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Documentation Modules Streams

Streams Module Interface

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The Streams module allows you to automate and transform table data (such as Excel tables) associated with a specific marketplace, product, and business partner, and pass this data using *streams* from the Vendor to Distributor accounts on the CloudBlue Connect platform.

> Note
>
> The system requires to deploy and install your extensions for the Streams module in order to successfully perform the described operations. For more information on how to create and manage your extensions on Connect, refer to the DevOps module documentation.

Billing Streams

The Streams module allows you to create billing streams that are used to quickly and easily initiate the billing flow in your supply chain. Such streams are also used to organize your incoming billing batches and configure associated products, marketplaces, and attributes for your billing flow.

Streams created and configured by your organization are available on the *Outbound* tab while streams generated by your business partners can be found on the *Inbound* tab. Note that inbound streams are not available for Vendor accounts as all data streams generally start with Vendor operations.

> Information
>
> Stream and batch management is not yet available for Resellers and syndication scenarios.

New Stream Creation

Access the *Outbound* tab to start creating a new stream object. Specifically, click the **Create Stream** button at the top-right corner and use the following form:

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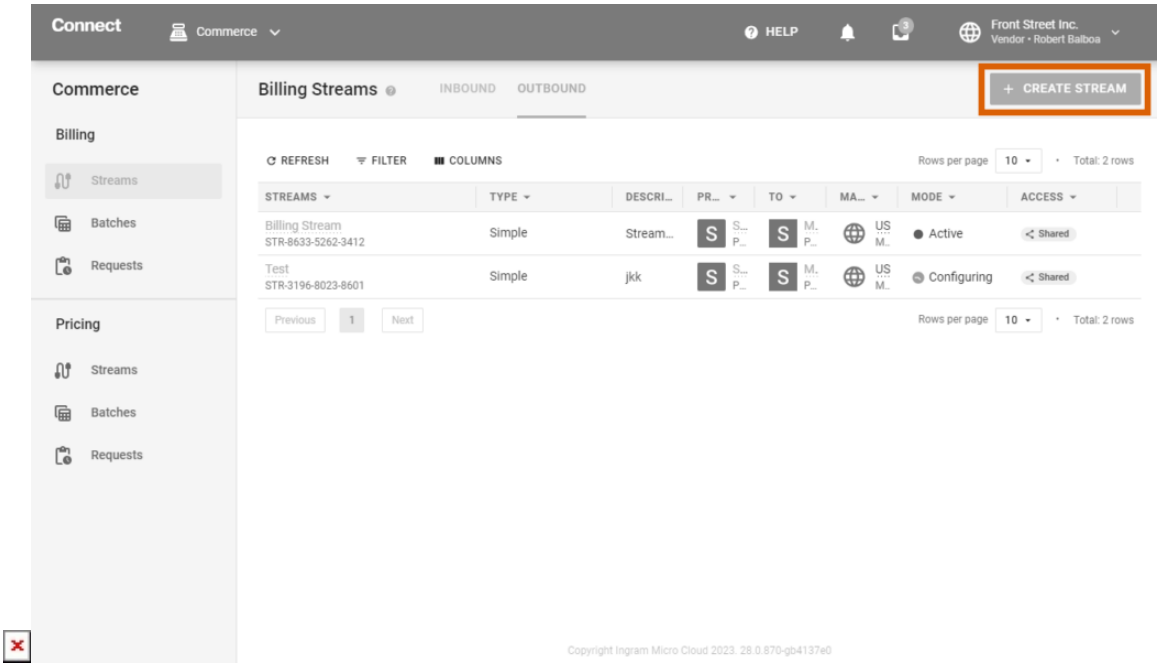

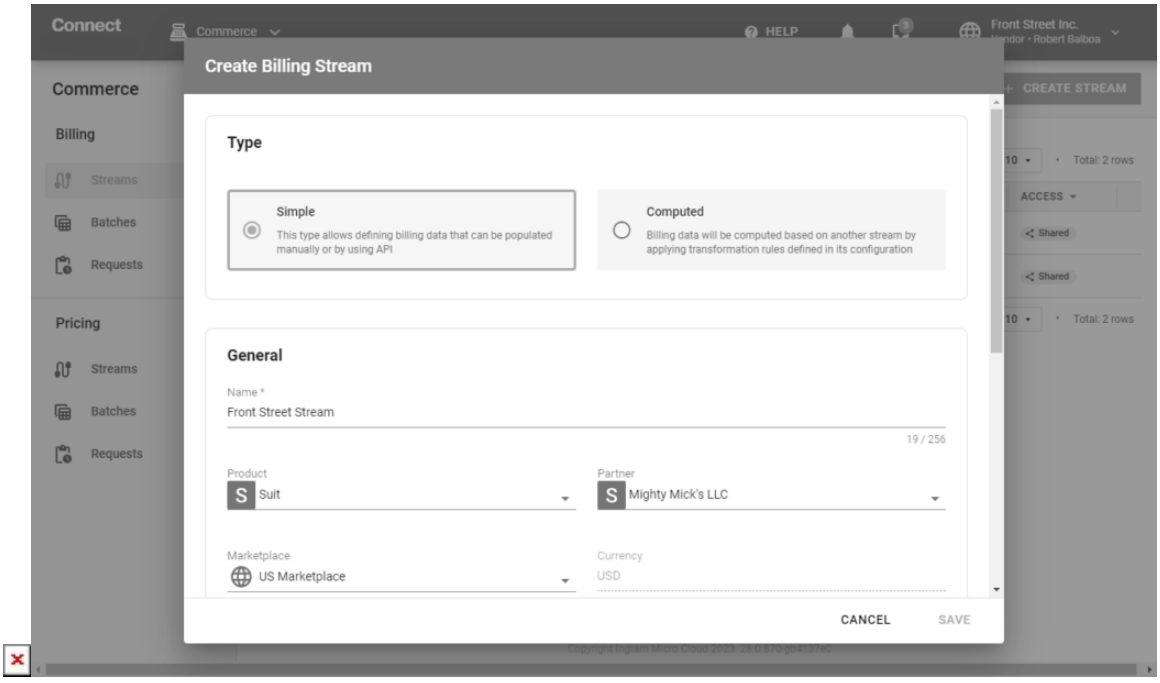

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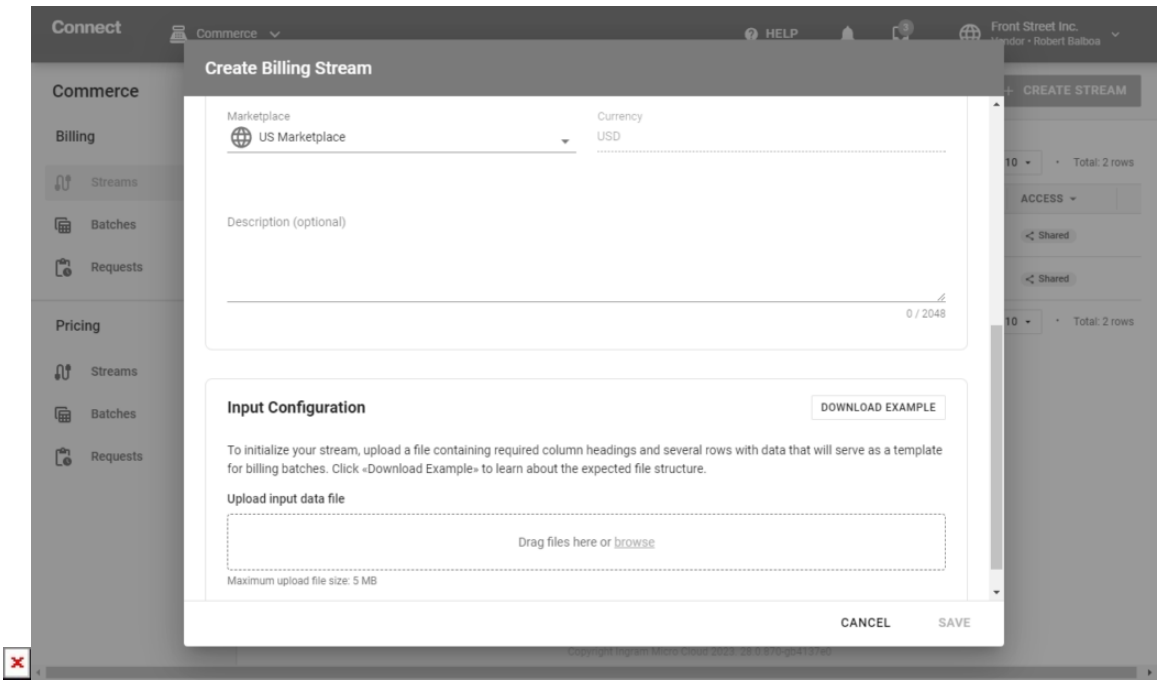

- **Type**: Select either *simple* or *computed* stream type. Simple streams allow uploading files for the subsequent *input configuration*, while computed streams require to select an existing stream object. For more information on simple and computed streams, refer to the Key Concepts & Terminology article.
- **Name**: Enter a name for your new stream object.
- **Product**: Specify a product that should be associated with your new stream.
- **Partner**: Select a business partner that should receive your billing batches.
- **Marketplace**: Specify a marketplace that should be associated with your billing stream. The system allows specifying your own marketplace in case of working with your end-customers.
- **Currency**: Your currency is defined by your selected marketplace. Currently, the system allows selecting only one currency per a stream.
- **Description**: Provide a description for your stream if necessary.
- **Input Configuration**: These options vary depending on your selected *stream type*.
    - If the *simple* type selected, the system allows uploading your spreadsheet with input data file to the corresponding field. Connect also provides a *download example* option that can be used to learn more about expected file structure.
    - In case the computed type is selected, it is required to specify an existing stream as a *computation source*. Once your source is specified, the system enables you to choose a selector and assign a *value*.

Once all required fields are filled out, click **Create** to successfully finalize your stream creation. Therefore, your stream will be available within the *Outbound* tab and will allow creating *billing batches* associated with this stream. The system also allows accessing details of your available stream objects as described below.

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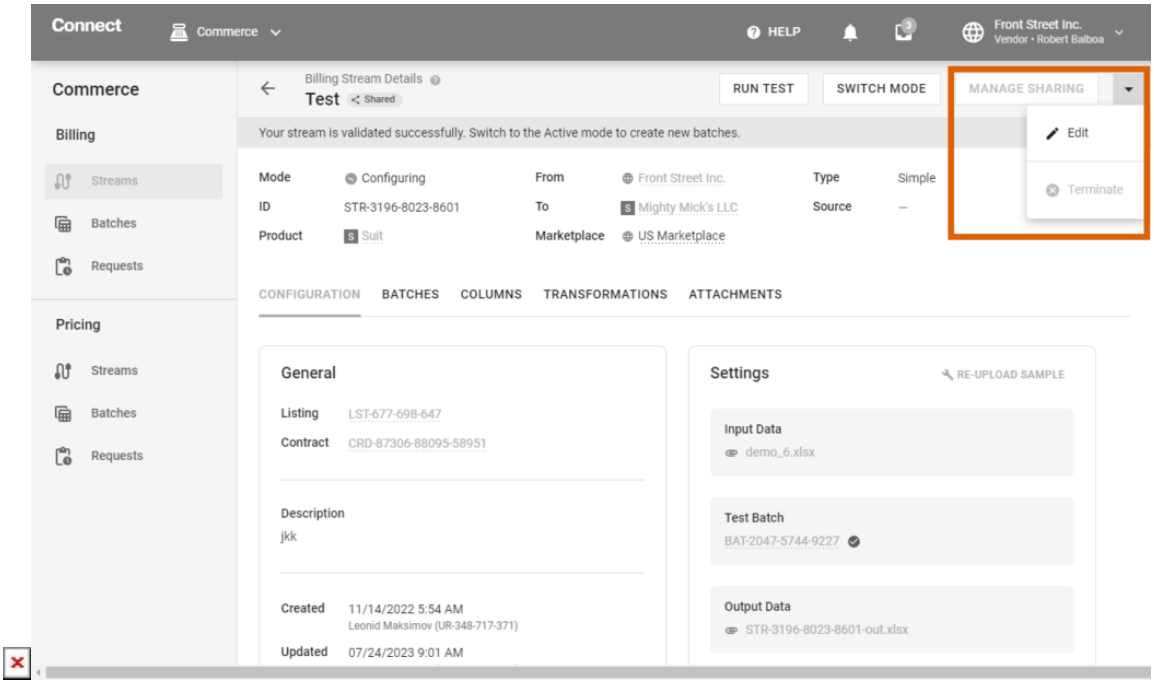
Stream Details

Click on a stream object name from *inbound* or *outbound* list to access the **Stream Details** screen.

This screen provides various information on your selected stream, such as its type, identifier, associated marketplace, currency, and more. It also displays status of your stream that can change if an input file is uploaded, error occurs, etc.

Use the additional menu (▼ at the top-right corner of the screen) to *edit* your stream name, description or batch publishing settings or *terminate* your billing stream.



Access more information and various operations with your stream by using the following tabs and buttons:

Stream Configuration

The **Configuration** tab is used to upload/re-upload your input file and review general insights information on your selected stream.

The *General* widget showcases your batch publishing configuration, stream description, upload and creation date.

This *Settings* widget is used to manage your input data for your selected stream. In case an input file is not uploaded to Connect, use the **Upload Sample** button to provide your input spreadsheet file:

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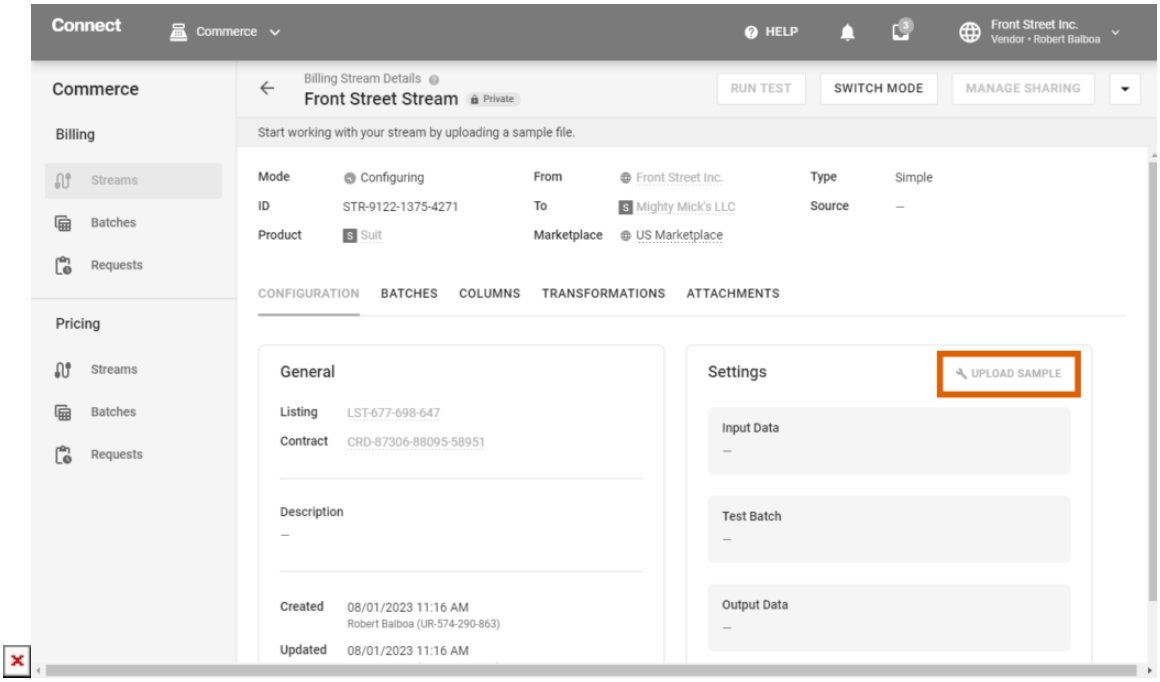

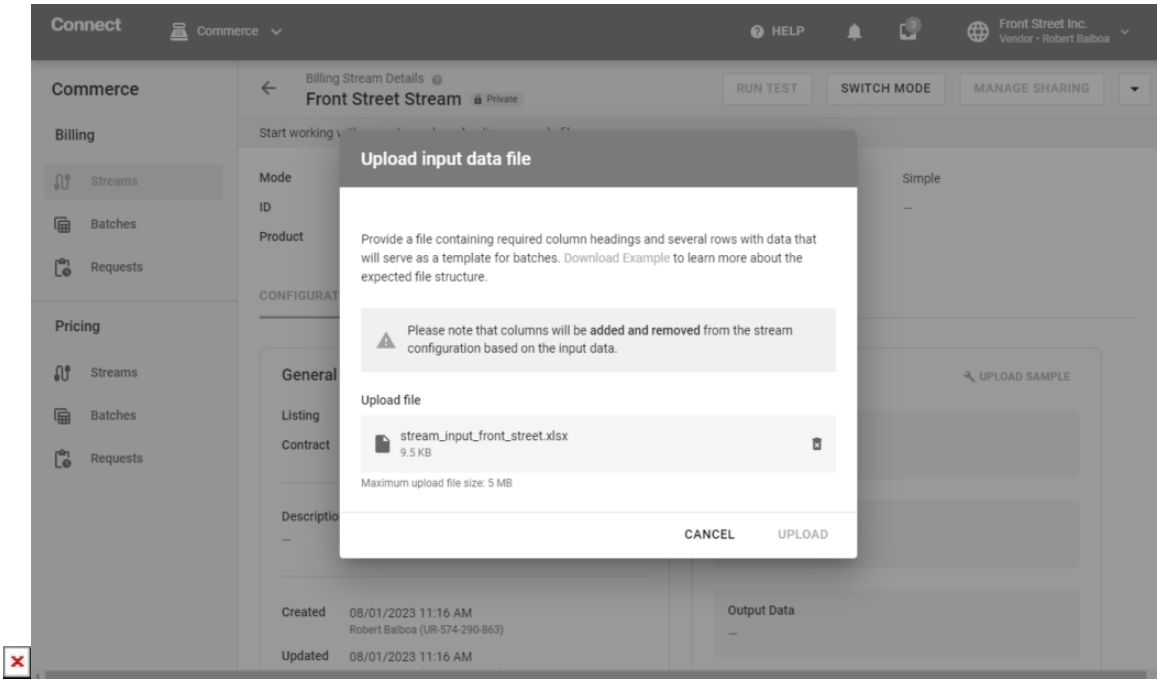

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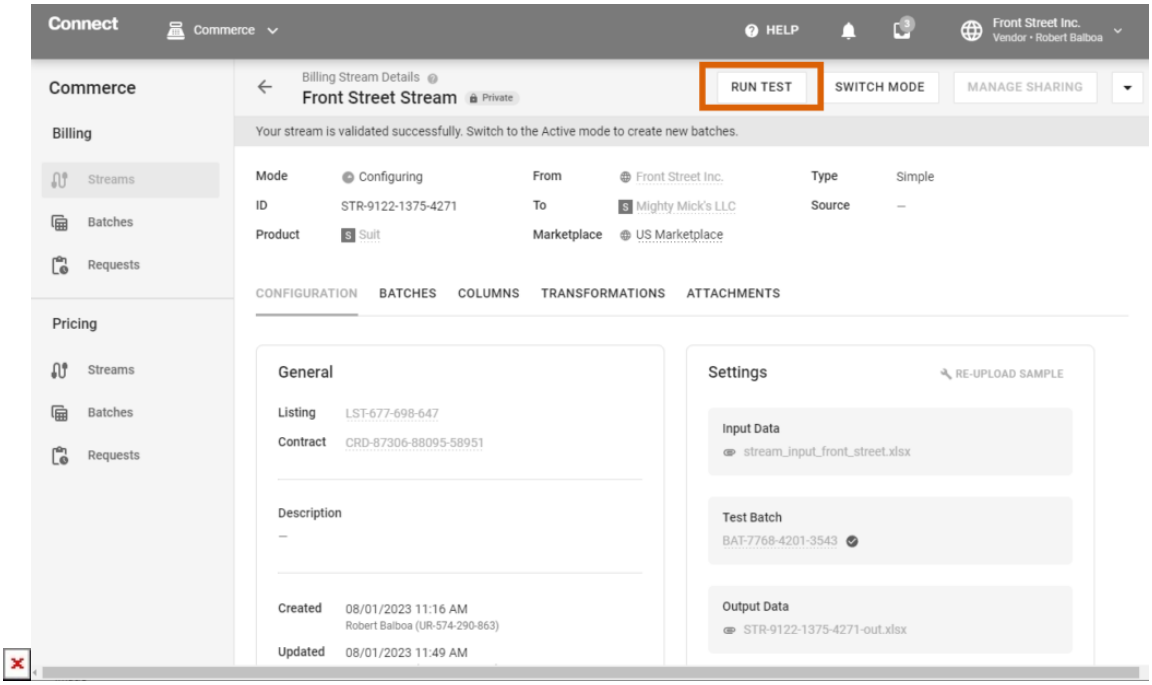

The *Settings* widget allows you to reupload the input file for your simple stream and modify your stream's output by using the **Re-upload Sample** button.

> ●
> Validate your stream
>
> In case your input data has changed or been updated, make sure to validate your stream by clicking the **Run Test** button at the top-right corner of the screen.

Columns Management

The **Columns** tab allows accessing all data columns that are uploaded to your selected stream. This tab provides a data grid that displays detailed information on each column, such as origin, type, name, description, and more.

The provided data grid allows including or excluding your defined columns. Included columns represent *selectors* that define output for *computed* streams. Such selectors can be managed by using their corresponding toggle switch in the UI:

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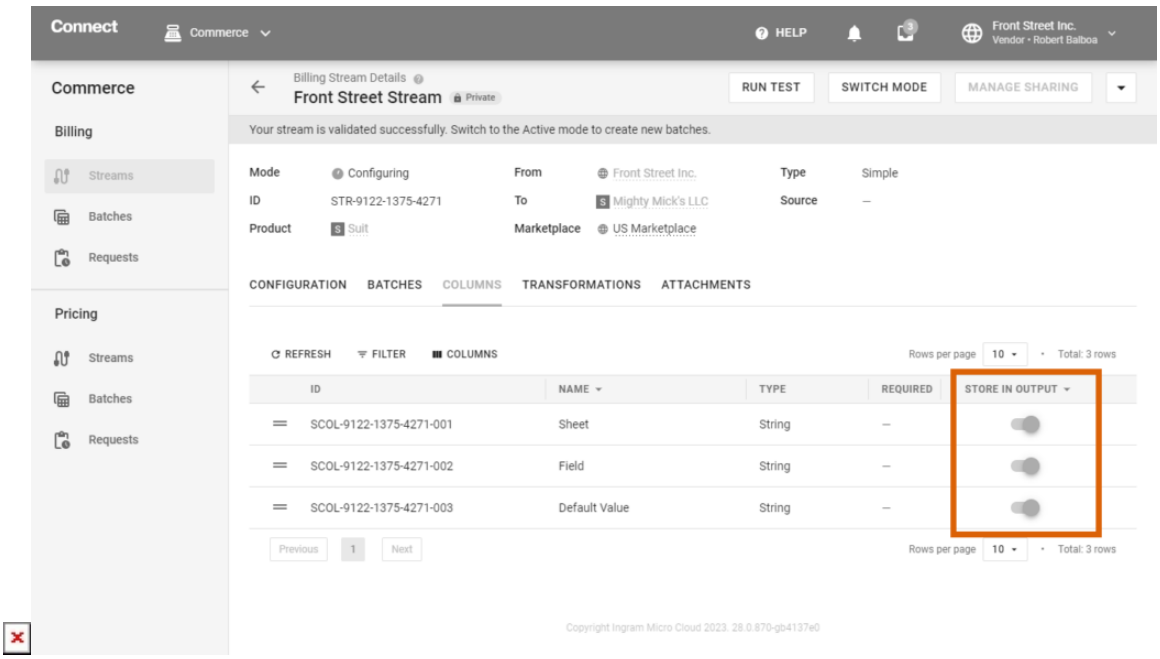

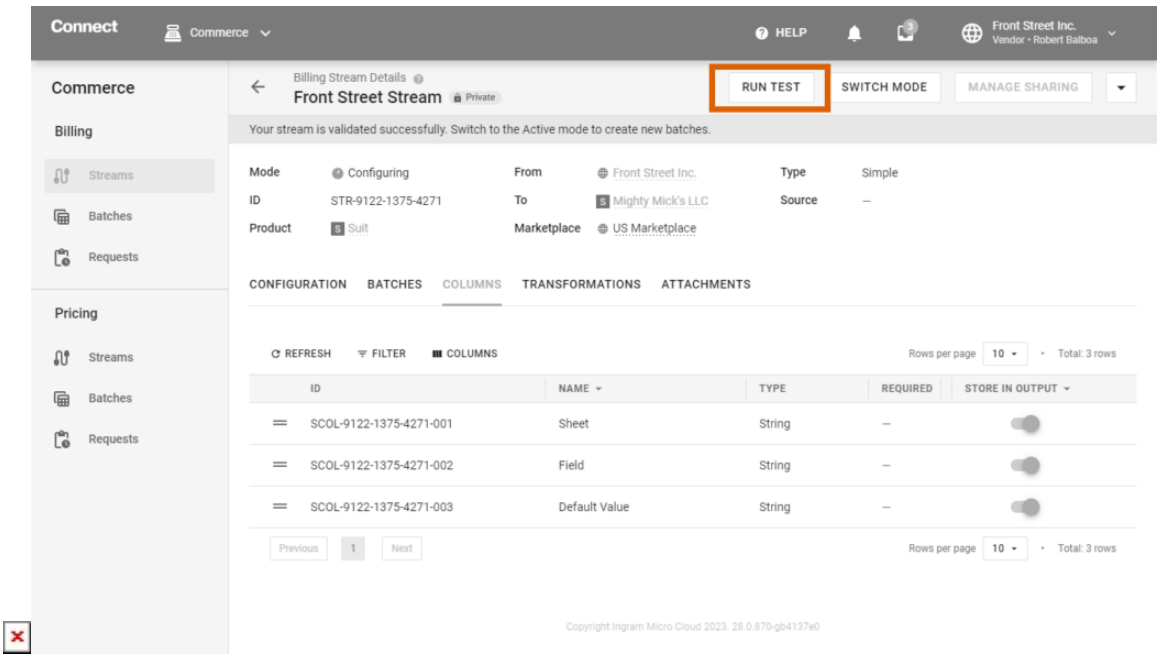

In case your selectors are changed, ensure to validate your stream by using the **Run test** button at the top-right corner of the screen.

Note that only columns that are stored in the output can be used as *selectors*. For more information on selectors and billing stream specifications, refer to the Key Concepts & Terminology article.

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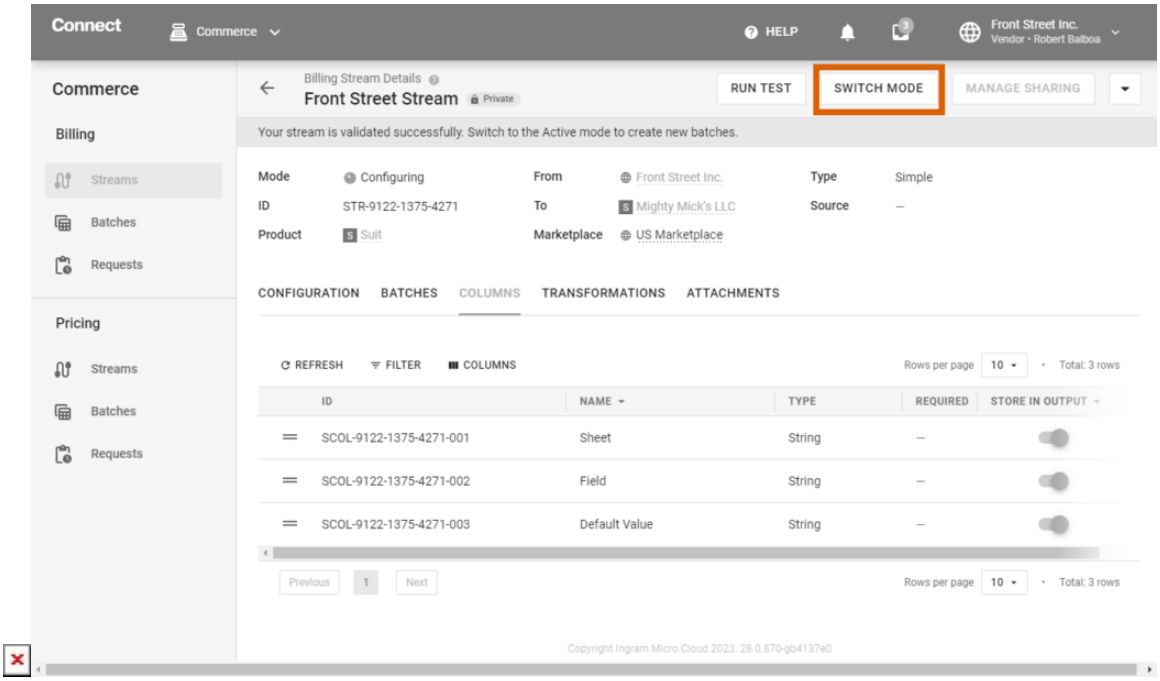
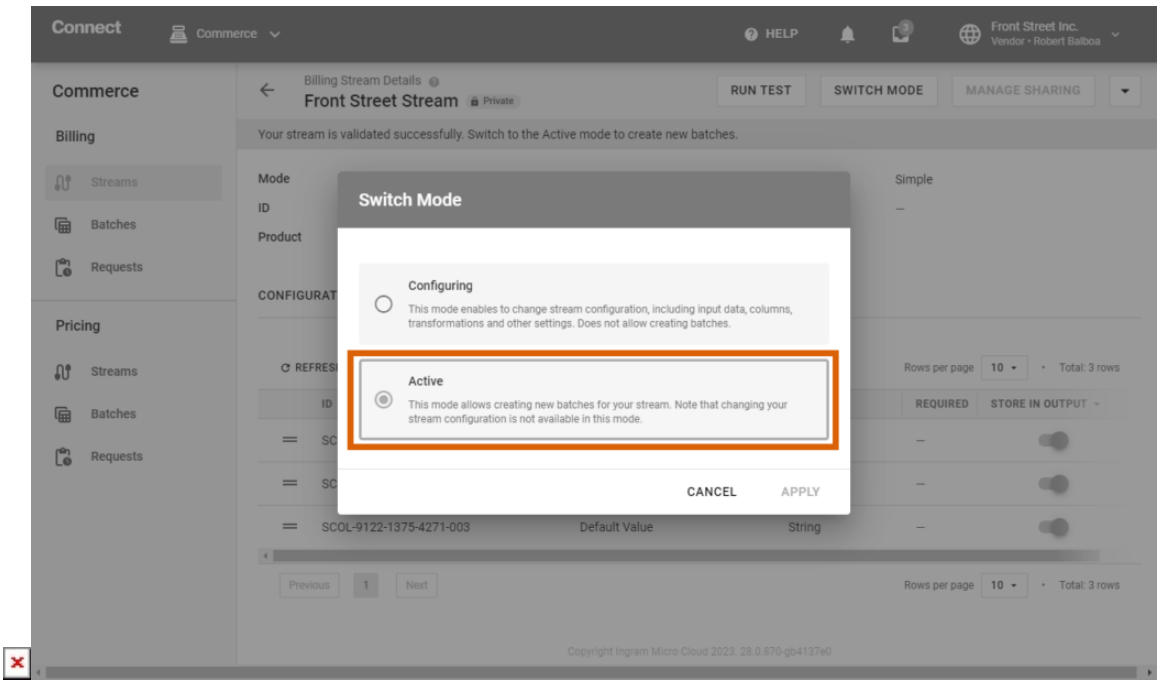
Stream Activation

Once your stream configuration is finished and corresponding settings are validated, your stream can be activated by using the **Switch Mode** button at the top-right corner of the screen.

Consequently, the system allows selecting one of the following modes for your stream:





- **Configuring**: This mode is used for adjusting your stream configuration. However, it does not allow creating billing

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batches that will be associated with your *configuring* stream, publishing your stream, and sharing associated billing information with your business partners.

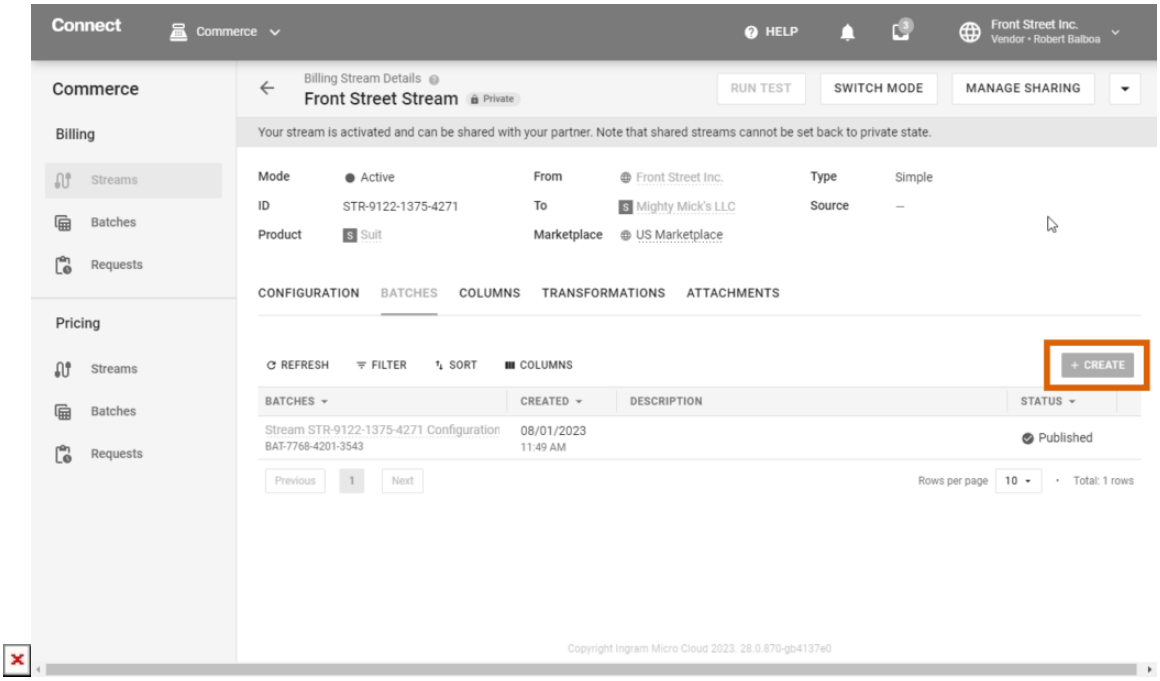
- **Active**: Switch to this mode for creating associated billing batches and preparing your stream for the subsequent publication. Note that this mode does not allow changing your stream.

Confirm your mode selection by clicking the **Apply** button.

Batches Management

This **Batches** tab provides a data grid for all billing batches that are associated with your selected stream. Along with the batch identifier, description, and status the data grid also includes various insights, such as *total price*, *total cost*, and a number of *subscriptions* that are interconnected with each batch.

Once your stream is switched to the *Active* mode, create a new billing batch for your selected stream by clicking the **Create** button within the *Batches* tab:



This functionality redirects to the batch creation form that is described under corresponding heading on this page.

Stream Publication

Your stream remains in the *Private* state and cannot be shared until it is switched to the **Active** mode. Once your stream is switched to this mode, use the **Manage Sharing** button at the top-right corner of the screen to access the following options:

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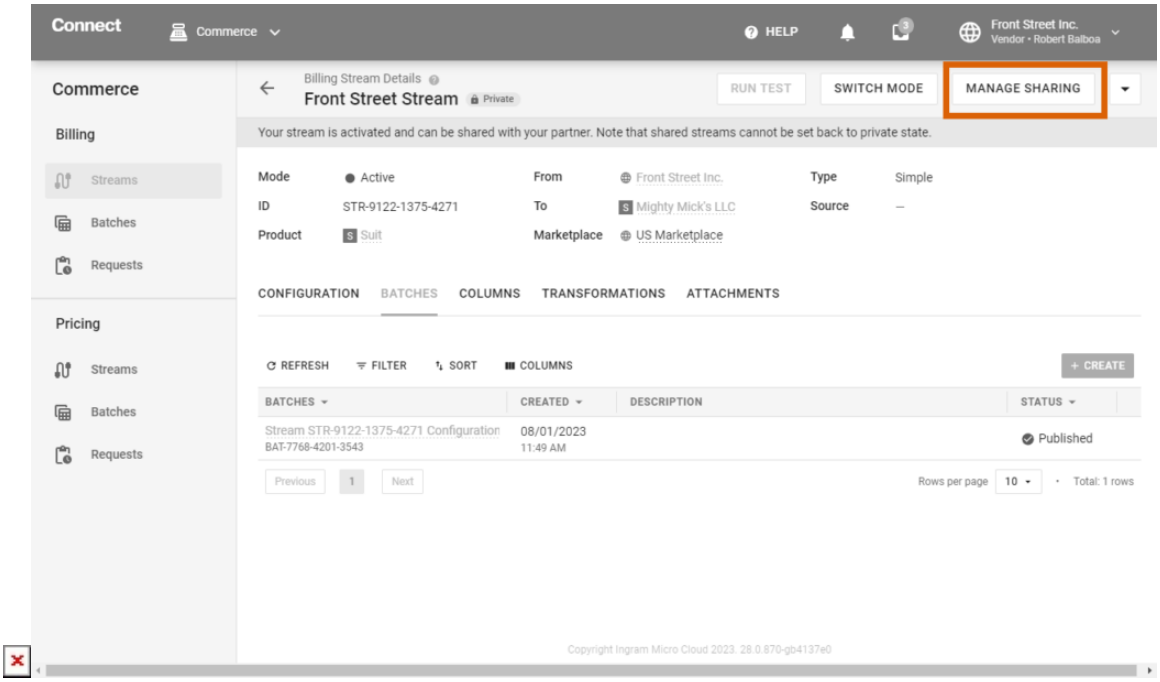

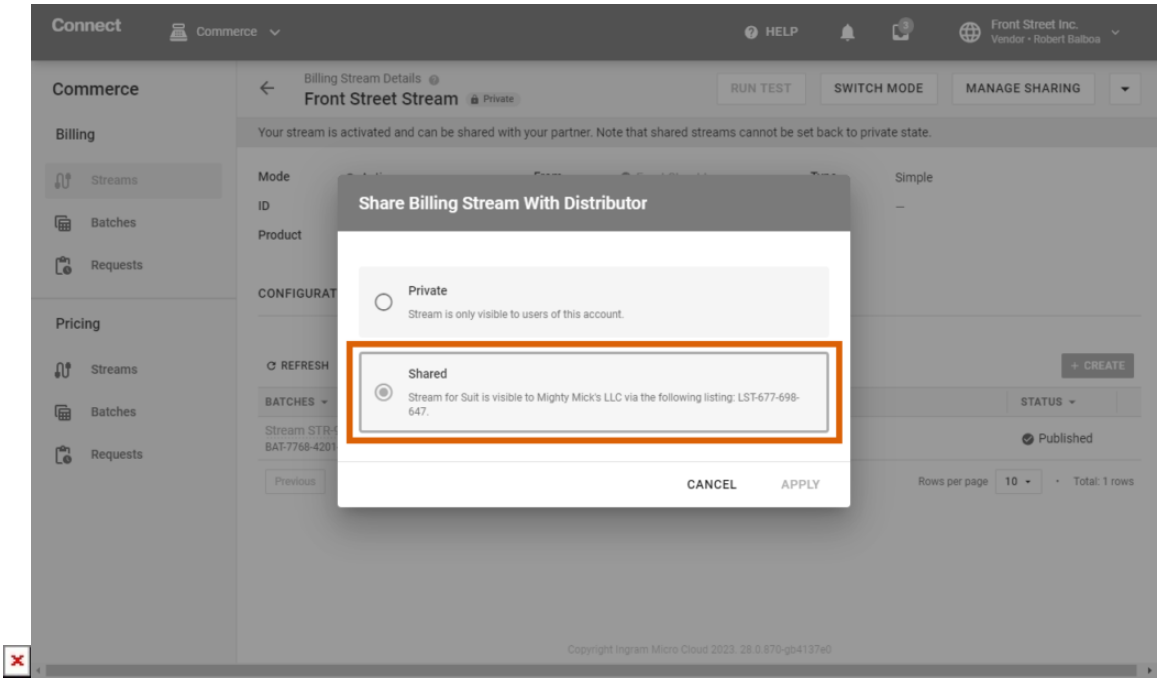

- **Private**: In case your stream stays in this state, your provided billing information will not be available for your business partner.
- **Shared**: Use this option to share your billing stream with your specified business partner. Note that once your stream is published, it cannot be switched back to the *Private* state.

Confirm your mode selection by clicking the **Apply** button. Therefore, your stream will be shared with your specified business

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partner.

> Ensure that your product is listed
>
> Note that published billing streams that are generated by *Vendors* will be available for *Distributors* only in case the associated product is listed on the specified marketplace. Otherwise, published streams will not be visible to Distributors.

Billing Batches

Billing batches are created and managed via the corresponding *Batches* section. Billing batches that are created by your organization are available within the *Outbound* tab. Distributors and Resellers can access incoming batches by using the *Inbound* tab.

Note that the Inbound tab is not available for Vendors since such accounts typically do not receive any billing batches from their business partners.

New Batch Creation

The system allows creating new billing batches by using the **Outbound** tab. Make sure to have at least one billing stream in the *Active* mode before starting to work with its associated batches. Note that creating billing batches is available for *Simple* streams only.

Create a new billing batch via the **Create Batch** button at the top-right corner. Consequently, use the following form to configure your new batch:

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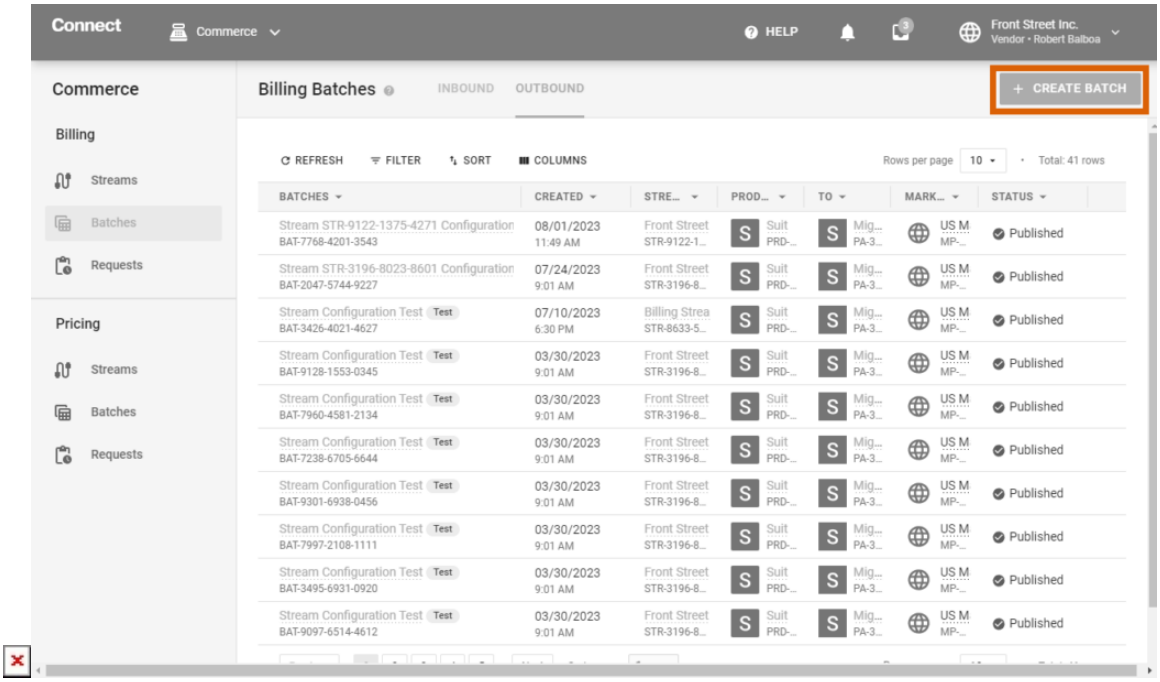

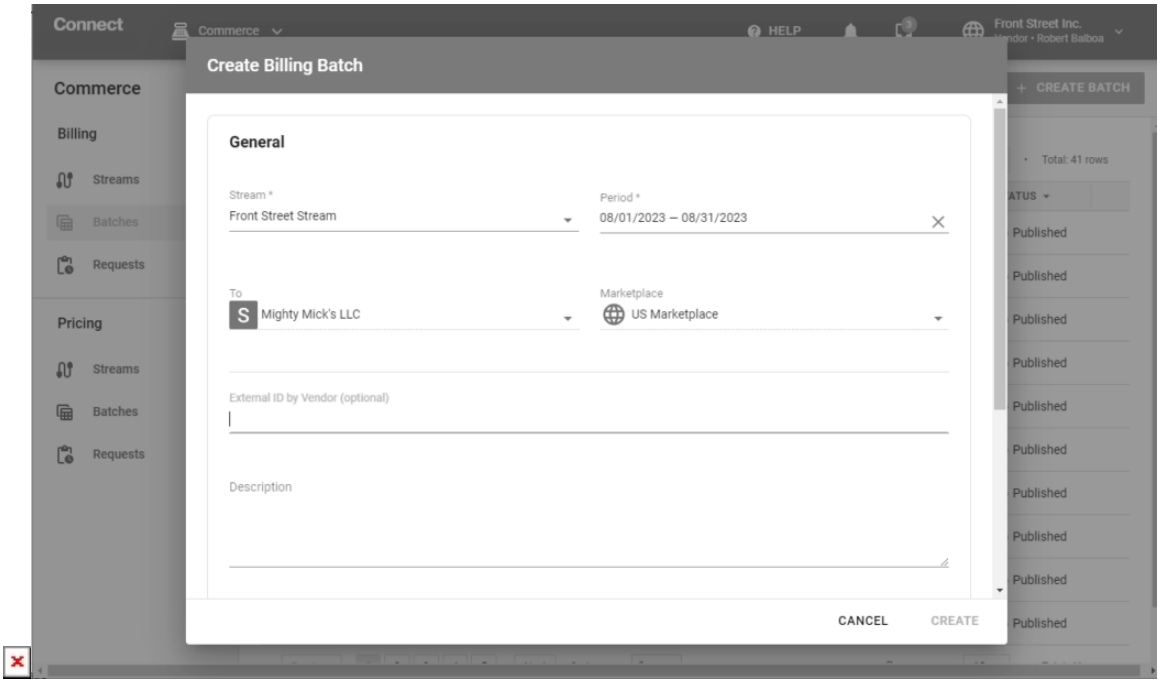

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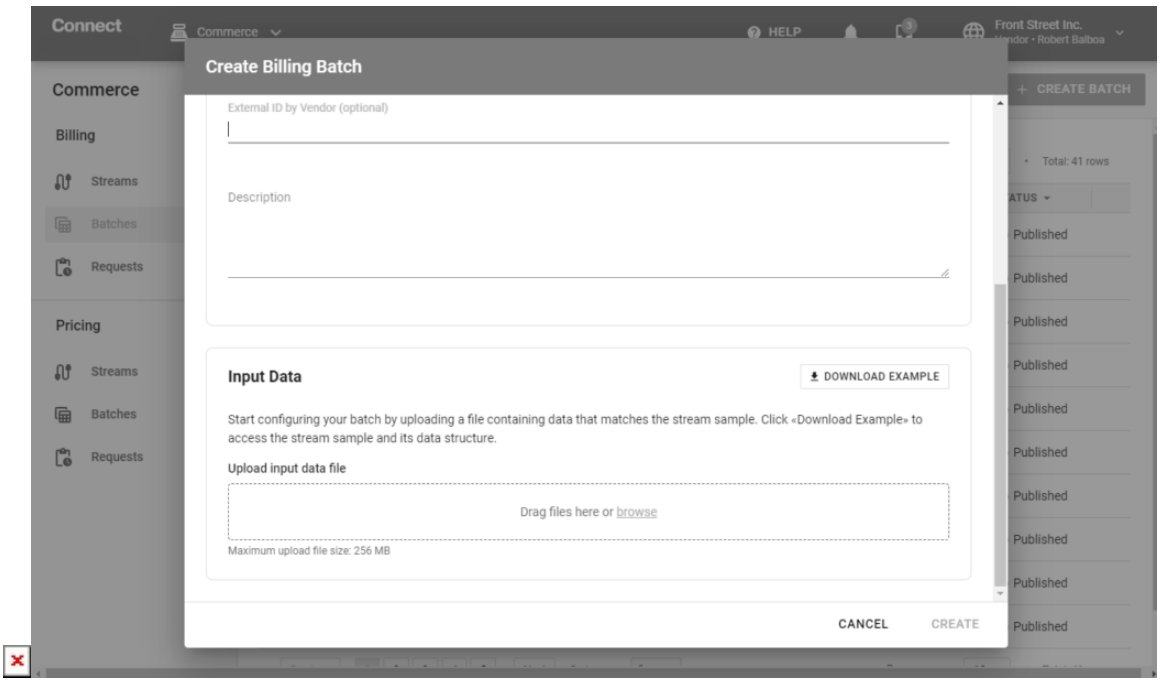

- **Stream**: Select a stream that is associated with your new billing batch. The system doesn't allow creating billing batches that are not linked to your stream.
- **Period**: Specify the start date and end date for your billing batch.
- **To**: Select a business partner that should receive your new billing batch. Distributors and Resellers can also select their own account to provide billing batches to their customers.
- **Marketplace**: Specify a marketplace that is associated with your new billing batch. The system allows specifying your own marketplace in case of working with your end-customers.
- **External ID by Vendor**: Enter an external identifier for your new batch that will be associated with a specific Vendor organization (optional).
- **Description**: Provide description for your new batch if necessary.
- **Input Configuration**: These options also vary depending on your selected *stream type*.
    - In case a *simple* stream is selected, the system requires to upload a spreadsheet file with billing data to the corresponding field. The interface also provides the *download example* option that can be used to learn more about expected file structure.
    - If a computed stream is specified, Connect will automatically collect required billing information from the *source stream*.

When the provided form is filled out, click **Create** to finalize your billing batch creation. Note that your billing batch will be automatically shared with your specified business partner in case the *automatic batch publishing* option is selected for your stream.

Your created billing batch can also be reviewed and edited by using the *Billing Batch Details* screen and published manually as

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described below.

Billing Batch Details

Access the **Batch Details** screen by clicking on any available batch object from the *Inbound* or *Outbound* batches list.

This screen is used to publish your batch by sending it to your business partner and access detailed information on your selected batch, such as its status, identifier, associated marketplace, interconnected stream, and other insights.

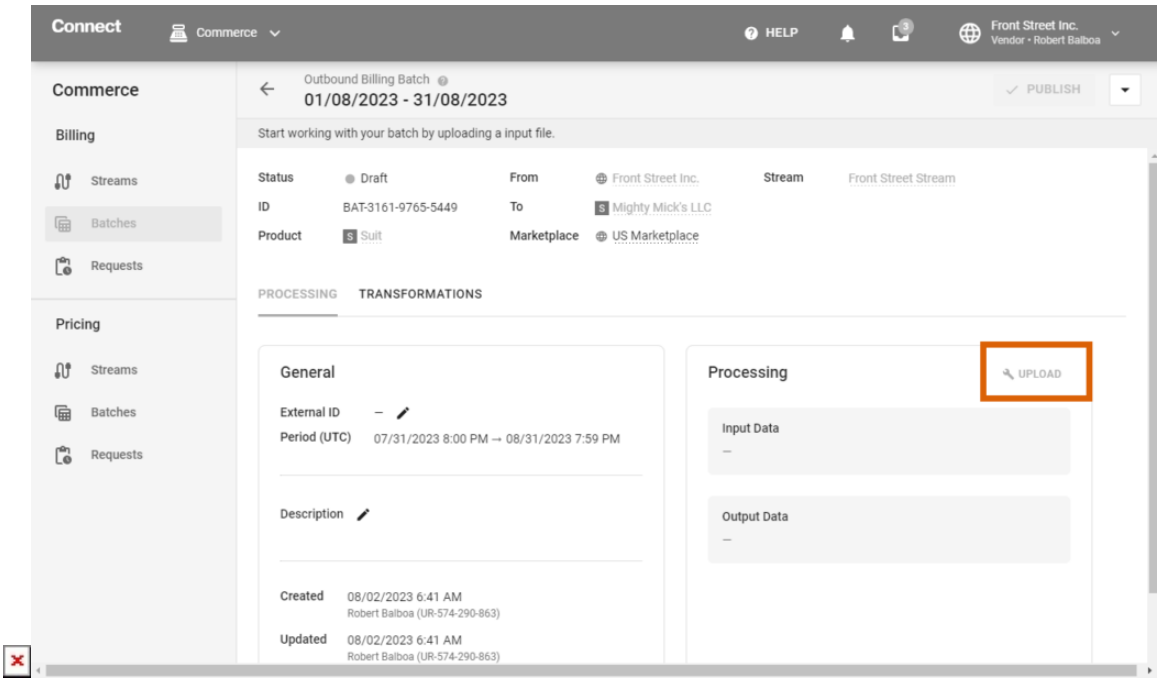
Batch details also allows accessing additional information and performing more operations with your batch object by using the following tabs:

Batches Processing

The **Processing** tab is used to upload/re-upload input data and to access general information on your selected billing batch.

The *General* widget is used to review your batch description and external identifier. It is also used to edit it such information for your created billing batches.

The *Processing* widget allows accessing input and output data for your selected billing batch. In case your input file is not uploaded to Connect, click the **Upload** button to provide your input spreadsheet file:



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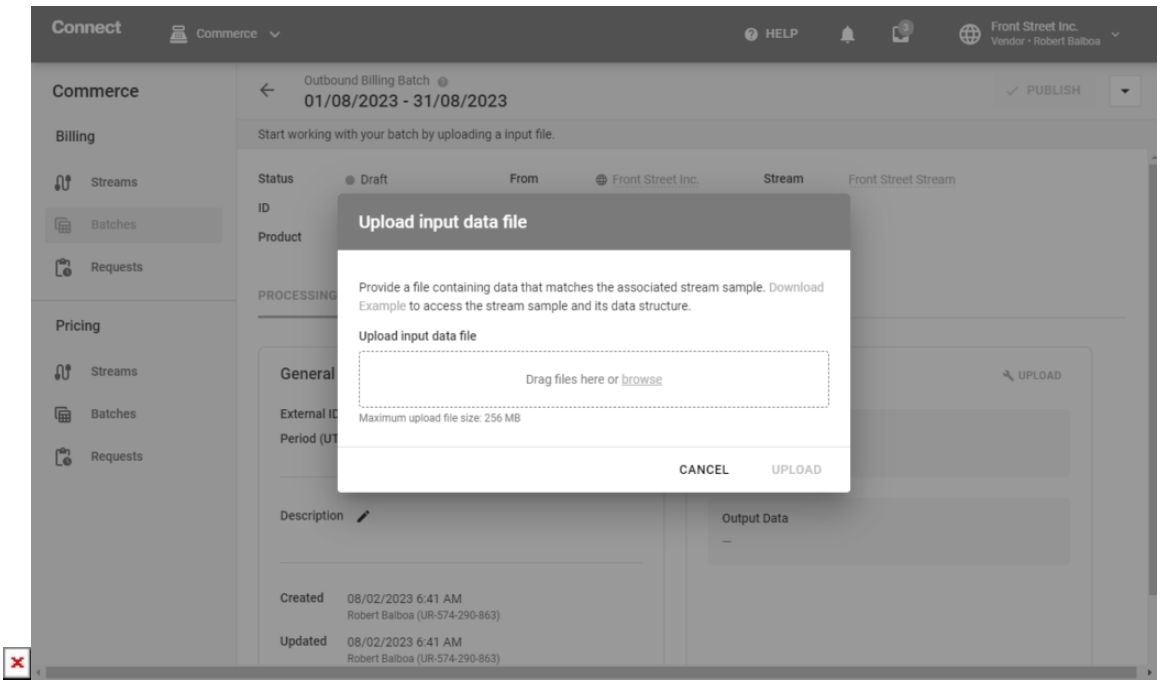

The system also allows downloading an example file to learn about the expected file structure. Note that the example file also inherits the structure of the input data of its associated billing stream.

In case it is required change or update your input file use the **Re-Upload** button from the *Settings* widget.

Publishing Batches

The system allows publishing your defined billing batches in case its associated stream is assigned to the *Active* mode.

Share your billing information with your specified business partner by clicking the **Publish** button at the top-right corner of the screen:

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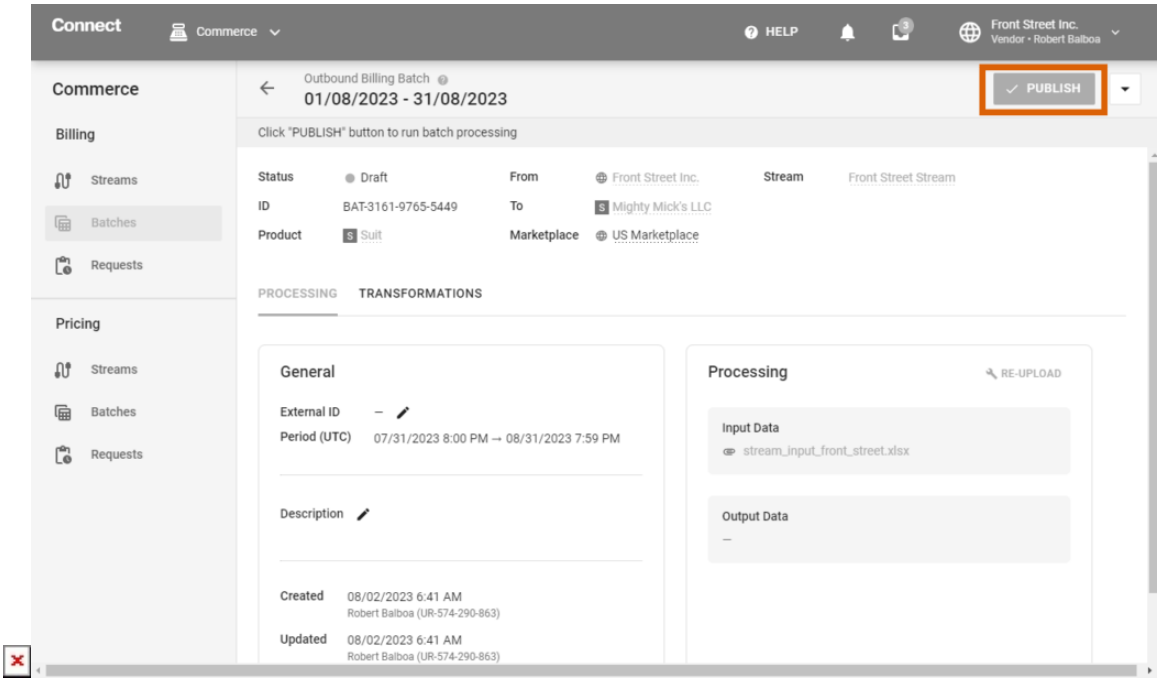

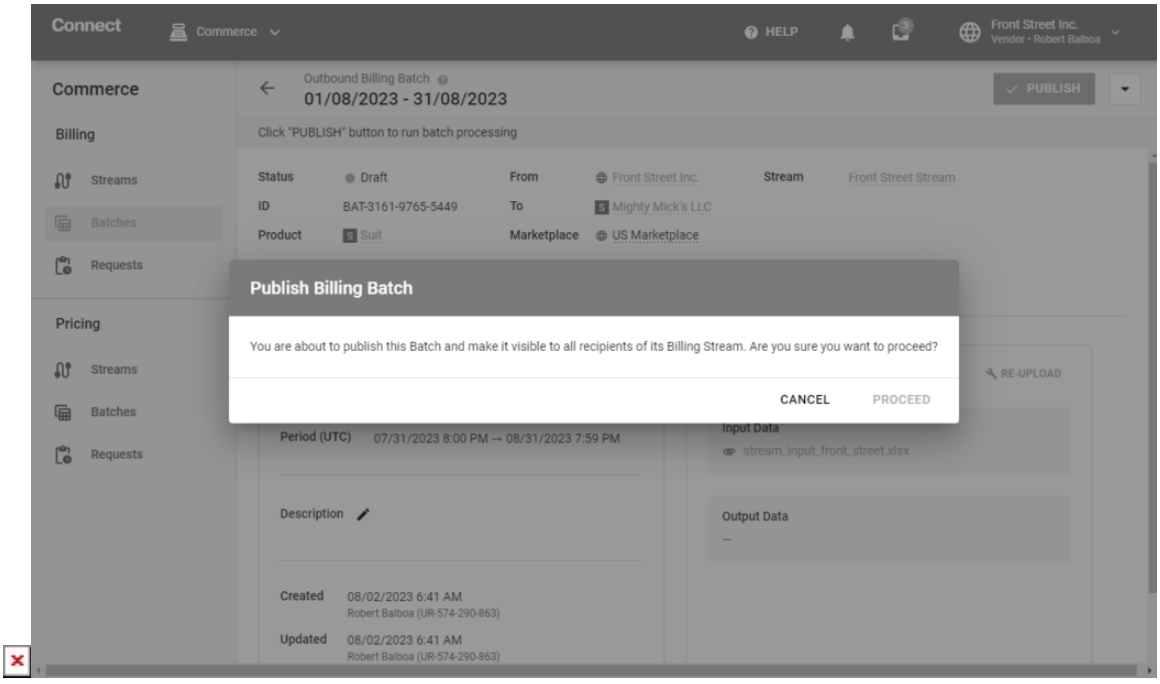

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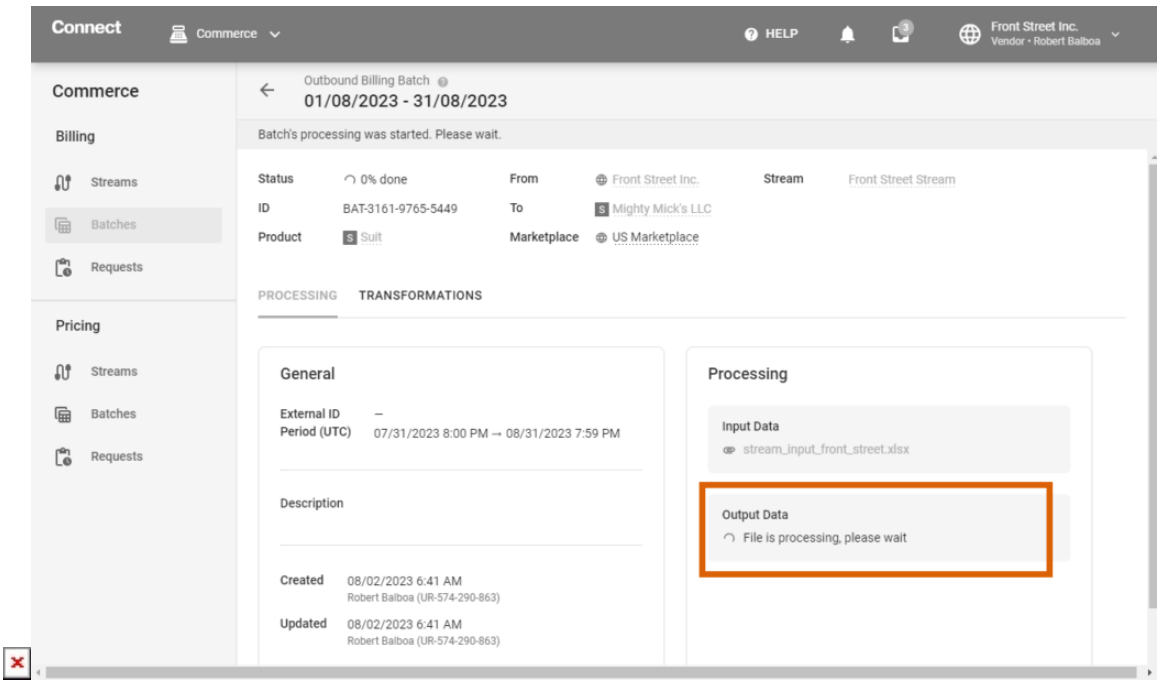

As a result, the system will start processing your published batch. Once your billing batch is assigned to the *Ready* status, your business partner will receive your billing information. Review your *output file* by using the **Processing** tab of the *Billing Details* screen.

Pricing Streams

The Streams module also allows you to create Pricing streams using price lists from the Pricing module as a source for **Computed** streams in the *Pricing* section:

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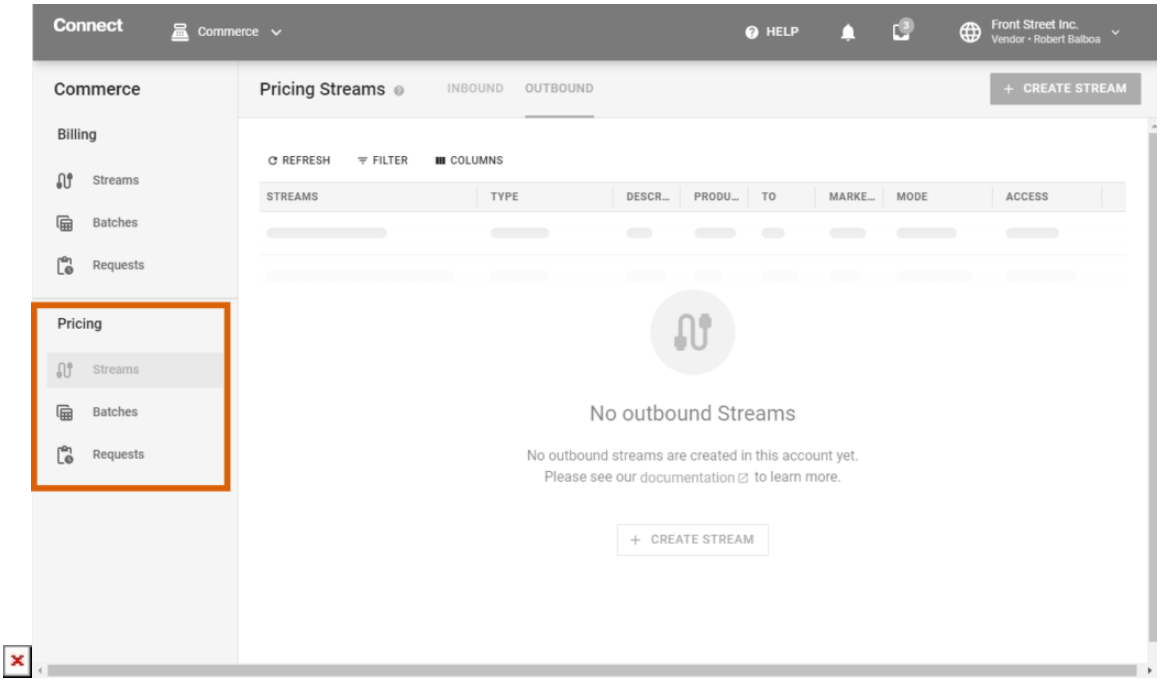

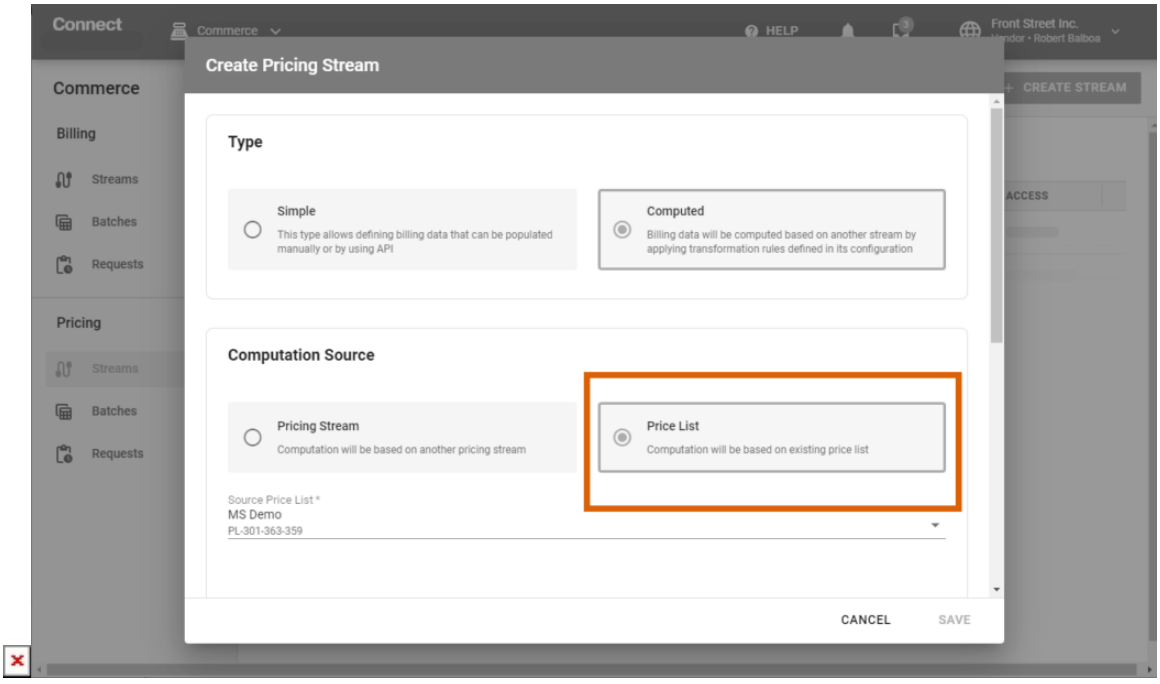

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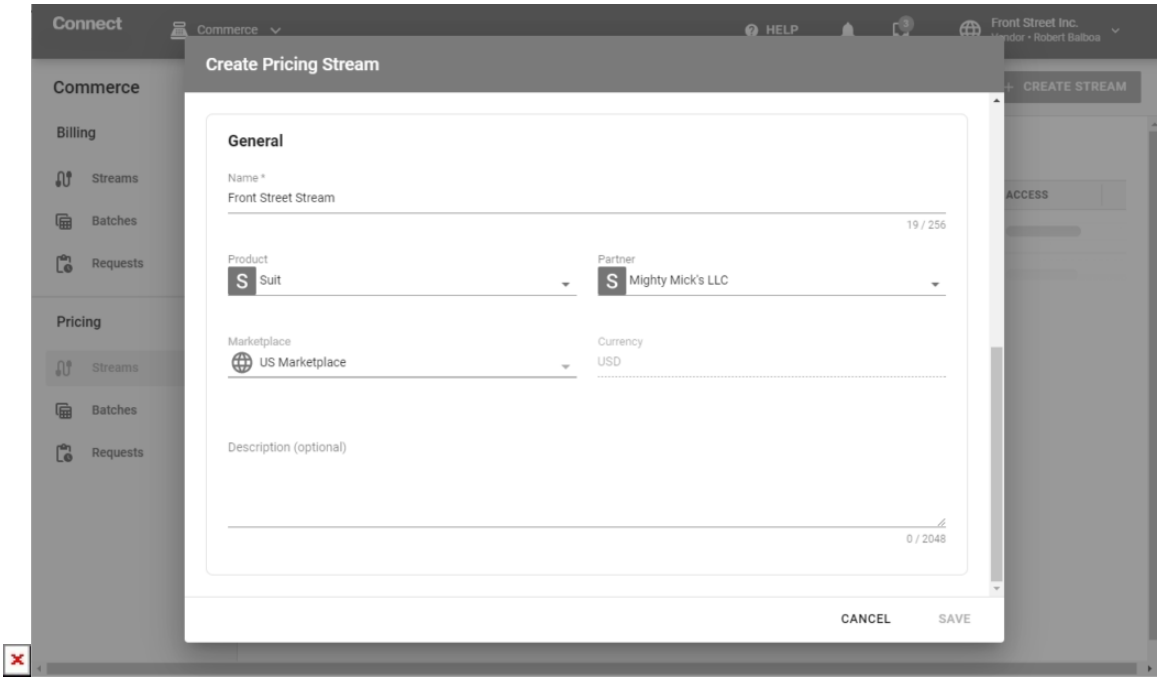

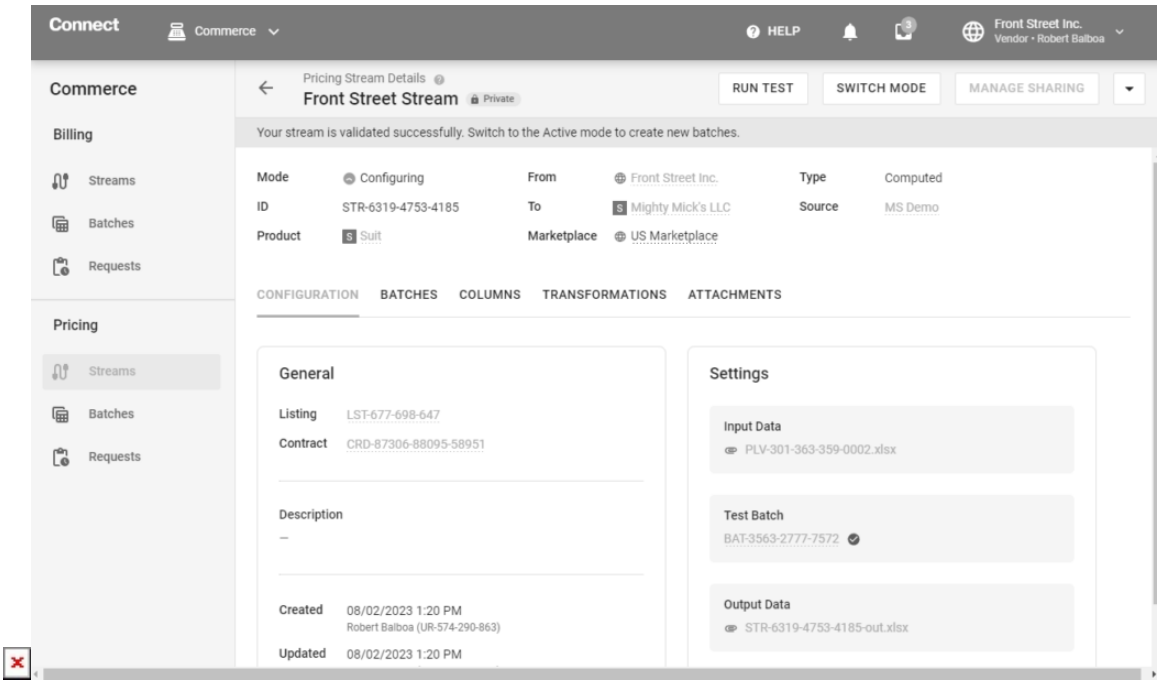

If a new version of the price list becomes available in the Pricing module and has the **Active** status, the batch will be processed automatically.

You can scale your billing operations by configuring as many streams as required, including one stream per each Marketplace, and these streams can be processed simultaneously.

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