AI Data Manipulator Guide

PV9.0.0 SV101

Table of Contents

Overview

This document details the AI Data Manipulator user interface, including functionality and requirements of each section. Information includes:

- How to interact with each page in the solution.
- How to set permissions restrictions on a per-user basis.
- How to add tabular data types to the environment via the Query Composer page.
- How to query your tabular data types via the Query Composer page.
- How to explore the Xperiflow engine's MetaFileSystem via the File Explorer page.
- How to recount actions performed within AI Data Manipulator via the Audit Log page.

Query Composer

The first and most significant page of AI Data Manipulator is the Query Composer page. On this page, users can add tabular data types to various directories. Once added, tables can be queried and altered as needed. Additionally, the Xperiflow engine enables two new routines within the Query Composer page: Query Debug and Natural Language. Query Debug will provide AI assistance with resolving incomplete or erroring queries. Natural Language translates “natural language” text into properly formatted table queries.

File Explorer

The second page of AI Data Manipulator is the File Explorer page. On this page, users can browse the various directories within the MetaFileSystem. Other OneStream solutions interact with the MetaFileSystem as well, allowing users to inspect their files from within AI Data Manipulator without any additional actions. Files can also be created, deleted, and saved to alternate locations.

Audit Log

The third page of AI Data Manipulator is the Audit Log page. On this page, users can observe, export and archive a list of all significant actions taken by users within AI Data Manipulator. The list of audit actions includes: Create Table, Delete Table, Query Table, Alter Table, Build Query from Natural Language, and Change Permissions. Every action logged will also have a status associated with it, either Succeeded, Failed, or Completed With Errors.

Select an Audit Entry to view additional details on the right side of the page. Users are also able to save a copy of the Audit Log to an external location.

Setup and Installation

This section contains details for planning, configuring, and installing the AI Data Manipulator solution. Before you install the solution, familiarize yourself with these details.

Solution Info

- Solution Version: **DMA-SV101-XPFv4.0.1-PV900**
- Xperiflow Version: **4.0.0**
- Routine Memory Capacity: **2 GB**

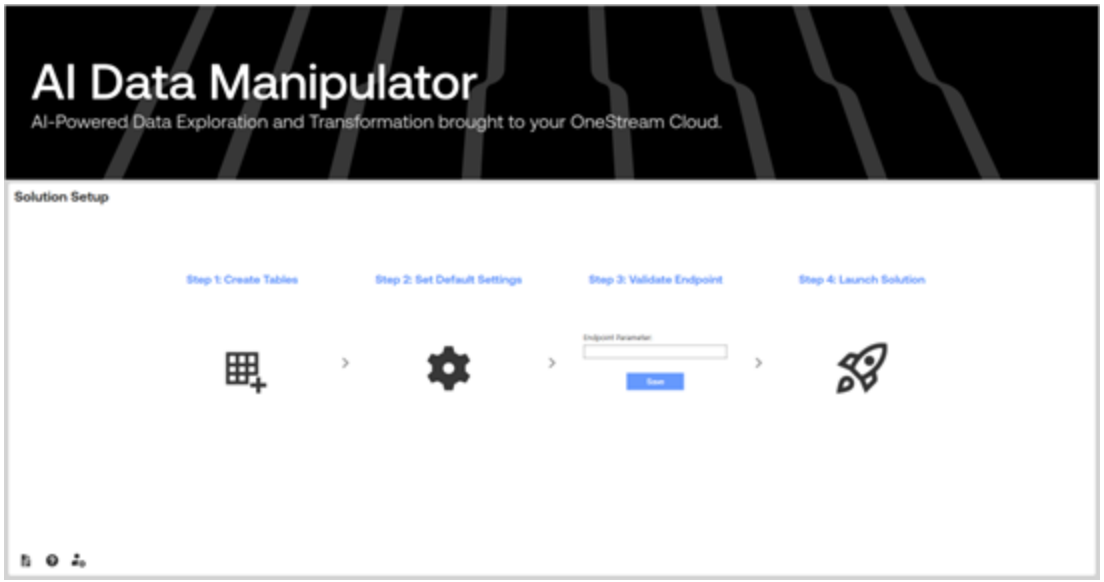
Dependencies

Component	Description
OneStream 9.0.0 or later	Minimum OneStream Platform version required to install this version of AI Data Manipulator.
Xperiflow 4.0.0 or later	Minimum version required to install this version of AI Data Manipulator.
Xperiflow Business Rules V200 (XBR)	External API client library to allow AI Data Manipulator to interface with the Xperiflow Engine. The required version of XBR is packaged with all AI Data Manipulator versions.

Set Up AI Data Manipulator

There are multiple steps to set up AI Data Manipulator:

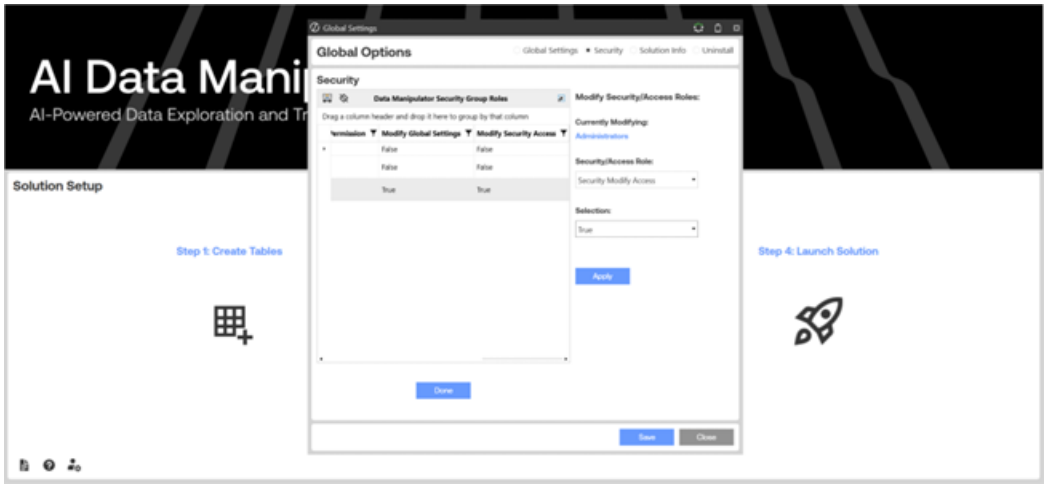
1. Download the AI Data Manipulator Solution from the OneStream Solution Exchange.
2. After the OneStream support team ensures that the proper contract is in place, a link is sent to download the AI Data Manipulator solution. To complete the setup, the user must set the proper endpoint parameter and launch the solution.
3. Follow the outlined Solution Setup steps:



a. Create Tables

b. Set Default Settings

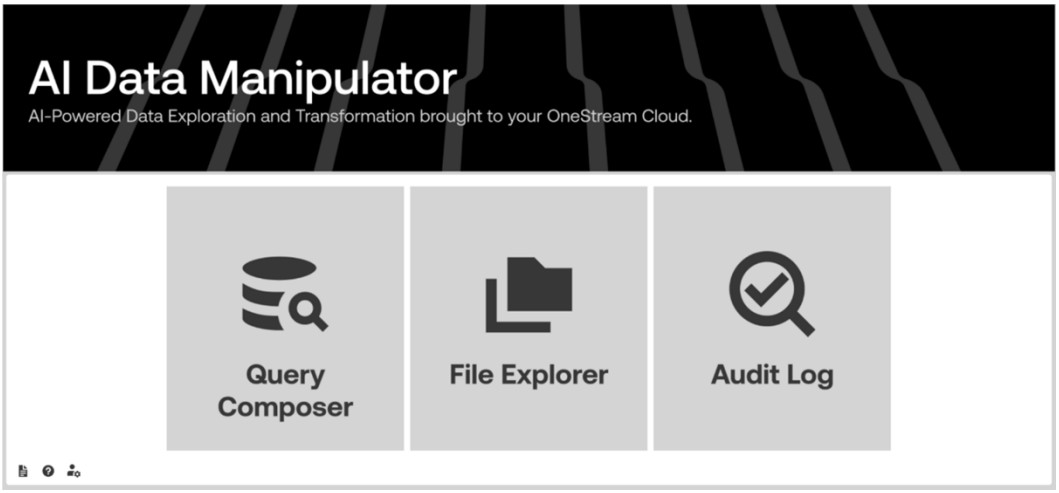
   i. It is advised that when setting up the solution at least one security group is given **Modify Global Settings** access and **Modify Security** access (both set to **True**).



c. Validate Endpoint

d. Launch Solution

4. When a user can reach the Home page after clicking Launch, AI Data Manipulator has been successfully set up correctly:


AI Data Manipulator
AI-Powered Data Exploration and Transformation brought to your OneStream Cloud.
Query Composer
File Explorer
Audit Log

Settings

To access the Global Settings page, click **Settings** in the bottom left corner any solution page.

Global Settings include:

- Solution Info
- Security
- Global Settings
- Uninstall

Solution Info

Solution Version: Displays the current version of AI Data Manipulator that is installed.

Security

The Security section allows Administrators to configure which databases OneStream Security Groups can use within the application, control access to the various AI Data Manipulator sections, and permit use of specific query statements. Administrators can also grant other user groups access to be able to modify these security roles.

Steps to Modify Security Roles:

1. Click the **Modify** button.
2. Select a security group from the grid.
3. Select the type of security permissions to edit:
    a. Database Connections:
        i. The databases this user group will have access to within AI Data Manipulator.

> **NOTE:** The databases visible within this dropdown are determined by your environment's Database Server Connections and their Maintenance Groups. Any user group can be granted access to a database server that has the Maintenance Group **Administrators**. However, a database server with Maintenance Group **Group B** for example is eligible to grant access only to the **Administrators** user group, the **Group B** user group, and any child groups of the aforementioned.

    b. Section Access:
        i. The sections this user group will have access to within AI Data Manipulator.
    c. Database Query Permission:

i. The query statements this user group will have access to when querying over a database. Options include Read (standard **SELECT** statements), Write (queries that modify an object like **INSERT**, **UPDATE**, **ALTER**, **CREATE**) and Admin (destructive, role-altering, or otherwise unsafe queries like **DROP**, **DELETE**, **TRUNCATE**).

d. Filesystem Query Permission:

i. The query statements this user group will have access to when querying over the MetaFileSystem. Options include Read, Write, and Admin.

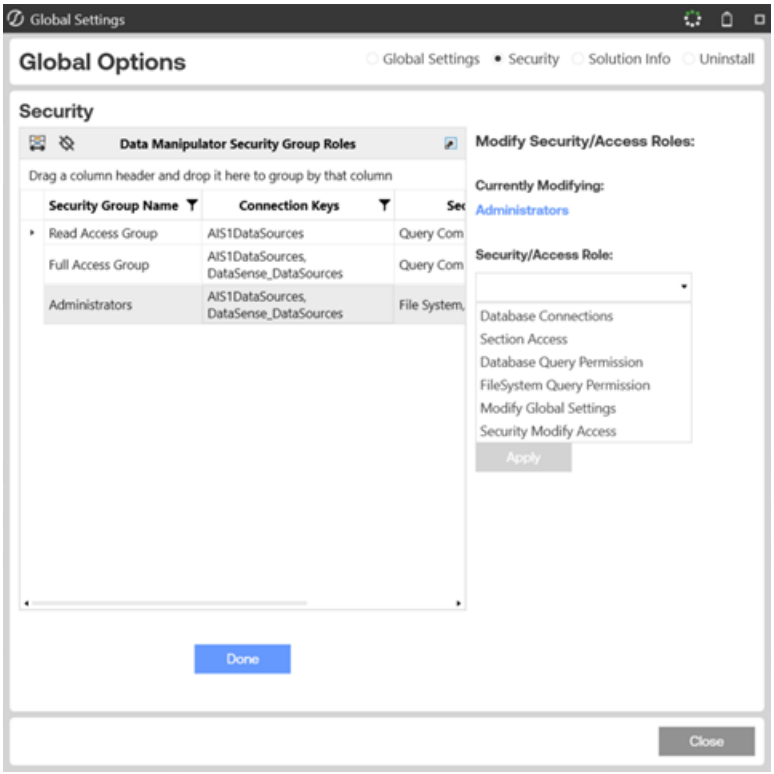
e. Modify Global Settings:

i. Whether or not this user group has access to change the Xperiflow endpoint used across the solution.

f. Modify Security Access:

i. Whether or not this user group has access to configure security roles for their group or other groups.

4. Configure the security permissions.
5. Click apply and confirm that they are displayed in the grid on the left:


Global Settings
Global Options
Global Settings
Security
Solution Info
Uninstall
Security
Data Manipulator Security Group Roles
Drag a column header and drop it here to group by that column
Security Group Name
Connection Keys
Read Access Group
AIS1DataSources
Full Access Group
AIS1DataSources, DataSense_DataSources
Administrators
AIS1DataSources, DataSense_DataSources
Modify Security/Access Roles:
Currently Modifying:
Administrators
Security/Access Role:
Database Connections
Section Access
Database Query Permission
FileSystem Query Permission
Modify Global Settings
Security Modify Access
Apply
Done
Close

Global Settings

Endpoint: Displays the current Xperiflow endpoint used by the solution. If the user has Modify Global Settings permissions. This value can be changed for the AI Data Manipulator solution.

Uninstall

There are two uninstall options:

- **Uninstall UI** removes AI Data Manipulator, including related dashboards and business rules but leaves the database and related tables in place.

Choose this option if you want to accept an AI Data Manipulator update without removing data tables.

- **Uninstall Full** removes most related data tables, along with all data, AI Data Manipulator dashboards, and business rules. By default, this option creates a Security backup and preserves all Audit information. You have the option to remove this information if you so choose.

  Choose this option to completely remove AI Data Manipulator or to perform an upgrade that is so significant in its changes to the data tables that this method is required.


Global Settings
Global Options
Global Settings
Security
Solution Info
Uninstall
Uninstall
Global Settings
Uninstall Full Solution
Are you sure you would like to uninstall the full OMA Solution?
Some data will be lost. Security and Audit information is preserved as a backup when uninstalled. If you would like to remove the backups as well, check the box below.
Remove ALL Data
Uninstall
Close
Close

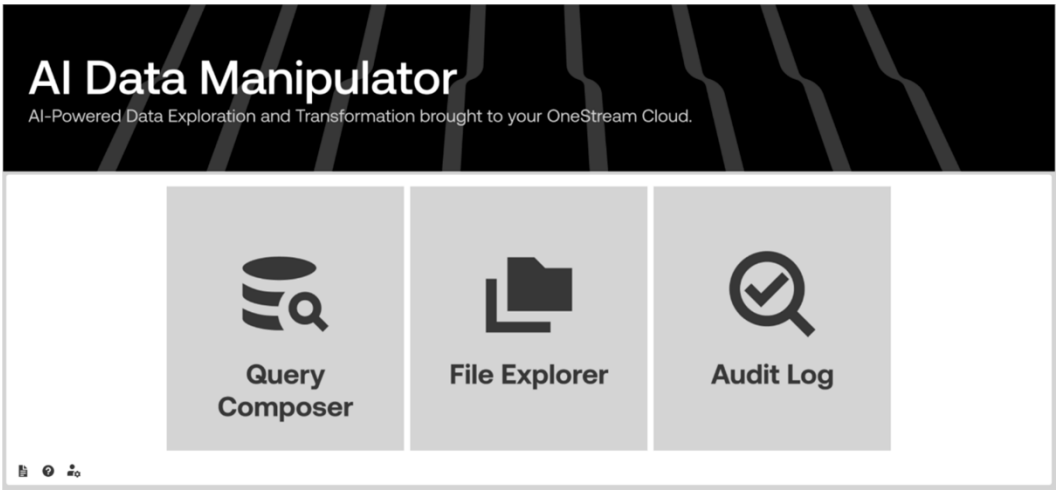
Navigate in AI Data Manipulator

The following sections describe the ways to navigate in AI Data Manipulator.

AI Data Manipulator Home Page

The Home page displays the three different tools available to the user:

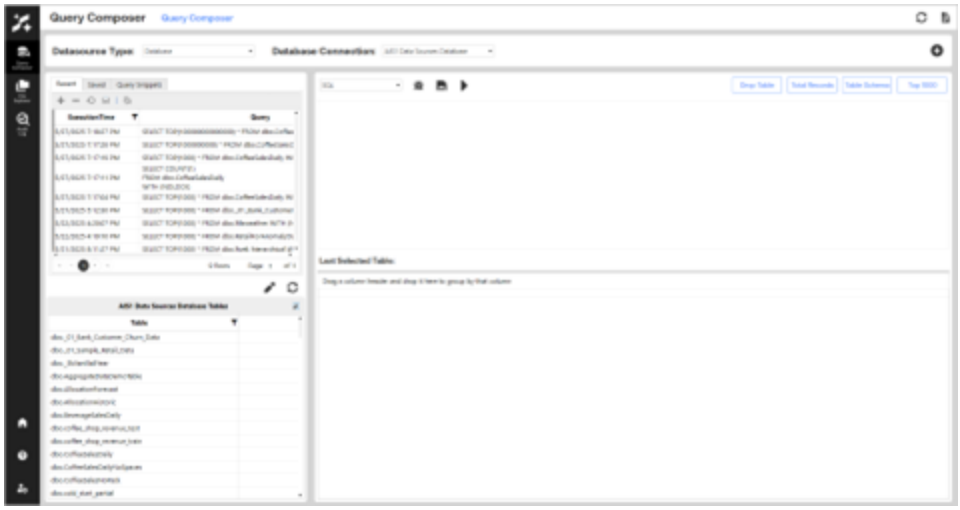
- Query Composer
- File Explorer
- Audit Log



Query Composer Section

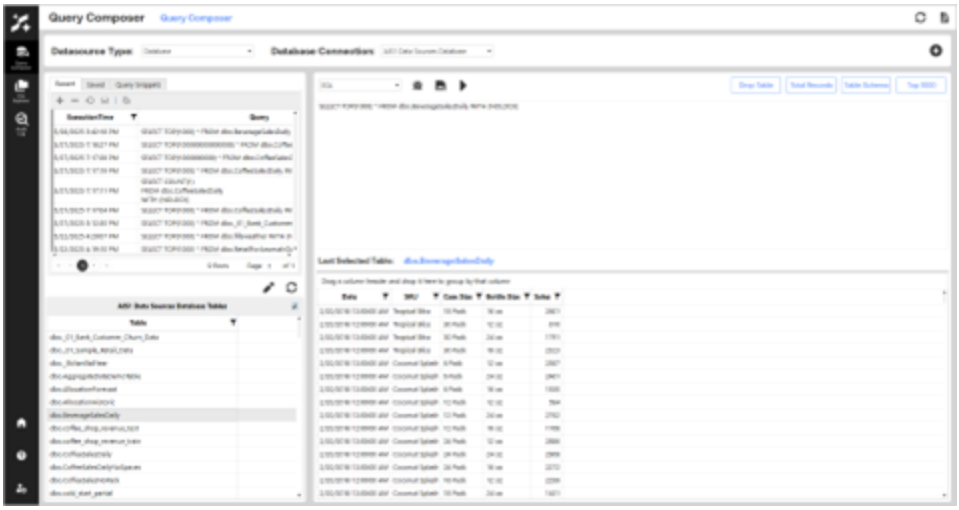
The Query Composer section of the solution allows the user to:

- Write custom queries to pull data directly from a SQL database or the MetaFileSystem.
- Quickly generate queries on the selected table or file using available quick action buttons.
    - **Top 1000**: Get the first 1000 entries from a table or file.
    - **Total Records**: Get the row count of a table or file.
    - **Table Schema**: Get schema information about the table or file.
    - **Drop Table**: Drop the table from the database (SQL-only).
- Convert natural language prompts into SQL queries tailored to T-SQL or DuckDB dialects.



Query Composer Drop-downs, Buttons and Requirements for Use:

The first step that should be taken before using any of the buttons at the top of the screen is to select a database table file from the grid in the bottom left corner. You will know that a data source has been selected if you see the name of it displayed above the text editor:

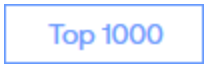


Drop-downs

- **Data Source Type**
  - Select the type of source on which to query.
  - Options: Database, MetaFileSystem.
- **Database Connection**
  - Select the database on which to query.
  - Options: All available databases.
- **Metadata Connection Key**
  - Select the MetaFileSystem storage location on which to query.
  - Options: Routine, Shared.

- **Query Type**
  - Select the kind of query to build.
  - Database Options: SQL, Natural Language.
  - MetaFileSystem Options: DuckDB, Natural Language.

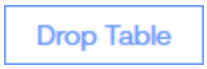
Buttons

- **Debug Mode** 
  - Enter a special debug mode, supply a prompt and run a query-building assistance routine powered by Xperiflow to investigate any errors with your query.
- **Save Query** 
  - Save the current query with a custom name.
- **Run Query** 
  - Execute the current query against the selected database or MetaFileSystem folder.
- **Top 1000** 

  - Select the first 1000 rows from the selected table or file to display in the bottom grid.
- **Total Records** 

  - Retrieves the total row count from the selected table or file to display in the bottom grid.
- **Table Schema** 

- Retrieves the column schema of the selected table or file to display in the bottom grid.

- **Drop Table** 

  - Opens a dialog and allows the user to drop the currently selected table
    - Database source-only

Other Features:

- **ETL File Create** 
  - Use the ETL Dialog to add new tables and files to your databases or the MetaFileSystem. Utilize AI Data Manipulator to perform an initial exploration of your data and transform it how you see fit.
- **Query Snippets**
  - Prebuilt templated queries to help the user execute more complex database operations with ease.

> **NOTE:** User must replace table names, column names, and data types in queries before executing. Future releases of AI Data Manipulator will attempt to further enhance this feature.

- **Natural Language to SQL Query**

- Utilizes the Xperiflow engine to convert a natural language prompt into a valid SQL query compatible with T-SQL or DuckDB.
  - Context must be provided to the routine by selecting tables or files.
    - For databases, select one or many tables from the database
    - For MetaFileSystem, select an individual file, or a folder to select all subfiles that are able to be queried with DuckDB.

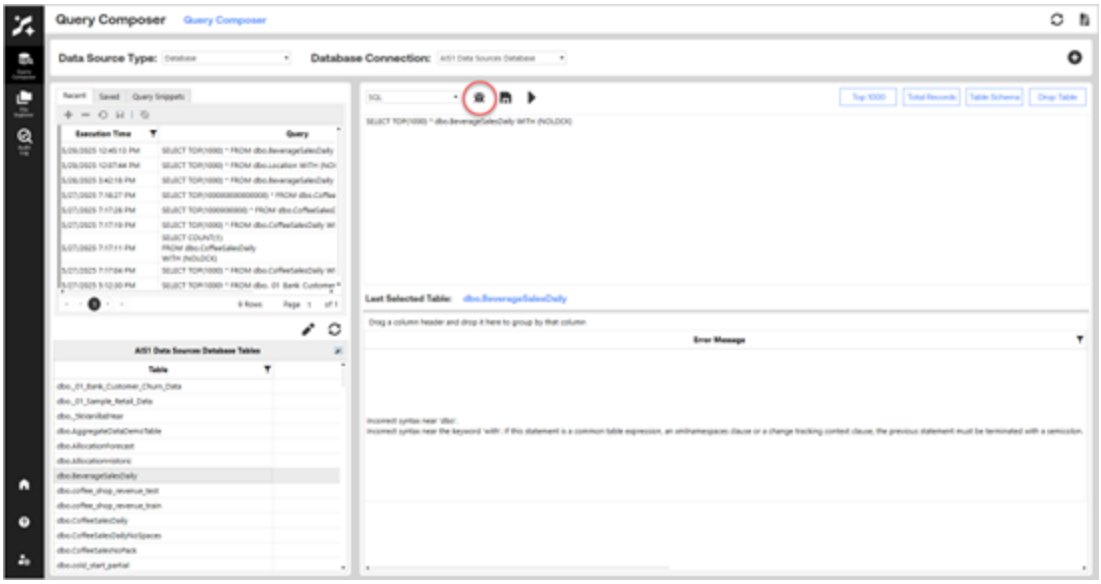
- **Edit Table or File** 
  - Alter the selected table or file by modifying its name or its column types.
    - Column type changes are not yet available for files.
    - Alter functionality is not yet available for tables with non-default schema.
  - Delete the selected table or file.

Natural Language to SQL Routine

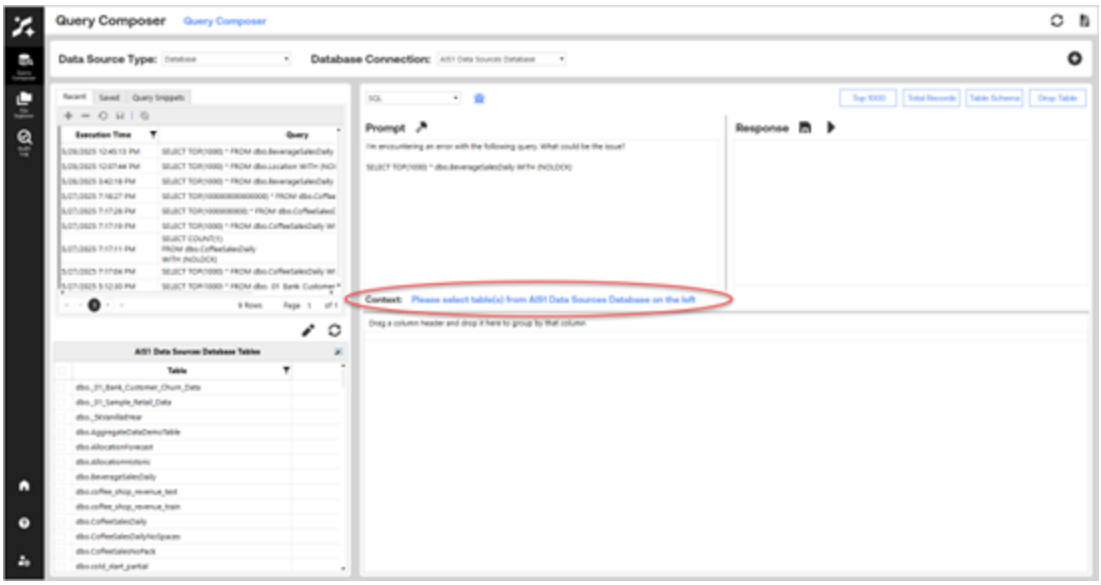
The Natural Language Routine appears in two forms: Debug Mode and Natural Language to SQL. They are functionally equivalent; however they are presented in distinct contexts.

Debug Mode

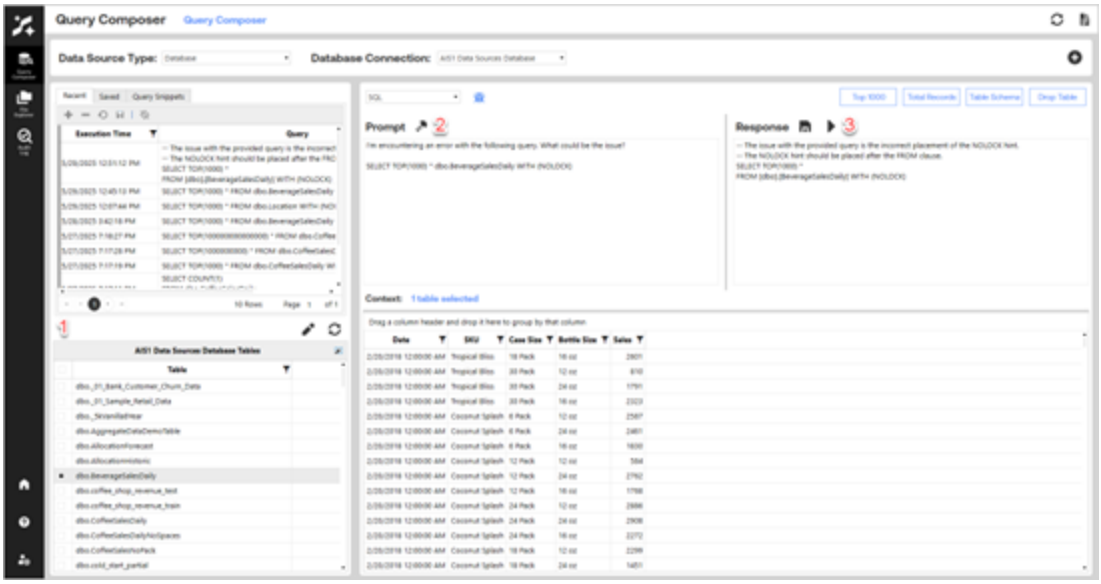
If a query is not functioning properly, you can select the Debug Mode button from the Query screen to begin query debugging.



When running this routine, context must be selected. This reduces the scope of tables or files the routine must search through when building your query.

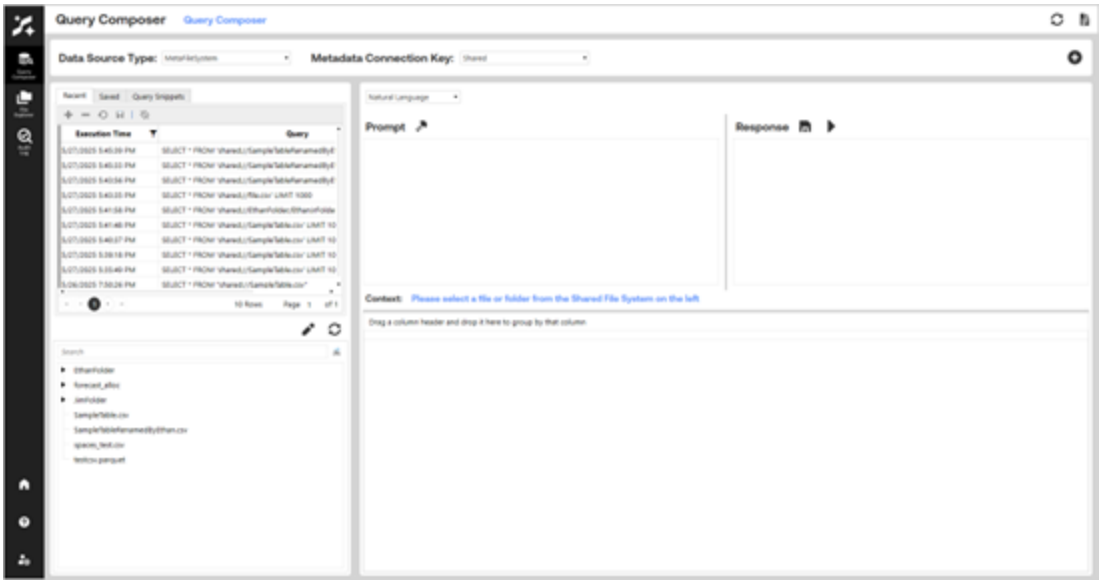


Once context has been selected, the query can be built against the context, and a response will be provided. That response can then be run, and a result presented.

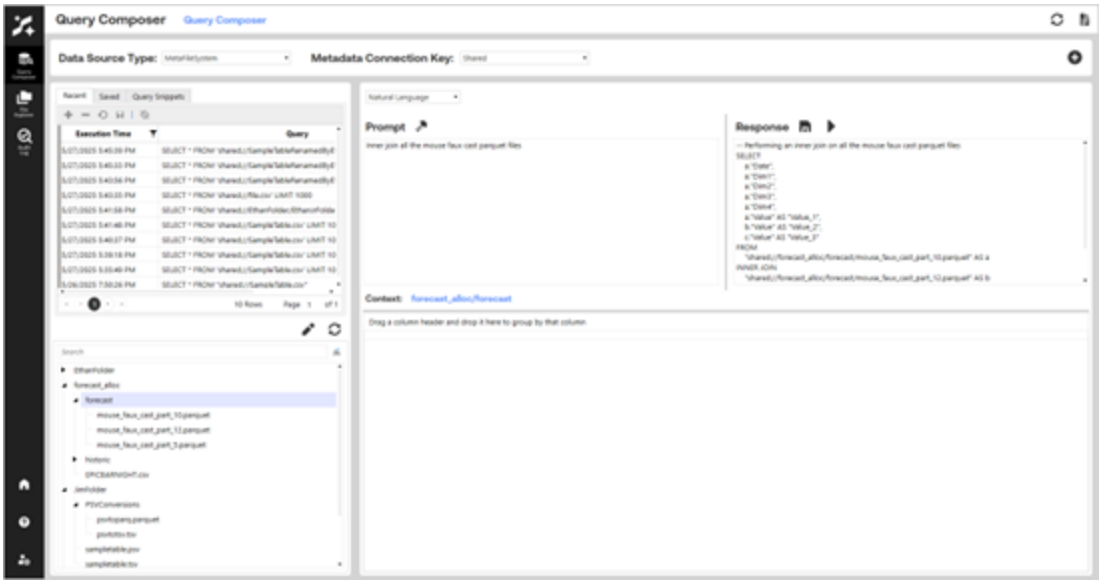


Natural Language to Query

The Natural Language mode can be accessed by the Query Type dropdown and presents in a similar manner.



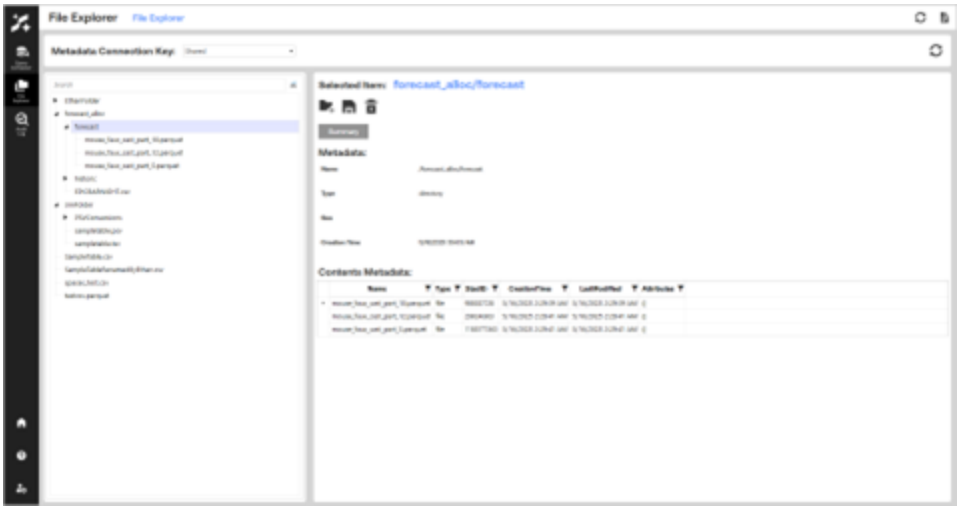
When selecting context on the MetaFileSystem, you can select either an individual file, or a directory to select all tabular files nested within the selected folder.



File Explorer Section

The File Explorer section of the solution allows the user to:

- Browse the MetaFileSystem, performing various actions.
    - **Add New Folder**
    - **Save**
    - **Delete**
- Preview file contents



File Explorer Drop-downs and Buttons:

Drop-downs

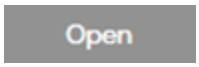
- **Metadata Connection Key**
  - Select the MetaFileSystem directory on which to explore
  - Options: Routine, Shared

Buttons

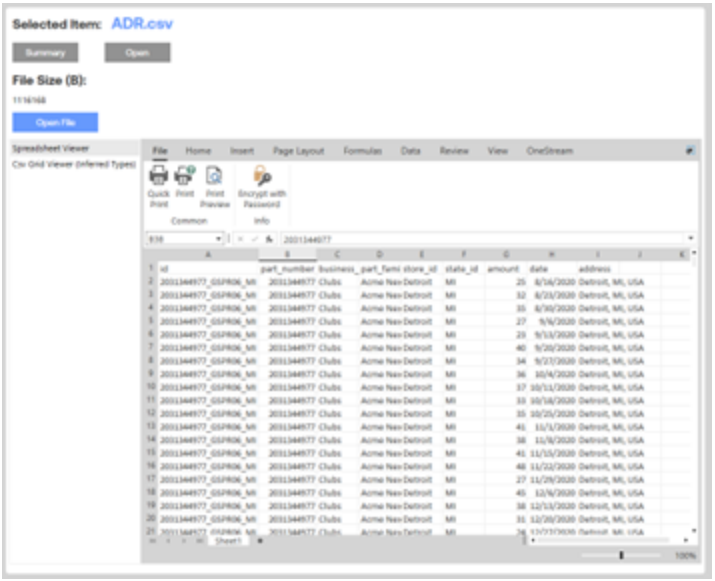
- **Add New Folder** 
  - Open a dialog to create a new directory nested within the currently selected folder

- **Save File** 
  - Copy the current file and save it to a new location.
- **Delete File** 
  - Delete the selected file from the MetaFileSystem
- **Summary** 

- For files, view metadata such as name, size, and creation and modified times.
- For folders, view folder metadata as well as contents metadata for all nested files and folders.

- **Open** 

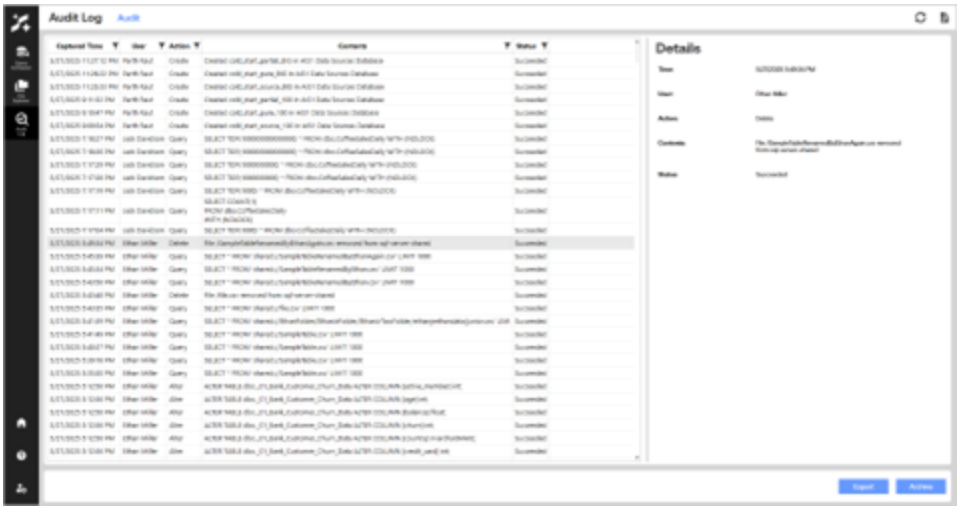
  - For files, interact using the Data Previewer to see your files within the MetaFileSystem.



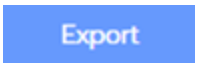
Audit Log Section

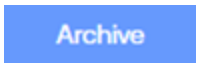
The Audit Log section of the solution allows the user to:

- Observe all significant actions taken by users within AI Data Manipulator. Significant actions include:
    - Creating a file or table
    - Deleting a file or table
    - Altering a file or table
    - Querying a file or table
    - Building a query using the Natural Language to SQL routine
    - Modifying AI Data Manipulator permissions via the Security dialog
- Export or Archive the Audit Log to an external location



Audit Log Buttons

- **Audit Select**
  - Select an individual entry within the Audit grid to view an external location.
- **Export** 

  - Export all audit entries within the supplied date range to an external location.
- **Archive** 

  - Export all audit entries within the supplied date range to an external location, **removing their existence** from the Audit Log.

Help and Miscellaneous Information

Display Settings

OneStream Solutions frequently require the display of multiple data elements for proper data entry and analysis. Therefore, the recommended screen resolution is a minimum of 1920 x 1080 for optimal rendering of forms and reports.

Additionally, OneStream recommends that you adjust the Windows System Display text setting to 100% and do not apply any Custom Scaling options.

Package Contents and Naming Conventions

The package file name contains multiple identifiers that correspond with the platform. Renaming any of the elements contained in a package is discouraged in order to preserve the integrity of the naming conventions.

Example Package Name: DMA_SV101_PV900_PackageContents.zip

Identifier	Description
DMA	Solution ID
SV101	Solution Version

Identifier	Description
PV900	Minimum Platform version required to run solution
PackageContents	File name

OneStream Solution Modification Considerations

A few cautions and considerations regarding the modification of OneStream Solutions:

- Major changes to business rules or custom tables within a OneStream Solution will not be supported through normal channels as the resulting solution is significantly different from the core solution.
- If changes are made to any dashboard object or business rule, consider renaming it or copying it to a new object first. This is important because if there is an upgrade to the OneStream Solution in the future and the customer applies the upgrade, this will overlay and wipe out the changes. This also applies when updating any of the standard reports and dashboards.
- If modifications are made to a OneStream Solution, upgrading to later versions will be more complex depending on the degree of customization. Simple changes such as changing a logo or colors on a dashboard do not impact upgrades significantly. Making changes to the custom database tables and business rules, which should be avoided, will make an upgrade even more complicated.