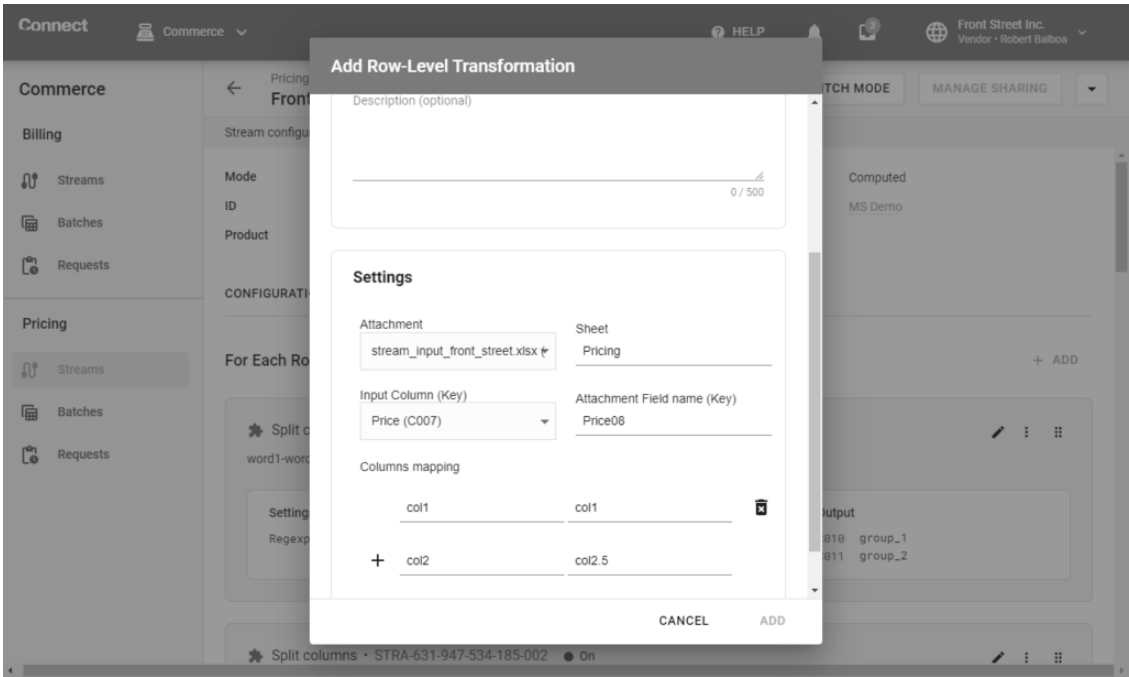
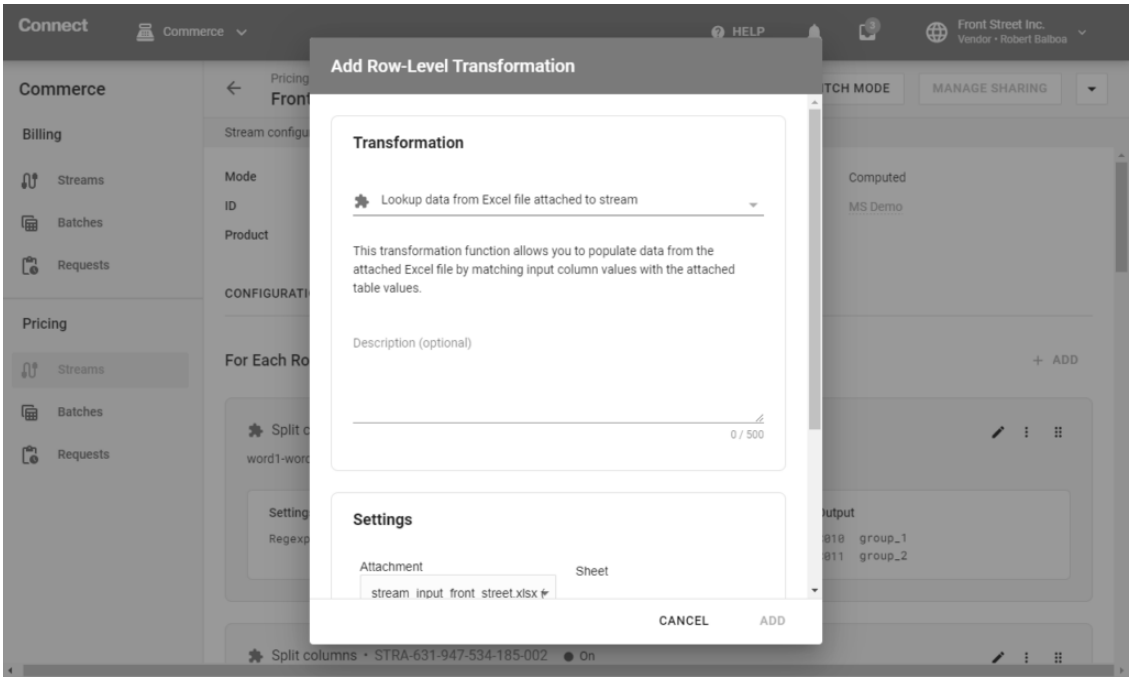
This transformation function allows you to copy input column values to an output column. You can use it to rename a column, for example, or create a copy of column values for another purpose.

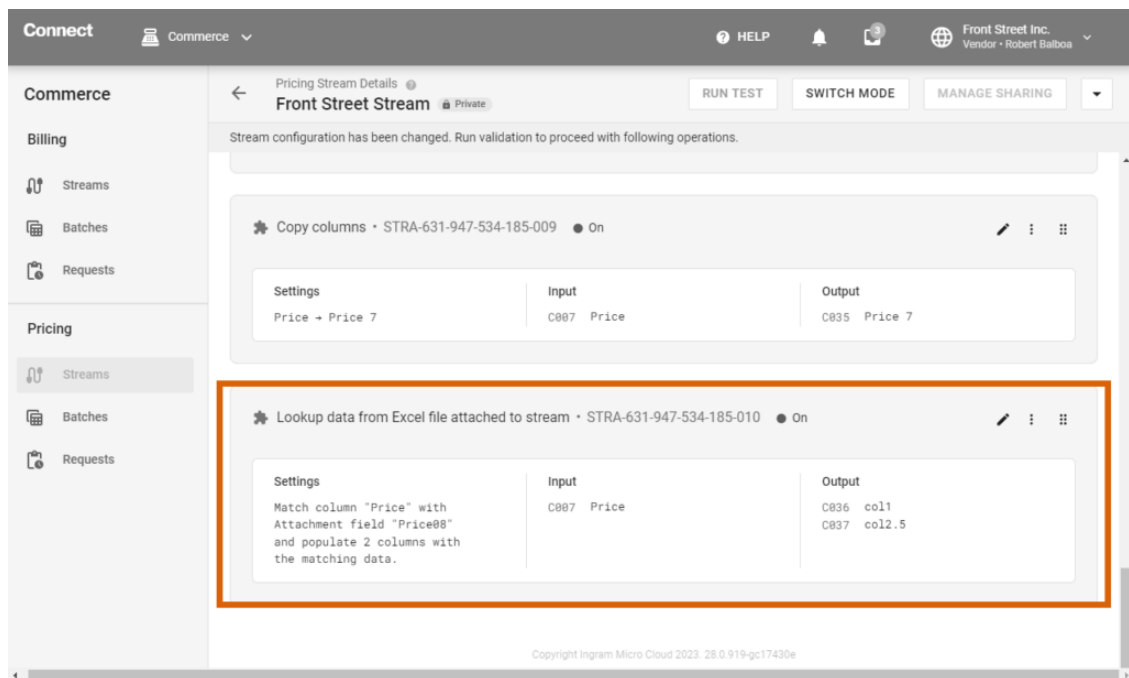


Lookup data from Excel file attached to stream

This transformation function allows you to populate data from the attached Excel file by matching column values between input and attached tables.





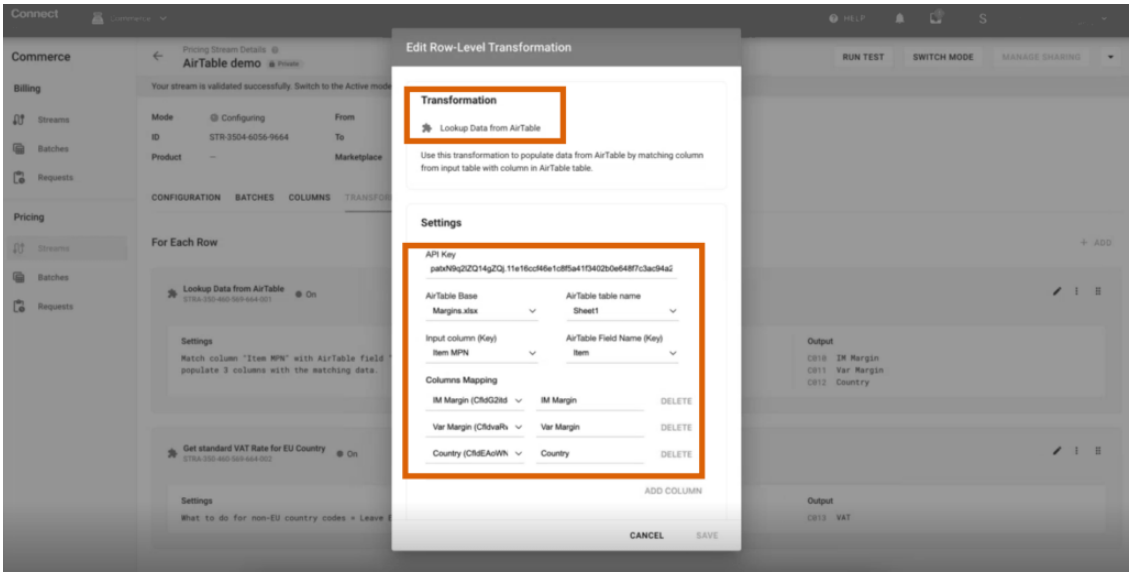
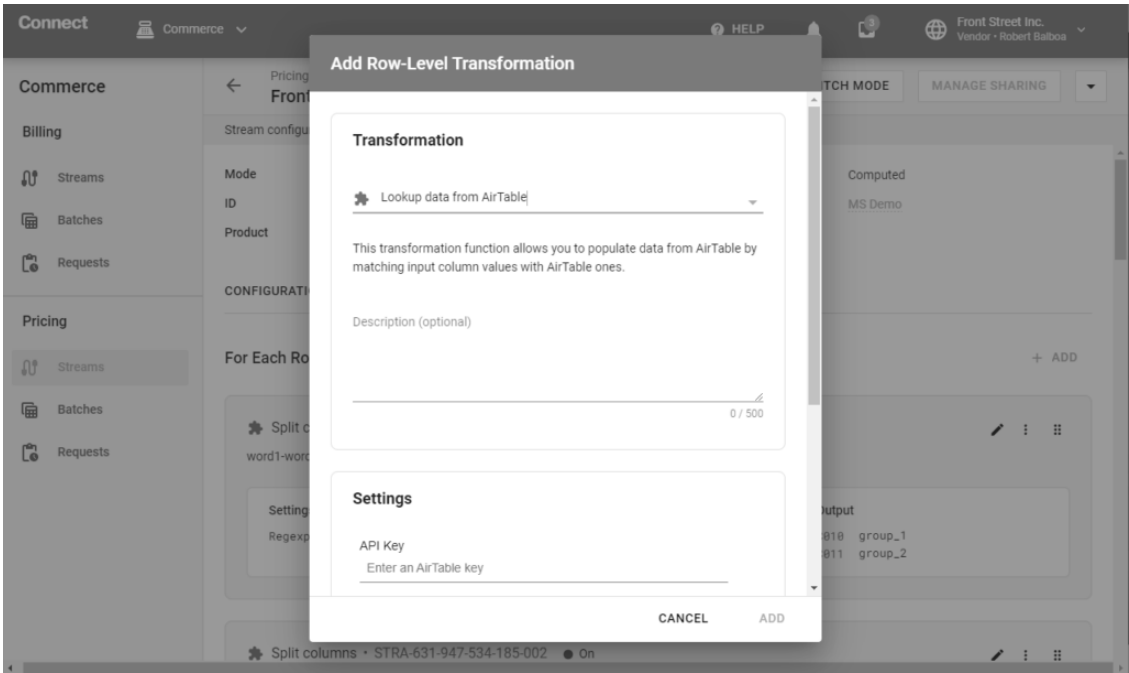


Lookup data from AirTable

This transformation function allows you to populate data from AirTable by matching input column values with AirTable table values.

You can store data in a central place using the **AirTable** cloud service and share this data between multiple streams and Marketplaces.

To add this transformation rule, you need to upload your Excel file to **AirTable**, create a token in **Personal access tokens** of the **Developers** hub, and when creating a new row-level transformation, choose **Lookup data from AirTable** in the drop-down list:

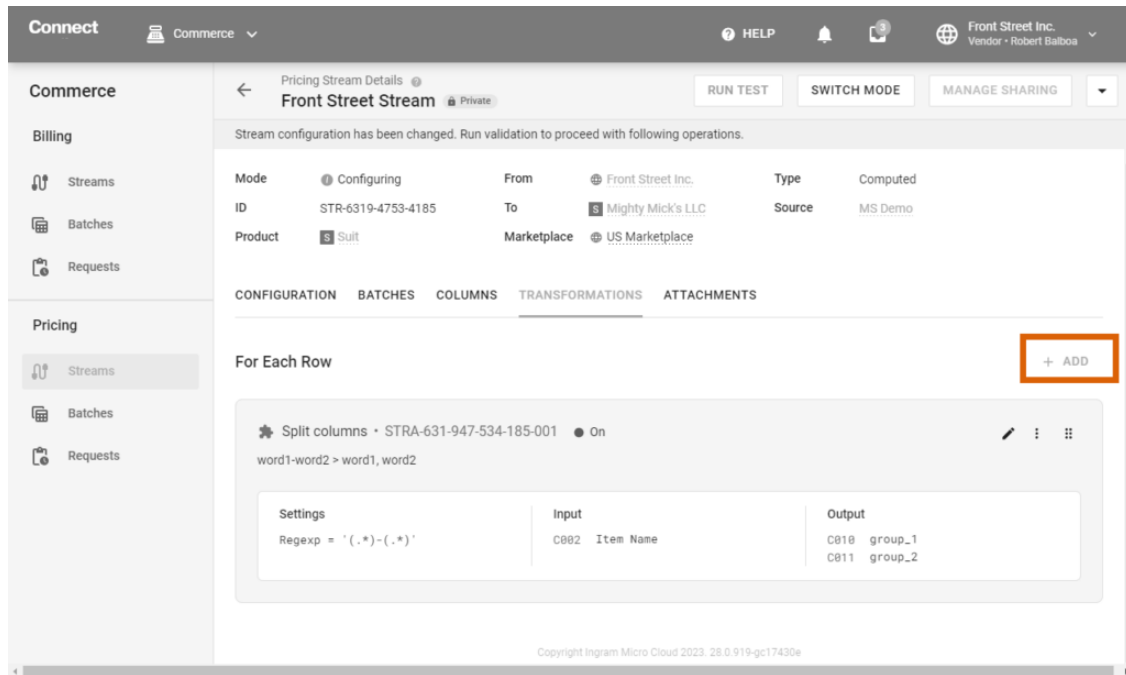


You then need to insert the copied token into API key and map columns and sheets between your stream Excel file and the Airtable one.

Defining Transformation Rules

Transformation rules can be applied to your data streams in order to define the expected output for associated batches.

The system allows you to define transformation rules for your streams in the following way:



Access the **Transformation** tab from the corresponding *Stream Details* screen. Click the **Add** button to create a new transformation rule.

Next, select transformation type by using the corresponding field in the drop-down list, fill in all mandatory fields, and click **Save**. You can add more transformation rules by clicking on the **Add** button above your rule on the right side.

Once your transformation rules are defined successfully, continue with your stream configuration or publication as described in the Commerce User Interface article.

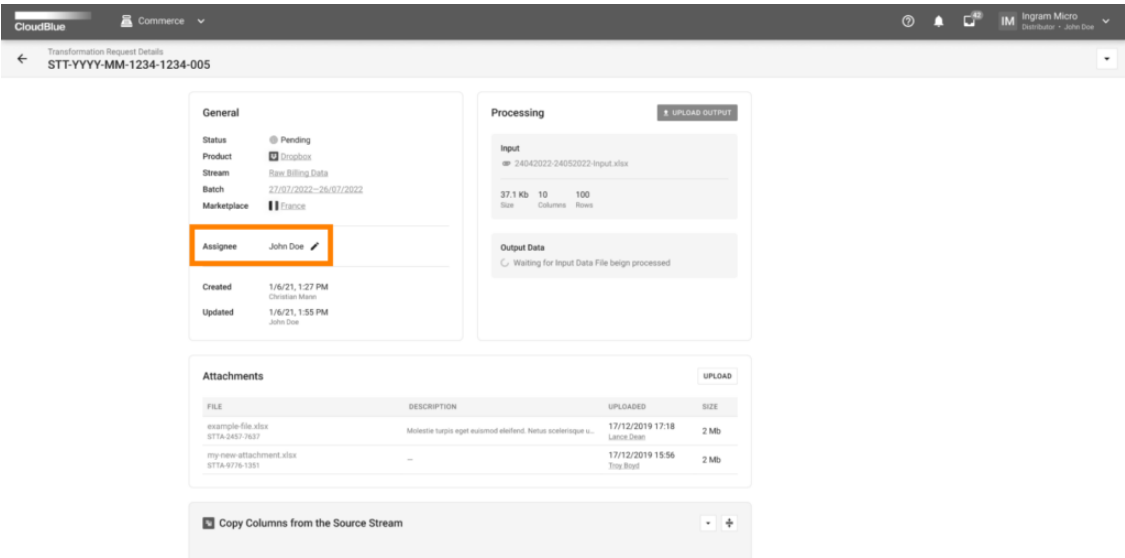
Transformation Requests

You can update transformation data for your batch using transformation requests. Go to the Commerce module and choose **Requests** in the left navigation menu, then click the link of the transformation request you need to update. In **Requests**, you can perform the following operations:

Transformation Requests									
Default REFRESH FILTER Sort COLUMNS SEARCH									
REQUEST	PRODUCT	STREAM	BATCH	TRANSFORMATION	MARKETPLACE	ASSIGNEE	STATUS		
ST-YYYY-MM-1234-1234-005 21/08/2023 03:00	Dropbox Business PRD-594-246-497	Raw Billing Data BST2807-9382-3206	27/07/2022-26/07/2022 BB-YYYY-MM-DD-7327-5556	Copy Columns from th... TR-2834-3006	France MP-63989	Conrad Wolff Sr. USR-6519-2889	Scheduled		
ST-YYYY-MM-1234-1234-005 21/08/2023 08:00	Microsoft Office... PRD-128-538-281	Raw Billing Data BST2807-9382-3206	14/07/2022-14/07/2022 BB-YYYY-MM-DD-4571-1117	Split by Delimiter TR-8225-9148	Germany MP-19560	Brad Corwin USR-1100-6948	Failed		
ST-YYYY-MM-1234-1234-004 21/08/2023 10:00	Dropbox Business PRD-594-246-497	Lacinia et fringilla BST2801-6770-6389	10/07/2022-10/07/2022 BB-YYYY-MM-DD-9536-7512	Copy Columns from th... TR-2494-3084	Italy MP-51453	Linda Kulas DVM USR-4904-7553	Pending		
ST-YYYY-MM-1234-1234-003 21/08/2023 11:00	Dropbox Business PRD-594-246-497	Aliquam vehicula eget BST5066-3911-6370	17/07/2022-05/08/2022 BB-YYYY-MM-DD-9823-5776	Enrich Billing Stream... TR-1548-9671	Norway MP-49088	Heidi Veum USR-1535-9083	Completed		
ST-YYYY-MM-1234-1234-004 21/08/2023 13:00	Microsoft Office... PRD-128-538-281	Nec cursus imperdiet BST1407-7770-7462	16/07/2022-18/07/2022 BB-YYYY-MM-DD-7996-4800	Split by Delimiter TR-8149-2270	United States MP-73187	Mr. Anita Moen USR-1486-5234	Completed		
ST-YYYY-MM-1234-1234-003 21/08/2023 19:00	Microsoft Office... PRD-128-538-281	Pulvinar ultricies turpis BST2020-3976-1202	23/07/2022-03/08/2022 BB-YYYY-MM-DD-8690-6208	Copy System Column TR-6531-3660	United Kingdom MP-70857	Heidi Stokes USR-1586-1784	Completed		
ST-YYYY-MM-1234-1234-002 21/08/2023 23:00	Microsoft Office... PRD-128-538-281	Proin massa nam BST9109-4300-8847	11/07/2022-26/07/2022 BB-YYYY-MM-DD-5175-5460	Split by Delimiter TR-4271-3280	Russian Federation MP-67734	Arlene Fay USR-4005-3830	Completed		
ST-YYYY-MM-1234-1234-001 21/08/2023 22:00	Microsoft Office... PRD-128-538-281	Sit elementum lectus BST1288-9203-2737	21/07/2022-28/07/2022 BB-YYYY-MM-DD-4598-1542	Enrich Billing Stream... TR-2382-6153	Canada MP-37251	Harriet Harvey IV USR-9236-2156	Completed		
ST-YYYY-MM-1234-1234-002 21/08/2023 22:00	Dropbox Business PRD-594-246-497	Dui netus faucibus BST1288-9203-2737	12/07/2022-06/08/2022 BB-YYYY-MM-DD-5404-2389	Copy System Column TR-6123-7176	Spain MP-97531	Alyssa Rowe USR-1960-8260	Completed		
ST-YYYY-MM-1234-1234-001 21/08/2023 13:00	Dropbox Business PRD-594-246-497	Voluptat, sit lorem BST4088-7236-1215	06/08/2022-08/08/2022 BB-YYYY-MM-DD-9737-9251	Enrich Billing Stream... TR-3087-7782	Kazakhstan MP-79246	Diane Runolfsson USR-3508-4490	Completed		

Transformation Request Details									
ST-YYYY-MM-1234-1234-005									
<div> <div> <div>General</div> <div> <div>Status</div> <div>Product</div> <div>Stream</div> <div>Batch</div> <div>Marketplace</div> </div> <div> <div>Assignee</div> <div>Created</div> <div>Updated</div> </div> </div> <div> <div>Processing</div> <div> <div>Input</div> <div>Output Data</div> </div> </div> <div> <div>Attachments</div> <div> <div>Copy Columns from the Source Stream</div> </div> </div> </div>									
<div> <div> <div>General</div> <div> <div>Status</div> <div>Product</div> <div>Stream</div> <div>Batch</div> <div>Marketplace</div> </div> <div> <div>Assignee</div> <div>Created</div> <div>Updated</div> </div> </div> <div> <div>Processing</div> <div> <div>Input</div> <div>Output Data</div> </div> </div> <div> <div>Attachments</div> <div> <div>Copy Columns from the Source Stream</div> </div> </div> </div>									

Transformation Request Details									
ST-YYYY-MM-1234-1234-005									
<div> <div> <div>General</div> <div> <div>Status</div> <div>Product</div> <div>Stream</div> <div>Batch</div> <div>Marketplace</div> </div> <div> <div>Assignee</div> <div>Created</div> <div>Updated</div> </div> </div> <div> <div>Processing</div> <div> <div>Input</div> <div>Output Data</div> </div> </div> <div> <div>Attachments</div> <div> <div>Copy Columns from the Source Stream</div> </div> </div> </div>									
<div> <div> <div>General</div> <div> <div>Status</div> <div>Product</div> <div>Stream</div> <div>Batch</div> <div>Marketplace</div> </div> <div> <div>Assignee</div> <div>Created</div> <div>Updated</div> </div> </div> <div> <div>Processing</div> <div> <div>Input</div> <div>Output Data</div> </div> </div> <div> <div>Attachments</div> <div> <div>Copy Columns from the Source Stream</div> </div> </div> </div>									



Transformation Request Details
STT-YYYY-MM-1234-1234-005

General

Status: Pending
Product: Dropbox
Stream: Raw Billing Data
Batch: 27/07/2022-26/07/2022
Marketplace: Trace

Assignee: John Doe (edit icon)

Created: 1/6/21, 1:27 PM
Updated: 1/6/21, 1:55 PM

Processing UPLOAD OUTPUT

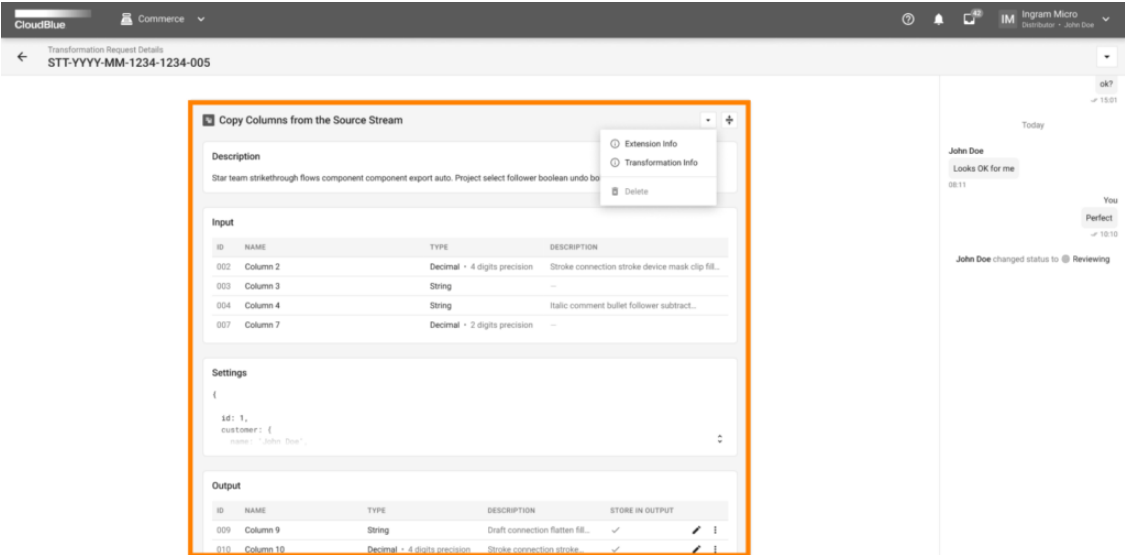
Input
24042022-24052022-input.xlsx
37.1 Kb | 10 Columns | 100 Rows

Output Data
Waiting for Input Data File begin processed

Attachments UPLOAD

FILE	DESCRIPTION	UPLOADED	SIZE
example file.xlsx STTA-2407-2407	Milestone turpis eget aut sed. Nunc scelerisque u...	17/12/2019 17:18 Lance.Doe	2 Mb
my new attachment.xlsx STTA-07/6-1301	—	17/12/2019 15:56 Troy.Bird	2 Mb

Copy Columns from the Source Stream +



Copy Columns from the Source Stream +

Description
Star team strikethrough flows component component export auto. Project select follower boolean undo bold italic font edit font.

Input

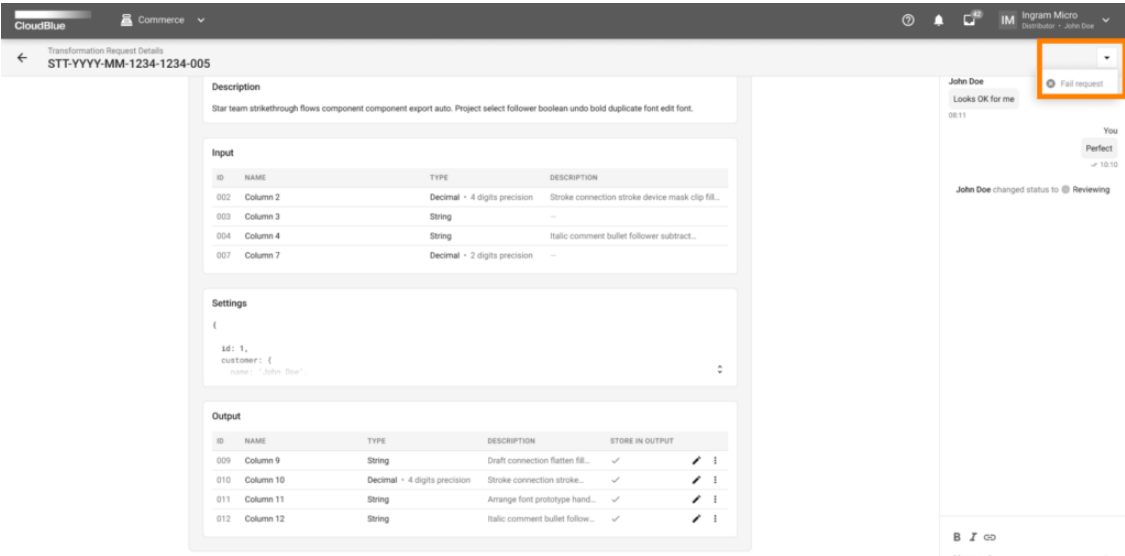
ID	NAME	TYPE	DESCRIPTION
002	Column 2	Decimal - 4 digits precision	Stroke connection stroke device mask clip fill...
003	Column 3	String	—
004	Column 4	String	Italic comment bullet follower subtract...
007	Column 7	Decimal - 2 digits precision	—

Settings

```
{
  id: 1,
  customer: {
    name: "John Doe"
  }
}
```

Output

ID	NAME	TYPE	DESCRIPTION	STORE IN OUTPUT
009	Column 9	String	Draft connection flatten fill...	✓
010	Column 10	Decimal - 4 digits precision	Stroke connection stroke...	✓



Transformation Request Details
STT-YYYY-MM-1234-1234-005

Description
Star team strikethrough flows component component export auto. Project select follower boolean undo bold italic font edit font.

Input

ID	NAME	TYPE	DESCRIPTION
002	Column 2	Decimal - 4 digits precision	Stroke connection stroke device mask clip fill...
003	Column 3	String	—
004	Column 4	String	Italic comment bullet follower subtract...
007	Column 7	Decimal - 2 digits precision	—

Settings

```
{
  id: 1,
  customer: {
    name: "John Doe"
  }
}
```

Output

ID	NAME	TYPE	DESCRIPTION	STORE IN OUTPUT
009	Column 9	String	Draft connection flatten fill...	✓
010	Column 10	Decimal - 4 digits precision	Stroke connection stroke...	✓
011	Column 11	String	Arrange font prototype hand...	✓
012	Column 12	String	Italic comment bullet follow...	✓

Full request

John Doe
Looks OK for me
08:11

You
Perfect
10:10

John Doe changed status to **Reviewing**

- Upload the required output data for your transformation by using the corresponding **Upload Output** button. The system

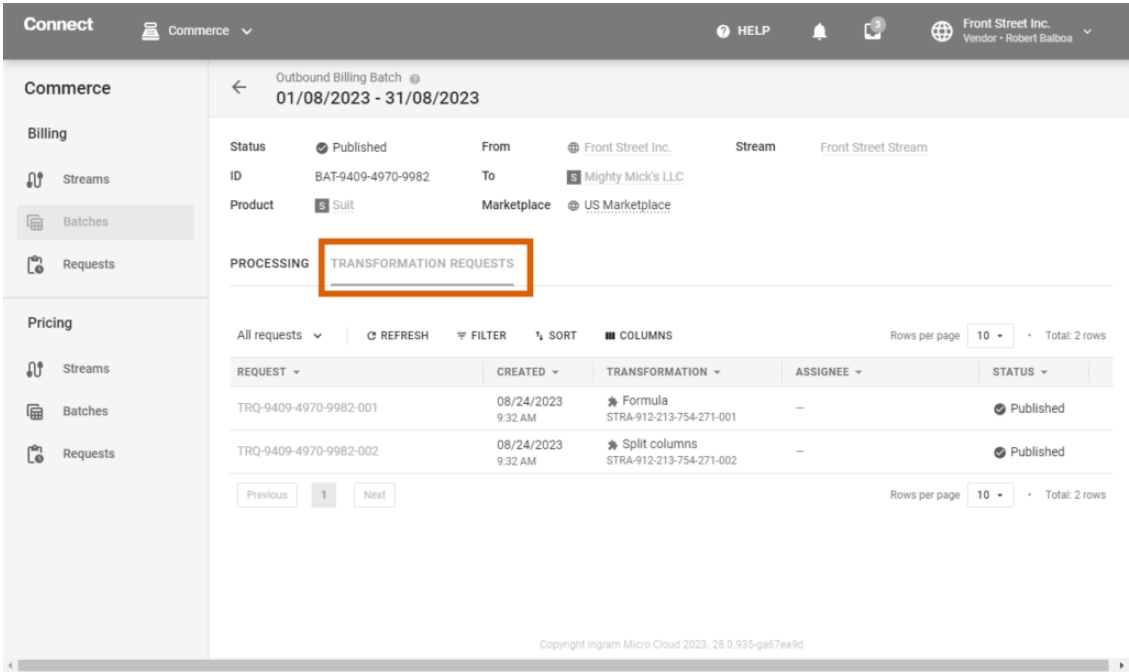
allows previewing both input and output data.

- Switch the *assignee* for the transformation operation by clicking the pencil icon and changing the assignee of the request.
- Abort your transformation request, using the arrow (▼) icon at the top-right corner of the screen and clicking **Fail request**.

Filling out all transformation data is required to successfully complete and publish your batches. Continue with your batch configuration or publication as described in the Commerce User Interface article.

Batch Details Transformation

You can also work with transformation rules by accessing the **Transformation requests** tab of a selected batch:



This provides interface that is similar to the transformation data management introduced within the transformation requests.