



# WOODY.IO

## User Manual

Version 2.7.0

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## 1 Introduction

WOODY.IO is a cutting-edge, self-governing data integration platform that empowers Users to easily manage and oversee the entire data integration process, from source to destination.

With WOODY.IO, Users can effortlessly connect to their data, regardless of where it is stored. The platform supports various data sources, including MS SQL Server, Azure SQL DB, ADLS, Excel, CSV, JSON, and Parquet files through File Upload, as well as SAP HANA, Snowflake, Databricks, and AWS S3. It accomplishes data integration through the creation of Entities and Import Templates wrapped into a Metamodel, which allow Users to define column names, data types, and more. Furthermore, Business Rules can be added to Entities, using a very powerful engine developed in-house, thus bolstering Data Validation during Imports. WOODY.IO also provides Data Editing during Imports, which enable Users to efficiently edit data in real-time.

Additionally, WOODY.IO boasts a robust role system, which empowers administrators to define what operations or actions a User can perform within the system, as well as what data they can access. This feature enables organizations to maintain optimal data security while ensuring that Users have the access they need to complete their tasks efficiently. Comprehensive Business Rules and full approval processes allow User to implement Data Governance successfully and quickly.

The general workflow within WOODY.IO consists of data ingestion into WOODY.IO called Import, the adjustment, validation against predefined Business Rules, an optional four-eye approval, and the persistence into the destination. A concept called Live Edit utilizes a similar pattern with the differentiation of not preloading data into WOODY.IO, but only managing adjusted values.

## 2 Concepts

- Applications
- Connections
- Metamodels
- Entities
- Business Rules
- Import Templates
- Data Transformation
- Lookups
- Roles and Users
- Notifications
- Imports



## 2.1 Applications

A data integration process in WOODY.IO consists of various elements and functionalities that are grouped together in an object called an Application. It contains the Connections to the data sources and destinations, the Metamodels, that define the data structures and Business Rules, the Import Templates that configure the formats and layouts of the source datasets, the Imports that execute the data load, validation and transfer, and even its own Roles structure that determines the access and permissions for different Users.

The Application consists of two scopes. The Import and the Management Scope. This resembles the two main workflows which take place in the system.

## 2.2 Connections

In WOODY.IO, a connection is a pre-configured object that allows the platform to interface with various data systems. It serves to define the source and destination of data within a data integration workflow in WOODY.IO.

## 2.3 Metamodels

A Metamodel is one of the key concepts within WOODY.IO. In simple terms it is a container which represents a specific Data Ingestion process. It describes the destination the data will be persisted to, according to its Connection. It consists of Entities, which describe the schema in the destination, and Import Templates, that describe the source and schema mapping of the data. Furthermore, Business Rules are defined here which are used to validate the data while processing.

Metamodels can also serve as permission containers. Different Roles can be assigned to different Metamodels so that only a subset of Users will be able to work with the defined information, e.g. see and use the defined Import Templates.

## 2.4 Entities

Entities are distinct and identifiable objects that represent the schema in the destination.

Usually Entities represent a dataset. For example, in a data model for a company, an employee may be represented as an entity with fields such as name, employee ID, and job title. Besides the fields, in WOODY.IO Entities also contain Business Rules.



## 2.5 Business Rules

In WOODY.IO, Business Rules outline the requirements for values, including their format, pattern or even whether they must conform to a particular regular expression. In basic terms it describes what makes a value valid. E.g. `ProductCode` needs to have a `length` of `5`. Any Product that does not conform to this Business Rule will be marked as invalid. However, you can assign different severity levels, which can classify an invalid row as critical or simply notify you about its negative validation status.

## 2.6 Import Templates

In WOODY.IO, Import Templates are used to map a source to the Metamodel and which action to take while persisting. E.g., uploaded Excel Files will be used to insert new data into the destination defined by the Metamodel. A second Import template which loads data from a Parquet File in an Azure Data Lake will be used to Update existing data.

## 2.7 Data Transformation

Transformations in WOODY.IO can be used to have the ingested data automatically adjusted during the Import process. These are defined for each field and are processed in the order they were created. Multiple transformations per field are allowed.

## 2.8 Lookups

In WOODY.IO, Lookups are used for Validation and Transformations. For Transformations, the matching value is then utilized and replaced in the incoming data. When validating data, Lookups can be used to ensure that a value can be found within the Lookup data. Lookup data can be either entered manually or loaded from an external system which can be defined by a Connection.

## 2.9 Roles and Users

Roles in WOODY.IO refer to the various functions or responsibilities that Users or groups of Users may have, defining what actions or operations a User is authorized to perform and what data they have access to. For example, in a CRM system, Roles might be defined for salespeople, managers, and support staff, each with different levels of access to customer data and different abilities to modify or update that data. Each Role consists of multiple Permissions which can granularly define the access scope of Users assigned to the Role. Roles do not necessarily require Permissions assigned to them. You can use them as a way to allow users from different departments or with different clearance level, to



see the data that is only relevant to them, when importing a dataset that contains data that spreads over different departments.

A User in WOODY.IO is an individual that interacts with the Application to manage or access data. Users may be assigned different Roles or Permissions that dictate their level of access to the data, such as read-only, edit, or full administrative access. The concept of a User is essential in WOODY.IO to ensure that data is protected and accessed only by authorized personnel. Access to data may be restricted to specific Users or groups, depending on the Application security model. Additionally, User activity and changes to the data are logged for auditing and tracking purposes.

## 2.10 Notifications

Notifications are automated messages or alerts that can be sent to various entities to provide information about system events or data changes. Notifications can be triggered state changes of an Import and filtered based on properties of the triggering Import.

## 2.11 Imports

The core of WOODY.IO lies in its Imports, which are responsible for executing the Data Integration procedures utilizing pre-defined Connections, Metamodels containing Business Rules and Import Templates. By following the Import Template definition, an Import will load the data, validate it based on the data types of the Fields, as well as the attached Business Rules, and eventually store it in the Metamodel's defined destination.

# 3 User Interface

## 3.1 Application

### 3.1.1 Application Prerequisites

Administrator Role

### 3.1.2 Application Minimum Permission Level

Only instance admins (Super Admins) are able to create new Applications.

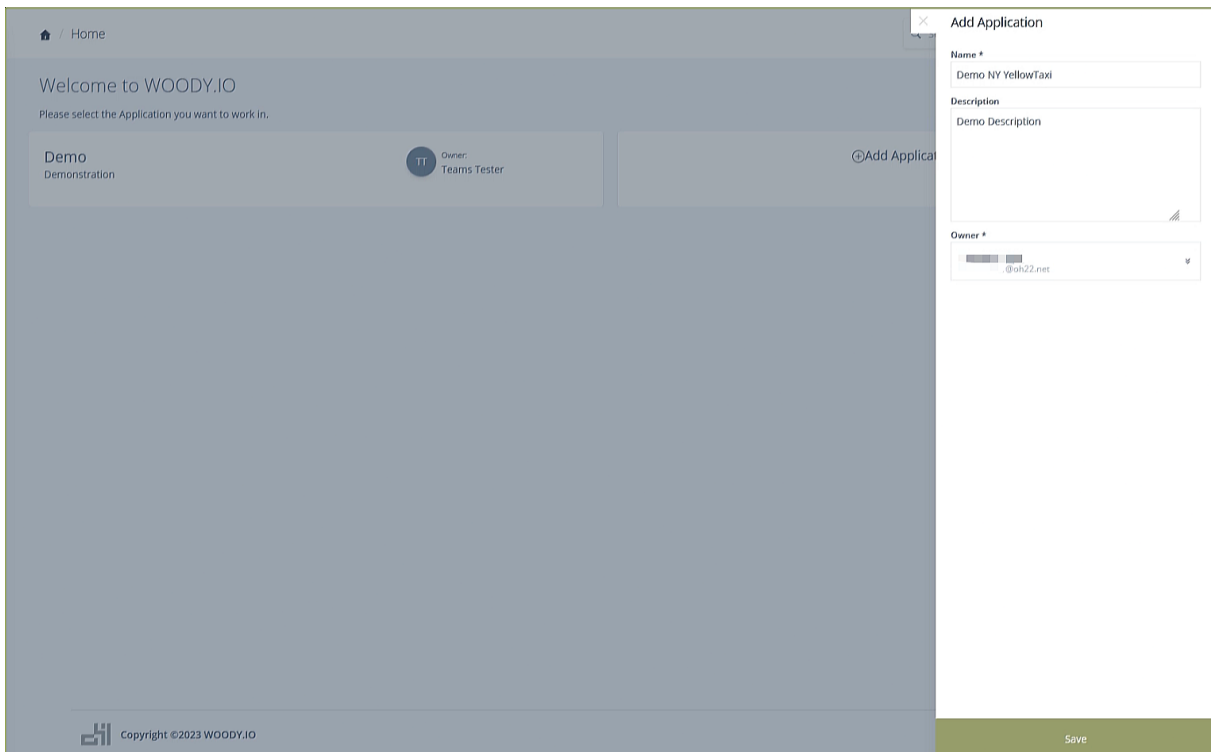




### 3.1.3 Create Application

To create an Application on WOODY.IO, go to the home page and locate the “Add Application” button in the center section at the end of the Applications list.

Clicking this button will open a panel with a form for creating an Application. The form has fields for entering the name, description (optional), and Owner of the Application.



**Figure 1:** Create Application Form

Once you have filled out the form, click the “Save” button at the bottom to create your new Application.

## 3.2 Connection

### 3.2.1 Connection Prerequisites

- Application

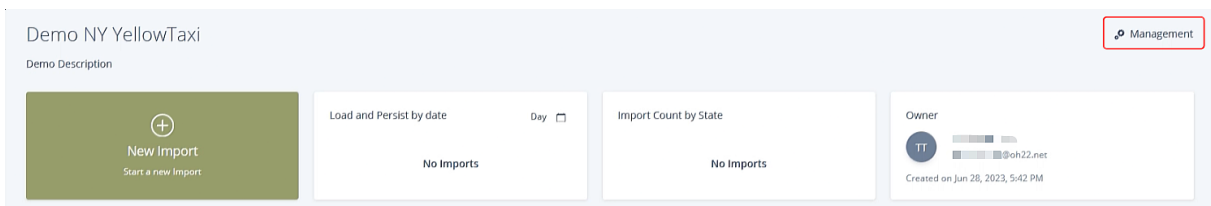
### 3.2.2 Connection Minimum Permission Level



Permission	Create	Read	Update	Delete
Application	-	x	x	-
Connection	x	x	x	x

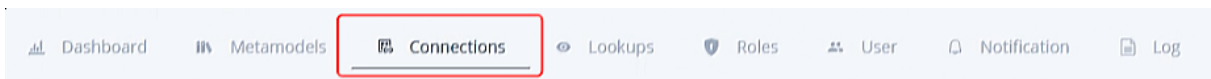
### 3.2.3 Create Connection

To create a connection in WOODY.IO, navigate to the Management page by clicking the “Management” button located in the top-right corner of the Application landing/import page.



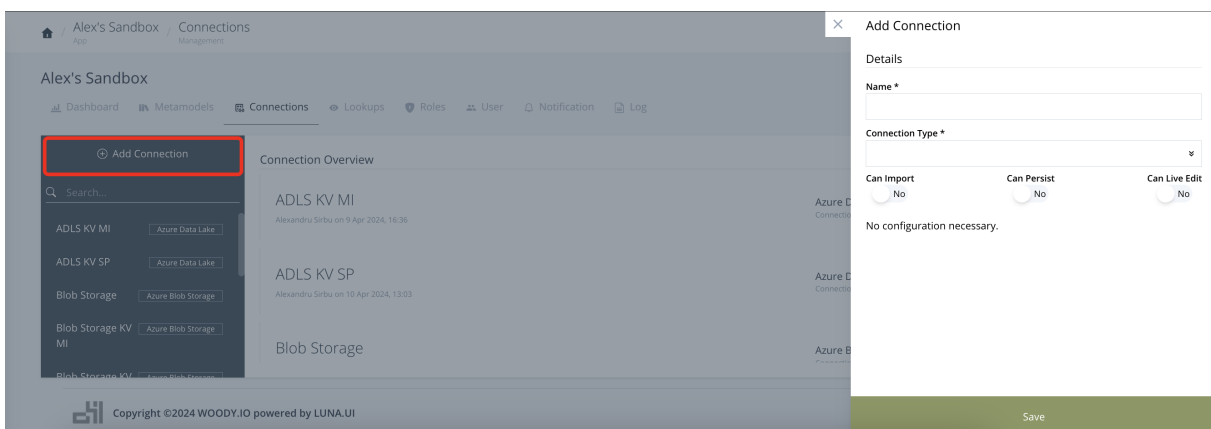
**Figure 2:** Management Button

From there, select the Connections tab. On the left side of the page, you will see a list of existing Connections.



**Figure 3:** Connections Tab

To create a new Connection, click the “Add Connection” button at the top of the page. This will open a form with three sections: Details, Connection Data, and Post Persist Action.



**Figure 4:** Add ADLS Connection Form



The **Details** section is common across all Connection Types.

- **Name:** assign a name to your Connection.
- **Connection Type:** choose the type of Connection from the dropdown menu.
- Slides
  - **Can Import:** enable this switch to use the Connection as a data source for importing data.
  - **Can Persist:** enable this switch to use the Connection as a destination for persisting data.
  - **Can Live Edit:** enable this switch to allow editing of data in Live mode using this Connection.

The **Connection Data** section is tailored for each connection type.

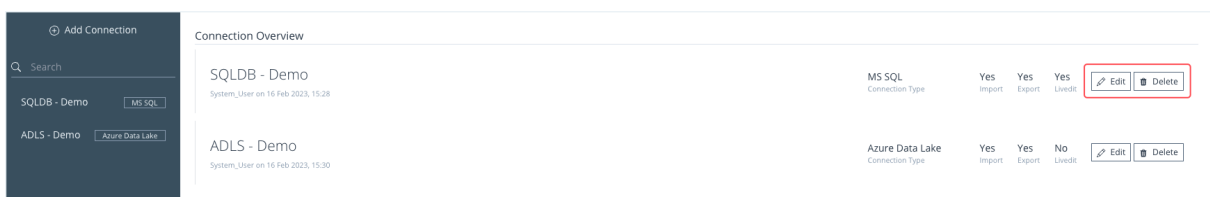
- MS SQL Server
- Azure Data Lake
- Azure Blob Storage
- Databricks
- AWS S3
- SAP HANA
- Snowflake

Once you completed filling out the form, click on the “Save” button located at the bottom of the form. This will simultaneously save and verify the Connection by trying to establish a connection.

### 3.2.4 Edit Connection

To edit a Connection, you can either click the “**Edit**” button associated with the desired Connection in the list of Connections displayed in the Connection Overview, which will open the Edit Connection form for modification and saving.

Alternatively, you can directly click on the Connection itself to open it, and then click the “**Edit**” button located in the top-right corner for making changes to the Connection.



**Figure 5:** Edit/Delete Connection Buttons

### 3.2.5 Delete Connection

To delete a Connection, click the “**Delete**” button associated with the Connection you want to delete in the Connection Overview.



### 3.2.6 Connection Types

**3.2.6.1 Azure Data Lake - Connection** Azure Data Lake is a service from Microsoft Azure that lets you store and analyze data in the cloud. You can use it to handle any kind of data, no matter how big, complex and use different tools and languages to process and explore. It is built to be reliable, scalable, and efficient for Data Ingestion with diverse shapes and sizes.

#### Connection Data

- **Account Name:** the name assigned to the storage account.
- **File System:** the name of the File System.

#### Authentication

- **Authentication Type:**
  - **Application Service Principal:** Authenticates using the Application Services Principal.
  - **Custom Service Principal:** Uses the App Services Managed Identity for authentication.
    - \* **Tenant ID:** Unique identifier for the Azure Active Directory (Azure AD) instance.
    - \* **Client ID:** Identifier assigned to the application registered within Azure AD.
    - \* **Client Secret:** Password-like credential enabling the application to authenticate securely with Azure AD.
  - **Service Principal:** An identity created within Azure AD to allow the application secure access to resources. If one exists, it can be located under “Enterprise applications” in the Azure Active Directory section of the Azure portal.
  - **Access Key:** Authenticates using an Access Key.
    - \* **Account Key:** Access key associated with the storage account.
  - **Anonymous:** Connects without authentication.

#### Export Information

- **Filetype:** the type of file to be used as either the source or destination.
- **File Name:** the name of the target file. Only necessary if the FileType can incorporate multiple Entities eg. Excel.

**3.2.6.2 Azure Blob Storage - Connection** Azure Blob Storage is Microsoft’s object storage solution for the cloud. Blob Storage is optimized for storing massive amounts of unstructured data. Unstructured data is data that doesn’t adhere to a particular data model or definition, such as text or binary data.

#### Connection Data

- **Account Name:** the name assigned to the storage account.
- **Container:** the name of the Blob Container.



## Authentication

- **Authentication Type:**

- **Application Service Principal:** Authenticates using the Application Services Principal.
- **Custom Service Principal:** Uses the App Services Managed Identity for authentication.
  - \* **Tenant ID:** Unique identifier for the Azure Active Directory (Azure AD) instance.
  - \* **Client ID:** Identifier assigned to the application registered within Azure AD.
  - \* **Client Secret:** Password-like credential enabling the application to authenticate securely with Azure AD.
- **Service Principal:** An identity created within Azure AD to allow the application secure access to resources. If one exists, it can be located under “Enterprise applications” in the Azure Active Directory section of the Azure portal.
- **Access Key:** Authenticates using an Access Key.
  - \* **Account Key:** Access key associated with the storage account.
- **Anonymous:** Connects without authentication.

## Export Information

- **Filetype:** the type of file to be used as either the source or destination.
- **File Name:** the name of the target file. Only necessary if the FileType can incorporate multiple Entities eg. Excel.

**3.2.6.3 AWS S3 - Connection** AWS S3 is a service that lets you store and access any data in the cloud. It can handle any amount of data with high scalability, availability, security, and performance. It can be used for different purposes such as data lakes, cloud-native applications, backup and restore, and archiving.

### Connection Data

- **AWS Region:** The AWS Region Endpoint. eg. eu-central-1
- **Access Key ID:** the unique ID for identifying the requester of AWS services.
- **Secret Access Key:** the secret key for signing and authenticating the request with AWS.
- **Bucket:** the S3 storage resource for storing and retrieving data of various kinds.

## Export Information

- **Filetype:** the type of file to use as source or destination.
- **File Name:** the name of the file to use as source or destination.

**3.2.6.4 Databricks - Connection** Databricks is a service that lets you store and analyze data in the cloud. It uses a lakehouse architecture that merges data warehouses and data lakes to support



different data types and use cases. It is based on open source technologies like Apache Spark and Delta Lake.

### Connection Data

- **Cluster Type:** is a configuration of computing resources in Databricks tailored for different workloads, including Standard, High Concurrency, and Single Node.
  - **All Purpose Cluster:** a versatile Databricks cluster for running various workloads, including data engineering, data science, and data analytics tasks.
  - **SQL Warehouse:** a Databricks managed compute resource optimized for running SQL queries and BI workloads.
- **Host:** the web address or endpoint for accessing your Databricks workspace or cluster.
- **Cluster Id:** the unique Id for the Databricks cluster. A cluster is a set of virtual machines that run and manage distributed computations in Databricks. You can create, start, and stop clusters in Databricks to manage your workloads.

### Authentication

- **Authentication Type**
  - **Private Access Token:** the token for accessing Databricks APIs and resources. Personal access tokens can be created and managed in the Databricks User settings page, and they can be revoked or regenerated at any time for security purposes.
  - **Application Service Principal:** Authenticates using the Application Services Principal.

### Additional

- **Schema:** an optional value in the following format: <catalog> . <schema> (i.e. hive\_metastore.default). A Schema can be used to utilize tables outside of the default Databricks catalog. If no Connection Schema is defined, the default catalog of the defined Databricks Connection will be used. If an Entity's Technical Name already includes a Schema, both Schemas will be merged while prioritizing the Entity's definition.
- **Temporary Location Name:** (optional) the external location is used as a temporary location, where the import data is being temporarily stored in tables, from which their corresponding operations such as Insert, Update, Merge, delete are performed against the Database. For more information on what is the External Location, how to create, and how to use one, please see the following Microsoft Documentation on [Create an external location to connect cloud storage to Azure Databricks](#).

Note:

If Temporary Location Name is configured, Temp Tables necessary for persist step will be created there in the form of {EntityTableName}\_{ImportPUIID}. Tables created with a LOCATION are Un-



managed, therefore they will not be deleted automatically. To reduce the size of the leftover delta files we also perform a delete and a following vacuum. This increases the overall import time. It also implies that the executing cluster needs to have `retentionDurationCheck` disabled otherwise the vacuum will fail and leftover delta files remain.

You can disable the `retentionDurationCheck` in the Cluster settings with:

```
spark.databricks.delta.retentionDurationCheck.enabled false
```

**3.2.6.5 MS SQL - Connection** MS SQL, or Microsoft SQL Server, is a relational database management system developed by Microsoft Corporation. It is designed to store and manage large amounts of data across various platforms and applications.

#### Connection Data

- **Host:** the server name where the database is located.
- **Port:** the port number serves as the endpoint for data exchange between the client and the SQL server.
- **Database Name:** the name of the database.

#### Authentication

- **Authentication Type:** WOODY.IO provides two types of authentication to a Microsoft SQL Database:
  - **User**
    - \* **Username:** the username with read and write permissions. For importing data, read permissions are enough. For persisting or editing data in live mode, write permissions are also needed.
    - \* **Password:** the password for the SQL server the User specified above.
  - **Service Principal:** the identity created for the application in Azure AD used to access resources securely. The Service Principle must already be configured in the App's configuration. You can find it under "Enterprise applications" in the Azure Active Directory section of the Azure portal.
  - **Custom Service Principal:** Uses the App Services Managed Identity
    - \* **Tenant ID:** the unique identifier for the Azure Active Directory (Azure AD) instance.
    - \* **Client ID:** the unique identifier assigned to the application registered in Azure AD.
    - \* **Client Secret:** the password-like credential used by the application to authenticate with Azure AD.
  - **Application Service Principal:** Authenticates using the Application Services Principal.

#### Additional Settings



- **Connection Timeout (ms):** the duration in milliseconds that the system waits for a connection to be established before timing out.
- **Request Timeout (ms):** the maximum time in milliseconds the system waits for a SQL query to complete before aborting the request.
- **Encrypt:** an option that specifies whether the data transmitted between the client and server should be encrypted. This option is turned on by default.
- **Trust Server Certificate:** an option that determines whether to bypass validation of the SQL server's SSL certificate for encrypted connections.

**3.2.6.6 SAP Hana - Connection** SAP HANA is an in-memory relational database management system developed by SAP SE. It is designed to handle large volumes of data and perform real-time analytics and applications using in-memory computing technology.

#### Connection Data

- **Host:** the name or IP address of the SAP HANA database server where the database is running.
- **Database Name:** the name of the SAP HANA database that you want to connect to.
- **Port:** the network port used to connect to the SAP HANA database. By default, the SAP HANA database uses port 30015.
- **User:** the username used to authenticate and connect to the SAP HANA database.
- **Password:** the password used to authenticate and connect to the SAP HANA database.
- **Schema:** a collection of database objects, such as tables, views, procedures, and functions, that belong to a specific User or group of Users. A schema is used to organize and manage database objects in SAP HANA.

**3.2.6.7 Snowflake - Connection** Snowflake is a cloud-based data warehousing platform that allows businesses to store, manage, and analyze large volumes of data in a scalable and cost-effective way. It was designed to work in a cloud environment, such as Amazon Web Services (AWS), Microsoft Azure, or Google Cloud Platform (GCP), and provides a fully-managed, scalable, and secure solution for data storage and analytics.

#### Connection Data

- **Account:** the Snowflake account URL or endpoint used to access the Snowflake account.
- **Database:** the container name for Snowflake database objects, including tables, views, and functions.
- **Warehouse:** a set of compute resources used for executing SQL queries and loading/unloading data in Snowflake.
- **Username:** the username used for authenticating and connecting to a Snowflake account.
- **Password:** the password used for authenticating and connecting to a Snowflake account.
- **Role:** a set of privileges and permissions granted to a User or group of Users in Snowflake.





- **Schema:** the name of the schema, where a database can have one or more schemas with different privileges and permissions.

## Authentication

- **Authentication Type**

- **User**

- \* **Username:** the username with read and write permissions. For importing data, read permissions are enough. For persisting or editing data in live mode, write permissions are also needed.

- \* **Password:** the password for the SQL server the User specified above.

- **Application Service Principal:** Authenticates using the Application Services Principal.

## 3.3 Metamodel

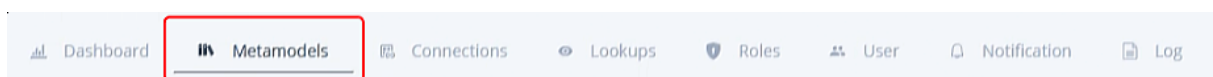
### 3.3.1 Metamodel Prerequisites

- Application
- Connection

### 3.3.2 Metamodel Minimum Permission Level

Permission	Create	Read	Update	Delete
Application	-	x	-	-
Connection	-	x	-	-
Metamodel	x	x	x	x

### 3.3.3 Create Metamodel



**Figure 6:** Metamodels Tab

To create a Metamodel, go to the Metamodel section in the Management menu, and select the “Add Metamodel” button located on the top-left side. This will open the Add Metamodel form with the following input fields:



- **Name:** the name you wish to assign to the Metamodel.
- **Description:** the description you wish to provide.
- **Connection:** the Connection you want to utilize for this Metamodel. This is the Connection to a destination, not the data source.
- **Needs Approval (slider)** by enabling this option, any Imports will require Approval by another User with Approver Permission, before being persisted. This enforces the four-eyes principle for each Import.

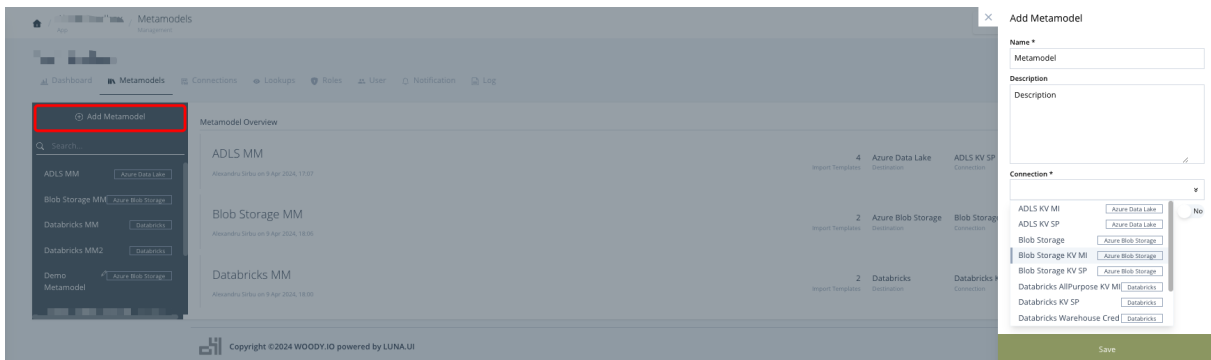


Figure 7: Add Metamodel Form

### 3.3.4 Edit Metamodel

To edit a Metamodel, you can either click the **“Edit”** button associated with the desired Metamodel from the Metamodel Overview, which will open the Edit Metamodel form for modification and saving.

Alternatively, you can directly click on the Metamodel itself to open it, and then click the **“Edit”** button located in the top-right corner for making changes to the Metamodel.

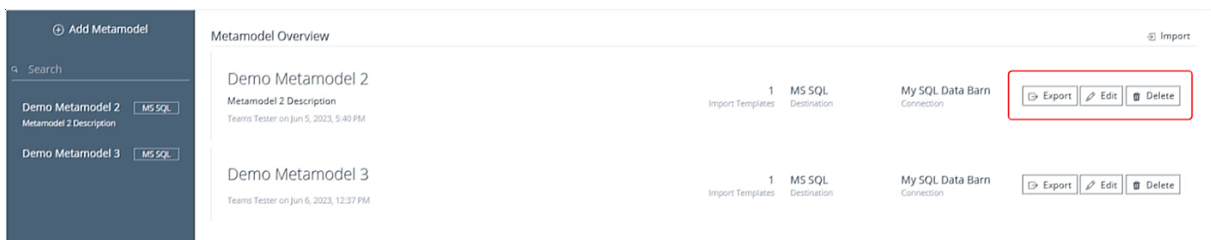


Figure 8: Export/Edit/Delete Metamodel Buttons

### 3.3.5 Delete Metamodel

To delete a Metamodel, click the **“Delete”** button associated with the Metamodel you want to delete in the Metamodel Overview.



## 3.4 Entity

### 3.4.1 Entity Prerequisites

- Metamodel

### 3.4.2 Entity Minimum Permission Level

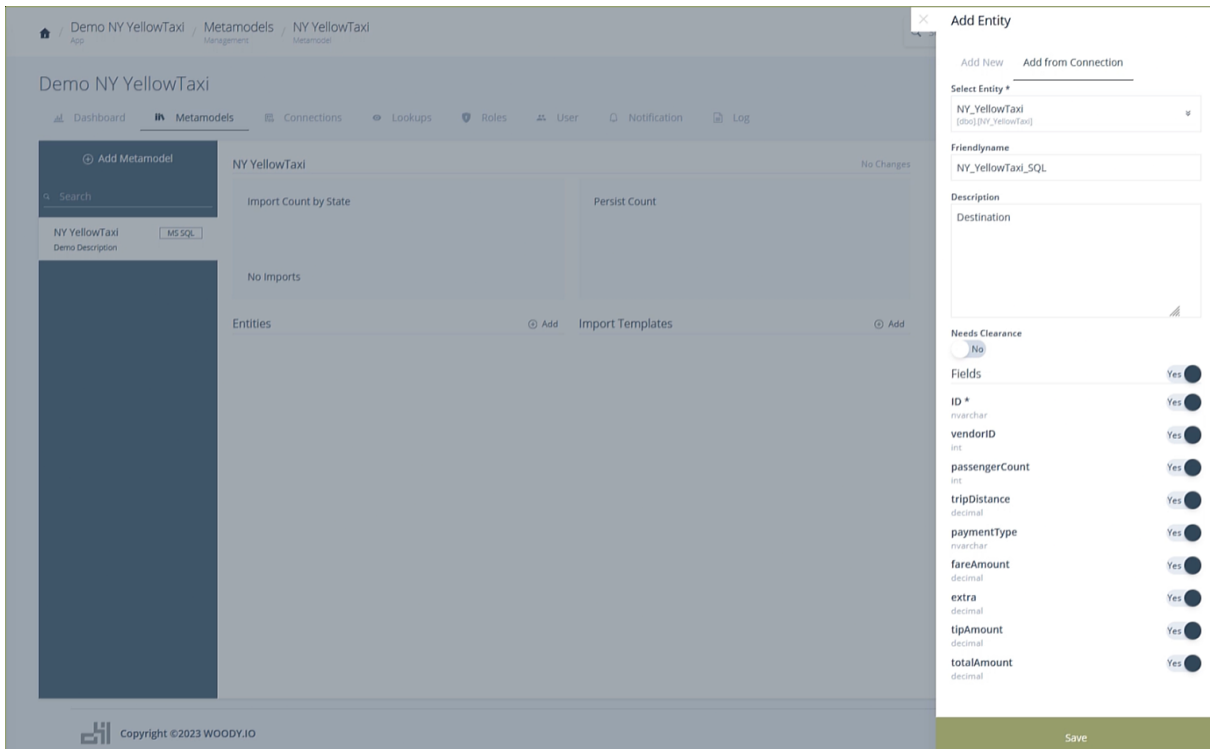
Permission	Create	Read	Update	Delete
Application	-	x	-	-
Metamodel	-	x	x	-
Entity	x	x	x	x

### 3.4.3 Create Entity

To create an Entity in a Metamodel in WOODY.IO, navigate to a Metamodel within Management.

Under the Metamodel tab, locate the Entities section and click the **“Add”** button. This will open the Add Entity form, which will display various input fields and options, depending on the type of connection your metamodel is based on.

If the connection is configured to a source that supports tabular data format and/or schema definition, the Add Entity form will include an option to import the schema of a table and use it as an Entity for the metamodel. Otherwise, you will be presented with a default Add Entity form, which will require you to manually create the Entity and, subsequently, its Fields.



**Figure 9:** Add Entity From Connection Form

The form has the following input fields:

- **Name:** the name of the Entity (the Friendly Name).
- **Technical Name:** the name of the table, file, or worksheet, where the data will be saved in the destination, e.g. [schema].[tablename].
- **Description:** the description of the Entity.
- **Needs Clearance:** determines whether an Import necessitates a Clearance Statement, which could be in the form of a document upload serving as a stamp of approval, for it to proceed to the Approval stage.

Click the **“Save”** button at the bottom of the form to save the Entity.

### 3.4.4 Edit and/or Delete Entity

To edit an Entity click on the Entity to open it, then press the **“Edit”** button located in the top-right corner. This will open up the Edit Entity form, allowing you to make modifications. Click the **“Save”** button at the bottom of the form to save the modifications. Click the **“Delete”** button to delete the Entity instead.



### Edit Entity

**Name \***

**Technicalname \***

**Description**

Entity Description

**Needs Clearance**  No

Save
Delete

**Figure 10:** Delete Entity Button

### 3.5 Field

#### 3.5.1 Field Definition

A Field is a particular data element that is linked with an Entity. For instance, in the case of a customer Entity, the Fields define the customer’s name, address, phone number, and email address. Each Field has a defined data type, such as text, number, or date.



### 3.5.2 Field Prerequisites

- Entity

#### 3.5.2.1 Minimum Permission Level

Permission	Create	Read	Update	Delete
Application	-	x	-	-
Metamodel	-	x	x	-
Entity	x	x	x	x

### 3.5.3 Add Field to Entity

Fields are part of an Entity. To access the Entity menu, select an existing Entity from a Metamodel. Next, go to the Fields tab and locate the “Add Field” button on the right-hand side. This will open the Field creation form, where you will find input fields for the following information:

- **Name:** this is the Friendly Name of the field.
- **Technical Name:** this is the name of the column that the Field represents within the destination system.
- **Field Type:** this refers to the data type of the Field.
- **Required (slide):** determines if the Field can be null.
- **Key (slide):** in Update or Merge data operations, Keys are used to define the Field on which the operation is performed. Furthermore, it is necessary to have at least one Key Field specified in order to create a Update or Delete operation in Live Edit.



### Add Field

**Name \***

**Technical Name \***

**Field Type \***

**Required**  Yes

**Key**  Yes

**Figure 11:** Add Field Form

The following data types are supported:

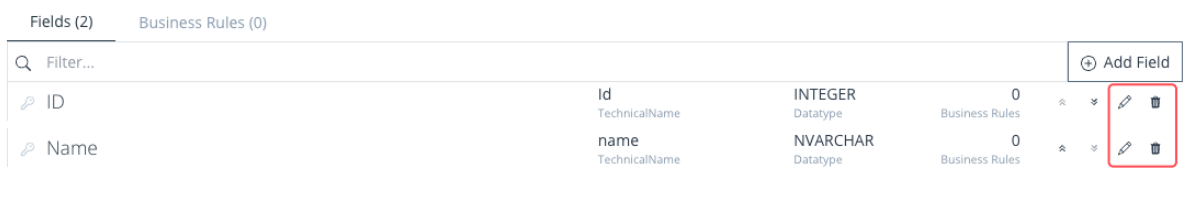
- DATE
- TIME
- SECONDDATE
- TIMESTAMP
- TINYINT
- SMALLINT
- INTEGER
- BIGINT
- SMALLDECIMAL
- DECIMAL
- REAL



- DOUBLE
- BOOLEAN
- VARCHAR
- NVARCHAR
- ALPHANUM
- SHORTTEXT

### 3.5.4 Edit and/or Delete Field

To edit a Field, click the Field tab within the Entity menu, to display all the added Fields. Each of the Fields has four options on the right side, arrow-up and arrow-down are used to determine the order of columns. There is also a pen icon, which is the Edit Field button, and a trashcan icon which is the Delete Field button.



**Figure 12:** Edit/Delete Field Button

## 3.6 Business Rule

### 3.6.1 Business Rule Prerequisites

- Entity
- Field

### 3.6.2 Business Rule Minimum Permission Level

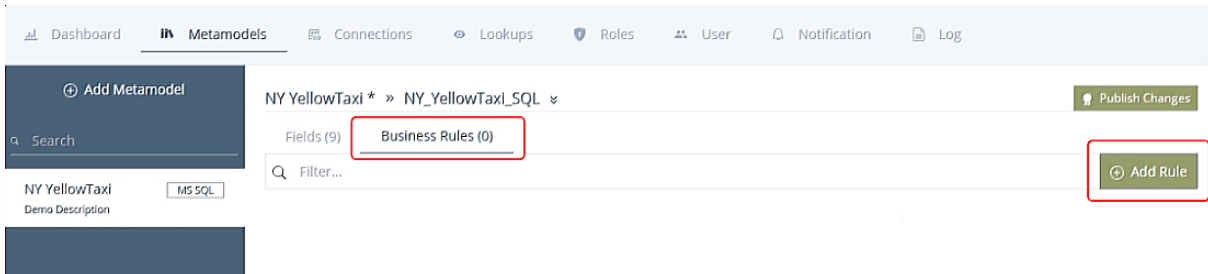
Permission	Create	Read	Update	Delete
Application	-	x	-	-
Metamodel	-	x	x	-
Entity	-	x	-	-
Business Rule	x	x	x	x





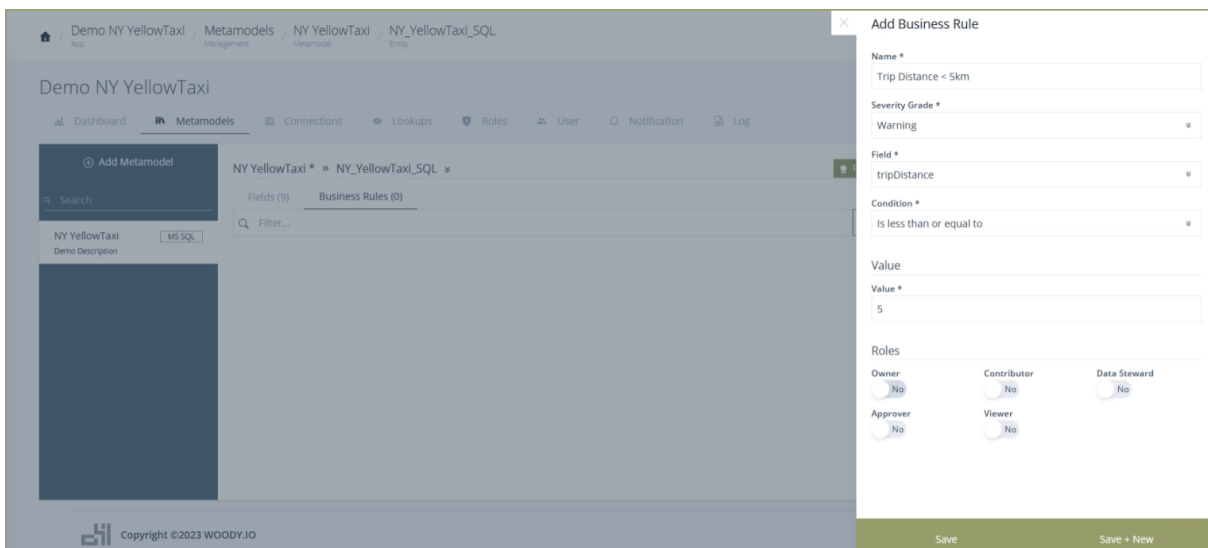
### 3.6.3 Create Business Rule

To create a Business Rule, navigate to the Business Rules tab after selecting an Entity from a Metamodel, and click the “Add Rule” button.



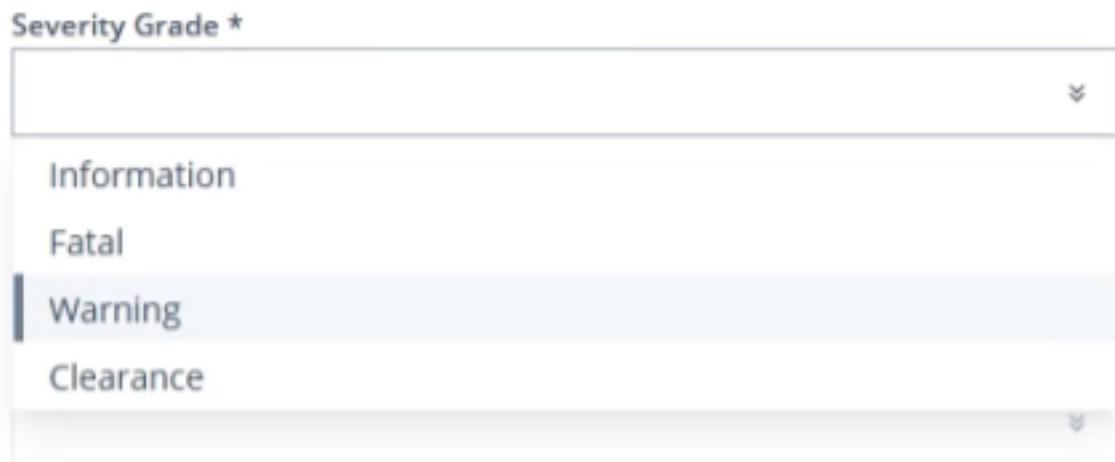
**Figure 13:** Add Business Rule Button

This opens the Business Rule form which has the following input fields:



**Figure 14:** Add Business Rule Form

- **Name:** the name of the Business Rule.
- **Severity Grade:** a measure of the level of severity or impact that an invalid value has. The Four Severity Grades used in WOODY.IO are:



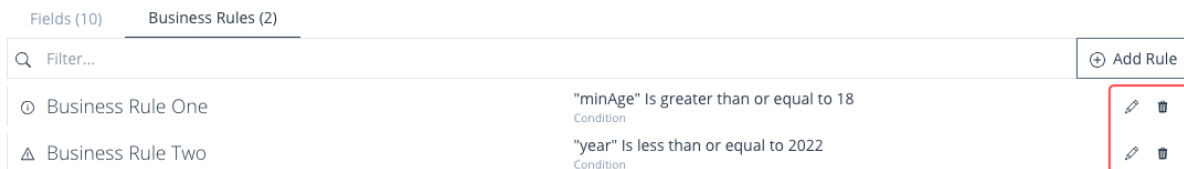
**Figure 15:** Business Rule Severity Grades

- **Information:** this Severity Grade indicates that the issue being flagged is informational in nature and does not pose a significant risk to the data.
  - **Fatal:** this Severity Grade indicates that the issue being flagged is critical and not allowed to be persisted. It is used to notify the User of a critical error that requires immediate attention and action as the Import process can not be finalized while this issue exists.
  - **Warning:** this Severity Grade suggests that the flagged issue has the potential to cause harm to the data. To acknowledge the warning, a Comment will be required for an Import to be approved.
  - **Clearance:** this Severity Grade signifies that a Business Rule has been violated, and the Import process is halted until a Clearance Statement is uploaded in the Import.
- **Field:** the Field to which the Business Rule will be attached.
  - **Condition:** depending on the data type of the Field, different conditions will be available. These conditions typically involve logical operators (such as “greater than,” “less than,” or “equal to”) or regular expressions that specify patterns of text or values.
  - **Value:** the value that the field must meet in order for the data to be valid. This may be a specific numeric or text value, or it may be a range of values or a pattern of text or characters.
  - **Roles (slides):** If Roles are selected and the User creating an Import is part of this Role and the severity grade for the Business Rule is set to ‘Fatal’, data is automatically filtered from the source or the Loading step cannot proceed. This ensures that based on Role, not all data can be viewed or persisted to the destination. Common scenario is RLS.



### 3.6.4 Edit and/or Delete Business Rule

To edit a Business Rule, click the Business Rules tab within the Entity menu, to display all the Business Rules. Each Business Rule has two icons on the right side, a pen icon, which is the edit Business Rule button, and a trashcan icon which is the delete Business Rule button.



**Figure 16:** Edit/Delete Business Rule Button

## 3.7 Import Template

### 3.7.1 Import Template Prerequisites

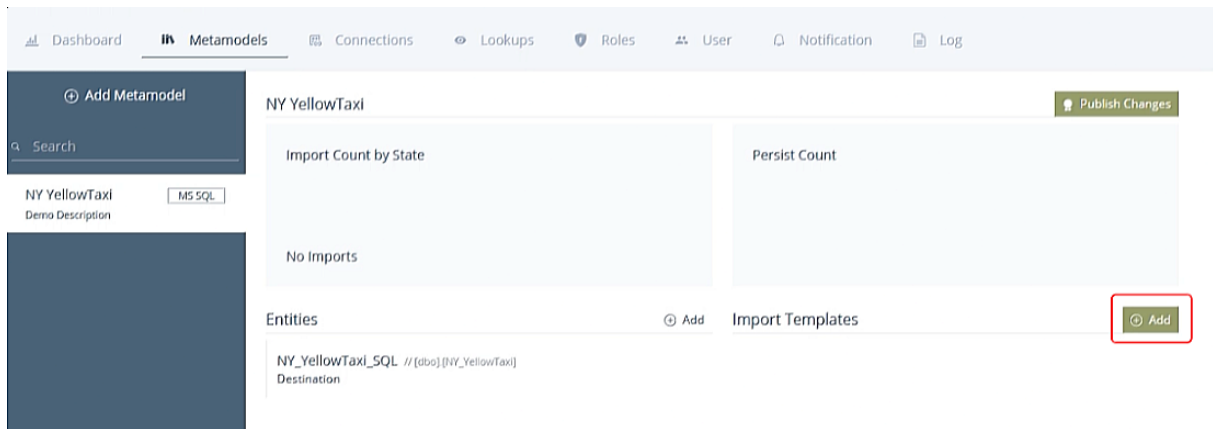
- Connection *depends on Import Type*
- Metamodel

### 3.7.2 Import Template Minimum Permission Level

Permission	Create	Read	Update	Delete
Application	-	x	-	-
Connection	-	x	-	-
Metamodel	-	x	-	-
Entity	-	x	-	-
Import Template	x	x	x	x



### 3.7.3 Create Import Template



**Figure 17:** Add Import Template Button

In the Metamodel menu, to the right of Entities, are the Import Templates. Click the “Add” button to open the Import Template creating form which has the following fields:



---

## Add Import Template

**Name \***

**Description**

**Import Type \***

**Transaction Type \***

**Is Static**

**Save**

**Figure 18:** Add Import Template Form



- **Name:** the name of the Import Template.
- **Description:** the description of the Import Template.
- **Import Type:** where data comes from. Some options are only available based on the Metamodel destination Connection Type. Here is a full list of possible Import Types:
  - File Upload
  - AWS Connection
  - SAP HANA
  - Microsoft SQL Server Connection
  - Azure Data Lake Connection
  - Snowflake
  - Databricks
  - Live Edit Notice that when Live Edit is selected, no Connection field is required. That is because Live Edit will use the Connection of the Metamodel.
- **Transaction Type:** this indicates the type of Transaction that will be performed with the loaded data. Depending on which type of Connection the Metamodel was created, different Transaction types will be available in the dropdown menu. The full set of transaction types looks like this:
  - **Merge** - Updates data found by columns marked as Key, not matched will be inserted.
  - **Insert** - Inserts all data.
  - **Update** - Updates data found by columns marked as Key, not matched will be discarded.
  - **Replace** - Deletes all data in destination before inserting data from Import.
  - **Delete** - Deletes data based on **all** columns present in the Import. E.g., loading one row with one column “State”=“Obsolete” will delete all entries in the destination which have the “State” column defined as “Obsolete”.
- **Is Static (slide):** this enables the Import be reset after the persist stage. During a reset, based on the Import Type of the Import Template, the User might be prompted to upload a new File.

### 3.7.4 Edit and/or Delete Import Template

To edit an Import Template click on the Import Template to open it, and then click the “**Edit**” button located in the top-right corner. This will open up the Edit Import Template form, allowing you to make modifications. Click the “Save” button at the bottom of the form to save the modifications. Click the “Delete” button to delete the Import Template.



### Edit Import Template

**Name \***

**Description**

**Import Type \***

**Transaction Type \***

**Is Static**  No

**Figure 19:** Import Template Delete Button

### 3.8 Entities and Fields in Import Template

WOODY.IO's Import Templates rely on Entities and their corresponding Fields to effectively map incoming source data. This process allows for accurate interpretation and loading of data, ensuring that it can be properly processed and utilized. Additionally, Import Templates offer the flexibility to partially import Entities in certain cases. This means that Users can customize their Import process to meet



their specific needs and only bring in the data that is relevant to their Workflows.

### 3.8.1 Prerequisites

- Import Template
- Entity
- Fields

### 3.8.2 Minimum Permission Level

Permission	Create	Read	Update	Delete
Application	-	x	-	-
Metamodel	-	x	-	-
Entity	-	x	-	-
Import Template	x	x	x	x





### 3.8.3 Select Entities and Fields in Import Template

#### Edit Import Template Entity

Entity **TechnicalName** ⓘ

NY\_YellowTaxi

Fields ☰ Choose Fields

🗑 Deselect All
⊕ Select All

Friendlyname	Technicalname	
<input type="checkbox"/> * ID	ID	<input checked="" type="checkbox"/> ID *
<input type="checkbox"/> * vendorID	vendorID	<input checked="" type="checkbox"/> vendorID
<input type="checkbox"/> * passengerCount	passengerCount	<input checked="" type="checkbox"/> passengerCount
<input type="checkbox"/> * tripDistance	tripDistance	<input checked="" type="checkbox"/> tripDistance
<input type="checkbox"/> * paymentType	paymentType	<input checked="" type="checkbox"/> paymentType
<input type="checkbox"/> * fareAmount	fareAmount	<input checked="" type="checkbox"/> fareAmount
<input type="checkbox"/> * extra	extra	<input checked="" type="checkbox"/> extra
<input type="checkbox"/> * tipAmount	tipAmount	<input checked="" type="checkbox"/> tipAmount
<input type="checkbox"/> * totalAmount	totalAmount	<input checked="" type="checkbox"/> totalAmount

Yes   
Yes   
Yes

Save

**Figure 20:** Edit Import Template Entity Form

To add an Entity to the Import Template, go to the Import Template menu by clicking on the Import Template. Then find and click “Choose Entities” and add all required Entities to the Import Template. After selecting your Entities, proceed by pressing the “Edit” button on the right side to open the Edit Import Template Entity form. Here you can see a table with the following columns:



### 3.8.4 TechnicalName

The Entity TechnicalName must match the exact name of the dataset. For a SQL Table, enter its exact name from the SQL Server Table definition. For an Excel file, enter the worksheet name. For File Upload with CSV or Parquet files the TechnicalName does not matter. Defaults to the TechnicalName of the underlying Entity.

### 3.8.5 Fields

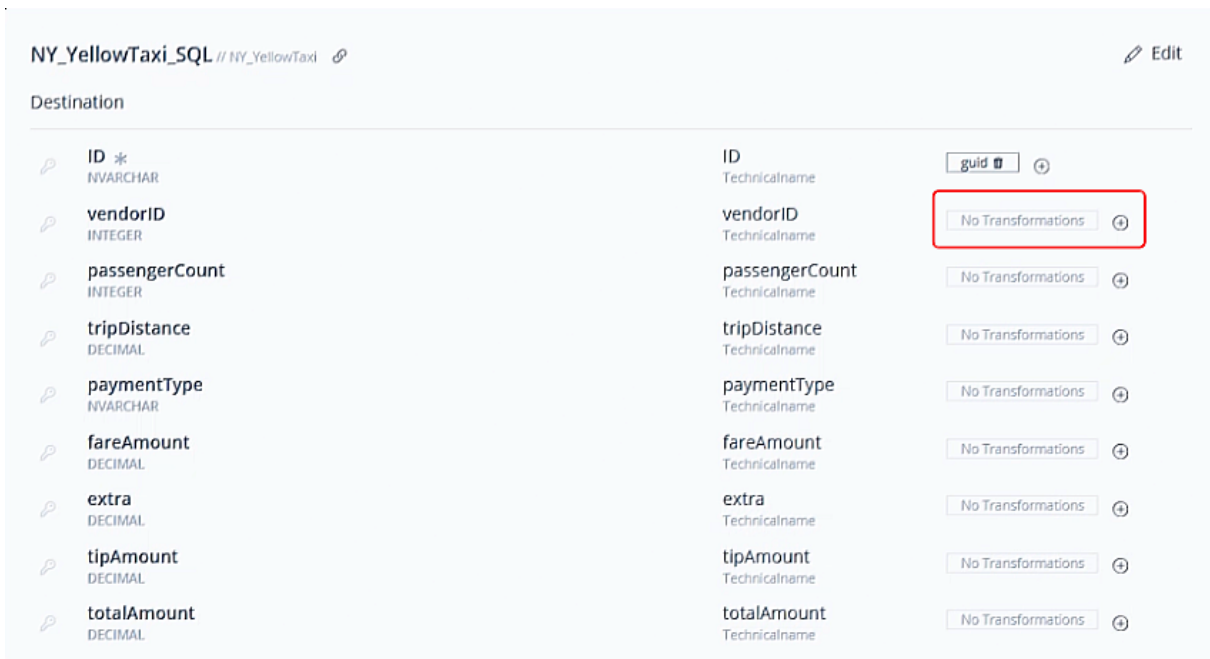
To add Fields, click “Choose Fields” to see a list of all available Entity fields. Click on those you need in your Import Template to add them to a list below where they can be further configured.

Entity Fields are added with options to edit their TechnicalName and an “Editable” switch that determines whether or not they can be edited after the loading stage. This Editable flag does not apply to manually added items during an Import process.

Click the “Save” button at the bottom of the form to save all changes.

## 3.9 Transformations

Transformations can be used to automatically adjust data during the Import process. They are defined on a specific Field. Multiple Transformations can be applied. They will be processed in the order they were created.



NY\_YellowTaxi\_SQL // NY\_YellowTaxi [Edit](#)

Destination

ID *	INVARCHAR	ID	Technicalname	guid <input type="text"/> <a href="#">+</a>
vendorID	INTEGER	vendorID	Technicalname	No Transformations <a href="#">+</a>
passengerCount	INTEGER	passengerCount	Technicalname	No Transformations <a href="#">+</a>
tripDistance	DECIMAL	tripDistance	Technicalname	No Transformations <a href="#">+</a>
paymentType	INVARCHAR	paymentType	Technicalname	No Transformations <a href="#">+</a>
fareAmount	DECIMAL	fareAmount	Technicalname	No Transformations <a href="#">+</a>
extra	DECIMAL	extra	Technicalname	No Transformations <a href="#">+</a>
tipAmount	DECIMAL	tipAmount	Technicalname	No Transformations <a href="#">+</a>
totalAmount	DECIMAL	totalAmount	Technicalname	No Transformations <a href="#">+</a>

**Figure 21:** Add Transformation Button



Following Transformations are shipped with WOODY.IO:



## Add Transformation

Transformation

Lookups

Select Transformation \*

Import Date

- Import Date
- Import Identifier
- Import Starter
- Import Name
- Import Filename
- Trim
- New Guid
- To Lower

Save

Figure 22: Transformation Types



- **Import Date:** Sets the value to the Date the Import was created.
- **Import Identifier:** Sets the value to the Unique ID of the Import within WOODY.IO. E.g:  
8f3507dc727923fc8b1c19549e8df6d9f635
- **Import Starter:** The Displayname of the User which created the Import.
- **Import Name:** The name entered while creating the Import.
- **Import Filename:** The Filename used for the Import.
- **Trim:** Removes whitespace from the processed value.
- **New Guid:** Sets the value to a randomly generated GUID.
- **To Lower:** Changes the casing of the value to lower case.
- **To Upper** Changes the casing of the value to upper case.

Additionally Lookups can be used for Transformations. The incoming value will be searched in the defined “Lookup Field” of the Lookup and replaced with the value from the “Transformation Field”.



## Add Transformation

Transformation    Lookups

Select Lookup \*

New Lookup



Select Lookup Field \*

Country ISO



Select Transform Field \*

Country Name



Save

**Figure 23:** Add Transformation from Lookups Form

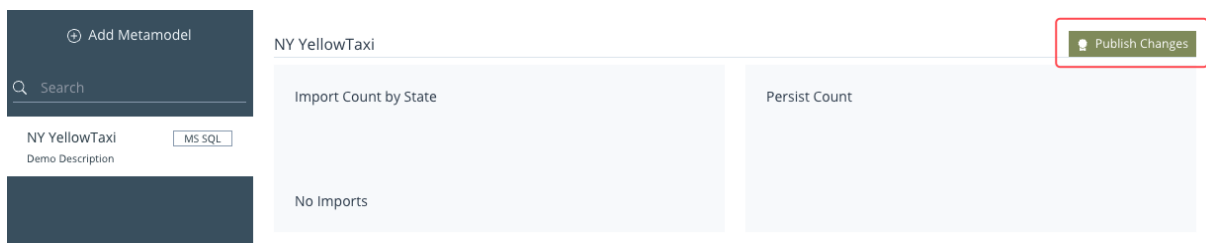


**For example**, in a sales database, a Lookup might be used to find the customer information associated with a specific order by matching the customer ID from the order Field to the customer ID in the lookup.

### 3.10 Publishing a Metamodel

Publishing a Metamodel before using it in an Import is an important step in ensuring that the data being imported is accurate and consistent. A Metamodel defines the structure and relationships of the data being imported, and Publishing it makes it available for use in the Import process.

This way it is possible to change definitions or add new Import Templates to an existing and currently in use Metamodel without breaking active Imports. Publishing a Metamodel will not break currently active Imports they will be processed with the Metamodel Version which was present while creating the Import, although a message will be displayed indicating that a new Metamodel Version is present.



**Figure 24:** Publish Button

The “Publish” button is located in the top right corner of the Metamodel menu.

### 3.11 Lookup

#### 3.11.1 Lookup Prerequisites

- Application
- Connection *optional*

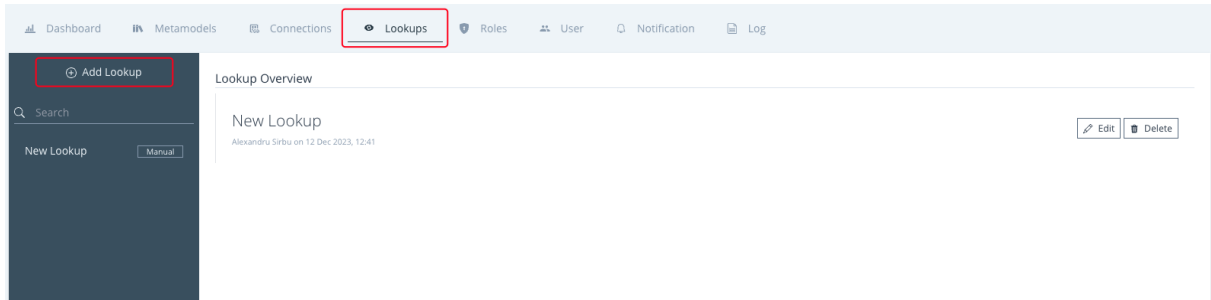
#### 3.11.2 Lookup Minimum Permission Level

Permission	Create	Read	Update	Delete
Application	-	x	-	-
Connection	-	x	-	-



Permission	Create	Read	Update	Delete
Lookups	x	x	x	x

### 3.11.3 Create Lookup



**Figure 25:** Lookup Tab and Add Button

To create a Lookup, navigate to the Lookup tab in the management menu and click “Add Lookup”. This will open the Add Lookup form.

#### Add Lookup

Name \*

Import from Source

 No

Fields

[+ Add Field](#)

Technicalname	Friendlyname	Data Type	
country	Country Name	VARCHAR	🗑️
countryISO	Country ISO	VARCHAR	🗑️

Save

**Figure 26:** Add Lookup Form





The form has the following input fields and options:

- **Name:** the name for the Lookup.
- **Import from Source (slide):** if data should be imported from a source instead of manually typing in each item. If this option is used, the **Add Field** option disappears.
  - **Connection:** the Connection to the source data system.
    - \* **Select Entity:** a table that exists in the database associated with the above Connection.
      - **Field/s:** the columns from the selected Lookup Entity.

**Add Lookup**

**Name \***  
Payment Type Name

**Import from Source**  
Yes

**Connection**  
Demo SQL

**Select Entity \***  
paymentType  
[dbo].[paymentType]

**Fields**

Field Name	Status
paymentTypeId * int	Yes <input checked="" type="checkbox"/>
paymentTypeName nvarchar	Yes <input checked="" type="checkbox"/>

Save

**Figure 27:** Add Lookup From Source Form

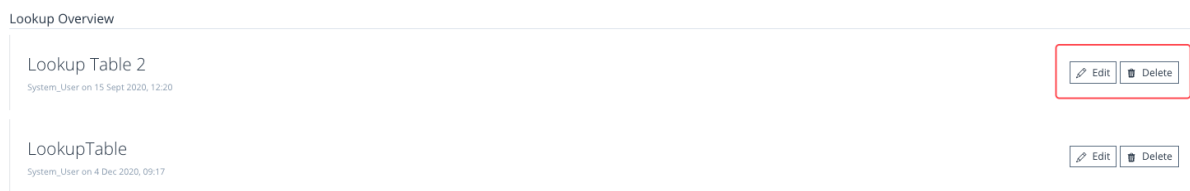
- **Add Field** (not available when **Import from Source** is selected): button will allow the User to add multiple Lookup Fields. The trash icon on the left of each field will allow the User to delete the field.
  - **Technical Name:** the exact name of the field in the source.
  - **Friendly Name:** a friendly name of the field in the source.



- **Data Type:** the type of data for the field.

### 3.11.4 Edit and/or Delete Lookup

To edit or delete a Lookup, click the Lookup tab in the Management menu, to show all Lookups in the Lookups Overview. Each Lookup has two buttons on the right side, an edit Lookup button with a pen icon, and a delete Lookup button, with a trashcan icon.



**Figure 28:** Edit/Delete Lookup Buttons

Alternatively, you can directly click on the Lookup itself, in the list on the left of in the Lookup Overview, and then click the **“Edit”** button located in the top-right corner. This will open the pre-configured lookup form with the **“Save”** and **“Delete”** buttons at the bottom.

## 3.12 Role

### 3.12.1 Role Definition

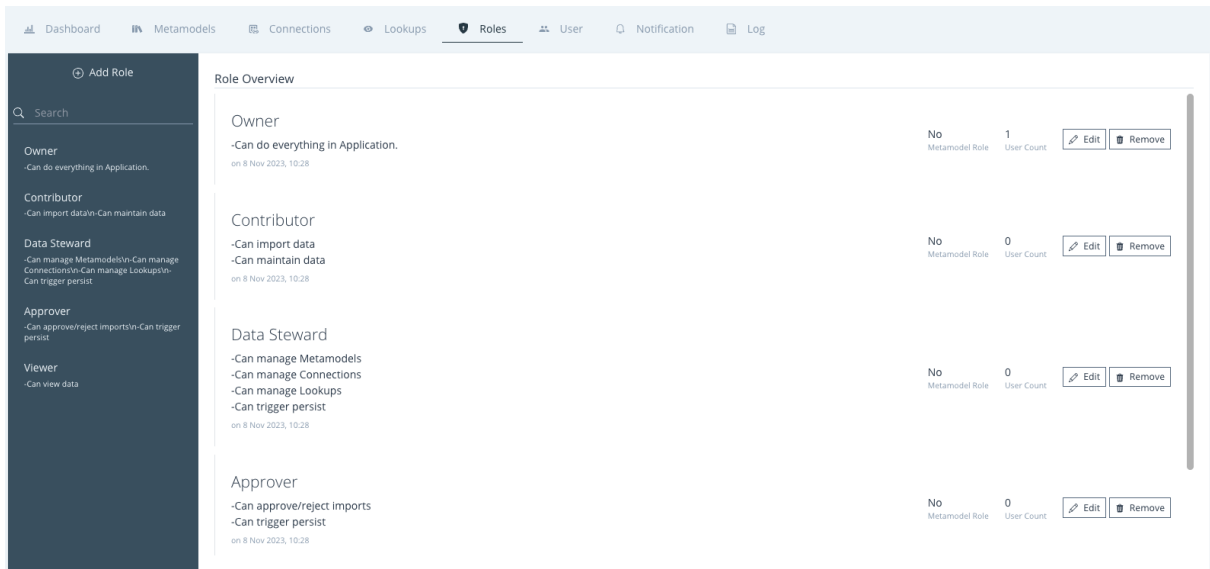
Roles refer to the various functions or responsibilities that Users or groups of Users may have within WOODY.IO.



**Figure 29:** Roles Tab

Roles help to define what actions or operations a User is authorized to perform within the WOODY.IO, as well as what data they have access to. For example, in a CRM system, Roles might be defined for salespeople, managers, and support staff, each with different levels of access to customer data and different abilities to modify or update that data.

Each Role consists of multiple Permissions which can granularly define the access cope of Users assigned to the Role. Roles do not require Permissions assigned to them, e.g. when used in a Business Rule context. They are only responsible for data a User can load or enter into the system.



**Figure 30:** Default Roles

Each created Application will have the following default Roles already present:

- Owner
  - Can do everything in an Application.
- Contributor
  - Can import data.
  - Can maintain data.
- Approver
  - Can approve/reject imports or maintenance sets.
- Viewer
  - Can view data.
- Data Stewart
  - Can manage Metamodels.
  - Can manage Connections.
  - Can manage Lookups.
  - Can trigger persist.

### 3.12.2 Role Prerequisites

- Application



### 3.12.3 Role Minimum Permission Level

Permission	Create	Read	Update	Delete
Application	-	x	-	-
Role	x	x	x	x

### 3.12.4 Create Role

To create a Role, navigate to the Role tab in the Management menu, find and click the “Add Role” button. This will open the form that allows you to create a custom Role.



### Add Role

NEW ROLE

Description

Role Description

---

Metamodels

Is Metamodel Role

No

Permissions

Application	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metamodel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Entity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
User Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Role	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roles for own Application	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Connection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Business Rule	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Import Template	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Import	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Approval	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Persist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Logs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lookups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Save

**Figure 31:** Add Role Form

The form has the following input fields and options:

- **Name:** the name you want to give the Role.



- **Description:** the description of the Role.

#### Metamodel

- **Is Metamodel Role:** the User with this Role will have limited access to selected Metamodels.
- **Permissions:** here we have a list of different sections in a WOODY.IO Application:
  - Application
  - Metamodel
  - Entity
  - User Management
  - Role
  - Roles for own Application
  - Connection
  - Business Rule
  - Import Template
  - Import
  - Approval
  - Persist
  - Logs
  - Lookups

These are accompanied by four columns of checkboxes which represent the degree of access Users with this Role will have to certain sections of the Application. These are displayed in this order:

- **Create:** will only allow the User to create entries in the appropriate section.
- **Read:** will only allow the User to observe the appropriate section.
- **Update:** will allow the User to edit an entry in the appropriate section.
- **Delete:** will allow the User to delete an entry in the appropriate section.

When you are done filling in the form, click the button at the bottom of the form to save the Role.

### 3.12.5 Edit a Role

By default, each Application comes with five predefined roles: Owner, Contributor, Data Steward, Approved, and Viewer. These Roles can be modified as needed to reflect changes in the organization or the system.

To edit or delete a Role, click the Role tab in the Management menu, to display all Roles. Each Role has two buttons on the right side, an Edit Role button with a pen icon, and a Delete Role button, with a trashcan icon.

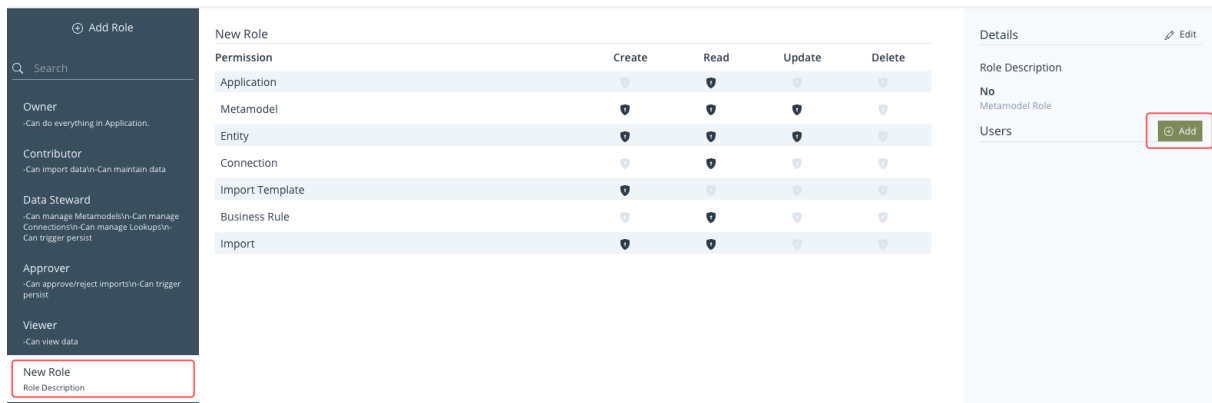
Alternatively, you can directly click on the Role itself, in the list on the left of the Role Overview, and then click the “**Edit**” button located in the top-right corner. This will open the Edit Role form with the



“Save” and “Delete” buttons at the bottom.

### 3.12.6 Add User

Below the Details section on the right, you can find all Users currently in this Role.



Permission	Create	Read	Update	Delete
Application	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metamodel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Entity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Connection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Import Template	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Business Rule	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Import	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Figure 32:** Add User Button on Role

In order to add Users to this Role, press on the “Add” button. This will open the “Add User to Role” form, allowing you to add Users to this Role.

The form is quite simple, there is only a filter input field which will search for an already existing User existing in WOODY.IO.

This is an alternative to an already existing menu named “Users”, in which you can create Users and assign Roles to them.

## 3.13 User

### 3.13.1 User Definition

A User in WOODY.IO is an individual that interacts with the Application to manage or access data. Users may be assigned different Roles or Permissions that dictate their level of access to the data, such as read-only, edit, or full administrative access.

The concept of a User is essential in WOODY.IO to ensure that data is protected and accessed only by authorized personnel. Access to data may be restricted to specific Users or groups, depending on the Application security model. Additionally, User activity and changes to the data are logged for auditing and tracking purposes.



### 3.13.2 User Prerequisites

- Application

### 3.13.3 User Minimum Permission Level

Permission	Create	Read	Update	Delete
Application	-	x	-	-
User Management	x	x	x	x

### 3.13.4 Add User

To add a User, navigate to the User tab in the Management menu and look for the “Add User” button. This will open up the Add User form.

The form has two tabs, Select User and Create User.

**3.13.4.1 Select User** The Select User tab has 2 input fields and is used to assign a Role to a specific User:





## Add User

Select User    Create User

Select User \*

**Figure 33:** Add User Form

- **Select User:** will lookup for a User match in Azure AD.
- **Select Role:** will assign a Role from the ones available.

Click the button at the bottom of the form to save the User.

**3.13.4.2 Create User** The Create User tab has four input fields and creates a whole new User for the System. This is necessary if the User should get access in the future, but is not yet onboarded to WOODY.IO.



# Add User

Select User

Create User

Name \*

Username \*

Email \*

Select Role \*

⌵

- Owner
- Contributor
- Data Steward
- Approver
- Viewer
- New Role

Save

Figure 34: Create User Form  
oh22data AG



- **Name:** the full name of the User.
- **Username:** the username of the User. This is a unique identifier with WOODY.IO.
- **Email:** the email address associated with the User.
- **Select Role:** will assign a Role from the ones available.

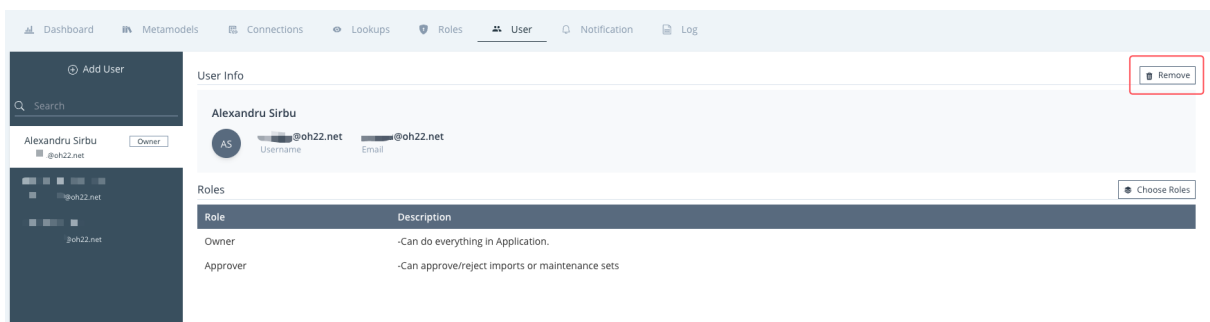
Click the button at the bottom of the form to create and save the User.

### 3.13.5 Edit and/or Remove User

The list of Users is displayed in the User tab in a list on the left as well as in the main view.

In order to edit a User, click on the User in either list to display the User detailed information. The info panel contains information such as User icon, the username, the email address, and the Roles.

In the top-right corner there is a “Remove” button that will remove all User Permissions from the current Application.



**Figure 35:** Remove User Button

The Roles section will display all Roles assigned to the User. On the right side, a button named “Choose Roles” will allow selection of more Roles for the User or removal of Roles.

## 3.14 Notification

### 3.14.1 Notification Prerequisites

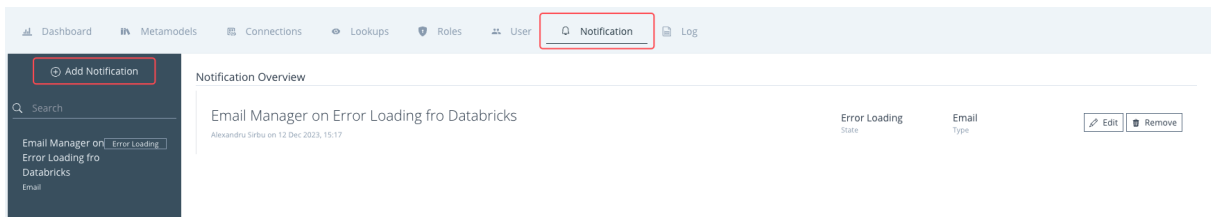
- Application
- Connection *depends on Notification Type*

### 3.14.2 Notification Minimum Permission Level



Permission	Create	Read	Update	Delete
Application	-	x	-	-
Connection	-	x	-	-

### 3.14.3 Create Notification



**Figure 36:** Notifications Tab and Add Notification Button

Navigate to the Notification tab in the Management menu. Find an click “Add Notification” to open the Add Notification form.



## Add Notification

Email Manager on Error Loading from Databricks

**Description**

Notification Description

**Type** ⓘ

**Notification Type \***

Email

**To \***

manager@oh22.net

**Subject \***

Error Loading from Databricks in {app} app.

**Body \***

Import {import}, with import type {import\_type} has failed to load data from Databricks.

Dataset: {import\_source}  
Metamodel: {metamodel}, {metamodel\_identifier}

**Condition**

**Select States \***

Error Loading

**Filter**

And	⌵	🛡️ Add Condition	🔊 Add Sub Condition	🗑️		
Import Type	⌵	Equal	⌵	Databricks	⌵	🗑️

Save

**Figure 37:** Add Notification Form

The form has the following input fields:



- **Name:** the name for the Notification.
- **Description:** the description of the Notification Type.
- **Notification Type:** the type of Notification, as mentioned in Notification Type. A form for selected Type will appear.
- Condition:
  - **Select States:** a list of available states is available below.
  - **Filter:** filters based on various properties of triggering Imports. Following filters are available:
    - \* Import Name: The Name of the Import
    - \* Import Source: The Source Name of the Import
    - \* Import Type: A specific Source Type
    - \* Persist Type: A specific Destination Type
    - \* Metamodel: A specific Metamodel
    - \* Import Template: A specific Import Template
    - \* Row Count: The number of Errors
    - \* Error Count: The number of Error violations
    - \* Warning Count: The number of Warning violations
    - \* Information Count: The number of Information
    - \* Clearance Count: The number of Clearance

### 3.14.4 Notification Types

Currently there are three Notification Types included:

Type	Description
Email	Send an Email.
Http Request	Make an HTTP Request, e.g. to send information to an Azure Function.
Microsoft SQL	Execute a SQL Statement, e.g. to Execute a Store Procedure.

#### 3.14.4.1 Email

An Email will be sent to the specified Address.

Field	Description
To	The Email address of the Recipient
Subject	The Subject



Field	Description
Body	The Message, can also contain HTML

**3.14.4.2 HTTP Request** This can be used to make a HTTP Request after the import has finished, e.g. to start an Azure Function or a Power Automate Flow.

Type: http

Property	Description
Url	The url to contact
Method	The HTTP Method to Use, e.g. POST
Headers	The headers to send
Body	The content to send

**3.14.4.3 MS SQL** This can execute a Stored Procedure or execute an DML Statement after persisting has finished.

Type: mssql

Property	Description
SQL	The Statement to Execute
Connection	The Connection ID

### 3.14.5 Edit and/or Delete Notification

To edit or delete a Notification, click the Notification tab in the Management menu, to display all Notifications in the Notification Overview. Each Notification has two buttons on the right side, an Edit Notification button with a pen icon, and a Delete Notification button, with a trashcan icon.



**Figure 38:** Edit/Delete Notification Buttons



Alternatively, you can directly click on the Notification itself, and then press on the “**Edit**” button located in the top-right corner. This will open the Edit Notification form with the “Save” and “Delete” buttons at the bottom.

### 3.14.6 States

A list of available states:

- New
- Loading
- Error Loading
- Loaded
- Ready to Validate
- Validating
- Valid
- Invalid
- Adjusting
- Waiting for approval
- Approved
- Declined
- Ready to persist
- Persisting
- Error Persisting
- Ready to archive
- Archiving
- Archived
- Error Archiving
- Waiting for Comments

Notifications can be sent via email, HTTP Request, or MS SQL. Notifications can also be customized to include different types of information related to the WOODY.IO Application.





## Replace Tokens

Description	Token
The Name of the App	{app}
The Id of the App	{app_identifier}
The name of the Import	{import}
The Id of the Import	{import_identifier}
The name of the Import Template	{import_template}
The name of the File used for Import	{import_source}
The name of the Import Type eg. File Upload	{import_type}
The name of the Metamodel	{metamodel}
The Id of the Metamodel	{metamodel_identifier}
The current Metamodel Version	{metamodel_version}
The Destination Type Name	{persist_type}

**Figure 39:** Notification Tokens Panel

A list of available types of information with description and tokens:

Description	Token
The Name of the App	{app}
The Id of the App	{app_identifier}
The name of the Import	{import}
The Id of the Import	{import_identifier}
The name of the Import Template	{import_template}
The name of the File used for Import	{import_source}
The name of the Import Type eg. File Upload	{import_type}
The name of the Metamodel	{metamodel}
The Id of the Metamodel	{metamodel_identifier}
The current Metamodel Version	{metamodel_version}
The Destination Type Name	{persist_type}



Description	Token
The Transaction Type Name	{transaction_type}
The number of rows processed by WOODY.IO	{row_count}
The number of rows with Warnings	{warning_count}
The number of rows with Clearance rules broken	{clearance_count}
The number of rows with Information rules broken	{information_count}
The number of rows with Error rules broken	{error_count}

### 3.15 Example

Here is an example of a Notification message sent by email that uses some of the tokens listed above:

```

Subject: Update for WOODY.IO Import {import}

Hello,

The import process for the {import_type} {import} in {app} has been completed. >Here's a summary of the import:

Rows processed: {row_count} Rows with warnings: {warning_count} Rows with clearance rules broken: {clearance_count} Rows with information rules broken: {information_count} Rows with error rules broken: {error_count}

Thank you for using WOODY.IO!

Best regards, The WOODY.IO Team
  
```

### 3.16 Logs

#### 3.16.1 Logs Definition

In WOODY.IO, Logs are records of events or actions that have occurred during an Import. These events may include system events, User actions, errors, or warnings, and are typically recorded in a chronological order.

Logs are particularly important to WOODY.IO for auditing and compliance.

#### 3.16.2 Logs Prerequisites

- Application

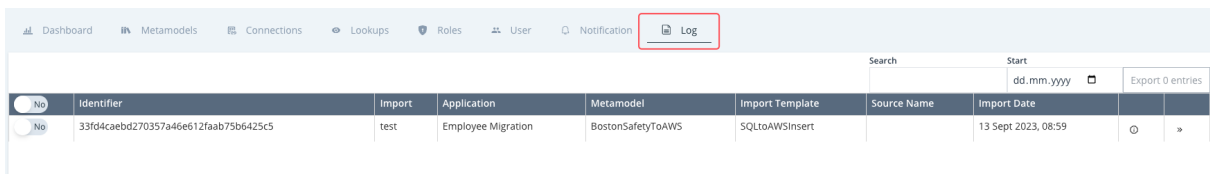


### 3.16.3 Logs Minimum Permission Level

Permission	Create	Read	Update	Delete
Application	-	X	-	-
Logs		X		

### 3.16.4 Filter Logs

To access the Logs tab, go to the Management menu.

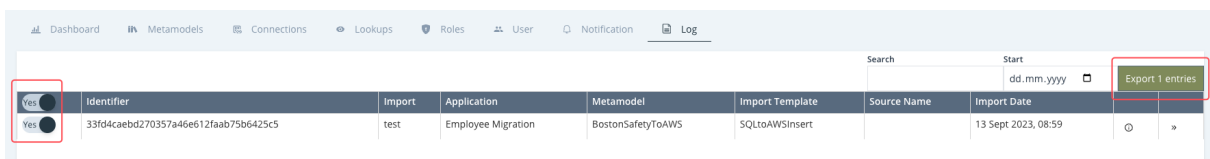


**Figure 40:** Log Tab

You can filter the Logs displayed by any of the columns using the Search input field, and also by date using the date picker.

### 3.16.5 Export Logs

On the left-hand side of each log, there is a slider that can be turned on to select the record for export. To export all the displayed records, simply slide the slider on the very top.



**Figure 41:** Export Logs

After selecting the desired Logs, click on the “Export” button located in the top-right corner to initiate the export process.

### 3.17 Import

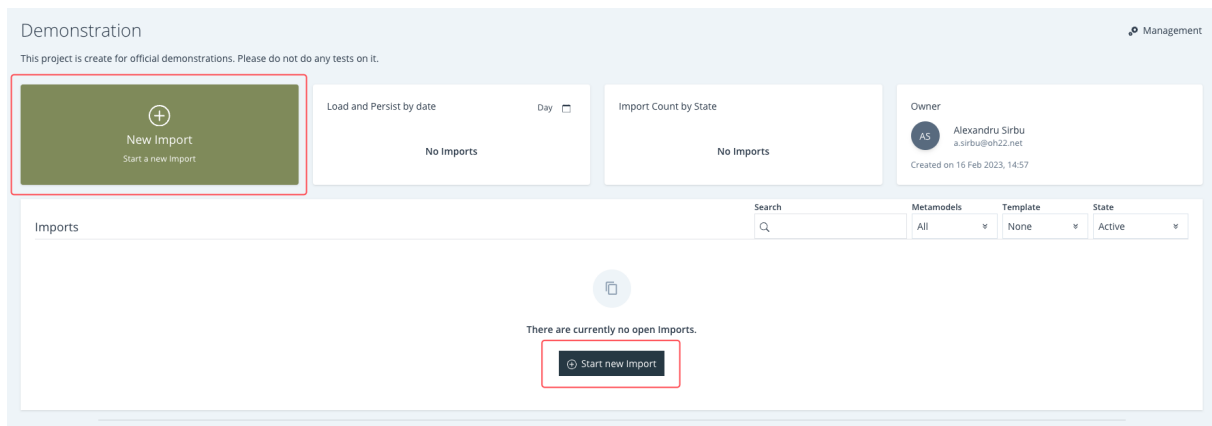
#### 3.17.1 Import Prerequisites

- Application
- Connection
- Metamodel

#### 3.17.2 Import Minimum Permission Level

Permission	Create	Read	Update	Delete
Application	-	X	-	-
Metamodel	-	X	-	-
Import	X	X	X	X
Persist	X	X	X	X

#### 3.17.3 Create Import



**Figure 42:** New Import Buttons

To create an Import, click on New Import in the Import menu. This will open the Import creation form, which is split into two sections:

- **Select Template** - the user is selects the import template to be used for the import.



### Create new Import

1 Select Template 2 Enter Data

Filter	From	Metamodel
<input type="text" value="Filter Templates ..."/>	Any	Any

NY YellowTaxi To: MSSQL

NY_YellowTaxi_ADLS Source	Azure Data Lake From
------------------------------	-------------------------

Back Create



### Create new Import

1

Select Template

---

Import Template

**NY\_YellowTaxi\_ADLS**  
Source

Details

**Name \***

NY YellowTaxi ADLS > SQL

**Description**

Demo Description

**Passthrough** <sup>ⓘ</sup>

No

**Source**

» WOODY.IO Demo Data

WOODY.IO Demo Data/

« ..

**NY\_YellowTaxi.csv**  
29.2 kB

Back

- **Enter Data** - the user selects the dataset to be used for the import.

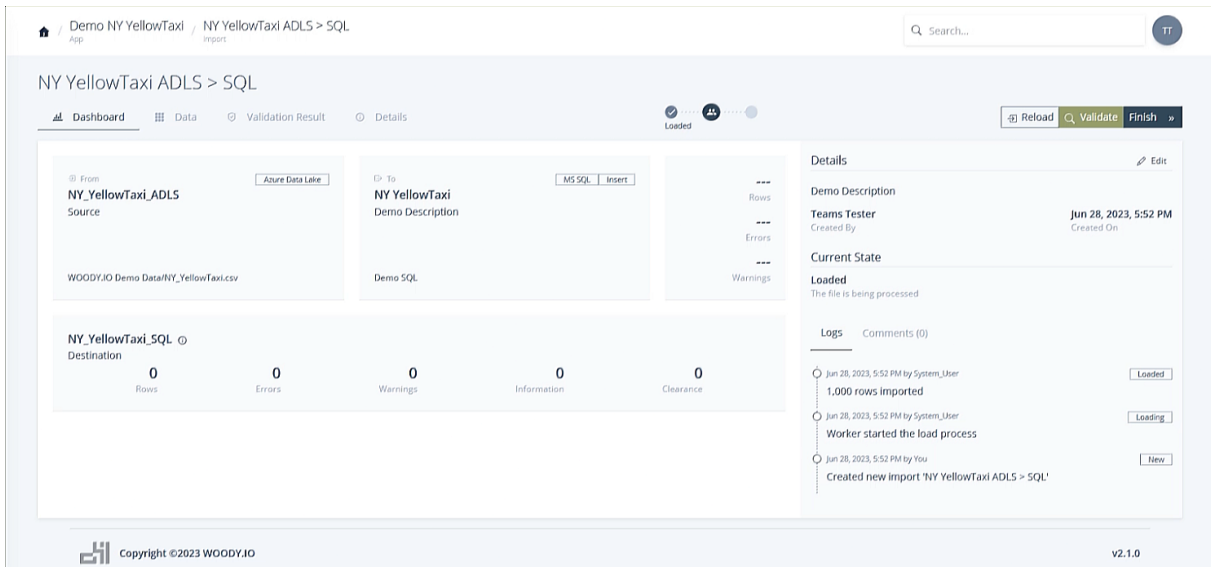
The “Enter Data” section enables the User to name the Import, add a description, and select the dataset to Import.

Click the Create button at the bottom of the form to create and start the Import process.

### 3.18 Import Page

#### 3.18.1 Import Page Prerequisites

- Import created



**Figure 43:** Import Dashboard

The Import process allows you to import data from various sources into different destinations. You can access an Import from the Applications home menu by pressing on the Import in the list of Imports.

The Import page interface consists of four tabs:



**Figure 44:** Import Navigation Bar

- **Dashboard:** This is where you can see an overview of your Import, such as the source and destination of your data, the number of rows that are being imported, and any errors or warnings that occurred during the Import.
- **Data:** This is where you can view and edit your data in a table format. You can use filters to narrow down your data based on various criteria, such as errors, warnings, changes, etc. You can also create custom filters. You can edit your data by clicking the “Quick Edit” button then selecting a cell.
- **Validation Results:** This is where you can see any Validation issues that occurred during the Import process, such as information messages, warnings, or clearances.
- **Details:** This is where you can see more information about your Import settings, such as Entities including Fields und Business Rules, Transformations, etc. Additional properties are also displayed, such as the name.

In the middle top side of the panel, you can also see the current state of your Import, which can be one of the following:



**Figure 45:** Import Status Indicators

- **Load:** The Import is loading the data from the source. Transformations are applied in this step.
- **Preparation:** The Import is validating according to your definition and Rules.
- **Approval:** The Import is ready to be reviewed and approved or denied.
- **Persist:** The Import is persisting the data to the destination.

The Details section is located on the right. It contains the following information:





## Details

✎ Edit

---

**Demo Description**

**Teams Tester**  
Created By

**Jun 28, 2023, 5:52 PM**  
Created On

---

**Current State**

**Loaded**  
The file is being processed

Logs
Comments (0)

---

○

Jun 28, 2023, 5:52 PM by System\_User

**1,000 rows imported**

Loaded

○

Jun 28, 2023, 5:52 PM by System\_User

**Worker started the load process**

Loading

○

Jun 28, 2023, 5:52 PM by You

**Created new import 'NY YellowTaxi ADLS > SQL'**

New

**Figure 46:** Import Details Panel

- **Description:** A brief description of your Import as defined when creating the Import.
- **Author:** The name of the User who created the Import.
- **Date Created:** The date and time when the Import was created.
- **Current State:** The current status and progress of your Import following a brief description of the state.

Below that, there are two more sections:

- **Logs:** This is where you can see a history of all actions and events that occurred during the Import process, such as loading, validating, editing, persisting, etc.



- **Comments:** This is where you can add comments or notes about the Import for yourself or other Users who may access it later.

There are four buttons in the top right corner that control the import process. Not all are always shown:



**Figure 47:** Import Control Buttons

- **Reload:** Pressing on reload will reset the current Import State back to *New*.
- **Validate:** This will validate the data according to your definition and Rules and show any issues in the Validation Results tab.
- **Finish:** This will persist (save) the data to the destination and complete the import process.
- **Retry:** Will only be shown if an error occurred while persisting. Will try to persist the data to the destination and complete the import process again.

## 4 Live Edit

### 4.1 Live Edit Definition

Live Edit is a feature which allows you to connect to an existing data source and view and adjust values without loading all data into the WOODY.IO document store beforehand. During the adjustment process only the changed rows will be stored for validation and further processing within WOODY.IO. As mentioned, the data will not be changed directly in the destination but stored within WOODY.IO similar to a regular Import, this ensures that the Validation and Approval process can be applied.

### 4.2 Live Edit Prerequisites

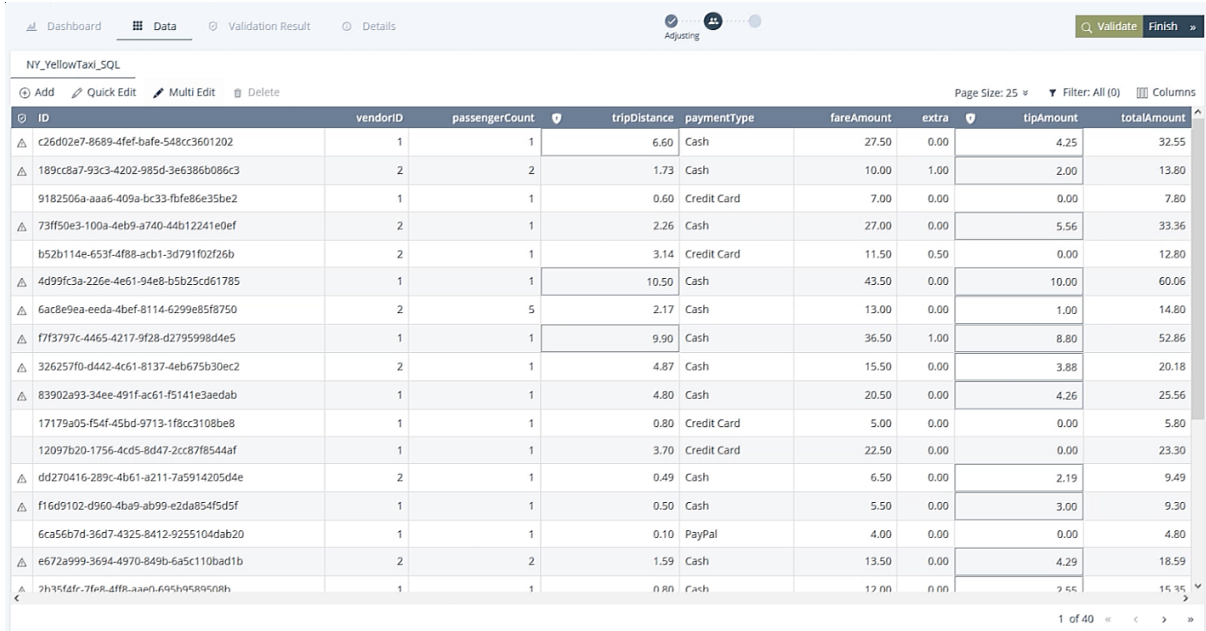
- Application
- Connection of type MS SQL.
- Metamodel that is configured to use an MS SQL connection.
- Import Template of type Live Edit.

### 4.3 Create Live Edit Import

Make sure to select the Live Edit Import Template type when following the instructions for Import. It's worth noting that the Live Editing Import has a similar interface as the normal Import.



After you have created the Import go to the Import panels “Data” tab to view the data. To make changes, click on the “Quick Edit” button. You will then be able to change the displayed data in a grid. Changed rows will be marked with a pencil symbol. It is also possible to add new data or mark data for deletion.

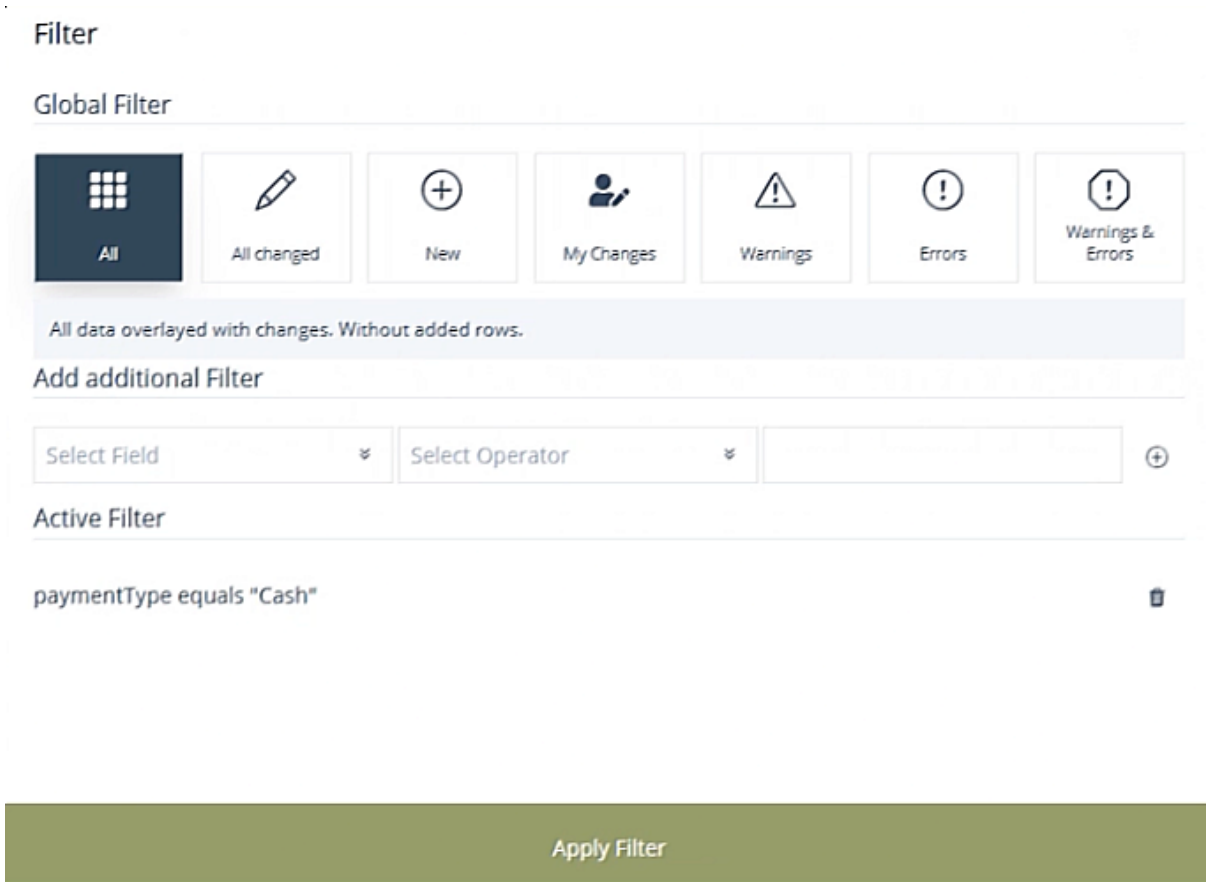


ID	vendorID	passengerCount	tripDistance	paymentType	fareAmount	extra	tipAmount	totalAmount
c26d02e7-8689-4fef-bafe-548cc3601202	1	1	6.60	Cash	27.50	0.00	4.25	32.55
189cc8a7-93c3-4202-985d-3e6386b086c3	2	2	1.73	Cash	10.00	1.00	2.00	13.80
9182506a-aaa6-409a-bc33-fbfe86e35be2	1	1	0.60	Credit Card	7.00	0.00	0.00	7.80
73ff50e3-100a-4eb9-a740-44b12241e0ef	2	1	2.26	Cash	27.00	0.00	5.56	33.36
b52b114e-653f-4f88-acb1-3d791f02f26b	2	1	3.14	Credit Card	11.50	0.50	0.00	12.80
4d99fc3a-226e-4e61-94e8-b5b25cd61785	1	1	10.50	Cash	43.50	0.00	10.00	60.06
6ac8e9ea-eeeda-4bef-8114-6299e85f8750	2	5	2.17	Cash	13.00	0.00	1.00	14.80
f7f3797c-4465-4217-9f28-d2795998d4e5	1	1	9.90	Cash	36.50	1.00	8.80	52.86
326257f0-d442-4c61-8137-4eb675b30ec2	2	1	4.87	Cash	15.50	0.00	3.88	20.18
83902a93-34ee-491f-ac61-f5141e3aedab	1	1	4.80	Cash	20.50	0.00	4.26	25.56
17179a05-f54f-45bd-9713-1f8cc3108be8	1	1	0.80	Credit Card	5.00	0.00	0.00	5.80
12097b20-1756-4cd5-8d47-2cc87f8544af	1	1	3.70	Credit Card	22.50	0.00	0.00	23.30
dd270416-289c-4b61-a211-7a5914205d4e	2	1	0.49	Cash	6.50	0.00	2.19	9.49
f16d9102-d960-4ba9-ab99-e2da854f5d5f	1	1	0.50	Cash	5.50	0.00	3.00	9.30
6ca5667d-36d7-4325-8412-9255104dab20	1	1	0.10	PayPal	4.00	0.00	0.00	4.80
e672a999-3694-4970-849b-6a5c110bad1b	2	2	1.59	Cash	13.50	0.00	4.29	18.59
2h35f4fr-7f68-4ff8-aap0-f95b9589508h	1	1	0.80	Cash	12.00	0.00	2.55	15.35

Figure 48: Live Edit Panel

From left to right:

- **Add:** will open a form that contains all the Fields as input fields. **Note:** New Entries will not be displayed directly in the Grid as they are not part of the Live Data. To view them the Filter for changed Data needs to be applied.
- **Quick Edit:** will allow editing of all data on the current page.
- **Multi Edit:** will allow filtering operations to help edit multiple fields and items at once.
- **Delete:** will delete the selected rows.
- **Reset:** will reset the selected rows back to the value currently in the source system.
- **Page Size:** will modify the number of records displayed at once on the page.
- **Filter:** will open a menu that offers a wide array of filtering possibilities to view data.



**Figure 49:** Import Data/Live Edit Filter Panel

At the bottom right corner you can find controls which will help you switch between pages.

Once the data is edited, click either on **“Validate”** button in the top-right corner to validate the edited data or on **“Finish”** to not only validate the data but to automatically continue with the next steps (Approval or Persist) afterwards.

*For any WOODY.IO related questions or issues you might have, don't hesitate to contact our Support Team.*

If you are interested in a visual guide through WOODY.IO, you can visit our WOODY.IO YouTube Channel, where we have recorded a number of videos that touch on the core concepts of WOODY.IO.