GUIDE

Quest Data Intelligence

Metadata Management Guide 16.0

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Contents

Metadata Manager

Metadata Manager enables you to scan metadata from datasources and store it in a central repository. You can view and manage your technical assets using Metadata Manager.

You can create, scan, and manage metadata for your organization and get insights into the assets using the Dashboard. It unlocks the ability to view lineage, mind map, configure asset sensitivity, and support the administrators and data owners in maximizing asset management capabilities. This module helps you locate and manage your systems, environments, tables, and columns in a hierarchy.

Apart from managing assets, you can preview data, profile it, generate pattern summary reports, and provide data quality score.

After performing source to target mappings in the Mapping Manager, you can run Forward or Reverse lineages and perform impact analysis in the Metadata Manager.

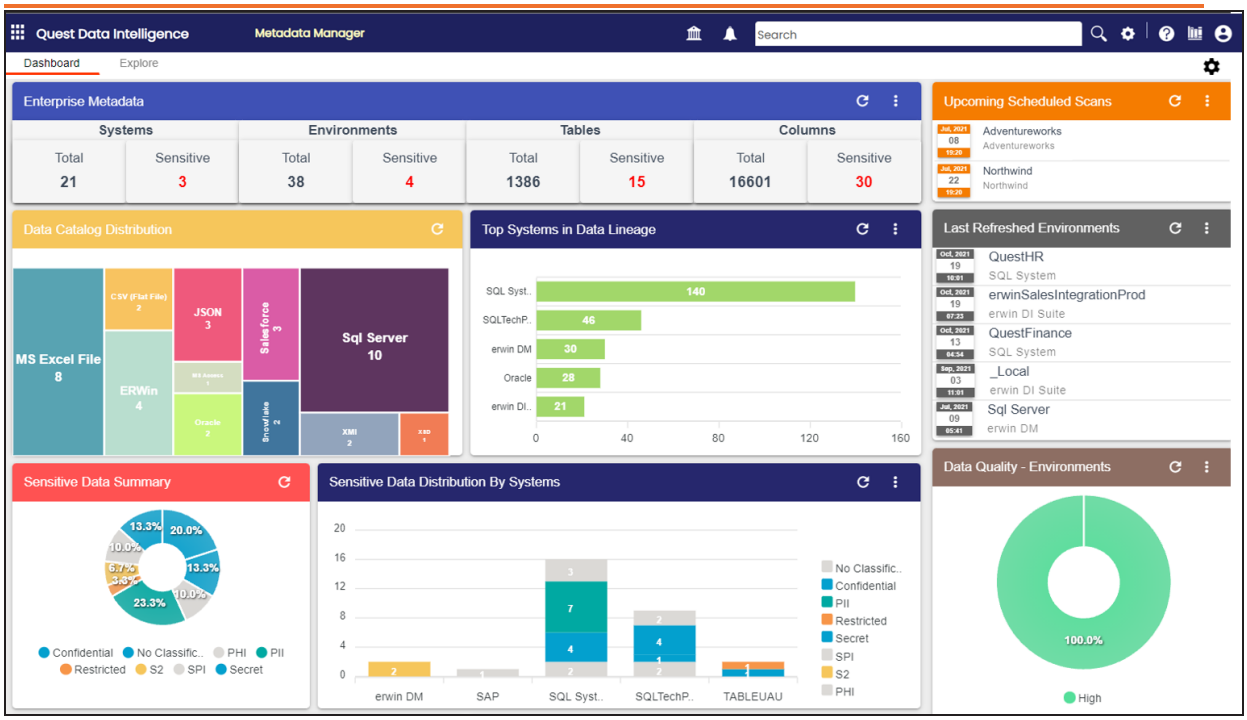
To access the Metadata Manager, go to **Application Menu** > **Data Catalog** > **Metadata Manager**.

Based on your configuration, either the Dashboard tab or the Explore tab opens. To configure the landing tab, click ⚙ on the top-right corner to set either of the following tabs as default:

- Dashboard
- Explore

Dashboard

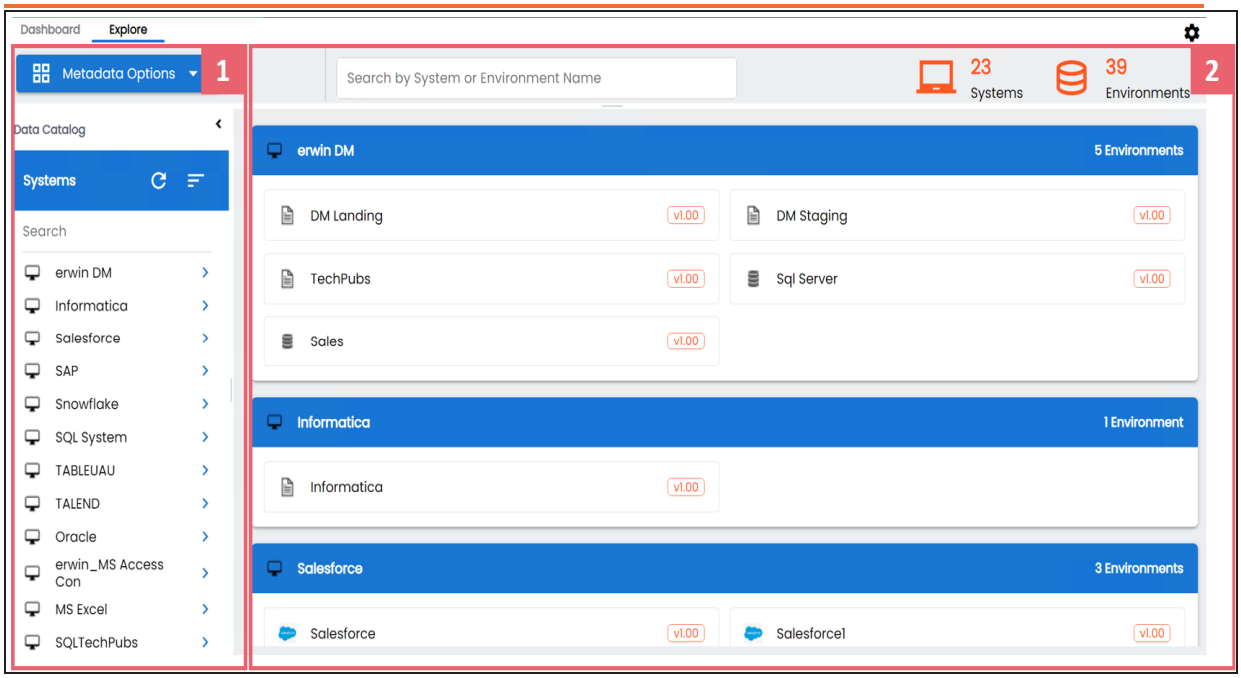
The Dashboard tab displays a snapshot of the underlying data in the Metadata Manager. This includes information about technical assets, their sensitivity, associations, and usage in mappings. For more details on the Dashboard tab, refer to the Viewing Metadata Manager Dashboard topic.



Explore

The Explore tab is the primary work area. It displays the scanned or imported metadata in a card format and lets you manage metadata. You can effortlessly search, view, and compare assets. Access systems and environment, filter assets based on database type, and use **Metadata Options** to perform system level configurations.

Metadata Manager



UI Section	Function
1-Data Catalog	Use this pane to browse through your metadata that are stored hierarchically: System > Environment > Table > Column.
2-Asset Catalog	Use this pane to view or work on systems and environments in your organization. You can drill down to access the asset's tables and columns. For more information about using this pane, refer to Using Asset Catalog.

The Metadata Manager's Explore tab enables you to manage your datasources and metadata. The following sections explain how to use the Explore tab and access assets.

- Using Asset Catalog
- Accessing Assets

Using Asset Catalog

The Asset Catalog pane gives you easy access to all your assets on a single page. You can view systems and environments in a card format, search for assets, and access system level options.

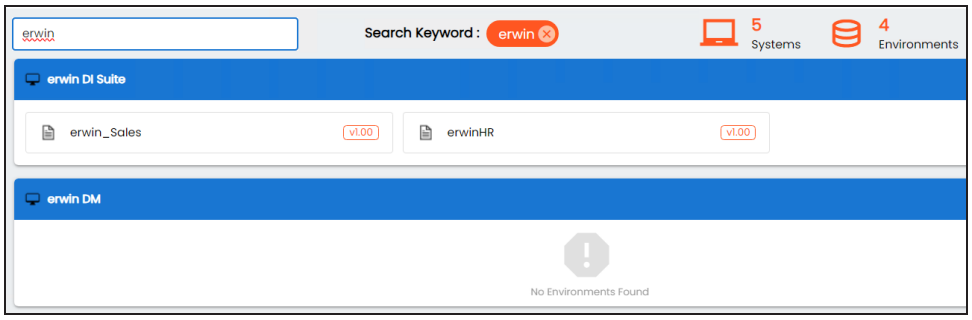
The following sections walks you through the key features of the Asset Catalog pane:

Search Assets

You can narrow down or filter assets using the search box. This will help you search for specific system or environment in your organization.

To search for systems and environments, enter a name of a system or environment in the Search box. The Asset Catalog pane displays the results based on the search keyword.

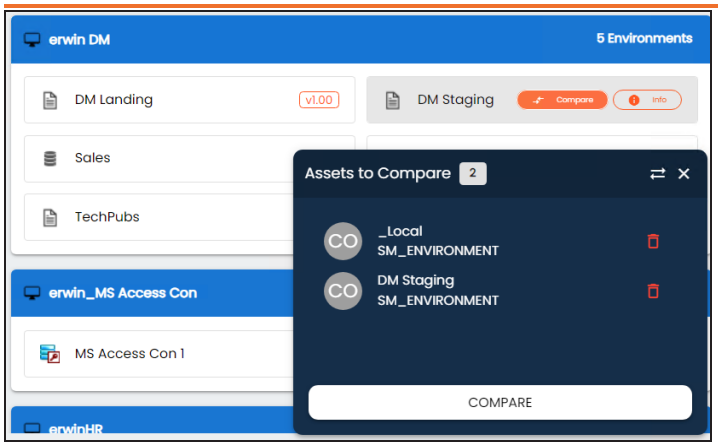
The below screenshot displays systems and environment based on the search keyword.



Compare Assets

You can compare 2 assets and see the its property differences.

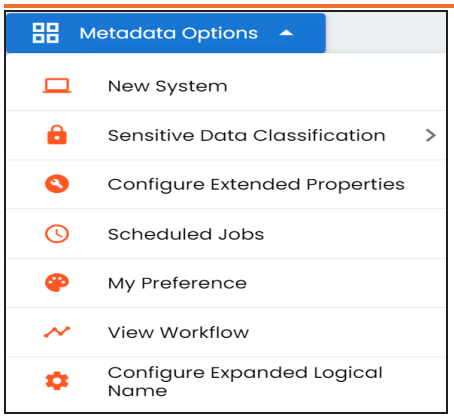
To compare, hover over an environment tile to see the **Compare** option, and click to add it for comparison. Then, select one or more assets to add them to the Assets to Compare sheet and click **Compare**.



The Compare Environments page appears and displays the table and column level differences in separate tabs.

Metadata Options

You can create, manage systems, view scheduled jobs, and set up other relevant configurations using the **Metadata Options** available on the top-left corner.



See the following list for understanding the functions of using these options:

- Creating and managing systems
- Exporting and Importing Sensitive Data Classification
- Configuring extended properties
- Viewing system workflow
- Configuring extended properties

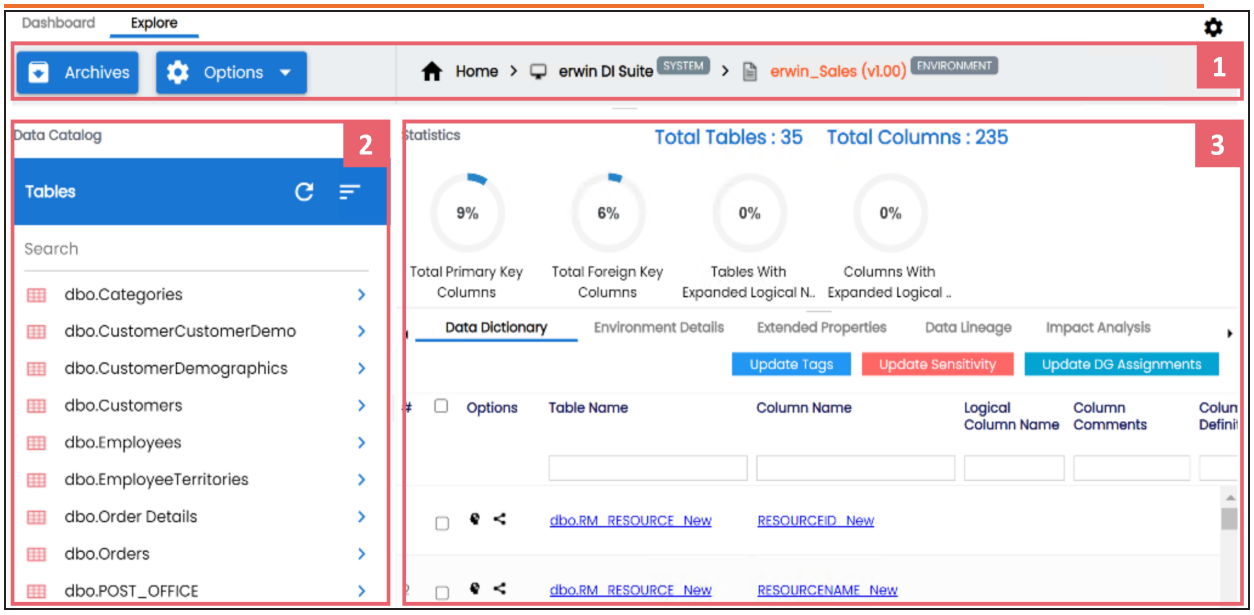
Accessing Assets

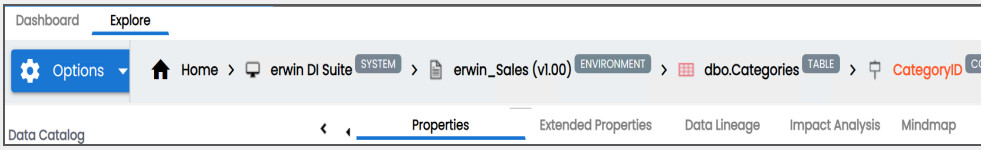
From the Asset Catalog pane, you can navigate to a system or an environment and view their details.

Hover over a system and click Info to view system details, or click an environment tile to view environment details.

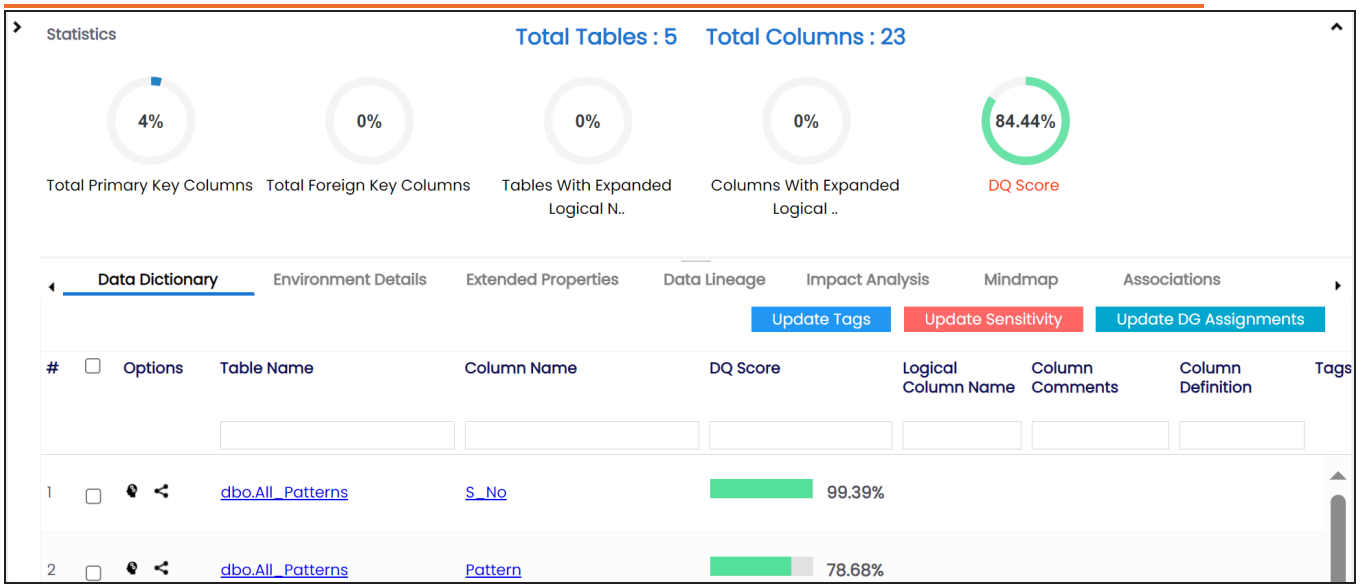
The screenshot below displays the metadata workspace and the UI sections. This workspace allows you to scan metadata from datasources, associate technical assets with other assets, view mind maps, analyze data lineage, and so on.

Metadata Manager



UI Section	Function
1-Asset Hierarchy	Use this section to view the drilled-down asset hierarchy indicating your navigation across the module. You can click the asset name to view that asset and access the asset options to manage metadata. For example, the image below displays the hierarchy of assets as breadcrumbs. 
2-Data Catalog	Use this pane to browse through your stored metadata hierarchically, such as System > Environment > Table > Column.
3-Workspace Pane	Use this pane to view or work on the data based on your selection in the Data Catalog.

On the Explore tab, select an environment tile to view stats about environments in the Statistics section. This section displays environment's Total Primary Key Column, Total Foreign Key Columns, Tables and Columns with Expanded Logical Name, and DQ Score.



Apart from environment statistics, the Data Dictionary tab displays data quality analysis results, such as DQ Score from Quest Data Quality. You can drill down and view table or column level data quality analysis.

Managing metadata involves the following:

- Creating and managing environments
- Scanning metadata from data sources
- Creating new versions of environments
- Downloading and updating data dictionary
- Running impact analysis
- Running lineage analysis
- Previewing and profiling data
- Creating and managing test cases for tables
- Updating data governance responsibilities

Using QuestAI Inline Assist

QuestAI Inline Assist enables you to generate and enrich table and column details while creating and editing them. It provides AI-powered suggestions for the Logical Name, Definition,

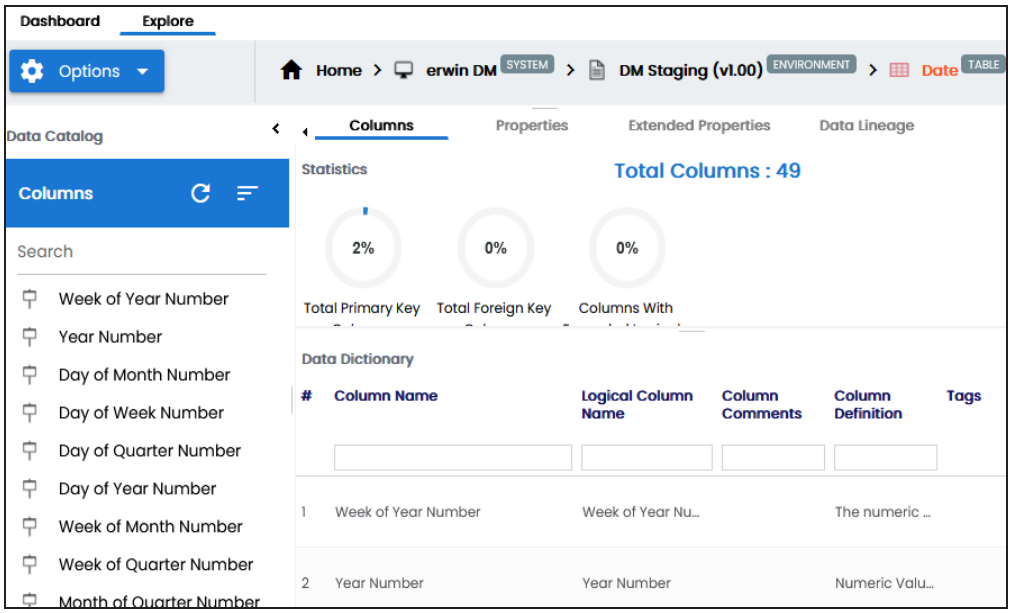
Comments, SDI Classification, and Tags fields. You can review, edit, or regenerate suggestions before saving them.

For example, the following steps show how to use QuestAI Inline Assist for table properties. Similarly, you can use it for columns in Metadata Manager.

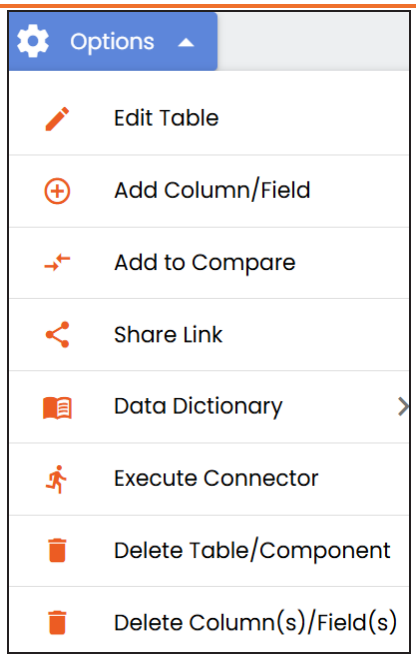
To generate table details, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. In the **Data Catalog** pane, click a table.

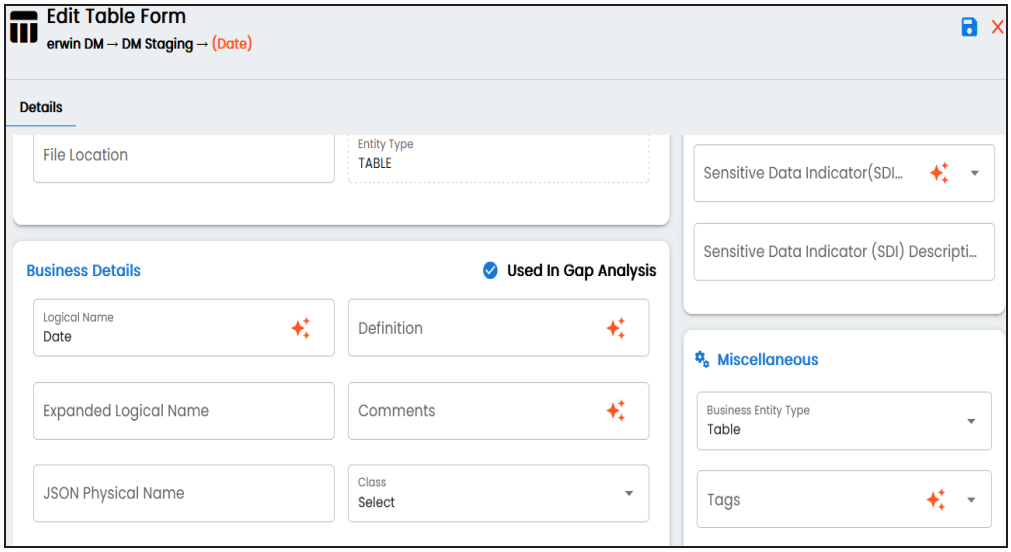
   By default, the Columns tab opens.



4. Click **Options**.
   The available options appear.

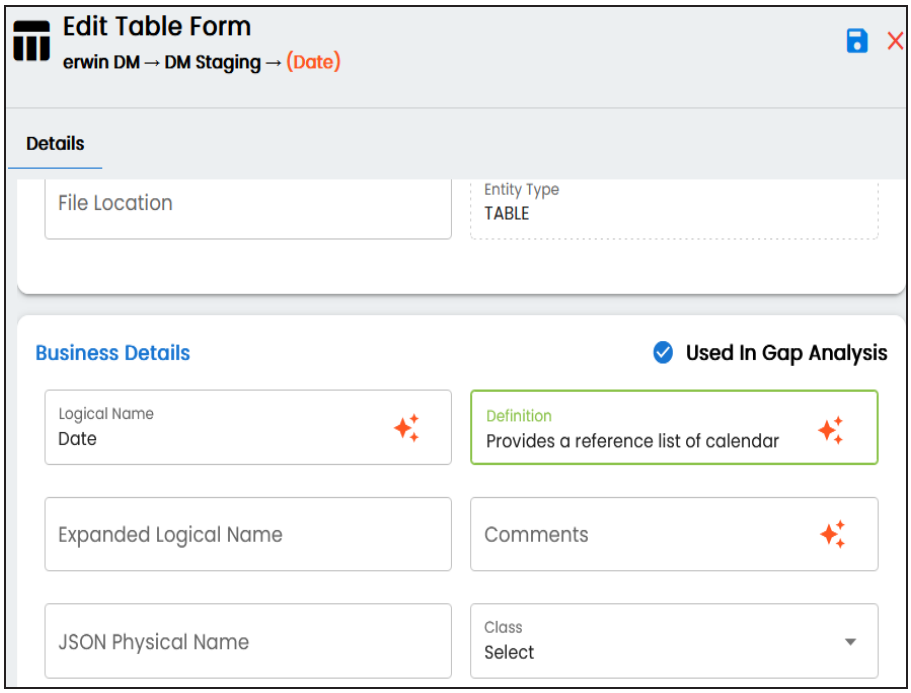


5. Click **Edit Table**.
   The Edit Table Form page appears.



6. Click in a supported field to generate content. For example, Definition.

   A definition is generated. You can review and edit it or click again to regenerate it.



7. Click .

   The table details are updated with AI-generated content.

Creating Systems

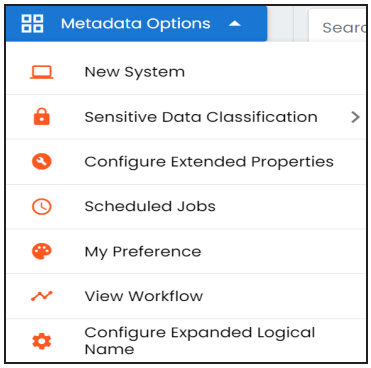
You can harvest (scan) metadata from data sources in the Metadata Manager. The scanned metadata is stored in a hierarchical manner (System > Environment > Table > Column) in the Data Catalog.

A System can contain multiple environments and in a typical data integration project a system can be a source or target type. You can create a system and specify data steward, system owner, and its business purpose etc.

Apart from creating systems, you can manage other system configurations using **Metadata Options** available in the top-right corner.

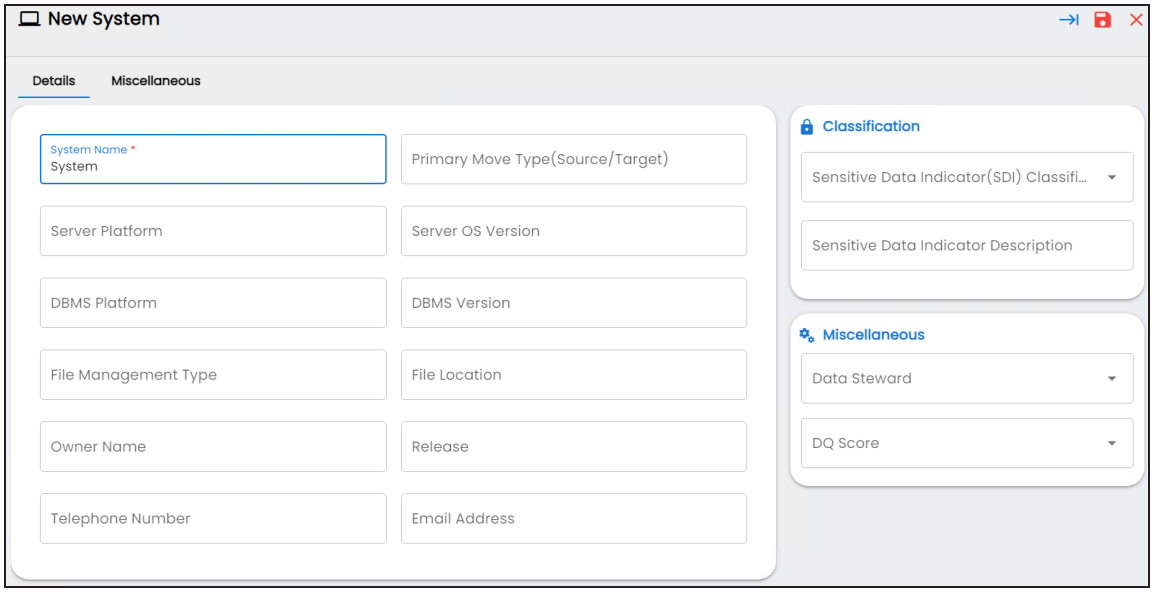
To create systems, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. In the Data Catalog pane, click **Metadata Options**.



3. Click **New System**.

The New System page appears.



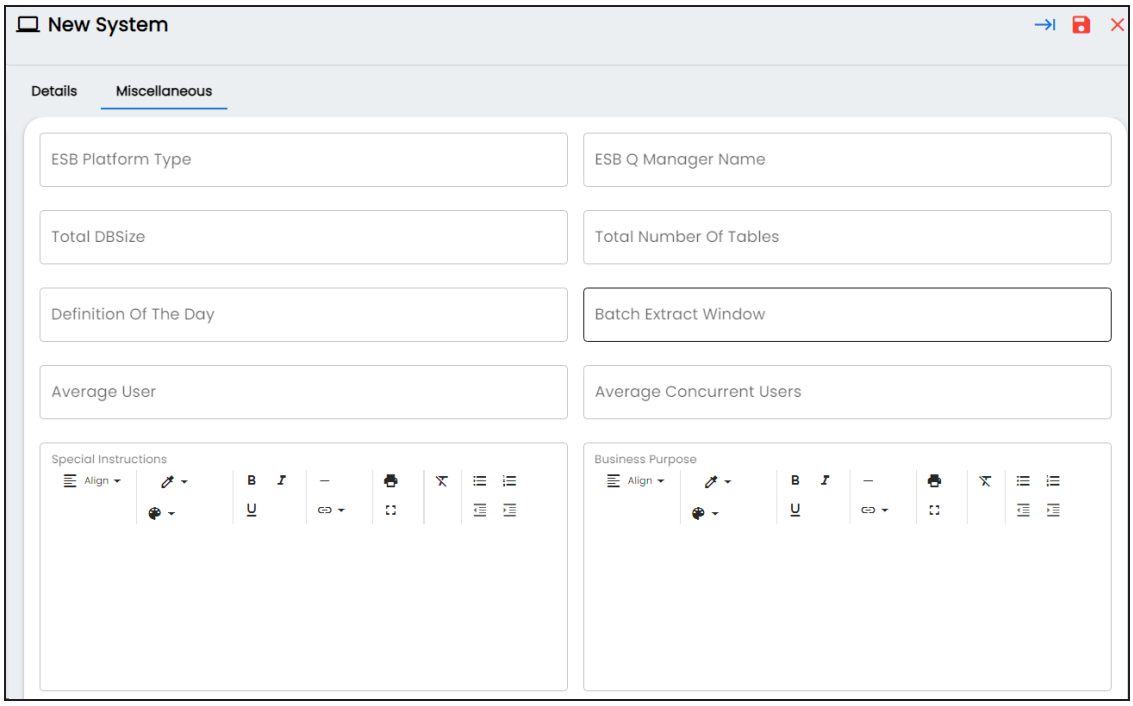
4. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
System Name	Specifies the physical name of the system. For example, Enterprise Data Warehouse. For more information on naming conventions, refer to the Best Practices section.
Server Platform	Specifies the server platform of the system. For example, Windows.
DBMS Platform	Specifies the DBMS platform of the system (if the system is an RDBMS source). For example, SQL Server.
File Management Type	Specifies the file management system (if the system is a file-based source). For example, MS Excel.

Field Name	Description
Owner Name	Specifies the full name of the system owner. For example, Talon Smith.
Telephone Number	Specifies the telephone number of the system owner. For example, 1-800-783-7946.
Primary Move Type (Source/Target)	Specifies whether the system is source, target, or both. Valid values are: ▪ Source ▪ Target ▪ Both
Server OS version	Specifies the OS version of the system's server. For example, Windows Server 2012 R2.
DBMS Version	Specifies the DBMS version of the system (if the system is an RDBMS source). For example, SQL Server 2017.
File Location	Specifies a file path (if the system is a file-based source). For example, C:\Users\Talon Smith\erwin\Mike - Target System
Release	Specifies the system release including the point release number. For example, Oracle 18c.
Email Address	Specifies the system owner's email address. For example, talon.smith@mauris.edu
Sensitive Data Indicator (SDI) Classification	Specifies the sensitivity classification of the system. Also, you can add multiple classifications to the system. For example, PHI, Confidential. For more information on configuring Sensitive Data Indicator (SDI) classifications, refer to the Configuring Sensitivity Classifications topic.
Sensitive Data	Specifies the description of the SDI classification.

Field Name	Description
Indicator Description	
Data Steward	Specifies the name of the data steward responsible for the system. For example, Jane Doe. Users assigned with the Legacy Data Steward role appear as drop down options. You can assign this role to a user in the Resource Manager. To assign data steward, select a data steward from the drop down options.
DQ Score	Specifies the overall data quality score of the system. For example, High (7-8). For more information on configuring DQ scores, refer to the Configuring Data Profiling and DQ Scores topic.

5. Click the **Miscellaneous** tab or click →|.



6. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
ESB Platform Type	Specifies the enterprise platform bus type (if the system is an ESB source). For example, Mule.
ESB Q Manager Name	Specifies the ESB queue manager's name of the system (if the source is an ESB). For example, John Doe.
Total DBSize	Specifies the total physical size of the database. For example, 198 GB.
Total Number of Tables	Specifies the total number of tables associated with the system. For example, 300.
Definition of the Day	Specifies the definition of the system at the end of the day. For example: Extraction of details from the source system is complete.
Batch Extract Window	Specifies the daily batch extract window of the system. For example: Batch extract from the source system is scheduled at 3:30 P.M. everyday.
Average User	Specifies the average number of system users. For example, 30.
Average Concurrent Users	Specifies the average number of concurrent system users. For example, 15.
Special Instructions	Specifies any special instructions or comments about the system. For example: The system acts as a source for creating the mapping specification.
Business Purpose	Specifies the business objective of the system. For example: This is a source system to store Sales metadata of the organization for a data integration project.

7. Click  .
   A new system is created.

   Alternatively, before saving this system, you can add a new environment and configure the connections. To setup an environment, click  to view the New Environment page.

Once the system is created, you can create environments and scan metadata from different database types.

You can enrich the system further by:

- Adding Documents
- Viewing Workflow Logs
- Associating Systems
- Configuring Expanded Logical Name of Tables/Columns
- Tagging Systems

You can manage a system as per your requirements. Managing systems involves:

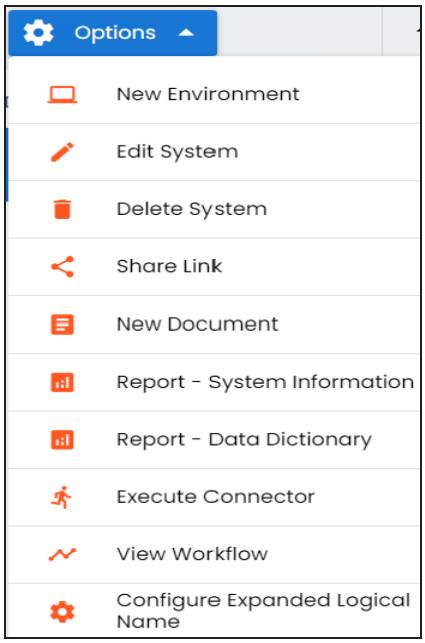
- Editing or deleting systems
- Exporting systems information

Adding Documents

You can add supporting documents, such as text files, audio files, video files, document links, and so on to a system.

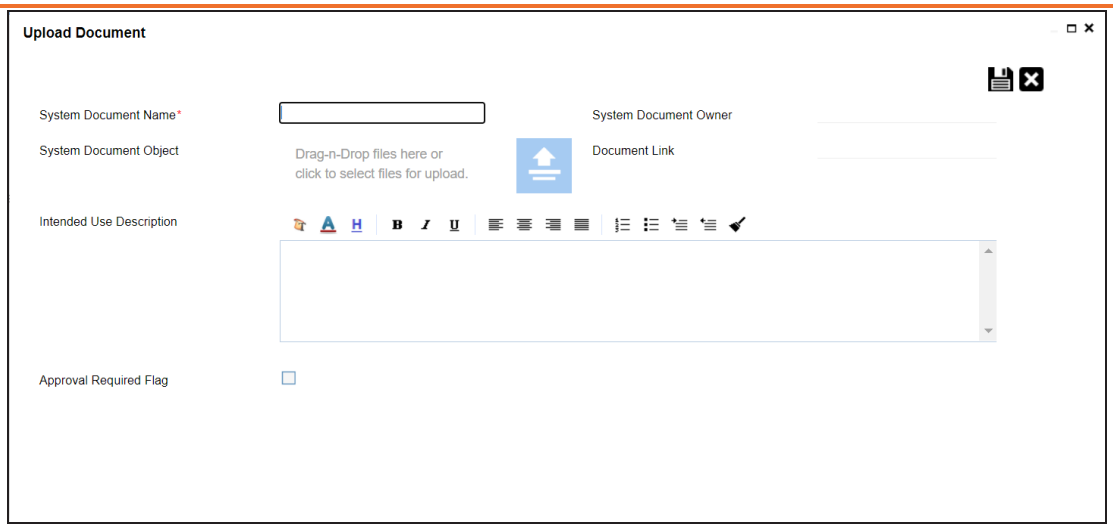
To add documents to systems, follow these steps:

1. On the Explore tab, hover over a system card and click Info.
2. Click **Options**.
   The available options appear.



3. Click **New Document**.

   The Upload Document page appears.



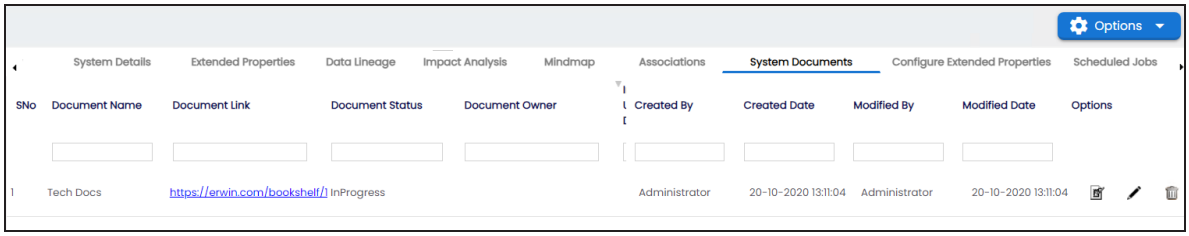
4. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
System Document Name	Specifies the name of the physical document being attached to the system. For example, Source System Details.
System Document Object	Drag and drop document files or use to select and upload document files.
System Document Owner	Specifies the document owner's name. For example, John Doe.
Document Link	Specifies the URL of the document. For example, https://drive.google.com/file/l/2sC2_SZIyeFKI7OOnb5YkMBq4ptA7jhg5/view
Intended Use Description	Specifies the intended use of the document. For example: The document is to keep a record of system description and its data dictionary.
Approval Required Flag	Specifies whether the document requires approval.

Field Name	Description
	Select the **Approval Required Flag** check box to select the document status.
Document Status	Specifies the status of the document. For example, In Progress. This field is available only when the **Approval Required Flag** check box is selected.

5. Click .

The document is saved on the System Documents tab.



Once a supporting document is added, use the following options:

Preview ( )

Use this option to preview the document.

Edit ( )

Use this option to update the document details.

Delete ( )

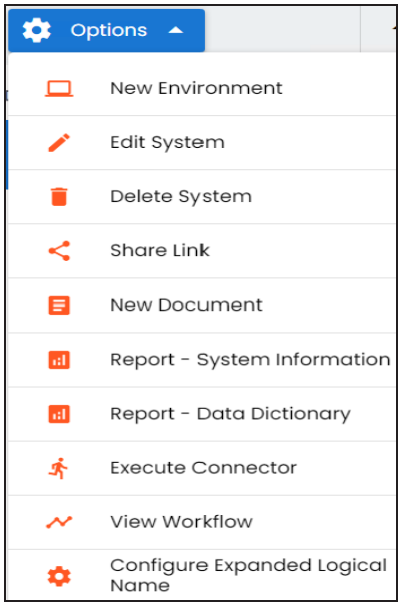
Use this option to delete the document that is not required.

Viewing Workflow Logs

You can view workflow logs and know the current stage of systems. A workflow assigned to a system is applicable to all the environments under it. For more information on managing metadata manager workflows, refer to the Managing Metadata Manager Workflows section.

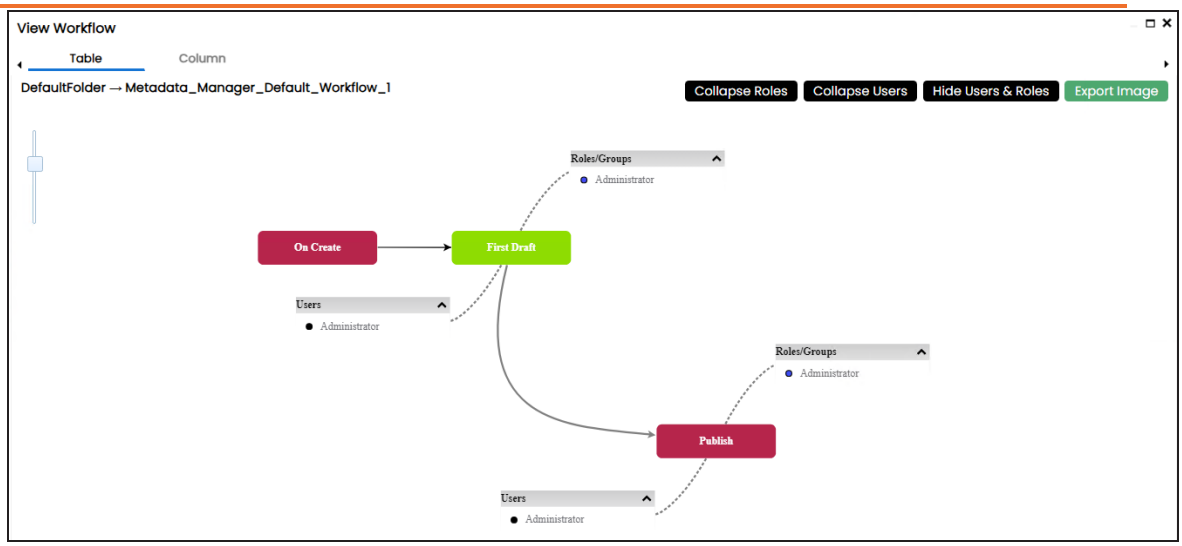
To view workflow logs of systems, follow these steps:

1. On the Explore tab, hover over a system card and click Info.
2. Click **Options**.
   The available options appear.



3. Click **View Workflow**.

   The View Workflow page appears. It displays the current stage of the system.



Use the following options to work on the workflow:

Collapse/Expand Roles

This option is enabled when you are in the Expand Users and Roles view. Use this to switch between the collapsed and expanded users view.

Collapse/Expand Users

This option is enabled when you are in the Expand Users and Roles view. Use this to switch between the collapsed and expanded users view.

Expand/Hide Users and Roles

Use this option to view or hide users and roles assigned to the stages of the workflow.

Export Image

Use this option to download the workflow in the JPG format.

Associating Systems

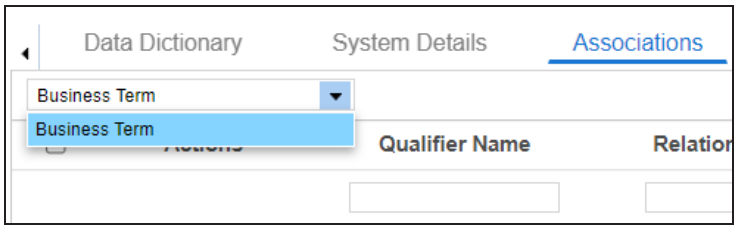
You can associate systems with business assets, systems, environments, tables, and columns. You can view these associations on mind maps and analyze association statistics.

Ensure that:

- Business assets are enabled. You can add custom business assets and enable them in the Business Glossary Manager Settings.
- Relationship between system and the asset type is defined. You can define associations and relationships in the Business Glossary Manager Settings.

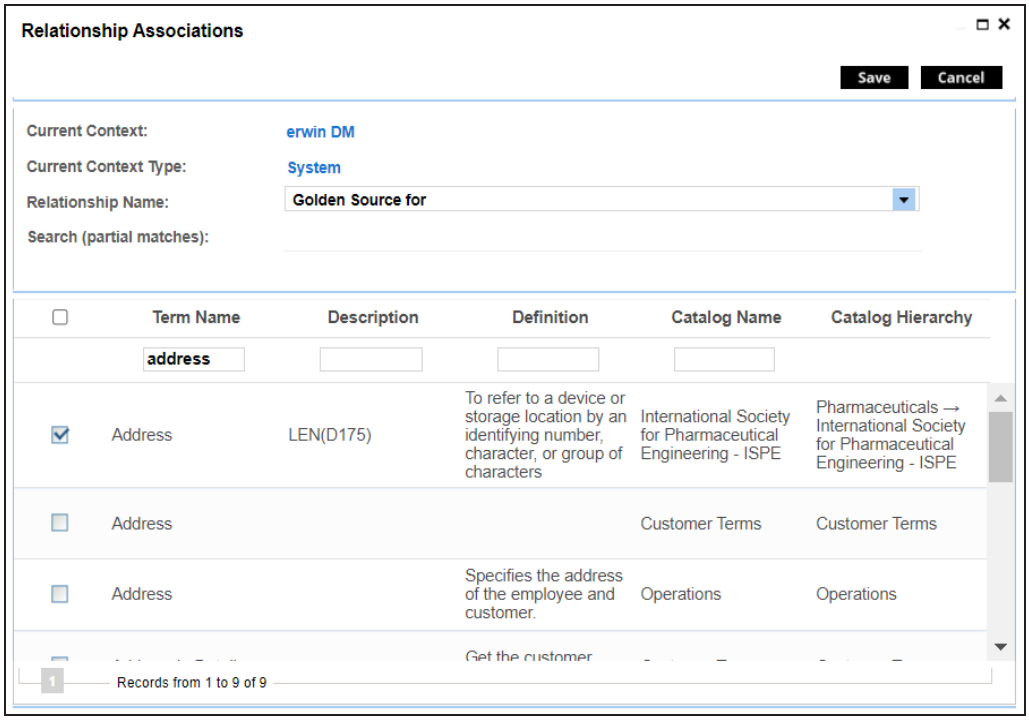
To associate systems with asset types, follow these steps:

1. On the Explore tab, hover over a system card and click Info.
2. In the central pane, click the **Associations** tab.
3. In the asset type (business policies, business terms, columns, environments, and tables) list, select an asset type to associate with the system.



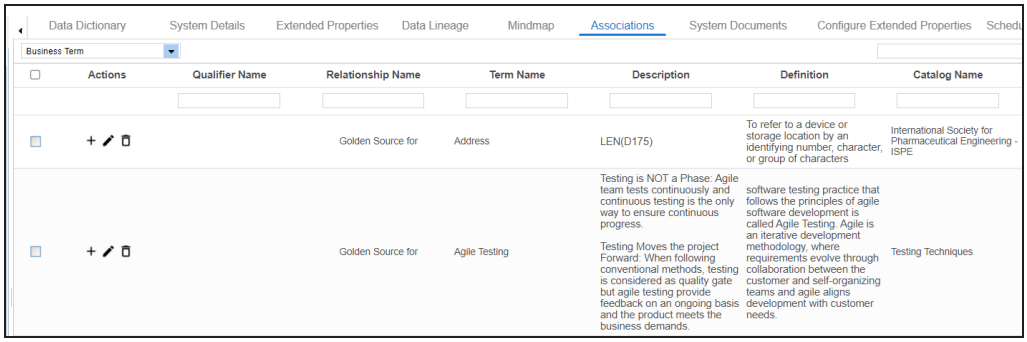
4. Click +.
   The Relationship Association page appears. Based on the asset type that you select, it

displays a list of available assets.



5. Select **Relationship Name**, and the asset type.
   If you know the term name, use the Search (partial matches) field to look up for it.
6. Click **Save**.

   The asset is associated to the system and added to the list of associations.
   You can define as many associations as required.



Once you have created associations, you can use the following options under the **Actions** column:

Add Association ( )

Use this option to add associations using a qualifier.

Edit Association ( )

Use this option to edit the association.

Delete Association ( )

Use this option to delete the association.

To view mind map, click the **Mindmap** tab. For more information on mind maps, refer to the Viewing Mind Maps topic.

You can associate multiple assets with a system, and view the associations based on a qualifier view in the mind map. For more information, refer to the Setting Up Associations Using Qualifiers topic.

Configuring Expanded Logical Name

You can update the expanded logical name for multiple tables/columns by scheduling a configuration job. The job updates the expanded logical name based on the table/column name, associated business term's name, and the associated business term's definition.

You should configure expanded logical name of tables and columns after scanning metadata.

You can run the job at both, system and environment levels:

- **System level**: The expanded logical name can be applied to all the tables and columns under the system. This includes all the environments under the system.
- **Environment level**: The expanded logical name can be applied to all the tables and columns under the environment.

For example, consider a scenario where you want to schedule a job to configure the expanded logical name of a table, RM_Resource and a column, Resource_ID. The parameters of the job are a business term catalog that has a business term, Resource, its definition, Sales Representative, and a splitter, Underscore (_). Refer to the following table to understand the parameters and their values:

Entity	Value	Comment
Splitter (specified while scheduling the job)	_(Underscore)	
Table Name	RM_Resource	Here, the part after the underscore (splitter), Resource, matches the Business Term. Therefore, it will be replaced with the business term definition and the part before the underscore, RM, will be retained in the expanded logical name.
Column Name	Resource_ID	Here, the part before the underscore, Resource, matches with the Business Term. Therefore, it will be replaced with

Entity	Value	Comment
		the business term definition and the part after the underscore, ID will be retained in the expanded logical name.
Business Term	Resource	This should match with a part of the table and column names above.
Business Term Definition	Sales Representative	In the updated expanded logical name, this will replace the part of the table/column name that matches the business term name. That is: ▪ For the table, RM will be retained and Resource will be replaced with Sales Representative. ▪ For the column, ID will be retained and Resource will be replaced with Sales Representative.
Expanded Logical Name	<Blank>	Expanded logical name is formed from the business term definition and part of table or column names.

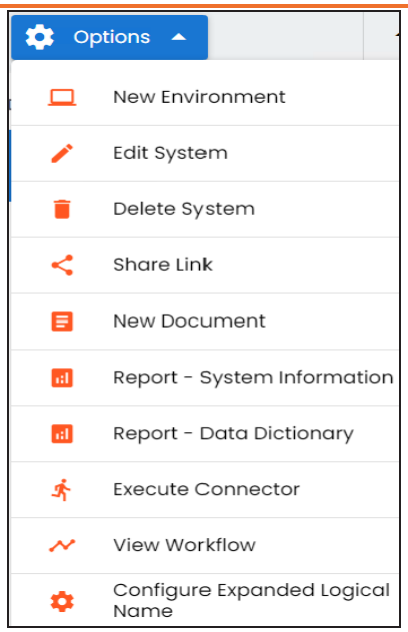
After the job runs successfully, the expanded logical name of the table and column is updated as mentioned in the following table:

Entity	Expanded Logical Name	Comment
Table	RM Sales Representative	Here, RM retained from the table name and Sales Representative is added from business term definition.
Column	Sales Representative ID	Here, ID is retained from the column name and Sales Representative is added from business term definition.

To configure expanded logical name, follow these steps:

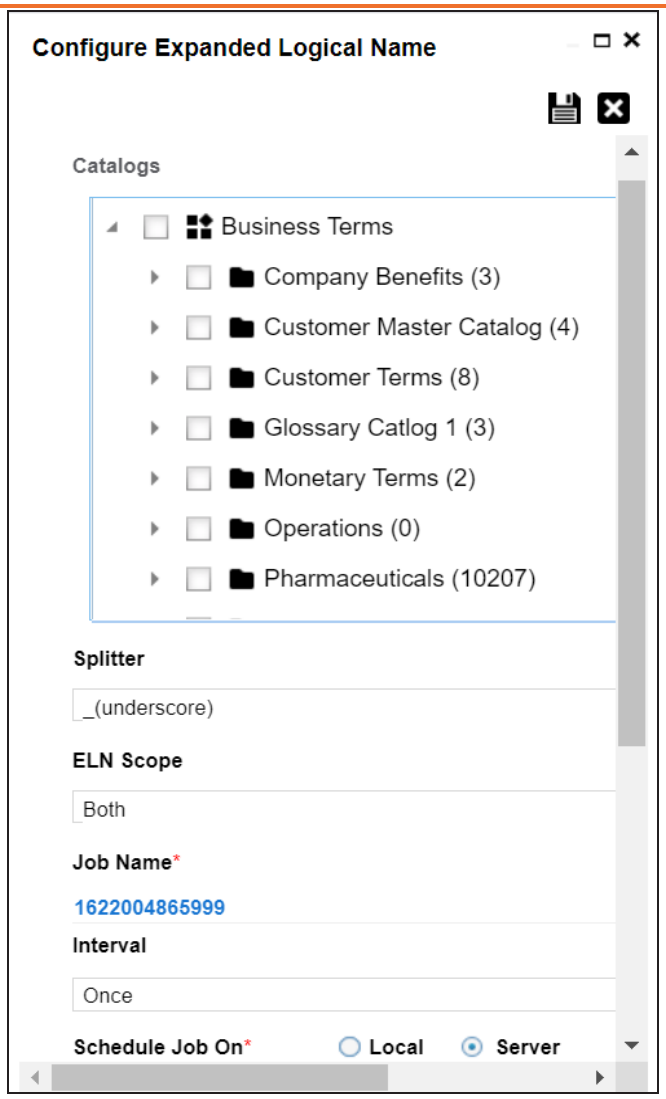
1. On the Explore tab, hover over the system card and click 

, or click an environment tile to view the assets details.
2. Click **Options**.
   The available options appear.



3. Click **Configure Expanded Logical Name**.

   The Configure Expanded Logical Name page appears.



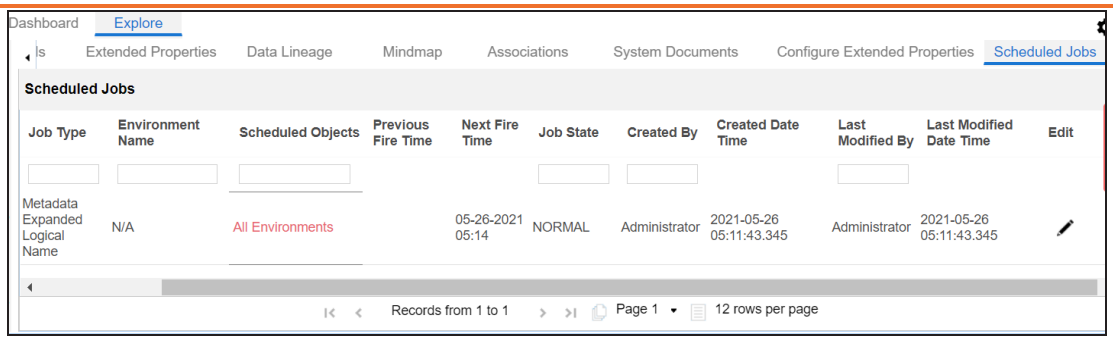
4. Select or enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Catalogs	Select the catalog containing the required business term.
Splitter	Select appropriate splitter based on the table name or column name.

Field Name	Description
ELN Scope	Select an appropriate scope of the job. ▪ **Columns**: Indicates that the expanded logical names of all the columns in this system are configured ▪ **Tables**: Indicates that the expanded logical name of all the tables in this system are configured ▪ **Both**: Indicates that the expanded logical names of all the tables and columns in this system are configured
Job Name	A default job name is autopopulated. You can modify it and enter a job name.
Interval	Select an interval of the job. Interval sets the frequency of the job. For example: If you set the interval every week then the job will be executed every week.
Local or Server	Select the machine whose clock decides the time of the scheduled scan. ▪ **Local**: Refers to your local machine. ▪ **Server**: Refers to the machine where Quest DI has been deployed.
Schedule Job On	Select date and time of the execution of the job.
Notify Me	Switch the **Notify Me** to **ON** to receive a notification email about the scheduled job.
Notification Email	This field is autopopulated with your email ID. You receive email notifications about the scheduled job from the Admin Email ID, configured in the Email Settings. For more information on configuring Admin Email ID, refer to the Configuring Email Settings topic.
CC List	Enter a comma-separated list of email IDs that should receive the job notification.

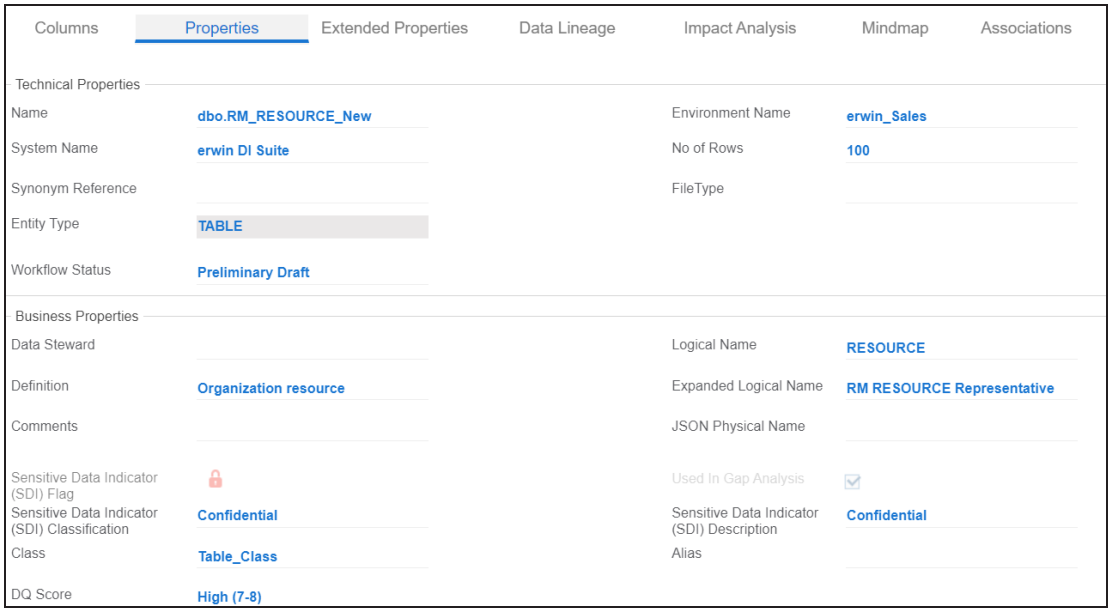
5. Click  .

   The job is scheduled and added to the Scheduled Jobs list on the **Scheduled Jobs** tab.

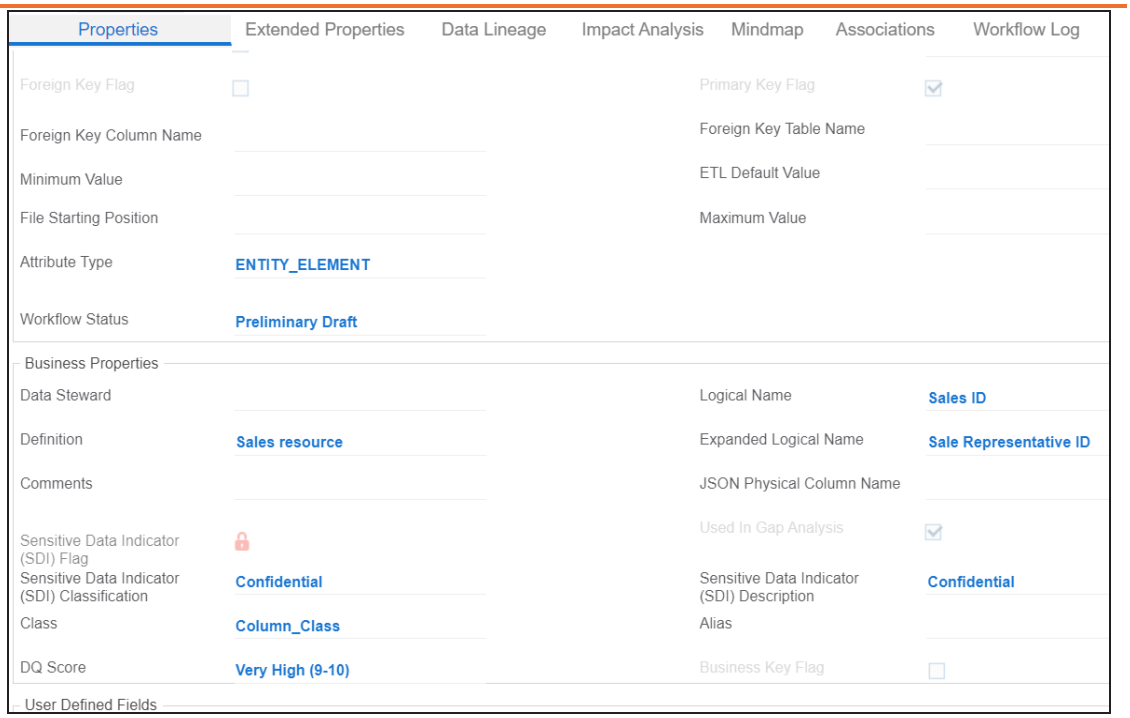


You can edit the job using or delete it using .

The job is executed at the scheduled time and the expanded logical names of tables and columns are updated.



Configuring Expanded Logical Name



You can use this job to update the expanded logical name only once. Alternately, you can update expanded logical names under table properties and column properties.

Managing Systems

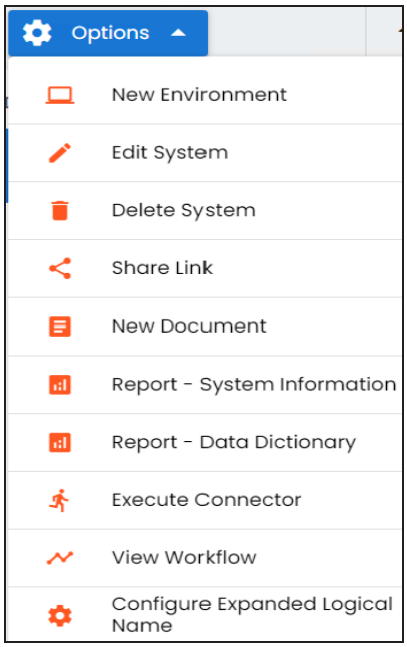
Managing systems involves:

- Editing or deleting systems
- Exporting systems information
- Exporting data dictionary report
- Sharing a shortcut link

To manage systems, follow these steps:

1. On the Explore tab, hover over a system card and click Info.
2. Click **Options**.

   The available options appear.



3. Use the following options:

   Edit System

   Use this option to edit the system details.

Delete System

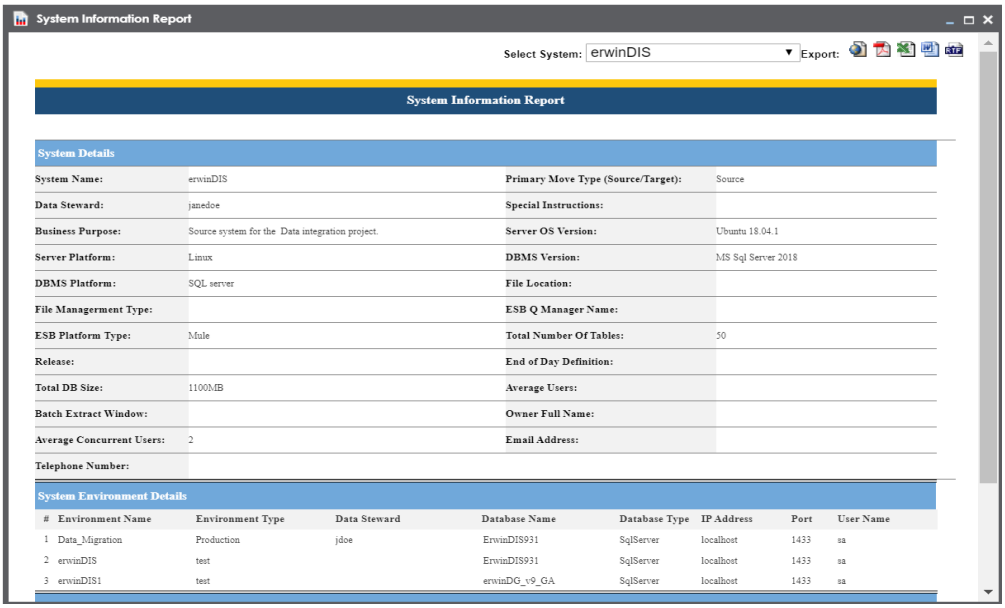
Use this option to delete systems that are not required. Ensure that you delete all the environments under a system before deleting it.

Report - System Information

Use this option to view and export system information.

To view system information report, click **Report - System Information**.

The System Information Report page appears.



In the **Select System** list, select a system to view its report.

- **Export to HTML** (): Use this option to export the report in the HTML format.
- **Export to PDF** (): Use this option to export the report in the PDF format.
- **Export to Excel** (): Use this option to export the report in the XLSX format.
- **Export to Word** (): Use this option to export the report in the DOCX format.

- **Export to RTF** (): Use this option to export the report in the RTF format.

Report - Data Dictionary

Use this option to view and export system catalog and data dictionary report.

Share Link

Use this option to share a shortcut link of a system.

- **Copy Link**: Use this option to copy the shortcut link to the system. You can then share this link manually.
- **Email**: Use this option to share the shortcut link to the system via an email.

Tagging Systems

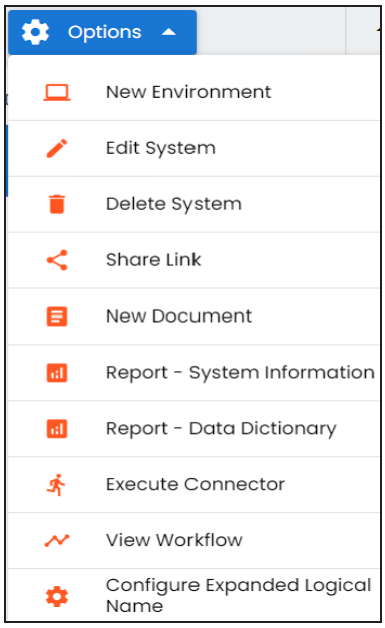
You can tag systems and group assets for better reporting, data traceability, and data discovery. After tagging, you can visualize associated assets with a tag on a mind map in Enterprise Tags.

To tag systems, follow these steps:

1. On the Explore tab, hover over a system card and click 

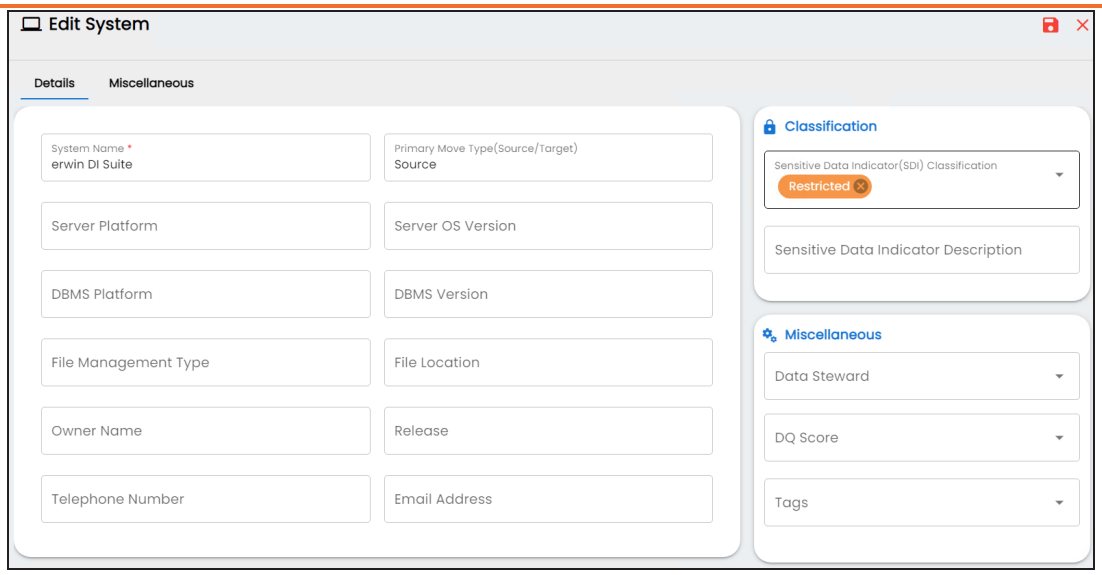
.
2. Click **Options**.

   The available options appear.



3. Click **Edit System**.

   The Edit System page appears.



4. Click **Tags** and select a tag from the suggestions that appear.

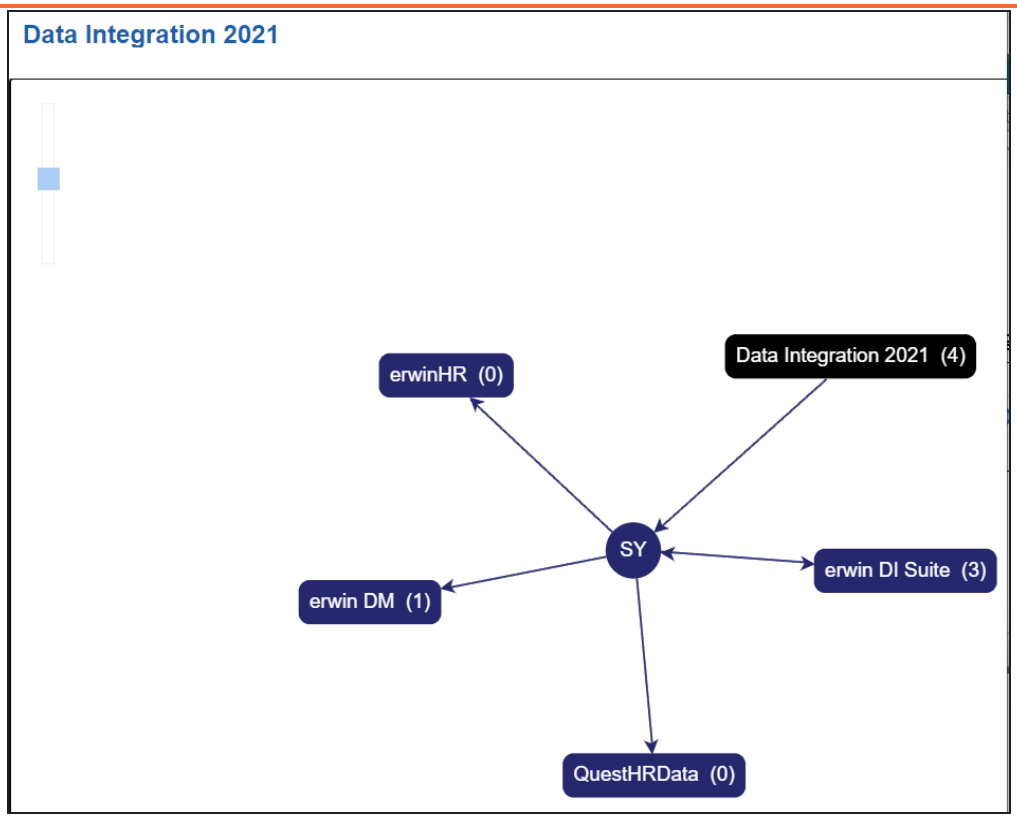
> You can create a tag by typing a tag name in the Tags box and then pressing Enter.

For example, in the following image, a tag, Data Integration 2021, is created and assigned to a system.

5. Click  .

The tag is assigned to a system.

Once a system is tagged, you can visualize its association with a tag on a mind map in Enterprise Tags.


Data Integration 2021
erwinHR (0)
Data Integration 2021 (4)
SY
erwin DM (1)
erwin DI Suite (3)
QuestHRData (0)

Creating and Managing Environments

Metadata is stored and categorized into systems and environments. Multiple environments are contained in a system. Whereas environments can denote a database, flat file, data models, etc. Environments contain database objects like Tables, Columns, Views, Synonyms, etc.

You can create environments under a system and scan metadata from a data source by providing connection parameters in the environment.

Creating and managing environments involves:

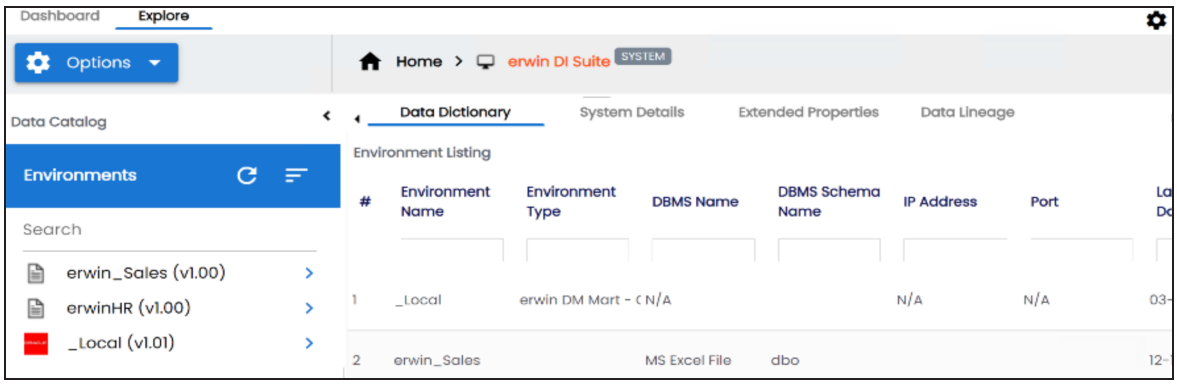
- Creating environments
- Assigning roles and users
- Managing environments
- Updating Sensitivity
- Uploading documents
- Cloning environments
- Viewing ER diagrams
- Viewing workflow logs
- Associating Environments
- Configuring Business Properties
- Configuring Expanded Logical Name of Tables/Columns
- Tagging Environments

Creating Environments

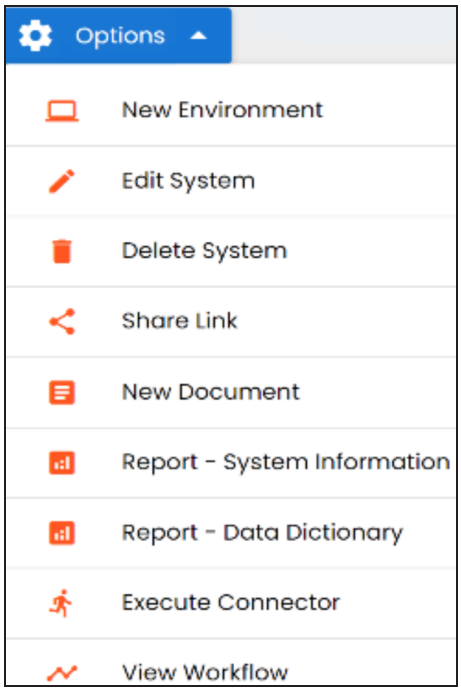
After creating a system in the Metadata Manager, you can create environments under the system. An environment can be created for different database types and flat files by fulfilling prerequisites and providing the connection parameters.

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. In the Asset Catalog pane, hover over the system card and click Info.

   The system details page appears and displays available environments in the Data Catalog pane.

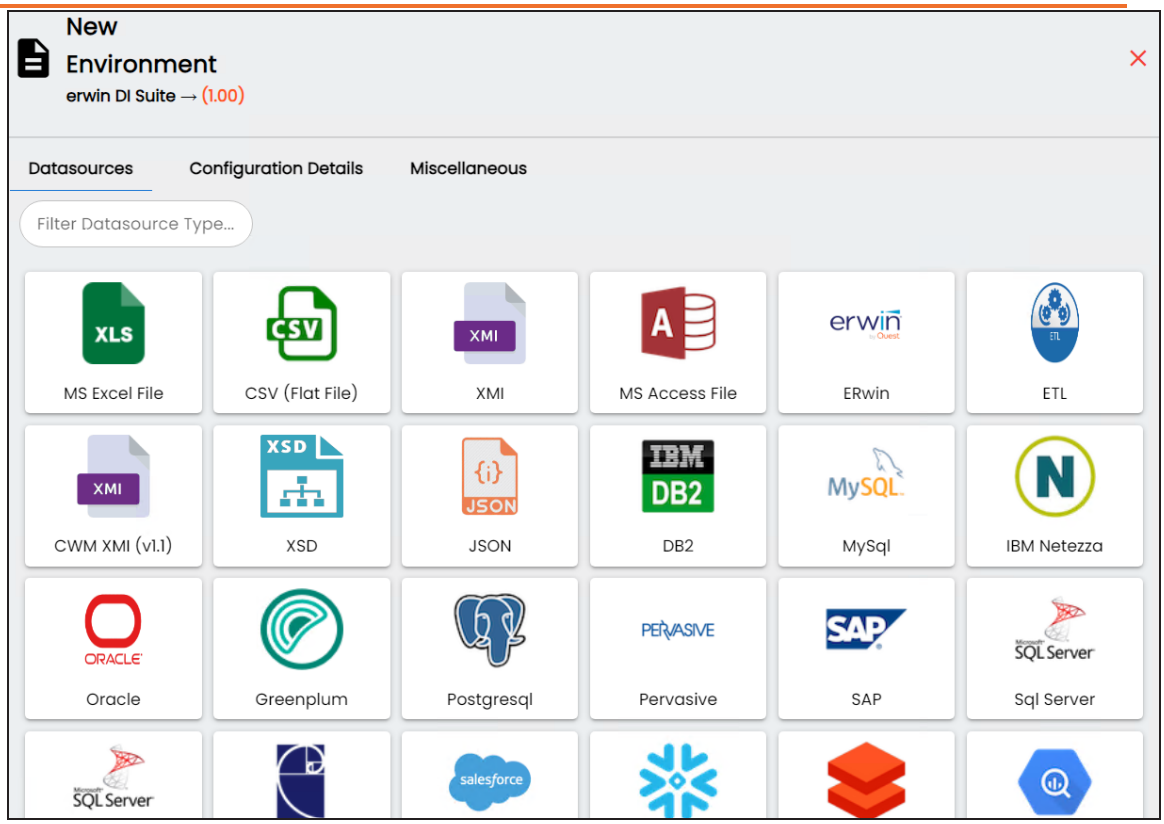


3. Click **Options**.
   The available options appear.

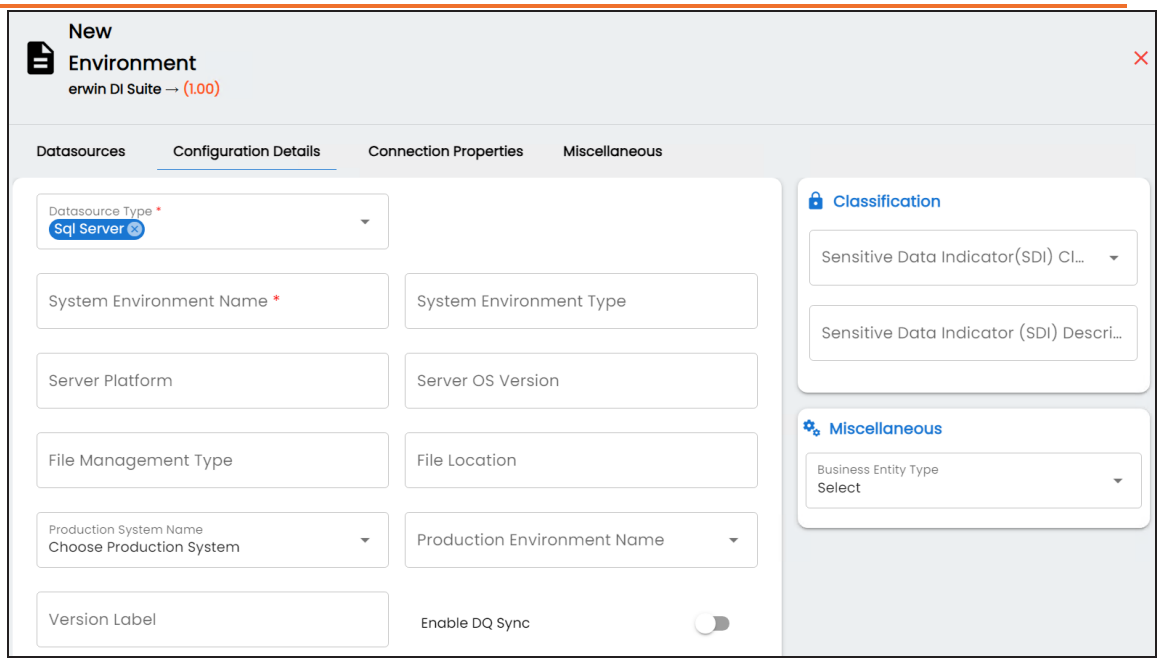


4. Click **New Environment**.

   The New Environment page appears and displays supported database in the Data-sources tab.



5. Click a datasource, the Configuration Details tab appears.
   The screenshot below displays connection details for Sql Server. The connection details vary based on database selection.



Alternatively, enter a keyword in the search bar to search for datasources.

Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Datasource Type	Specifies the datasource (database) type from where you wish to scan metadata. You can change the datasource type using the drop down list. For example, Sql Server. Depending upon your choice of database type, you need to provide additional fields in the **Connection Properties** tab. For SQL Server (Windows Authentication), Sybase, HP Vertica, and Neteeza databases, the TestConnectionQuery option is selected by default to validate the internal connection. The system displays exceptions if this option is not selected.

Field Name	Description
	There are no additional fields for XSD file.
System Environment Name	Specifies the unique name of the environment. For example, EDW-Test. The environment name supports - (hyphen), ((opening parenthesis),) (closing parenthesis), / (slash), # (), . (full stop), [] (left and right square brackets), ! (exclamation mark), + (plus), % (percentage), ~ (tilde), ; (semicolon), , (comma), = (equals sign), ^ (circumflex accent), and {} (left and right curly brackets) as special characters. For more information on naming conventions, refer to the Best Practices section.
System Environment Type	Specifies the type of the environment. For example, development, test, or production.
Server Platform	Specifies the server platform of the environment. For example, Windows.
Server OS Version	Specifies the OS version of the environment's server. For example, Windows Server 2012 R2.
File Management Type	Specifies the file management system (if the environment is a file-based source). For example, MS Excel.
File Location	Specifies a file path (if the environment is a file-based source). For example, C:\Users\Jane Doe\erwin\Mike - Target System
Production System Name	Specifies the system name being associated with the environment as the production system. For example, Enterprise Data Warehouse.
Production Environment Name	Specifies the environment name being associated with the environment as the production environment. For example, EDW-PRD.

Field Name	Description
Version Label	Specifies the version label of the environment to track change history. For example, Alpha. For more information on configuring version display, refer to the Configuring Version Display of the Environments topic.
Enable DQ Sync	Specifies whether to sync data quality analysis results from DQLabs. To view data quality analysis, ensure that you have configured DQLabs connection setting in Quest DI. For more information, refer to the Configuring Data Profiling topic.  Data quality analysis is available for environments using Oracle, Salesforce, Snowflake, MySQL, MSSQL, Hadoop, and PostgreSQL database types.
Sensitive Data Indicator (SDI) Classification	Specifies the sensitivity data indicator (SDI) classification of the environment. Also, you can add multiple classifications to the environment. For example, PHI, Confidential. For more information on configuring SDI classifications, refer to the Configuring Sensitivity Classifications topic.
Sensitive Data (SDI) Indicator Description	Specifies the description of the SDI classification.
Business Entity Type	Specifies the database type of business entity.

6. Click →| to navigate to the Connection Properties tab.
   Different datasource types have different prerequisites and connection parameters. See the list below for datasource type and its connection parameters:
   - SQL Server - via SQL or Window authentication mode
   - Oracle and Oracle RAC

- MySQL
- Snowflake
- Google BigQuery
- MS Dynamics CRM (and other datasources)
- SAP ECC R/3 and IS-U Metadata via JCO Driver
- Databricks
- Salesforce

7. Click to test the connection.

   If the connection with database is established successfully then a success message pops up.

8. Click to save and continue to **Miscellaneous** tab.

   Or, click to save and exit.

9. On the Miscellaneous tab, enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Intended Use Description	Specifies the description about the objective of the environment. For example: The environment contains the source metadata for the data integration project.
Environment Notes	Specifies relevant notes about the environment. For example: The environment uses Sql Server as database to scan the metadata.
Approval Instruc-tions	Specifies any instructions for the environment's approval. For example: The environment must contain 50 tables from Quest DI database.

10. Click to save and exit.

    A new environment is created.

Once an environment is created, you can scan source or target metadata from the database type.

SQL Server

You can create two types of SQL Server environments:

- SQL authentication
- Windows authentication

Both the environments have same:

- Prerequisites
- Privileges
- JDBC driver details
- TLS connection details

There is a small difference between the two modes in JDBC connection parameters.

Prerequisites

Pre-requisite steps for establishing successful connection:

1. Creation of dedicated service account for Quest with Metadata Read-only privileges in SQL Server Database
2. Firewall connection open between SQL Server and Quest DI application server
3. Opening of SQL Server database port to accept connections from Quest DI application server

Privileges

Following are the privileges given to service account for:

- **Metadata scanning**: Grant view definition on Schema
- **Data preview**: Db_datareader

JDBC Driver Details

SQL Server JDBC driver is out of box packaged with Quest DI application. Hence, no JDBC driver configuration is required from end user standpoint.

TLS Connection Details

- The SQL Server JDBC driver supports connection via TLS 1.2.
- The TLS protocol parameter needs to be added to JDBC URL string to ensure that the connection is via TLS. Otherwise, the source database will reject any incoming request in non-TLS mode.
- JDBC URL being used to connect via TLS: **jdbc:sqlserver://SERVER_NAME:PORT#;data-baseName=AdventureWorks;sslProtocol=TLSv1.2**
- Additional parameters to configure (if needed): **integratedSecurity=true;encrypt=true;trustServerCertificate=true;**

JDBC Connection Parameters

SQL Authentication

The Connection Properties tab displays the connection parameters to establish connection for SQL Server (SQL authentication) connection.

Once the connection parameters are entered, use these options  to go to the next tab, test the connections, save and continue, or save and exit.

Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.microsoft.sqlserver.jdbc.SQLServerDriver
IP Address/Host Name	Specifies the IP address or server host name of the database. For example, localhost.

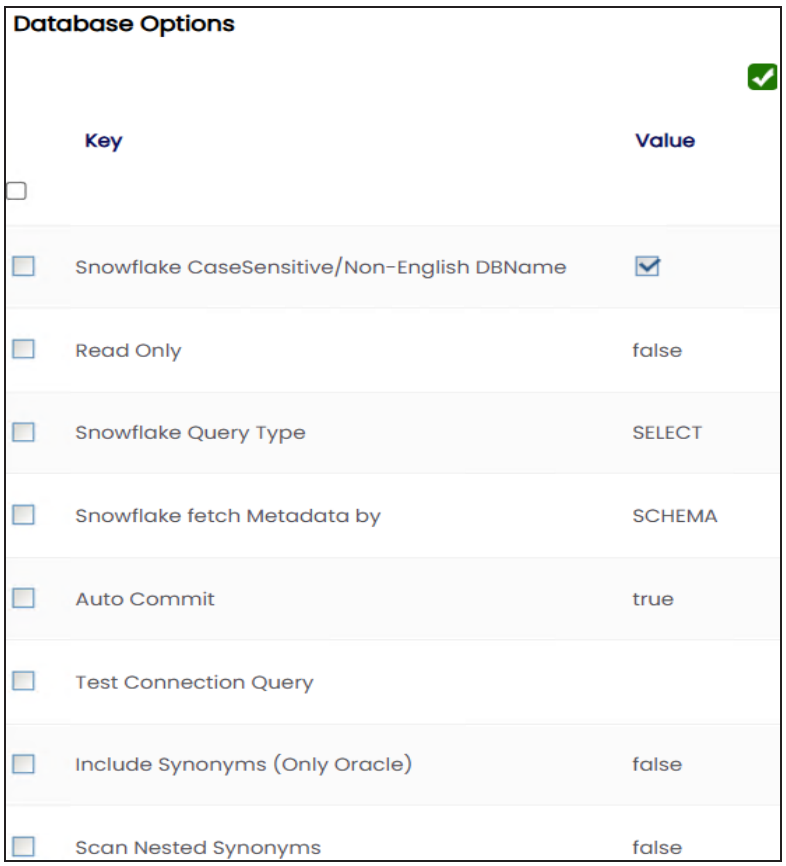
SQL Server

Field Name	Description
DBMS Name/DSN	Specifies the SQL Server database name being used to connect to the environment. For example, ErwinDIS931.
Port	Specifies the port to connect with the database. 1433 is the default port for a Sql Server database type. You can change it, if required.
User Name	Specifies the SQL Server (Service Account) user name. For example, sa.
URL	Specifies the full JDBC URL that is used to establish a connection with the database. For example, **jdbc:sqlserver://SERVER_NAME:PORT#;databaseName=DatabaseName** It is autopopulated based on the other parameters.
Password	Specifies the SQL Server (Service Account) password. For example, goerwin@1.
Save Password	Specifies whether the password is saved
DBMS Instance Schema	Specifies the schema of the database. Use this option to select multiple or narrow down to single schema. For example, DBO.
Connection Pool Type	Specifies the connection pool type being used to connect via JDBC. For example, HIKARICP and BONECP.
Number of Partitions	Specifies the number of partitions of the database. It is autopopulated with default number of partitions. You can edit and provide the number of partitions as required. For example, 2.
Minimum Connections Per Partitions	Specifies the minimum connections per partitions of the database. It is autopopulated with default minimum connections per partitions. You can edit and provide the minimum connections per partitions as required. For example, 3.

Field Name	Description
Maximum Connections Per Partitions	Specifies the maximum connections per partitions of the database. It is autopopulated with default maximum connections per partitions. You can edit and provide the maximum connections per partitions as required. For example, 5.

To use database options, click (Options).

The Database Options page appears. It displays the available database options.



Select keys and double-click the cells under the **Value** column to set the values of the keys.

Use to save the database options.

SQL (Windows Authentication)

SQL Server

The Connection Properties tab displays the connection parameters to establish connection for SQL Server (Window authentication) connection.

Once the connection parameters are entered, use these options  to go to the next tab, test the connections, save and continue, or save and exit.

Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

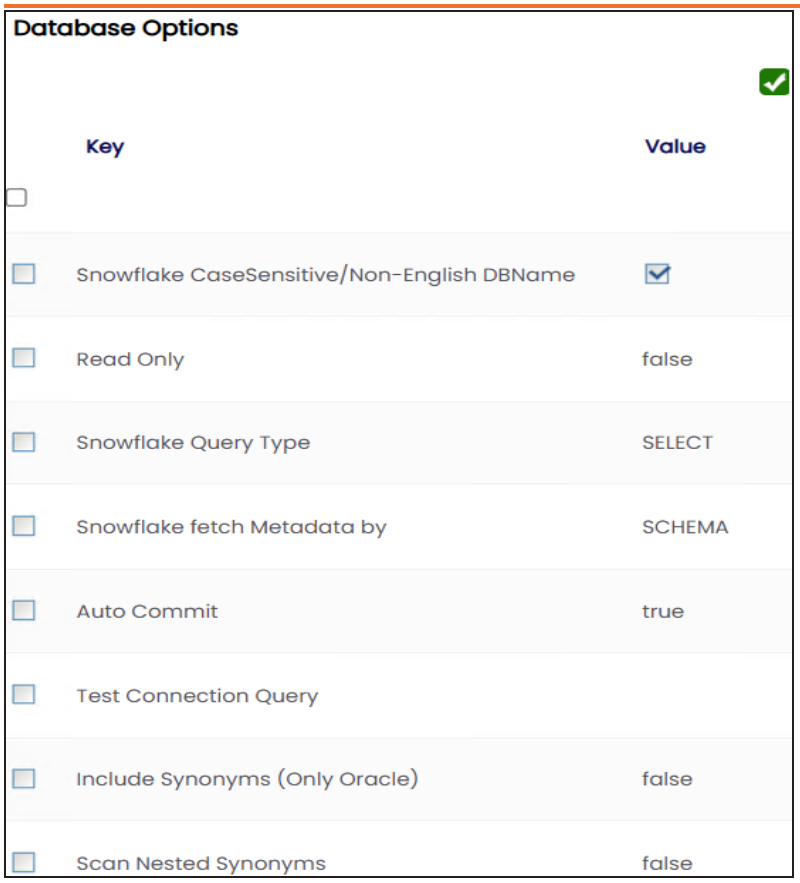
Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.microsoft.sqlserver.jdbc.SQLServerDriver
IP Address/Host Name	Specifies the IP address or server host name of the database. For example, localhost.
DBMS Name/DSN	Specifies the SQL Server database name being used to connect to the environment. For example, ErwinDIS931.
Domain	Specifies the network domain name on which database resides. For example, U-DOM1.
User Name	Specifies the SQL Server (Service Account) user name. For example, sa.
URL	Specifies the full JDBC URL that is used to establish a connection to the database. It is autopopulated based on the other parameters. **jdbc:jtds:sqlserver://SERVER_NAME:PORT#;databaseName=DatabaseName;domain=DomainName;useNTLMv2=true;**
Password	Specifies the SQL Server (Service Account) password. For example, goerwin@1.
Save Password	Specifies whether the password is saved

SQL Server

Field Name	Description
DBMS Instance Schema	Specifies the schema for the database. Use this option to select multiple or narrow down to single schema. For example, DBO.
Connection Pool Type	Specifies the connection pool type being used to connect via JDBC. For example, HIKARICP and BONECP.
Number of Partitions	Specifies the number of partitions for the database. It is autopopulated with default number of partitions. You can edit and provide the number of partitions as required. For example, 2.
Minimum Con-nections Per Partitions	Specifies the minimum connections per partitions for the database. It is auto-populated with default minimum connections per partitions. You can edit and provide the minimum connections per partitions as required. For example, 3.
Maximum Con-nections Per Partitions	Specifies the maximum connections per partitions for the database. It is auto-populated with default maximum connections per partitions. You can edit and provide the maximum connections per partitions as required. For example, 5.

To use database options, click (Options).

The Database Options page appears. It displays the available database options.



The TestConnectionQuery option is selected by default to validate the internal connection. The system displays exceptions if this option is not selected.

Select keys and double-click the cells under the **Value** column to set the values of the keys. Use to save the database options.

Oracle

You can create Oracle environments using the following methods:

- Oracle JDBC Parameters
- Oracle Wallet

You can create Oracle environments and can also enable RAC/Service to:

- Use Oracle cluster database
- Capture Oracle Service name in DSN field

Before creating an Oracle environment, you should take a note of the following:

- Prerequisites
- JDBC driver details
- TLS connection details
- JDBC connection parameters

Prerequisites

Prerequisite steps for establishing successful connection:

- **Creation of dedicated service account** for Quest with Metadata read-only privileges in Oracle database
- **Firewall connection open** between Oracle and Quest DI application server
- **Oracle Database port** opened to accept connections from Quest DI application server

JDBC Driver Details

Oracle JDBC driver is out of box packaged with Quest DI application. Hence, no JDBC driver configuration is required from end user standpoint.

TLS Connection Details

- Oracle JDBC 8 driver provides native TLS 1.2 support and upgrading the driver to JDBC 8 will provide the necessary resolution.
- Once the product is upgraded to the oracle JDBC 8 driver, TLS connectivity can be ensured by setting a few system parameters and also adding TLS parameters to the JDBC URL string to support connectivity using TLS 1.2

URL Format: jdbc:oracle:thin:@<Ip Address>:<Port>/< service name>+TLS params

JDBC Connection Parameters

The Connection Properties tab displays the connection parameters to establish connection for SQL Server (SQL authentication) connection.

Once the connection parameters are entered, use these options  to go to the next tab, test the connections, save and continue, or save and exit.

You can select the **RAC/Service** check box in the Configuration Details tab to:

- Use Oracle cluster database
- Capture Oracle Service name in DSN field

Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

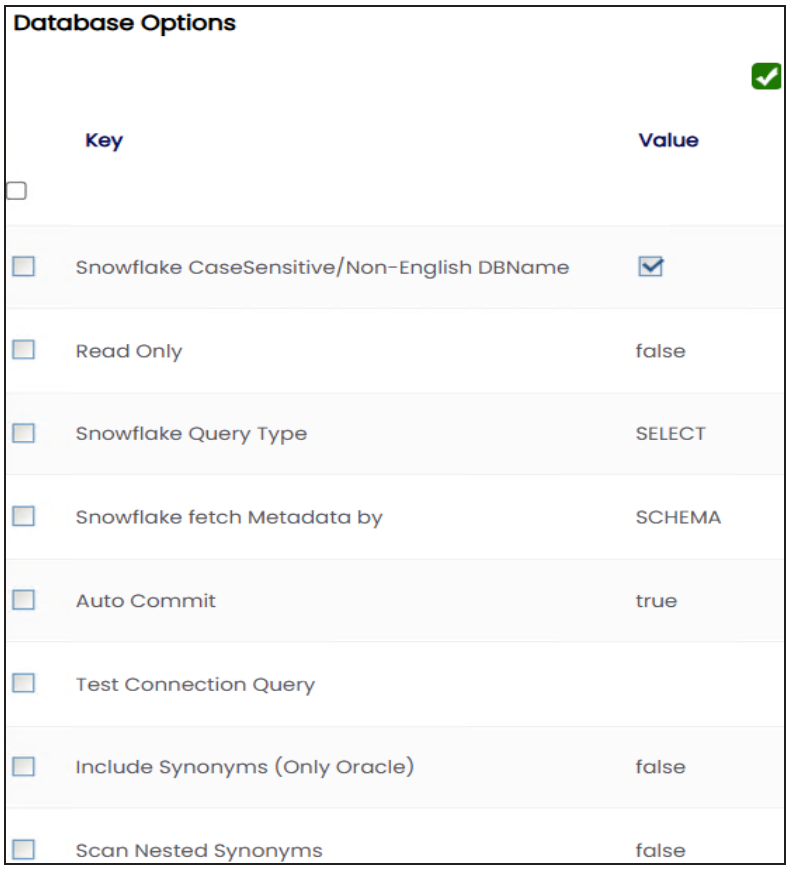
Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, oracle.jdbc.driver.OracleDriver
IP Address/Host Name	Enter the IP address or server host name. For example, 10.32.445.21
DBMS Name/DSN	Name of the Oracle Service - SID or TNS Service Name. For example, ErwinDIS931.
Port	Specifies the port to connect with the database. 1521 is the default port for the Oracle database. User can change it, if required.

Oracle

Field Name	Description
User Name	Enter the Oracle (Service account) user name. For example, erwinuser.
URL	It is autopopulated based on the other parameters. For example, **jdbc:oracle:thin:@ <Ip Address>:<Port>/< service name>** When using the Oracle Wallet, ensure that you use the URL provided by the Oracle administrator. For more information about Oracle Wallet, refer to Oracle Wallet section.
Password	Enter the Oracle (Service account) password. For example, goerwin@1.
Save Password	Specifies whether the password is saved
DBMS Instant Schema	Specifies the name of the database schema. For example, DBO. Use this option to select multiple or narrow down to single schema.
Connection Pool Type	Specifies the connection pool type being used to connect via JDBC. For example, HIKARICP and BONECP. Select the appropriate connection pool type.
Number of Partitions	Specifies the number of partitions of the database. It is autopopulated with default number of partitions. You can edit and provide the number of partitions as required. For example, 2.
Minimum Connections Per Partitions	Specifies the minimum connections per partitions of the database. It is autopopulated with default minimum connections per partitions. You can edit and provide the minimum connections per partitions as required. For example, 3.
Maximum Connections Per Partitions	Specifies the maximum connections per partitions of the database. It is autopopulated with default maximum connections per partitions. You can edit and provide the maximum connections per partitions as required. For example, 5.

To use database options, click (Options).

The Database Options page appears. It displays the available database options.



To use the database options, select keys and double-click the cells under the **Value** column to set the values of the keys. Use to save the database options.

Oracle Wallet

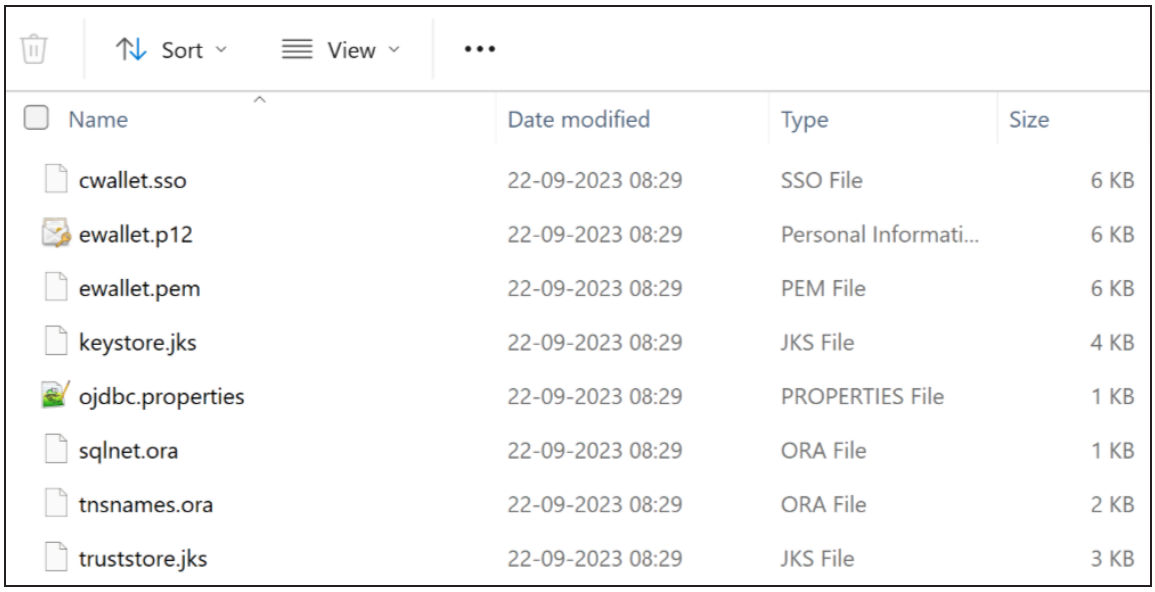
The Oracle Wallet allows you to connect to a Oracle database with enhanced security by enabling secure, password-less access.

> Before using this method, contact the Oracle administrator for enabling Oracle Wallet for your database and place the wallet files on your machine.

To connect to Oracle databases using the Oracle Wallet, follow these steps:

Oracle

1. Place the Oracle Wallet files on your machine.
   The screenshot below displays the files available in Oracle Wallet placed in a location.

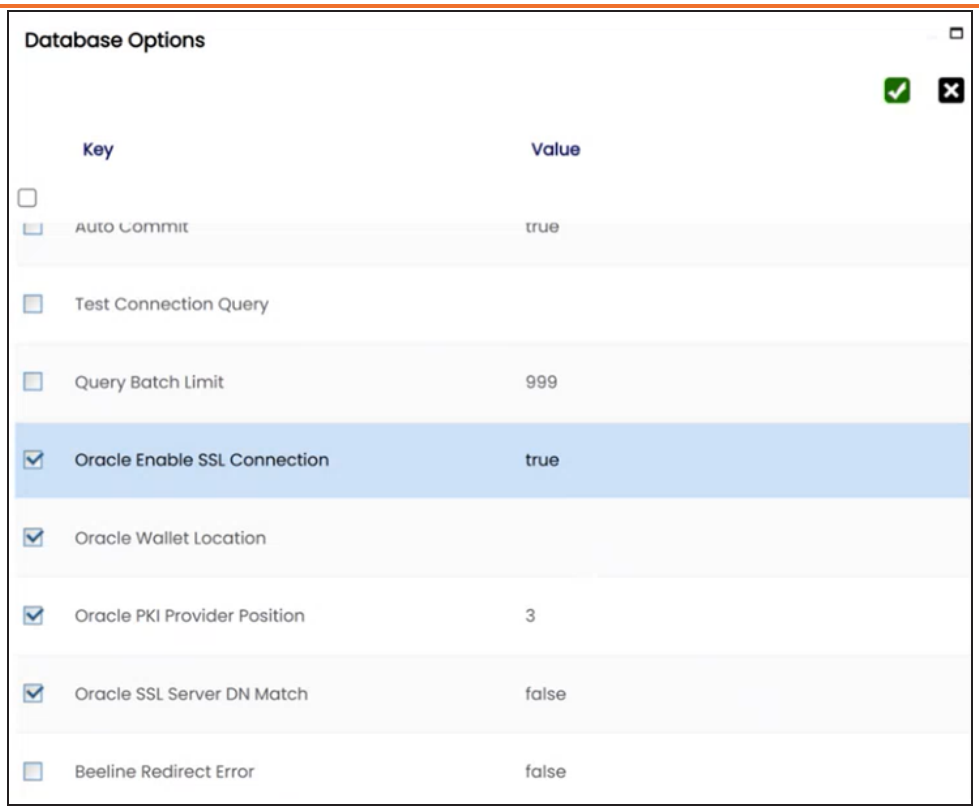


2. Enter the database details in the Configuration Details tab.
3. On the Connection Properties tab, enter appropriate values in the fields. The fields marked with a red asterisk are mandatory.

   Ensure that you use the URL provided by the Oracle administrator in the URL field. For example, **jdbc:oracle:thin:@testdb_medium?TNS_ADMIN=D:\OracleWallet**.

4. Click (Options) to view the database options.
5. On the Database Options page, select the following options for Oracle Wallet based authentication:

   - Oracle Enable SSL Connection
   - Oracle Wallet Location
   - Oracle PKI Provider Positions
   - Oracle SSL Server DN Match



6. Set the Oracle Enable SSL Connection to **true**.
7. Specify the wallet file path in the Oracle Wallet Location option.
8. Click to save the database options.

MySQL

You can create MySQL environments by providing the necessary connection parameters.

Before creating a MySQL environment, you should take a note of the following:

- Prerequisites
- JDBC driver details
- TLS connection details
- JDBC connection parameters

Prerequisites

Prerequisite steps for establishing successful connection:

- **Creation of dedicated service account** for Quest with Metadata read-only privileges in MySQL database
- **Firewall connection open** between MySQL and Quest DI application server
- **MySQL Database port** opened to accept connections from Quest DI application server

JDBC Driver Details

MySQL JDBC driver is out of box packaged with Quest DI application. Hence, no JDBC driver configuration is required from end user standpoint.

TLS Connection Details

- The MySQL JDBC driver supports connection via TLS 1.2. The TLS protocol parameter needs to be added to JDBC URL string to ensure that the connection is via TLS.
- JDBC URL being used to connect via TLS: jdbc:mysql://IPADDRESS:3306/DATABASENAME ?useSSL=true &enabledTLSProtocols=TLSv1.2

JDBC Connection Parameters

MySQL

The Connection Properties tab displays the connection parameters to establish connection for MySQL connection.

Once the connection parameters are entered, use these options  to go to the next tab, test the connections, save and continue, or save and exit.

Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

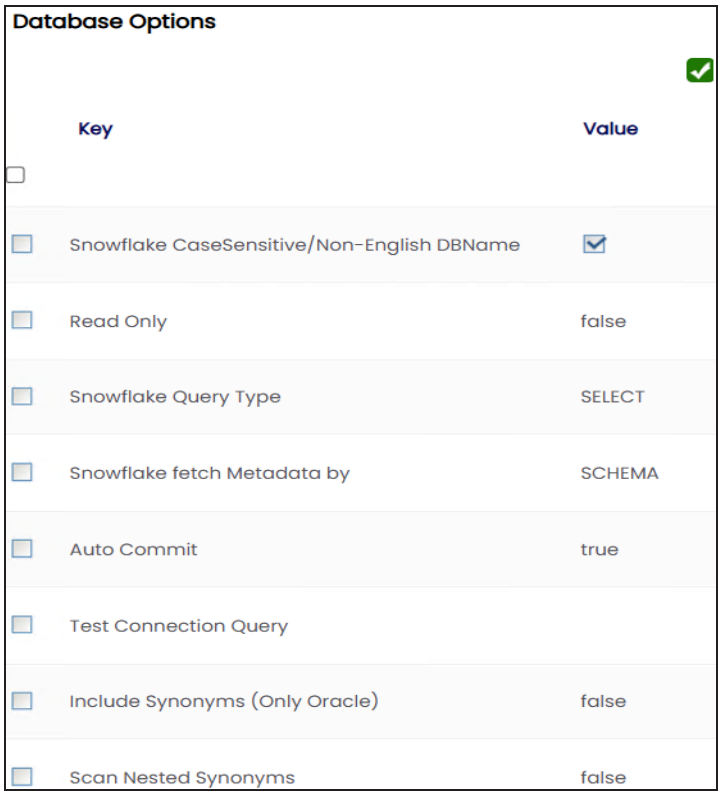
Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.mysql.jdbc.Driver
IP Address/Host Name	Enter the IP address or server host name. For example, 10.32.445.21
DBMS Name/DSN	Enter the MySQL database name. For example, ErwinDIS931.
Port	Specifies the port to connect with the database. 3306 is the default port for the MySQL database. You can change it, if required.
User Name	Enter the MySQL (Service account) user name. For example, erwinuser.
URL	Specifies the full JDBC URL that is used to establish a connection with the database. It is autopopulated based on the other parameters. For example, jdbc:mysql://IPADDRESS:3306/DATABASENAME
Password	Enter the MySQL (Service account) password. For example, goerwin@1.
Save Password	Specifies whether the password is saved
Connection Pool Type	Specifies the connection pool type being used to connect via JDBC. For example, HIKARICP and BONECP.
Number of Par-	Specifies the number of partitions of the database.

MySQL

Field Name	Description
titions	It is autopopulated with default number of partitions. You can edit and provide the number of partitions as required. For example, 1.
Minimum Connections Per Partitions	Specifies the minimum connections per partitions of the database. It is autopopulated with default minimum connections per partitions. You can edit and provide the minimum connections per partitions as required. For example, 3.
Maximum Connections Per Partitions	Specifies the maximum connections per partitions of the database. It is autopopulated with default maximum connections per partitions. You can edit and provide the maximum connections per partitions as required. For example, 5.

To use database options, click (Options).

The Database Options page appears. It displays the available database options.



Select keys and double-click the cells under the **Value** column to set the values of the keys.

Use  to save the database options.

Snowflake

You can create a Snowflake environment by providing the necessary connection parameters.

Before creating a Snowflake environment, ensure that you have the following:

- Prerequisites
- JDBC driver configuration
- TLS connection configuration
- JDBC connection parameters

Prerequisites

To establish a connection, ensure that you have:

- **Created a dedicated service account** for Quest with Metadata read-only privileges in the Snowflake database
- **Snowflake Database ports, 443 and 80**, available via firewall to accept connections from Quest Data Intelligence (Quest DI) application server

JDBC Driver Configuration

Currently, the Snowflake JDBC driver is not packaged with the Quest DI application. You can download it here.

Once downloaded, copy the Snowflake drivers to the following location on the Quest DI application server:

\Apache Software Foundation\<Tomcat X.X>\webapps\erwinDISuite\WEB-INF\lib

TLS Connection Configuration

The Snowflake JDBC driver version 3.1.x and above implements TLS v1.2 and provides the latest security patches on the protocol. Once configured, the connection uses TLS 1.2 encryption by default.

If required, you can add the SSL parameter in the JDBC connection string as follows:

```
jdbc:snowflake://<accountname>.snowflakecomputing.com/
?warehouse=DataWarehouseName&db=DatabaseName&schema=
SchemaName&ssl=on
```

JDBC Connection Parameters

UserId & Password and Key Pair Authentication

The Connection Properties tab displays the connection parameters to establish a connection for the Snowflake database.

Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.snowflake.client.jdbc.SnowflakeDriver
IP Address/Host Name	Enter <accountname>.snowflakecomputing.com For example, analytixds.us-east-3.snowflakecomputing.com
DBMS Name/DSN	Enter the Snowflake database name. For example, AW2012_DV.
Port	Specifies the port to connect to the database. 443 is the default port for the Snowflake database. You can change it if required.
Authentication Type	Specifies the type of authentication. • **UserId & Password**: Specifies authentication using standard Snowflake credentials. • **Key Pair**: Specifies authentication using a public/private key pair registered with your Snowflake account.
User Name	Enter the Snowflake (Service account) username.

Snowflake

Field Name	Description
	For example, shawn.

URL	Specifies the full JDBC URL that is used to establish a connection with the database.
	It is autopopulated based on the other parameters.
	For example,
	`jdbc:snowflake://<accountname>.snowflakecomputing.com/`
	`?warehouse=DataWarehouseName&db=DatabaseName&`
	`schema=SchemaName`

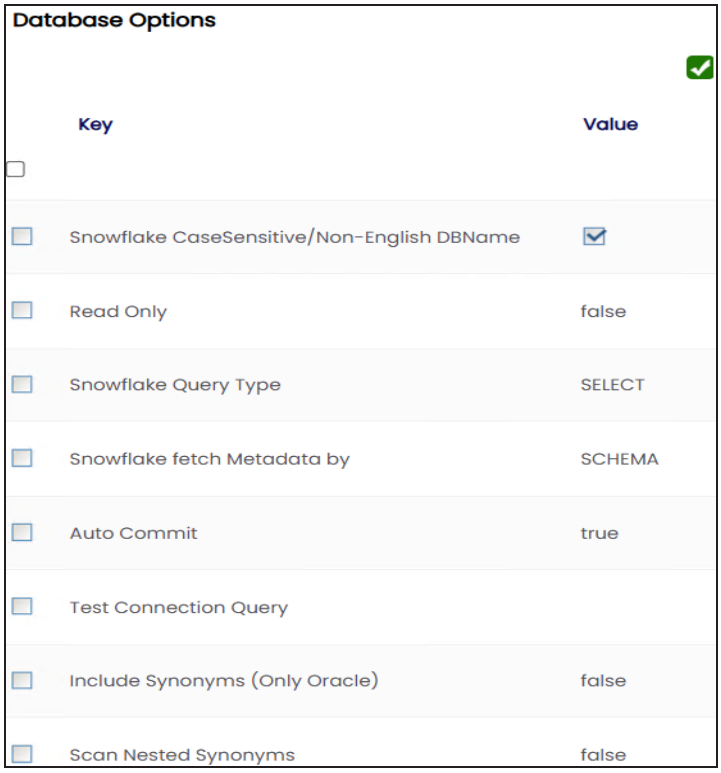
Password	Enter the Snowflake (Service account) password. This field is available only when Authentication Type is set to UserId & Password.
Save Password	Specifies whether the password is saved
Configure Key Pair	Use this option to configure key pair. This option is available only when the Authentication Type is set to Key Pair. For more information, refer to the Configuring Key Pairs topic.
DBMS Instance Schema	Specifies the schema of the database. Use this option to select multiple or narrow down to single schema.
Connection Pool Type	Specifies the connection pool type being used to connect via JDBC. For example, HIKARICP and BONECP. Thus field is available only when Authentication Type is set to UserId & Password.
Number of Partitions	Specifies the number of partitions of the database. It is autopopulated with default number of partitions. You can edit and provide the number of partitions as required. For example, 1.
Minimum Connections Per Partitions	Specifies the minimum connections per partitions of the database. It is autopopulated with default minimum connections per partitions. You can edit and provide the minimum connections per partitions as required. For example, 3.

Snowflake

Field Name	Description
Maximum Connections Per Partitions	Specifies the maximum connections per partitions of the database. It is autopopulated with default maximum connections per partitions. You can edit and provide the maximum connections per partitions as required. For example, 5.

To use database options, click (Options).

The Database Options page appears. It displays the available database options.



Select keys and double-click the cells under the Value column to set the values of the keys.

Click to save the database options.

Once the connection parameters are entered, use these options to go to the next tab, test the connections, save and continue, or save and exit.

OAuth Authentication

The Connection Properties tab displays the connection parameters to establish a connection for the Snowflake database.

Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

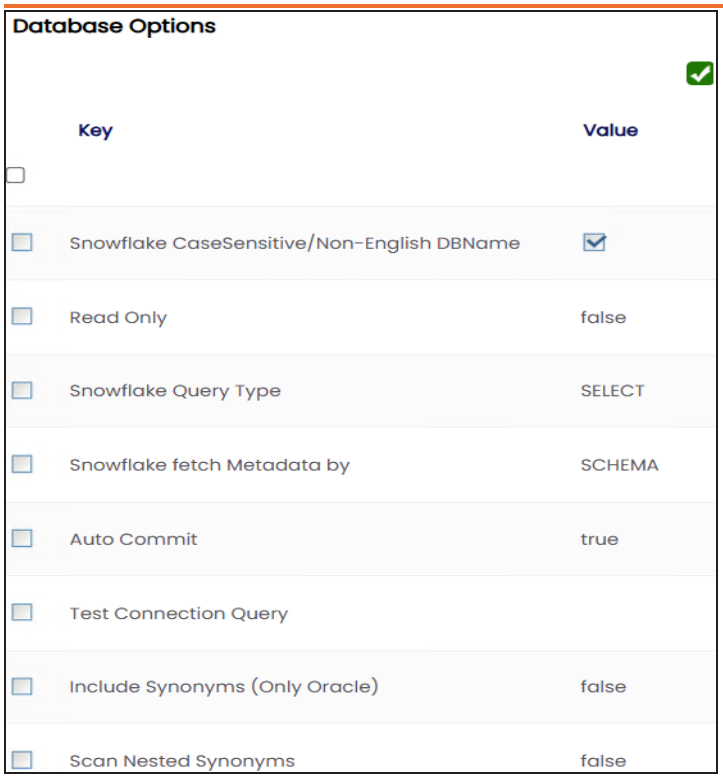
Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.snowflake.client.jdbc.SnowflakeDriver
IP Address/Host Name	Enter <accountname>.snowflakecomputing.com For example, analytixds.us-east-3.snowflakecomputing.com
DBMS Name/DSN	Enter the Snowflake database name. For example, AW2012_DV.
Port	Specifies the port to connect with the database. 443 is the default port for the Snowflake database. You can change it, if required.
Authentication Type	Specifies the type of authentication. • OAuth: Specifies authentication using an OAuth client.
URL	Specifies the full JDBC URL that is used to establish a connection with the database. It is autopopulated based on the other parameters. For example, `jdbc:snowflake://<accountname>.snowflakecomputing.com/?warehouse=DataWarehouseName&db=DatabaseName&schema=SchemaName`
Client ID	Enter the OAuth client ID registered with Snowflake. This option is available only when the Authentication Type is set to OAuth.
DBMS Instance	Specifies the schema of the database.

Snowflake

Field Name	Description
Schema	Use this option to select multiple or narrow down to single schema.
Client Secret	Enter the corresponding client secret associated with the client ID. This option is available only when the Authentication Type is set to OAuth.
Connection Pool Type	Specifies the connection pool type being used to connect via JDBC. For example, HIKARICP and BONECP.
Number of Partitions	Specifies the number of partitions of the database. It is autopopulated with default number of partitions. You can edit and provide the number of partitions as required. For example, 1.
Minimum Connections Per Partitions	Specifies the minimum connections per partitions of the database. It is autopopulated with default minimum connections per partitions. You can edit and provide the minimum connections per partitions as required. For example, 3.
Maximum Connections Per Partitions	Specifies the maximum connections per partitions of the database. It is autopopulated with default maximum connections per partitions. You can edit and provide the maximum connections per partitions as required. For example, 5.

To use database options, click (Options).

The Database Options page appears. It displays the available database options.



Select keys and double-click the cells under the Value column to set the values of the keys.

Click ✔ to save the database options.

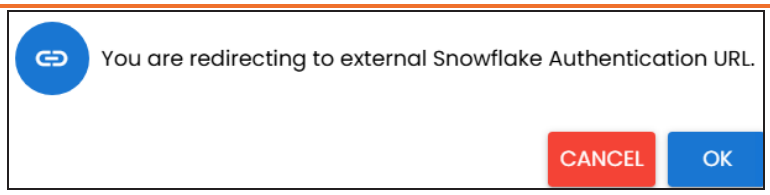
Additionally, you can click →| to go to the next tab.

> To get the client ID and client secret, you first need to create OAuth security integration. Snowflake's OAuth integration now supports a single redirect URL for user redirection after authorization. For more information, refer to Snowflake documentation.

Once the connection parameters are entered, follow these steps:

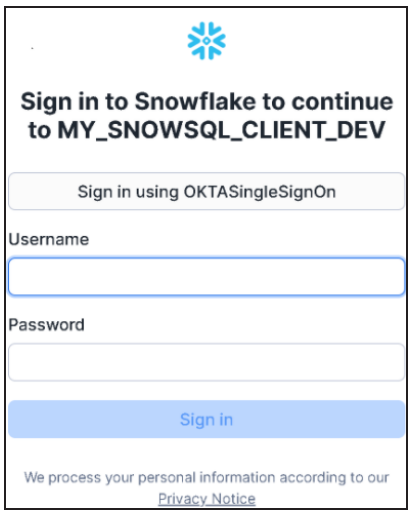
1. Click **Save**.
2. Click **Login With Snowflake**.

   A redirect pop-up appears.



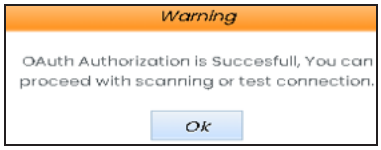
3. Click **Ok**.

   Clicking this option takes you to the Snowflake login page.



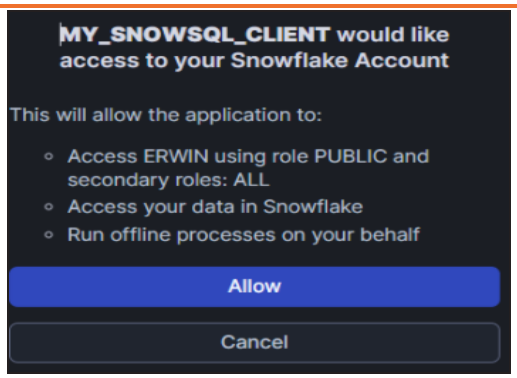
4. Enter the Snowflake username and password, and then click **Sign in**.

   A Warning pop-up appears.



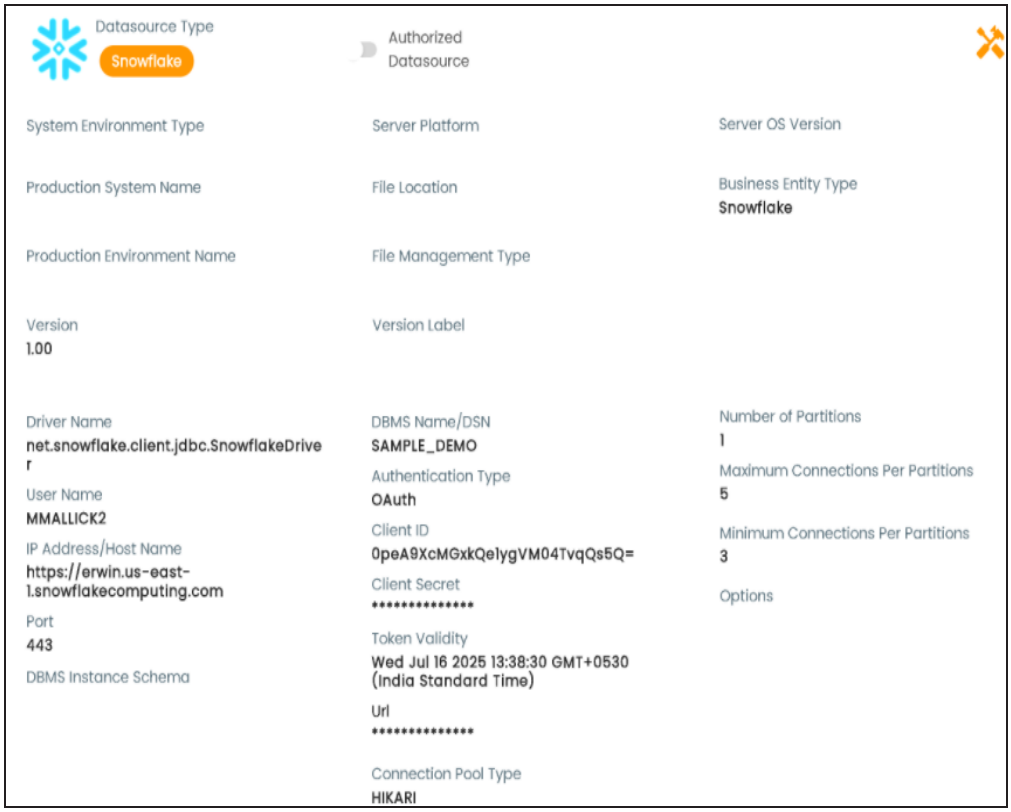
5. Click **Ok**.

   A Snowflake OAuth Authorization pop-up appears.



6. Click **Allow**.

   Clicking this option takes you to the particular environment from which the authentication process started.



Once an environment is created, you can test the connection and scan metadata.

Configuring Key Pairs

Quest Data Intelligence (Quest DI) supports key pair authentication for Snowflake. To use this authentication, ensure that you do the following:

1. Generate a private and public key using OpenSSL. You can generate encrypted or unencrypted keys.
2. Configure public and private keys to your Snowflake user account.

You can a configure key pair using an encrypted or unencrypted private key.

Encrypted Keys

To configure a key pair using encrypted private key in Quest DI, follow these steps:

1. Ensure that Encrypted Private File is switched ON.

   By default, Encrypted Private File and Upload Key Pair File are switched ON.
2. In the **Passphrase** box, enter the passphrase.
3. Under **Key Pair File**, click + to browse and select the encrypted private key file.
4. Click **Upload**.

   The private key is uploaded and the key pair is configured.

Unencrypted Keys

To configure a key pair using unencrypted private key in Quest DI, follow these steps:

1. Switch **Encrypted Private File** to OFF.
2. Under **Key Pair File**, click + to browse and select the unencrypted private key file.
3. Click **Upload**.

   Alternatively, you can switch **Upload Key Pair File** to OFF and paste the unencrypted private key in the Private Key text box. Then, click Upload.

   The private key is uploaded and the key pair is configured.

Google BigQuery

You can connect to a Google BigQuery datasource via JDBC to harvest metadata. Before creating a Google BigQuery environment, ensure that you have the following:

- Prerequisites
- JDBC driver configuration
- JDBC connection parameters

Prerequisites

To establish a connection, ensure that you have:

- A dedicated service account for Quest Data Intelligence (Quest DI) with Big Query Data Viewer privilege in Google BigQuery database
- Firewall connection open for port 443 between Google BigQuery datasource and Quest DI application server
- A Google Cloud trusted certificate. Import it into the JDK cacerts file. For more information on the steps to import the certificate, refer to the Importing Certificates section.

JDBC Driver Configuration

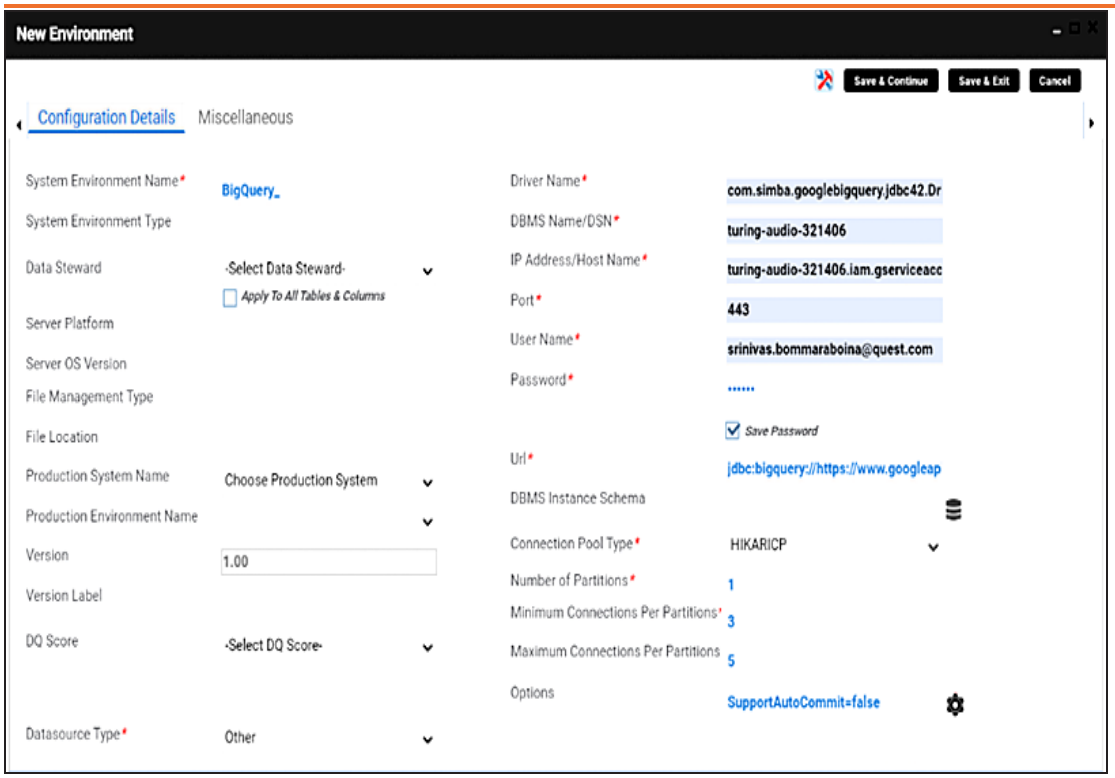
The Google BigQuery JDBC driver is not packaged with Quest DI application. You can download it here.

Once downloaded, copy the drivers to the following location on the Quest DI application server:

\Apache Software Foundation\<Tomcat X.X>\webapps\erwinDISuite\WEB-INF\lib

JDBC Connection Parameters

While creating an environment, the Configuration Details tab displays the connection parameters to establish connection to Google BigQuery database.



Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.simba.googlebigquery.jdbc42.Driver
IP Address/-Host Name	Enter <accountname>.gserviceaccount.com For example, turing-audio-321406.iam.gserviceaccount.com
DBMS Name/D-SN	Enter the Google BigQuery database name. For example, turing-audio-321406.
Port	Specifies the port to connect with the database.

Field Name	Description
	443 is the default port for the Snowflake database. You can change it, if required.
User Name	Enter the Google BigQuery (Service account) username. For example, shawn.
URL	Specifies the full JDBC URL that is used to establish a connection with the database. It is auto-populated based on the other parameters. For example, `jdbc:bigquery://https://www.googleapis.com/bigquery/v2:443;ProjectId=turing-audio-321406;OAuthType=0;OAuthServiceAcctEmail=googlebigqueryserviceaccount@turing-audio-321406.iam.gserviceaccount.com;OAuthPvtKeyPath=D:\APIs\bigquery\turing-audio-321406-1ba3e1e94fa0.json;`
Password	Enter a dummy password as service account does not need a password
Save Password	Specifies whether the password is saved
Connection Pool Type	Specifies the connection pool type being used to connect via JDBC. For example, HIKARICP and BONECP.
Number of Partitions	Specifies the number of partitions of the database. It is autopopulated with default number of partitions. You can edit and provide the number of partitions as required. For example, 1.
Minimum Connections Per Partitions	Specifies the minimum connections per partitions of the database. It is autopopulated with default minimum connections per partitions. You can edit and provide the minimum connections per partitions as required. For example, 3.

Field Name	Description
Maximum Connections Per Partitions	Specifies the maximum connections per partitions of the database. It is autopopulated with default maximum connections per partitions. You can edit and provide the maximum connections per partitions as required. For example, 5.

Next, click (Options) to open Database Options and set the Support Auto Commit key to false.

Then, click to save the database options.

Once the connection parameters are entered, use these options to go to the next tab, test the connections, save and continue, or save and exit.

Importing Certificates to Java Certs

To import a certificate into the JDK 17 cacerts file, you can use the keytool utility, which is included with JDK.

Prerequisites:

- Ensure you have the certificate file (in .cer, .crt, or .pem format).
- Locate the cacerts file in your JDK. The default location of the cacerts file is:
  - On Windows: C:\Program Files\AdoptOpenJDK\jdk-17\lib\security\cacerts
  - On Linux/Mac: /path/to/jdk/lib/security/cacerts

To import certificates into the cacerts file, follow these steps:

1. Locate the certificate file: Make sure you have the certificate (for example, server.crt) on your local machine.
2. Identify the keytool location.
   The keytool utility comes with the JDK and is typically located in the bin folder of your JDK installation.

For example:

- On Windows: C:\Program Files\AdoptOpenJDK\jdk-17\bin\keytool.exe
- On Linux/Mac: /path/to/jdk/bin/keytool

3. Open the command prompt on Windows or terminal on Linux/macOS.
4. Run the following keytool command:

   ```
   keytool -import -alias bigquerycertificate -file <path_to_certificate> -keystore <path_to_jdk_cacerts> -storepass changeit
   ```

   Replace <path_to_certificate> with the path to your certificate file, and <path_to_jdk_cacerts> with the path to the cacerts file. The password for the keystore (By default, it is changeit).

   For example,

   - **Windows**: keytool -import -alias <any-name> -file C:\path\to\your\server.crt -keystore "C:\Program Files\AdoptOpenJDK\jdk-17\lib\security\cacerts" -storepass changeit
   - **Linux**: keytool -import -alias <any-name> -file /path/to/your/server.crt -keystore /path/to/jdk/lib/security/cacerts -storepass changeit

   Here,

   - o -import tells keytool to import a certificate.
   - o -alias <any-name> is the alias name for the certificate. For example, <databasename-server>.
   - o -file specifies the certificate file.
   - o -keystore is the path to the cacerts file.
   - o -storepass is the password for the cacerts keystore (By default, it is changeit).
5. Type yes to confirm and proceed.
6. Verify whether the certificate has been successfully added to the keystore using the following command:

   ```
   keytool -list -keystore <path_to_jdk_cacerts> -storepass changeit
   ```

   This command displays a list of aliases. Verify whether your server is in the list.

After completing these steps, the certificate will be imported into the JDK keystore and Java applications running on the JDK will trust the server certificate.

Tips:

- If you're using a custom password for the cacerts keystore, replace changeit with your actual password.
- Make sure you have the necessary permissions to modify the cacerts file (administrator/root privileges may be required).
- If you're using a different version of the JDK, ensure the path to cacerts is accurate.

MS Dynamics CRM

You can create MS Dynamics CRM environment by providing the necessary connection parameters.

Before creating a MS Dynamics CRM environment, you should take a note of the following:

- Prerequisites
- JDBC driver details
- TLS connection details
- JDBC connection parameters

Prerequisites

Prerequisite steps for establishing successful connection:

- **Creation of dedicated service account** for Quest with Metadata read-only privileges in MS Dynamics CRM database
- CRM Server **IP Address should be mapped with Host Names** in the file called “Hosts” which is available in the location - C:\Windows\System32\drivers\etc
- Generate CRM Domain trusted Certificate in Quest application server using InstallCert.java and place the generated “jssecacerts” file in the location - C:\Program Files\AdoptOpenJDK\jdk-XXX\jre\lib\security

  Reference: https://www.mkyong.com/webservices/jax-ws/sun-certpathbuilderexception-unable-to-find-valid-certification-path-to-requested-target/

JDBC Driver Details

The MS Dynamics CRM JDBC driver is not packaged with Quest DI application. Hence, customers needs to use the jdbc driver available at their end for MS Dynamics CRM (CDATA, Progress etc.)

You can download CDATA driver from the URL mentioned below.

Download URL: https://www.cdata.com/drivers/dynamicscrm/download/

Location to configure the JDBC driver: Once downloaded, the MS Dynamics CRM drivers should be placed in the following path in Quest application server: \Apache Software Foundation\<Tomcat X.X>\webapps\erwinDISuite\WEB-INF\lib and restart the Tomcat.

TLS Connection Details

The CDATA MS Dynamics CRM driver uses SSL by default, so you will not need to set any additional properties. The connection will use TLS 1.2 encryption.

JDBC Connection Parameters

The Connection Properties tab displays the connection parameters to establish connection for MS Dynamics CRM connection.

Once the connection parameters are entered, use these options  to go to the next tab, test the connections, save and continue, or save and exit.

To enter MS Dynamics CRM connection parameters, follow these steps:

1. Select **Database Type** as **Other** while creating the environment.
2. Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

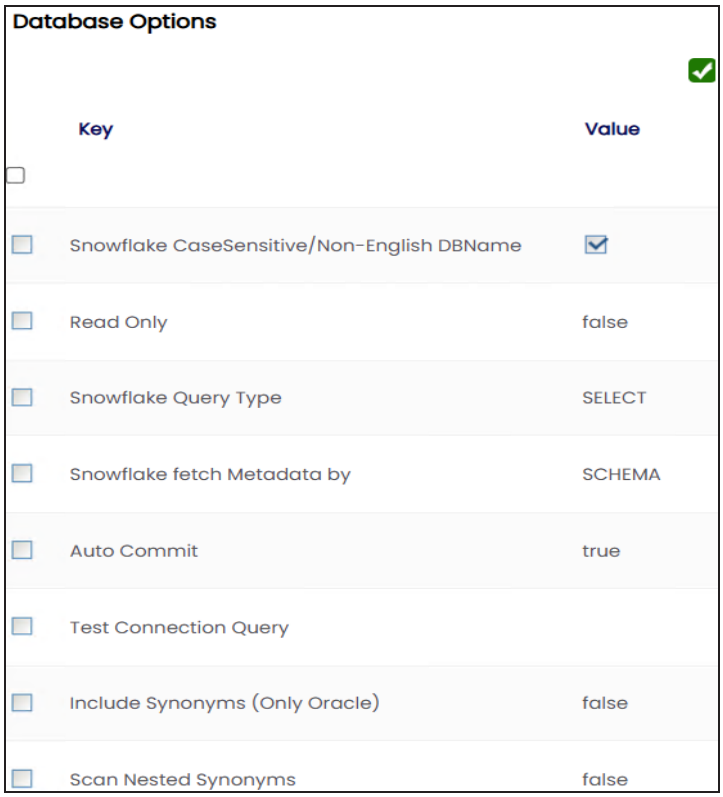
Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, cdata.jdbc.dynamicscrm.DynamicsCRMDriver
IP Address/Host Name	Enter the IP Address or Host Names of MS Dynamics CRM server. For example, 10.45.21.123
DBMS Name/DSN	Enter the MS Dynamics CRM Database Name. For example, CRM.
Port	Specifies the port to connect with the database. 443 is the default port for MS Dynamics CRM. You can change it, if required.

Field Name	Description
User Name	Enter the MS Dynamics CRM (Service account) user name. For example, domain\erwinuser.
URL	Specifies the full JDBC URL that is used to establish a connection with the database. It is autopopulated based on the other parameters. For example, jdbc:dynamicscrm:User=UserName;Password=XXX;URL=<MS Dynamics CRM URL>;  If user trying to connect CRM online version, then append the following value to above mentioned connection string CRM Version=CRM Online;
Password	Enter the MS Dynamics CRM (Service account) password. For example, goerwin@1.
Save Password	Specifies whether the password is saved
DBMS Instance Schema	Specifies the schema of the database. For example, DynamicsCRM.
Connection Pool Type	Specifies the connection pool type being used to connect via JDBC. For example, HIKARICP and BONECP.
Number of Partitions	Specifies the number of partitions of the database. It is autopopulated with default number of partitions. You can edit and provide the number of partitions as required. For example, 1.
Minimum Connections Per Partitions	Specifies the minimum connections per partitions of the database. It is autopopulated with default minimum connections per partitions. You can edit and provide the minimum connections per partitions as required. For example, 3.

Field Name	Description
Maximum Connections Per Partitions	Specifies the maximum connections per partitions of the database. It is autopopulated with default maximum connections per partitions. You can edit and provide the maximum connections per partitions as required. For example, 5.

To use database options, click (Options).

The Database Options page appears displaying the different options available.



Select keys and double-click the cells under the **Value** column to set the values of the keys. Use to save the database options.

SAP

You can create SAP environments by providing the necessary connection parameters.

Before creating a SAP environment, you should take a note of the following:

- Privileges
- Prerequisites
- JDBC driver details
- TLS connection details
- JDBC connection parameters

Privileges

Privileges given to service account:

- User type = System
- User group = SUPER
- Authorization profile = S_DDIC

Prerequisites

Prerequisite steps for establishing successful connection:

- **Creation of dedicated service account** for Quest with Metadata read-only privileges in SAP system
- Open Firewall connection between SAP and Quest DI application server
- Get the SAP System Number and Client details

JDBC Driver Details

The SAP JCO driver is not packaged with Quest DI application. Hence, customer must get the JCO driver from their respective SAP team and deploy the same in Quest application server.

The following sapjco files are required:

- Sapjco.jar
- Sapjco3.dll

Location to place these files

- Copy sapjco.jar into webinf/lib folder
- Copy sapjco3.dll copy into windows/system32 folder

The tool connects to the SAP system directly using SAP JCO drivers and not to SAP backend database.

TLS Connection Details

In order to use SSL with the JCO, we will need to:

- Set up the SAP system for SSL (SNC setup)
- Create a certificate (X509) for the user
- Pass the user as $X509CERT$ (check JCO doc)
- Pass some key from the cert as passwd in the JCO

JCO Connection Parameters

The Connection Properties tab displays the connection parameters to establish connection for SAP connection.

Once the connection parameters are entered, use these options  to go to the next tab, test the connections, save and continue, or save and exit.

Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

Field Name	Description
IP Address/Host Name	Specifies the IP address or server host name of the database. For example, 192.168.100.200
User Name	Specifies the SAP (Service account) username.

Field Name	Description
	For example, sapuser.
Password	Specifies the SAP (Service account) password. For example, goerwin@1.
Save Password	Specifies whether the password is saved
System Number	Specifies the SAP System Instance Number (range 0-99). For example, 24.
Client	Specifies the SAP Client number (range 000-999). For example, 800.
Field Delimiter	Select the required delimiter. For example: , [Comma].
CSV File Upload	Browse the CSV file which contains name of SAP tables to be harvested.

Databricks

You can create Databricks environment by providing the necessary connection parameters.

Before creating a Databricks environment, ensure that you have the following:

- Prerequisites
- JDBC driver configuration
- TLS connection configuration
- JDBC connection parameters

Prerequisites

To establish a connection, ensure that you have:

- **Created a dedicated service account** for Quest with Metadata read-only privileges in Databricks database
- **Databricks Database ports, 443 and 80**, available via firewall to accept connections from Quest Data Intelligence (Quest DI) application server

JDBC Driver Configuration

Currently Databricks JDBC driver is not packaged with Quest DI application. Hence, you can download it here.

Once downloaded, copy the Databricks drivers to the following location on the Quest DI application server:

\Apache Software Foundation\<Tomcat X.X>\webapps\erwinDISuite\WEB-INF\lib

TLS Connection Configuration

Databricks JDBC driver version 3.1.x and above implement TLS v1.2 and provide the latest security patches on the protocol. Once configured, the connection uses TLS 1.2 encryption by default.

If required, you can add the SSL Parameter in the JDBC connection string as follows:

```
jdbc:spark://<accountname>.databrickscomputing.com/
?warehouse=DataWarehouseName&db=DatabaseName&schema=
SchemaName&ssl=on
```

JDBC Connection Parameters

The Connection Properties tab displays the connection parameters to establish connection for Databricks connection.

Once the connection parameters are entered, use these options  to go to the next tab, test the connections, save and continue, or save and exit.

Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

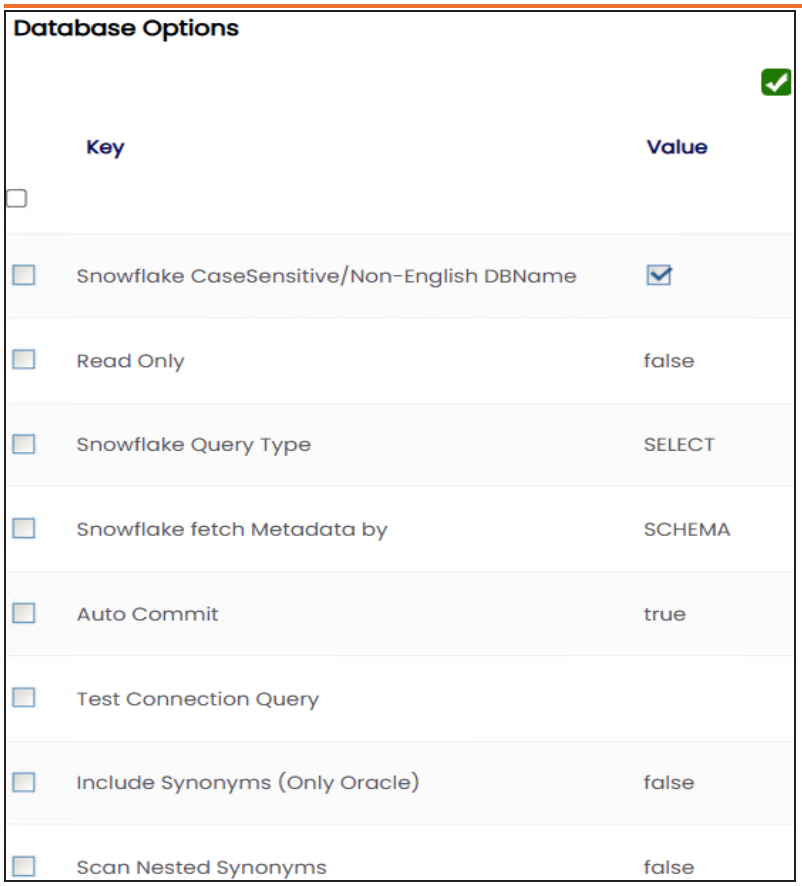
Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.simba.spark.jdbc.Driver
IP Address/Host Name	Enter <accountname>.databrickscomputing.com For example, analytixds.us-east-3.databrickscomputing.com
DBMS Name/DSN	Enter the Databricks database name. For example, AW2012_DV.
Port	Specifies the port to connect with the database. 443 is the default port for the Databricks database. You can change it, if required.
User Name	Enter the Databricks (Service account) username. For example, shawn.
URL	Specifies the full JDBC URL that is used to establish a connection with the database. It is autopopulated based on the other parameters.

Databricks

Field Name	Description
	For example, `jdbc:spark://<accountname>.databrickscomputing.com/warehouse=DataWarehouseName&db=DatabaseName&schema=SchemaNameAuthMech=3;UserAgentEntry=erwinDI;`
Password	Enter the Databricks (Service account) password. This field is available only when Use KeyPair is not selected.
Save Password	Specifies whether the password is saved.
DBMS Instance Schema	Specifies the schema of the database. Use this option to select multiple or narrow down to single schema.
Connection Pool Type	Specifies the connection pool type being used to connect via JDBC. For example, HIKARICP and BONECP.
Number of Partitions	Specifies the number of partitions of the database. It is auto-populated with default number of partitions. You can edit and provide the number of partitions as required. For example, 1.
Minimum Connections Per Partitions	Specifies the minimum connections per partitions of the database. It is auto-populated with default minimum connections per partitions. You can edit and provide the minimum connections per partitions as required. For example, 3.
Maximum Connections Per Partitions	Specifies the maximum connections per partitions of the database. It is auto-populated with default maximum connections per partitions. You can edit and provide the maximum connections per partitions as required. For example, 5.

To use database options, click (Options).

The Database Options page appears. It displays the available database options.



Select keys and double-click the cells under the Value column to set the values of the keys. Click to save the database options.

Salesforce

You can create two types of Salesforce environments:

- JDBC authentication
- RestAPI authentication

Before creating a Salesforce environment, ensure that you have the following:

- Prerequisites
- Privileges
- JDBC driver details

Prerequisites

To establish a connection, ensure that you have:

1. Created a dedicated service account for Quest with Metadata Read-only privileges in the Salesforce Database.
2. Generated and stored the Salesforce OAuth REST API Client ID and Client Secret parameters in advance.
3. Network connectivity between Quest Data Intelligence and your Salesforce database.

Privileges

Following permissions are required to scan metadata in Salesforce:

- **System Permissions**
  - API Enabled
  - View Setup and Configuration
- **Object Permissions**
  - **Read Only**:
    - EntityDefinition
    - FieldDefinition

- ObjectPermissions
- FieldPermissions

JDBC Driver Details

Salesforce JDBC driver is packaged out of box with the Quest DI application. Hence, no JDBC driver configuration is required at your end.

JDBC Connection Parameters

The Connection Properties tab displays the connection parameters to configure a connection to Salesforce.

Once connection parameters are entered, use these options  to go to the next tab, test the connections, save and continue, or save and exit.

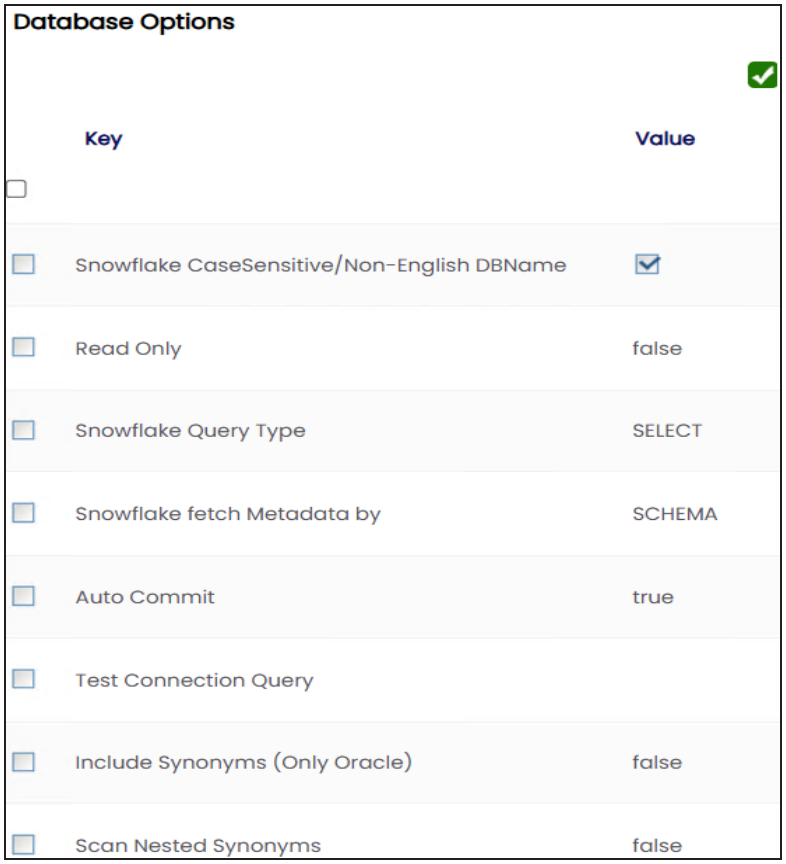
Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

Field Name	Description
Authentication Type	Specifies the type of authentication Enter "JDBC".
Driver Name	Specifies the JDBC driver name for connecting to the database For example, com.ascendix.jdbc.salesforce.ForceDriver
User Name	Specifies the Salesforce user name For example, SF.
Password	Specifies the Salesforce(Service Account) password
URL	Specifies the full JDBC URL that is used to establish a connection with the database For example, jdbc:ascendix:salesforce://login.salesforce.com/xxxx It is automatically populated based on the other parameters.
DBMS Instance Schema	Specifies the schema of the database Use this option to select one or more schemas or leave it blank to

Field Name	Description
	retrieve all available schemas.

To use database options, click (Options).

The Database Options page appears. It displays the available database options.



Select keys and double-click the cells under the **Value** column to set the values of the keys.

Use to save the database options.

Rest API

The Connection Properties tab displays the connection parameters to establish a connection for the Salesforce connection. You can authenticate the connection via Rest APIs.

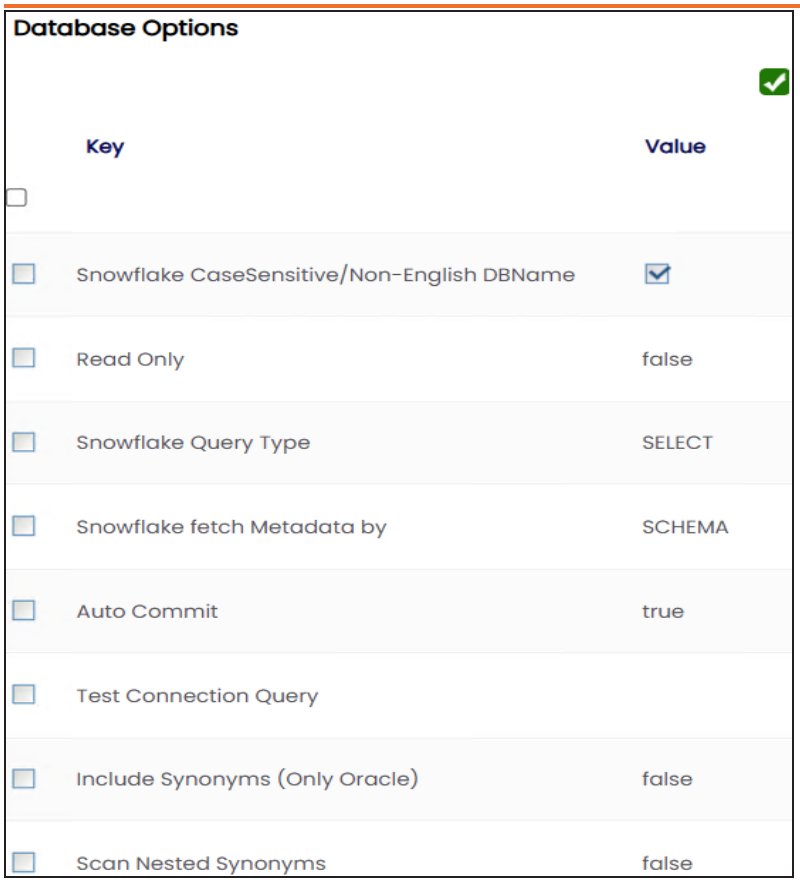
Once the connection parameters are entered, use these options  to go to the next tab, test the connections, save and continue, or save and exit.

Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

Field Name	Description
Authentication Type	Specifies the type of authentication Enter "RestAPI".
Client ID	Specifies the client ID registered with Salesforce. This option is available only when the Authentication Type is set to RestAPI.
Client Secret	Specifies the corresponding client secret associated with the client ID. This option is available only when the Authentication Type is set to RestAPI.
Instance URL	Specifies the Salesforce instance URL that is used to establish a connection with the database For example, https://yourinstance.salesforce.com/
DBMS Instance Schema	Specifies the schema of the database Use this option to select one or more schemas or leave it blank to retrieve all available schemas.

To use database options, click  (Options).

The Database Options page appears. It displays the available database options.



The TestConnectionQuery option is selected by default to validate the internal connection. The system displays exceptions if this option is not selected.

Select keys and double-click the cells under the **Value** column to set the values of the keys. Use ✔ to save the database options.

Enhanced Unstructured Data Support

Quest Data Intelligence provides support for unstructured data, enabling your organization to ingest, analyze, and govern files that do not follow a predefined schema. This capability extends metadata management to documents and media files, allowing previously unmanaged content to be brought into the Quest DI governance framework.

It supports a wide range of unstructured file formats, including the following:

- **Document Formats:**
  PDF, Word (DOC/DOCX), Excel (XLS/XLSX), Text (TXT), RDF, PPT, HTML, and Markdown.
- **Media/Binary Formats:**
  PNG, JPG/JPEG, GIF, BMP, and TIFF.

The extracted information is then transformed into governed metadata assets, represented as tables, columns, and attributes within the catalog. Additionally, Sensitive Data Identification (SDI) is applied automatically to detect and tag sensitive information.

Files up to 1 GB can be processed directly through the UI, while larger files can be best handled using Scheduled Scans to minimize performance impact.

Once published, the metadata is available for search, governance, and analysis.

Prerequisite

Before profiling unstructured data, you must install and configure Tesseract. Tesseract OCR is required on Windows, Red Hat and Ubuntu servers to process image-based files.

Installing and Configuring Tesseract

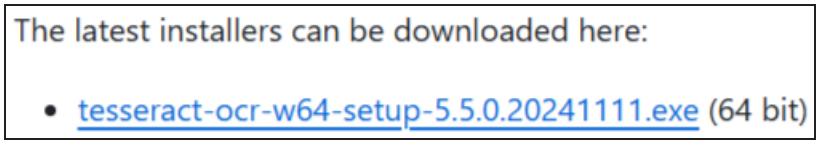
This section walks you through the steps to install and configure Tesseract for Windows, Red Hat and Ubuntu. This process involves:

- Installing Tesseract for Windows
- Installing Tesseract for Red Hat
- Installing Tesseract for Ubuntu

Installing Tesseract for Windows

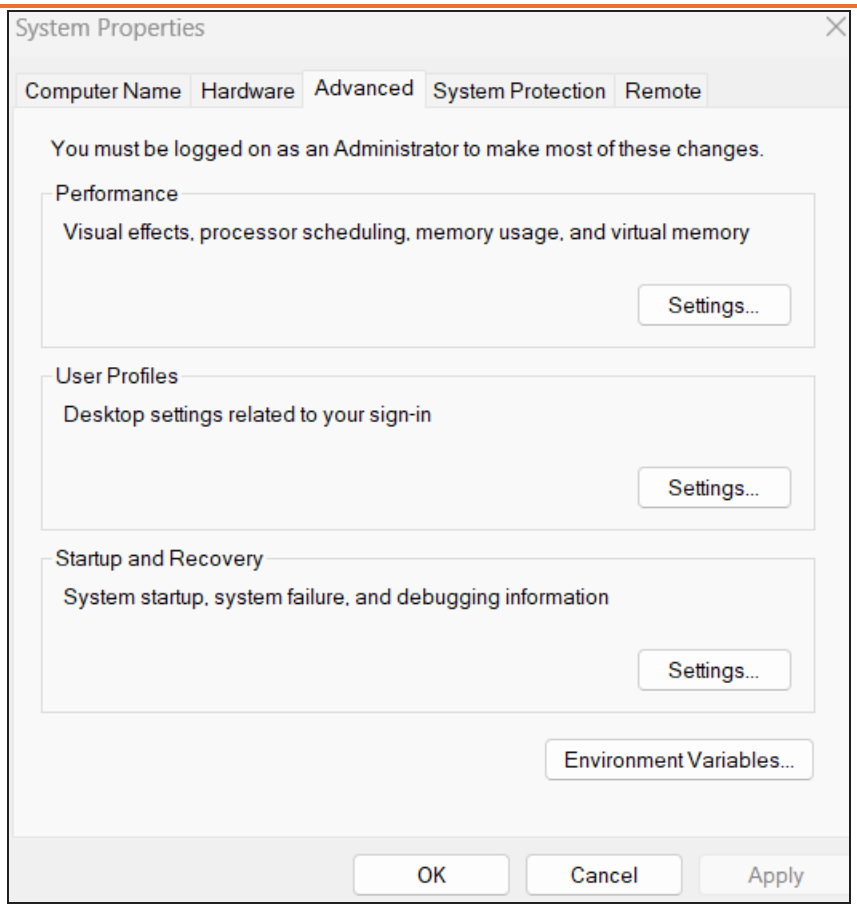
To install and configure Tesseract installer, follow these steps:

1. Visit the https://github.com/UB-Mannheim/tesseract/wiki page, and download the Windows 64-bit Tesseract installer.

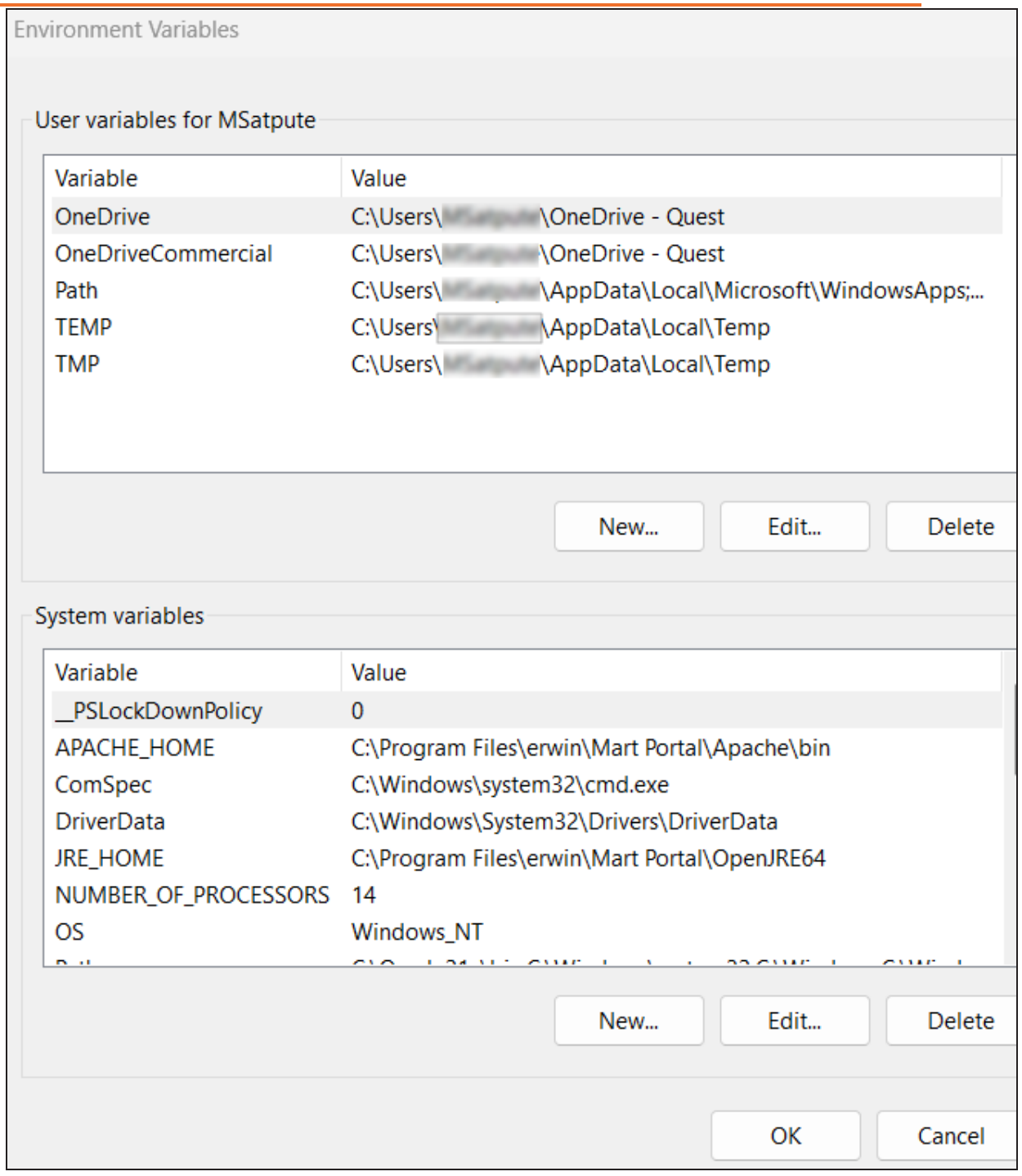
2. Run the installer and complete the installation using default settings.
3. Click the Windows Start icon.
4. In the search bar, type Edit the system environment variables and press **Enter**.

   The System Properties window opens, and the **Advanced** tab opens by default .



5. Click **Environment Variables**.

   The Environment Variables window opens.

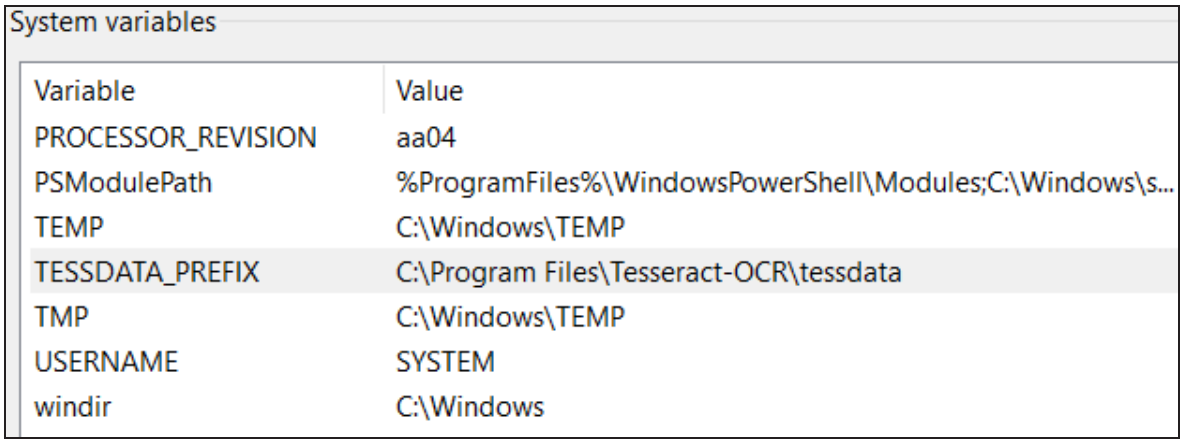

Environment Variables
User variables for MSatpute
Variable
Value
OneDrive
C:\Users\[redacted]\OneDrive - Quest
OneDriveCommercial
C:\Users\[redacted]\OneDrive - Quest
Path
C:\Users\[redacted]\AppData\Local\Microsoft\WindowsApps;...
TEMP
C:\Users\[redacted]\AppData\Local\Temp
TMP
C:\Users\[redacted]\AppData\Local\Temp
New...
Edit...
Delete
System variables
Variable
Value
__PSLockDownPolicy
0
APACHE_HOME
C:\Program Files\erwin\Mart Portal\Apache\bin
ComSpec
C:\Windows\system32\cmd.exe
DriverData
C:\Windows\System32\Drivers\DriverData
JRE_HOME
C:\Program Files\erwin\Mart Portal\OpenJRE64
NUMBER_OF_PROCESSORS
14
OS
Windows_NT
New...
Edit...
Delete
OK
Cancel

6. Under System variables, click **New**.

   The New System Variable window opens.

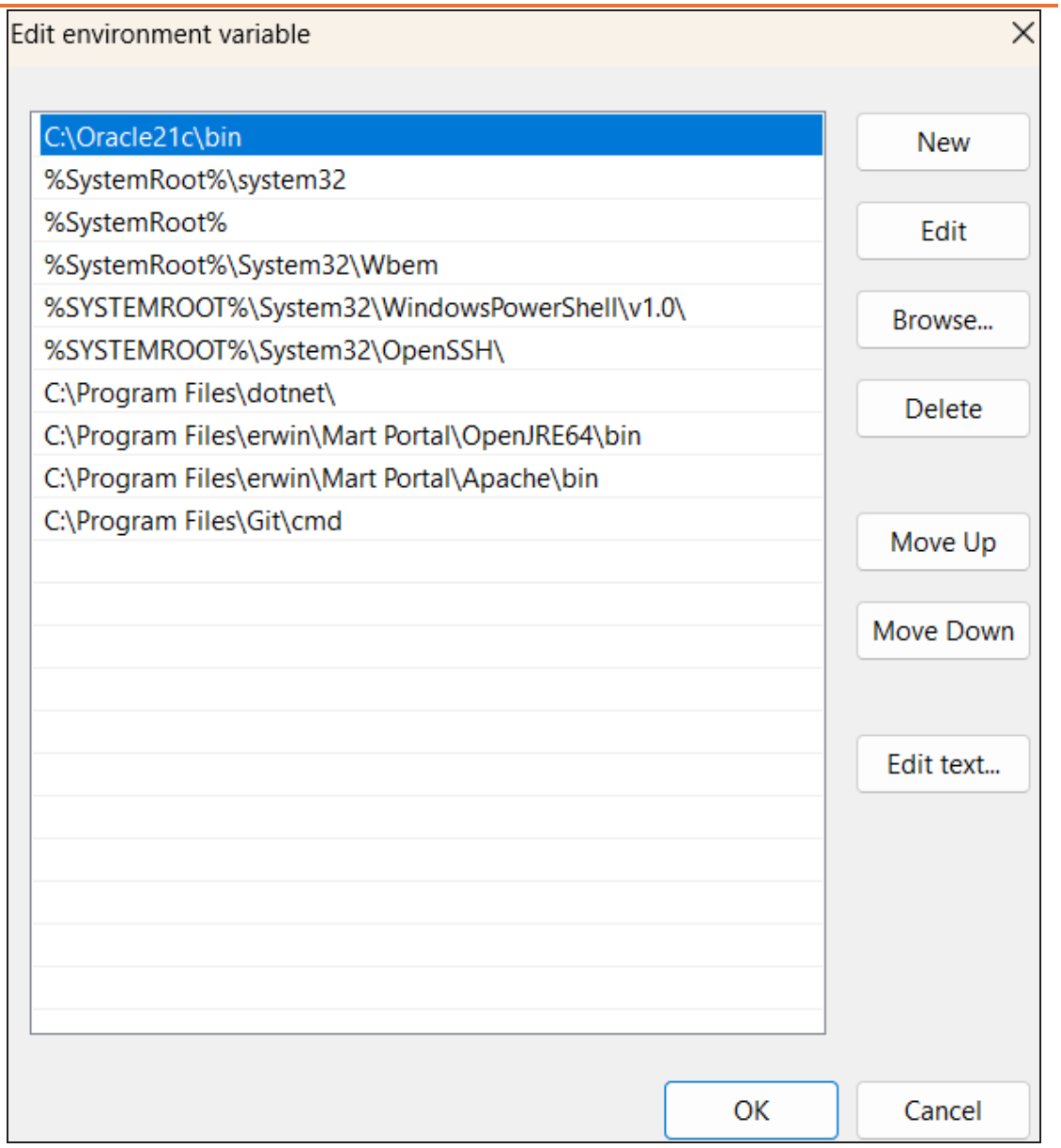
7. In the Variable name field, enter TESSDATA_PREFIX.
8. In the Variable value field, enter C:\Program Files\Tesseract-OCR\tessdata.
9. Click **Ok**.

   The variable and its value are added under System variables section.



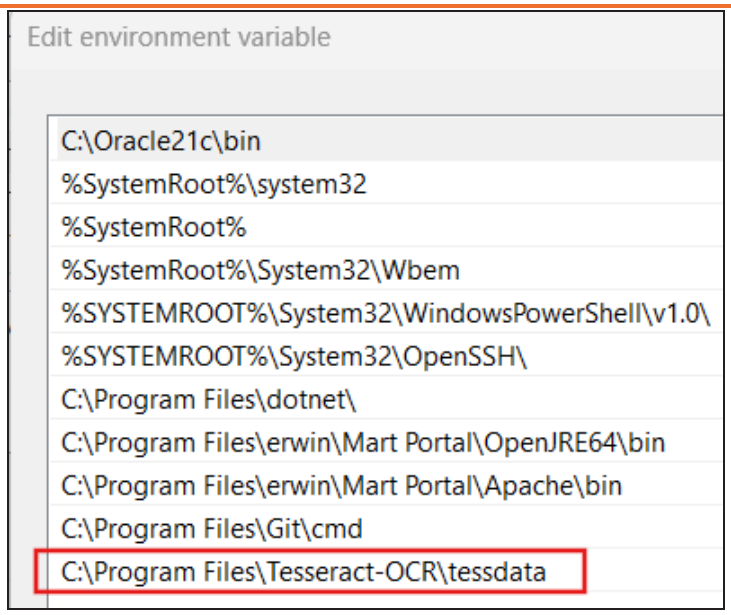
10. Under System variables, search for Path and then double-click on it.

    The Edit environment variable window opens.



11. Click **New** and enter C:\Program Files\Tesseract-OCR\tessdata.

    The environment variable is added.



12. Click **Ok**.
13. On the Environment Variables window, click **Ok**.
14. Restart the Tomcat service.

Installing Tesseract for Red Hat

Open a terminal window and run the following commands:

1. Enable EPEL Repository

   ```
   sudo dnf install -y https://dl.fe-doraproject.org/pub/epel/epel-release-latest-8.noarch.rpm
   ```

2. Install Tesseract 4

   ```
   sudo dnf install -y tesseract
   ```

3. Install English language data

   ```
   sudo dnf install -y tesseract-langpack-eng
   ```

4. Verify installation

   ```
   tesseract --version
   ```

The environment variable is set.


Tesseract 4 supports only for RHEL 8.5.

5. Restart the Tomcat service.

Installing Tesseract for Ubuntu

Open a terminal window and run the following commands:

1. Install Tesseract 4

   ```
   sudo apt install tesseract-ocr
   ```

2. Install Tesseract libraries

   ```
   sudo apt install libtesseract-dev
   ```

3. Install English language data

   ```
   sudo apt install tesseract-ocr-eng
   ```

4. Verify installation

   ```
   tesseract --version
   ```

   The environment variable is set.

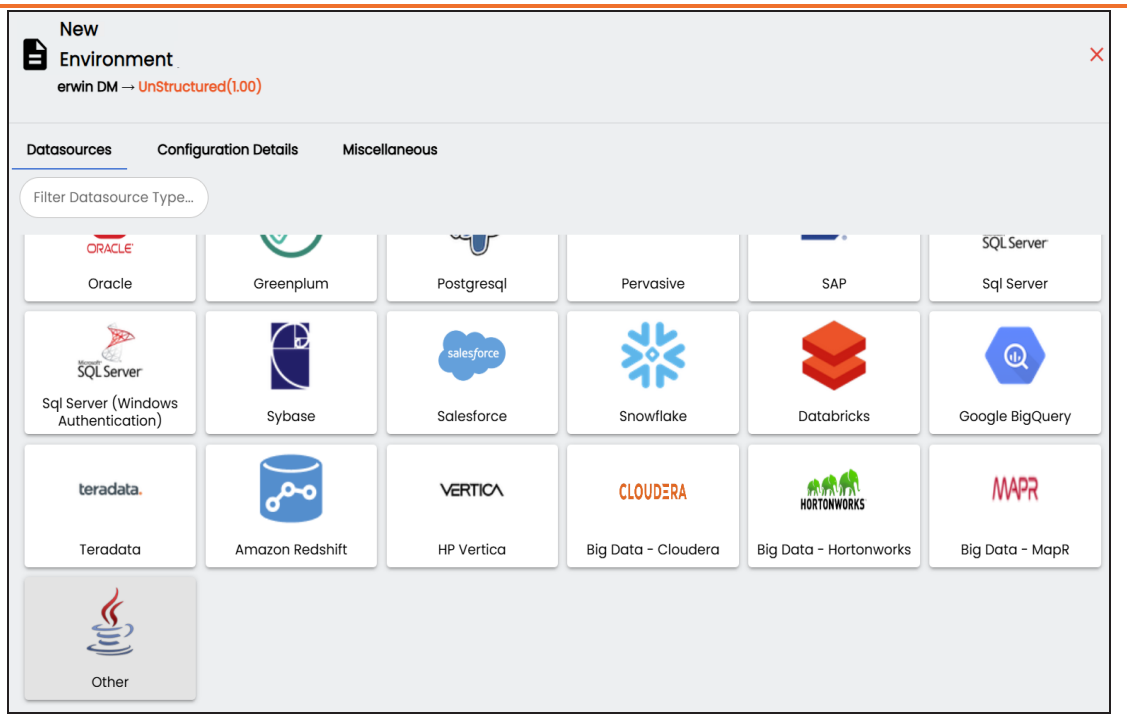
5. Restart the Tomcat service.

Profiling Unstructured Data

To profile unstructured data for automated ingestion, follow these steps:

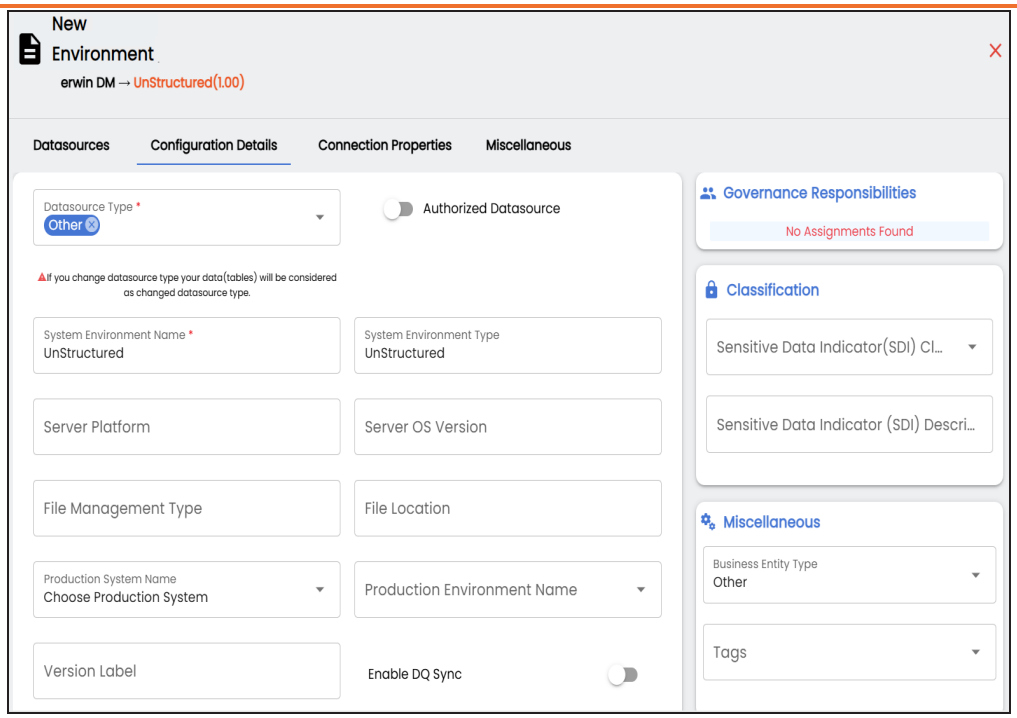
1. Click **New Environment**.

   The New Environment page appears and displays supported database in the Data-sources tab.



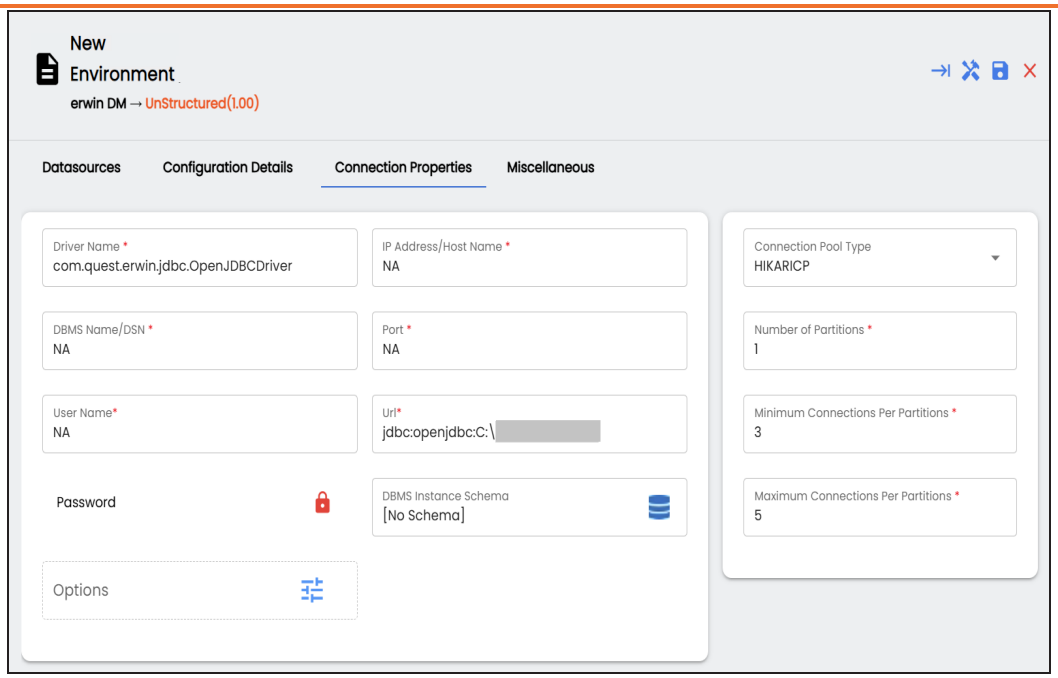
2. Select **Other**.

   The Configuration Details tab appears and displays connection details for Other data-sources. The connection details vary based on database selection.



Alternatively, enter a keyword in the search bar to search for datasources. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory.

3. Switch to the **Connection Properties** tab.



4. Enter appropriate values in the fields. Refer to the following table for field descriptions.

Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. Set this field to com.quest.erwin.jdbc.OpenJDBCDriver.
Url	Specifies the full JDBC URL that represents the location from which unstructured data files are read. All files located within this path and its subfolders are considered for scanning. This field requires a network drive path that the Tomcat service has access to. Set this field to jdbc:openjdbc:<path accessible to Tomcat>. For example, jdbc:openjdbc:C:\XYZ.
IP Address/Host	Specifies the IP address or server host name of the database. Set these fields to NA.

Field Name	Description
Name	
DBMS Name/DSN	Specifies the database name being used to connect to the environment. Set this field to NA.
Port	Specifies the port to connect with the database. Set this field to NA.
User Name	Specifies the database user name. Set this field to NA.

5. Click  to save connection.

This allows Quest DI to ingest and scan all the files.

Assigning Roles and Users

You can give users the write access to an environment in the following two ways:

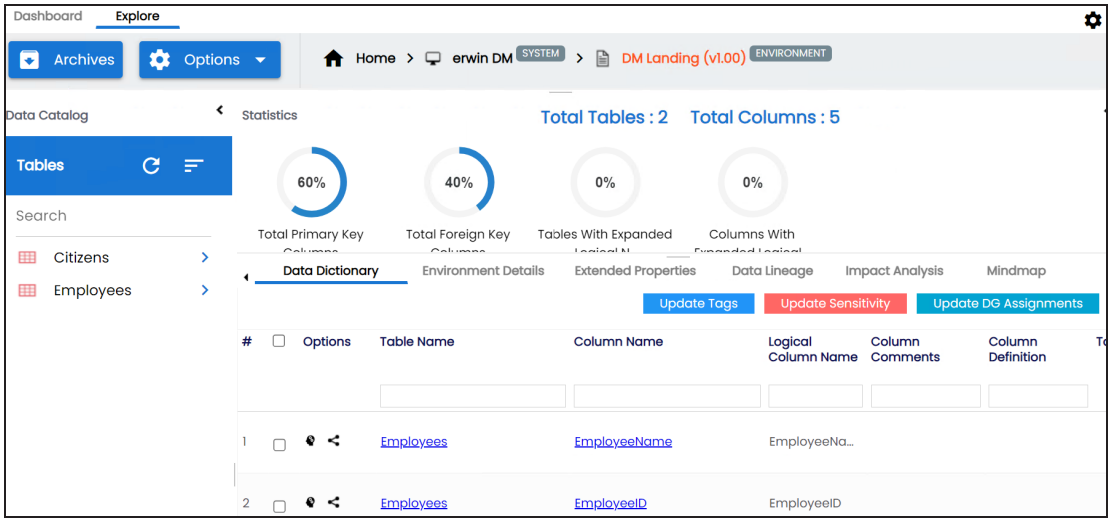
- Assign roles to the environment and the users assigned to these roles get write access to the environment
- Assign users directly to an environment

Ensure that you provide necessary permissions to the roles assigned to the users.

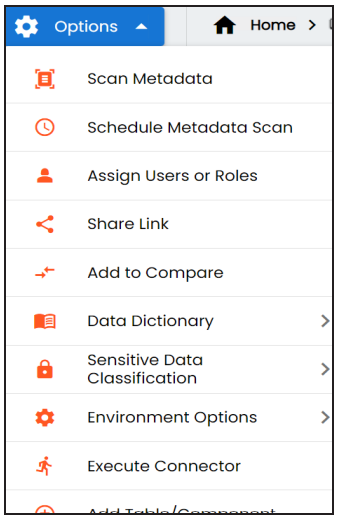
Assigning Roles

To assign roles, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile.
   The environment details appear.

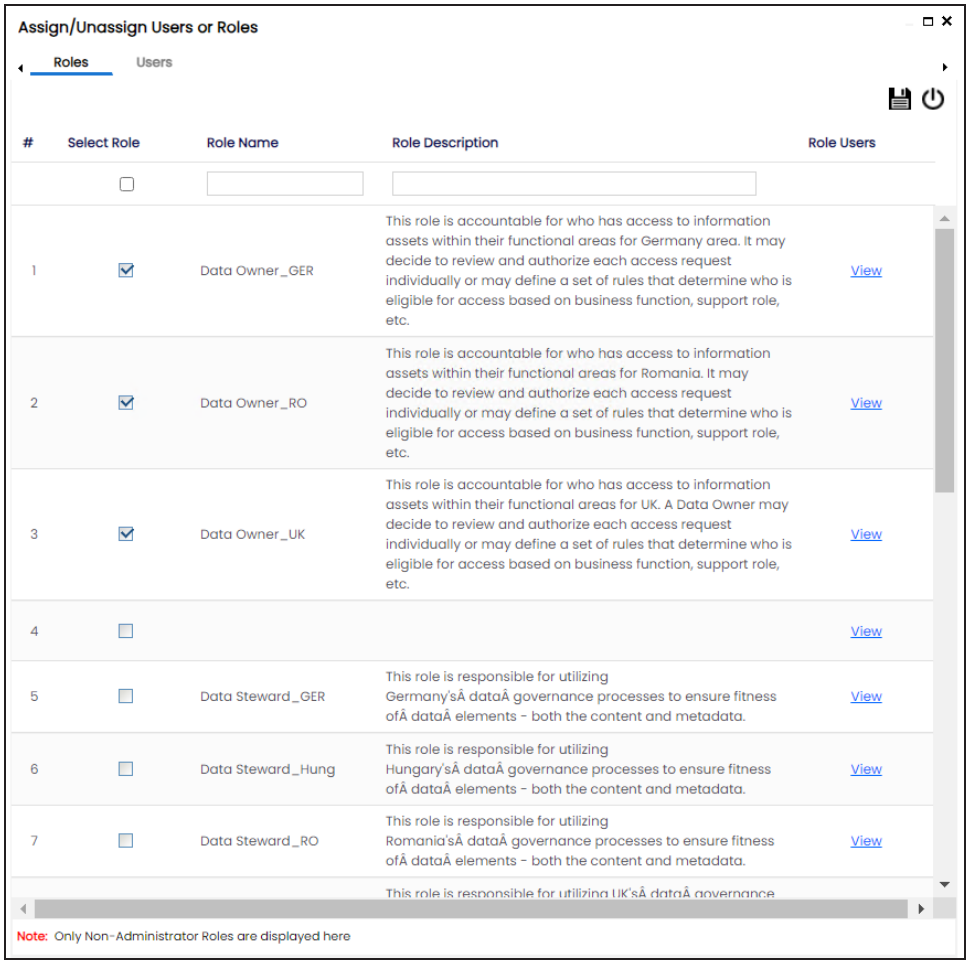


3. Click **Options**.
   The available options appear.



4. Click **Assign Users or Roles**.
   The **Assign/Unassign Users or Roles** page appears. By default, the Roles tab appears.

You can click View to view the users assigned to a role.

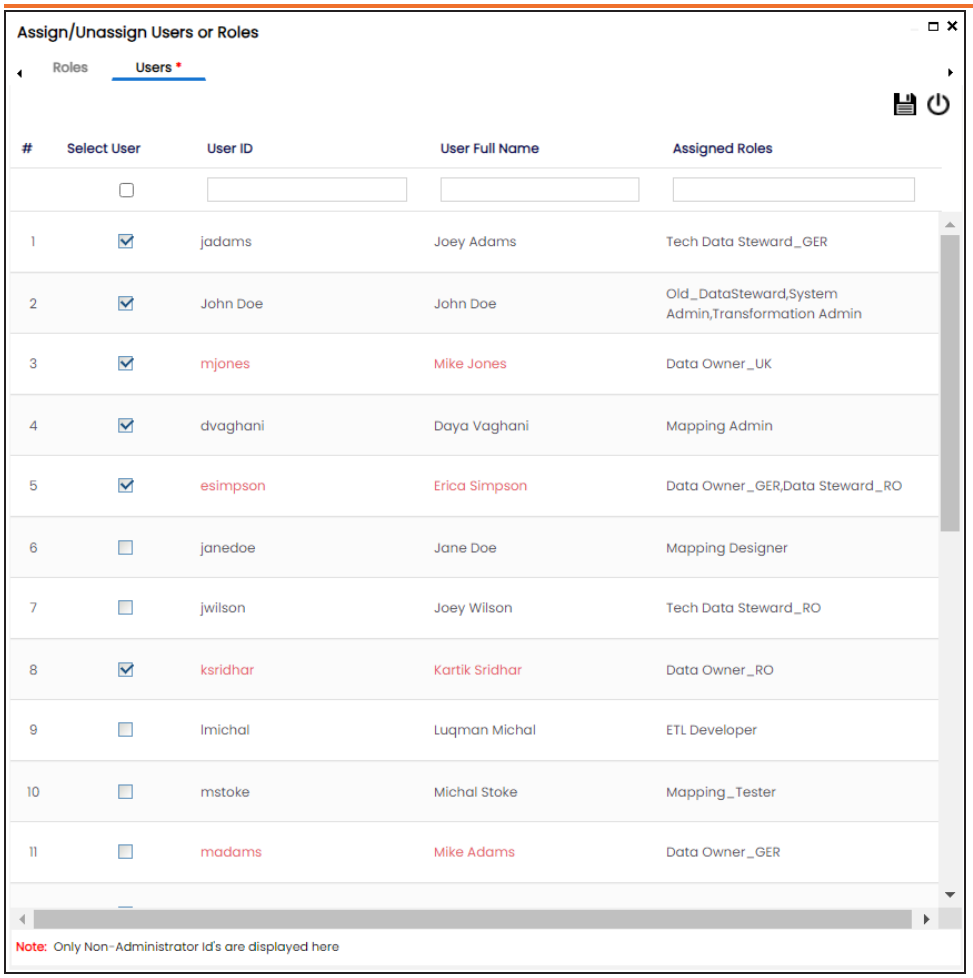


5. Select the required roles.
6. Click  .

   The selected roles are assigned to the environment.

Assigning Users

To assign users, on the **Assign/Unassign Users or Roles** page, click the **Users** tab.



Select the required users and click  .

The users are assigned to the environment.

Managing Environments

Managing Environments involves:

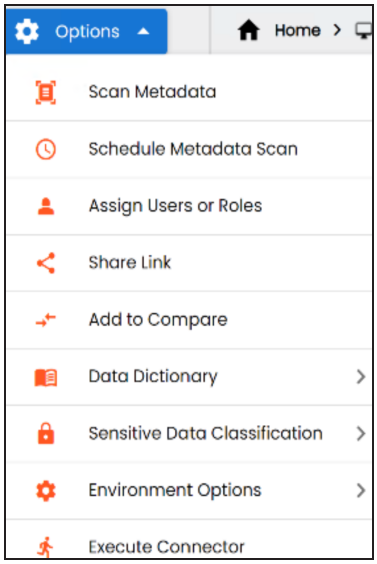
- Editing or deleting environments
- Enable DQ Sync for environments
- Importing metadata from environments
- Exporting metadata from environments

Editing and Deleting Environments

To edit or delete environments, follow these steps:

1. On the Explore tab, click an environment tile.
2. Click **Options**.

   The available options appear.



3. Click **Environment Options**.

   The available options appear.

4. Use the following options:

Edit Environment

Use this option to update the environment details.

> The status of an environment is displayed according to the workflow assigned to the environment. For more information on assigning workflows to environments, refer to the Managing Metadata Manager Workflows section.

Delete Environment

Use this option to delete the environment.

Enabling DQ Sync

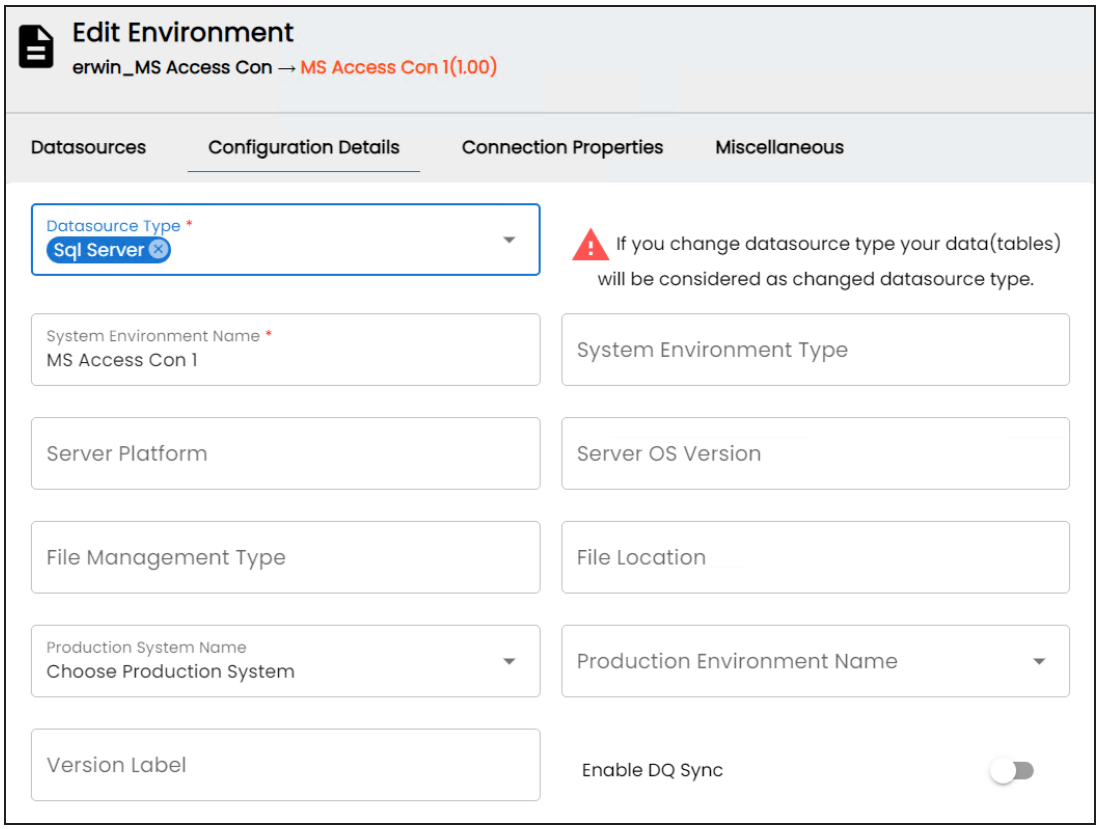
You can view data quality analysis for environments, tables, and columns when you enable DQ Sync on your environments.

> DQ Sync is available for Oracle, Salesforce, Snowflake, MySQL, MSSQL, Hadoop, and PostgreSQL database types.

To enable DQ sync, follow these steps:

1. On the Explore tab, click an environment tile.
2. Click **Options** > **Edit Environment**.

   The Edit Environment page appears.



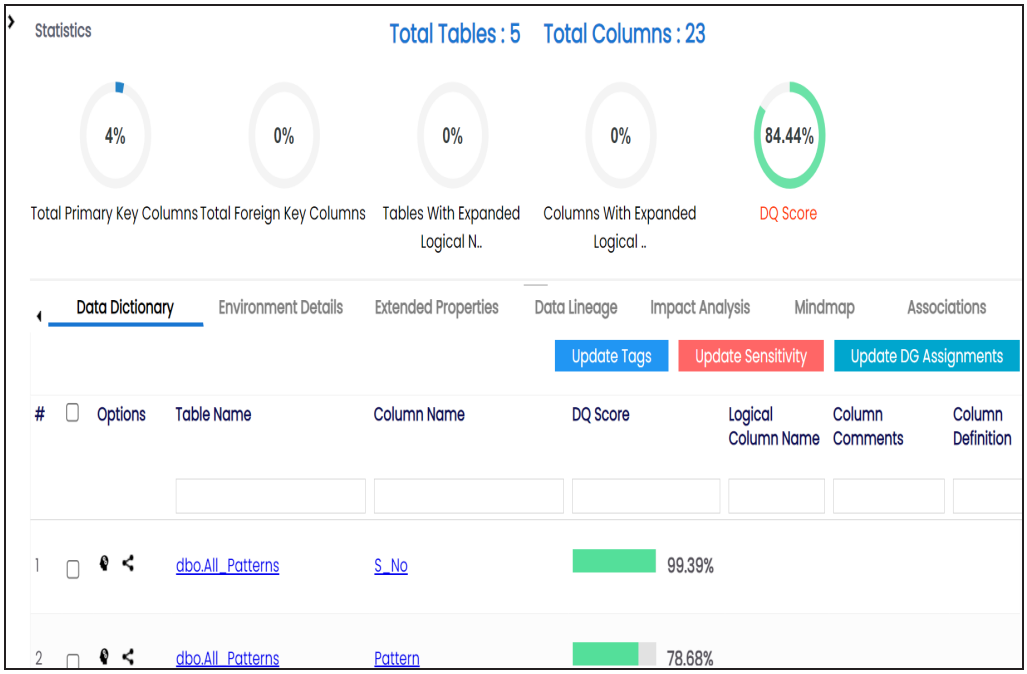
3. Switch the **Enable DQ Sync** option On.
   This displays the data quality analysis from Quest Data Quality for an environment in the Metadata Manager.

> Ensure that you configure Quest Data Quality in the Quest DI to view the **Enable DQ Sync** option. For more information, refer to the Configuring Data Profiling topic.

Once you have enabled DQ Sync for an environment, for data quality analysis results in Metadata Manager, ensure that you do the following:

- Add your environments, tables, and columns as datasets in Quest Data Quality, and run data profiling. For more information, refer to Run Data Profiling topic.
- Then, schedule a job in Quest DI to sync the data quality analysis results from Quest Data Quality.

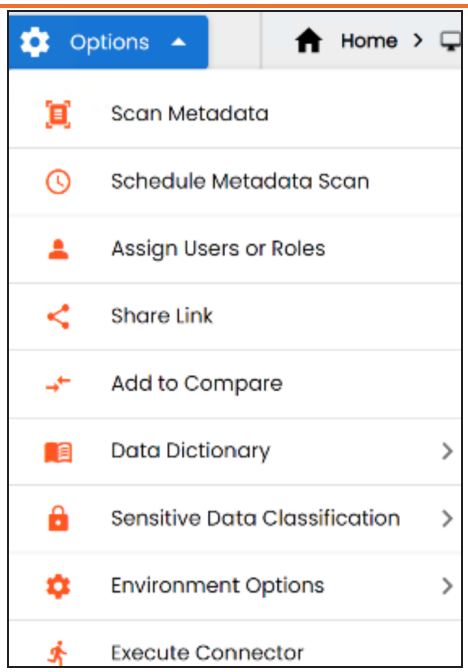
Once the data from Quest Data Quality is synced, DQ Score for the environment is displayed.



Importing Metadata from an Environment

To import metadata from an environment, follow these steps:

1. On the Explore tab, click an environment tile.
2. Click **Options**.
   The available options appear.

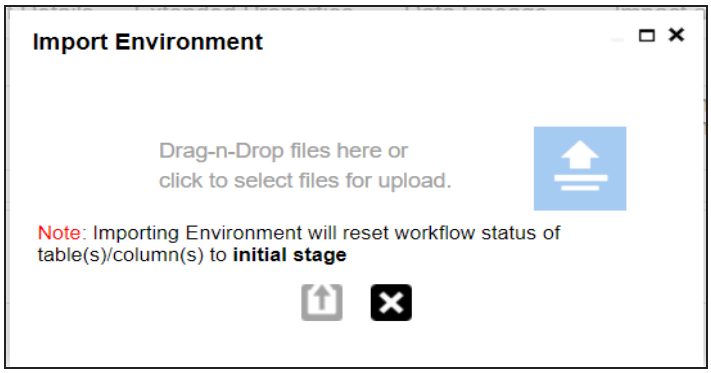


3. Click **Environment Options**.

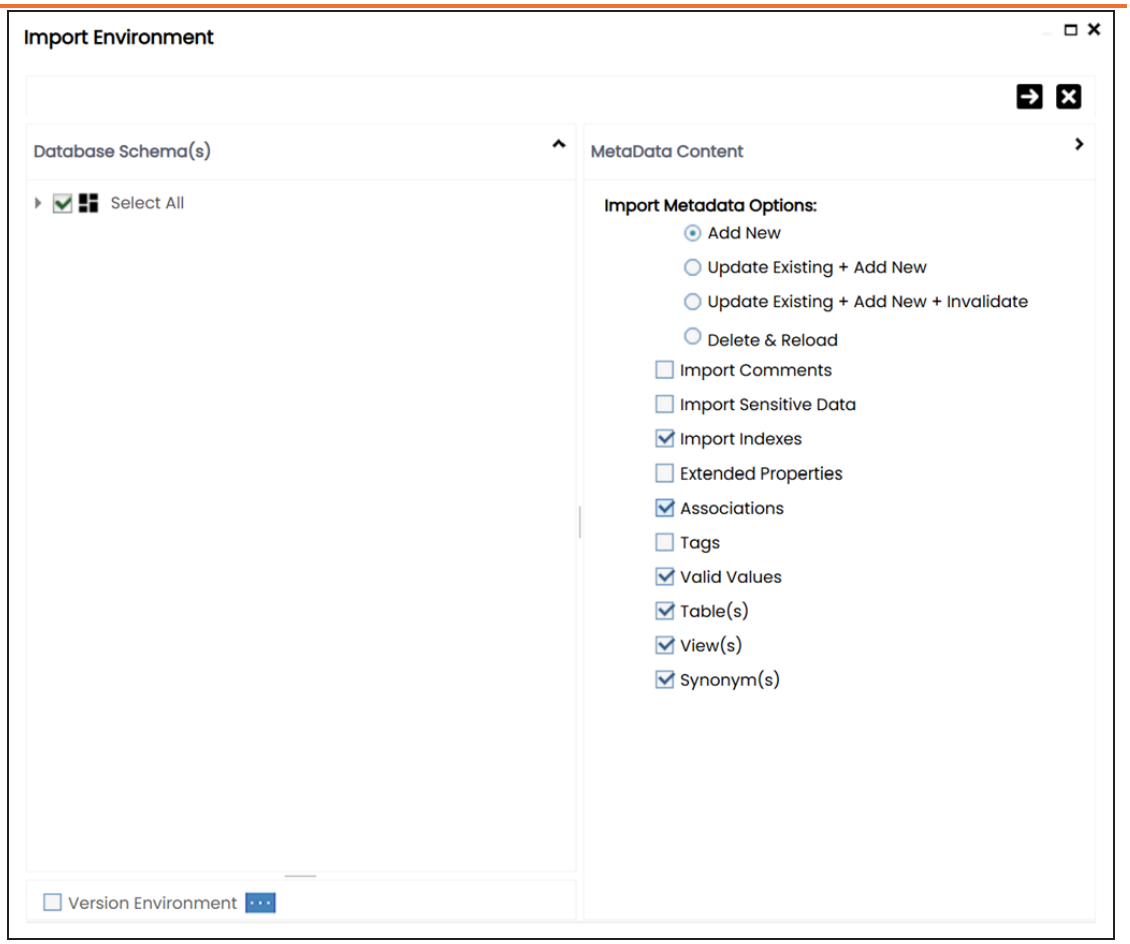
   The available options appear.

4. Click **Import Environment**.

   The Import Environment page appears.



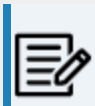
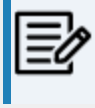
5. Drag and drop or use  to browse the AMP file.
6. Click  .



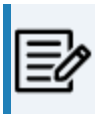
7. Select Schemas and appropriate import metadata options.

   Refer to the following table for the descriptions of the Import Metadata Options.

Import Metadata Options	Description
Add New	This option adds new objects to the existing object list. The existing metadata is not updated.
Update Existing + Add New	This option adds new objects to the existing list and updates the existing metadata at the same time.

Import Metadata Options	Description
Update Existing + Add New + Invalidate	This option adds new objects to the existing list, updates existing ones, and invalidates the table/column during the importing process.
Delete & Reload	This option deletes all existing metadata and imports only the new objects that have been selected.
Import Comments	Select the checkbox to import comments.
Import Sensitive Data	Select the checkbox to import sensitivity classification of the metadata from the data source.  This option is available for SQL, Oracle, and Snowflake environments.
Import Indexes	Select the checkbox to import indexes of the metadata from the datasource. In addition to the listed datasources, this option is available when the datasource is set to Others.  This option is available for SQL, Oracle, and MySQL environments.
Extended Properties	Select the checkbox to import extended properties.
Associations	Select the checkbox to import associated assets.
Tags	Select the checkbox to import Tags.
Valid Values	Select the checkbox to import Valid Values.
Table(s)	Select the checkbox to import Tables.
View(s)	Select the checkbox to import Views.

Import Metadata Options	Description
Synonym(s)	Select the checkbox to import Synonyms.
Version Environment	Select the checkbox to create a version of the environment.
Skip Empty Cells	Select the checkbox to skip blank cells during import and retain existing metadata values. This option is available only when you select the Update Existing + Add New or Update Existing + Add New + Invalidate option.



Select the **Version Environment** checkbox to create a version of the environment.

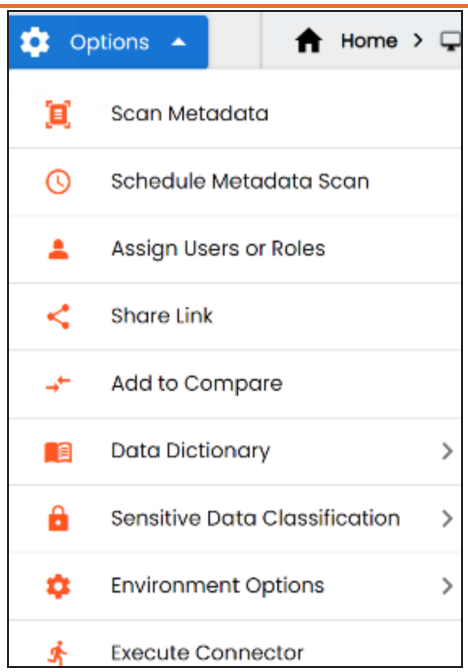
8. Click  .
9. Select the tables and click  .

   The environment is imported.

Exporting Metadata from an Environment

To export metadata from an environment, follow these steps:

1. On the Explore tab, click an environment tile.
2. Click **Options**.
   The available options appear.

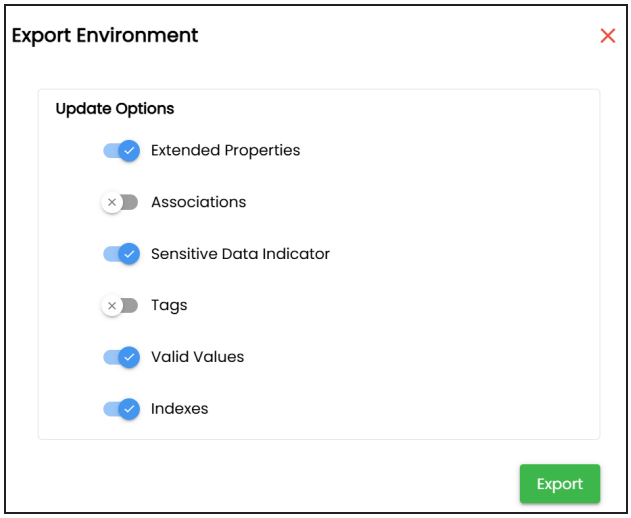


3. Click **Environment Options**.

   The available options appear.

4. Click **Export Environment**.

   The Export Environment page appears.



   Refer to the following table for descriptions of the update options.

Update Options	Description
Extended Properties	Switch this option on to include extended properties of the assets.
Associations	Switch this option on to include associated assets.
Sensitive Data Indicator	Switch this option on to include sensitive data indicators associated with the asset.
Tags	Switch this option on to include tags associated with the asset.
Valid Values	Switch this option on to include valid values associated with the asset.
Indexes	Switch this option on to include index metadata associated with tables and columns.

5. Switch on or off the Update Options as required.
6. Click **Export**.

The environment is exported.

Updating Sensitivity

Marking your technical and business assets as sensitive is an important aspect of metadata management. It is possible to update sensitivity of technical and business assets in bulk.

You can select multiple columns or tables in the Data Dictionary grid and update their sensitivity. For more information on updating sensitivity in bulk at column or table level, refer to the Data Dictionary topic.

Sometimes a column and its associated assets are required to be marked sensitive. You can update sensitivity of the column and its associated assets in a mind map. For more information on updating sensitivity of assets in a mind map, refer to the Mind Map topic.

You can also update sensitivity of columns in a lineage report. For more information on updating sensitivity of columns in a lineage report, refer to the Lineage topic.

Updating Sensitivity-Data Dictionary

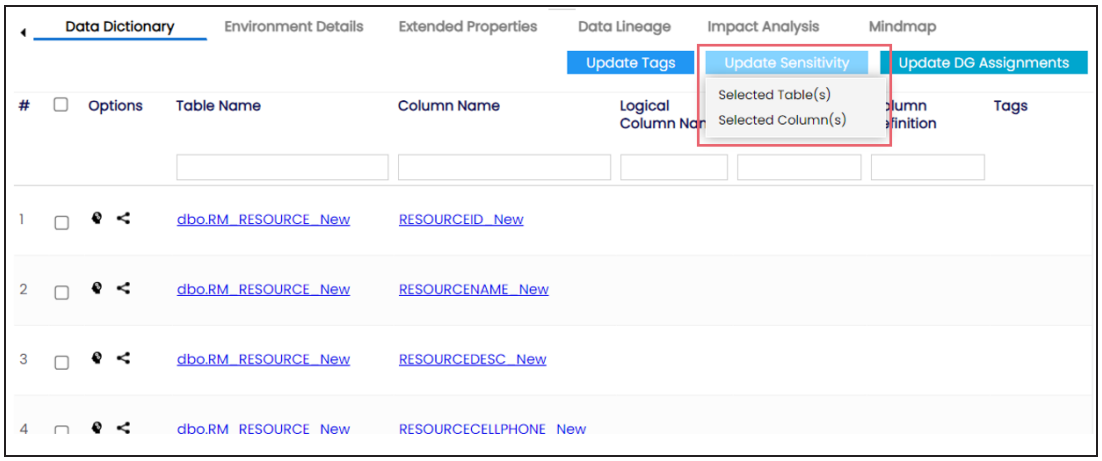
You can update the sensitivity of tables and columns in an environment in bulk. You can also update the sensitivity of the system and environment containing these tables and columns. Updating sensitivity involves marking, tables and columns as sensitive with an appropriate sensitive data indicator (SDI) classification.

You can configure email notifications to be sent whenever sensitivity is updated in bulk. For more information on configuring email notifications, refer to the Configuring Sensitivity Update Notifications topic.

To update sensitivity of tables or columns from the Data Dictionary tab, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. In the **Data Catalog** pane, click an environment.

   By default, the Data Dictionary tab opens.



The Data Dictionary tab displays tables and columns in an environment along with the sensitive data indicator. In the grid, sensitive assets are indicated using , and non sensitive assets are indicated using.

On the Data Dictionary tab, you can update sensitivity of the asset(s) as per the following:

- Bulk
- Individual

Bulk Asset Update

You can update the sensitivity in bulk at table and column levels.

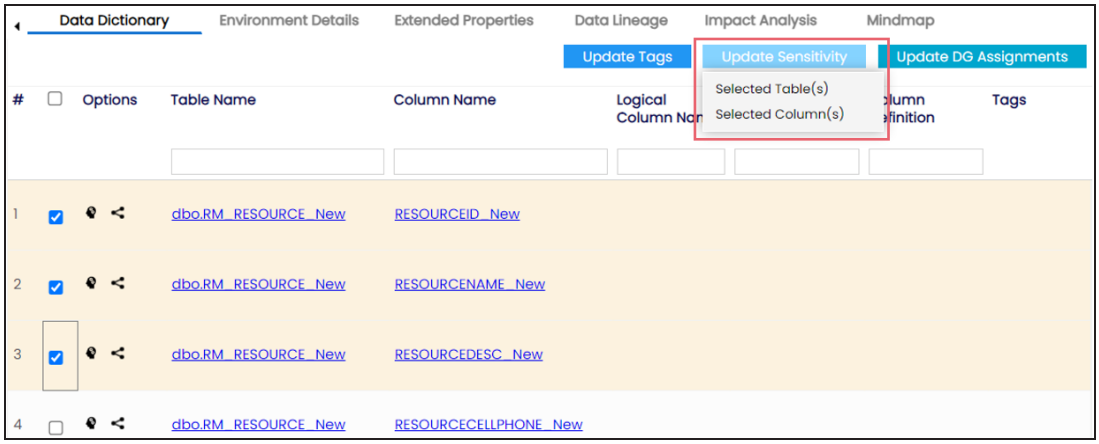
Table Level

To update sensitivity of tables in bulk, follow these steps:

1. On the **Data Dictionary** tab, select the required rows.

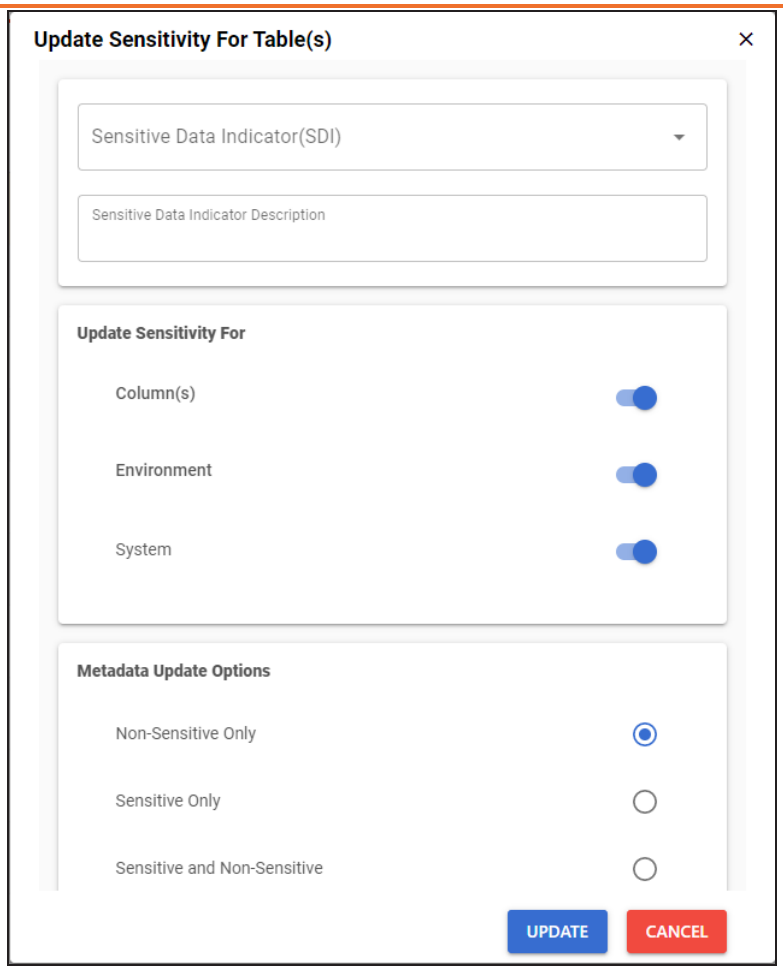
   You can use the check box at top to select all the rows.

2. Hover over **Update Sensitivity**.



3. Click **Selected Table(s)**.

   The Update Sensitivity For Table(s) page appears.



4. Enter or select appropriate values in the fields. Refer to the following table for field descriptions.

Field Name	Description
Sensitive Data Indicator (SDI)	Specifies the sensitivity data indicator (SDI) classification of the selected tables. Also, you can add multiple classifications to the selected tables. For example, PHI, Confidential. For more information on configuring SDI classifications, refer to the Configuring Sensitivity Classifications topic.

Field Name	Description
Sensitive Data Indicator Description	Specifies the description of the SDI classification. For example, This classification indicates that the data contains personal identifiable information. Use this for data such as, address or social security number.
Update Sensitivity For	Specifies whether sensitivity is applicable to: ▪ Column(s): Switch **Column(s)** to **YES** to apply the sensitivity to all the columns in the selected tables. ▪ Environment: Switch **Environment** to **YES** to apply sensitivity to the environment containing the tables. ▪ System: Switch **System** to **Yes** to apply sensitivity to the system containing the tables.
Metadata Update Options	Specifies whether sensitivity is applicable to: ▪ Unclassified only: Click **Unclassified Only** to apply sensitivity to assets that are not marked sensitive. ▪ All Classified Only: Click **All Classified Only** to apply sensitivity to assets that are marked sensitive. ▪ All Classified And Unclassified: Click **All Classified And Unclassified** to apply sensitivity to both the types of assets, sensitive or not sensitive.

5. Click **Update**.

   The sensitivity of the metadata is updated based on the options you selected.

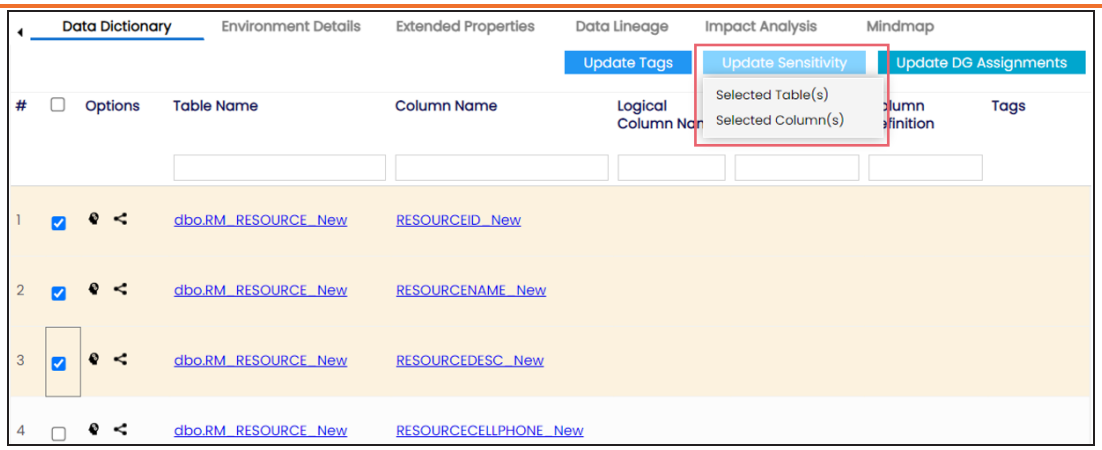
Column Level

To update sensitivity of columns in bulk, follow these steps:

1. On the **Data Dictionary** tab, select the required rows.

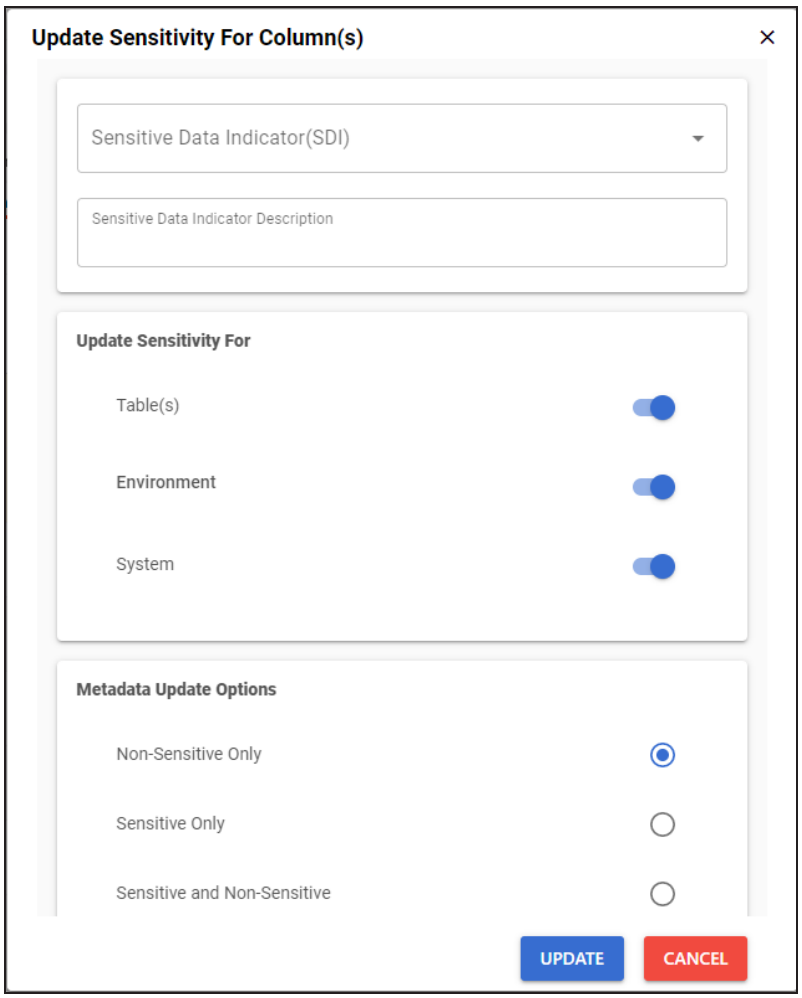
   You can use the check box at top to select all the rows.

2. Hover over **Update Sensitivity**.



3. Click **Selected Column(s)**.

The Update Sensitivity For Column(s) page appears.



4. Enter or select appropriate values in the fields. Refer to the following table for field descriptions.

Field Name	Description
Sensitive Data Indicator (SDI)	Specifies the sensitivity data indicator (SDI) classification of the selected columns. Also, you can add multiple classifications to the selected columns. For example, PHI, Confidential. For more information on configuring SDI classifications, refer to the

Field Name	Description
	Configuring Sensitivity Classifications topic.
Sensitive Data Indicator Description	Specifies the description of the SDI classification. For example, This classification indicates that the data contains personal identifiable information. Use this for data such as, address or social security number.
Update Sensitivity For	Specifies whether sensitivity is applicable to: ▪ Table(s): Switch **Table(s)** to **YES** to apply sensitivity to the tables containing the columns. ▪ Environment: Switch **Environment** to **YES** to apply sensitivity to the environment containing the columns. ▪ System: Switch **System** to **Yes** to apply sensitivity to the system containing the columns.
Metadata Update Options	Specifies whether sensitivity is applicable to: ▪ Unclassified only: Click **Unclassified Only** to apply sensitivity to assets that are not marked sensitive. ▪ All Classified Only: Click **All Classified Only** to apply sensitivity to assets that are marked sensitive. ▪ All Classified And Unclassified: Click **All Classified And Unclassified** to apply sensitivity to both the types of assets, sensitive or not sensitive.

5. Click **Update**.

   The sensitivity of the metadata is updated based on the options you selected.

Individual Asset Update

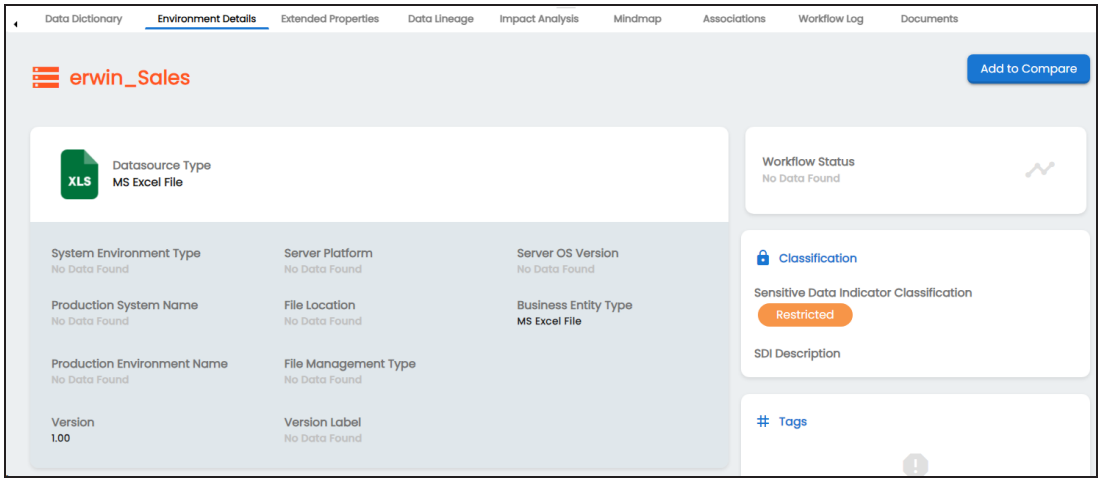
You can view and update the sensitivity of technical assets (systems, environments, tables, and columns) individually.

To view and update the sensitivity of technical assets individually, follow these steps:

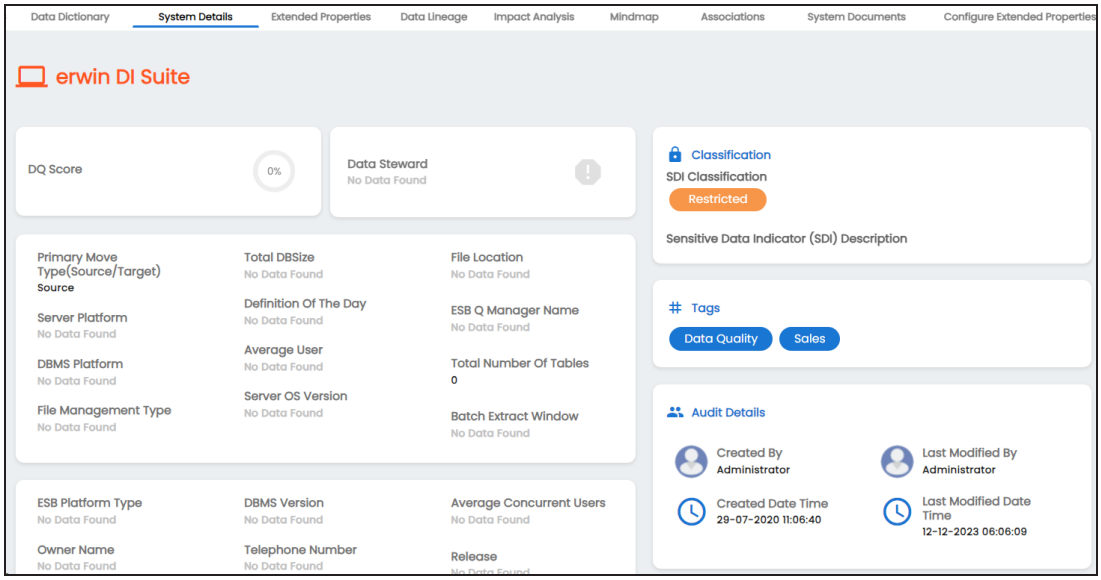
- **Table and Column:**
  In the Data Dictionary tab, you can click <Column_Name> and <Table_Name> to view

and edit the sensitivity of the column and table respectively.

- **Environment:**
  Sensitivity of an environment can be viewed under the Environment Details tab. You can edit an environment, and update its sensitivity under the Miscellaneous tab.



- **System:**
  The sensitivity of the system can be viewed under the System Details tab. You can edit a system, and update its sensitivity.



Updating Sensitivity-Lineage

You can update the sensitivity of columns in a lineage report. You can also update the sensitivity of tables, environments, and systems containing these columns.

You can configure email notifications to be sent whenever sensitivity is updated in bulk. For more information on configuring email notifications, refer to the Configuring Sensitivity Update Notifications topic.

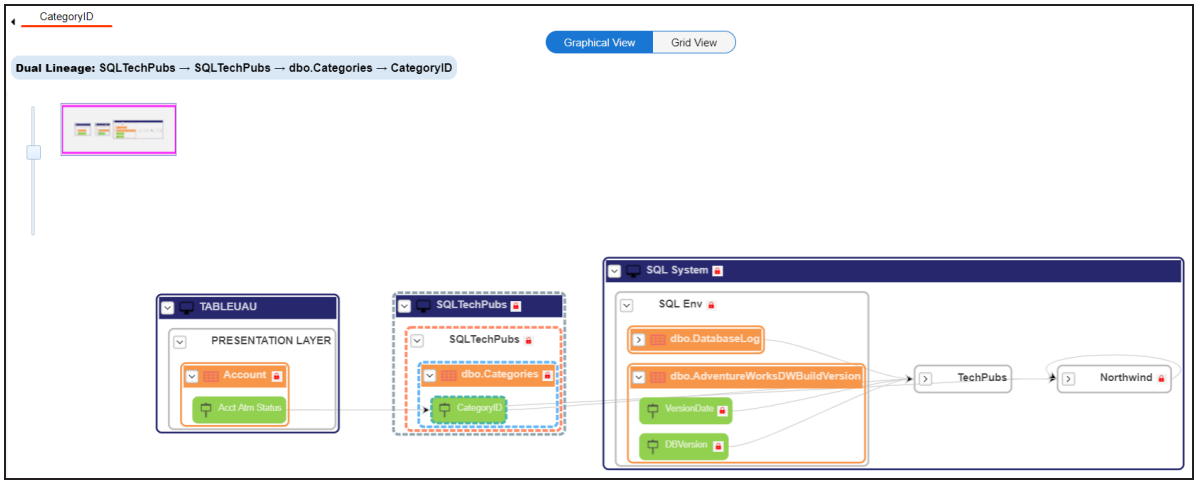
To update sensitivity of columns in lineage reports, follow these steps:

1. In the **Data Catalog** pane, click an environment.

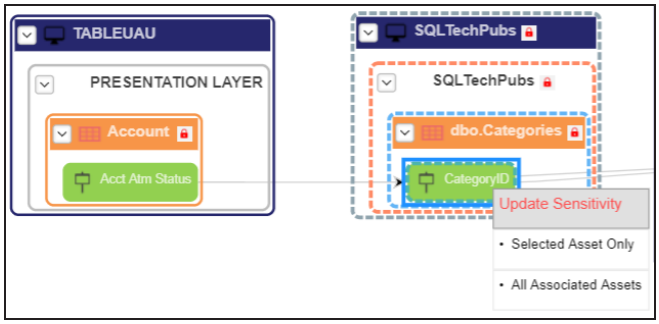
   By default, the Data Dictionary tab opens.

2. On the **Data Dictionary** tab, click for the required column.

   By default, dual lineage of the selected table page appears in Graphical View.



3. In the lineage, click a column, and then right-click the column.



4. Use the following options:

Selected Asset Only

Use this option to update sensitivity of the column. You can also update sensitivity of the table, environment, and system containing the column.

All Associated Assets

Use this option to update sensitivity of multiple columns in the lineage report. You can also update sensitivity of the tables, environments, and systems containing these columns.

Refer to the following table for field descriptions when you use above options.

Field Name	Description
Sensitive Data Indicator (SDI)	Specifies the sensitivity data indicator (SDI) classification of the selected columns. Also, you can add multiple classifications to the selected columns. For example, PHI, Confidential. For more information on configuring SDI classifications, refer to the Configuring Sensitivity Classifications topic.
Sensitive Data Indicator Description	Specifies the description of the SDI classification. For example, This classification indicates that the data contains personal identifiable information. Use this for data such as, address or social security number.
Auto Update	Specifies whether the sensitivity is applicable to:

Field Name	Description
Sensitivity For	▪ System: Switch **System** option on to apply sensitivity to all the systems containing the columns. ▪ Environment: Switch **Environment** option on to apply sensitivity to all the environments containing the columns. ▪ Table: Switch **Table** option on to apply sensitivity to the tables containing the columns.
Asset Update Options	Specifies whether sensitivity is applicable to: ▪ **Unclassified Only**: Click Unclassified Only to apply sensitivity to assets that are not marked sensitive. ▪ **All Classified Only**: Click All Classified Only to apply sensitivity to assets that are marked sensitive. ▪ **All Classified And Unclassified**: Click All Classified And Unclassified to apply sensitivity to both the types of assets, sensitive or not sensitive.

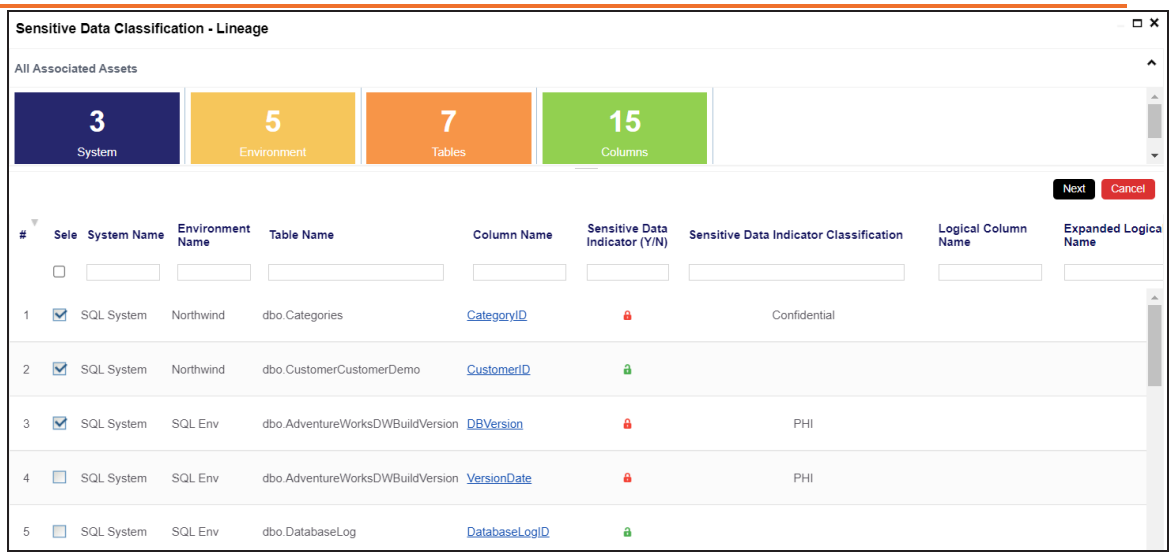
5. Click **Update**.

   The sensitivity of the assets is updated based on the options you selected.

To update sensitivity of multiple columns in lineage reports, follow these steps:

1. In the lineage report, right-click the column.
2. Click **All Associated Assets**.

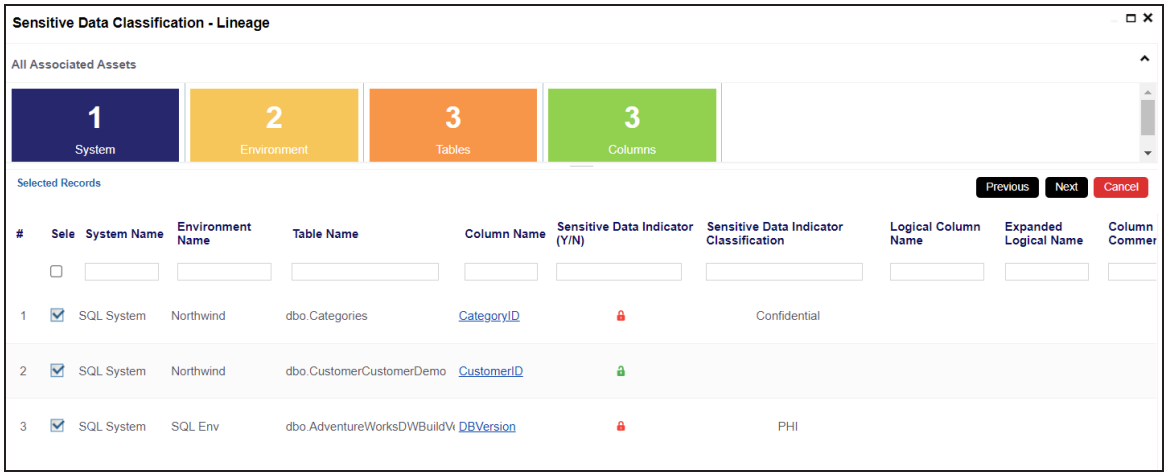
   The Sensitive Data Classification - Lineage page appears.



3. Select the required rows and click **Next**.

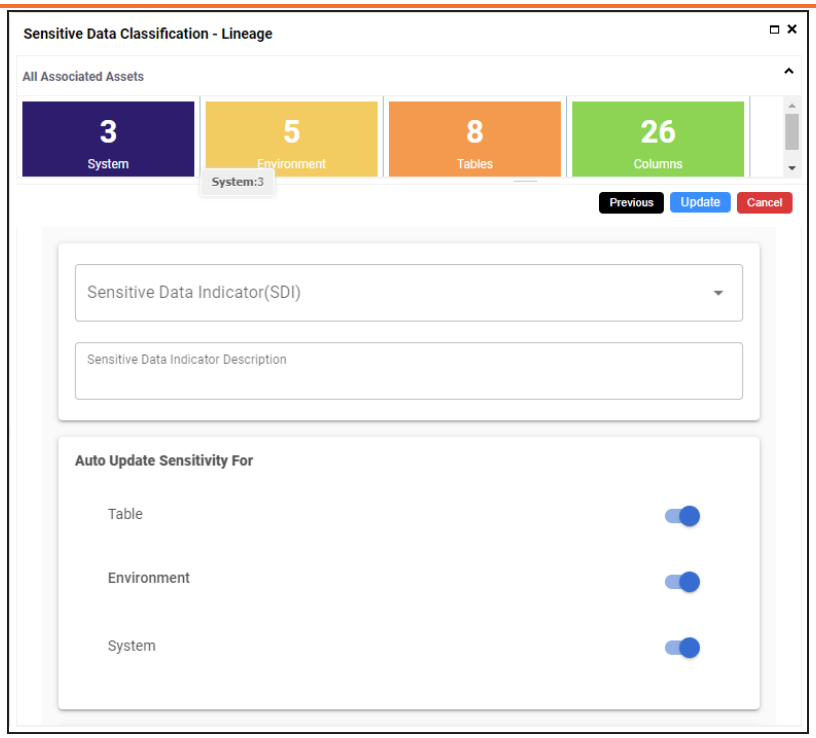
   You can filter the rows using the filter box.

   The Selected Records page appears. It displays the selected rows for verification. You can clear the check box to remove a row from the selected records.



4. Click **Next**.

   The following page appears.



5. Enter or select appropriate values in the fields. Refer to the table above for field descriptions.
6. Click **Update**.

   The sensitivity of the metadata is updated based on the options you selected.

Updating Sensitivity-Mind Map

You can update the sensitivity of an asset and its associated technical and business assets through a mind map.

Business assets refer to business terms, business policies, business rules, and other business assets defined in the Business Glossary Manager Settings. Technical assets refer to columns, tables, environments, and systems. A column can be associated with business and technical assets. For more information on associating columns, refer to the Associating Columns topic.

You can configure email notifications to be sent whenever sensitivity is updated in bulk. For more information on configuring email notifications, refer to the Configuring Sensitivity Update Notifications topic.

Selected Asset

You can update sensitivity of an asset individually through a mind map.

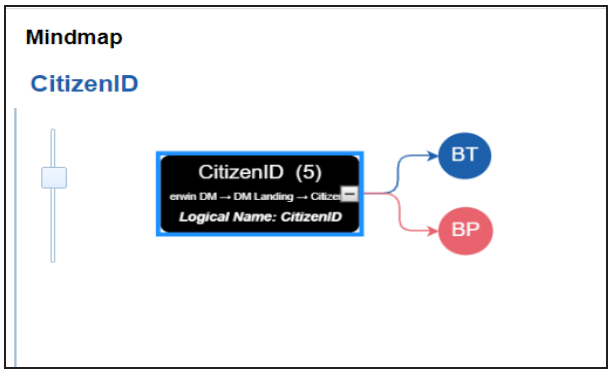
To update sensitivity of assets individually through mind maps, follow these steps:

1. In the **Data Catalog** pane, click an environment.

   By default, the Data Dictionary tab opens.

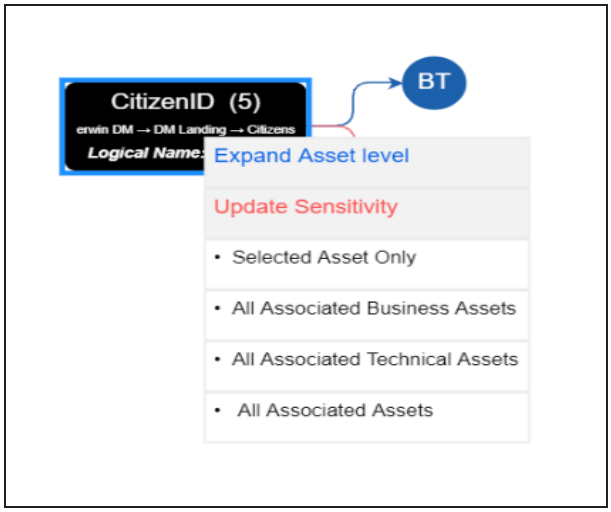
2. On the **Data Dictionary** tab, click for the required column.

   The Mind Map page appears.



3. On the mind map, right-click the required asset.

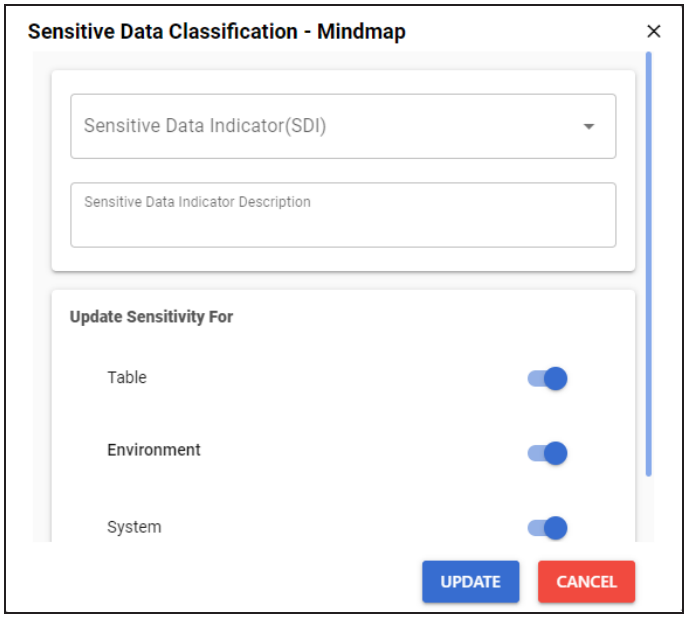
The options available for the asset appear.



4. Click **Selected Asset Only**.

   The Sensitive Data Classification - Mindmap page appears.

> The Auto Update Sensitivity For field does not appear for business assets.



5. Enter or select appropriate values in the fields. Refer to the following table for field descriptions:

Field Name	Description
Sensitive Data Indicator (SDI)	Specifies the sensitivity data indicator (SDI) classification of the selected asset. Also, you can add multiple classifications to the selected asset. For example, PHI. For more information on configuring SDI classifications, refer to the Configuring Sensitivity Classifications topic.
Sensitive Data Indicator Description	Specifies the description of the SDI classification. For example, This classification indicates that the data contains personal identifiable information. Use this for data such as, address or social security number.
Update Sensitivity For	Specifies whether sensitivity is applicable to: ▪ System: Switch the **System** option on to apply sensitivity to all the systems containing the assets. ▪ Environment: Switch the **Environment** option on to apply sensitivity to all the environments containing the assets. ▪ Table: Switch the **Table** option on to apply sensitivity to the tables containing the assets.

6. Click **Update**.

   The sensitivity of the asset and metadata is updated based on the options you selected.

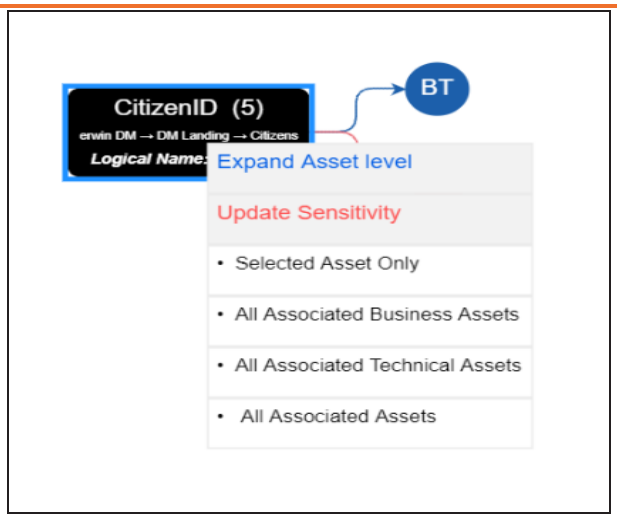
Associated Assets

You can update sensitivity of associated assets in bulk through a mind map.

To update sensitivity of associated assets through mind maps, follow these steps:

1. On the mind map, right-click an asset.

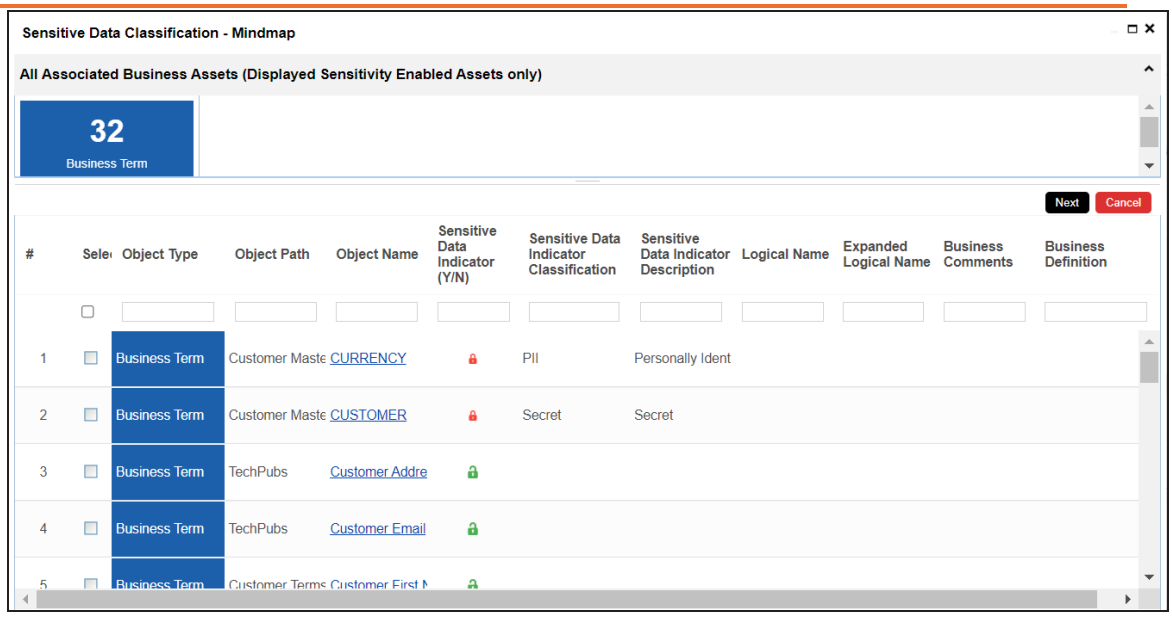
   The options available for the asset appear.



2. Click any one of the following:

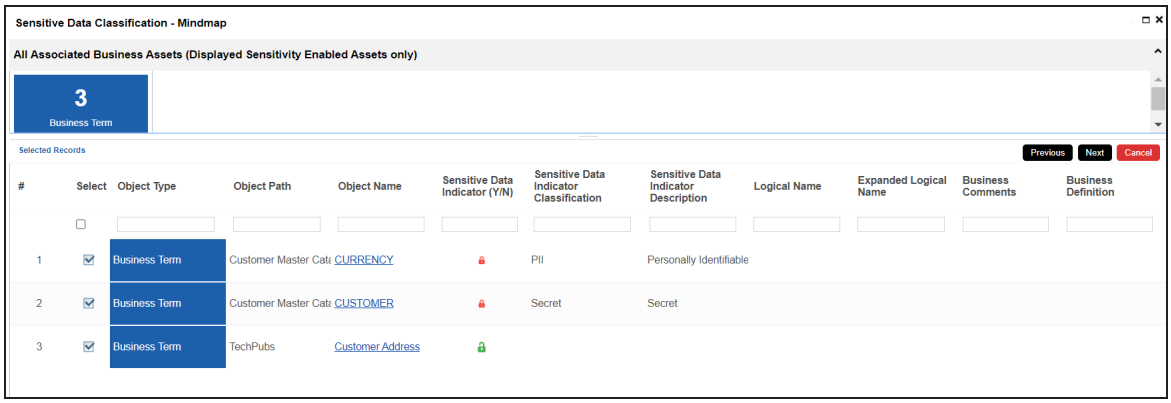
   - **All Associated Business Assets**:
     Click this option to update sensitivity of associated business assets.
   - **All Associated Technical Assets**:
     Click this option to update sensitivity of associated technical assets.
   - **All Associated Assets**:
     Click this option to update sensitivity of associated business and technical assets.

   For example, if you click All Associated Business Assets then a list of all associated business assets appear. You can filter the assets by entering text in the filter box.



3. Select the required assets and click **Next**.

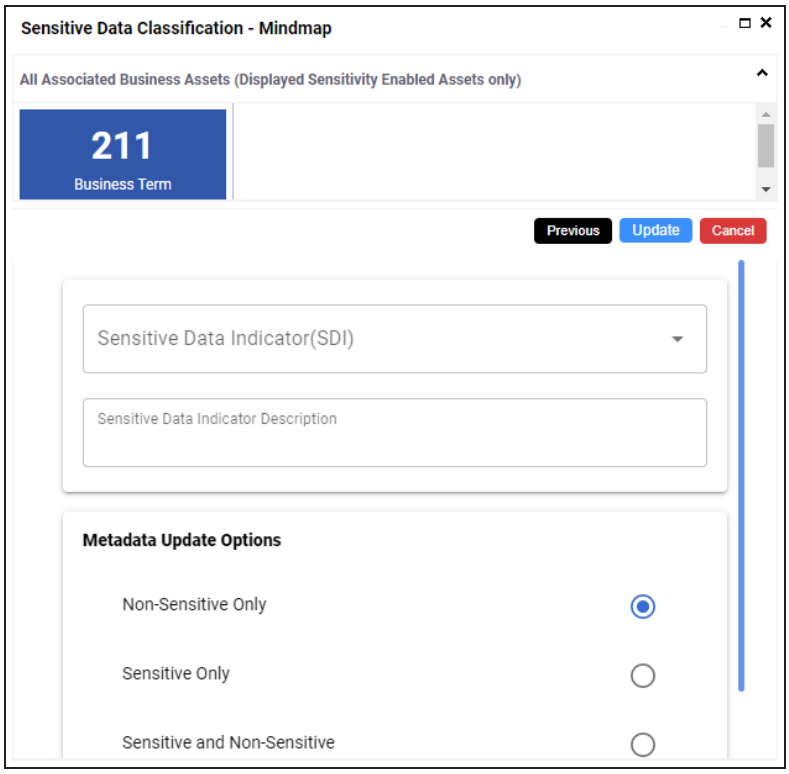
   The Selected Records page appears. You can verify the selected assets and clear the check box if required.



4. Click **Next**.

   The following page appears.

The Update Sensitivity For field does not appear if you are updating sensitivity of associated business assets.



5. Enter or select appropriate values in the fields. Refer to the following table for field descriptions.

Field Name	Description
Sensitive Data Indicator (SDI)	Specifies the sensitivity data indicator (SDI) classification of the selected asset. Also, you can add multiple classifications to the selected asset. For example, PHI. For more information on configuring SDI classifications, refer to the Configuring Sensitivity Classifications topic.
Sensitive Data	Specifies the description of the SDI classification.

Field Name	Description
Indicator Description	For example, This classification indicates that the data contains personal identifiable information. Use this for data such as, address or social security number.
Metadata Update Options	Specifies whether sensitivity is updated for: ▪ Non-Sensitive Only: Use this option on to update sensitivity only for currently non-sensitive assets. ▪ Sensitive Only: Use this option on to update sensitivity only for currently sensitive assets. ▪ Sensitive and Non-Sensitive: Use this option on to update sensitivity for both, currently sensitive and non-sensitive assets.

6. Click **Update**.

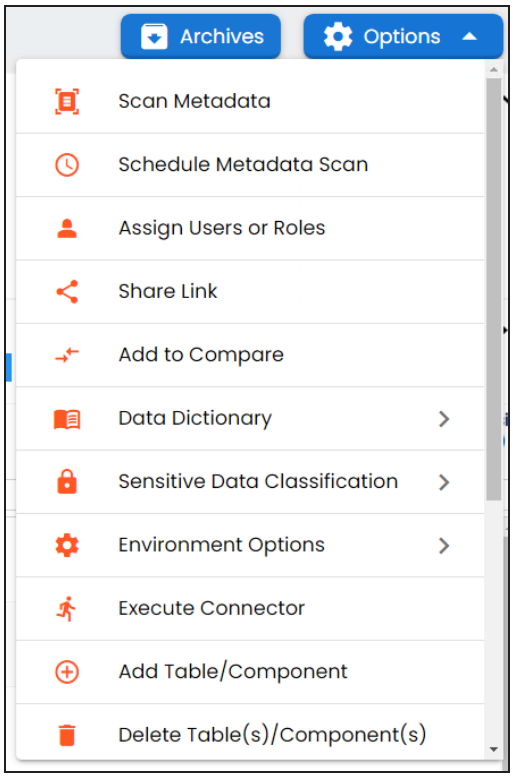
   The sensitivity of the selected assets and metadata is updated based on the options you selected.

Adding Documents

You can add supporting documents, such as text files, audio files, video files, document links, and so on to an environment.

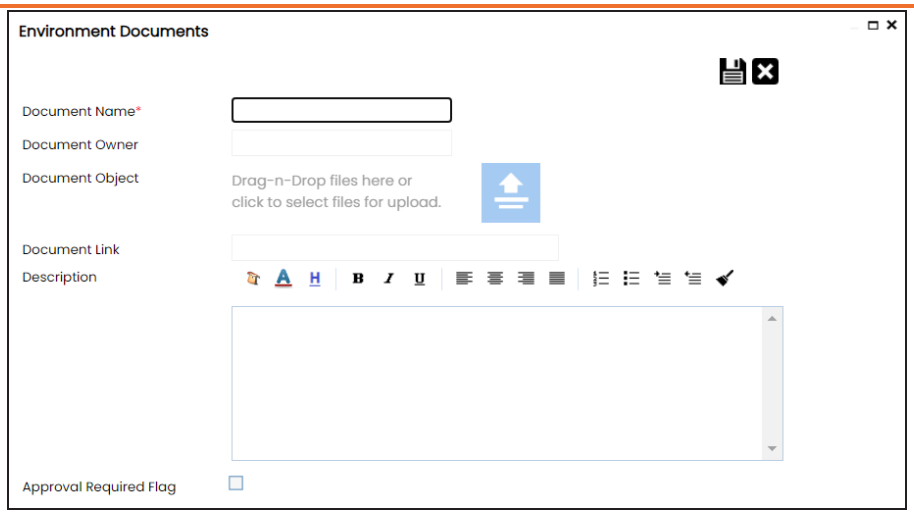
To add documents to environments, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile.
3. Click **Options**.
   The available options appear.



4. Click **Environment Options** > **New document**.

   The Environment Documents page appears.



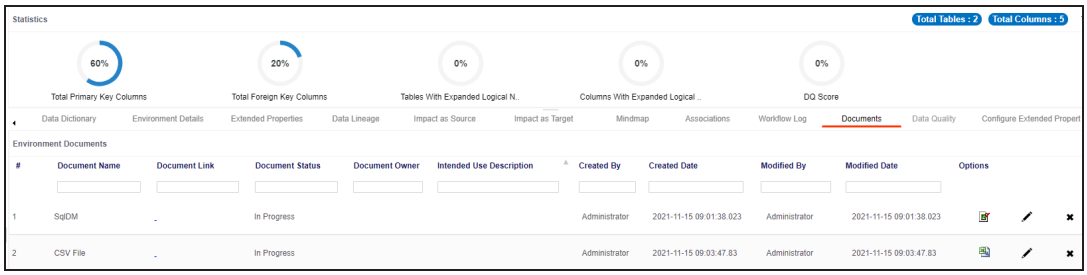
5. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Document Name	Specifies the name of the physical document being attached to the environment. For example, Source Environment Details.
Document Object	Drag and drop document files or use to select and upload document files.
Document Owner	Specifies the document owner's name. For example, John Doe.
Document Link	Specifies the URL of the document. For example, https://drive.google.com/file/l/2sC2_SZIyeFKI7OOnb5YkMBq4ptA7jhg5/view
Description	Specifies the description about the document. For example: The document has information about the environment details.
Approval Required Flag	Specifies whether the document requires approval. Select the **Approval Required Flag** check box to select the doc-

Field Name	Description
	ument status.
Document Status	Specifies the status of the document. For example, In Progress. This field is available only when the **Approval Required Flag** check box is selected.

6. Click  .

The document is saved in the Environment Documents grid.



Once a supporting document is added, use the following options:

Preview ( **)**

Use this option to preview the document for your information.

Edit ( **)**

Use this option to update the document details.

Delete ( **)**

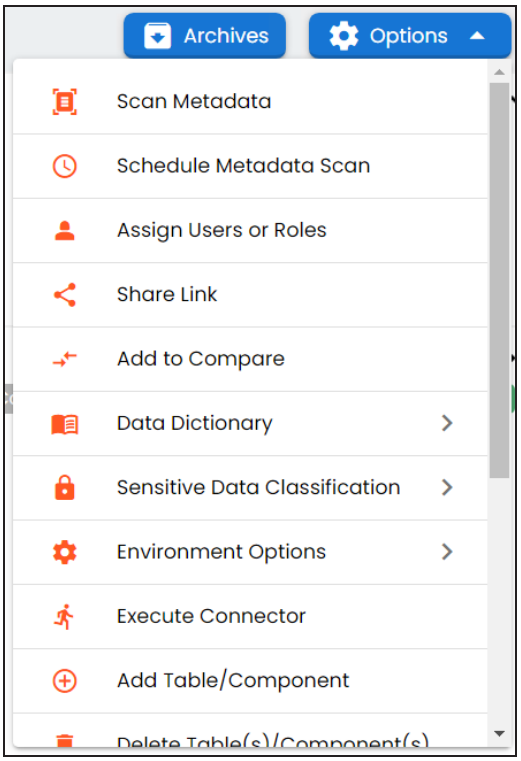
Use this option to delete the document that is not required.

Cloning Environments

You can clone an environment under a system and use the same or different connection parameters in the cloned environment. The cloned environment is saved under the system.

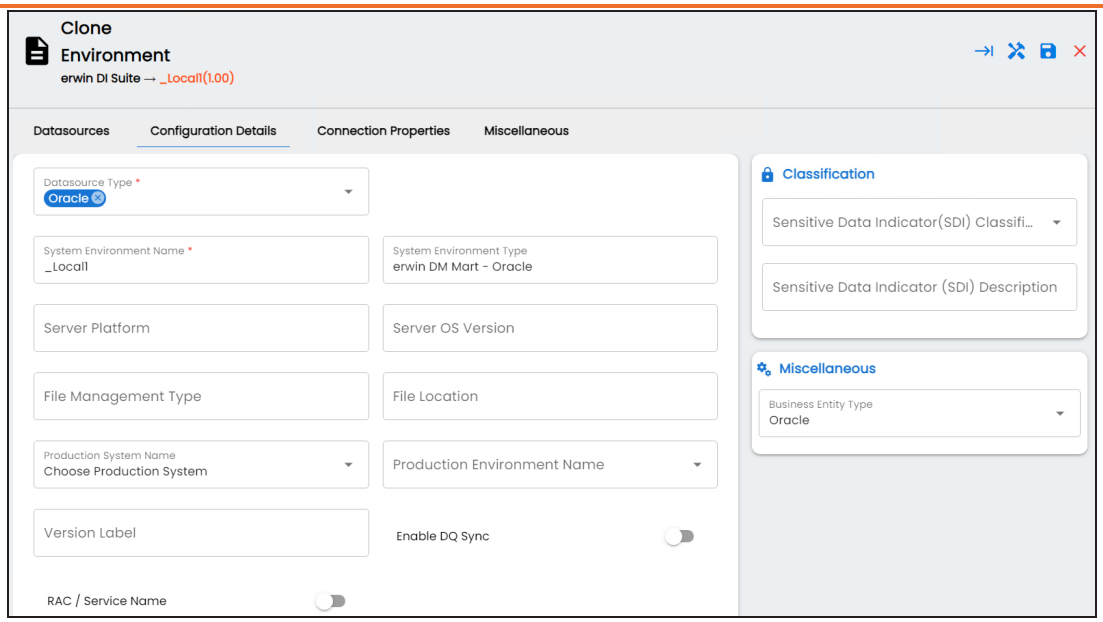
To clone environments, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile and click **Options**.
   The available options appear.



3. Click **Environment Options** > **Clone Environment**.

   The New Environment Cloning page appears.



4. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Datasource Type	Specifies the datasource (database) type from where you wish to scan metadata. You can change the datasource type using the drop down list. For example, Sql Server. Depending upon the database type, you need to provide additional fields in the **Connection Properties** tab. For SQL Server (Windows Authentication), Sybase, HP Vertica, and Neteeza databases, the TestConnectionQuery option is selected by default to validate the internal connection. The system displays exceptions if this option is not selected. There are no additional fields for MS Excel File, and XSD.

Field Name	Description
System Environment Name	Specifies the unique name of the environment. For example, EDW-Test. For more information on naming conventions, refer to the Best Practices section.
System Environment Type	Specifies the type of the environment. For example, development, test, or production.
Server Platform	Specifies the server platform of the environment. For example, Windows.
Server OS Version	Specifies the OS version of the environment's server.
File Management Type	Specifies the file management system (if the environment is a file-based source). For example, MS Excel.
File Location	Specifies a file path (if the environment is a file-based source). For example, C:\Users\Jane Doe\erwin\Mike - Target System
Production System Name	Specifies the system name being associated with the environment as the production system. For example, Enterprise Data Warehouse.
Production Environment Name	Specifies the environment name being associated with the environment as the production environment. For example, EDW-PRD.
Data Steward	Specifies the name of the data steward responsible for the environment. For example, Jane Doe. Users assigned with the Legacy Data Steward role appear as drop down options. You can assign this role to a user in the Resource Manager. To assign data steward, select a data steward from the drop down options.

Field Name	Description
Version Label	Specifies the version label of the environment to track change history. For example, Alpha. For more information on configuring version display, refer to the Configuring Version Display of the Environments topic.
Enable DQ Sync	Specifies whether to sync data quality analysis results from Quest Data Quality. To view data quality analysis, ensure that you have configured Quest Data Quality connection setting in Quest DI. For more information, refer to the Configuring Data Profiling topic. Data quality analysis is available for environments using Oracle, Salesforce, Snowflake, MySQL, MSSQL, Hadoop, and PostgreSQL database types.
RAC/Service Name	
Sensitive Data Indicator (SDI) Classification	Specifies the sensitivity data indicator (SDI) classification of the environment. Also, you can add multiple classifications to the environment. For example, PHI, Confidential. For more information on configuring SDI classifications, refer to the Configuring Sensitivity Classifications topic.
Sensitive Data Indicator Description	Specifies the description of the SDI classification.
Business Entity Type	Specifies the database type of business entity.

5. Click  to test the connection.

   If the connection with database is established successfully then a success message pops up.

6. Click  .

   The environment is cloned and the cloned environment is saved under the system.

Different database types have different prerequisites and connection parameters:

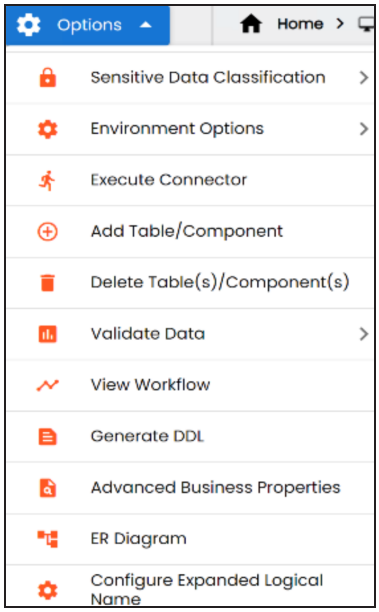
- SQL Server - via SQL or Window authentication mode
- Oracle and Oracle RAC
- MySQL
- Snowflake
- MS Dynamics CRM
- SAP ECC R/3 and IS-U Metadata via JCO Driver

Viewing ER Diagram

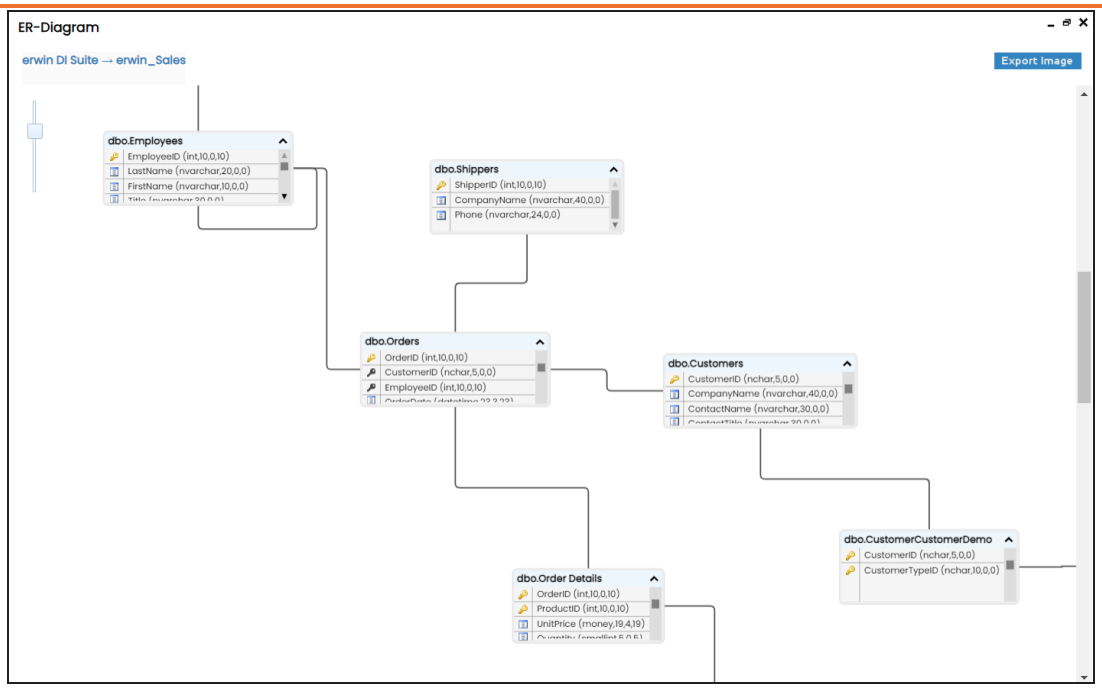
You can view Entity Relationship (ER) diagram after scanning or importing metadata in an environment. You can view ER diagrams at environment level and export it in the JPG format.

To view entity relationship diagram, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, select an environment and click **Options**.
   The available options appear.



3. Click **ER Diagram**.



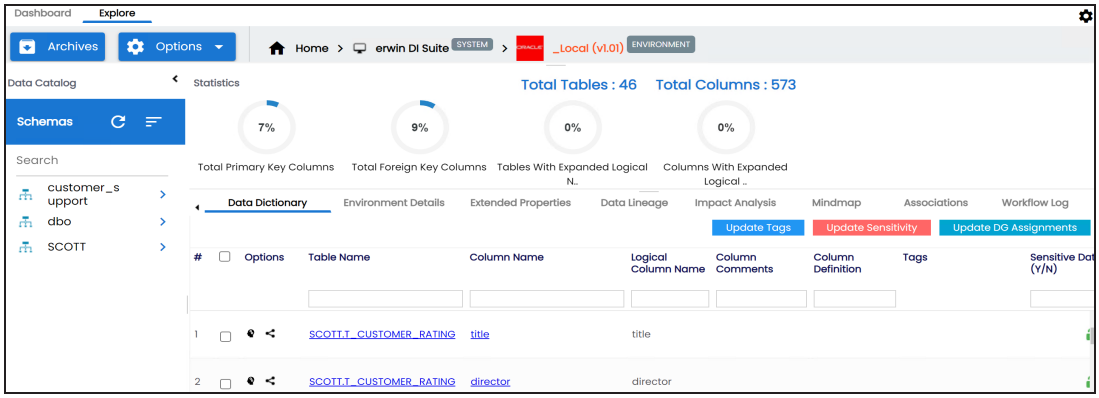
You can download the ER diagram. To download the ER diagram, click **Export Image**.

Viewing Workflow Logs

You can create your own workflow and assign it to a system. A workflow assigned to a system is applicable to all the environments under it. For more information on assigning workflows to environments, refer to the Managing Metadata Manager Workflows section. You can view workflow logs of environments to know the current stage of environments.

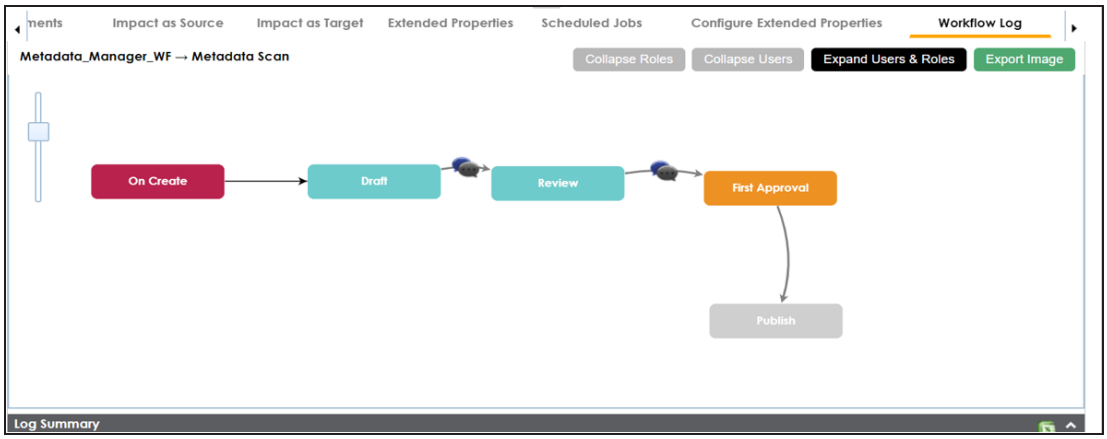
To view workflow logs of environments, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile.
   The environment details appears.



3. Click the **Workflow Log** tab.

   The workflow log of the environment appears. You can observe that the current workflow stage of the environment blinks in the diagram.



Use the following options:

User Comments ( )

Use this option to view users and the comments entered by the users in each stage.

Expand/Hide Users and Roles

Use this option to view or hide users and roles assigned to the stages of the workflow.

Collapse/Expand Roles

This option is enabled when you are in the Expand Users and Roles view. Use this to switch between the collapsed and expanded roles view.

Collapse/Expand Users

This option is enabled when you are in the Expand Users and Roles view. Use this to switch between the collapsed and expanded users view.

Export Image

Use this option to download the workflow in the JPG format.

Associating Environments

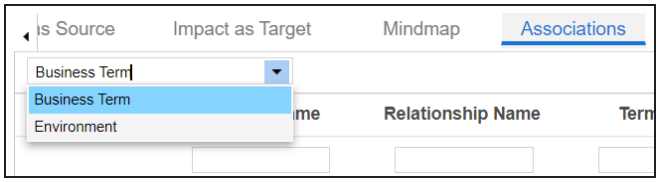
You can associate environments with business assets, systems, environments, tables, and columns. You can view these associations on mind maps and analyze associations.

Ensure that:

- Business assets are enabled. You can add custom business assets and enable them in Business Glossary Manager Settings.
- Relationship between environment and the asset type is defined. You can define associations and relationships in Business Glossary Manager Settings.

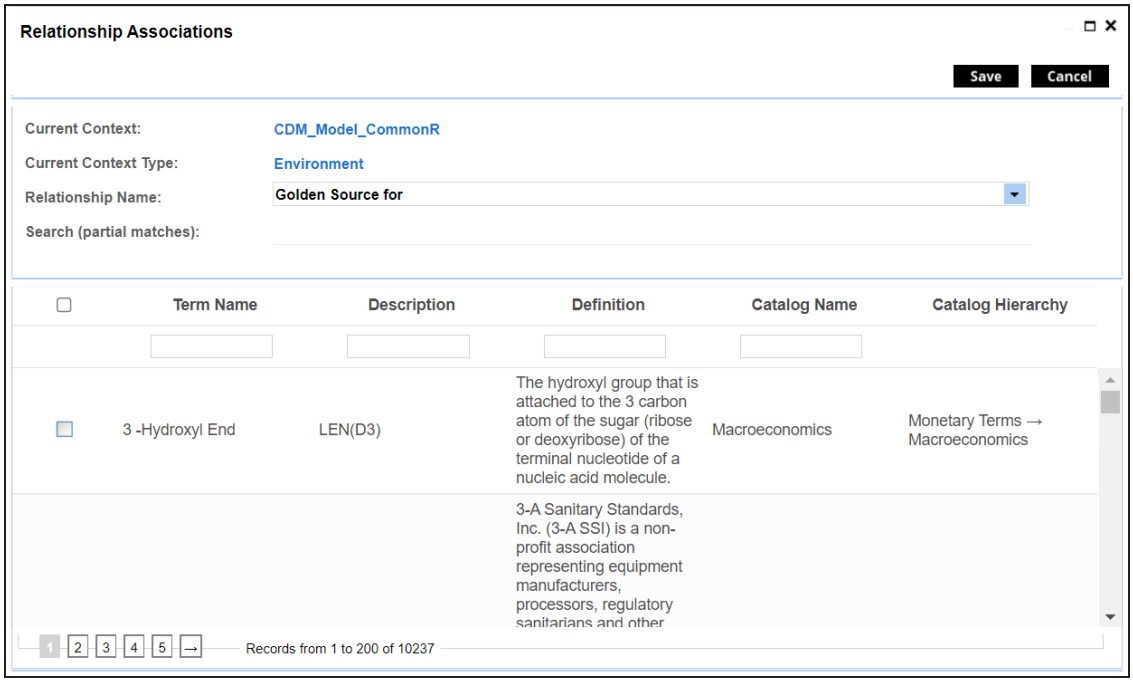
To associate environments with asset types, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile.
   The Data Dictionary tab for the selected environment appears by default.
3. Click the **Associations** tab.
4. In the asset type (business policies, business terms, columns, environments, and tables) list, select an asset type to associate with the environment.



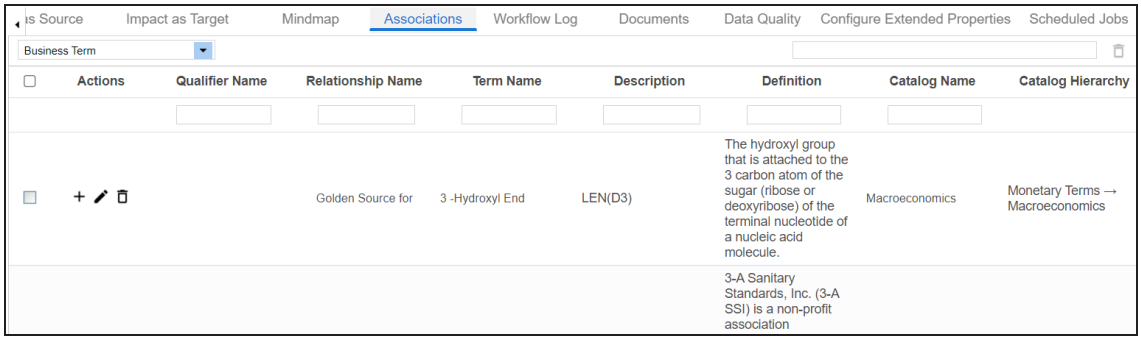
5. Click +.
   The Relationship Associations page appears. Based on the asset type that you select, it

displays a list of available assets.



6. Select **Relationship Name**, and the asset type.
   If you know the term name, use the Search (partial matches) field to look up for it.
7. Click **Save**.

   The selected terms are associated with the environment and added to the list of associations.
   You can define as many associations as required.



Once you have created associations, you can use the following options under the **Actions** column:

Add Association (+)

Use this option to add associations using a qualifier.

Edit Association ( )

Use this option to edit the association.

Delete Association ( )

Use this option to delete the association.

To view mind map, click the **Mindmap** tab. For more information on mind maps, refer to the Viewing Mind Maps topic.

You can associate multiple assets with an environment and view the associations based on a qualifier view in the mind map. For more information, refer to the Setting Up Associations Using Qualifiers topic.

Configuring Business Properties

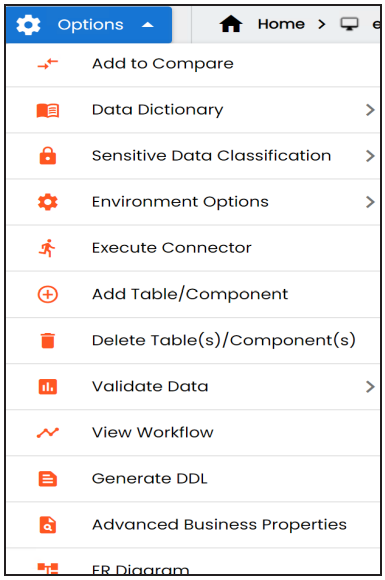
You can configure business properties of all the tables and columns under an environment.

You can also configure business properties at table level and update business properties of a table and business properties of its columns.

> You can configure business properties only after importing/scanning metadata into an environment.

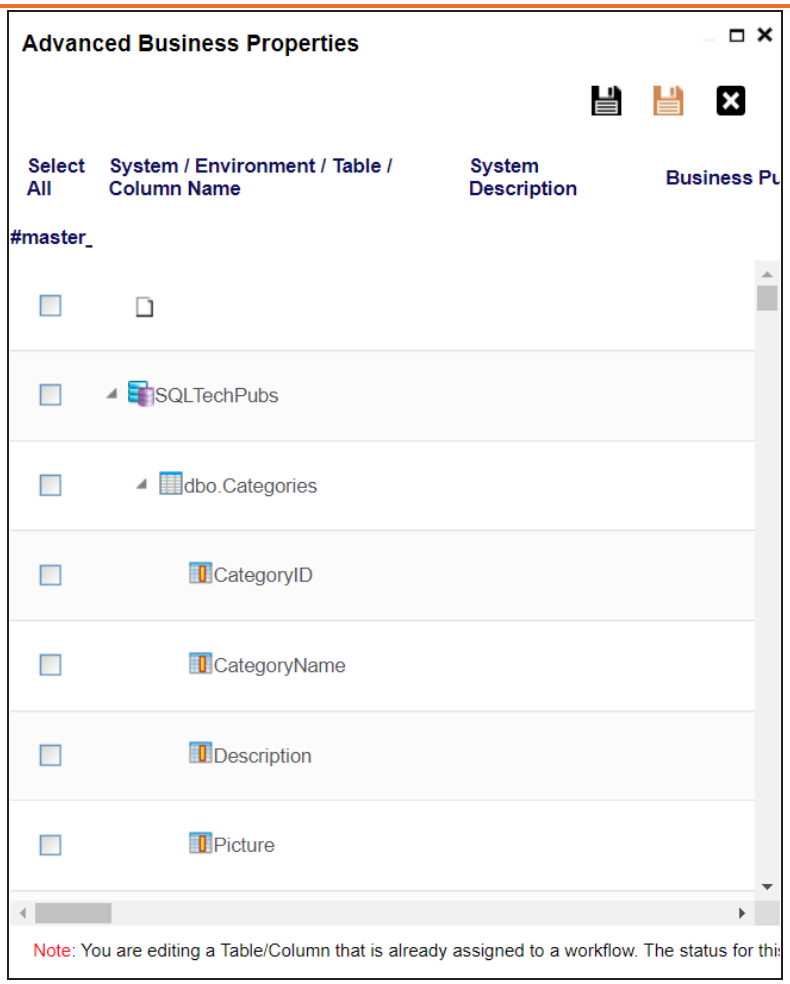
To configure business properties at environment level, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. Click **Options**.
   The available options appear.



4. Scroll down the list and click **Advanced Business Properties**.

   The Advanced Business Properties page appears.

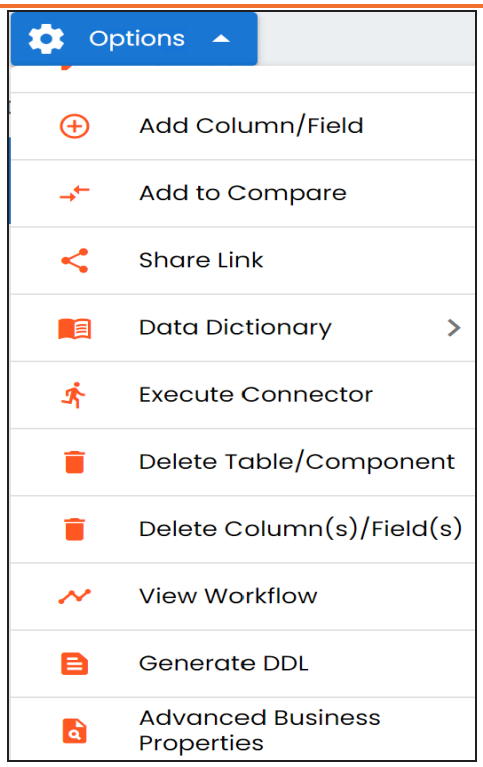


5. Double-click cells to enter business properties of tables and columns.
6. Click  to apply changes.
7. Click  .

   The business properties of all the tables and columns under the environment are updated.

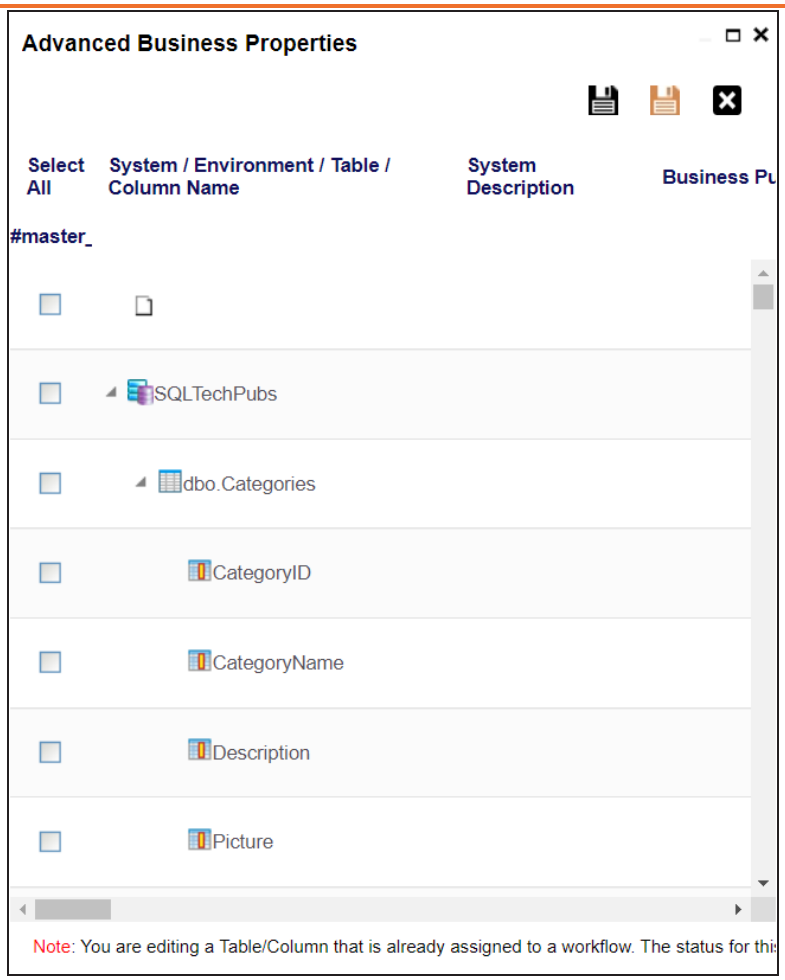
To configure business properties at table level, follow these steps:

1. In the **Data Catalog** pane, select a table to view its details.
2. Click **Options**.
   The available options appear.



3. Scroll down the list and click **Advanced Business Properties**.

   The Advanced Business Properties page appears.



4. Double-click cells to enter table and column properties.
5. Click  to apply changes.
6. Click  .

   The business properties of the table and its columns are updated.

Configuring Expanded Logical Name

You can update the expanded logical name for multiple tables/columns by scheduling a configuration job. The job updates the expanded logical name based on the table/column name, associated business term's name, and the associated business term's definition.

You should configure expanded logical name of tables and columns after scanning metadata.

You can run the job at both, system and environment levels:

- **System level**: The expanded logical name can be applied to all the tables and columns under the system. This includes all the environments under the system.
- **Environment level**: The expanded logical name can be applied to all the tables and columns under the environment.

For example, consider a scenario where you want to schedule a job to configure the expanded logical name of a table, RM_Resource and a column, Resource_ID. The parameters of the job are a business term catalog that has a business term, Resource, its definition, Sales Representative, and a splitter, Underscore (_). Refer to the following table to understand the parameters and their values:

Entity	Value	Comment
Splitter (specified while scheduling the job)	_(Underscore)	
Table Name	RM_Resource	Here, the part after the underscore (splitter), Resource, matches the Business Term. Therefore, it will be replaced with the business term definition and the part before the underscore, RM, will be retained in the expanded logical name.
Column Name	Resource_ID	Here, the part before the underscore, Resource, matches with the Business Term. Therefore, it will be replaced with

Entity	Value	Comment
		the business term definition and the part after the underscore, ID will be retained in the expanded logical name.
Business Term	Resource	This should match with a part of the table and column names above.
Business Term Definition	Sales Representative	In the updated expanded logical name, this will replace the part of the table/column name that matches the business term name. That is: ▪ For the table, RM will be retained and Resource will be replaced with Sales Representative. ▪ For the column, ID will be retained and Resource will be replaced with Sales Representative.
Expanded Logical Name	<Blank>	Expanded logical name is formed from the business term definition and part of table or column names.

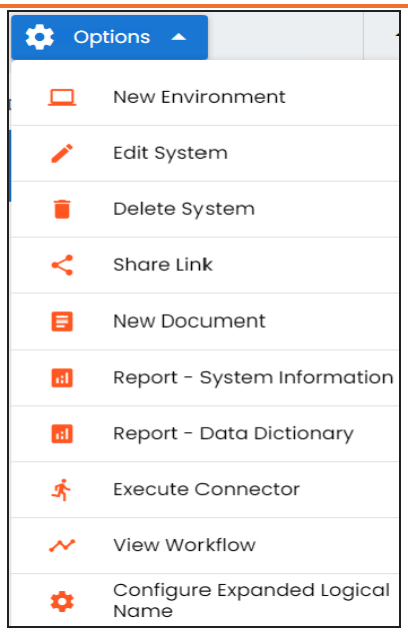
After the job runs successfully, the expanded logical name of the table and column is updated as mentioned in the following table:

Entity	Expanded Logical Name	Comment
Table	RM Sales Representative	Here, RM retained from the table name and Sales Representative is added from business term definition.
Column	Sales Representative ID	Here, ID is retained from the column name and Sales Representative is added from business term definition.

To configure expanded logical name, follow these steps:

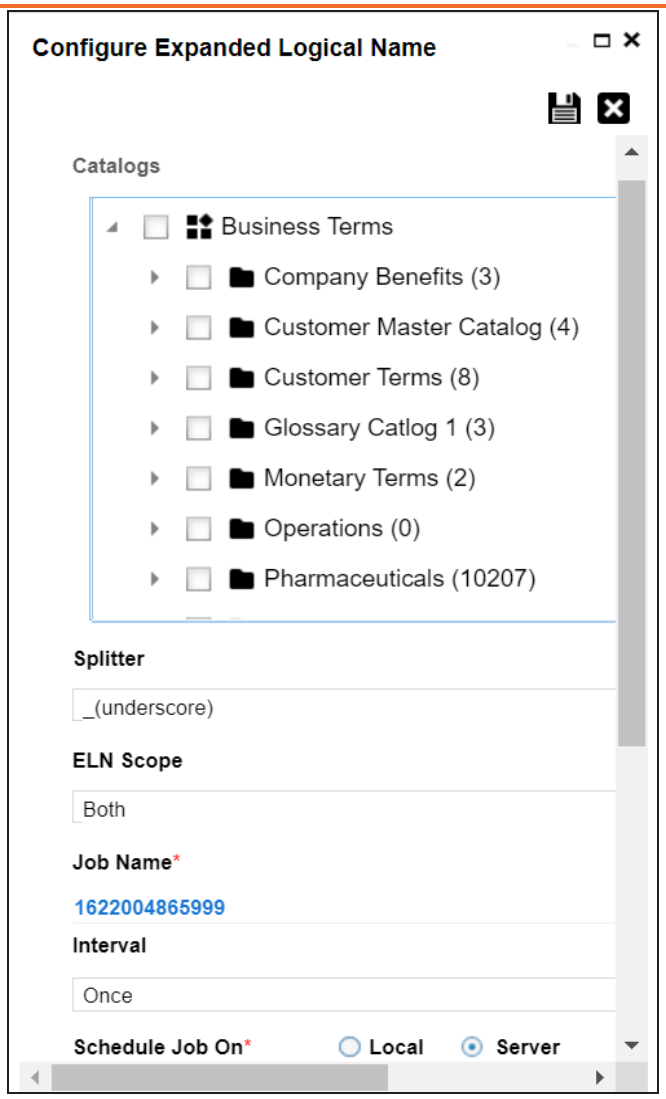
1. On the Explore tab, hover over the system card and click 

, or click an environment tile to view the assets details.
2. Click **Options**.
   The available options appear.



3. Click **Configure Expanded Logical Name**.

   The Configure Expanded Logical Name page appears.



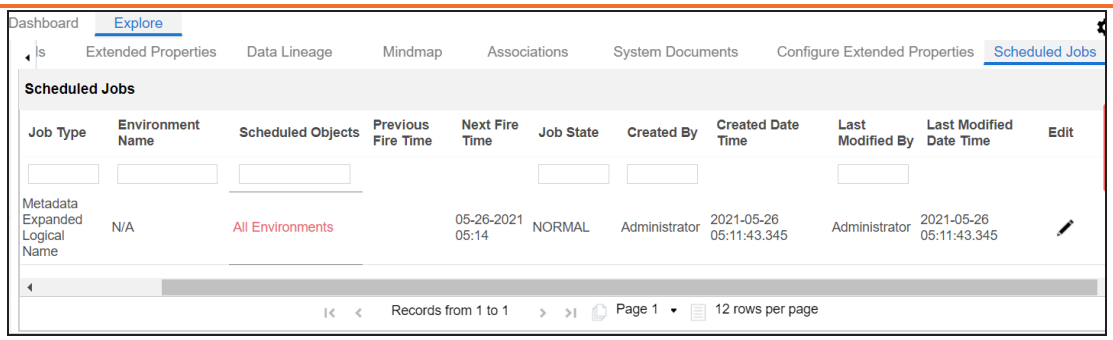
4. Select or enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Catalogs	Select the catalog containing the required business term.
Splitter	Select appropriate splitter based on the table name or column name.

Field Name	Description
ELN Scope	Select an appropriate scope of the job. ▪ **Columns**: Indicates that the expanded logical names of all the columns in this system are configured ▪ **Tables**: Indicates that the expanded logical name of all the tables in this system are configured ▪ **Both**: Indicates that the expanded logical names of all the tables and columns in this system are configured
Job Name	A default job name is autopopulated. You can modify it and enter a job name.
Interval	Select an interval of the job. Interval sets the frequency of the job. For example: If you set the interval every week then the job will be executed every week.
Local or Server	Select the machine whose clock decides the time of the scheduled scan. ▪ **Local**: Refers to your local machine. ▪ **Server**: Refers to the machine where Quest DI has been deployed.
Schedule Job On	Select date and time of the execution of the job.
Notify Me	Switch the **Notify Me** to **ON** to receive a notification email about the scheduled job.
Notification Email	This field is autopopulated with your email ID. You receive email notifications about the scheduled job from the Admin Email ID, configured in the Email Settings. For more information on configuring Admin Email ID, refer to the Configuring Email Settings topic.
CC List	Enter a comma-separated list of email IDs that should receive the job notification.

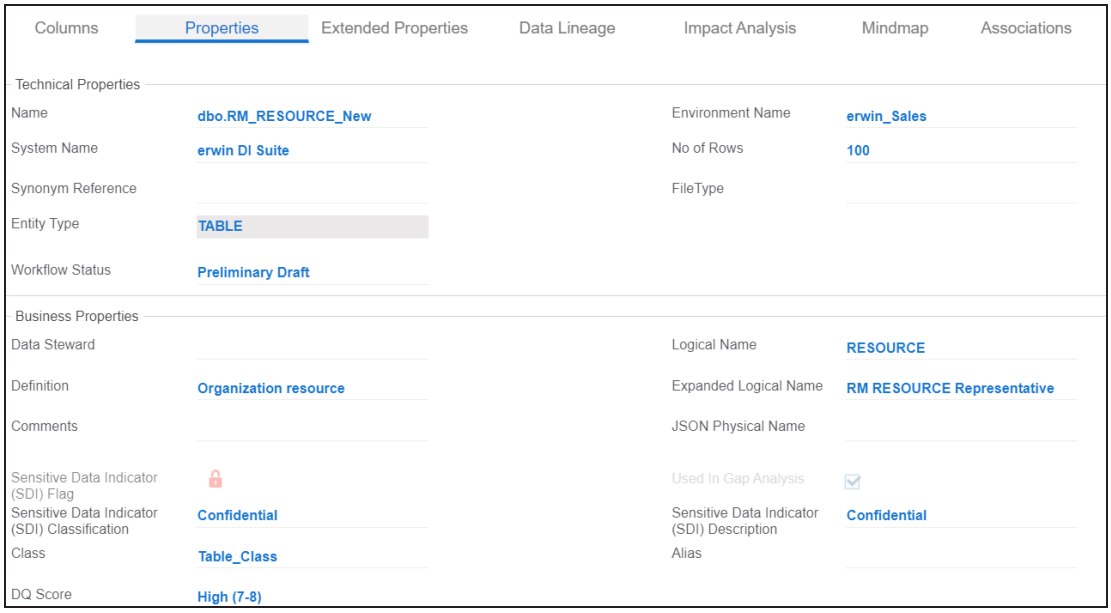
5. Click  .

   The job is scheduled and added to the Scheduled Jobs list on the **Scheduled Jobs** tab.

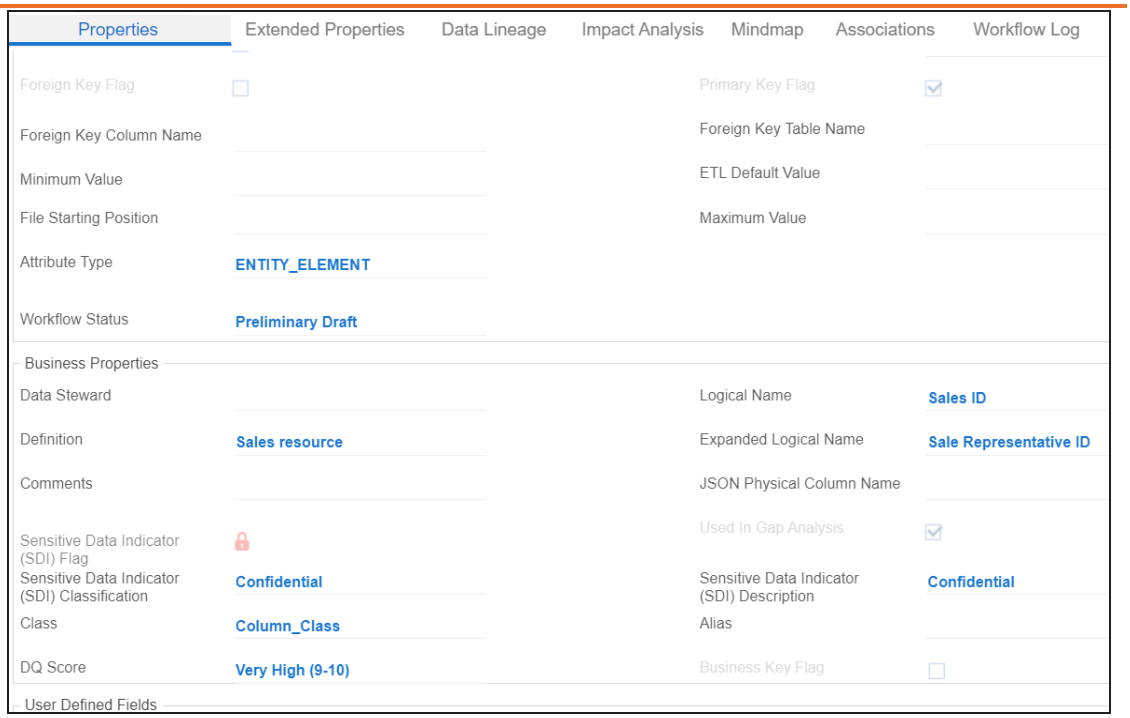


You can edit the job using or delete it using .

The job is executed at the scheduled time and the expanded logical names of tables and columns are updated.



Configuring Expanded Logical Name



You can use this job to update the expanded logical name only once. Alternately, you can update expanded logical names under table properties and column properties.

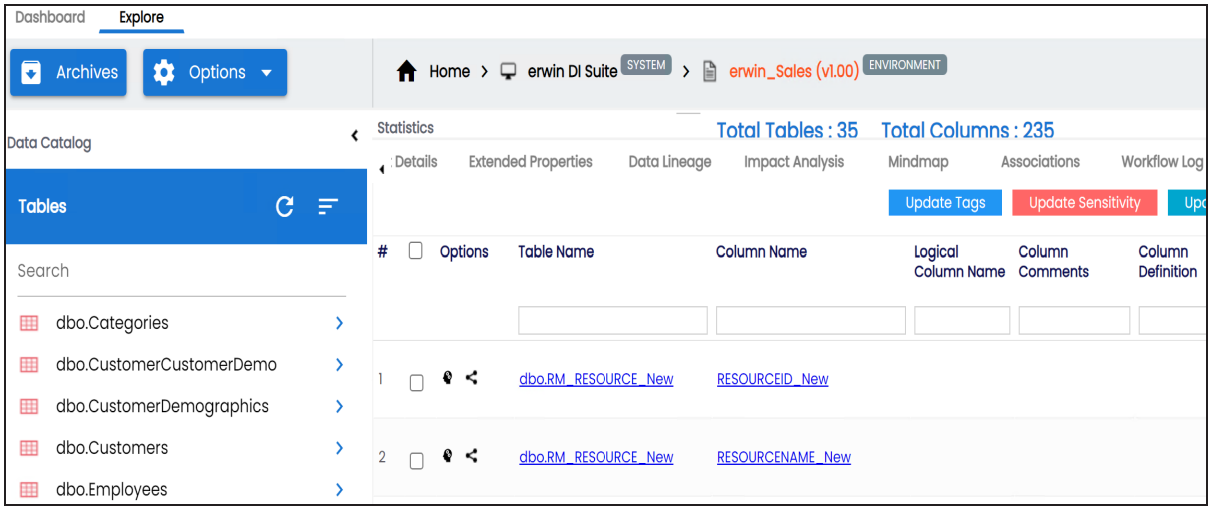
Tagging Environments

Tagging environments enables asset grouping, and better reporting, data traceability, and data discovery. You can tag environments one at time or "Tagging Tables and Columns" on page 186.

To tag environments one at a time, follow these steps:

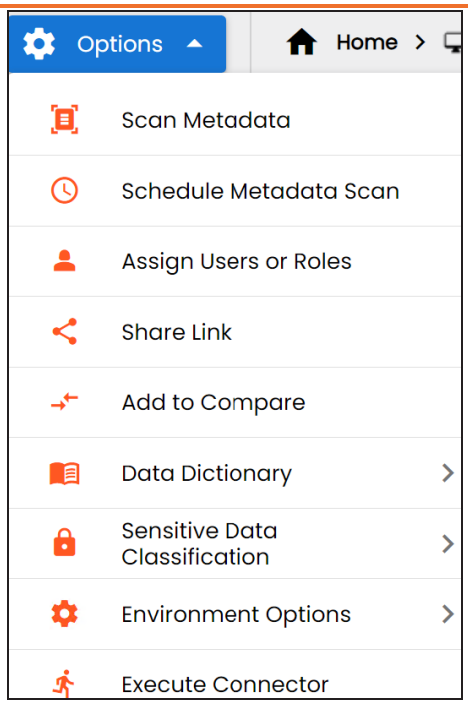
1. On the Explore tab, click an environment tile.

   The environment details appear.



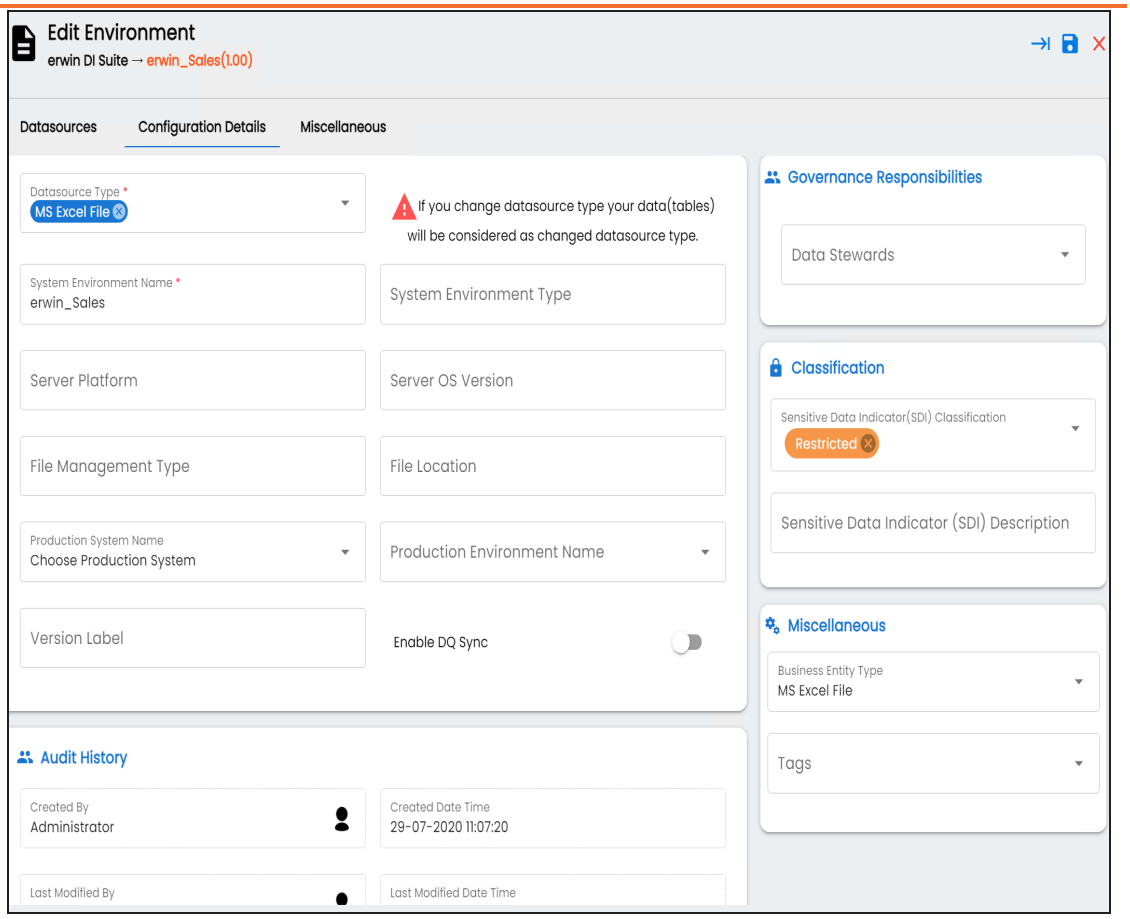
2. Click **Options**.

   The available options appear.



3. Click **Environment Options** > **Edit Environment**.

   The Edit Environment page appears.



4. Click **Tags** and select a tag from the suggestions that appear.
   The list contains tags created in the Enterprise Tags module; based on the configured scope.

> You can create a tag by typing a tag name in the Tags box and then pressing Enter.

For example, in the following image, a tag, data integration 1, is created and assigned to a system.

5. Click  .

   The selected environment is tagged.

   Once an environment is tagged, you can visualize its association with a tag on a mind map Enterprise Tags module.

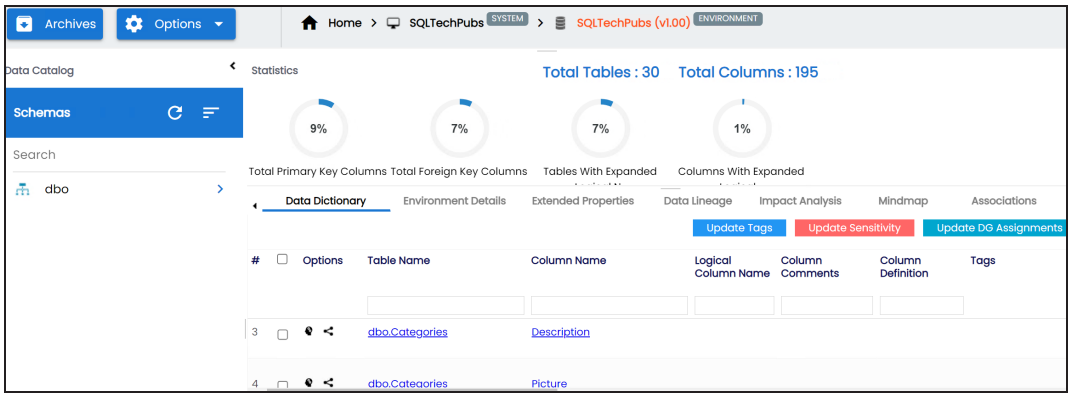
Tagging Tables and Columns

You can update the tag tables and columns in an environment individually or in bulk. You can also propagate these tags to the system and environment containing these tables and columns.

To tag tables or columns, follow these steps:

1. On the Explore tab, click an environment tile.

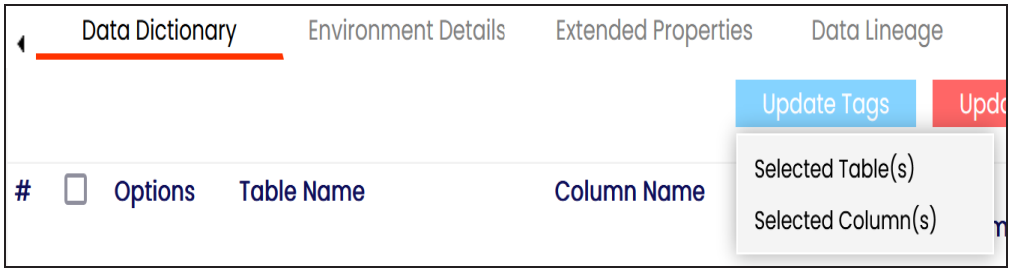
   The environment details appear.



2. On the Data Dictionary tab, select one or more assets.

   You can update the tag tables and columns in an environment individually or in bulk. You can also propagate these tags to the system and environment containing these tables and columns.

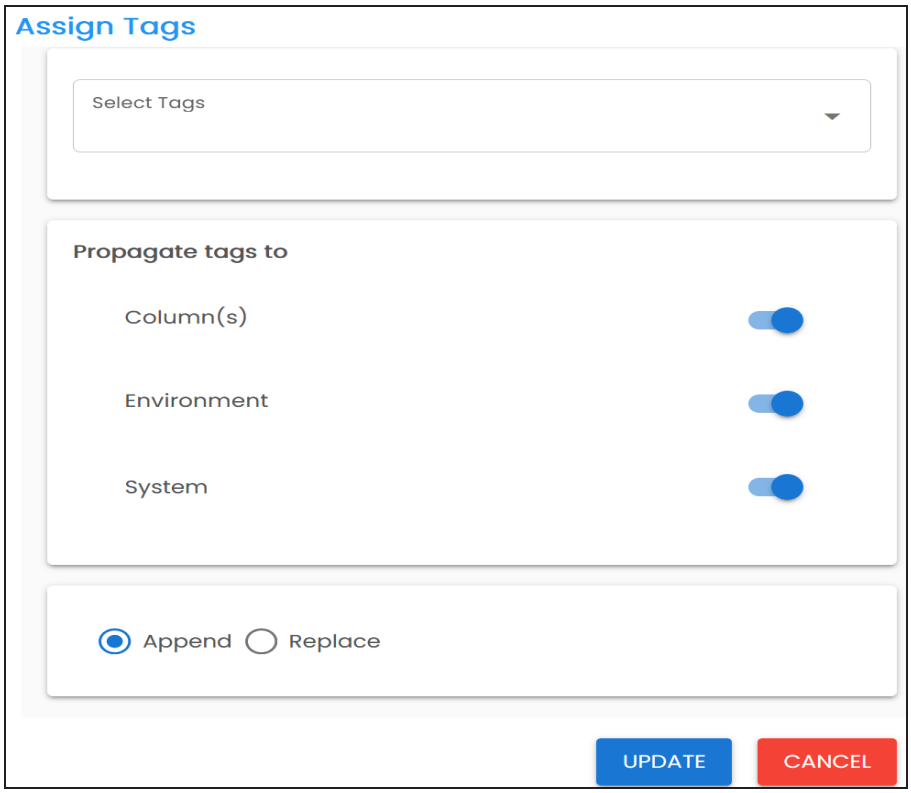
3. Hover over **Update Tags**.



4. Click the required option.

- **Selected Tables(s)**: Use this option to tag all columns in the selected tables.
- **Selected Columns(s)**: Use this option to tag all tables in the selected columns.

The Assign Tags page appears.



5. Enter or select appropriate values in the fields. Refer to the following table for field descriptions.

Field Name	Description
Select Tags	Depending on the asset and tag scope, displays available tags. You can assign multiple tags to the selected assets. Click **Select Tags** and select a tag from the suggestions that appear.
Propagate tags to	Specifies whether tag is applicable to: ▪ Table(s): Switch **Table(s)** to **Yes** to tag the tables containing the

Field Name	Description
	columns. This option is available only when you click Selected Column (s) in step 4. ▪ Column(s): Switch **Column(s)** to **Yes** to tag all columns in the selected tables. This option is available only when you click Selected Table(s) in step 4. ▪ Environment: Switch **Environment** to **Yes** to tag the environment containing the tables or columns. ▪ System: Switch **System** to **Yes** to tag the system containing the tables or columns.

6. Use the following options:

   Append

   Use this option to add new tags to the existing metadata.

   Replace

   Use this option to replace existing tags.

7. Click **Update**.

   The tables and columns are tagged.

Scanning and Managing Metadata

You can scan source and target metadata from different databases, data models, or flat files etc. Ensure that you create an appropriate environment depending on the database type. For example, if you want to scan metadata from SQL Server, then you should create the SQL Server environment.

The metadata scan adds data dictionary, table properties, and column properties that can be validated and updated. You can enrich your metadata by assigning codesets to columns as valid values. Tables and columns can be associated with business and technical assets and these associations can be viewed on a mind map. You can also assign workflows to tables and columns using the Workflow Manager and view workflow logs.

Scanning and managing metadata involves:

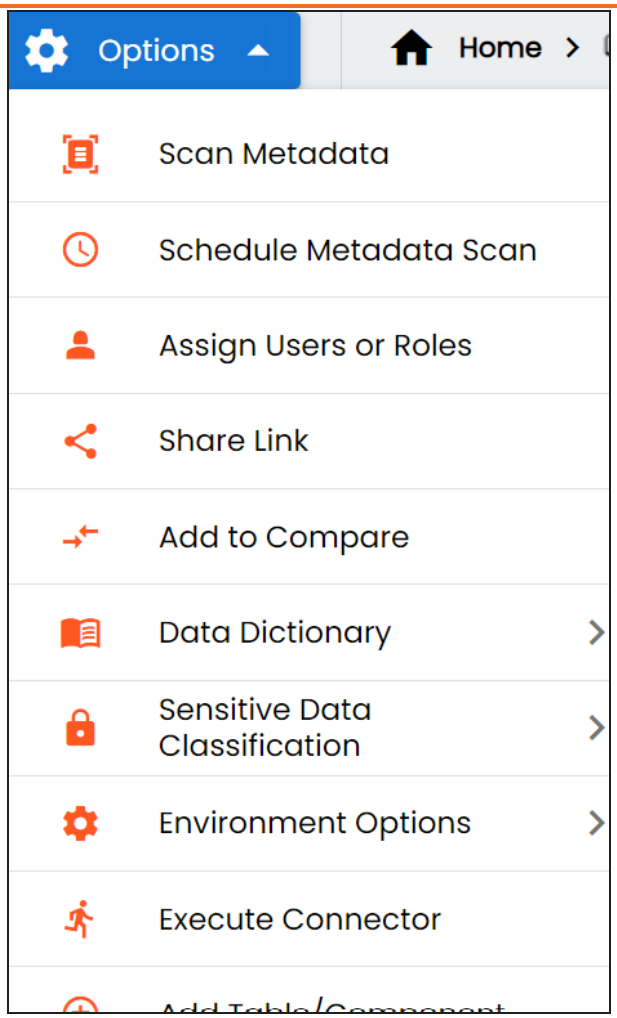
- Scanning metadata from data sources
- Adding tables
- Adding Columns
- Deleting tables and columns
- Scheduling metadata scans
- Updating table properties
- Updating column properties
- Validating data
- Assigning codesets to columns
- Viewing workflow logs of tables
- Viewing workflow logs of columns
- Associating tables
- Associating columns

Scanning Metadata

After creating systems and environments, the next logical step is to scan source and target metadata. Ensure that the environment database type and connection parameters are correct and that the environment can establish a connection with the database.

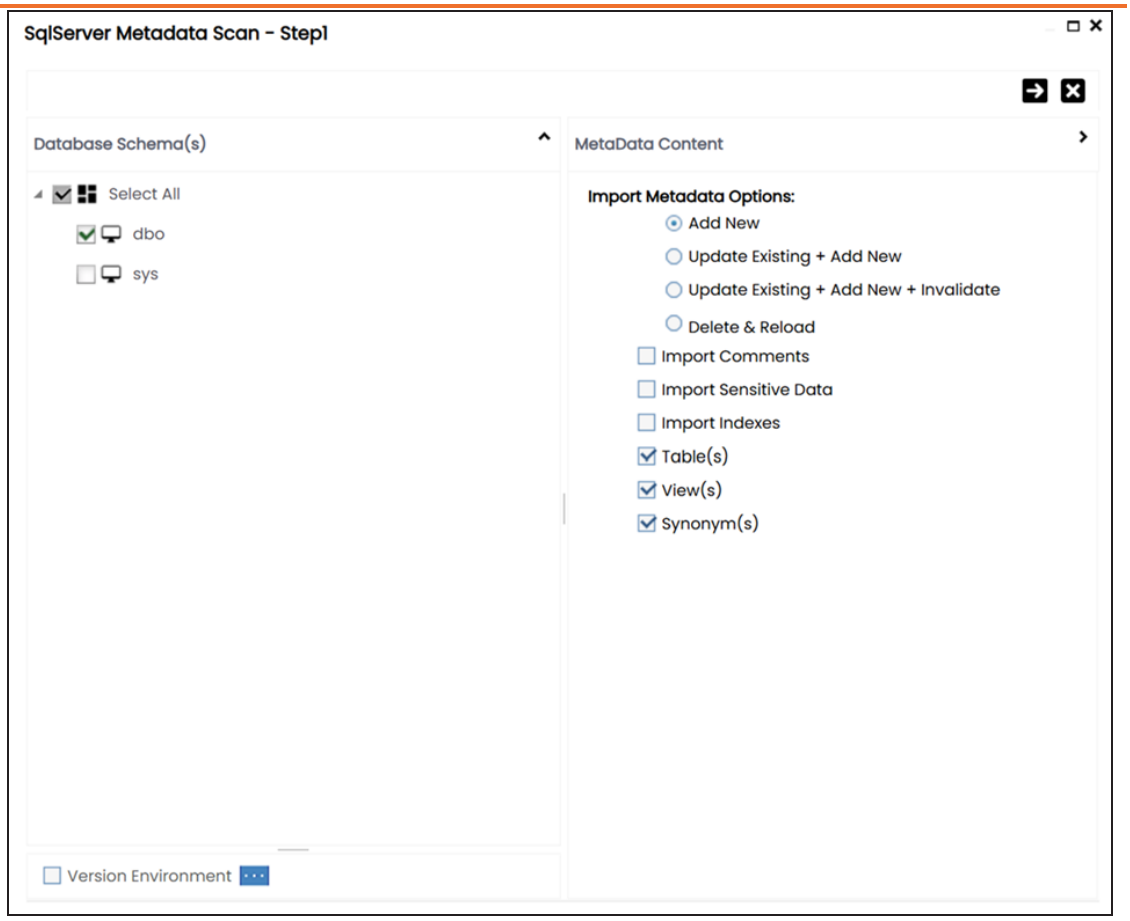
To scan source or target metadata, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile.
3. Click **Options**.
   The available options appear.



4. Click **Scan Metadata**.

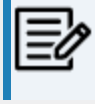
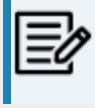
   The <Data_Base> Metadata Scan-Step1 page appears. For example, if it is the SQL Server environment, then the SqlServer Metadata Scan - Step1 page appears.



5. In the **Database Schema(s)** pane, select the database schemas.
6. In the **Metadata Content** pane, select the appropriate **Import Metadata Options**.

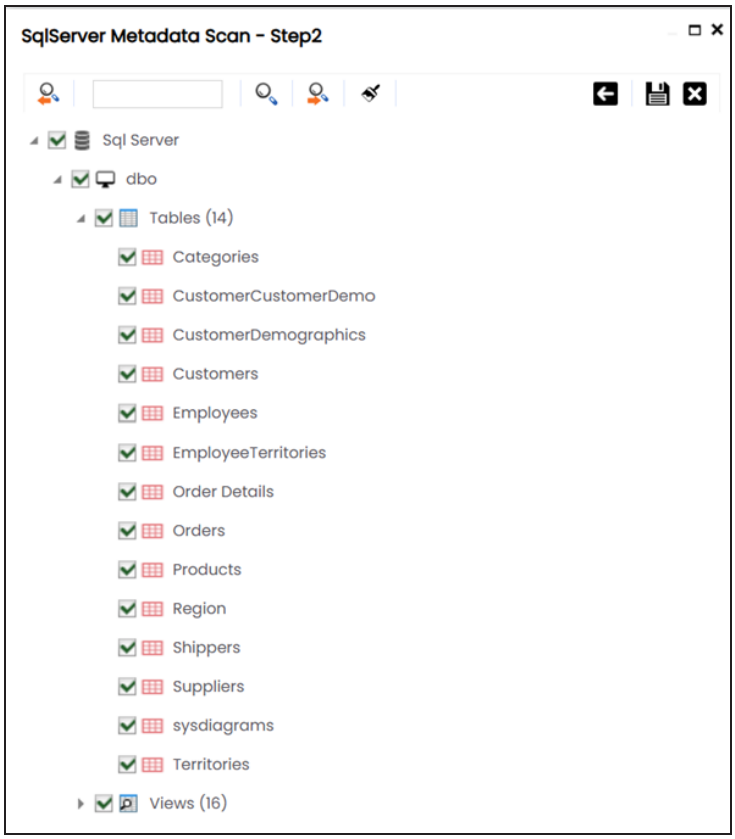
   Refer to the following table for the descriptions of the metadata import options.

Import Metadata Options	Description
Add New	This option adds new objects to the existing object list. The existing metadata is not updated.
Update Existing + Add New	This option adds new objects to the existing list and updates the existing metadata at the same time.

Import Metadata Options	Description
Update Existing + Add New + Invalidate	This option adds new objects to the existing list, updates existing ones, and invalidates the table/column during the scanning process.
Delete & Reload	This option deletes all existing metadata and scans only the new objects that have been selected.
Import Comments	Select the checkbox to import comments.
Import Sensitive Data	Select the checkbox to import sensitivity classification of the metadata from the data source.  This option is available for SQL, Oracle, and Snowflake environments.
Import Indexes	Select the checkbox to import indexes of the metadata from the data source. In addition to the listed datasources, this option is available when the datasource is set to Others.  This option is available for SQL, Oracle, and MySQL environments.
Table(s)	Select the checkbox to import Tables.
View(s)	Select the checkbox to import Views.
Synonym(s)	Select the checkbox to import Synonyms.
Version Environment	Select the checkbox to create a version of the environment.
Skip Empty Cells	Select the checkbox to skip blank cells in the data source from overwriting existing values during import. This option is available only when you select the Update Existing + Add New or Update Existing + Add New + Invalidate option.

7. Click  .

   The <Database_Name> Metadata Scan Step-2 page appears. It pulls up the objects selected in Metadata Scan Step-1, such as Tables, Views, and Synonyms.



8. Select the required objects.
9. Click  .

   The metadata is scanned successfully and saved under the environment node.

The above method is applicable for most data sources. Apart from that, you can also import metadata from the following file types:

- MS Excel File
- JSON
- CSV (Flat File)

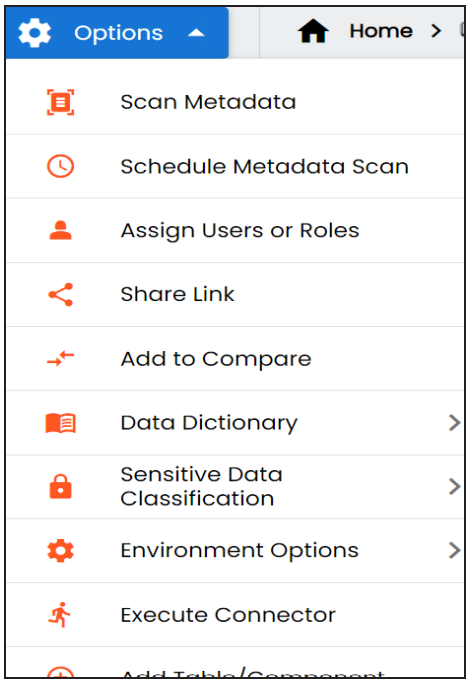
- XMI
- MS Access File
- XSD

MS Excel

You can import metadata from MS Excel files into an MS Excel environment.

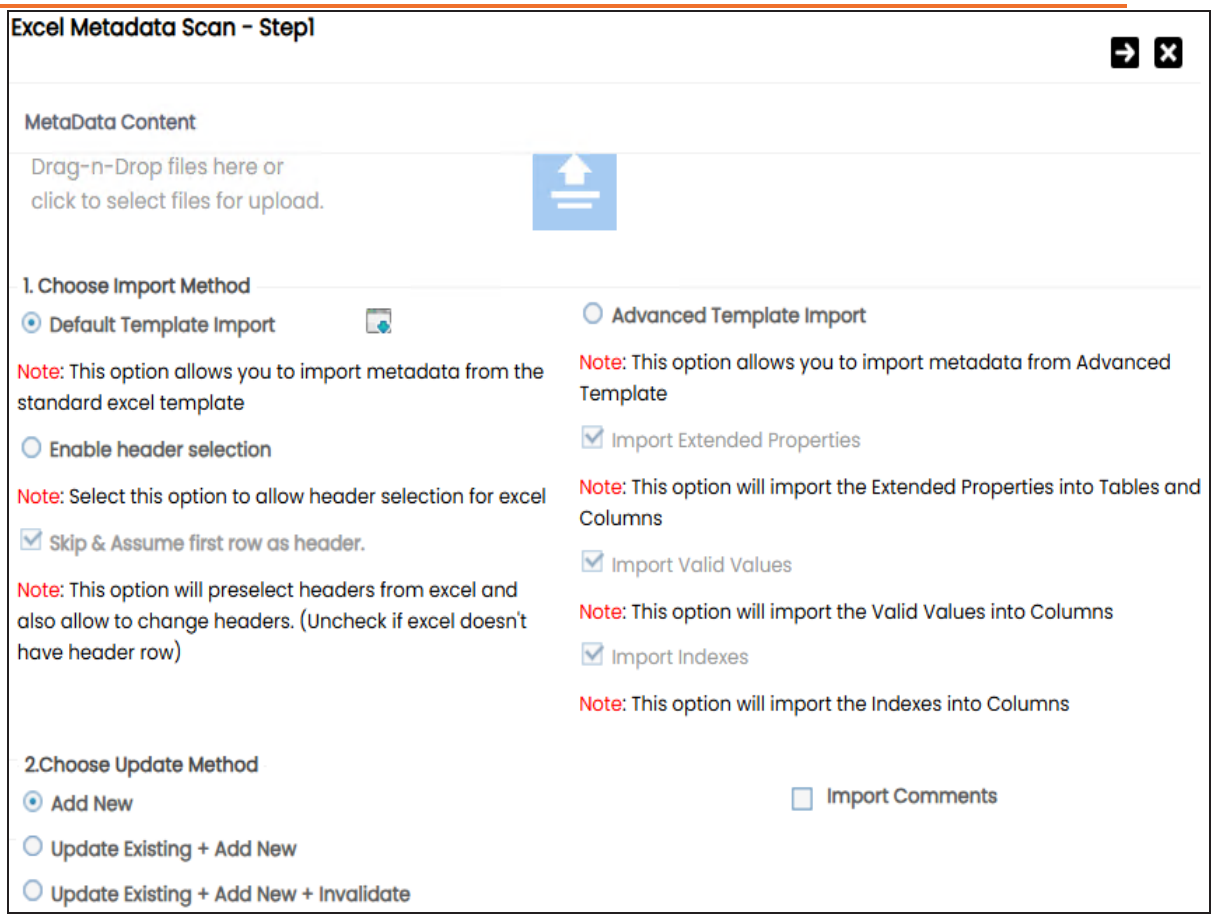
To import metadata from MS Excel files, follow these steps:

1. On the Explore tab, click an MS Excel environment tile to view its details.
   Alternatively, in the Data Catalog pane, select the **Excel** option to view all Excel environments.
2. Click **Options**.
   The available options appear.



3. Click **Scan Metadata**.

   The Excel Metadata Scan - Step1 page appears.



4. Drag and drop or use to browse and select the MS Excel file.
5. Use the following options to import metadata.

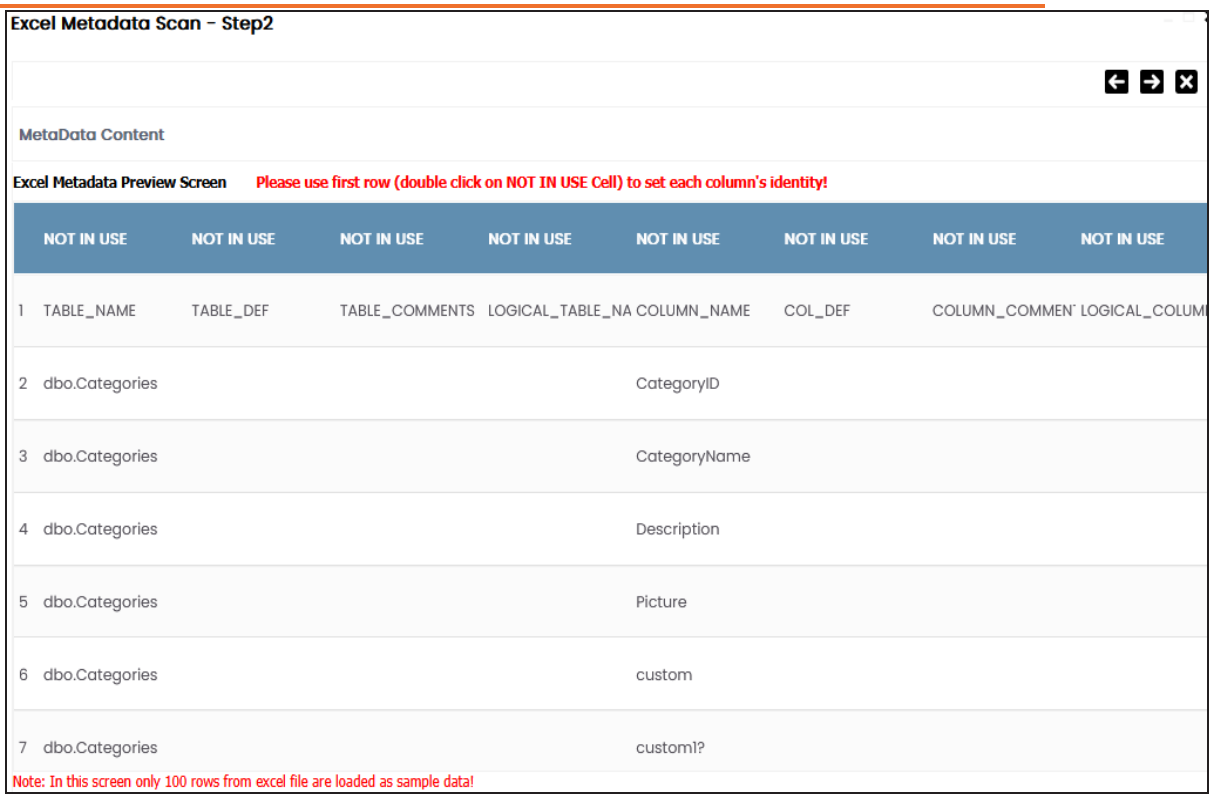
Default Template Import

Use this option to import metadata from the standard Excel template. To download the standard excel template, click .

Enable header selection

Use this option to allow header selection for the Excel file. Click **Enable header selection** and click .

The Excel Metadata Scan - Step2 page appears.



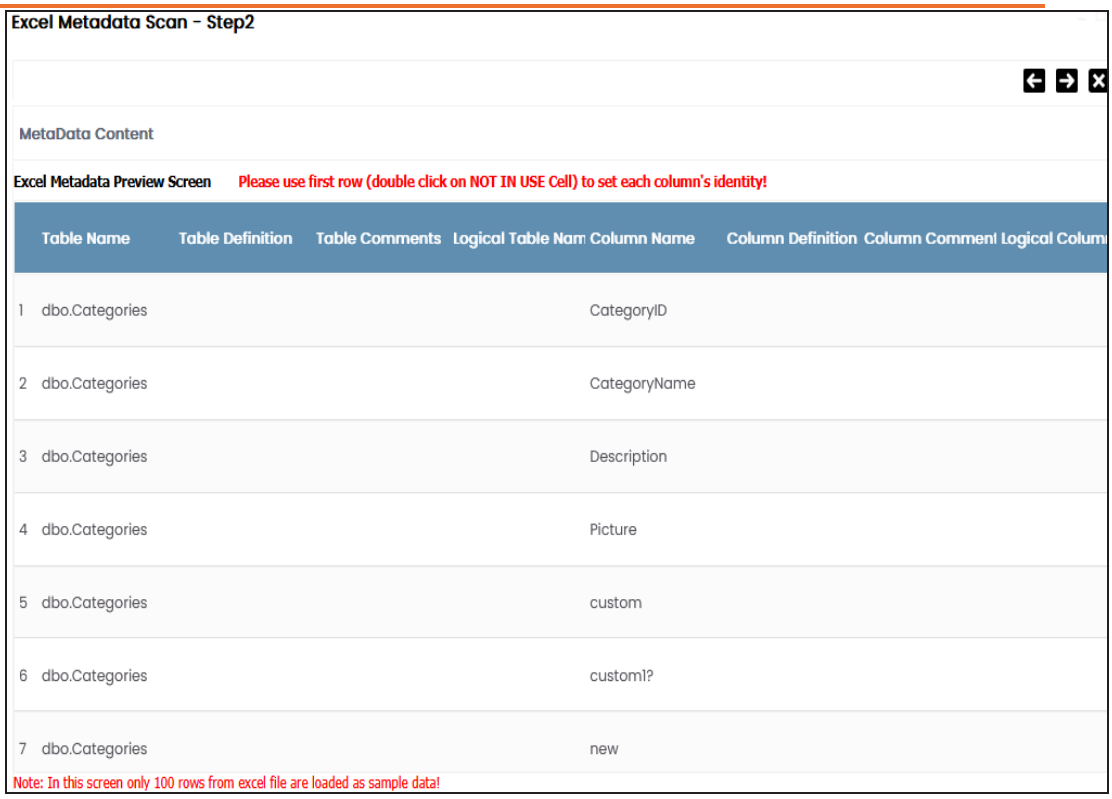
To select headers, on the **Excel Metadata Scan - Step2** page, double-click the **NOT IN USE** cell.

Skip & Assume first row as header

You can use this option only when you click Enable header selection. It allows you to select the first row in the Excel file as headers.

Select the **Skip & Assume first row as header** check box and click .

The Excel Metadata Scan - Step2 page appears. The first row in the Excel file appears as headers.



To select alternate headers, double-click the header cell.

Advance Template Import

Use this option to import metadata from an advanced template. You can use the following import options with the advanced template:

Import Extended Properties:

Use this option to import the extended properties into tables and columns.

Import Valid Values:

Use this option to import valid values into columns.

Import Indexes:

Use this option to import the indexes into columns.

6. Use the following update options.

Add New

Use this option to insert new metadata.

Update Existing + Add New

Use this option to update the existing metadata based on the tables and columns in the Excel file.

Update Existing + Add New + Invalidate

Use this option to update the existing metadata without deleting it.

Delete & Reload

Use this option to delete all the business properties and data dictionary stored as metadata for this environment.

Import Comments

Use this option to import comments and descriptions from the Excel file into the ENVIRONMENT.

Skip Empty Cells

Use this option to skip blank cells in the Excel file from overwriting existing values. This option is available only when you select the Update Existing + Add New or Update Existing + Add New + Invalidate options.

Import Business Properties

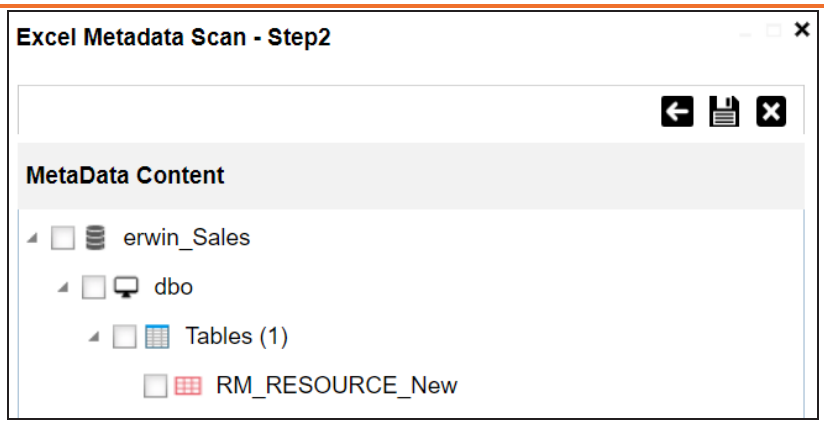
Use this option to import business metadata such as terms, definitions, maximum value, minimum value, alias, class, classifications, and stewardship assignments. This option is available only when you select the Update Existing + Add New or Update Existing + Add New + Invalidate option.

Import User Defined Fields

Use this option to import custom metadata fields (User Defined Fields) defined in the environment. This option is available only when you select the Update Existing + Add New or Update Existing + Add New + Invalidate option.

7. Click  .

The Excel Metadata Scan - Step2 page appears.



8. Select the required schema and tables.
9. Click .

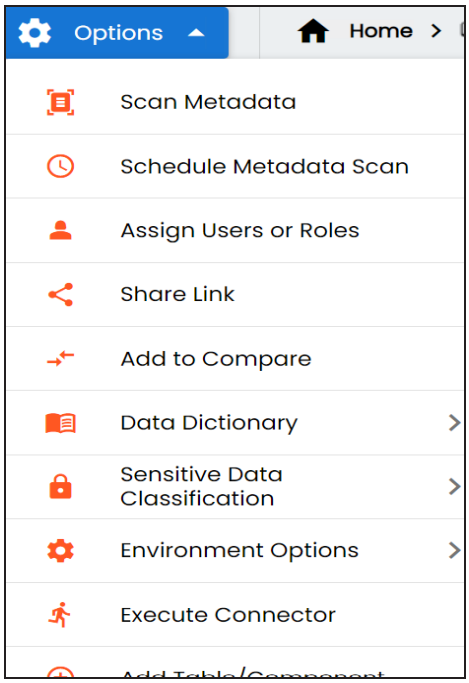
   The metadata is imported and saved in the environment.

JSON

You can import metadata from JSON files into a JSON environment.

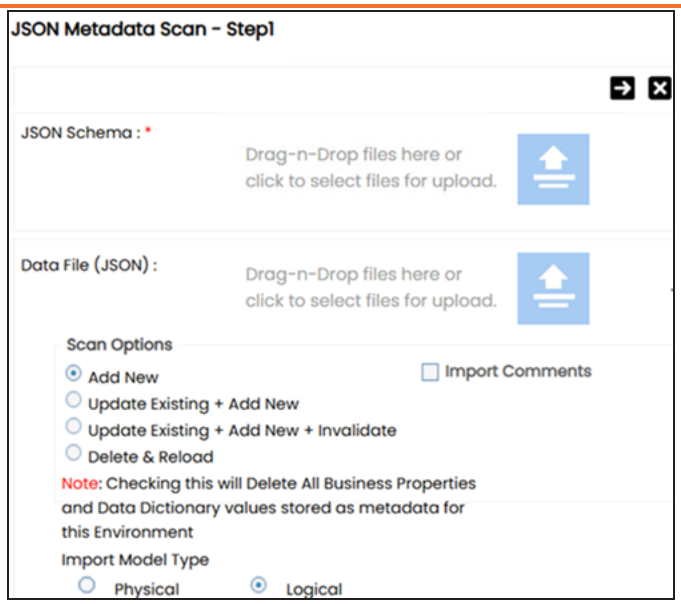
To import metadata from JSON files, follow these steps:

1. On the Explore tab, click a JSON environment tile to view its details.
   Alternatively, in the Data Catalog pane, select the **JSON** option to view all JSON environments.
2. Click **Options**.
   The available options appear.



3. Click **Scan Metadata**.

   The JSON Metadata Scan - Step1 page appears.



4. Under the **JSON Schema** section, drag and drop or use to browse and select the JSON schema file.
5. Under the **Data File [JSON]** section, drag and drop or use to browse and select the JSON data file.
6. Use the following scan options:

Add New

Use this option to insert new metadata into the environment.

Update Existing + Add New

Use this option to update the existing metadata based on tables and columns in the JSON file.

Update Existing + Add New + Invalidate

Use this option to update the existing metadata without deleting it.

Delete & Reload

Use this option to delete all the business properties and data dictionary stored as metadata for this environment.

Import Comments

Use this option to import comments and descriptions defined in the JSON file.

Skip Empty Cells

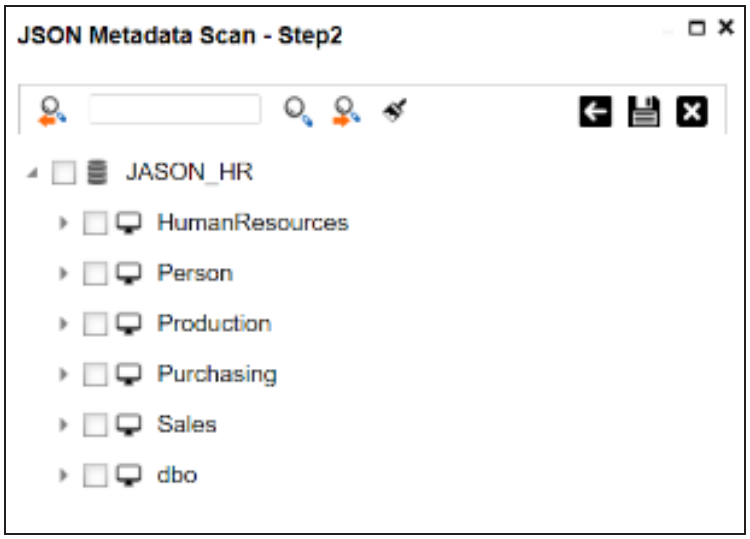
Use this option to skip blank cells in the JSON file from overwriting existing values. This option is available only when you select the Update Existing + Add New or Update Existing + Add New + Invalidate option.

Import User Defined Fields

Use this option to import environment-specific custom fields configured as User Defined Fields (UDFs). This option is available only when you select the Update Existing + Add New or Update Existing + Add New + Invalidate option.

7. Click the appropriate **Import Model Type**.
8. Click  .

   The JSON Metadata Scan - Step2 page appears.



9. Select the required schema and tables.
10. Click  .

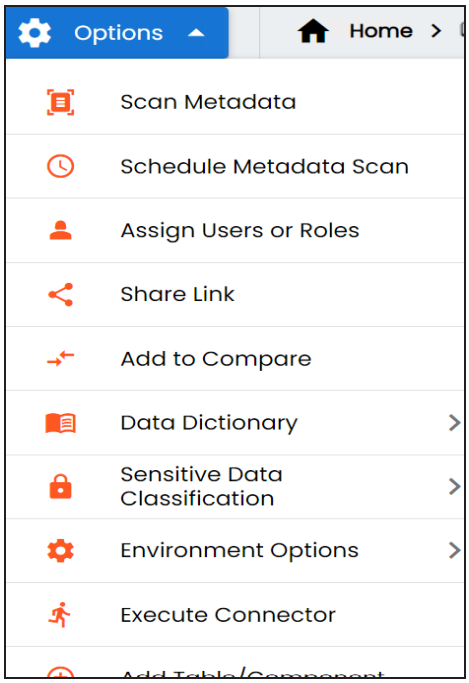
    The metadata is imported and saved in the environment.

CSV

You can import metadata from CSV files into a CSV environment.

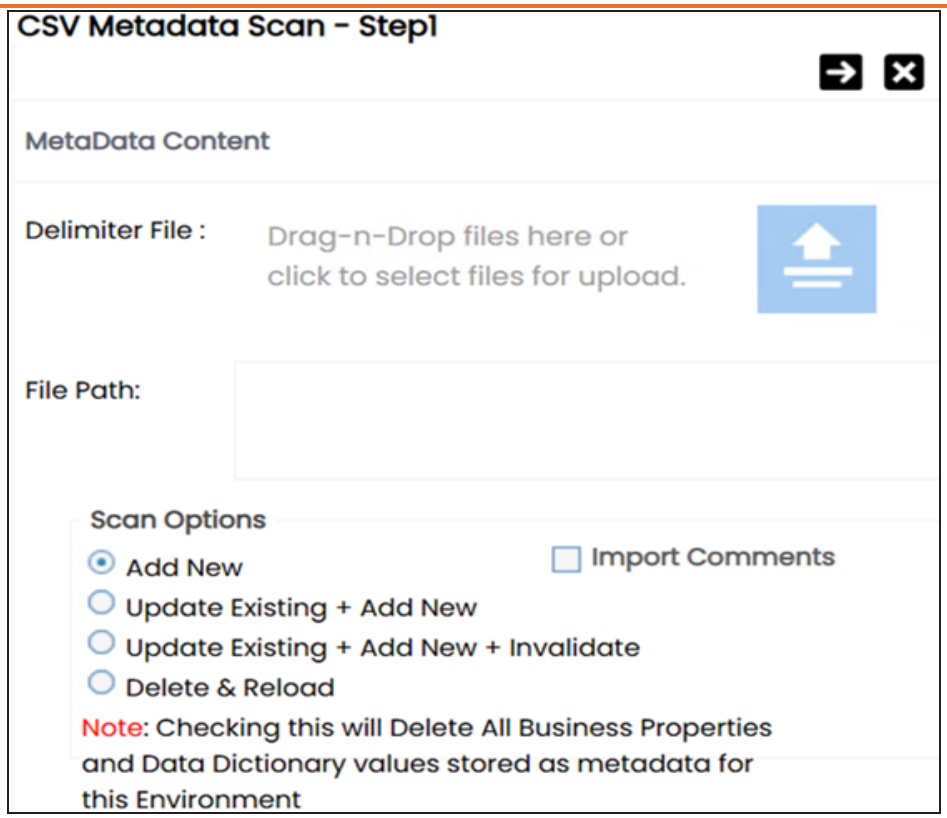
To import metadata from CSV files, follow these steps:

1. On the Explore tab, click a CSV environment tile to view its details.
   Alternatively, in the Data Catalog pane, select the **CSV** option to view all CSV environments.
2. Click **Options**.
   The available options appear.



3. Click **Scan Metadata**.

   The CSV Metadata Scan - Step1 page appears.



4. Drag and drop or use  to browse and select the delimiter file.
5. In the **File Path(s)** box, enter the file path.
6. Use the following scan options:

   Add New

   Use this option to insert new metadata into the environment.

   Update Existing + Add New

   Use this option to update the existing metadata based on the table and columns in the CSV file.

   Update Existing + Add New + Invalidate

   Use this option to update the existing metadata without deleting it.

   Delete & Reload

Use this option to delete all the business properties and data dictionary stored as metadata for this environment.

Import Comments

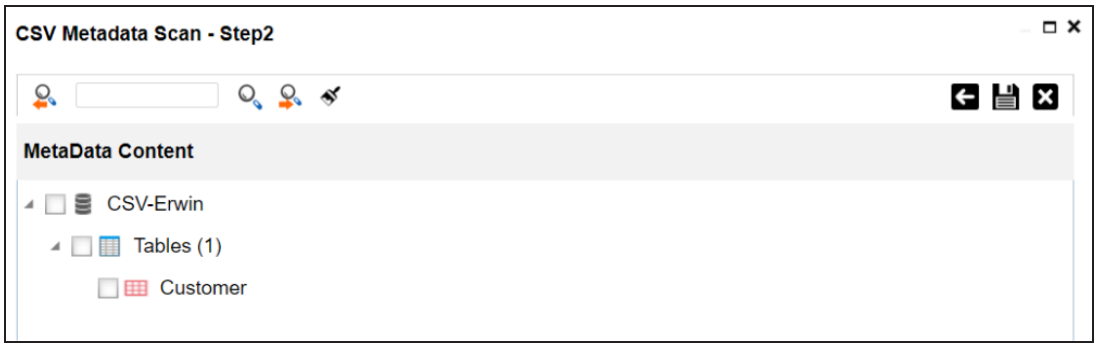
Use this option to import column-level comments from the CSV file into the environment.

Skip Empty Cells

Use this option to skip blank cells in the CSV file from overwriting existing values. This option is available only when you select the Update Existing + Add New or Update Existing + Add New + Invalidate option.

7. Click  .

   The CSV Metadata Scan - Step2 page appears.



8. Select the required tables.
9. Click  .

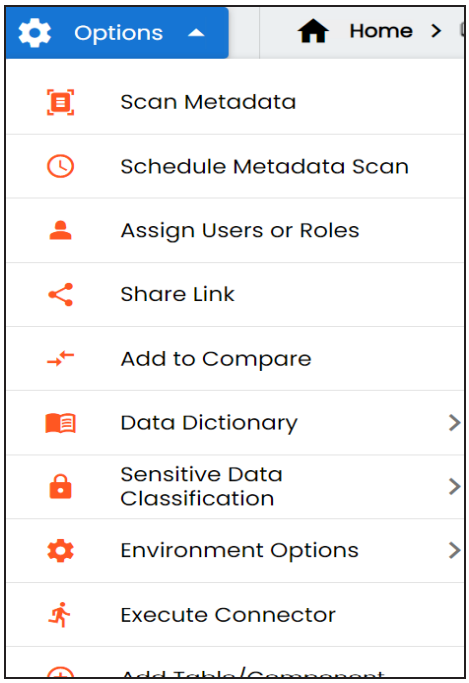
   The metadata is imported and saved in the environment.

XMI

You can import metadata from XMI files into an XMI environment.

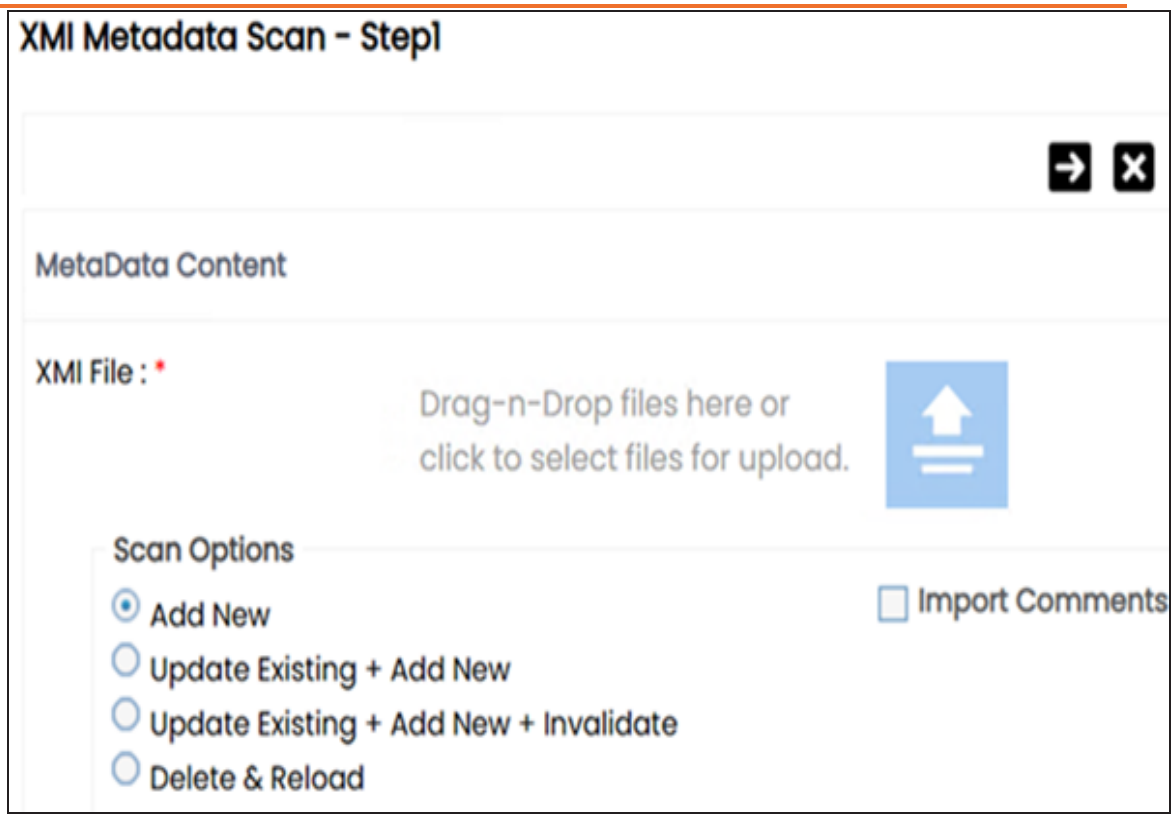
To import metadata from XMI files, follow these steps:

1. On the Explore tab, click an XMI environment tile to view its details.
   Alternatively, in the Data Catalog pane, select the **XMI** option to view all XMI environments.
2. Click **Options**.
   The available options appear.



3. Click **Scan Metadata**.

   The XMI Metadata Scan - Step1 page appears.



4. Drag and drop or use  to browse and select the XMI file.
5. Use the following scan options:

Add New

Use this option to insert new metadata into the environment.

Update Existing + Add New

Use this option to update the existing metadata based on tables and columns in the XMI file.

Update Existing + Add New + Invalidate

Use this option to update the existing metadata without deleting it.

Delete & Reload

Use this option to delete all the business properties and data dictionary stored as metadata for this environment.

Import Comments

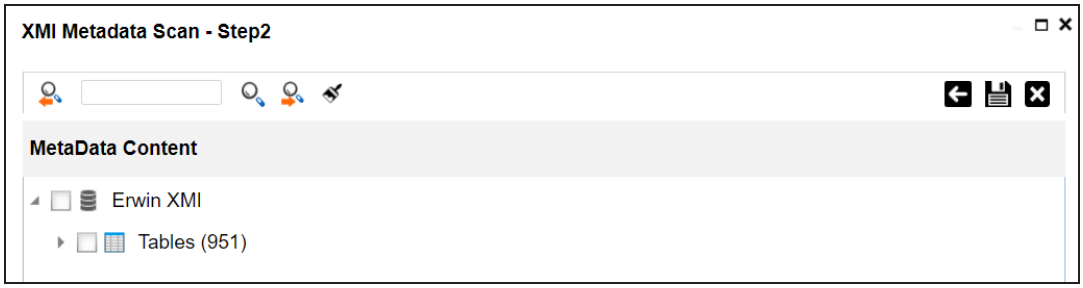
Use this option to import comments from XMI tables and columns into the environment.

Skip Empty Cells

Use this option to skip blank cells in the XMI file from overwriting existing values. This option is available only when you select the Update Existing + Add New or Update Existing + Add New + Invalidate option.

6. Click  .

   The XMI Metadata Scan - Step2 page appears.



7. Select the required tables.
8. Click  .

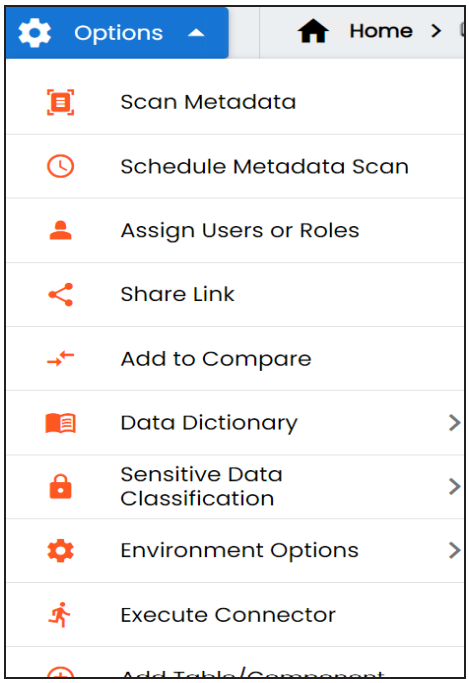
   The metadata is imported and saved in the environment.

MS Access File

You can import metadata from MS Access files into an MS Access environment.

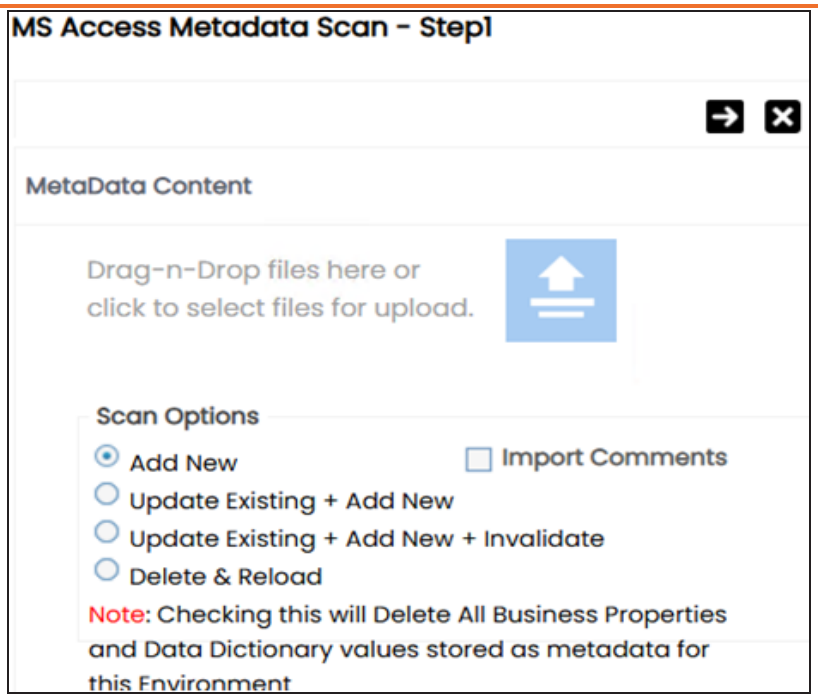
To import metadata from MS Access files, follow these steps:

1. On the Explore tab, click an MS Access environment tile to view its details. Alternatively, in the Data Catalog pane, select the **MS Access** option to view all MS Access environments.
2. Click **Options**.
   The available environment options appear.



3. Click **Scan Metadata**.

   The MS Access Metadata Scan - Step1 page appears.



4. Drag and drop or use to browse and select the MS Access file.
5. Use the following scan options:

Add New

Use this option to insert new metadata into the environment.

Update Existing + Add New

Use this option to update the existing metadata based on tables and columns in the MS Access file.

Update Existing + Add New + Invalidate

Use this option to update the existing metadata without deleting it.

Delete & Reload

Use this option to delete all the business properties and data dictionary stored as metadata for this environment.

Import Comments

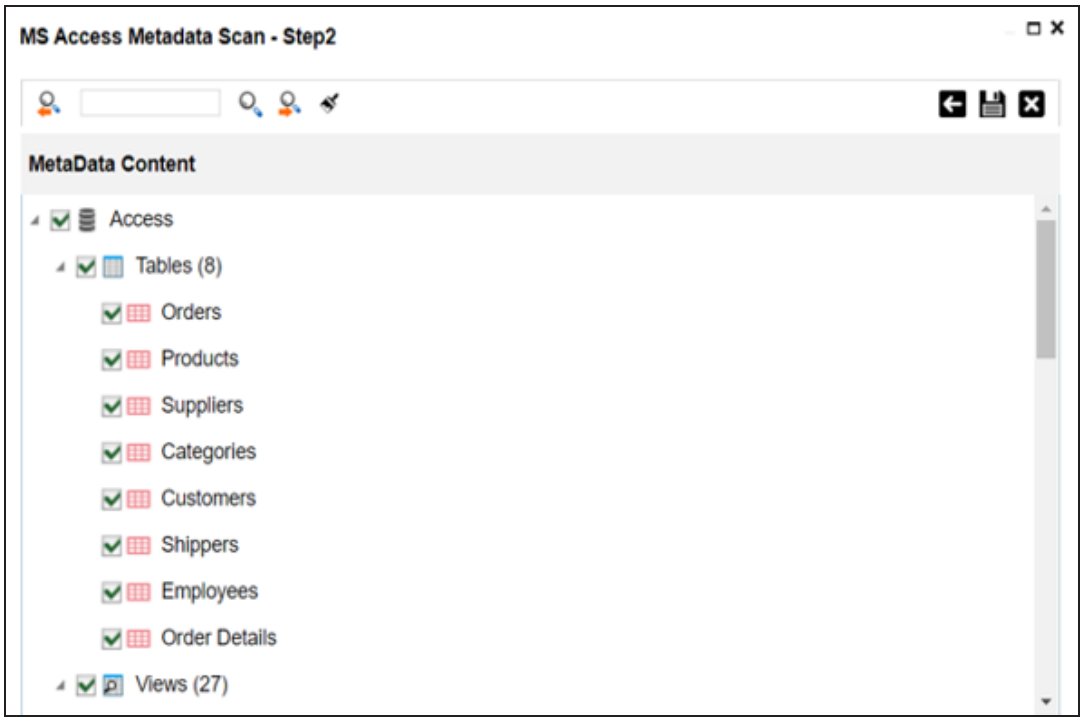
Use this option to import comments from MS Access tables and columns into the environment.

Skip Empty Cells

Use this option to skip blank cells in the MS Access file from overwriting existing values. This option is available only when you select the Update Existing + Add New or Update Existing + Add New + Invalidate option.

6. Click  .

   The MS Access Metadata Scan - Step2 page appears.



7. Select the required tables.
8. Click  .

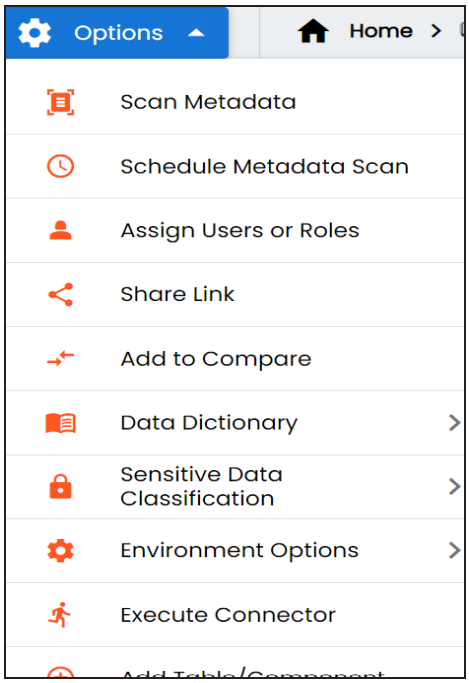
   The metadata is imported and saved in the environment.

XSD

You can import metadata from XSD files into XSD environments.

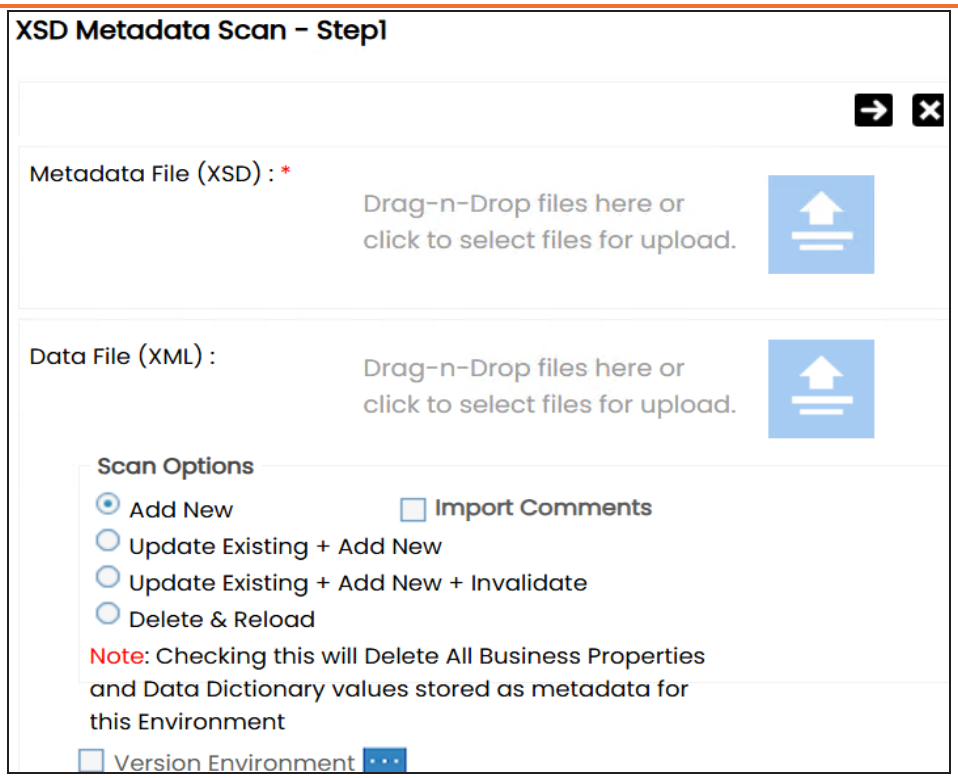
To import metadata from XSD files, follow these steps:

1. On the Explore tab, click an XSD environment tile to view its details.
   Alternatively, in the Data Catalog pane, select the **XSD** option to view all XSD environments.
2. Click **Options**.
   The available options appear.



3. Click **Scan Metadata**.

   The XSD Metadata Scan - Step1 page appears.



4. Under the **Metadata File [XSD]** section, use to browse or drag and drop the metadata file with .xsd extension.
5. Under the **Data File [XML]** section, use to browse or drag and drop the data file with .xml extension.
6. Use the following scan options:

   Add New

   Use this option to insert new metadata into the environment.

   Update Existing + Add New

   Use this option to update the existing metadata based on tables and columns in the XSD file.

   Update Existing + Add New + Invalidate

   Use this option to update the existing metadata without deleting it.

Delete & Reload

Use this option to delete all the business properties and data dictionary stored as metadata for this environment.

Import Comments

Use this option to import comments from the XSD tables and columns into the environment.

Skip Empty Cells

Use this option to skip blank cells in the XSD file from overwriting existing values. This option is available only when you select the Update Existing + Add New or Update Existing + Add New + Invalidate option.

7. Click  .

   The XSD Metadata Scan - Step2 page appears.

8. Select the required tables.
9. Click  .

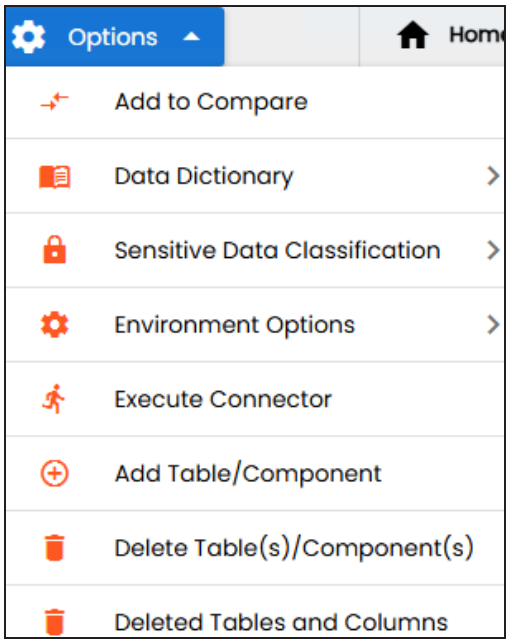
   The metadata is imported and saved in the environment.

Adding Tables

You can manually add tables in an environment and define their technical and business properties. You can use User-Defined Fields to define additional properties of a table. Also, you can UI labels of the User-Defined fields can be configured in Language Settings.

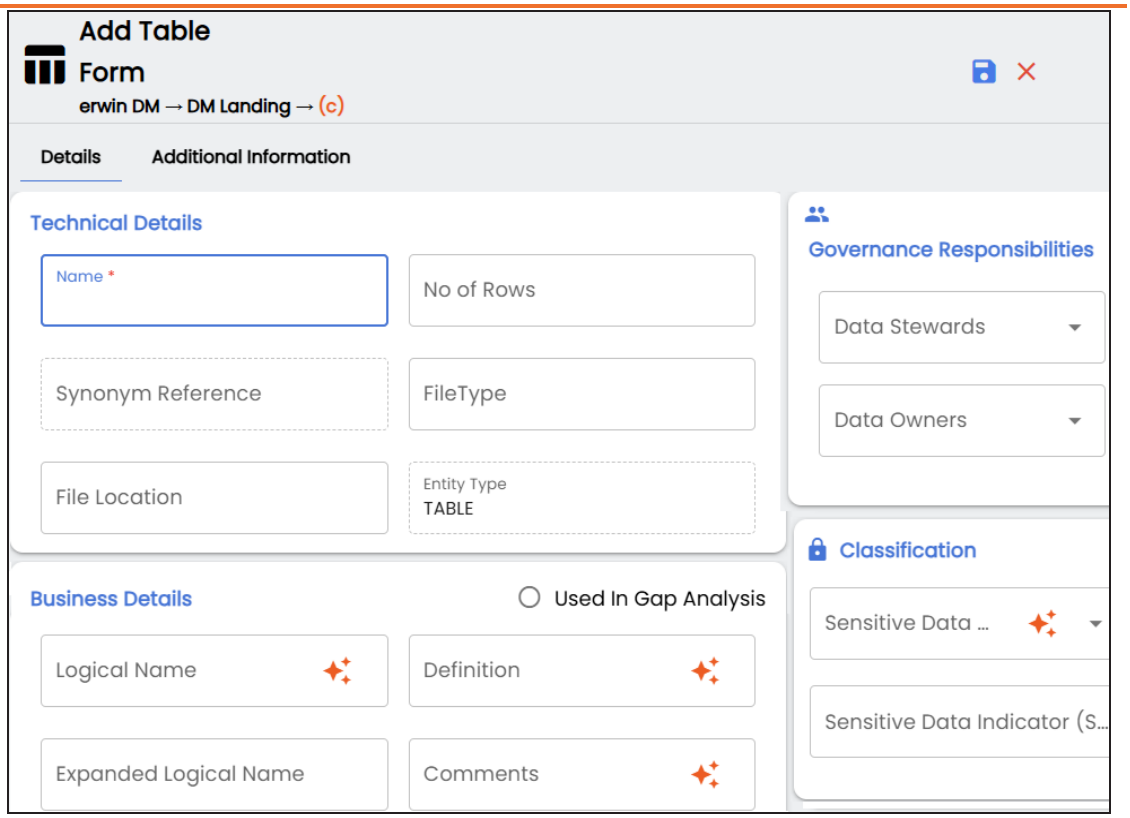
To add tables, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. Click **Options**.
   The available options appear.



4. Click **Add Table/Component**.

   The Add Table Form page appears.



5. Enter or select appropriate values in the fields. Refer to the following table for field description.

Field Name	Sub-Field	Description
Technical Properties	Name	Specifies the physical name of the table. For example, Account or Currency.
	Schema Name	Specifies the schema name of the table. For example, dbo.
	No of Rows	Specifies the total number of rows in the table. For example, 100.
	Synonym Reference	Specifies the synonym reference of the table. For example, Sales_Rep_Information. This field is autopopulated during the

Field Name	Sub-Field	Description
		metadadata scan. You cannot enter it manually.
	File Type	Specifies the file type of the table if the table is in a file-based environment.
	File Location	Specifies the location of the file type.
	Entity Type	Specifies the entity type of the new component. It is autopopulated with **Table**.
Business Details	Used in Gap Analysis	Specifies whether the table is being used as part of a gap analysis to check table usage in mappings. Select the check box if the table is used in gap analysis. For more information on performing table gap analysis, refer to the Performing Table Gap Analysis topic.
	Logical Name	Specifies the logical name of the table. For example, if the physical name of a table is DIM_Customer, then the logical name of the table is Customer Dimension. You can manually enter a logical name or click  to generate it automatically.
	Definition	Specifies the definition of the table. For example: The table contains five columns with emp ID column as the primary key. You can manually enter a definition or click  to generate it automatically.
	Expanded Logical Name	Specifies the expanded logical name of the table. For example, if the physical name of a table is RM_Resource, then the expanded logical name

Field Name	Sub-Field	Description
		of the table is RM Sales Representative. You can configure expanded logical name of tables in bulk at system and environment level.
	Comments	Specifies comments about the table. For example: The table contains details of the employees. You can manually enter comments or click  to generate them automatically.
	JSON Physical Name	Specifies the JSON physical name of the table if the table is in a JSON environment. For example, account.
	Class	Specifies the table class property. For more information on configuring table class, refer to Configuring Table and Column Class topic.
	Alias	Specifies the alias name of the table. For example, Sales_Representative_Table.
Governance Responsibilities	Data Steward	Specifies the name of the data steward responsible for the table. For example, Jane Doe. Users assigned with the Legacy Data Steward role appear as drop down options. You can assign this role to a user in the Resource Manager. To assign data steward, select a data steward from the drop down options. For more information on assigning roles and users, refer to the Updating Data Governance Assignments topic.
Classification	Sensitive Data Indicator (SDI) Classification	Specifies the SDI classification of the table. For example, PHI. You can manually add classifications or click  to generate them auto-

Field Name	Sub-Field	Description
		matically. For more information on configuring SDI classifications, refer to the Configuring Sensitive Data Indicator Classifications topic.
	Sensitive Data Indicator (SDI) Description	Specifies the description of the SDI classification. For example: Protected Health Information. The field autopopulates based on the SDI classification.
Miscellaneous	Business Entity Type	Specifies the database type of business entity.

6. Click  .

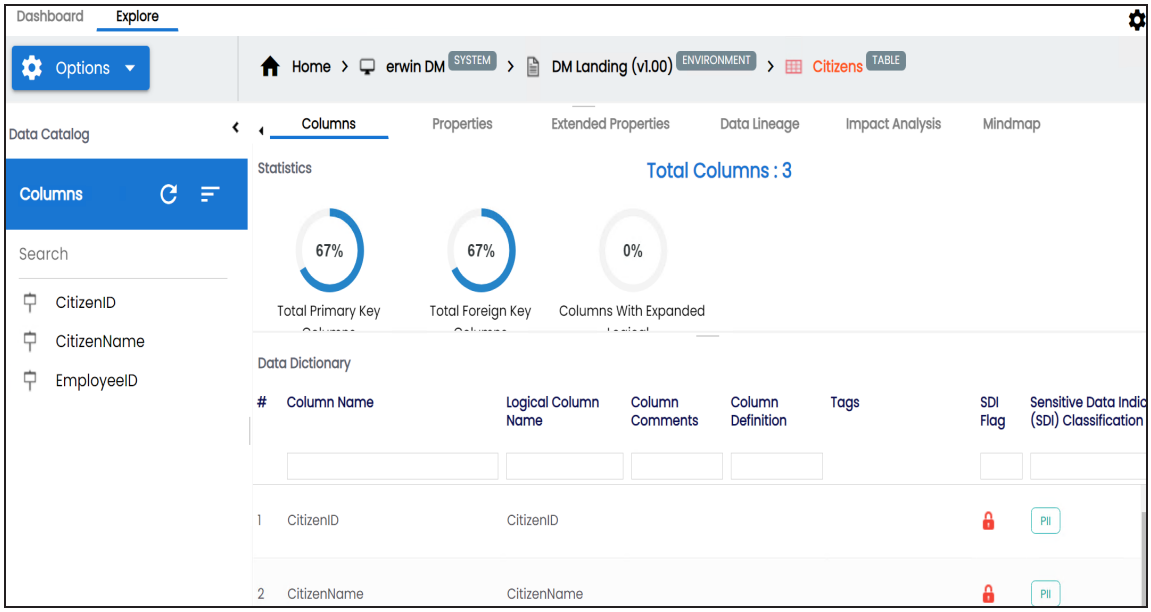
   The table is added to the environment.

Adding Columns

You can add columns in a table manually and enter technical and business properties of a column. You can also use user defined fields to enter additional properties of the column. UI labels of user defined fields can be configured in Language Settings.

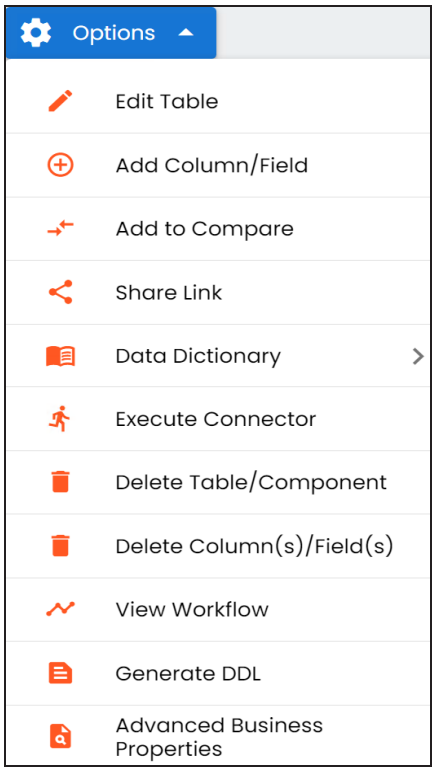
To add columns in tables manually, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. In the Data Catalog pane, click a table to see its columns.



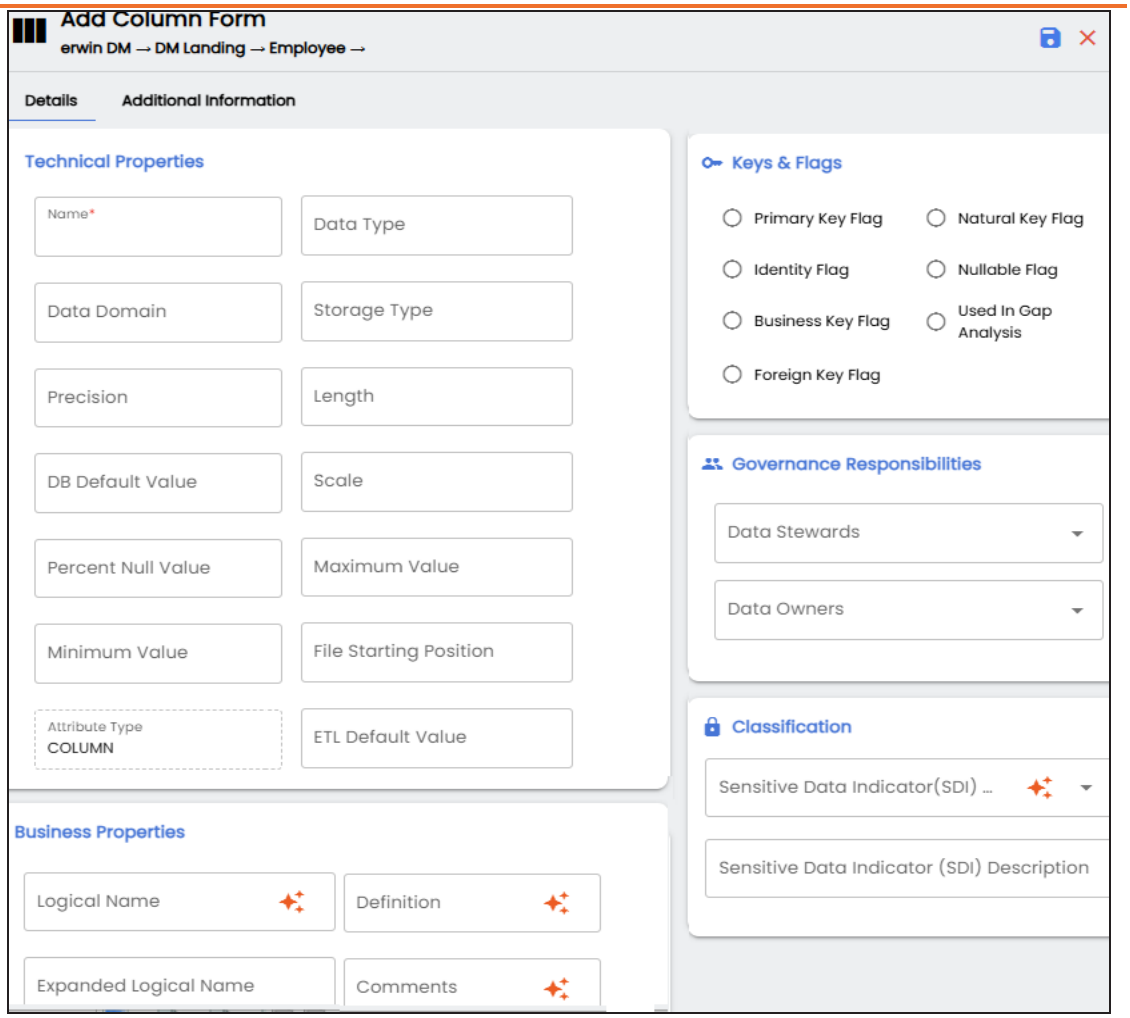
4. Click **Options**.

   The available options appear.



5. Click **Add Column/Field**.

   The Add Column Form appears.



6. Enter or select appropriate values in the fields. Refer to the following table for field description.

Field Name	Sub-Field	Description
Technical Properties	Name	Specifies the physical name of the column. For example, Object_ID.
	Data Type	Specifies the physical data type of the column. For example, varchar.

Field Name	Sub-Field	Description
	Data Domain	Specifies the data domain values for the column. For example, data domain of a Gender column is M and F.
	Storage Type	Specifies the storage type of the column. For example, row store/column store in the case of SAP systems.
	Precision	Specifies the precision of the column. For example: 5, the number 123.45 has a precision of 5 and a scale of 2.
	Length	Specifies the physical length of the column. For example, if the column datatype is char(5), then its physical length is 5.
	DB Default Value	Specifies the default value of the column in the database. For example, True.
	Scale	Specifies the physical scale of the column. For example: The number 123.45 has a precision of 5 and a scale of 2.
	Percent Null Value	Specifies the percentage of null values in the column. For example, 10%.
	Maximum Value	Specifies the maximum value of the column. For example, maximum value of ID column can be 1503.
	Minimum Value	Specifies the minimum value of the column. For example, minimum value of ID column can be 424.
	File Starting Position	Specifies the starting position in the file.

Field Name	Sub-Field	Description
	Attribute Type	Specifies the attribute type of the new component. It is autopopulated with **Column**.
	ETL Default Value	Specifies the default ETL value of the column during the load process.
Business Properties	Logical Name	Specifies the logical name of the column. For example, if the physical name of the table is CUST_ID_NUM, then the logical name of the table is Customer Identification Number. You can manually enter a logical name or click  to generate it automatically.
	Definition	Specifies the definition of the column. For example: The column is a primary key that allows 5 alpha-numeric characters. You can manually enter a definition or click  to generate it automatically.
	Expanded Logical Name	Specifies the expanded logical name of the column. For example, if the physical name of the column is Resource_ID, then the logical name of the . You can also configure expanded logical name of columns in bulk at system and environment level.
	Comments	Specifies the comments about the column. For example: The column provides unique identification of employee in the employee table. You can manually enter comments or click  to generate them automatically.
	JSON Physical Column Name	Specifies the JSON physical name of the column if the column is in a JSON environment.

Field Name	Sub-Field	Description
		For example, objectID.
	Class	Specifies the column class property. Select a column class. For more information on configuring column class, refer to the Configuring Table and Column Class topic.
	Alias	Specifies the alias name of the column. For example, Resource_ID.
Keys & Flags	Primary Key Flag	Specifies whether the column is a primary key. Select the check box if the column is used as the primary key.
	Natural Key Flag	Specifies whether the column is a natural key. Select the check box if the column is a natural key.
	Identity Flag	Specifies whether the column is used as an identity flag. Select the check box if the column is used as an identity flag.
	Nullable Flag	Specifies whether the column allows null values. Select the check box if the column allows null values.
	Business Key Flag	Specifies whether the column is a business key. Select the check box if the column is a business key.
	Used in Gap Analysis	Specifies whether the column is being used in a gap analysis for usage in mappings. Select the check box if the column is used in the gap analysis. For more information on performing column gap analysis, refer to the Performing Column Gap Ana-

Field Name	Sub-Field	Description
		lysis topic.
	Foreign Key Flag	Specifies whether the column is a foreign key. Select the check box if the column is a foreign key and appears next to this option. Click to add the following: • **Foreign Key Table Name**: Specifies the actual table name where the column is listed as a PK (in case of the current column being an FK). • **Foreign Key Column Name**: Specifies the actual column name where the column is listed as a PK (in case the current column being an FK).
Governance Responsibilities	Data Steward	Specifies the data steward responsible for the column. For example, Jane Doe. Users assigned with the Legacy Data Steward role appear as drop down options. You can assign this role to a user in the Resource Manager. To assign data steward, select a data steward from the drop down options. For more information on assigning roles and users, refer to the Updating Data Governance Assignments topic.
Classification	Sensitive Data Indicator (SDI) Classification	Specifies the SDI classification of the column. For example, PHI. You can manually add classifications or click  to generate them automatically. For more information on configuring SDI classifications, refer to the Configuring Sensitive Data Indicator Classifications topic.

Field Name	Sub-Field	Description
	Sensitive Data Indicator (SDI) Description	Specifies the description of the SDI classification. For example: Protected Health Information. The field autopopulates based on the SDI classification.

7. Click  .

   The column is added to the table.

Deleting Tables and Columns

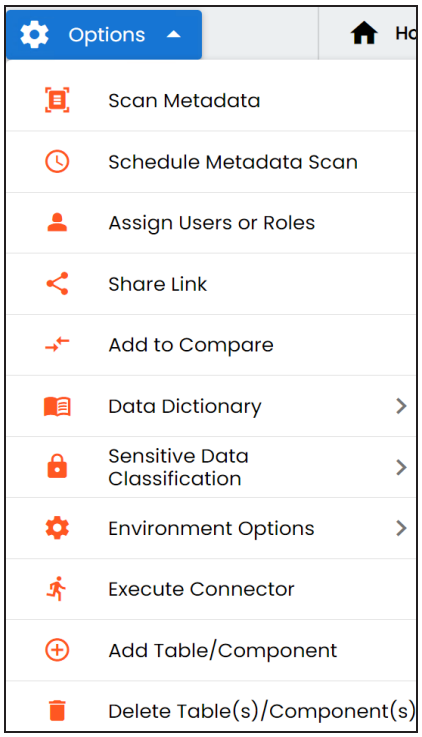
You can delete tables and columns that are not required.

Tables

To delete tables from environments, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. Click **Options**.

   The available options appear.



4. Click **Delete Table(s)/Components(s)**.

   The Delete Tables page appears.

5. Select the required tables.
6. Click  .

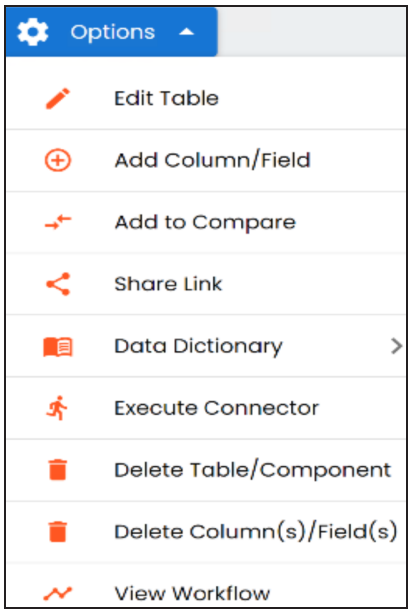
   The selected tables are deleted from the environment.

Columns

To delete columns from tables, follow these steps:

1. On the Explore tab, click an environment tile to view its details and tables.
2. In the **Data Catalog** pane, click a table to see its columns.
3. Click **Options**.

   The available options appear.



4. Click **Delete Column(s)/Field(s)**.

   The column is deleted.

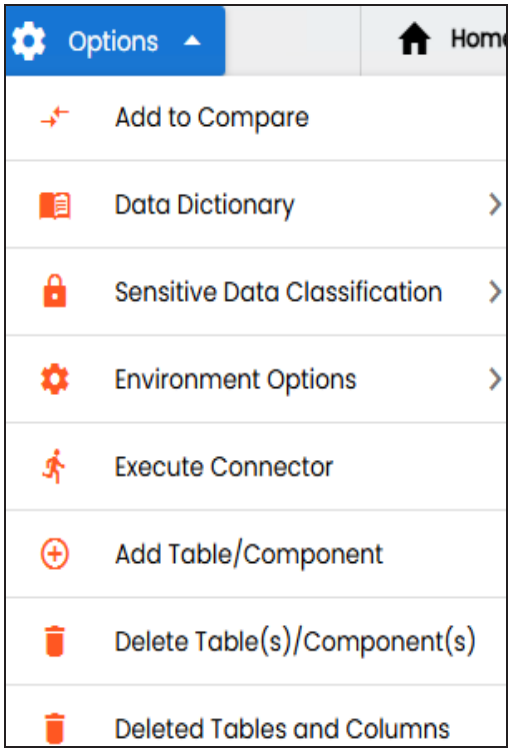
Restoring, Re-adding, or Purging Tables and Columns

You can restore, re-add, or purge tables and columns that are in an invalid state. You can either perform these actions individually while re-adding tables and columns or manage them in bulk through the Deleted Tables and Columns option.

Tables

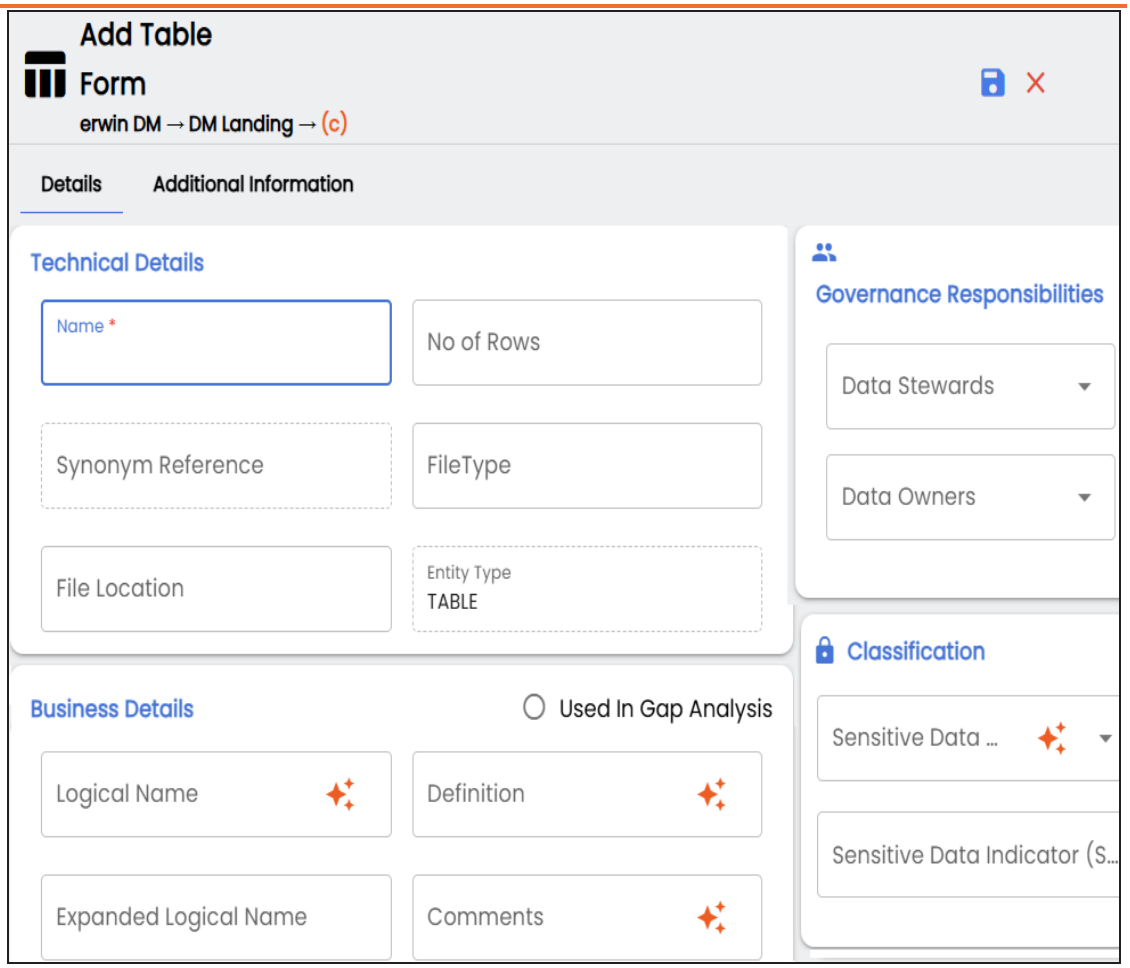
To restore or re-add a table, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. Click **Options**.
   The available options appear.



4. Click **Add Table/Component**.

   The Add Table Form page appears.



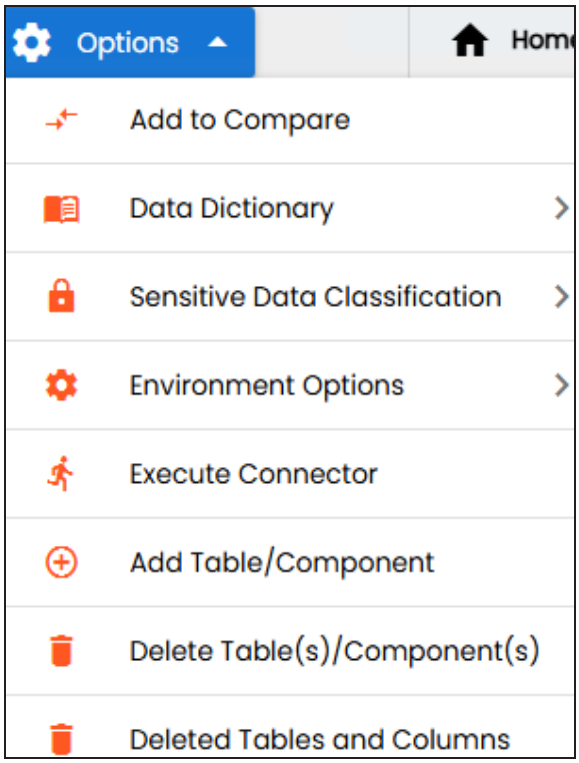
5. In the **Name** box, enter the name of the invalid table.
6. Click .

   A **Confirm** pop-up appears.

7. Use the following options:
    - **Delete and Add**: Use this option to delete an invalid table and add a new one.
    - **Restore**: Use this option to restore the existing table.

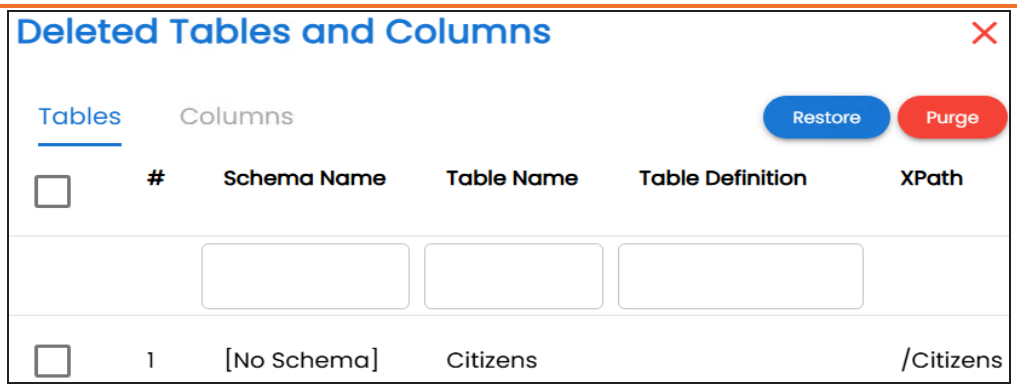
To restore or purge the tables in bulk, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. Click **Options**.
   The available options appear.



4. Click **Deleted Tables and Columns**.

   The Deleted Tables and Columns page appears.



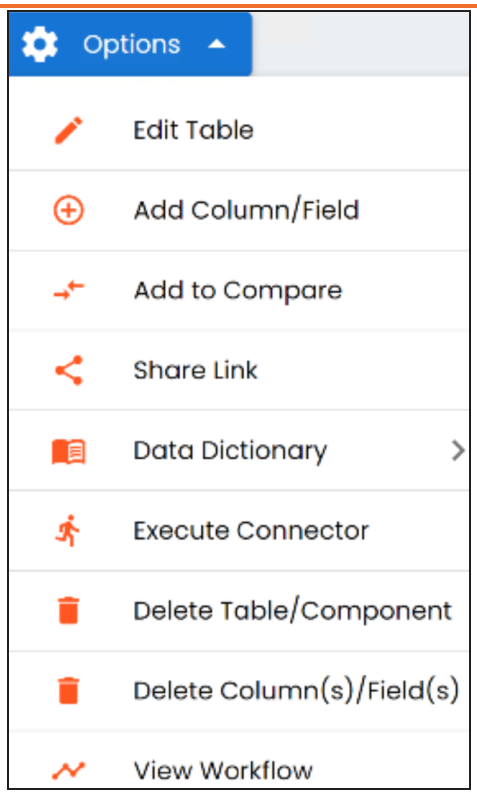
5. On the Tables tab, select the required tables, and then use the following options:
   - **Restore**: Use this option to restore the selected tables.
   - **Purge**: Use this option to delete the selected tables from the database permanently .

Columns

To restore or re-add columns, follow these steps:

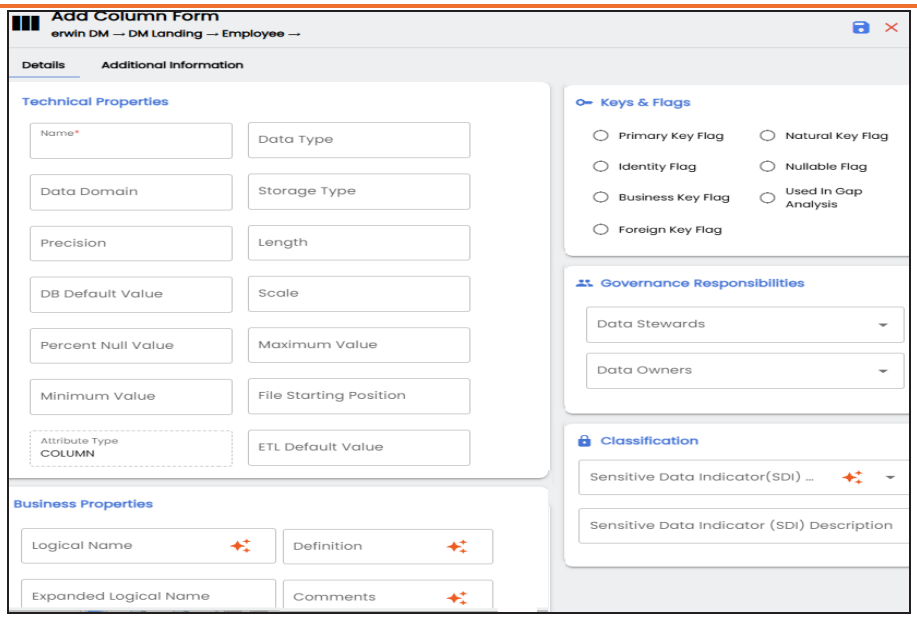
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. In the **Data Catalog** pane, click a table to see its columns.
4. Click **Options**.

   The available options appear.



5. Click **Add Column/Field**.

   The Add Column Form page appears.



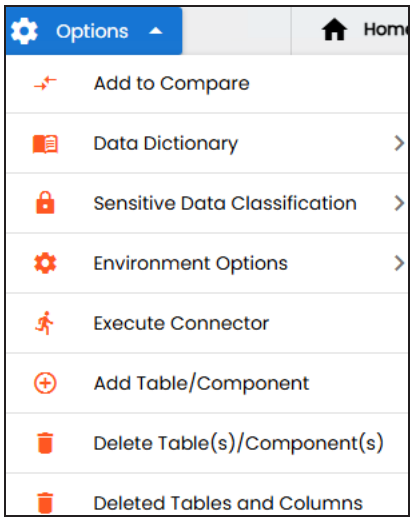
6. In the **Name** box, enter the name of the invalid column.
7. Click .

   A **Confirm** pop-up appears.

8. Use the following options:
   - **Delete and Add**: Use this option to delete the invalid column and add a new one.
   - **Restore**: Use this option to restore the existing column.

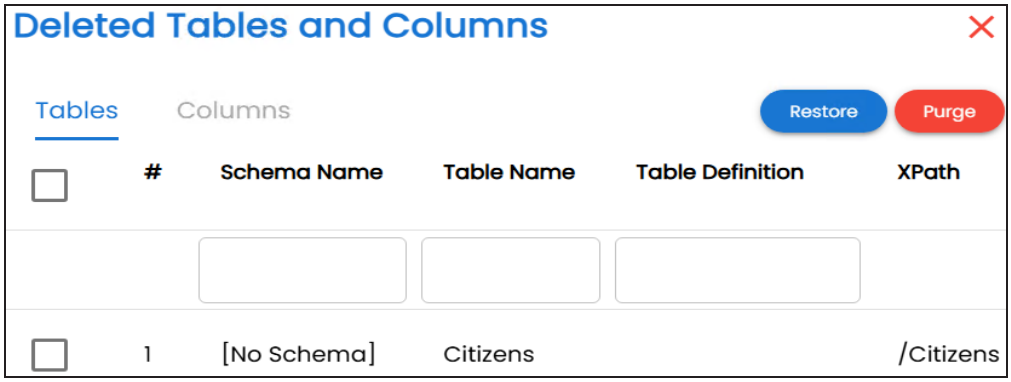
To restore or purge the columns in bulk, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. Click **Options**.
   The available options appear.



4. Click **Deleted Tables and Columns**.

   The Deleted Tables and Columns page appears.



5. Click the **Columns** tab.
6. Select the required columns, and use the following options:

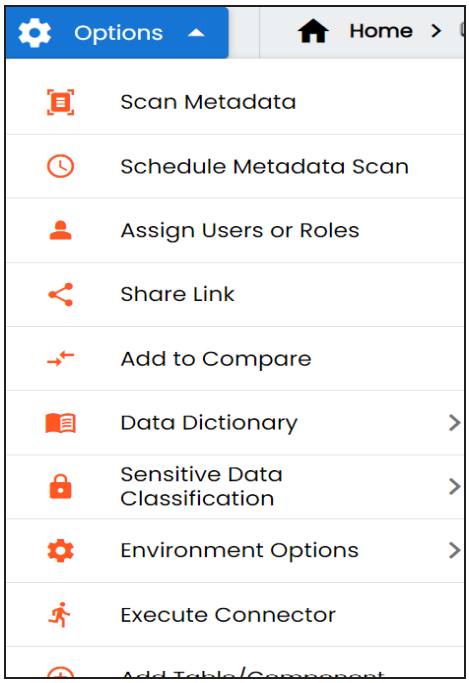
- **Restore**: Use this option to restore the selected columns.
- **Purge**: Use this option to delete the selected columns from the database permanently.

Scheduling Metadata Scans

You can schedule a metadata scan for an environment whose schema was selected or it was scanned at least once.

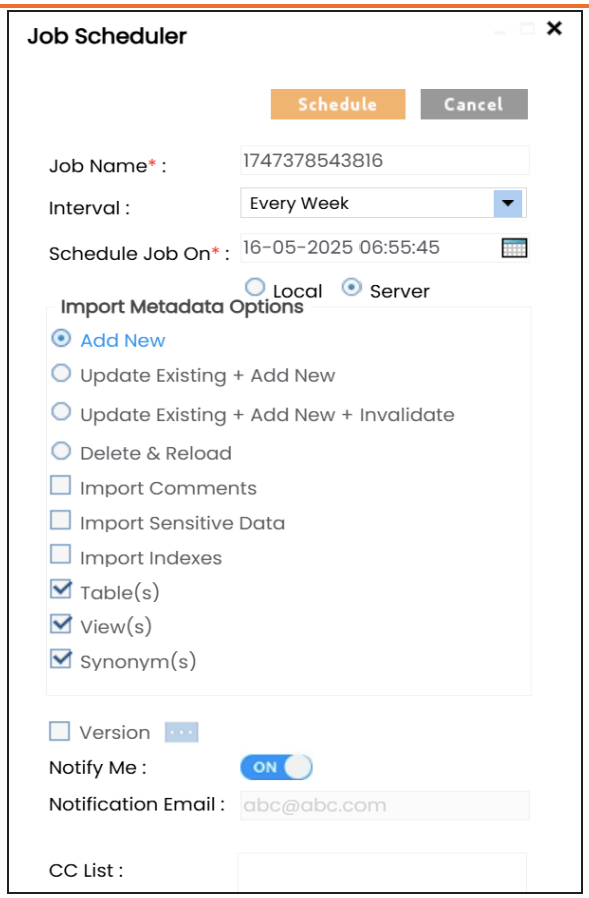
To schedule a metadata scan, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. Click **Options** .
   The available options appear.



4. Click **Schedule Metadata Scan**.

   The Job Scheduler page appears.



5. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

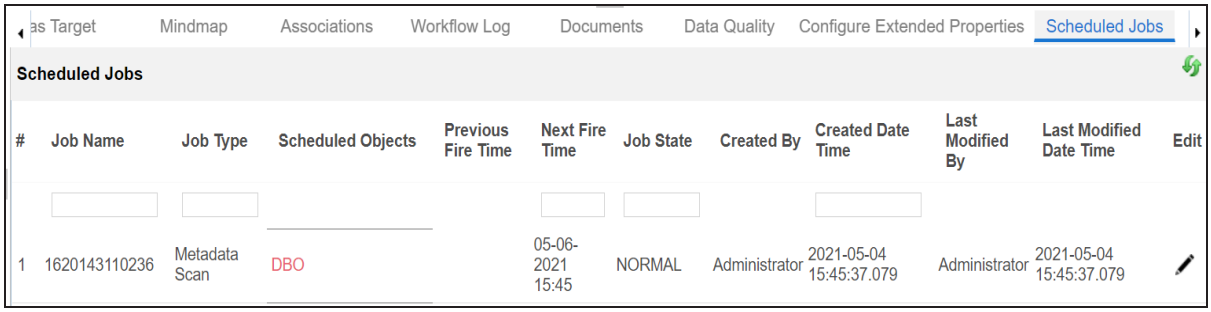
Field Name	Description
Job Name	Specifies the job name. For example, Administrator1585030550001. This field autopopulates with a job name. You can edit it and enter a different job name.
Interval	Specifies the frequency of the job. For example, Every Week.

Field Name	Description
Schedule Job On	Set the date and time of the job using  . For example, 05-16-2025 06:55:45.
Local or Server	Select whether the job uses local or server time. ▪ Local: Refers to your local machine. ▪ Server: Refers to the machine where your application is deployed.
Import Metadata Options	▪ **Add New**: This option adds new objects to the existing object list. Existing metadata is not updated. ▪ **Update Existing + Add New**: This option adds new objects to the existing list and at the same time the existing metadata is also updated. ▪ **Update Existing + Add New + Invalidate**: This option adds new objects to the existing list and at the same time the existing metadata is also updated and invalidated. ▪ **Delete & Reload**: This option deletes all the existing metadata and scans only the new objects that have been selected. ▪ **Import Comments**: Select the checkbox to import comments. ▪ **Import Sensitive Data**: Select the checkbox to import sensitivity classification of the metadata from the data source. This option is available for SQL, Oracle, and Snowflake environments. ▪ **Import Indexes**: Select the checkbox to import the indexes of the metadata from the data source. This option is available for SQL, Oracle, and Snowflake environments. ▪ **Table(s)**: Select the checkbox to import Tables. ▪ **View(s)**: Select the checkbox to import Views. ▪ **Synonym(s)**: Select the checkbox to import Synonyms. ▪ **Version**: Select the checkbox to create a new version of the environment. To enter version label and change description, click  .

Field Name	Description
Notify Me	Switch **Notify Me** to **ON** to receive a job notification. For more information on configuring notifications, refer to the Configuring Notifications on Scanning Metadata topic.
Notification Email	This field is autopopulated with your email ID. You receive email notifications about the scheduled job from the administrator's email ID. For more information on configuring the administrator's email ID, refer to the Configuring Email Settings topic.
CC List	Enter a comma-separated list of email IDs that should receive email notifications about the scheduled job. For example, ab.dav@xyz.com, cal.kai@xyz.com

6. Click **Schedule**.

   The metadata scan is scheduled and the scheduled job is listed on the **Scheduled Jobs** tab.



   The metadata is scanned at the scheduled time and the environment is updated.

> If you have opted to create new version of the environment, then a new version is created and the old version is archived.

   Alternatively, on the Explore tab, select **Metadata Options** and click **Scheduled Jobs** to view the list.

Use the following options to work on the scheduled job list:

Edit ( )

Use this option to update the scheduled job.

Delete ( )

Use this option to delete the scheduled job.

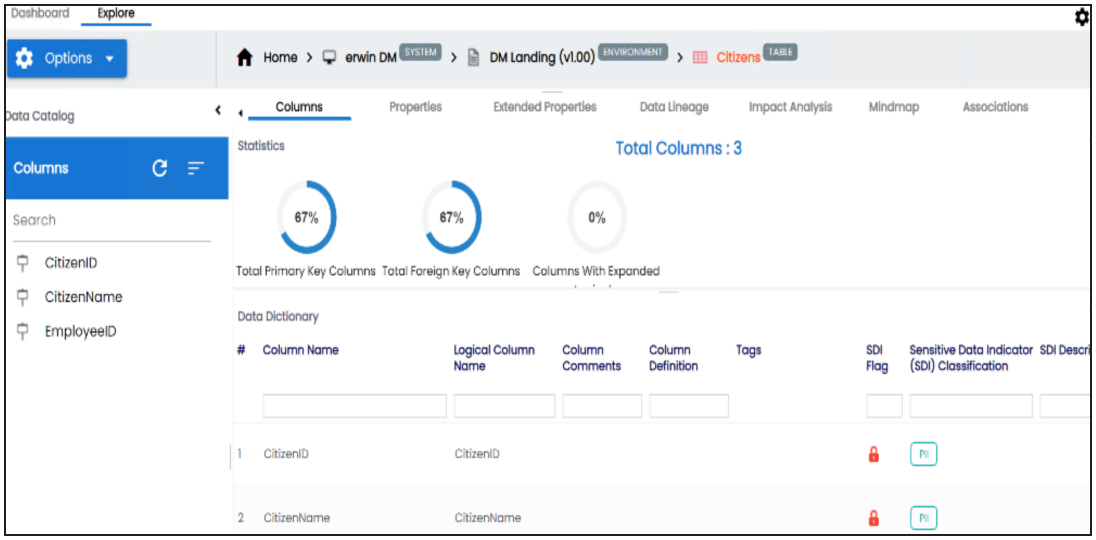
Updating Table Properties

Table properties are classified as technical and business properties. You can update these properties for a table and use user defined fields to enter additional properties of a table.

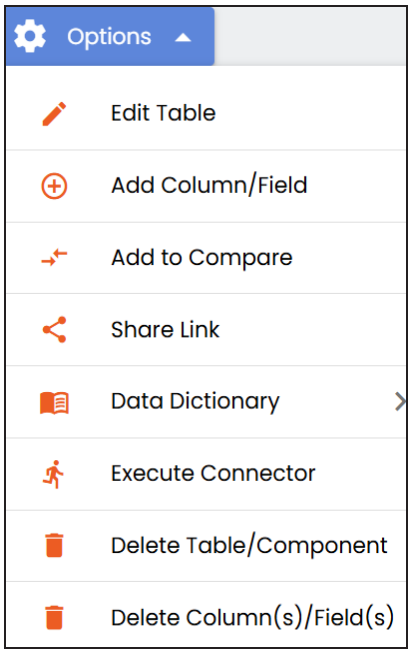
To update table properties, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. In the **Data Catalog** pane, click a table.

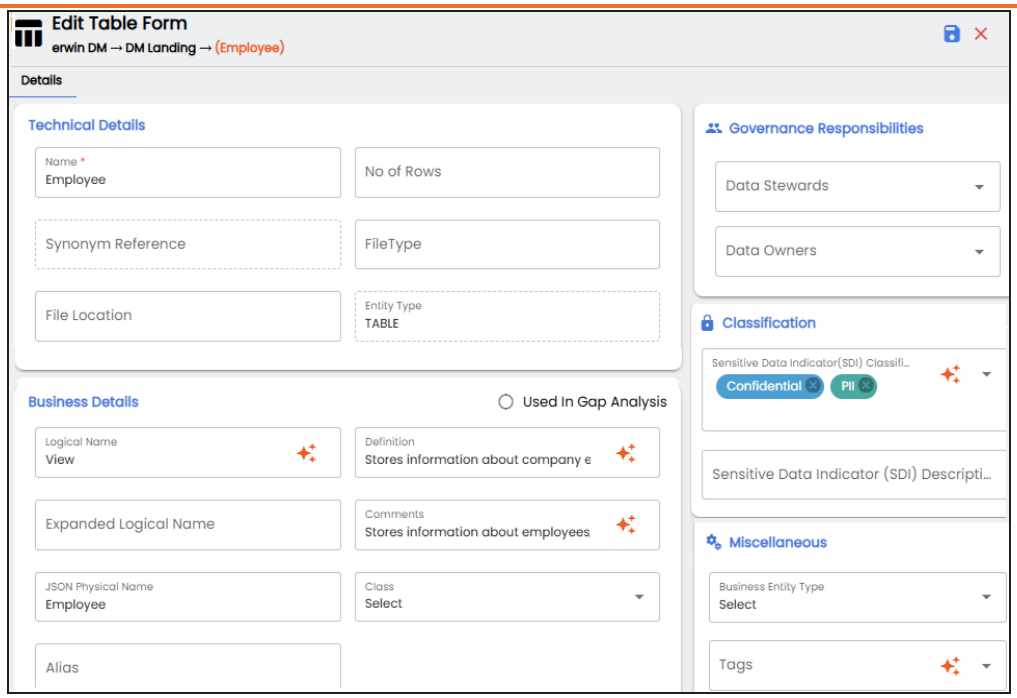
   By default, the Columns tab opens.



4. Click **Options**.
   The available options appear.



5. Click **Edit Table**.
   The Edit Table Form appears.



6. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Sub-Field	Description
Technical Properties	Name	Specifies the physical name of the table. For example, Account or Currency.
	Schema Name	Specifies the schema name of the table. For example, dbo.
	No of Rows	Specifies the total number of rows in the table. For example, 100.
	Synonym Reference	Specifies the synonym reference for the table. For example, Sales_Rep_Information. This field is autopopulated during the metadata scan. You cannot enter it manually.

Field Name	Sub-Field	Description
	File Type	Specifies the file type of the table if the table is in a file-based environment. For example, MS Excel.
	File Location	Specifies the location of the files.
	Entity Type	Specifies the entity type of the new component. It is autopopulated with **Table**.
Business Details	Logical Name	Specifies the logical name of the table. For example, if the physical name of a table is DIM_Customer, then the logical name of the table is Customer Dimension. You can manually update a logical name or click  to generate it automatically.
	Definition	Specifies the definition of the table. For example: The table contains five columns with emp ID column as the primary key. You can manually update a definition or click  to generate it automatically.
	Expanded Logical Name	Specifies the expanded logical name of the table. For example, if the physical name of a table is RM_Resource, then the expanded logical name of the table is RM Sales Representative. You can configure expanded logical name of tables in bulk at system and environment level.
	Comments	Specifies comments about the table. For example: The table contains details of the employees. You can manually update comments or click  to generate them automatically.

Field Name	Sub-Field	Description
	JSON Physical Name	Specifies the JSON physical name of the table if the table is in a JSON environment.
	Class	Specifies the table class property. For more information on configuring table class, refer to Configuring Table and Column Class topic.
	Alias	Specifies the alias name of the table. For example, Sales_Representative_Table.
	Used in Gap Analysis	Specifies whether the table is being used as part of a gap analysis to check table usage in mappings. Select the check box if the table is used in gap analysis. For more information on performing table gap analysis, refer to the Performing Table Gap Analysis topic.
Governance Responsibilities	Data Steward	Specifies the name of the data steward responsible for the table. For example, Jane Doe. Users assigned with the Legacy Data Steward role appear as drop down options. You can assign this role to a user in the Resource Manager. To assign data steward, select a data steward from the drop down options. For more information on assigning roles and users, refer to the Updating Data Governance Assignments topic.
Classification	Sensitive Data Indicator (SDI) Classification	Specifies the sensitivity data indicator (SDI) classification of the table. Also, you can add multiple classifications to a table. For example, PHI, Confidential. You can manually add classifications or click  to generate

Field Name	Sub-Field	Description
		them automatically. For more information on configuring SDI classifications refer to the Configuring Sensitive Data Indicator Classifications topic.
	Sensitive Data Indicator (SDI) Description	Specifies the description of the SDI classification. For example: Protected Health Information. The field autopopulates based on the SDI classification.
Miscellaneous	Business Entity Type	Specifies the database type of business entity.
	Tags	Specifies tags of the column. For example, PII. You can manually add tags or click  to generate them automatically. Click **Tags** and select an existing tag or enter a tag name to create one on the fly.

7. Click  .

   The table properties are updated.

   You can use user defined fields with different UI labels. For more information on using UI labels for user defined fields, refer to the Configuring Language Settings topic.

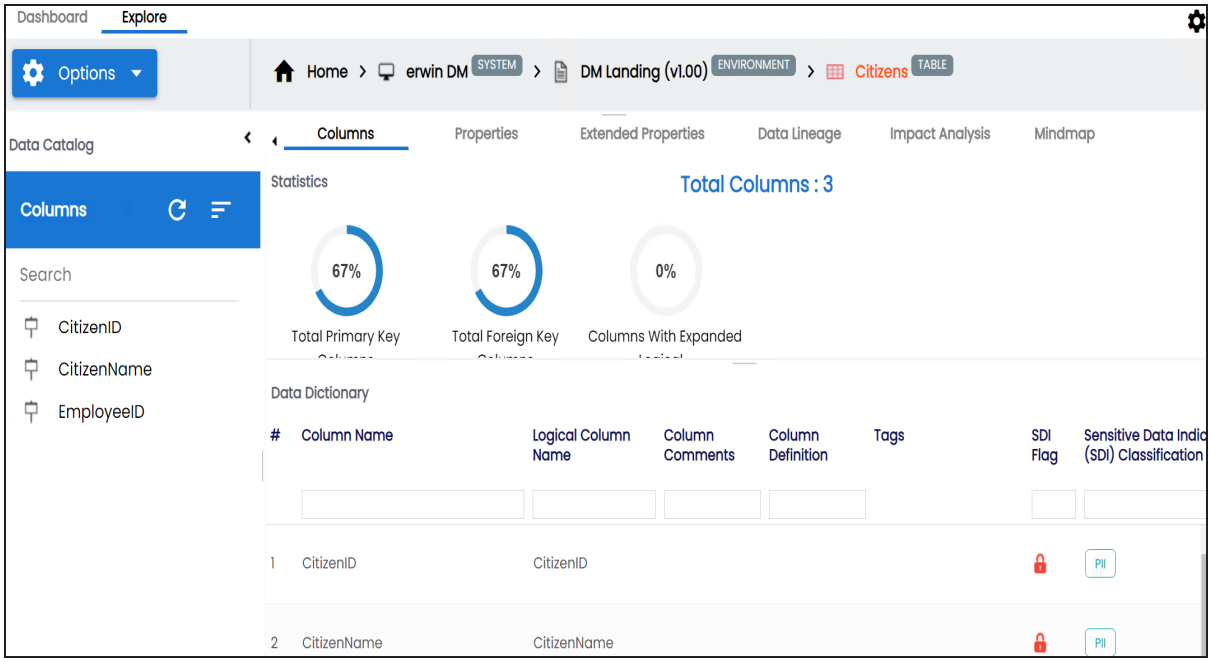
   You can also hide user defined fields. For more information on hiding user defined fields, refer to the Displaying User Defined Fields topic.

Updating Column Properties

Column properties are classified as technical and business properties. You can update these properties for a column and use user defined fields to enter additional properties of a column.

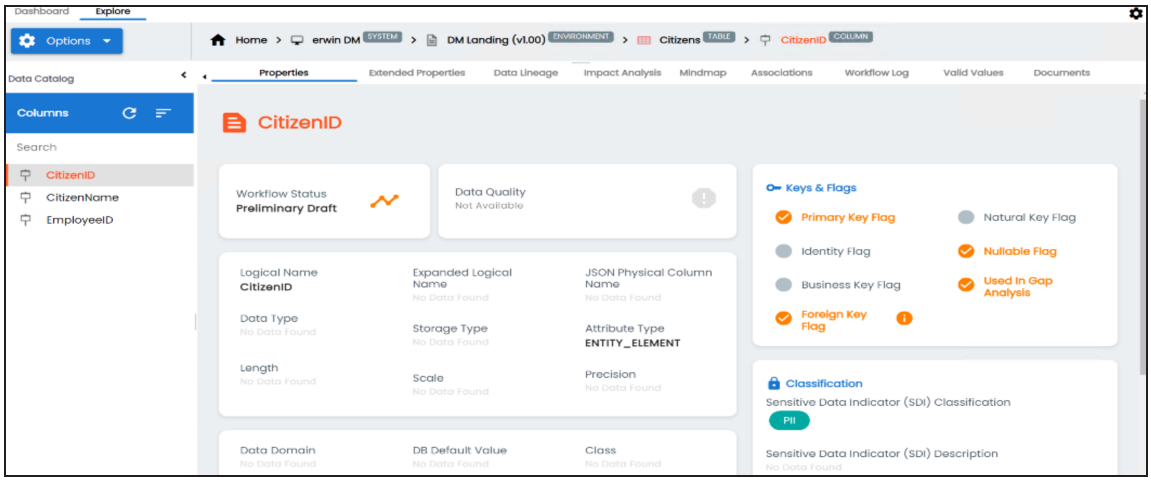
To update Column Properties, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. In the Data Catalog pane, click a table to see its columns.



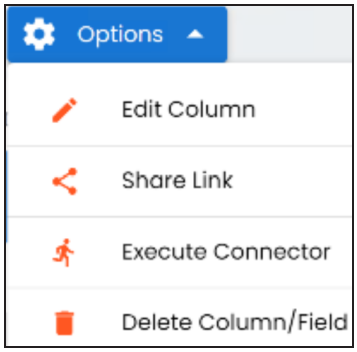
4. In the Data Catalog pane, click a column.

   By default, the Properties tab opens and displays the column properties.

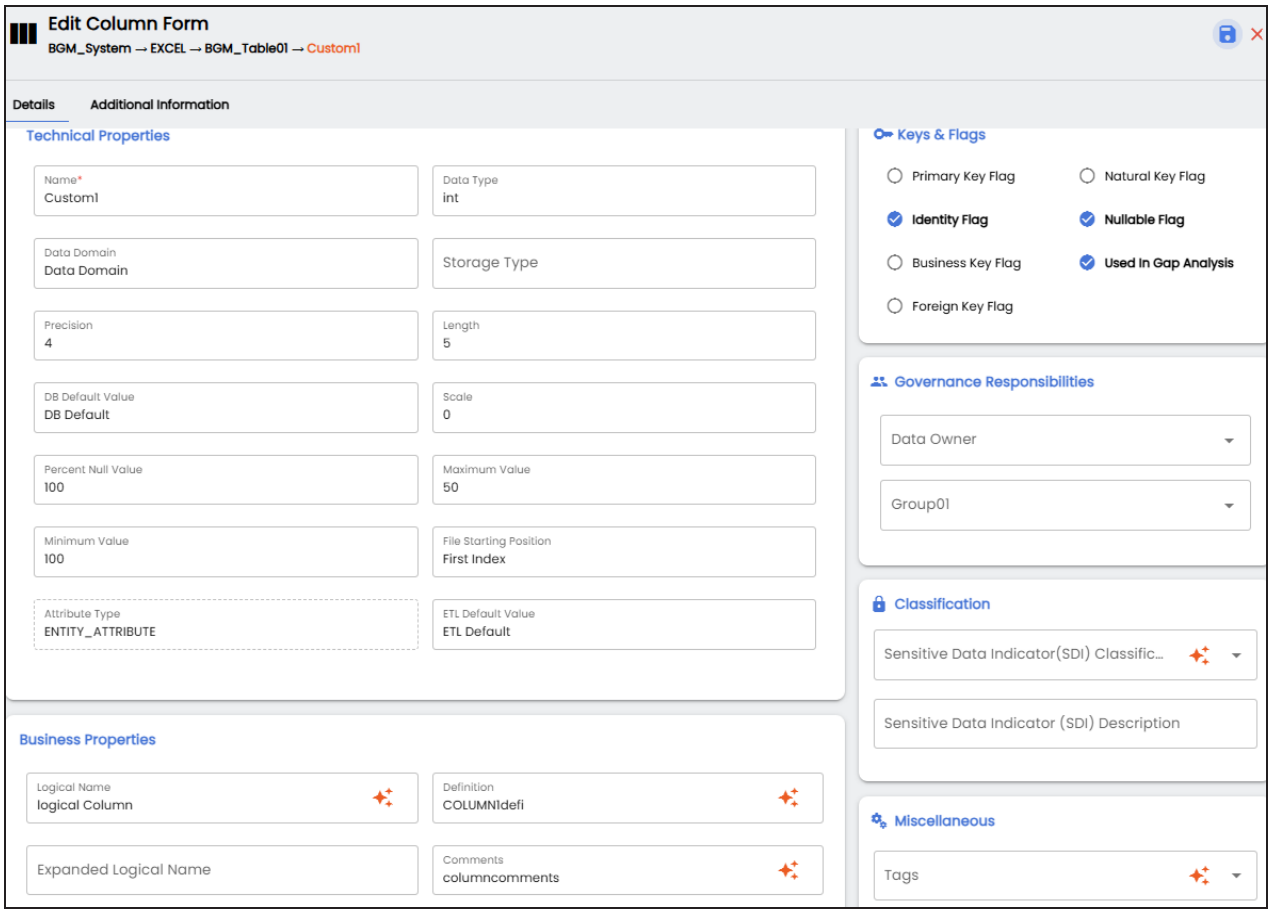


5. Click **Options**.

   The available options appear.



6. Click **Edit Column**.
   The Edit Column Form appears.



7. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Sub-Field	Description
Technical Properties	Name	Specifies the physical name of the column. For example, Object_ID.
	Data Type	Specifies the physical data type of the column. For example, varchar.
	Data Domain	Specifies the data domain values for the column.

Field Name	Sub-Field	Description
		For example, data domain of a Gender column is M and F.
	Storage Type	Specifies the storage type of the column. For example, row store/column store in the case of SAP systems.
	Precision	Specifies the precision of the column. For example: 5, the number 123.45 has a precision of 5 and a scale of 2.
	Length	Specifies the physical length of the column. For example, if the column datatype is char(5), then its physical length is 5.
	DB Default Value	Specifies the default value of the column in the database. For example, True.
	Scale	Specifies the physical scale of the column. For example: The number 123.45 has a precision of 5 and a scale of 2.
	Percent Null Value	Specifies the percentage of null values in the column. For example, 10%.
	Maximum Value	Specifies the maximum value of the column. For example, maximum value of ID column can be 1503.
	Minimum Value	Specifies the minimum value of the column. For example, minimum value of ID column can be 424.
	File Starting Position	Specifies the starting position in the file.

Field Name	Sub-Field	Description
	Attribute Type	Specifies the attribute type of the column. It is autopopulated with ENTITY_ELEMENT.
	ETL Default Value	Specifies the default ETL value of the column during the load process.
Business Details	Logical Name	Specifies the logical name of the column. For example, if the physical name of the table is CUST_ID_NUM, then the logical name of the table is Customer Identification Number. You can manually update a logical name or click  to generate it automatically.
	Definition	Specifies the definition of the column. For example: The column is a primary key that allows 5 alpha-numeric characters. You can manually update a definition or click  to generate it automatically.
	Expanded Logical Name	Specifies the expanded logical name of the column. For example, if the physical name of the column is Resource_ID, then the logical name of the . You can also configure expanded logical name of columns in bulk at system and environment level.
	Comments	Specifies the comments about the column. For example: The column provides unique identification of employee in the employee table. You can manually update comments or click  to generate them automatically.
	JSON Physical Column Name	Specifies the JSON physical name of the column if the column is in a JSON environment.

Field Name	Sub-Field	Description
		For example, objectID.
	Class	Specifies the column class property. Select a column class. For more information on configuring column class, refer to the Configuring Table and Column Class topic.
	Column Alias	Specifies the alias name of the column. For example, Resource_ID.
Keys & Flags	Primary Key Flag	Specifies whether the column is a primary key. Select the check box if the column is used as the primary key.
	Identity Flag	Specifies whether the column is used as an identity flag. Select the check box if the column is used as an identity flag.
	Business Key Flag	Specifies whether the column is a business key. Select the check box if the column is a business key.
	Foreign Key Flag	Specifies whether the column is a foreign key. Select the check box if the column is a foreign key and appears next to this option. Click to add the following: • **Foreign Key Table Name**: Specifies the actual table name where the column is listed as a PK (in case of the current column being an FK). • **Foreign Key Column Name**: Specifies the actual column name where the column is listed as a PK (in case the current column being an FK).
	Natural Key	Specifies whether the column is a natural key.

Field Name	Sub-Field	Description
	Flag	Select the check box if the column is a natural key.
	Nullable Flag	Specifies whether the column allows null values. Select the check box if the column allows null values.
	Used in Gap Analysis	Specifies whether the column is being used in a gap analysis for usage in mappings. Select the check box if the column is used in the gap analysis. For more information on performing column gap analysis, refer to the Performing Column Gap Analysis topic.
Governance Responsibilities	Data Steward	Specifies the data steward responsible for the column. For example, Jane Doe. Users assigned with the Legacy Data Steward role appear as drop down options. You can assign this role to a user in the Resource Manager. To assign data steward, select a data steward from the drop down options. For more information on assigning roles and users, refer to the Updating Data Governance Assignments topic.
Classification	Sensitive Data Indicator (SDI) Classification	Specifies the SDI classification of the column. For example, PHI. You can manually add classifications or click  to generate them automatically. For more information on configuring SDI classifications, refer to the Configuring Sensitive Data Indicator Classifications topic.
	Sensitive Data	Specifies the description of the SDI clas-

Field Name	Sub-Field	Description
	Indicator (SDI) Description	sification. For example: Protected Health Information. The field autopopulates based on the SDI classification.
Miscellaneous	Tags	Specifies tags of the column. For example, PII. You can manually add tags or click  to generate them automatically. Click **Tags** and select an existing tag or enter a tag name to create one on the fly.

8. Click  .

   The column properties are updated.

   You can use user defined fields with different UI labels. For more information on using UI labels for user defined fields, refer to the Configuring Language Settings topic.

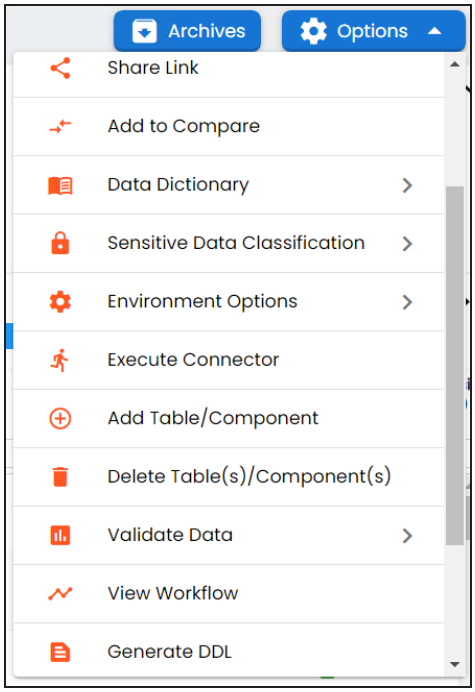
   You can also hide user defined fields on the Column Properties tab. For more information on hiding user defined fields, refer to the Displaying User Defined Fields topic.

Validating Data

You can validate the data in the environment at table and column levels. The data is validated against the forms (Table Properties or Column Properties) associated with the environment. The forms can be created, configured, and associated with environments in the Form Validation Settings.

To validate data, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile.
3. Click Options.
   The available options appear.



4. Scroll down the list and click **Validate Data**.
   The following options appear:

   Table

Click this option to validate tables in the environment, click **Table**.

Column

Click this option to validate columns in the environment, click **Column**.

Both

Click this option to validate tables and columns both, click **Both**.

The data is validated.

The columns or tables that fail mandatory field criterion are marked with red.

The columns or tables that fail regular expression criterion are marked with orange.

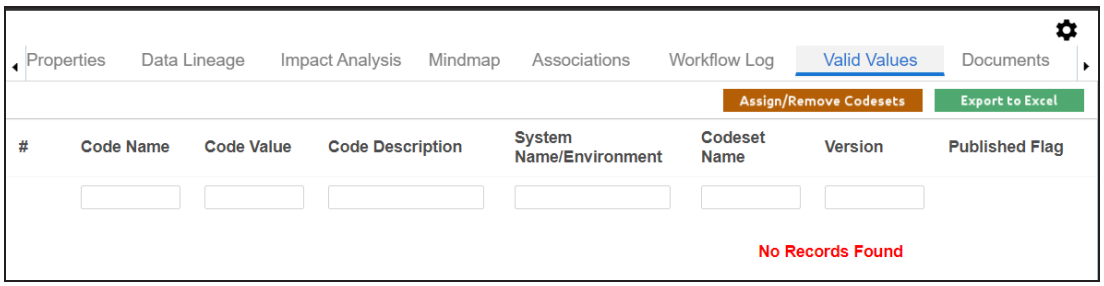
You can download the validation report in the XLSX format. To download the validation reports, click **Export to Excel**.

Assigning Codesets to Columns

You can create codesets in the Codeset Manager and assign them to a source or target column as valid values. You can also export the valid values in the XLSX format.

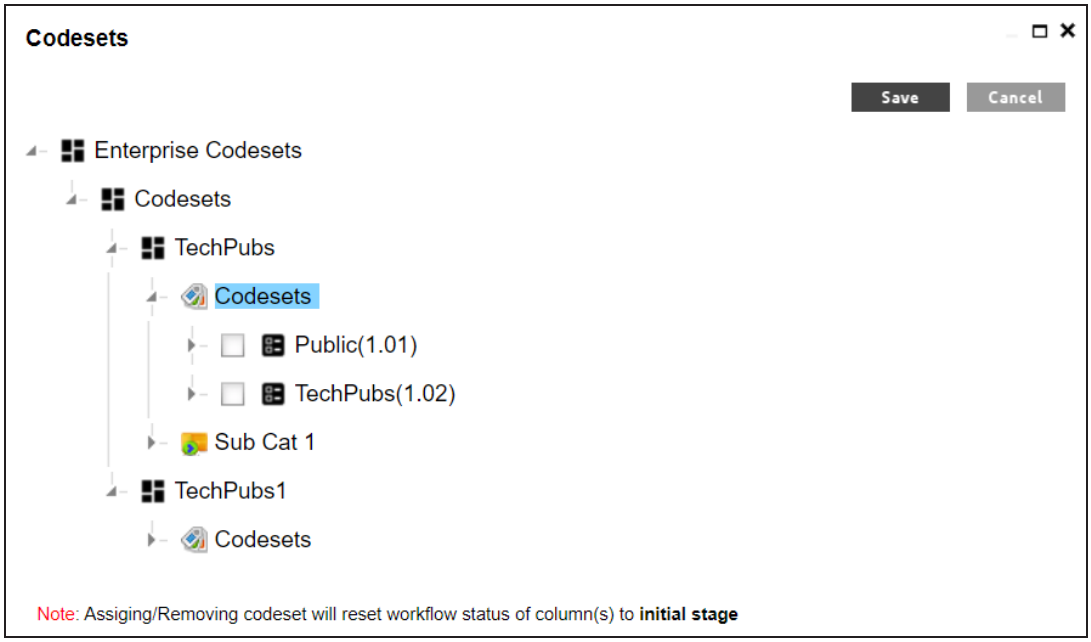
To assign codesets to columns, follow these steps:

1. In the **Data Catalog** pane, click a column.
2. Click the **Valid Values** tab.



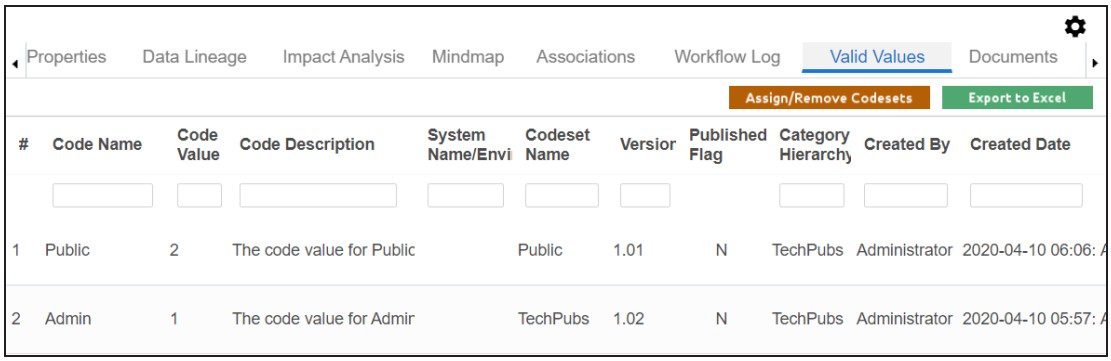
3. On the **Valid Values** tab, click **Assign/Remove Codesets**.

   The Codesets page appears.



4. Select the required codesets and click **Save**.

   The codesets are saved on the **Valid Values** tab.



   You can download the assigned codesets in the XLSX format. To download the assigned codesets, click **Export to Excel**.

   For more information on managing codesets, refer to the Maintaining Enterprise Codesets section.

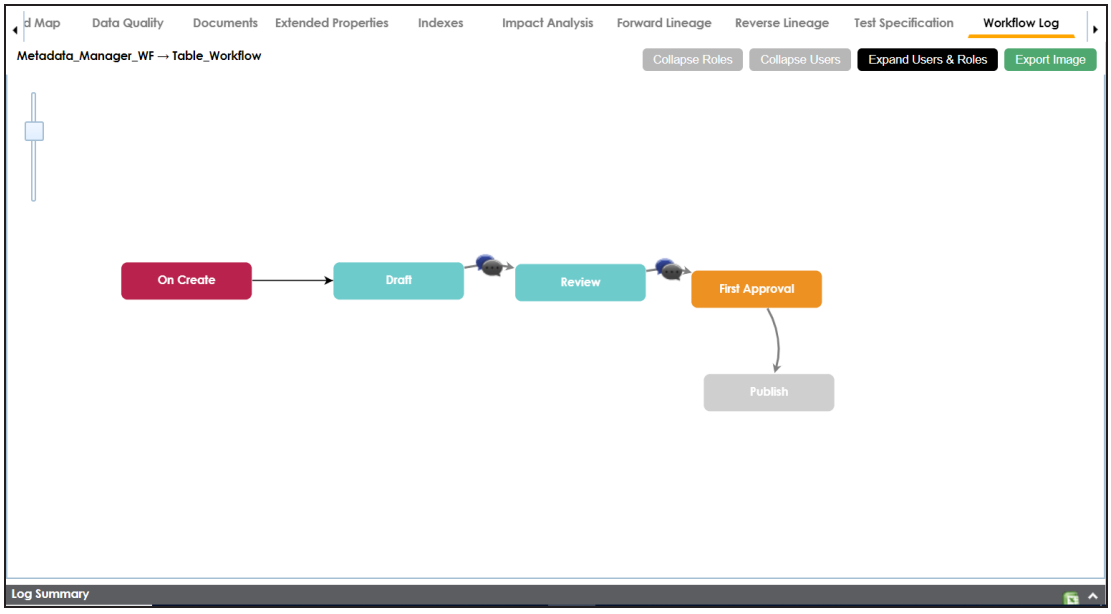
Viewing Workflow Logs of Tables

You can view workflow logs of a table in the Metadata Manager. It displays the current state of the table in the workflow. By default, the Metadata_Manager_Default_Workflow_1 is assigned to all the tables. You can create your own workflow and assign it to tables. For more information, creating and assigning workflows to tables, refer to the Managing Metadata Manager Workflows section.

To view workflow log of tables, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. In the **Data Catalog** pane, click a table.
4. In the central pane, click the **Workflow Log** tab.

   The current workflow stage blinks in the diagram.



   Use the following options:

   User Comments

To view users and the comments entered by the users in each stage, hover over  .

Expand/Hide Users and Roles

Use this option to view or hide users and roles assigned to the stages of the workflow.

Collapse/Expand Roles

This option is enabled when you are in the Expand Users and Roles view. Use this option to collapse or expand roles.

Collapse/Expand Users

This option is enabled when you are in the Expand Users and Roles view. Use this option to collapse or expand users.

Export Image

Use this option to download the workflow in the JPG format.

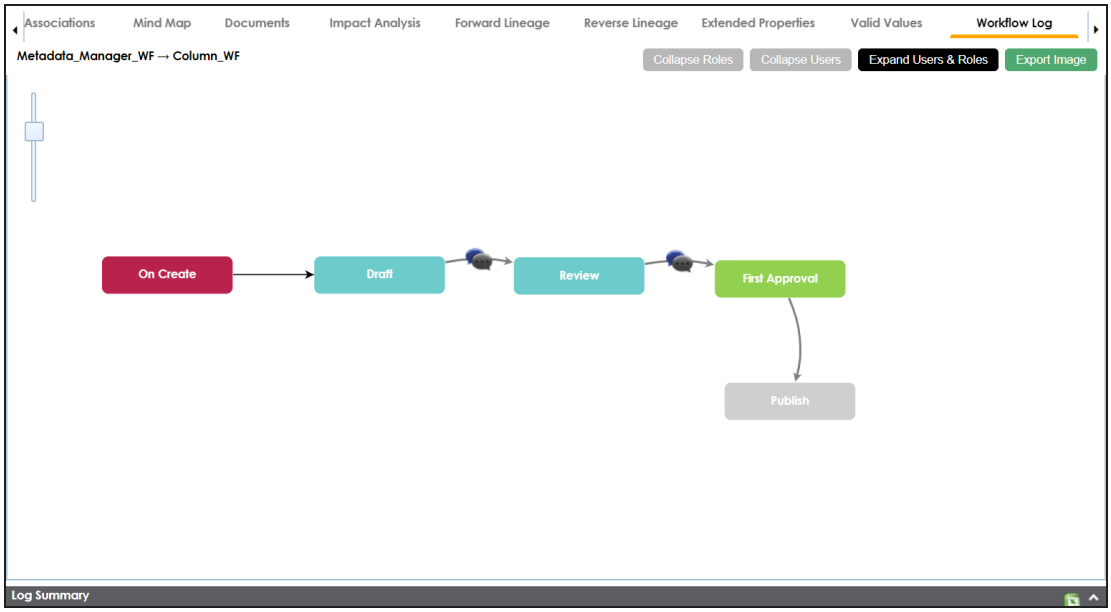
Viewing Workflow Logs of Columns

You can view workflow logs of a column in the Metadata Manager. It displays the current state of the column in the workflow. By default, the Metadata_Manager_Default_Workflow is assigned to all the columns. You can create your own workflow and assign it to columns. For more information, creating and assigning workflows to columns, refer to the Managing Metadata Manager Workflows section.

To view workflow log of columns, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. In the **Data Catalog** pane, click a column.
4. In the central pane, click the **Workflow Log** tab.

   The current workflow stage blinks in the diagram.



Use the following options:

User Comments

To view users and the comments entered by the users in each stage, hover over  .

Expand/Hide Users and Roles

Use this option to view or hide users and roles assigned to the stages of the workflow.

Collapse/Expand Roles

This option is enabled when you are in the Expand Users and Roles view. Use this option to collapse or expand roles.

Collapse/Expand Users

This option is enabled when you are in the Expand Users and Roles view. Use this option to collapse or expand users.

Export Image

Use this option to download the workflow in the JPG format.

Associating Tables

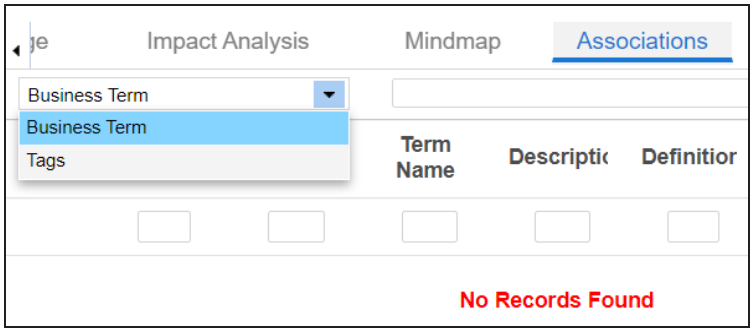
You can associate tables with business assets, systems, environments, tables, and columns. You can also view mind map and association statistics.

Ensure that:

- Business assets are enabled. You can add custom business assets and enable them in Business Glossary Manager Settings.
- Relationship between table and the asset type is defined. You can define associations and relationships in Business Glossary Manager Settings.

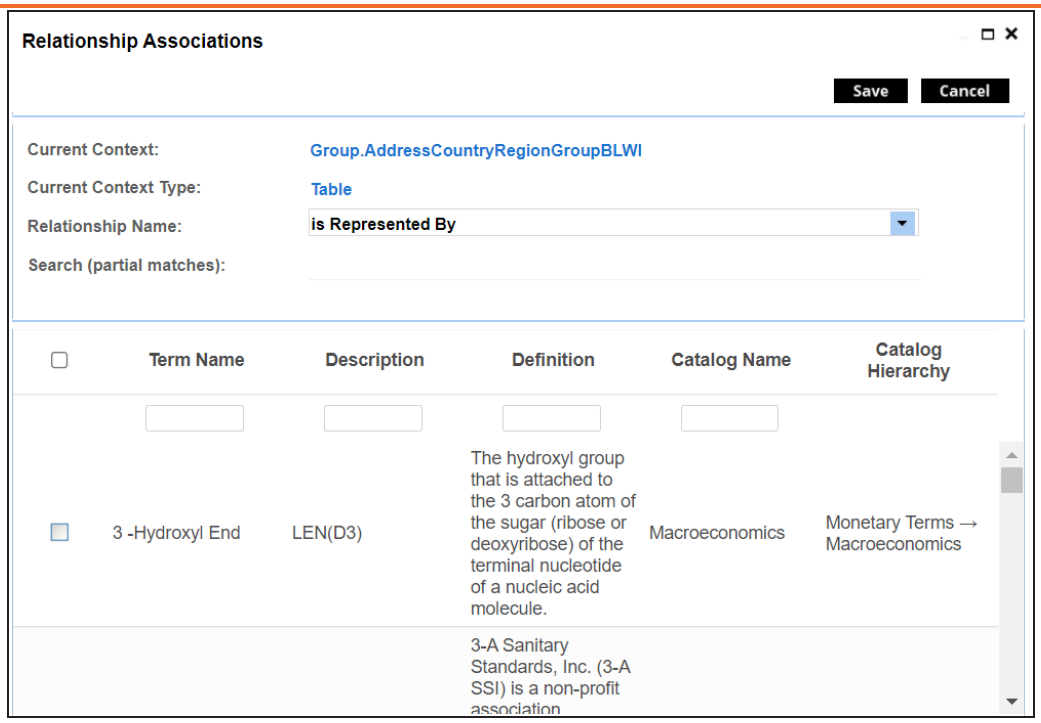
To associate tables with asset types, follow these steps:

1. In the **Data Catalog** pane, click the required table.
2. In the central pane, click the **Associations** tab.
3. Select an asset type from the drop down.



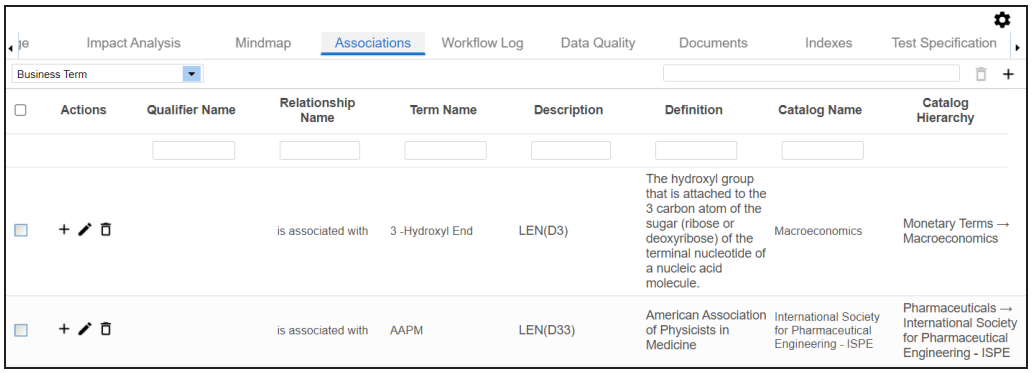
4. Click +.

   The Relationship Associations page appears.



5. Select **Relationship Name** and the asset type.
   If you know the term name, use the Search (partial matches) field to look up for it.
6. Click **Save**.

   The asset is added to the table.



Once you have created associations, you can use the following options under the **Actions** column:

Add Association (+)

Use this option to add associations using a qualifier.

Edit Association ( )

Use this option to edit the association.

Delete Association ( )

Use this option to delete the association.

To view mind map, click the **Mindmap** tab. For more information on mind maps, refer to the Viewing Mind Maps topic.

You can associate multiple assets with tables and view the associations based on a qualifier view in the mind map. For more information, refer to the Setting Up Associations Using Qualifiers topic.

Associating Columns

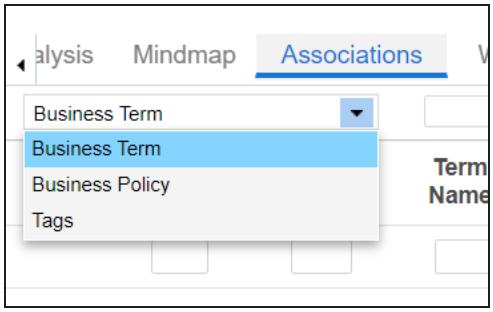
You can associate columns with business assets, systems, environments, tables, and columns. You can also view mind map and association statistics.

Ensure that:

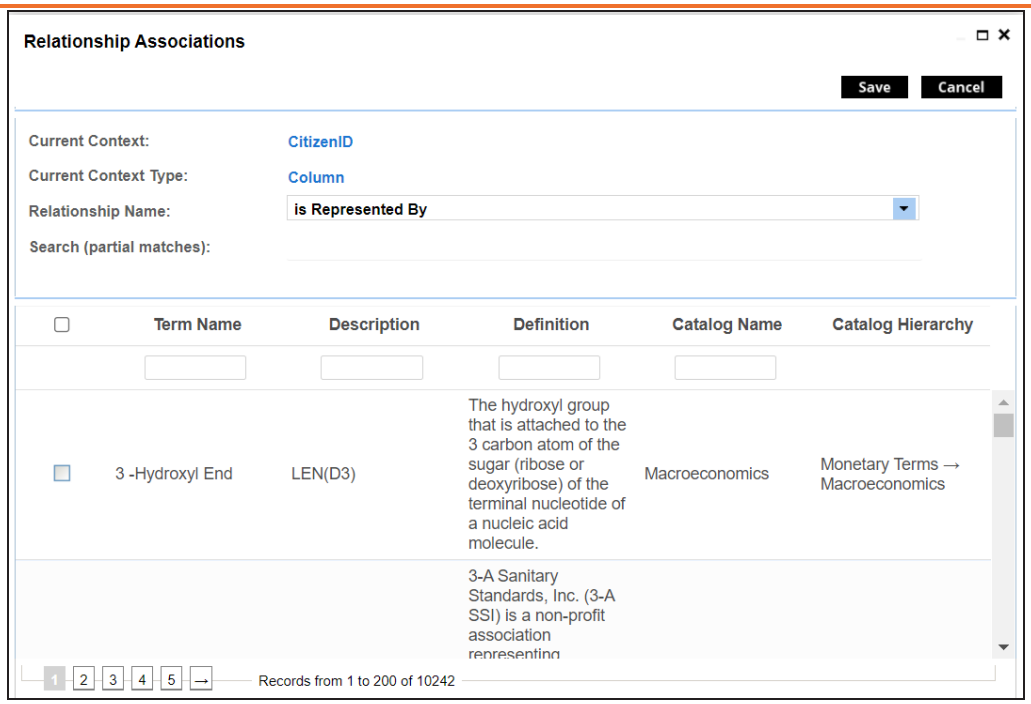
- Business assets are enabled. You can add custom business assets and enable them in Business Glossary Manager Settings.
- Relationship between column and the asset type is defined. You can define associations and relationships in Business Glossary Manager Settings.

To associate columns with asset types, follow these steps:

1. In the **Data Catalog** pane, click the required column.
2. In the central pane, click the **Associations** tab.
3. Select an asset type from the drop down.

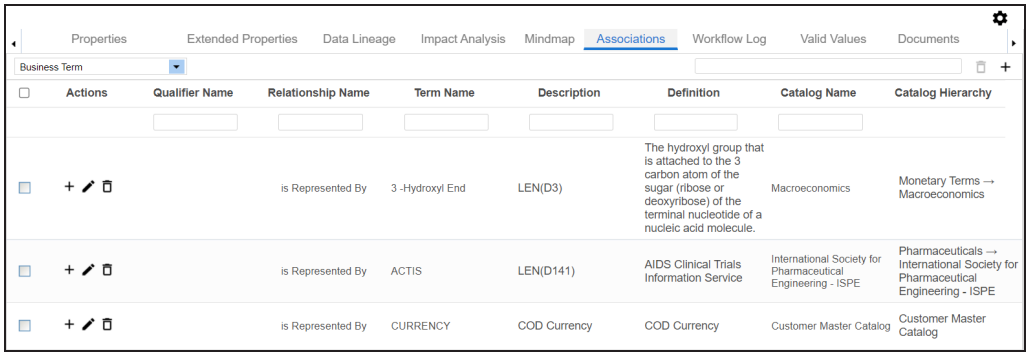


4. Click +.
   The Relationship Associations page appears.



5. Select **Relationship Name**, and asset type.
   If you know the term name, use the Search (partial matches) field to look up for it.
6. Click **Save**.

   The asset is added to the column.



Once you have created associations, you can use the following options under the **Actions** column:

Add Association (+)

Use this option to add associations using a qualifier.

Edit Association ( )

Use this option to edit the association.

Delete Association ( )

Use this option to delete the association.

To view mind map, click the **Mindmap** tab. For more information on mind maps, refer to the Viewing Mind Maps topic.

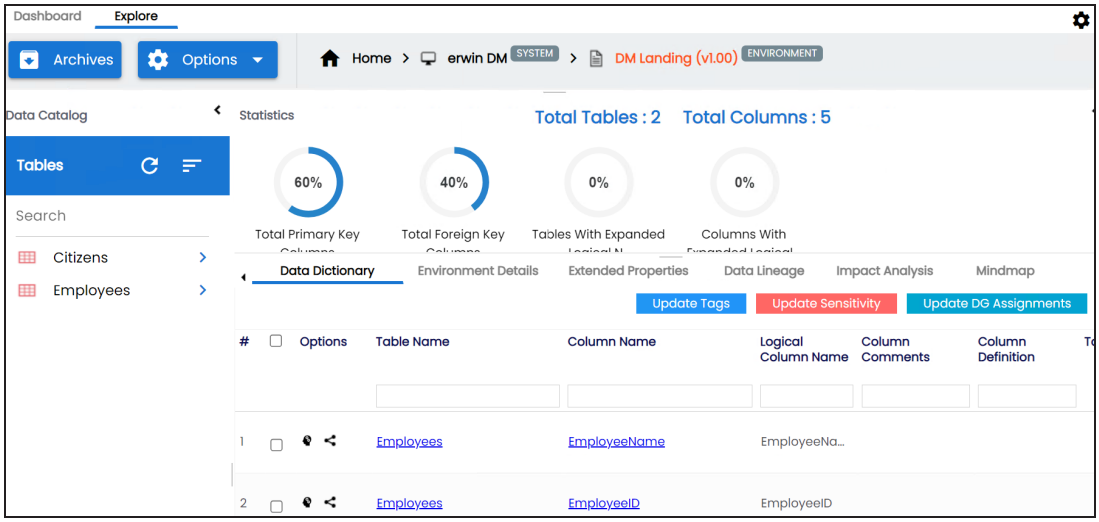
You can associate multiple assets with column and view the associations based on a qualifier view in the mind map. For more information, refer to the Setting Up Associations Using Qualifiers topic.

Updating Data Governance Assignments

You can update data governance and assign governance responsibilities for tables and columns in environments to users. The user-list appears as pick list values based on the roles group. Ensure that you assign appropriate roles and users to the environments containing technical assets.

To update data governance assignments, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
   By default, the Data Dictionary tab opens.



The Data Dictionary tab displays tables and columns in an environment.

On the Data Dictionary tab, you can update the data governance responsibilities of the asset (s) as per the following:

- Bulk
- Individual

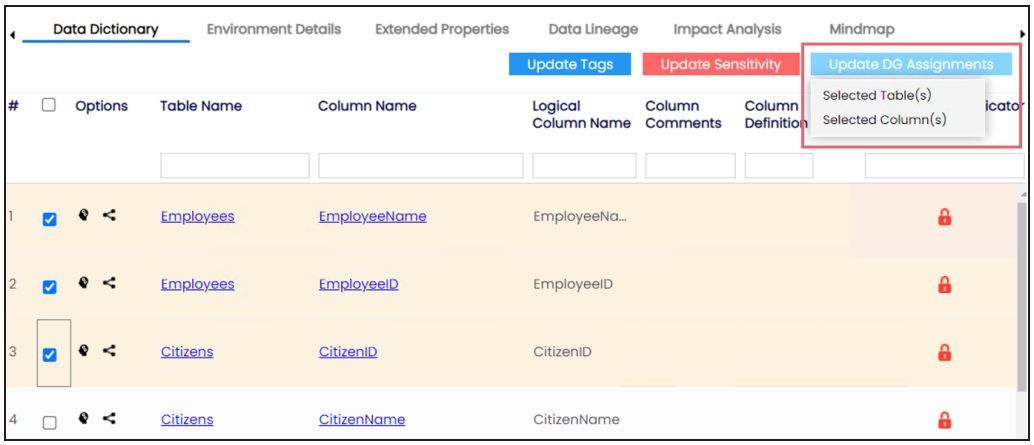
Bulk Update

You can update the sensitivity in bulk at table and column levels.

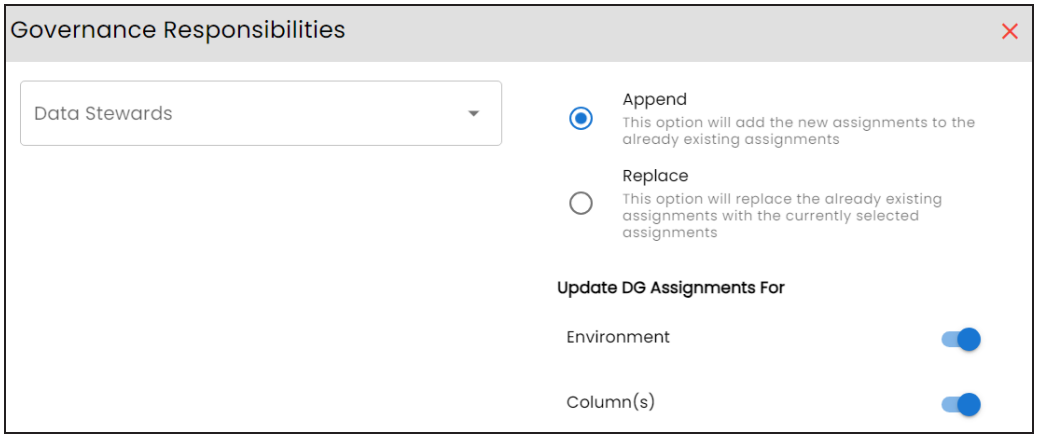
Table Level

To update the data governance responsibilities for tables in an environment, follow these steps:

1. On the **Data Dictionary** tab, select the required rows.
   You can use the check box at top to select all the rows.
2. Hover over **Update DG Assignments**.



3. Click **Selected Table(s)**.
   The Governance Responsibilities page appears. It displays roles groups based on the roles and users assigned to the environment.



4. Select the required user based on the role available.

5. Use the following options:

   Append

   Use this option to add new assignments to the existing assignments.

   Replace

   Use this option to replace existing assignments.

6. To update the assignments to relevant columns and environment, use the following options under Update DG Assignment For:

   Environment

   Switch **Environment** to **YES** to apply the governance responsibilities to the environment containing the tables.

   Column(s)

   Switch **Column(s)** to **YES** to apply the governance responsibilities to the all the columns in the selected tables.

7. Click  .

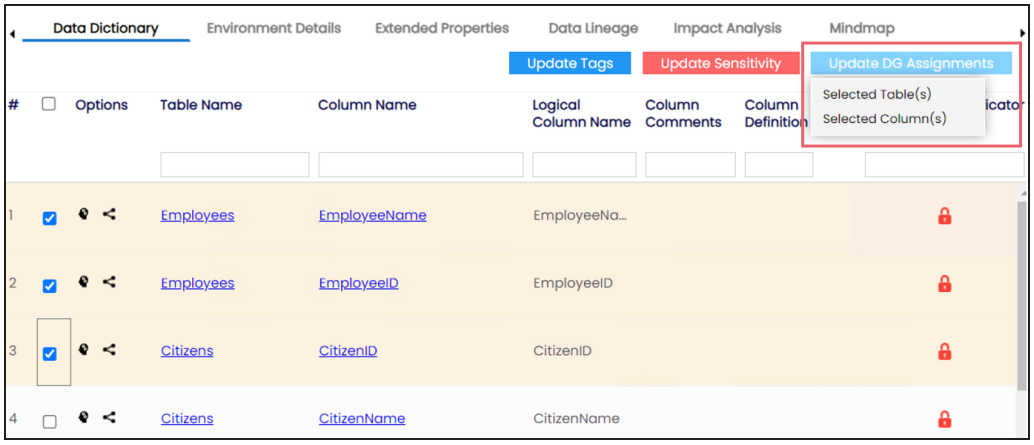
   The data governance assignment is updated.

Column Level

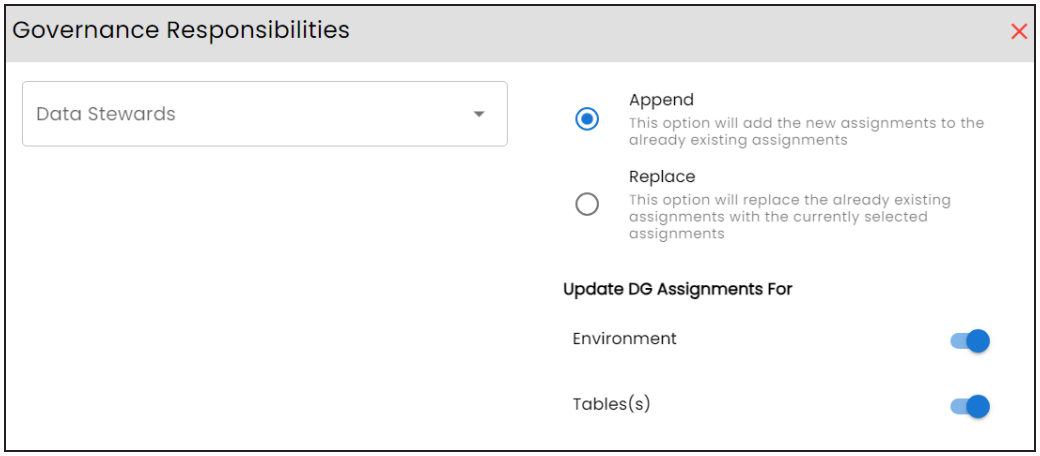
To update the data governance responsibilities for columns in an environment, follow these steps:

1. On the **Data Dictionary** tab, select the required rows.
   You can use the check box at top to select all the rows.

2. Hover over **Update DG Assignments**.



3. Click **Selected Column(s)**.
   The Governance Responsibilities page appears. It displays roles groups based on the roles and users assigned to the environment.



4. Select the required user based on the role available.
5. Use the following options:

Append

Use this option to add new assignments to the existing assignments.

Replace

Use this option to replace existing assignments.

6. To update the assignments to relevant columns and environment, use the following options under Update DG Assignment For:

   Environment

   Switch **Environment** to **YES** to apply the governance responsibilities to the environment containing the columns.

   Table(s)

   Switch **Column(s)** to **YES** to apply the governance responsibilities to the tables of the selected column.

7. Click  .

   The data governance assignment is updated.

Individual Asset Update

You can view and update the data governance responsibilities of technical assets (environments, tables, and columns) individually.

To view and update the data governance responsibility of technical assets individually, follow these steps:

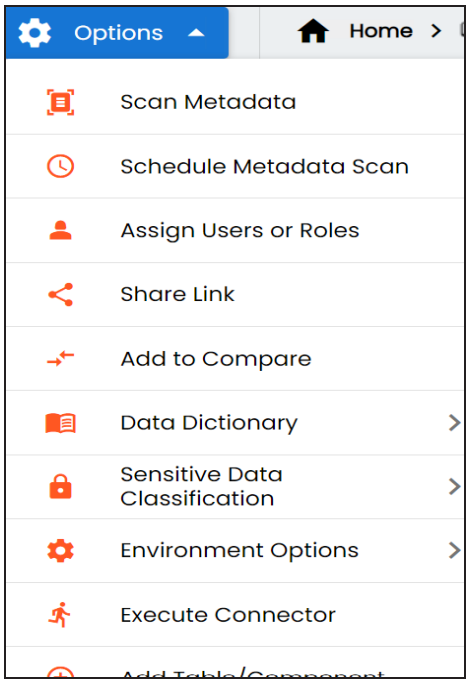
- **Environment:**
  The governance responsibility of an environment can be viewed under the Environment Details tab. You can edit an environment, and governance responsibility individually.
- **Table:**
  In the Data Catalog pane, you can click <Table_Name> to view and update the data governance responsibility. You can edit the table properties to update governance responsibility individually.
- **Column:**
  Once you have selected a table, in the Data Catalog pane, you can click <Column_Name> to view and update the data governance responsibility. You can edit the column properties to update governance responsibility individually.

Versioning Environments

You can create versions of an environment and keep a legacy of old metadata. You can also track changes by comparing the two versions of the environment.

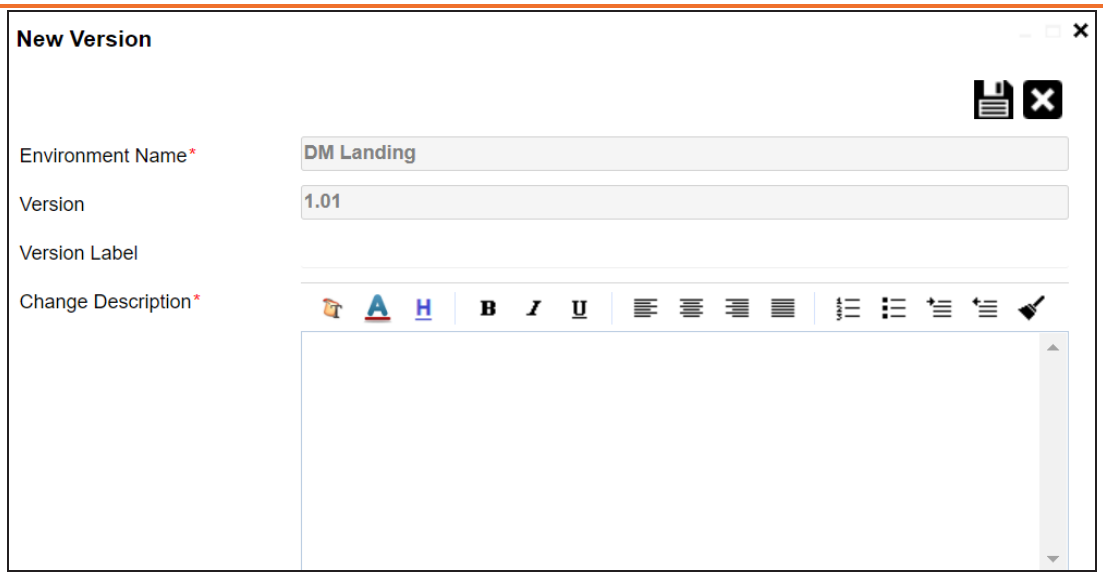
To create new versions of environments, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile.
3. Click **Options**.
   The available options appear.



4. Click **Environment Options** > **New Version**.

   The New Version page appears.



5. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Environment Name	Specifies the name of the environment. For example, EDW-Test.
Version	Specifies the new version of the environment. For example, 1.02.
Version Label	Specifies the version label of the environment. For example, Beta. For more information on configuring version display of environments, refer to the Configuring Version Display topic.
Change Description	Specifies the description of the changes made in the environment. For example: A new table, EMP_Details was added in the environment.

6. Click .

   A new version of the environment is created and stored in the environment tree.

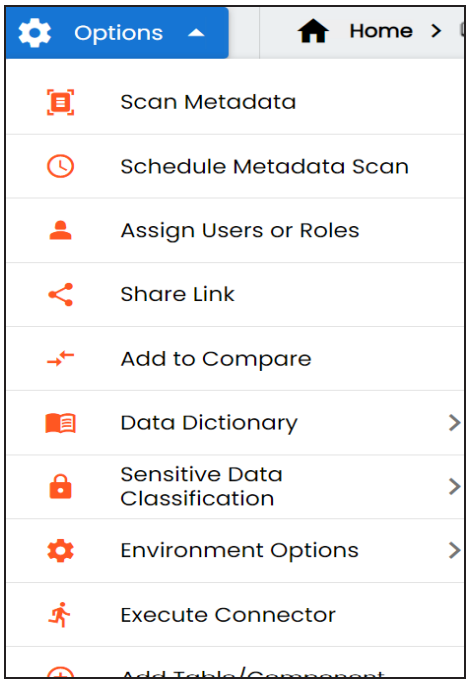
The old version of the environment is archived. You can also compare the two versions of the environment.

Comparing Environments

You can compare two environments and trace the table and column level changes. Comparing two environments enables you to debug scanned metadata and makes your data integration project efficient.

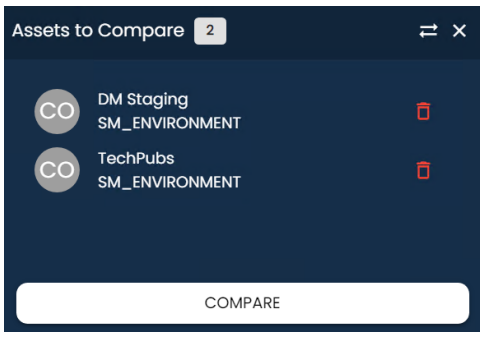
To compare environments, follow these steps:

1. On the Explore tab, click an environment tile to view its details.
2. Click **Options**.
   The available options appear.



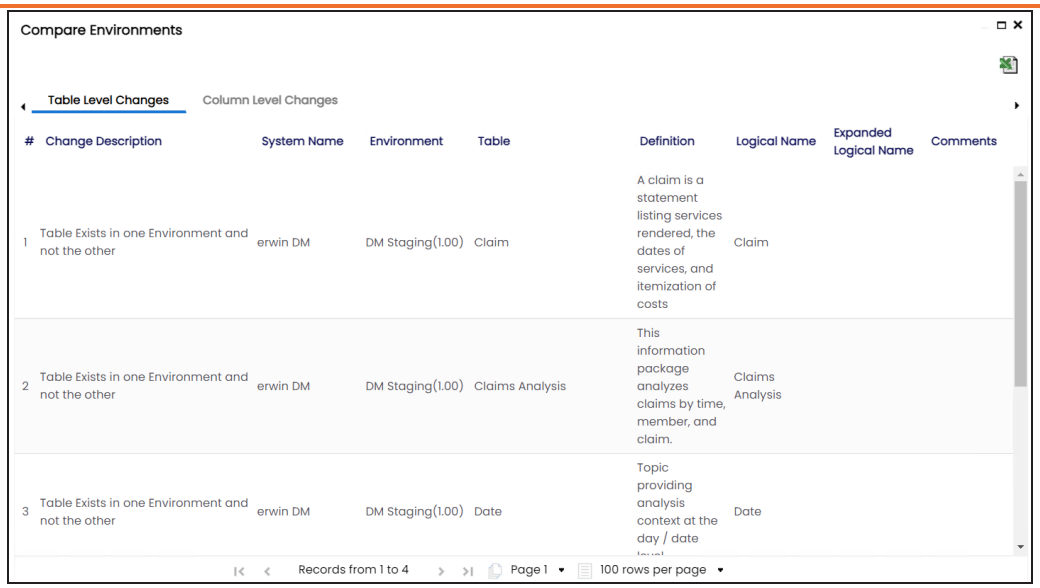
3. Click **Add to Compare**.
   The Asset to Compare sheet appears and displays the environment for comparison.

4. Select a different environment to add it for comparison.
   To add another environment, open an environment that you like to compare, follow steps 2 and 3.
   This adds the environment for comparison.



   You can click  to remove assets from the compare list.

5. Click **Compare**.
   The Compare Environments page appears and displays side by side comparison of asset properties for the selected assets. By default, it opens the Table Level Changes tab.



To view column level changes, on the **Compare Environments** page, click the **Column Level Changes** tab.

To download the comparison report, click .

Downloading Data Dictionaries

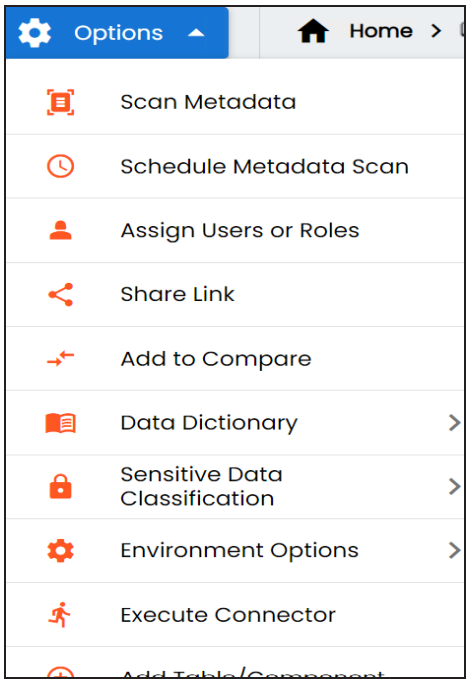
Once the metadata is scanned and stored in the repository, you can instantly view and export data dictionary at the environment and table levels.

A data dictionary at environment level includes definitions of all the tables and columns available in the environment. Whereas, a data dictionary at table level includes the definitions of the table and its columns.

Environment Level

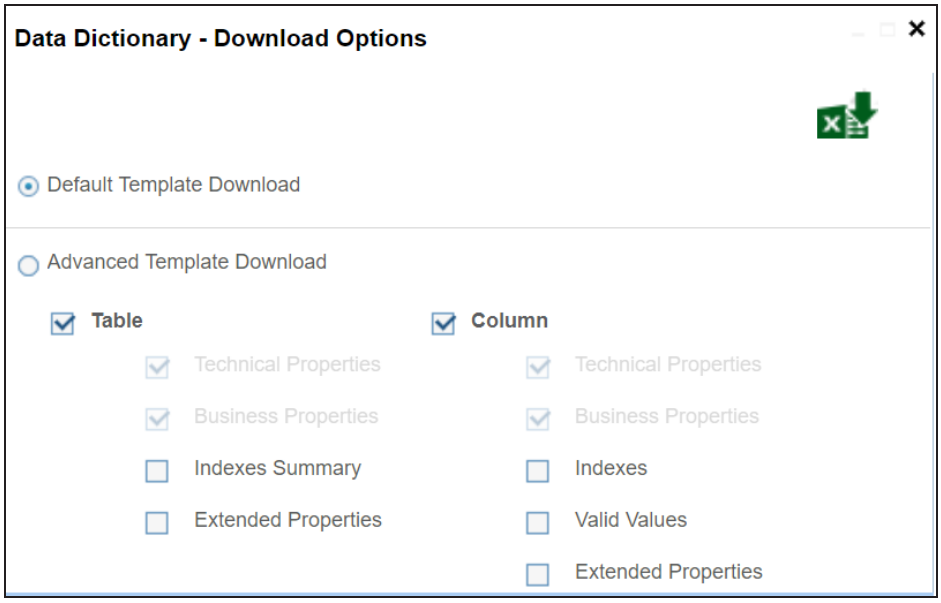
To download data dictionaries at environment level, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to see its details.
3. Click **Options**.
   The available options appear.



4. Click **Data Dictionary** > **Download**.

   The Data Dictionary-Download Options page appears.



5. Use the following options:

   Default Template Download

   Use this option to download the data dictionary in a default template. The default template includes technical and business properties of tables and columns.

   Advanced Template Download

   Use this option to download the data dictionary in an advanced template. You can customize an advanced template to include additional information, such as Indexes Summary, Extended Properties for Tables, Valid Values, and Extended Properties for columns.

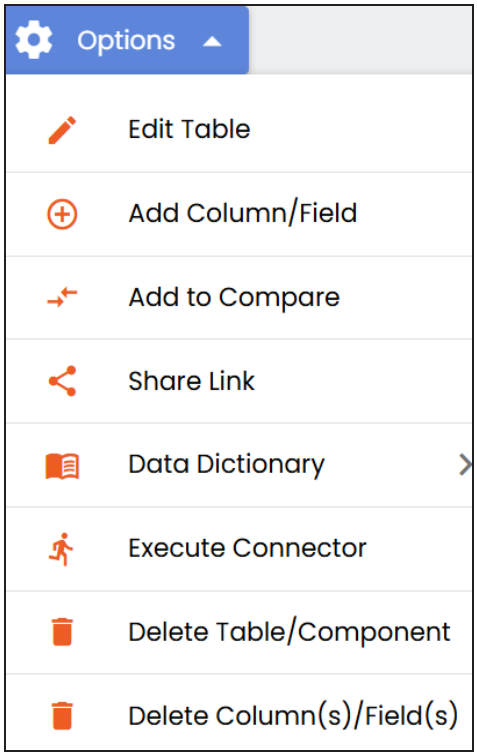
6. Click .

   Data dictionary is downloaded in the XLSX format.

Table Level

To download data dictionaries at table level, follow these steps:

1. In the **Data Catalog** pane, click a table.
2. Click **Options**.
   The available options appear.



3. Click **Data Dictionary** > **Download**.

   The data dictionary of the selected table is downloaded in the XLSX format.

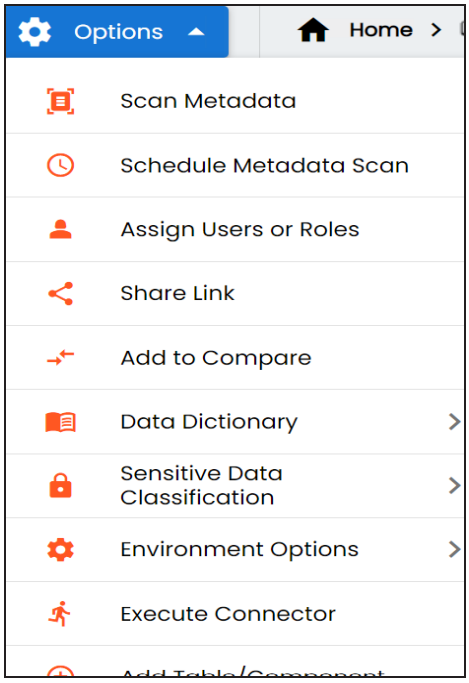
You can also view data dictionary report at system level and update data dictionary at environment level.

Uploading Data Dictionary

You can update and upload a data dictionary at the environment level in the XLSX format. To update data dictionary, you can either use an existing XLSX file or download a data dictionary file from a suitable environment. Ensure that the XLSX file follows the correct template. For more information on downloading a data dictionary in XLSX, refer to the Downloading Data Dictionary topic.

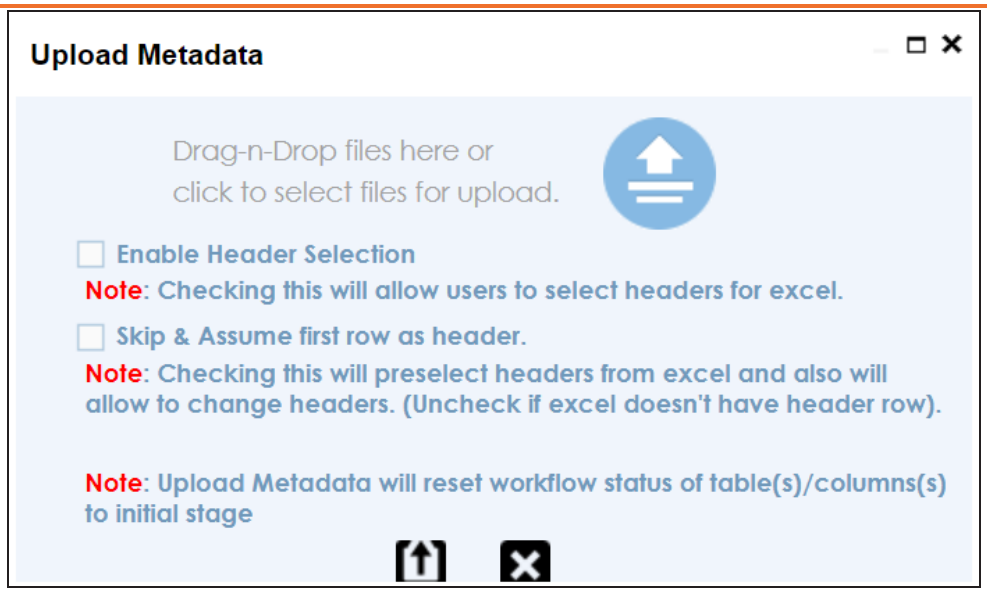
To upload data dictionaries at the environment level, follow these steps:

1. On the Explore tab, click an environment tile to see its details.
2. Click **Options**.
   The available options appear.



3. Click **Data Dictionary** > **Upload**.

   The Upload Metadata page appears.



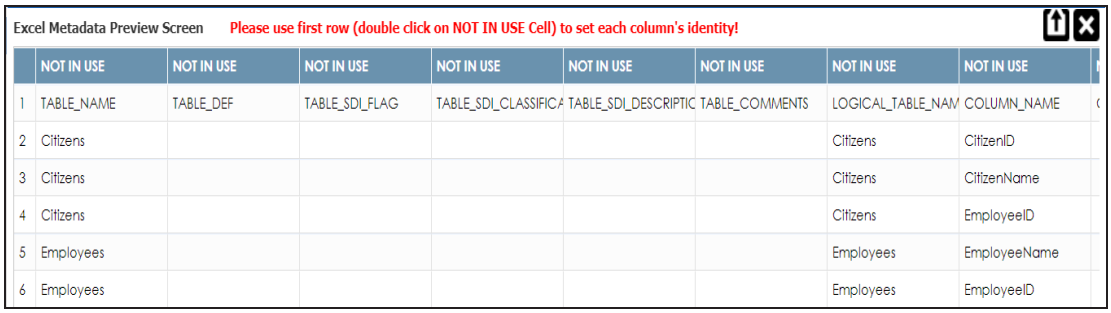
4. Drag and drop the updated data dictionary file or use to upload the file.

   You can use the following options to select headers for the XLSX file:

   Enable Header Selection

   Use this option to select headers for the XLSX file. Select the checkbox and click .

   The Upload Metadata page appears.



	NOT IN USE	NOT IN USE	NOT IN USE	NOT IN USE	NOT IN USE	NOT IN USE	NOT IN USE	NOT IN USE
1	TABLE_NAME	TABLE_DEF	TABLE_SDI_FLAG	TABLE_SDI_CLASSIFICA	TABLE_SDI_DESCRIPTIC	TABLE_COMMENTS	LOGICAL_TABLE_NAM	COLUMN_NAME
2	Citizens						Citizens	CitizenID
3	Citizens						Citizens	CitizenName
4	Citizens						Citizens	EmployeeID
5	Employees						Employees	EmployeeName
6	Employees						Employees	EmployeeID

   To select headers, double-click the **NOT IN USE** cell.

   Skip & Assume first row as header

You can use this option only when the Enable Header Selection checkbox is selected. Use this checkbox to use the first row as header.

Select the checkbox and click .

The Upload Metadata page appears. The first row in the XLSX file appears as the header.

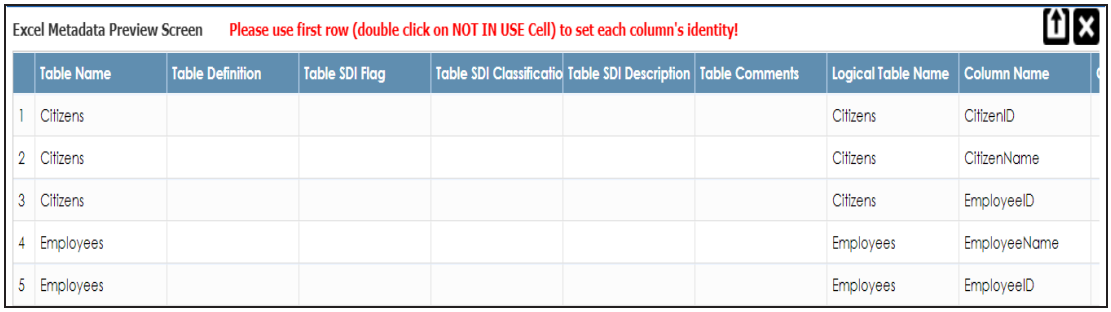

Excel Metadata Preview Screen Please use first row (double click on NOT IN USE Cell) to set each column's identity!

	Table Name	Table Definition	Table SDI Flag	Table SDI Classificatio	Table SDI Description	Table Comments	Logical Table Name	Column Name
1	Citizens						Citizens	CitizenID
2	Citizens						Citizens	CitizenName
3	Citizens						Citizens	EmployeeID
4	Employees						Employees	EmployeeName
5	Employees						Employees	EmployeeID

To select alternate headers, double-click the header cell.

5. Click .

The data dictionary is updated at the environment level.

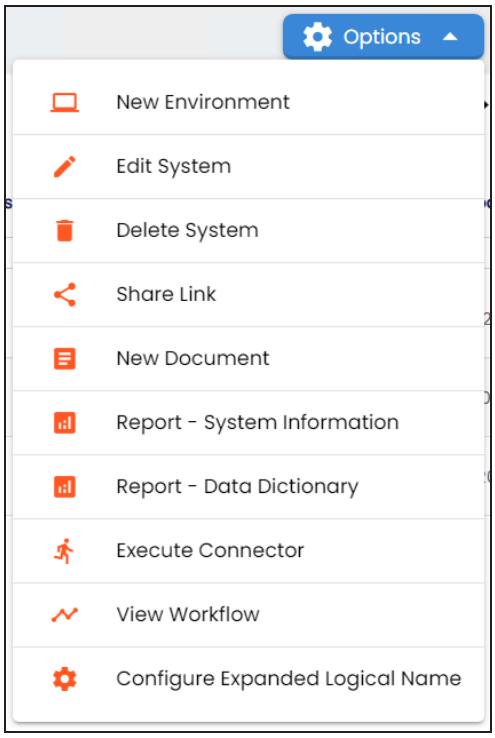
Viewing Data Dictionary Report

You can view a data dictionary report at the system level. The data dictionary report includes all the environments in the system and it can be exported in various formats, such as HTML, PDF, and MS Excel.

It is meaningful to view data dictionary report after scanning metadata into an environment.

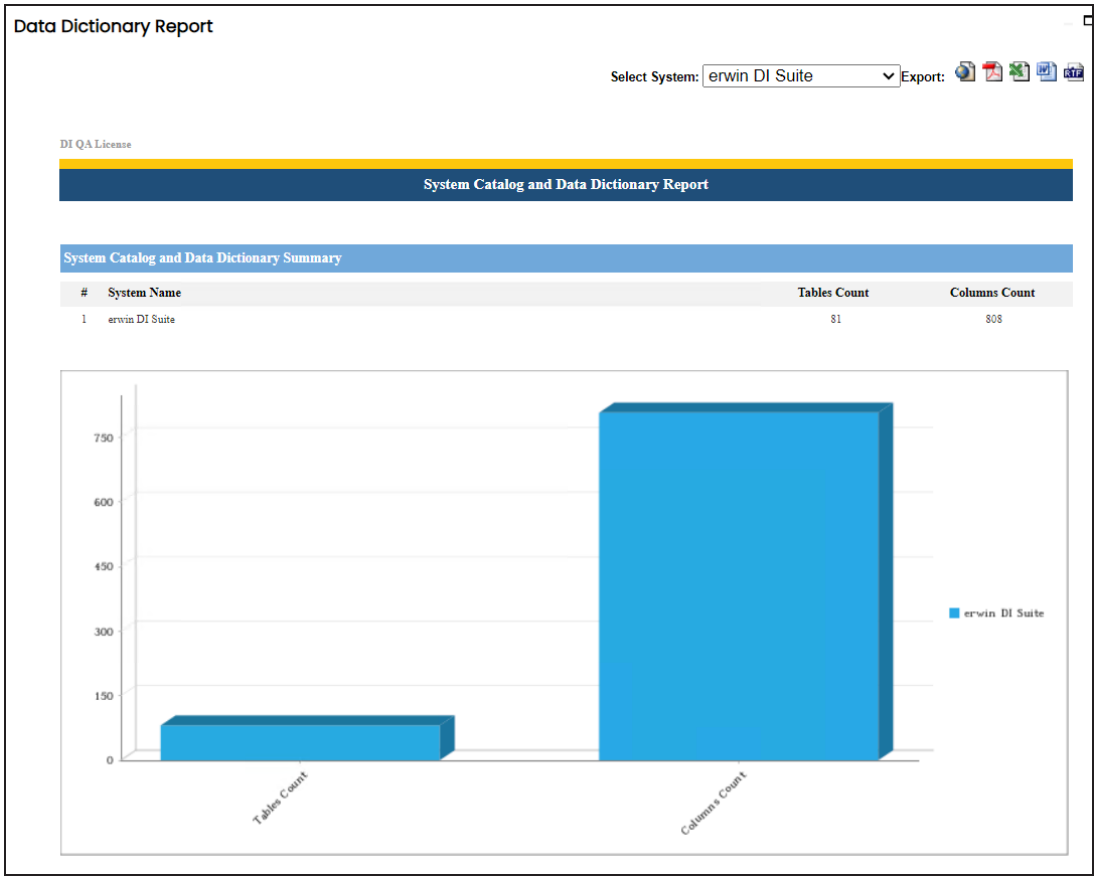
To view data dictionary at system level, follow these steps:

1. On the Explore tab, hover over a system and click 

to open.
2. Click **Options**.
   The available options appear.
   

3. Click **Report - Data Dictionary**.

The Data Dictionary Report appears. You can use Select System to view the data dictionary reports of any system.



Use the following options to export the data dictionary report:

HTML ( )

Use this option to export the report in the HTML format.

PDF ( )

Use this option to export the report in the PDF format.

MS Excel ( )

Use this option to export the report in the XLSX format.

MS Word ()

Use this option to export the report in the DOCX format.

RTF ()

Use this option to export the report in the RTF format.

Exporting and Importing Sensitive Data Classification

You can export and import sensitive data indicator (SDI) classification at metadata and environment levels via an MS Excel template.

This topic walks you through the following:

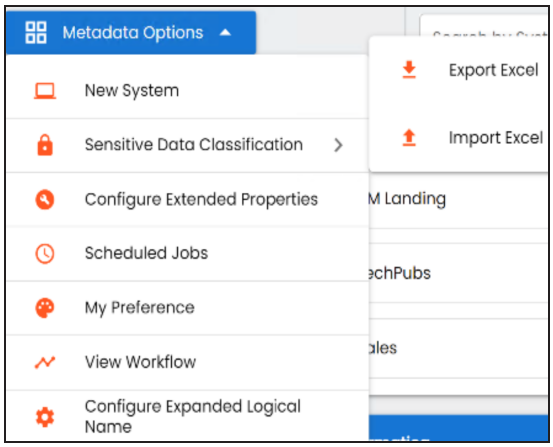
- Exporting SDI at metadata level
- Exporting SDI at environment level
- Importing SDI

Exporting SDI at Metadata Level

To export SDI at metadata level, follow these steps:

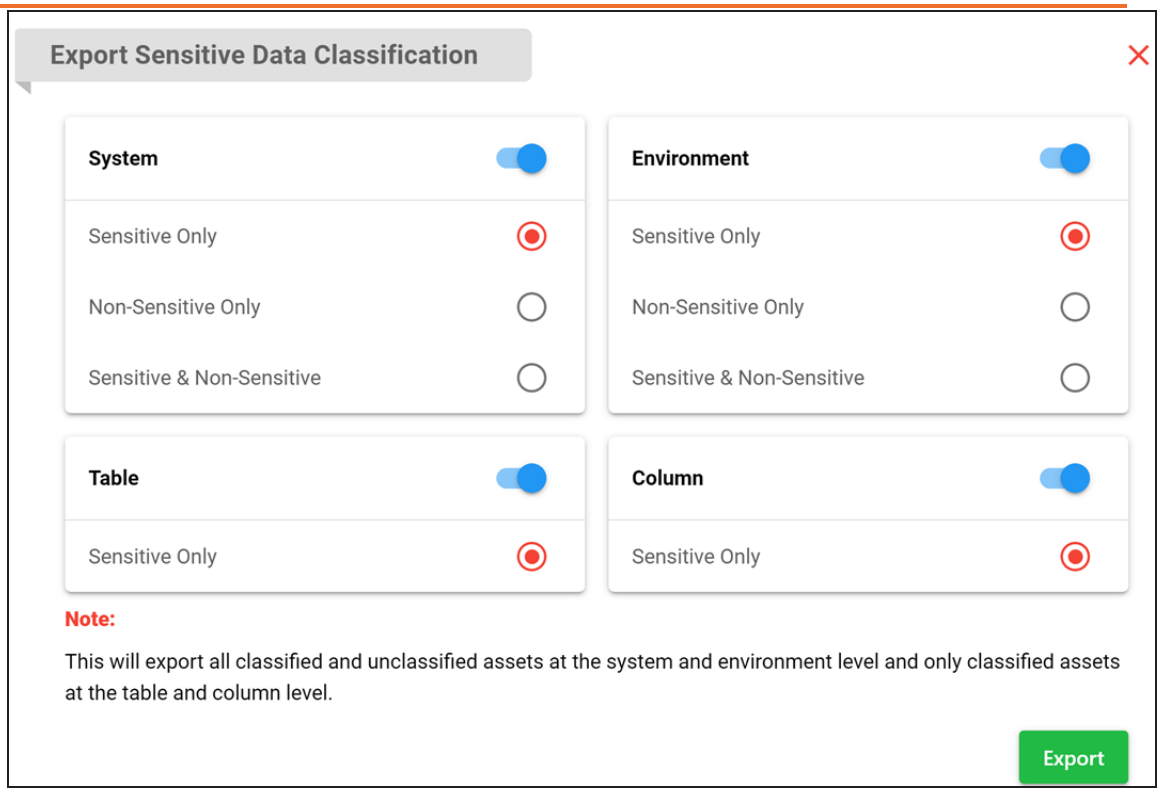
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. Click **Metadata Options** and select **Sensitive Data Classification**.

   Options for sensitive data classification appear.



3. Click **Export Excel**.

   The Export Sensitive Data Classification page appears.



4. Use the following options to export SDI at based on assets:

System

Switch this option **ON** to export SDI for systems.
Use one of the following options:

- **Sensitive Only**: Use this option to export sensitive systems.
- **Non-Sensitive Only**: Use this option to export non-sensitive systems.
- **Sensitive & Non-Sensitive**: Use this option to export both sensitive and non-sensitive systems.

Environment

Switch this option **ON** to export SDI for environments.
Use one of the following options:

- **Sensitive Only**: Use this option to export sensitive environments.
- **Non-Sensitive Only**: Use this option to export non-sensitive environments.
- **Sensitive & Non-Sensitive**: Use this option to export both sensitive and non-sensitive environments.

Table

Use this option to export SDI for tables. By default, a list of sensitive tables is exported.

Column

Use this option to export SDI for columns. By default, a list of sensitive columns is exported.

5. Click **Export**.

SDI classification report is downloaded in the XLSX format.

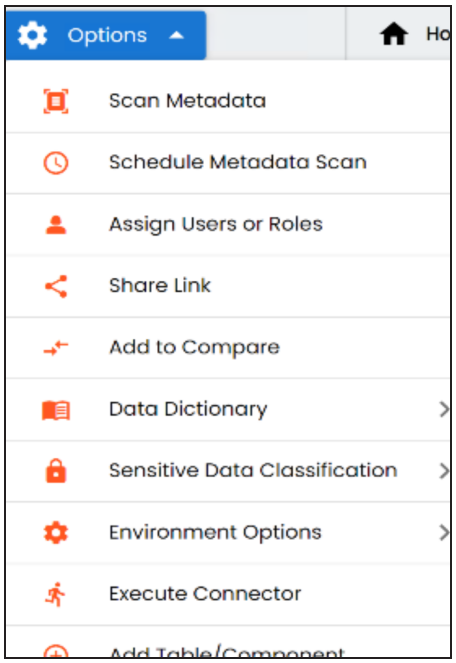
Exporting SDI at Environment Level

Similarly, to export SDI at environment level, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile.

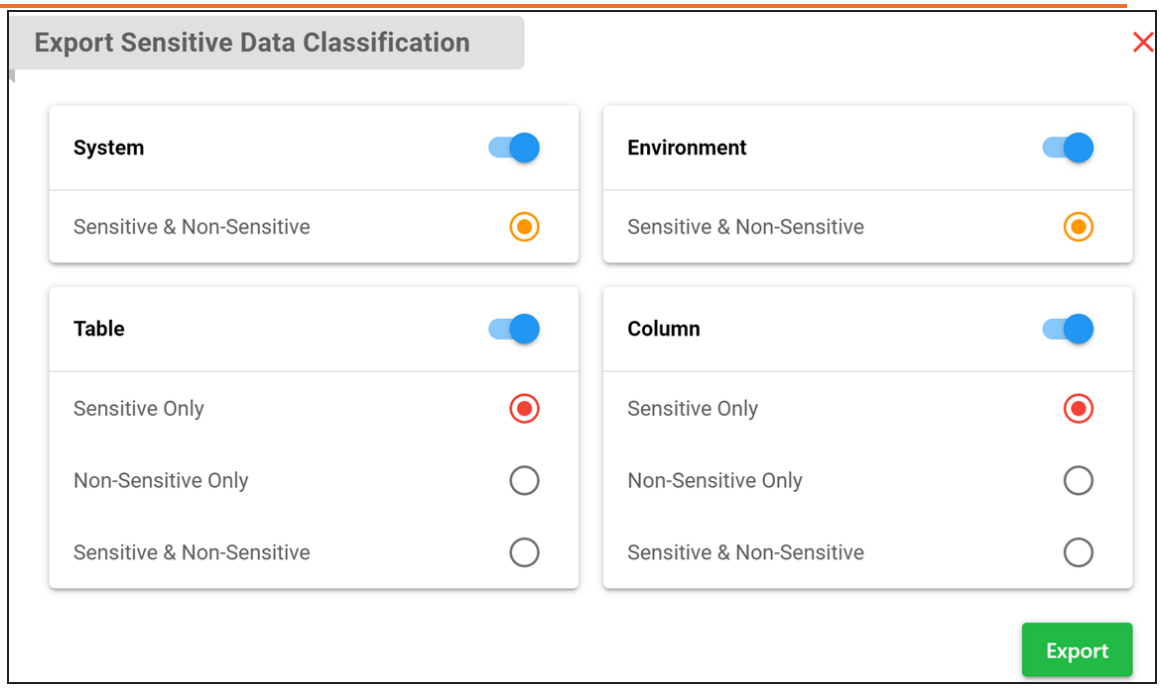
3. Click **Options**.

   The available options appear.



4. From the environment options list, click **Sensitive Data Classification** > **Export Excel**.

   The Export Sensitive Data Classification page appears.



5. Use the following options to export SDI based on assets:

System

Switch this option **ON** to export SDI for the associated system. By default, a list of both sensitive and non-sensitive system is exported.

Environment

Switch this option **ON** to export SDI for the environment. By default, a list of both sensitive and non-sensitive environment is exported.

Table

Switch this option **ON** to export SDI for tables in the environment.
Use one of the following options:

- **Sensitive Only**: Use this option to export sensitive tables.
- **Non-Sensitive Only**: Use this option to export non-sensitive tables.
- **Sensitive & Non-Sensitive**: Use this option to export both sensitive and non-sensitive tables.

Column

Switch this option **ON** to export SDI for columns in the environment.
Use one of the following options:

- **Sensitive Only**: Use this option to export sensitive columns.
- **Non-Sensitive Only**: Use this option to export non-sensitive columns.
- **Sensitive & Non-Sensitive**: Use this option to export both sensitive and non-sensitive columns.

6. Click **Export**.

   System Data Classification is downloaded in the XLSX format.

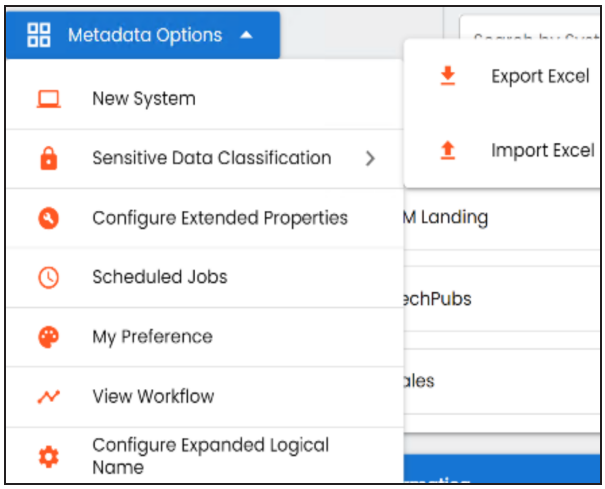
Importing Sensitive Data Classification

You can import SDI from an MS Excel template at system and environment levels.

To import SDI, follow these steps:

1. On the Explore tab, click **Metadata Options** and select **Sensitive Data Classification**.

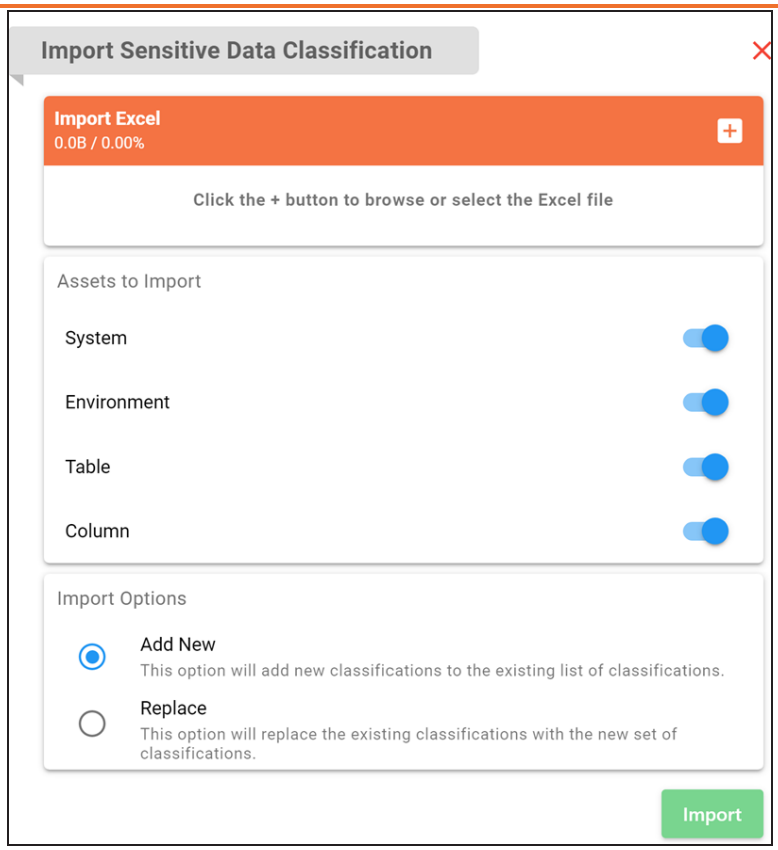
   Options for sensitive data classification appear.



   Alternatively, to import SDI for environments, on the Explore tab, click an environment tile. Then, click **Options** > **Sensitive Data Classification**.

2. Click **Import Excel**.

   The Import Sensitive Data Classification page appears.



3. Use the following options:

   Import Excel

   Use this section to import MS Excel file containing SDI classification for systems and environments. Click  to browse and select a file.

   Assets to Import

   Use these options to select the asset types for which you want to import SDI classification.

   Import Options

   - **Add New**: Use this option to add new classifications to an existing list.
   - **Replace**: Use this option to replace existing classifications with new ones.

4. Click **Import**.

   Sensitive data classification is imported.

Running Impact Analysis

After mapping source metadata to target metadata, you can run impact analysis on technical assets. Impact analysis helps you understand upstream and downstream dependencies of technical assets and their impacts linked to business assets. It helps you assess the impact of transformations and source or target-level changes.

Apart from this you can also, view lineages based on selected assets and export its impact analysis.

You can run impact analysis at the following levels:

- System
- Environment
- Table
- Column

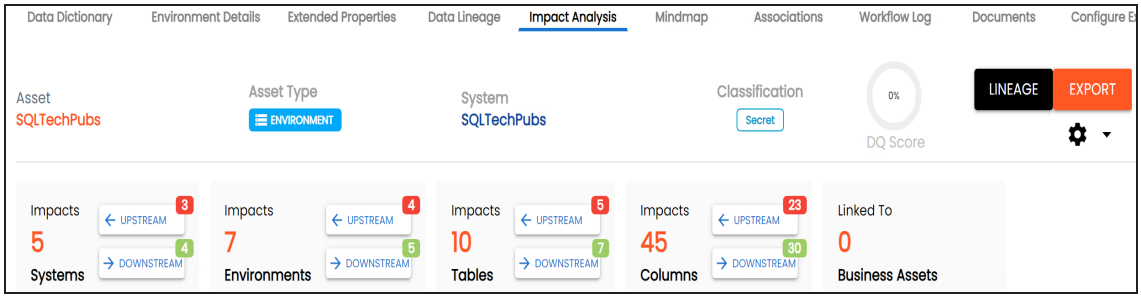
Systems and Environments

You can perform impact analysis on environments and systems and analyze their impact as source and target.

This topic walks you through the steps to view impact analysis of environments. Similarly, you can view impact of systems, tables, and columns.

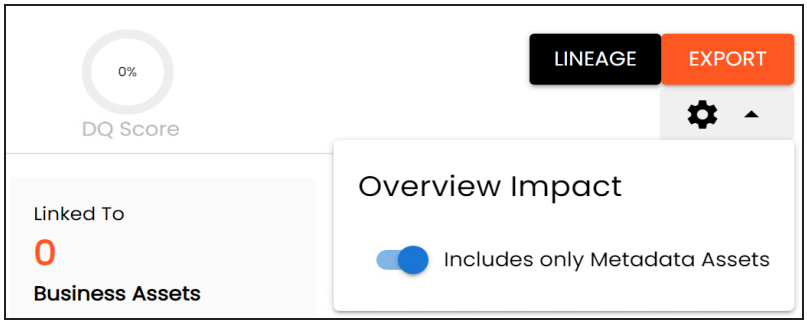
To view impact analysis at system or environment levels, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to see its details.
3. Click the **Impact Analysis** tab.
   Impact analysis for the environment appears.
   It displays the asset hierarchy, sensitivity data indicator (SDI) classification, data quality analysis, and environment's impact based on related assets in your metadata.

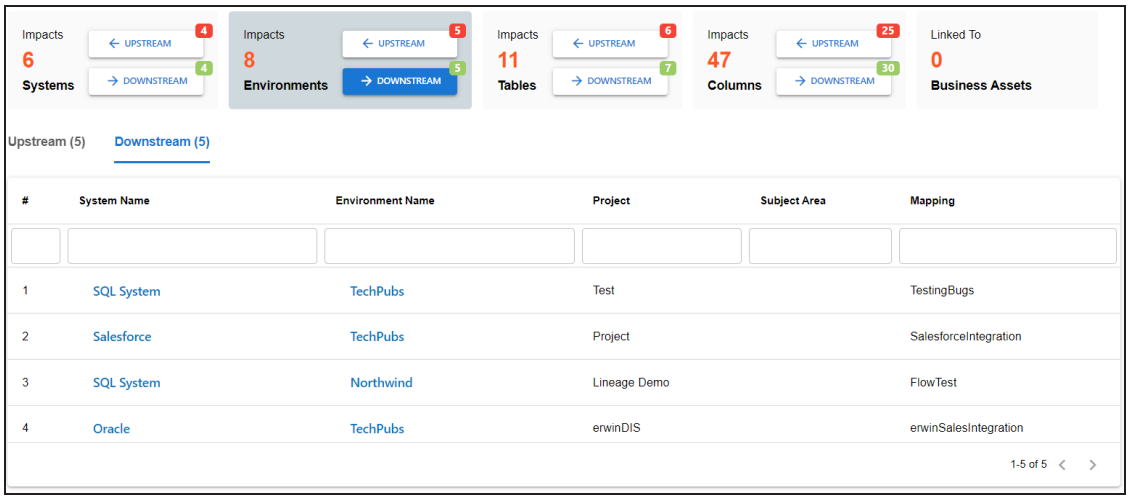


Alternatively, click ⚙ to switch the **Overview Impact** option **ON** to exclude non-existent systems and environments from the impact analysis. When this option is switched off, the view includes systems and environments that do not exist in the Metadata

Manager.



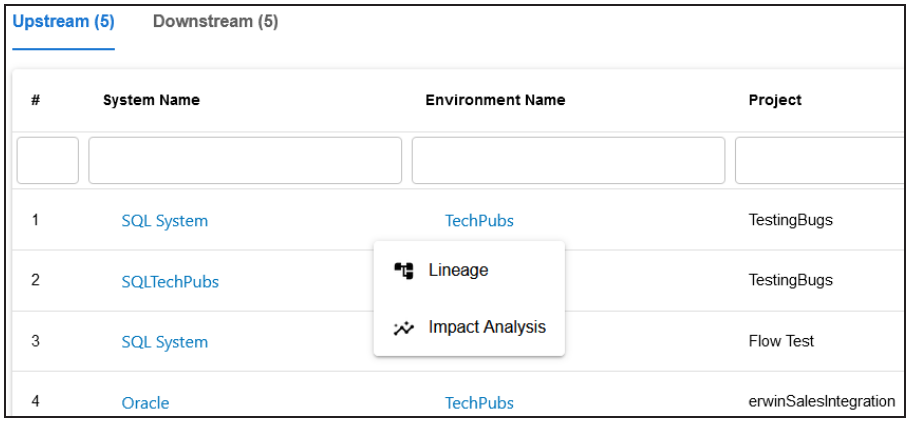
4. On the Environments card, click **Downstream**.
   The downstream dependencies of the environment appear in a grid format.



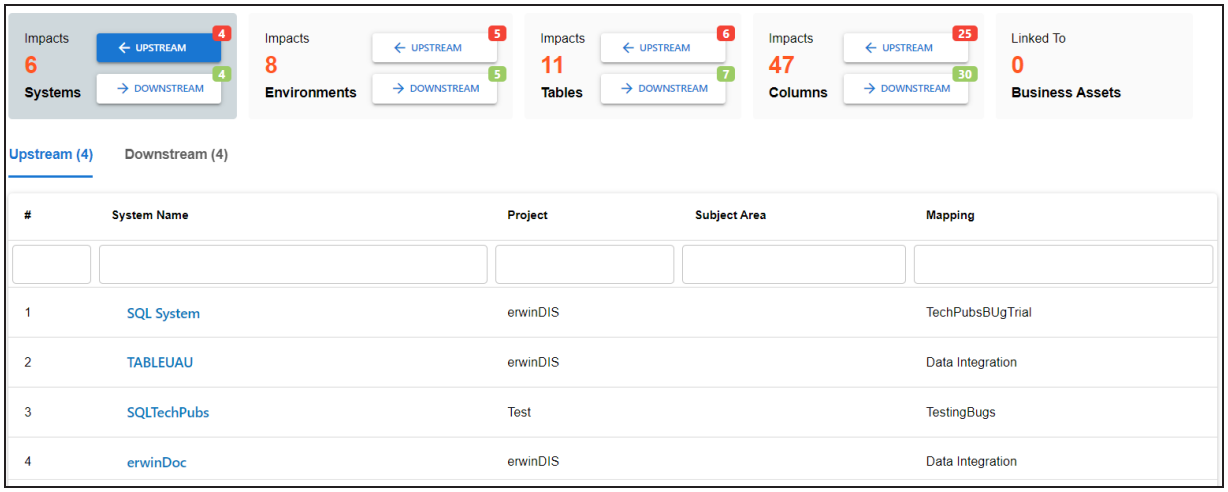
   Similarly, you can view upstream dependencies on the Upstream tab.

5. On the Upstream or Downstream tab, click an asset to view its lineage or impact analysis. For more information on running lineage analysis on assets, refer to the Running

Lineage Analysis topic.



You can also view the upstream and downstream dependencies of other impacted assets from selected environment's perspective. For example, the image below displays upstream system dependencies from the environment's perspective.



Additionally, you can use the following options:

Lineage

Use this option to view lineage based on the asset type.

Export

Use this option to export the impact analysis in the XLSX format.

Tables and Columns

You can perform impact analysis on tables and columns, and analyze their impact as source and target.

This topic walks you through the steps to view impact analysis of tables. Similarly, you can view impact of systems, environments and columns.

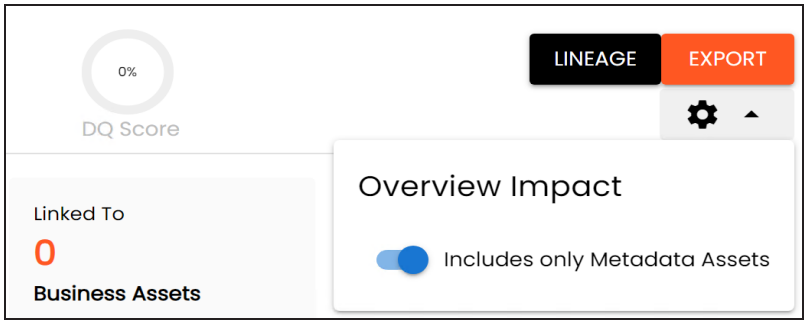
A table can be a source, target, or both in a mapping specification. It can also be used for transformations, such as business rules and lookups in a mapping project. Impact analysis helps you identify these impacts of the table on mapping projects.

To run impact analysis at table level, follow these steps:

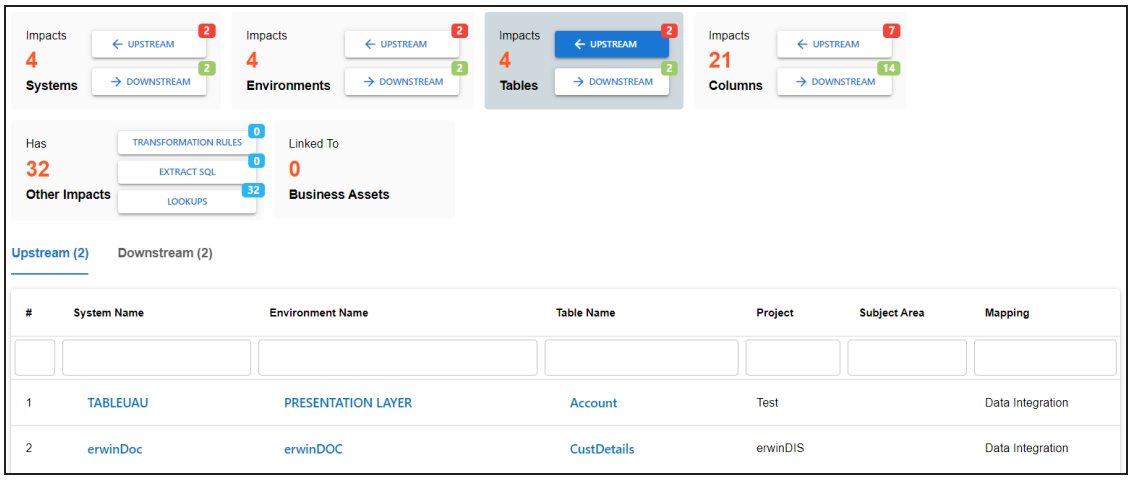
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to see its details.
3. In the **Data Catalog** pane, click a table.
4. Click the **Impact Analysis** tab.
   Impact analysis of the table appears.
   It displays the asset hierarchy, sensitivity data indicator (SDI) classification, data quality analysis, and table's impact based on related assets in your metadata.

   Alternatively, click ⚙ to switch the **Overview Impact** option **ON** to exclude non-existent systems and environments from the impact analysis. When this option is switched off, the view includes systems and environments that do not exist in the Metadata

Manager.



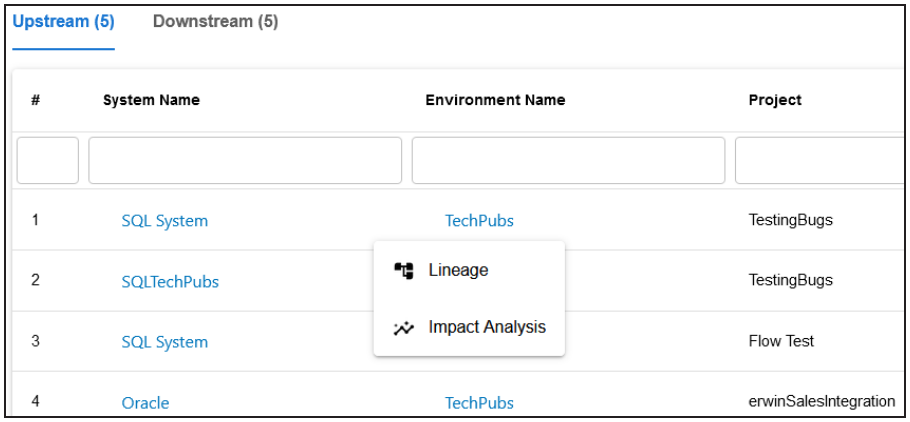
5. On the Tables card, click **Upstream**.
   The upstream dependencies of the environment appear in a grid format.



   Similarly, you can view downstream dependencies on the Downstream tab.

6. On the Upstream or Downstream tab, click an asset to view its lineage or impact analysis. For more information on running lineage analysis on assets, refer to the Running

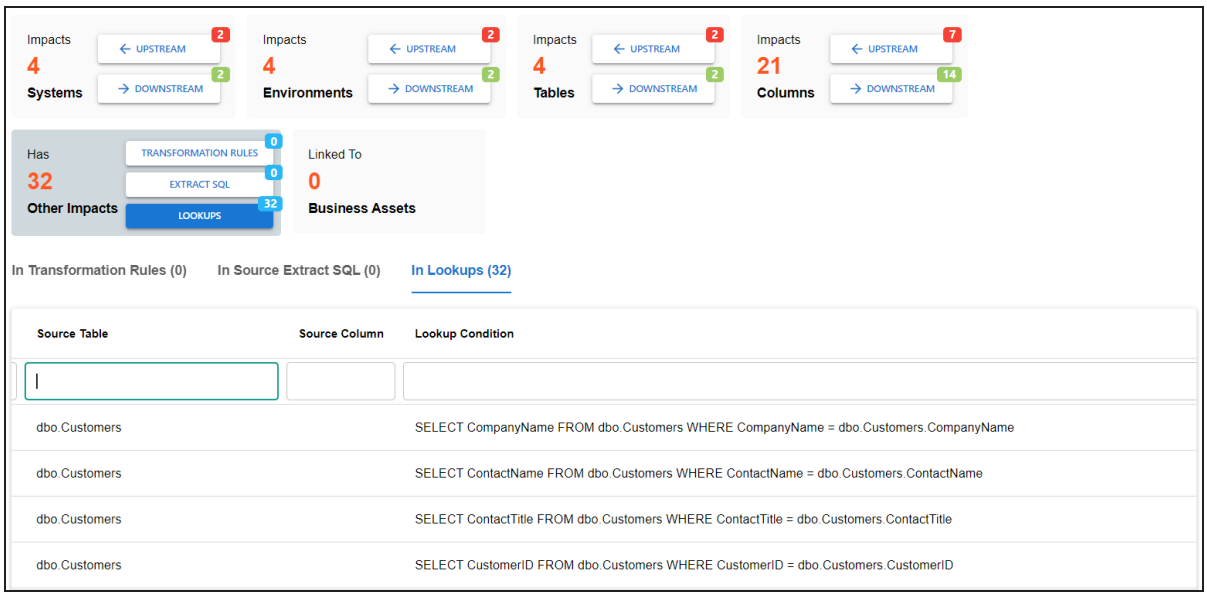
Lineage Analysis topic.



Use the Other Impacts tile, and click one of the following to view them:

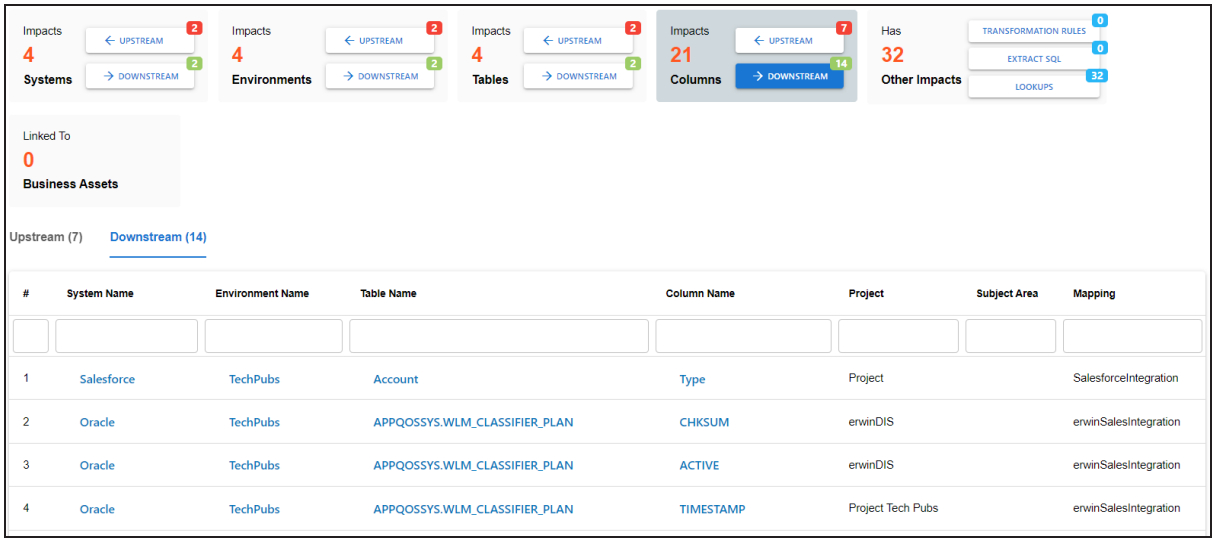
- Business rules
- Source Extract SQL
- Lookups

For example, the image below displays the In Lookups tab with lookup conditions that impacts the asset type. Also, you can switch between In Source Extract SQL and In Business Rules tabs to view relevant impacts.



Tables and Columns

You can also view the upstream and downstream dependencies of other impacted assets from selected tablet's perspective. For example, the image below displays upstream column dependencies from the table's perspective.



Additionally, use the following options:

Lineage

Use this option to view lineage based on the asset type.

Export

Use this option to export the impact analysis in the XLSX format.

Running Lineage Analysis

After mapping source metadata to target metadata, you can run the lineage analyzer in Metadata Manager. The generated lineage report helps you trace the data's origin, its transformations, and its destination after source to target mappings.

You can run the lineage at the following levels:

- System
- Environment
- Table
- Column

System

You can run forward and reverse lineage analysis to trace metadata at the system level. Forward lineage analysis generates lineage with the system as source. Whereas reverse lineage analysis generates lineage with the system as target. The Dual Lineage analysis generates a lineage, which includes both forward and reverse lineage.

This topic walks you through the following:

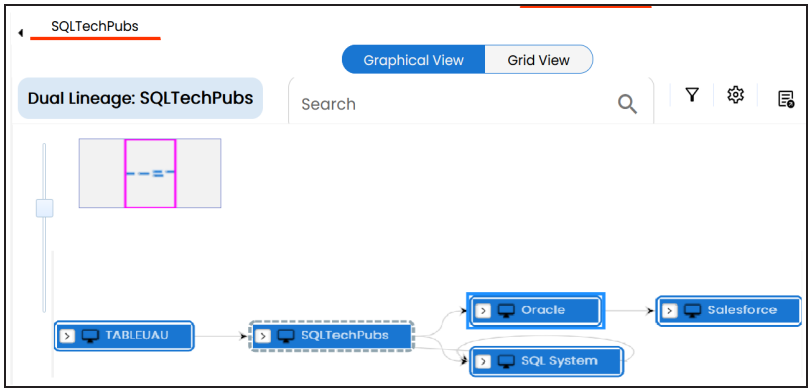
- Viewing Lineage
- Working on Lineage

Viewing Lineage

To run lineage at the system level, follow these steps:

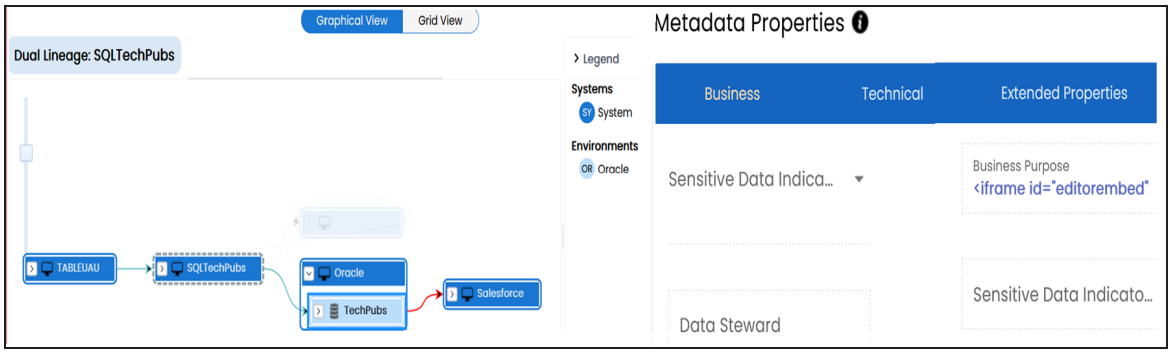
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, hover over the system card and click Info.
3. Click the **Data Lineage** tab.

   By default, the dual lineage of the system appears in Graphical View.

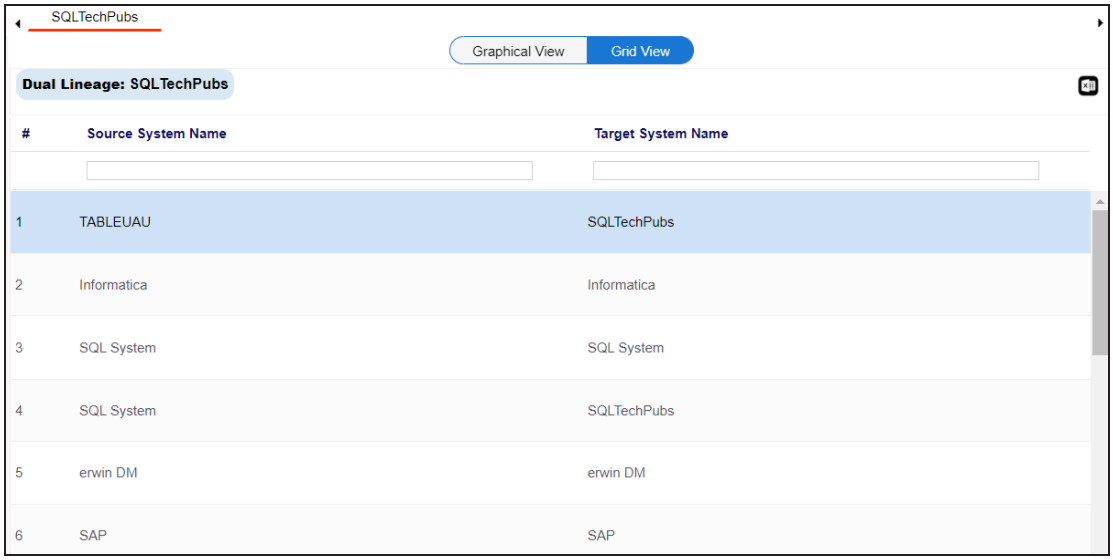


   You can click **Graphical View** or **Grid View** to switch between them:

- **Graphical View**: The graphical view displays the lineage of a system in a graphical format. Selecting a system on the graphical view displays its Legends. Hovering over a system displays an ⓘ icon. Clicking this icon opens the object's properties.



- **Grid View**: The grid view displays the lineage of a systems in a tabular format. You can view the source and target system associated with the selected system.

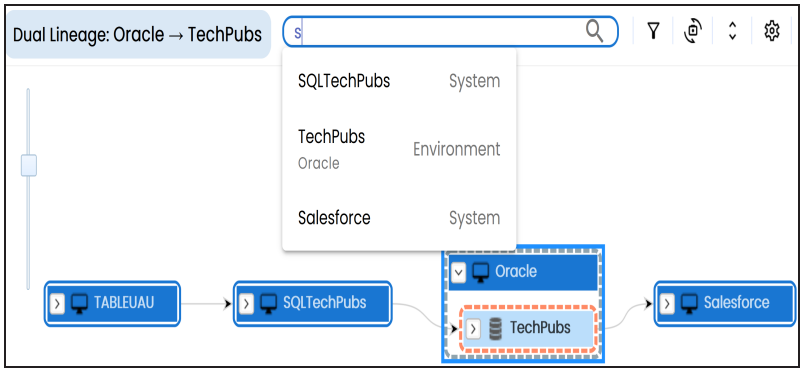


Use the following options to work on the lineage in graphical view:

Search ( )

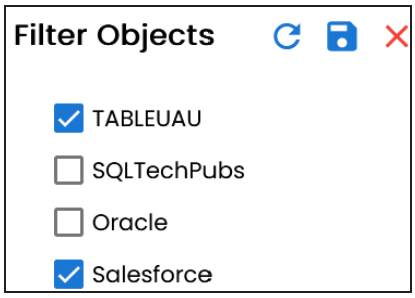
Use this option to search for systems that you want to see on the lineage.

Type in the search box to see a list of related systems that are available on the lineage.

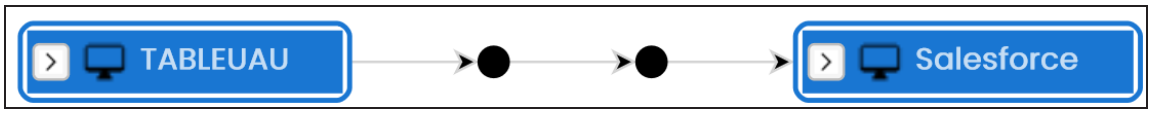


Filter Objects ( )

Use this option to filter and display required systems in the lineage view.

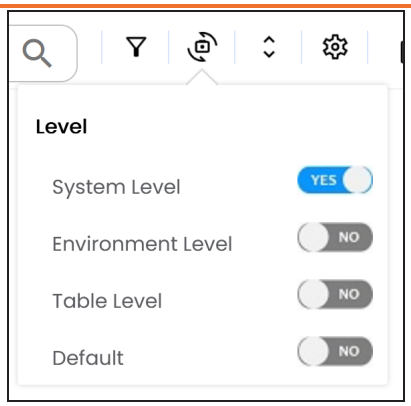


The unselected objects are replaced with black dots on the lineage diagram.



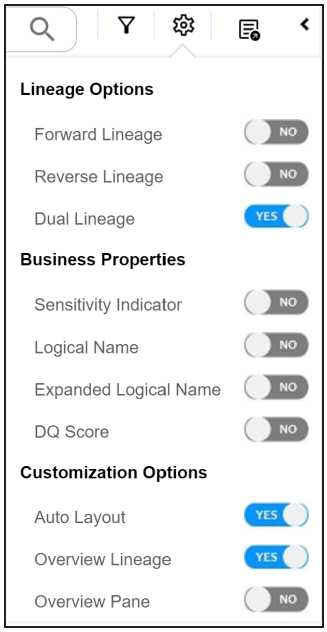
Switch View ( )

Double-click an object to see Switch View option. Use this option to switch the level of objects displayed and see the system, environment, or table in which the object is located.



Options ( )

Use this option to view lineage types, business properties, and customizations options. For more information on lineage options, refer to the Working on Lineage section.

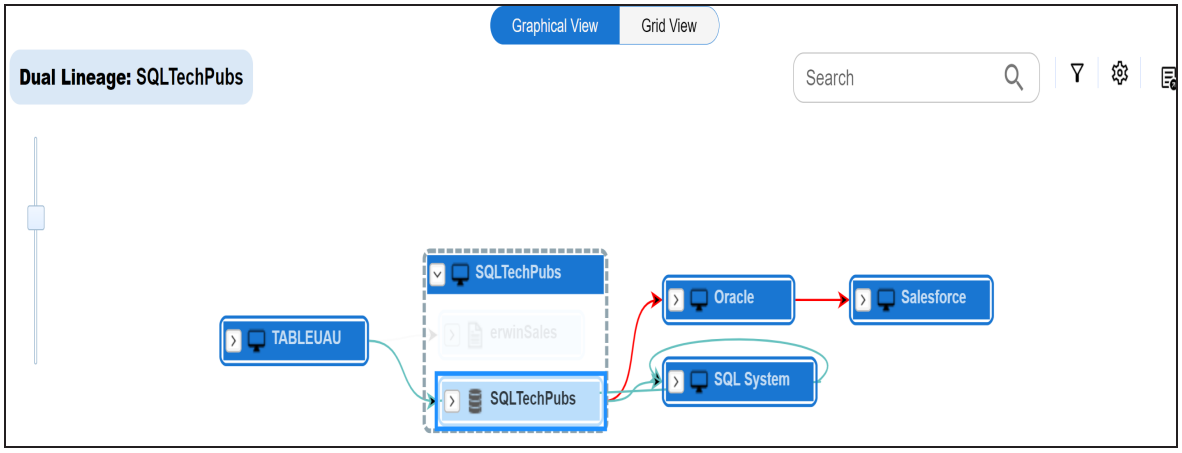


Exports ( )

Use this option to export the lineage. Click and use the following options:

- **Image ( )**: Use this option to download the lineage as an image, in the .JPG format. Ensure that you expand the required nodes in a lineage before downloading the lineage as image.
- **PDF ( )**: Use this option to download the lineage report in the .PDF format. Ensure that you expand the required nodes in a lineage before downloading the lineage report as PDF.
- **Excel ( )**: Use this option to download the lineage report in the .XLSX format. Ensure that you expand the required nodes in a lineage before downloading the report.

On the lineage, expand a system node and select an environment to view its lineage path. The environment is highlighted in orange color, its forward lineage path in red color, and its reverse lineage path in blue color. Systems that are not part of lineage path disappear.



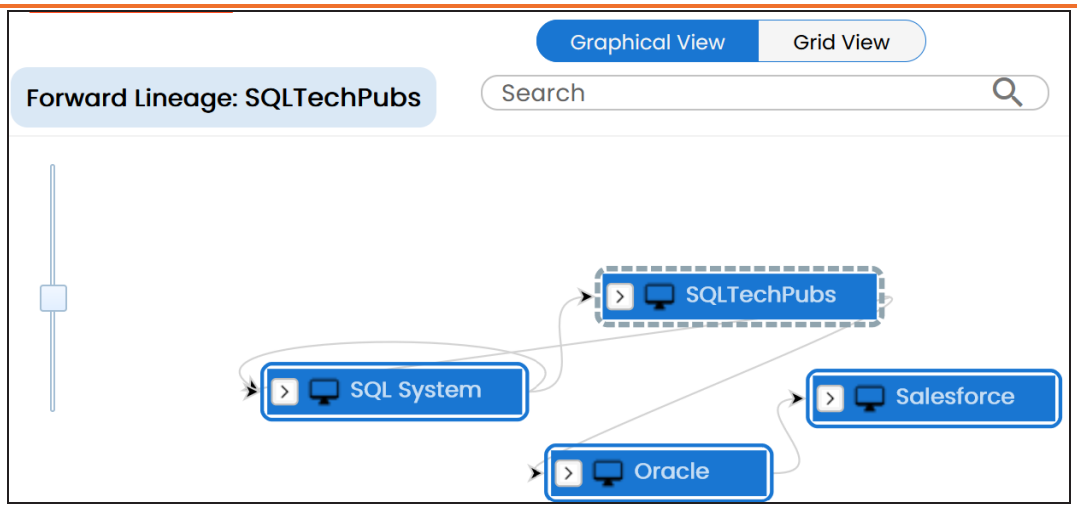
Right-click a path around the selected object to highlight its path of the source or target in the lineage.

Working on Lineage

Use the following options to work on lineage:

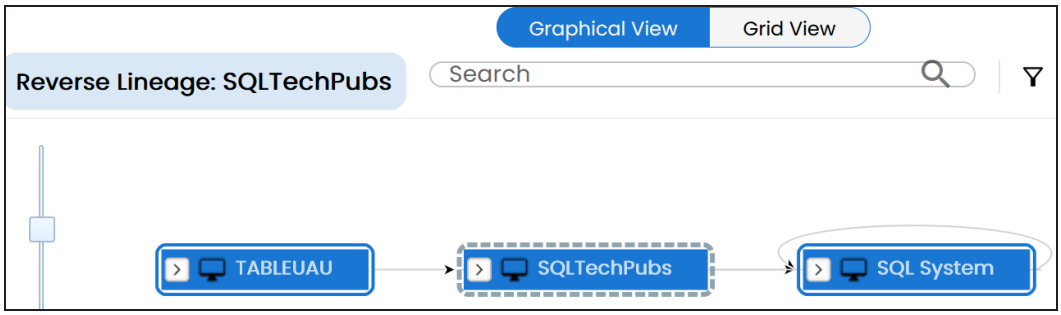
Forward Lineage

Use this option to view forward lineage of the system.



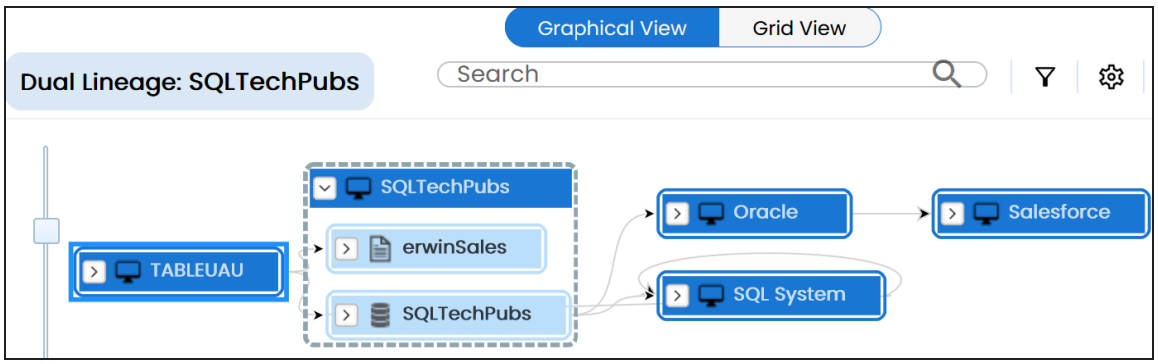
Reverse Lineage

Use this option to view reverse lineage of the system.



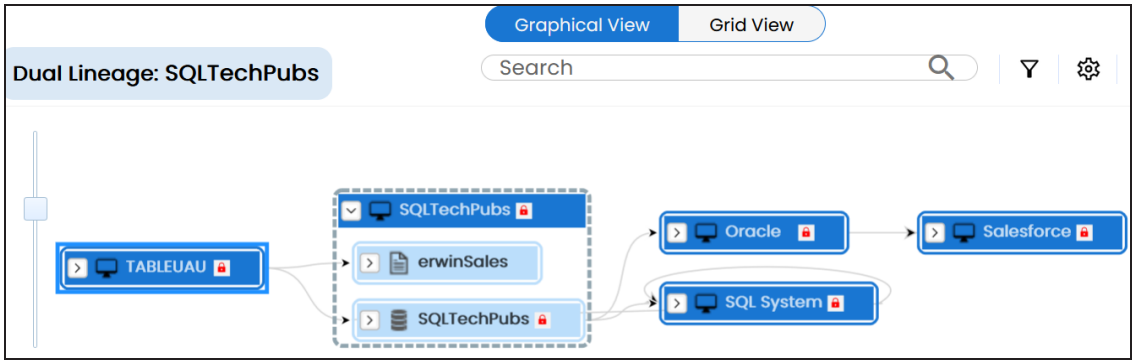
Dual Lineage

Use this option to view dual lineage, which includes both forward and reverse lineage of the system.



Sensitivity Indicator

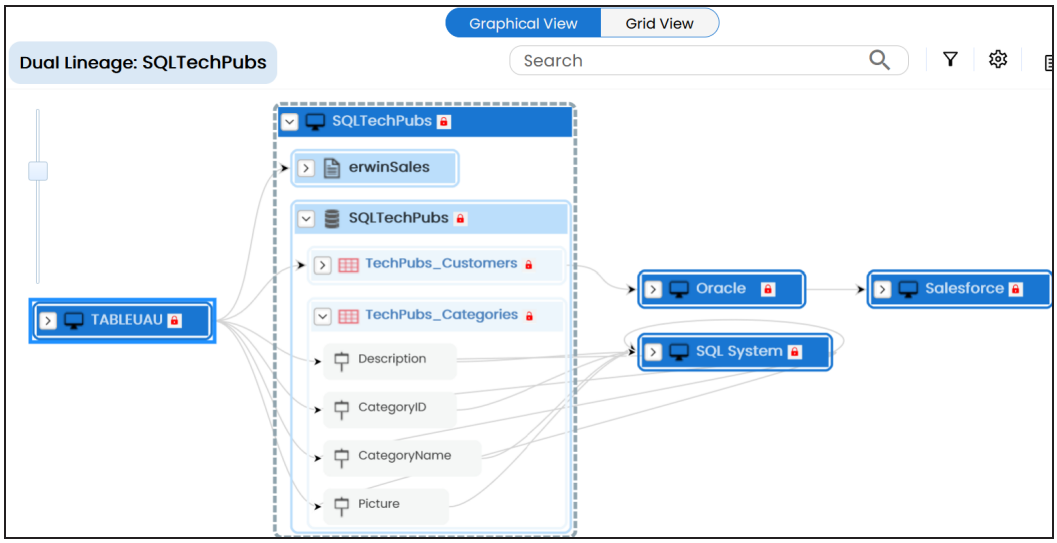
Use this option to view sensitivity of the environments in the lineage. You can expand a system node to view sensitive environments. The sensitive system and environments are indicated using .



Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments and tables.

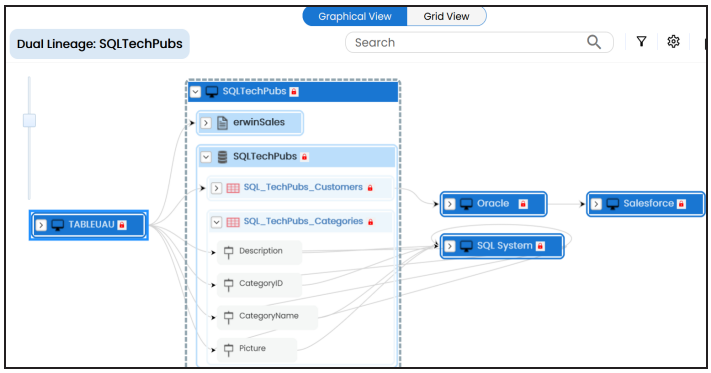
For example, the following image displays the table's logical name in the lineage.



Expanded Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments, tables, and columns. For more information, on configuring expanded logical name of a system, refer to the Configuring Expanded Logical Name topic.

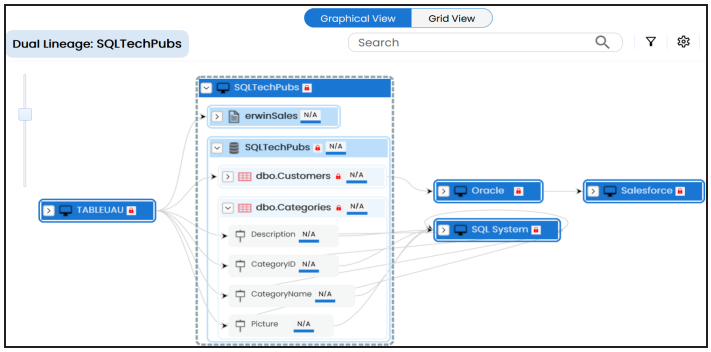
For example, the following image displays the table's expanded logical name in the lineage.



DQ Tool Score

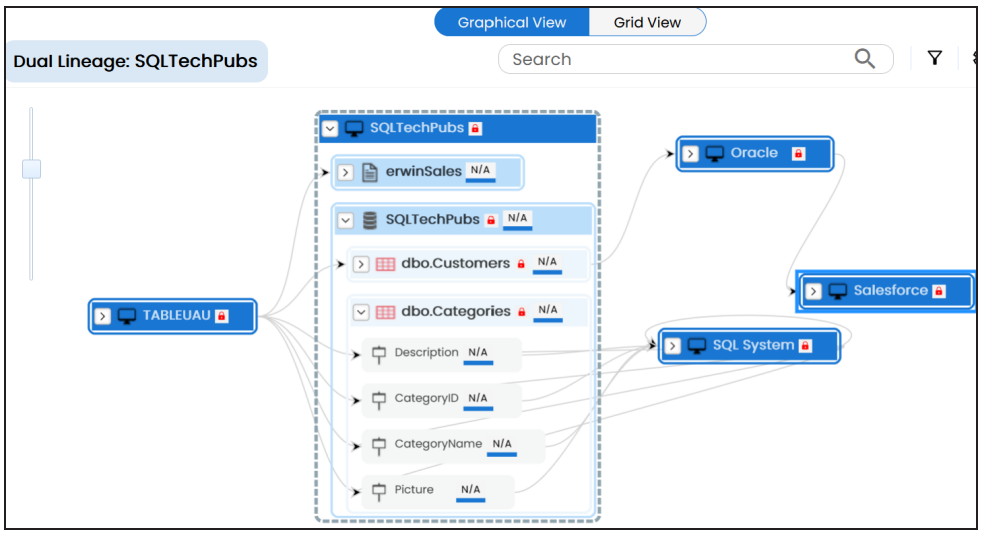
Use this option to view the data quality score of the environments, tables, and columns in the lineage. You can expand a system node to view data quality scores for environments, tables, and columns.

For example, the following image displays the data quality score in the lineage.



Auto Layout

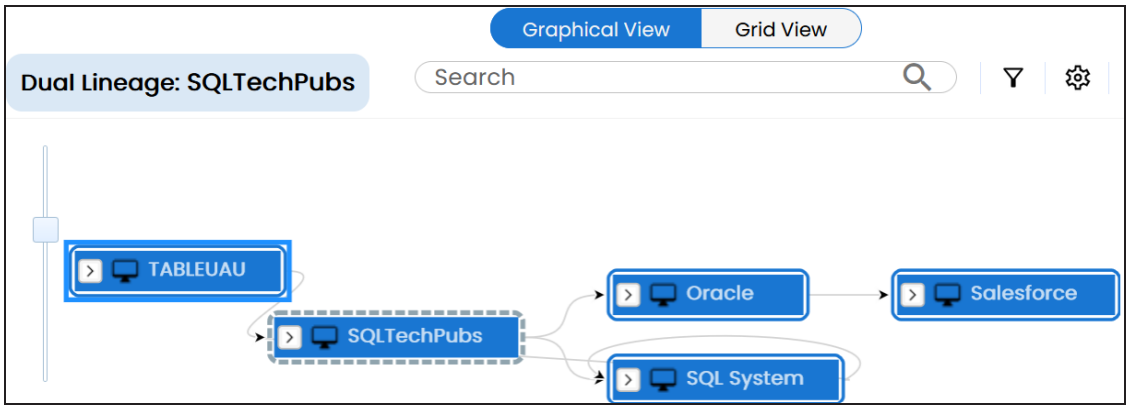
Use this option to rearrange the layout of the lineage automatically.
For example, the following image displays the rearranged object layout with respect to the previous screenshot.



Overview Lineage

Use this option to view the lineage excluding systems and environments that do not exist in the Metadata Manager. When this option is switched off, the views include systems and environments, that do not exist in the Metadata Manager.

For example, the following image displays lineage excluding assets that do not exist in Metadata Manager.



Overview Pane

Use this option to remove the overview pane from the graphical view.

Environment

You can run forward and reverse lineage analysis to trace metadata at the environment level. Forward lineage analysis generates lineage with the environment as source. Whereas reverse lineage analysis generates lineage with the environment as target. The Dual Lineage analysis generates lineage, which includes both forward and reverse lineage.

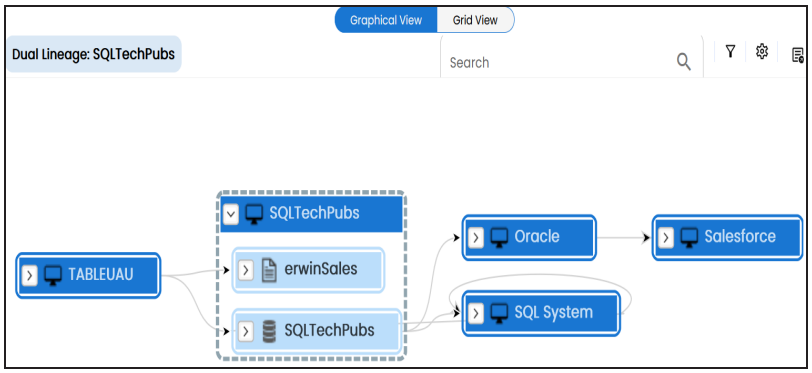
This topic walks you through the following:

- Viewing Lineage
- Working on Lineage

Viewing Lineage

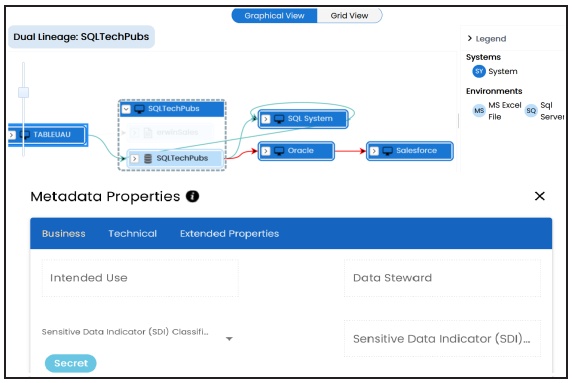
To run lineage at the environment level, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to see its details.
3. Click the **Data Lineage** tab.
   By default, dual lineage of the environment appears in Graphical View.

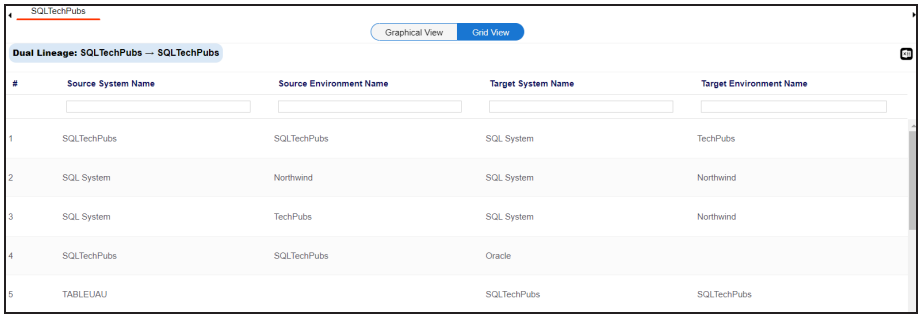


4. You can click **Graphical View** or **Grid View** to switch between them:
   - **Graphical View**: The graphical view displays the lineage of the environment in a graphical format. Selecting an environment on the graphical view displays its

Legends. Hovering over an environment displays an ⓘ icon. Clicking this icon opens the object's properties.



- **Grid View**: The grid view displays the lineage of the environment in a tabular format. You can view the source and target system and environment associated with the selected environment.

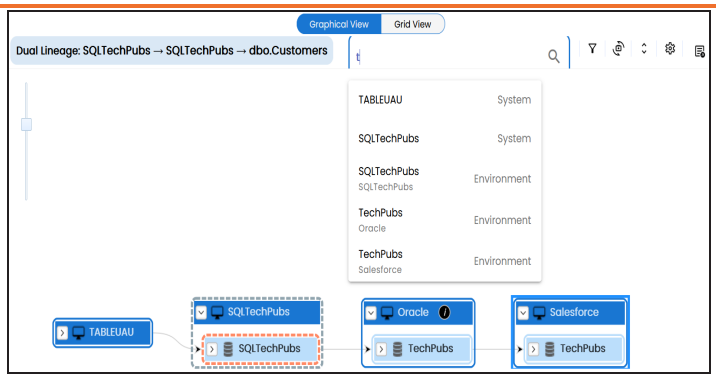


Use the following options to work on the lineage in graphical view:

Search ( )

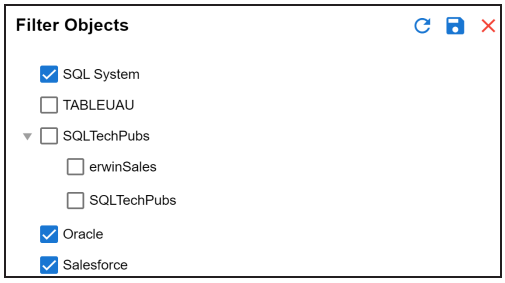
Use this option to search for environments that you want to see on the lineage.

Type in the search box to see a list of related environments that are available on the lineage.

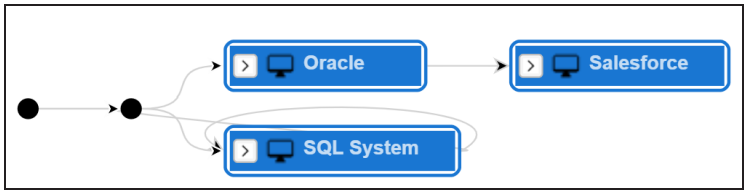


Filter Objects ( )

Use this option to filter and display required environments in the lineage view.

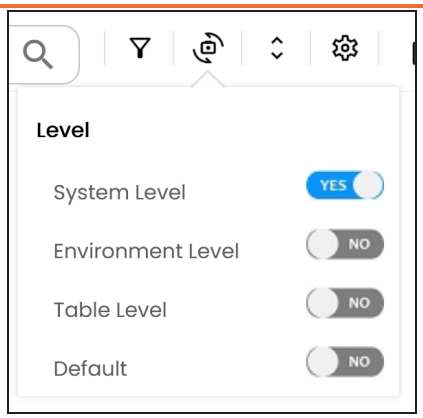


The unselected objects are replaced with black dots on the lineage diagram.



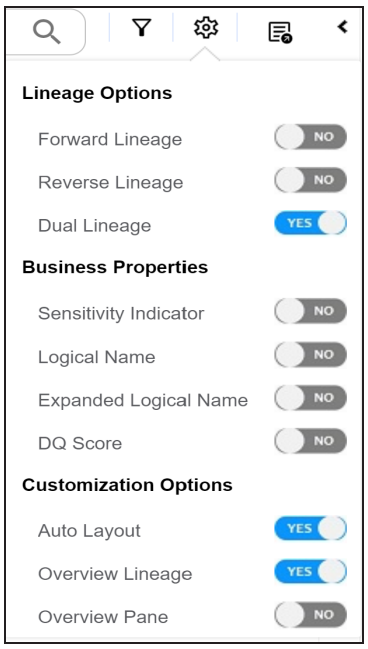
Switch View ( )

Double-click an object to see Switch View option. Use this option to switch the level of objects displayed and see the system, environment, or table in which the object is located.



Options ( )

Use this option to view lineage types, business properties and customizations options. For more information on lineage options, refer to the Working on Lineage section.

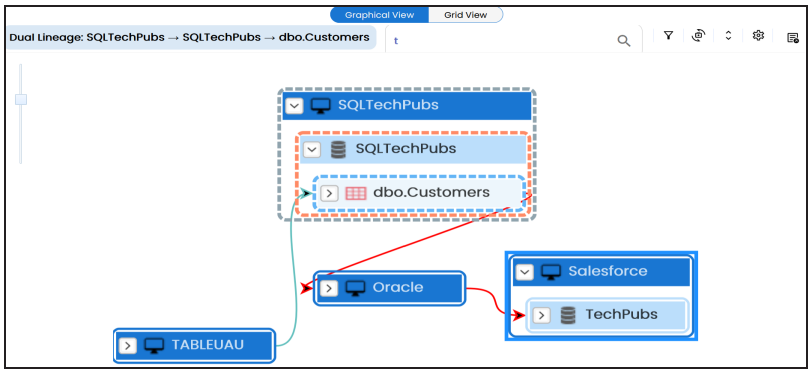


Exports ( )

Use this option to export the lineage. Click and use the following options:

- **Image ( )**: Use this option to download the lineage as an image, in the .JPG format. Ensure that you expand the required nodes in a lineage before downloading the lineage as image.
- **PDF ( ):** Use this option to download the lineage report in the .PDF format. Ensure that you expand the required nodes in a lineage before downloading the lineage report as PDF.
- **Excel ( )**: Use this option to download the lineage report in the .XLSX format. Ensure that you expand the required nodes in a lineage before downloading the report.

On the lineage, expand a system node, and select a table to view its lineage path. The environment is highlighted in blue color, its forward lineage path appears in red, and its reverse lineage path appears in blue. Systems and environments that are not part of a lineage path disappear.



Right-click a path around the selected object to highlight its path of the source or target in the lineage.

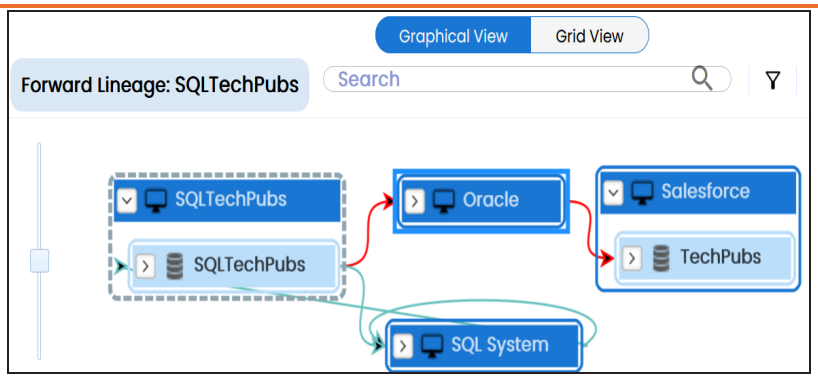
Working on Lineage

Lineage of an environment shows how metadata moves through environments. It provides a summary of tables used as source and target. Also, it gives information about the environments and tables involved in the lineage.

Use the following options to work on lineage:

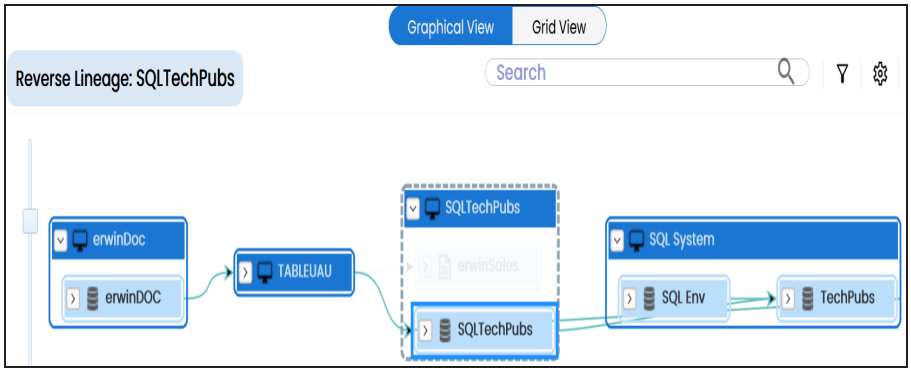
Forward Lineage

Use this option to view forward lineage of the environment.



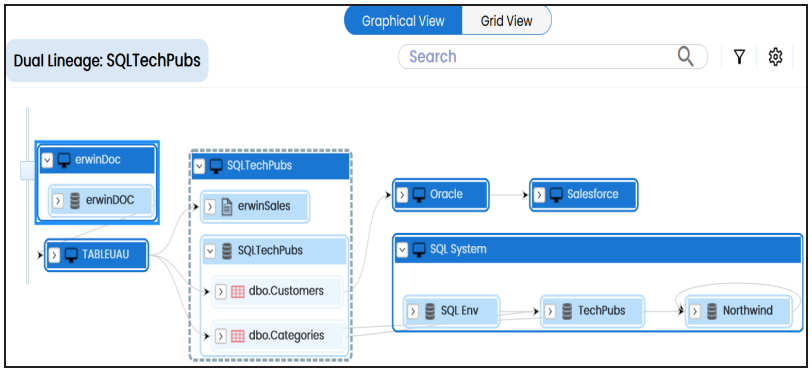
Reverse Lineage

Use this option to view reverse lineage of the environment.



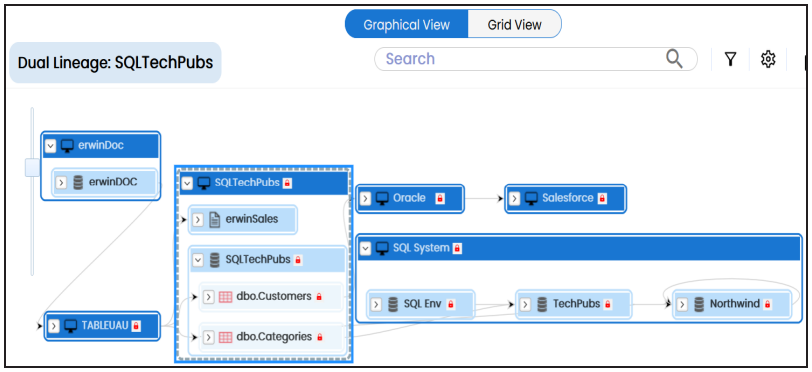
Dual Lineage

Use this option to view dual lineage, which includes both forward and reverse lineage of the environment.



Sensitivity Indicator

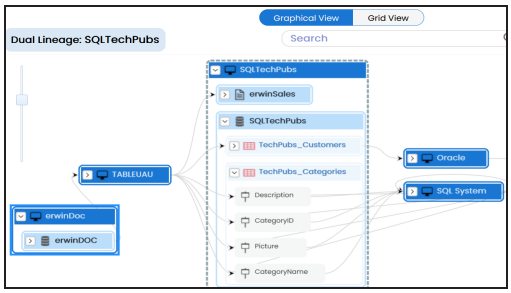
Use this option to view sensitivity of the environments in the lineage. You can expand the environment node to view sensitive tables. The sensitive assets are indicated using .



Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments and tables.

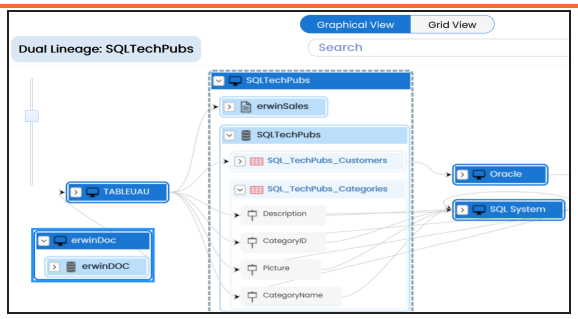
For example, the following image displays the table's logical name in the lineage.



Expanded Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments, tables, and columns.

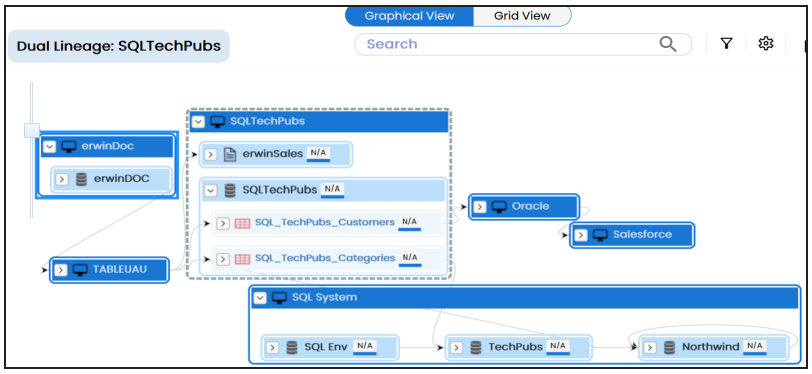
For example, the following image displays the table's expanded logical name in the lineage.



DQ Tool Score

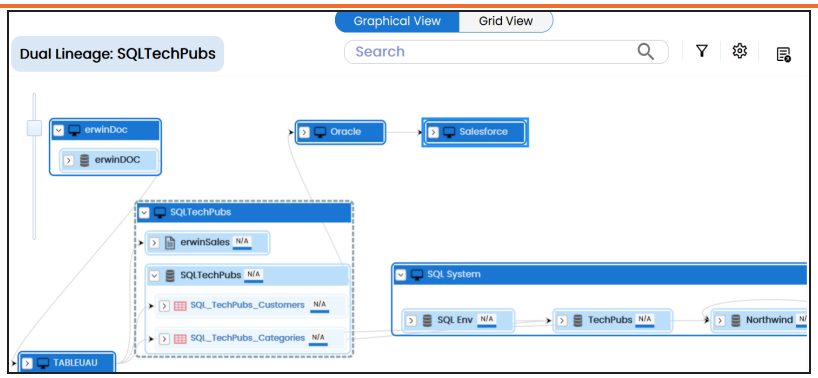
Use this option to view the data quality score of the environments, tables, and columns in the lineage. You can expand a system node to view data quality scores for environments, tables, and columns.

For example, the following image displays the data quality score in the lineage.



Auto Layout

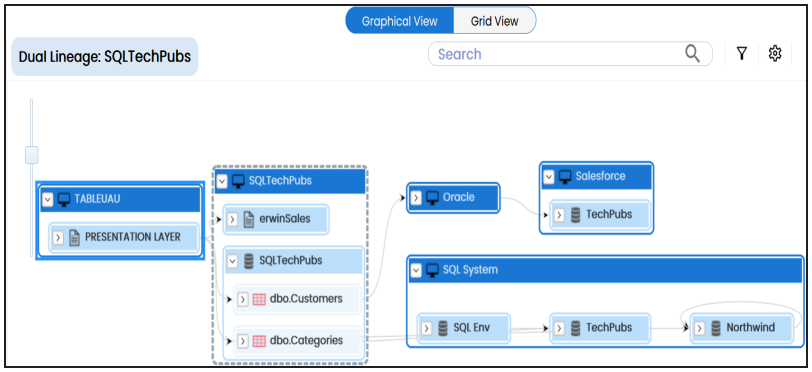
Use this option to rearrange the layout of the lineage automatically.
For example, the following image displays the rearranged object layout with respect to the previous screenshot.



Overview Lineage

Use this option to view the lineage excluding systems and environments that do not exist in the Metadata Manager. When this option is switched off, the views include systems and environments, that do not exist in the Metadata Manager.

For example, the following image displays lineage excluding assets that do not exist in Metadata Manager.



Overview Pane

Use this option to remove the overview pane from the graphical view.

Table

You can run forward and reverse lineage analysis to trace metadata at the table level. Forward lineage analysis generates lineage with the table as source. And, reverse lineage analysis generates lineage with the table as target. The Dual lineage analysis generates a lineage, which includes both forward and reverse lineage.

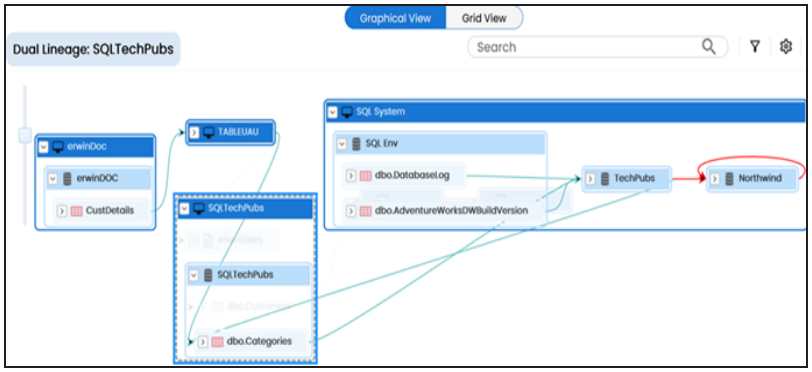
This topic walks you through the following:

- Viewing Lineage
- Working on Lineage

Viewing Lineage

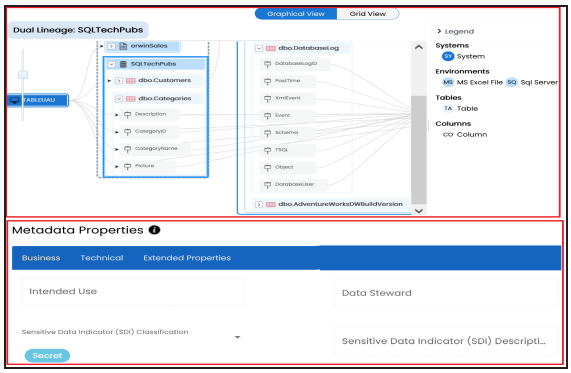
To run lineage at the table level, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to see its details.
3. In the **Data Catalog** pane, click a table.
4. Click the **Data Lineage** tab.
   By default, dual lineage of the table appears.

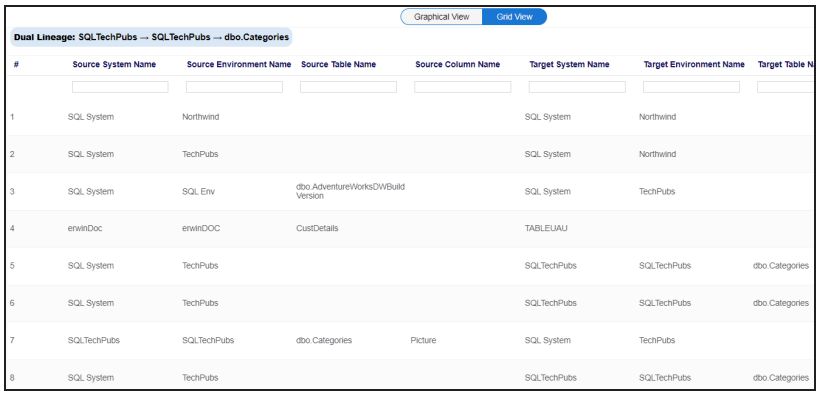


5. You can click **Graphical View** or **Grid View** to switch between them:

   - **Graphical View**: The graphical view displays the lineage of the table in a graphical format. Selecting a table on the graphical view displays its Legends. Hovering over a table displays an ⓘ icon. Clicking this icon opens the object's properties.



   - **Grid View**: The grid view displays the lineage of the table in a tabular format. You can view the source and target system, environment, table, and column associated with the selected table.



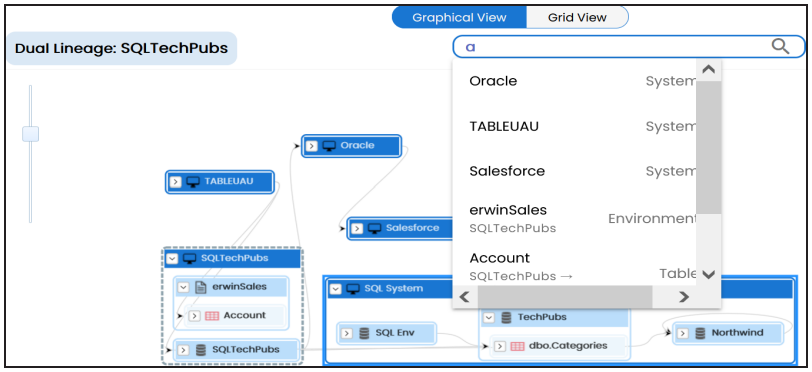
#	Source System Name	Source Environment Name	Source Table Name	Source Column Name	Target System Name	Target Environment Name	Target Table N
1	SQL System	Northwind			SQL System	Northwind	
2	SQL System	TechPubs			SQL System	Northwind	
3	SQL System	SQL Env	dbo.AdventureWorksDWBuild Version		SQL System	TechPubs	
4	erwinDoc	erwinDOC	CustDetails		TABLEUAU		
5	SQL System	TechPubs			SQLTechPubs	SQLTechPubs	dbo.Categories
6	SQL System	TechPubs			SQLTechPubs	SQLTechPubs	dbo.Categories
7	SQLTechPubs	SQLTechPubs	dbo.Categories	Picture	SQL System	TechPubs	
8	SQL System	TechPubs			SQLTechPubs	SQLTechPubs	dbo.Categories

Use the following options to work on the lineage in graphical view:

Search ( )

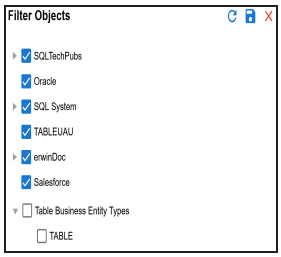
Use this option to search for tables that you want to see on the lineage.

Type in the search box to see a list of related tables that are available on the lineage.

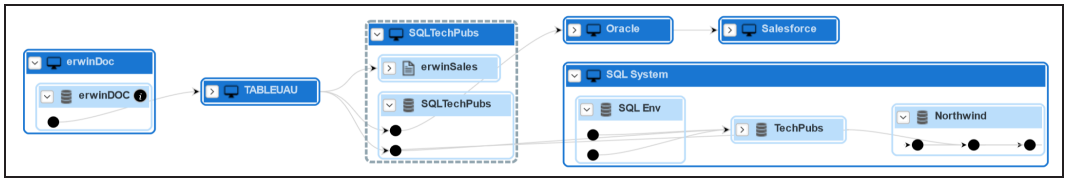


Filter Objects ( )

Use this option to filter and display required tables in the lineage view.

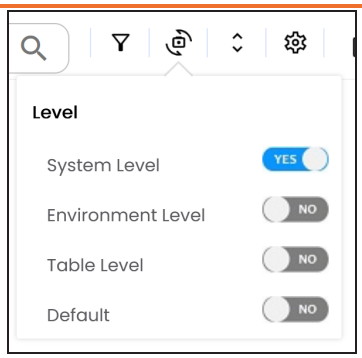


The unselected objects are replaced with black dots on the lineage diagram.



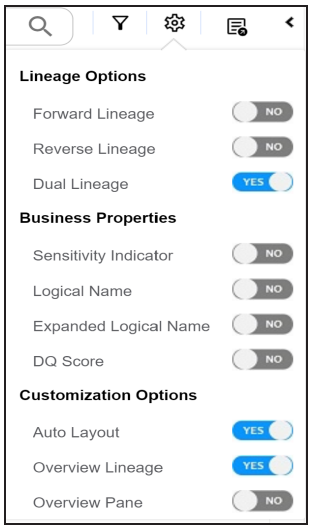
Switch View ( )

Double-click an object to see Switch View option. Use this option to switch the level of objects displayed and see the system, environment, or table in which the object is located.



Options ( )

Use this option to view lineage types, business properties and customizations options. For more information on lineage options, refer to the Working on Lineage section.



Exports ( )

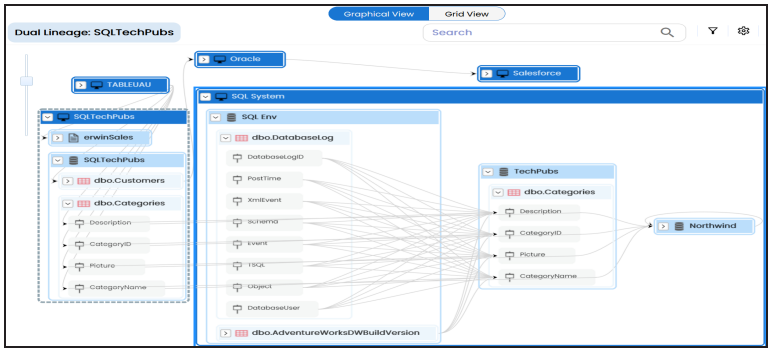
Use this option to export the lineage. Click and use the following options:

- **Image ( )**: Use this option to download the lineage as an image, in the .JPG format. Ensure that you expand the required nodes in a lineage

before downloading the lineage as image.

- **PDF ( ):** Use this option to download the lineage report in the .PDF format. Ensure that you expand the required nodes in a lineage before downloading the lineage report as PDF.
- **Excel ( )**: Use this option to download the lineage report in the .XLSX format. Ensure that you expand the required nodes in a lineage before downloading the report.

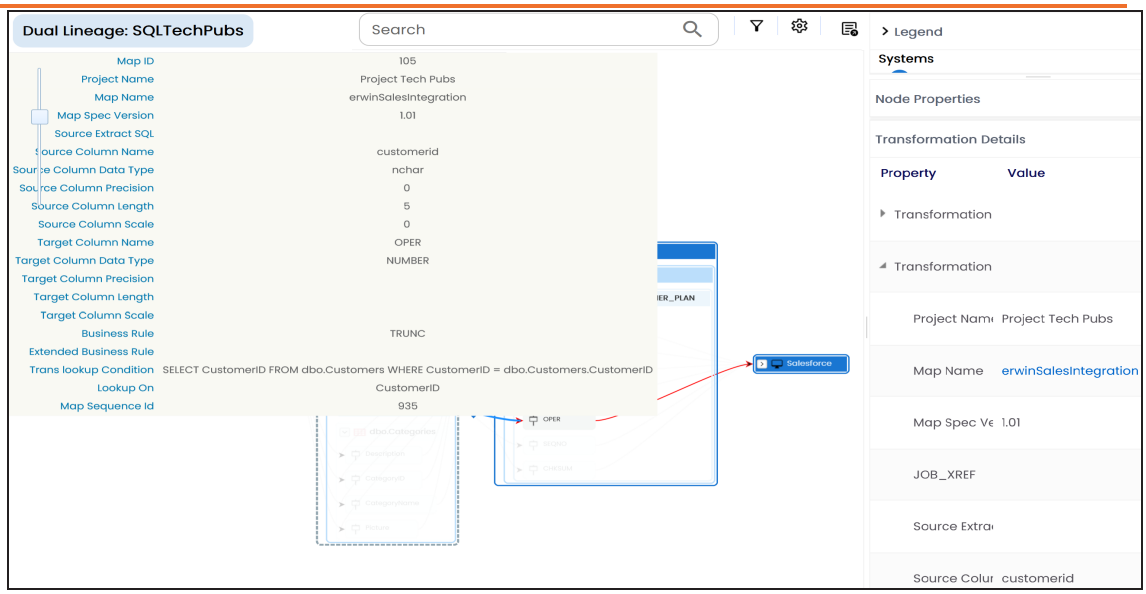
On the lineage, expand a table node, and select a column to view its lineage path. The column is highlighted in blue color, its forward lineage path appears in red, and its reverse lineage path appears in blue. The assets that are not part of a lineage path disappear.



Click a path around the selected object to highlight its path of the source or target in the lineage.

Viewing Transformations

Transformations between columns are indicated using in the lineage. Hover over to view transformation rules for the columns on a pop-up. Or, click the path between the columns to highlight it to view detailed transformations between them in the Transformation Details pane.



You can expand the transformation node to view the transformation details that includes Business Rule, Extended Business Rule, Trans lookup Condition, Lookup On, and more relevant properties.

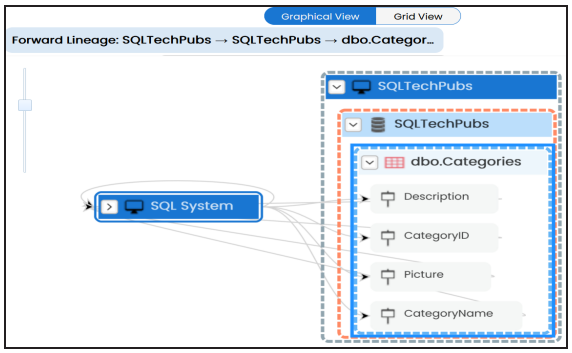
Working on Lineage

Lineage of a table shows how metadata moves through tables. It provides a summary of columns used as source and target. Also, it gives you information about the technical and business properties of columns involved in the lineage.

Use the following options to work on lineage:

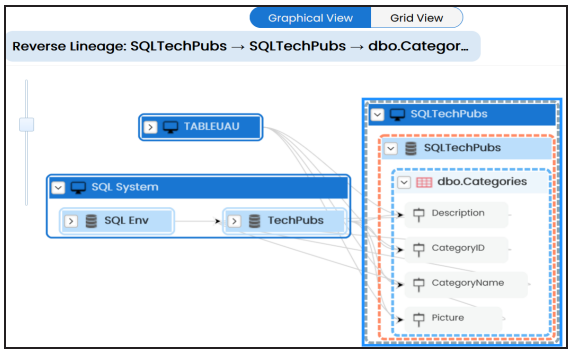
Forward Lineage

Use this option to view forward lineage of the table.



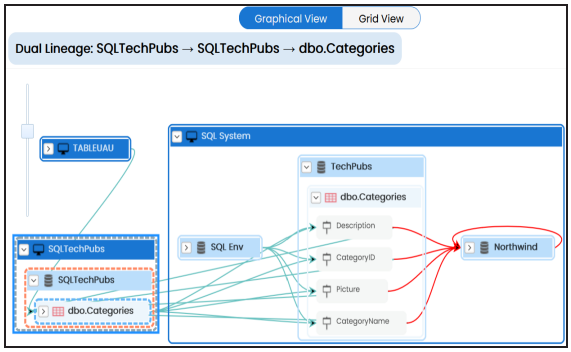
Reverse Lineage

Use this option to view reverse lineage of the table.



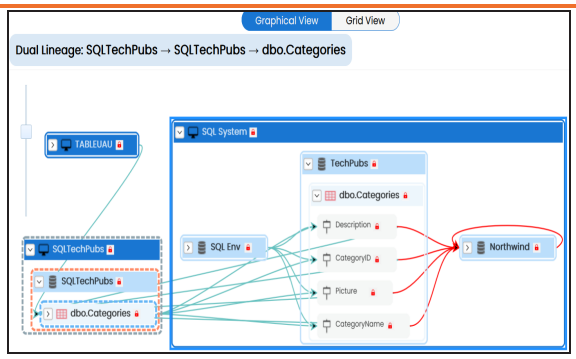
Dual Lineage

Use this option to view dual lineage, which includes both forward and reverse lineage of the table.



Sensitivity Indicator

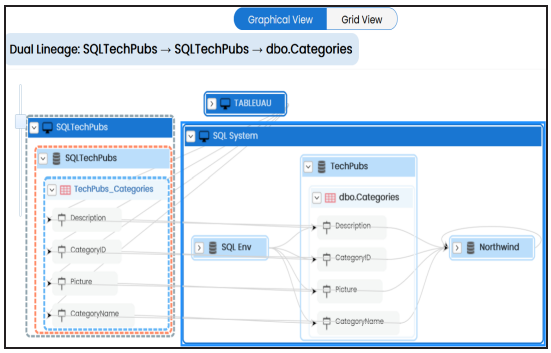
Use this option to view sensitivity of the table in the lineage. You can expand the table node to view sensitive columns. The sensitive assets are indicated using .



Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments and tables.

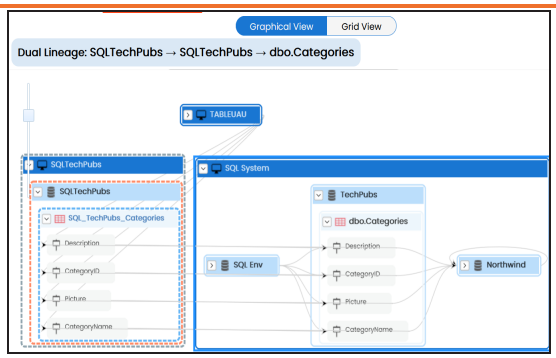
For example, the following image displays the table's logical name in the lineage.



Expanded Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments, tables, and columns.

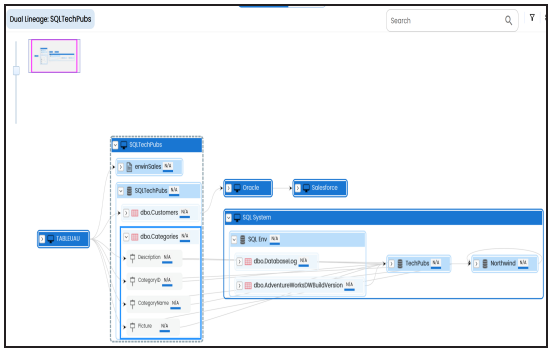
For example, the following image displays the table's expanded logical name in the lineage.



DQ Tool Score

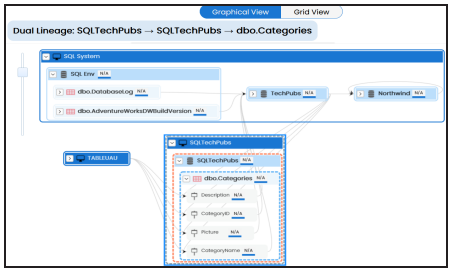
Use this option to view the data quality score of the environments, tables, and columns in the lineage. You can expand a system node to view data quality scores for environments, tables, and columns.

For example, the following image displays the data quality score in the lineage.



Auto Layout

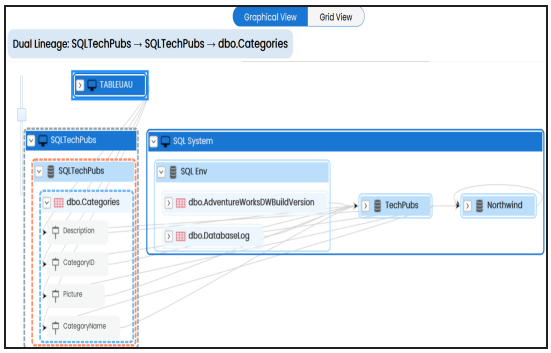
Use this option to rearrange the layout of the lineage automatically.
For example, the following image displays the rearranged object layout with respect to the previous screenshot.



Overview Lineage

Use this option to view the lineage excluding systems and environments that do not exist in the Metadata Manager. When this option is switched off, the views include systems and environments, that do not exist in the Metadata Manager.

For example, the following image displays lineage excluding assets that do not exist in Metadata Manager.



Overview Pane

Use this option to remove the lineage overview pane from the graphical view.

Column

You can run forward and reverse lineage analysis to trace metadata at the column level. Forward lineage analysis generates a lineage with the column as source. And, reverse lineage analysis generates a lineage with the column as target. The Dual lineage analysis generates a lineage, which includes both forward and reverse lineage.

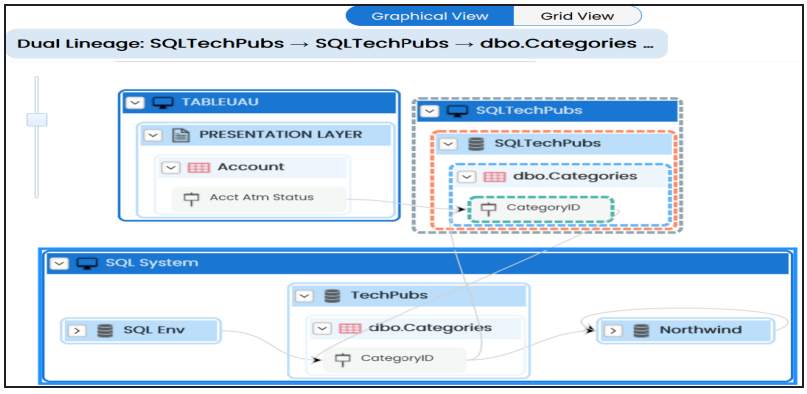
This topic walks you through the following:

- Viewing Lineage
- Working on Lineage

Viewing Lineage

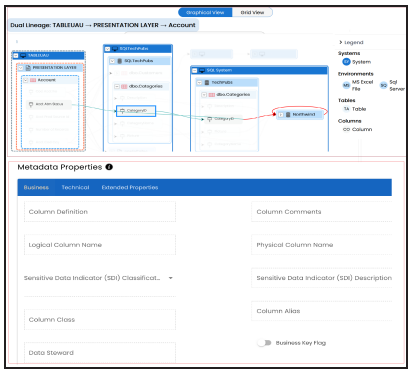
To run lineage at the column level, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to see its details.
3. In the **Data Catalog** pane, click a table and then, select a column.
4. Click the **Data Lineage** tab.
   By default, dual lineage of the column appears.

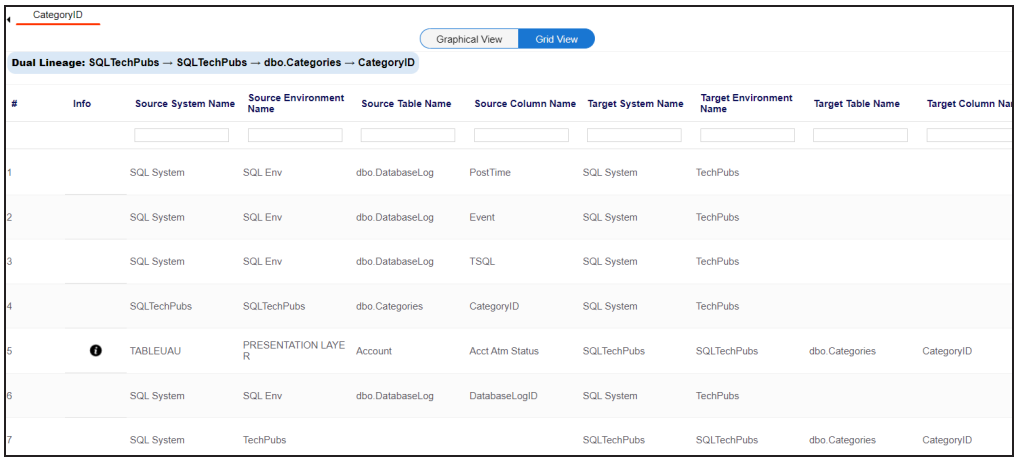


5. You can click **Graphical View** or **Grid View** to switch between them:

   - **Graphical View**: The graphical view displays the lineage of the column in a graphical format. Selecting a column on the graphical view displays its Legends. Hovering over a column displays an ⓘ icon. Clicking this icon opens the object's properties.



   - **Grid View**: The grid view displays the lineage of the environment in a tabular format. You can view the source and target system, environment, table, and column associated with the selected column.



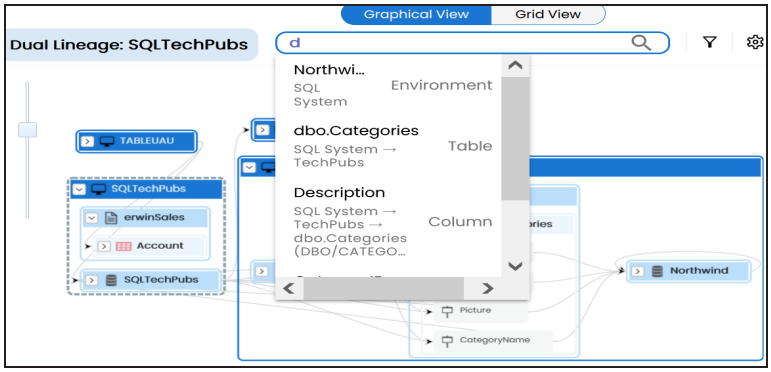
#	Info	Source System Name	Source Environment Name	Source Table Name	Source Column Name	Target System Name	Target Environment Name	Target Table Name	Target Column Na
1		SQL System	SQL Env	dbo.DatabaseLog	PostTime	SQL System	TechPubs		
2		SQL System	SQL Env	dbo.DatabaseLog	Event	SQL System	TechPubs		
3		SQL System	SQL Env	dbo.DatabaseLog	TSQL	SQL System	TechPubs		
4		SQLTechPubs	SQLTechPubs	dbo.Categories	CategoryID	SQL System	TechPubs		
5	ⓘ	TABLEUAU	PRESENTATION LAYER	Account	Acct Atm Status	SQLTechPubs	SQLTechPubs	dbo.Categories	CategoryID
6		SQL System	SQL Env	dbo.DatabaseLog	DatabaseLogID	SQL System	TechPubs		
7		SQL System	TechPubs			SQLTechPubs	SQLTechPubs	dbo.Categories	CategoryID

Use the following options to work on the lineage in graphical view:

Search ( )

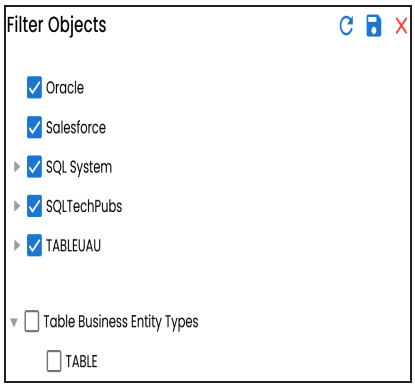
Use this option to search for columns that you want to see on the lineage.

Type in the search box to see a list of related columns that are available on the lineage.

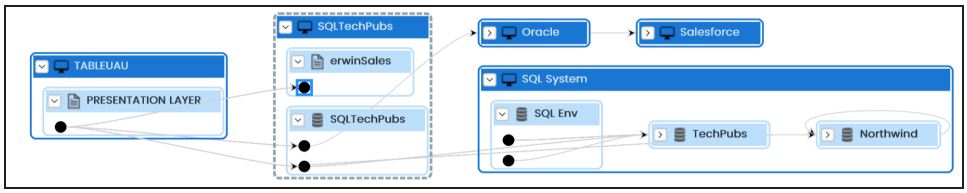


Filter Objects ( )

Use this option to filter and display required columns in the lineage view.



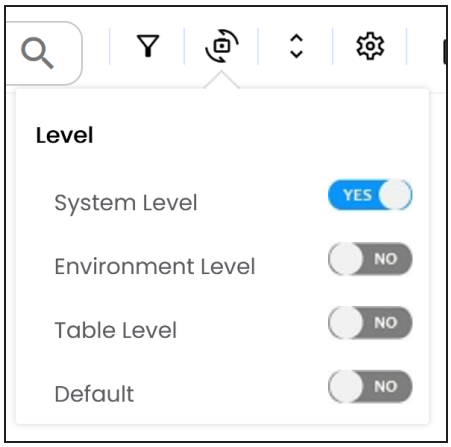
The unselected objects are replaced with black dots on the lineage diagram.



Switch View ( )

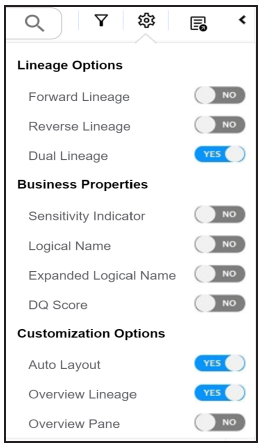
Double-click an object to see Switch View option. Use this option to switch the level of objects displayed and see the system, environment, or table in which

the object is located.



Options ( )

Use this option to view lineage types, business properties and customizations options. For more information on lineage options, refer to the Working on Lineage section.



Exports ( )

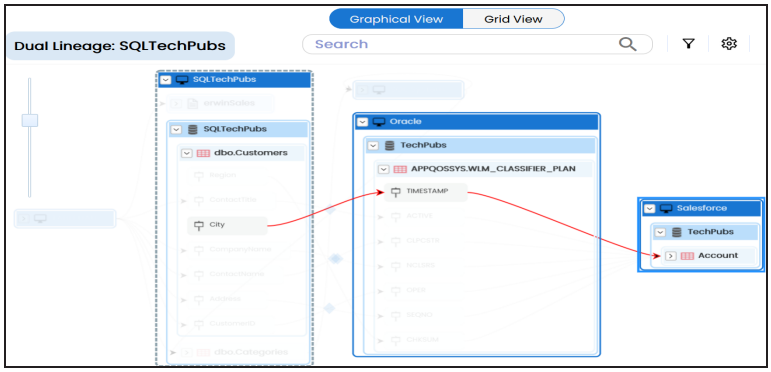
Use this option to export the lineage. Click and use the following options:

- **Image ( )**: Use this option to download the lineage as an image, in the .JPG format. Ensure that you expand the required nodes in a lineage

before downloading the lineage as image.

- **PDF ( ):** Use this option to download the lineage report in the .PDF format. Ensure that you expand the required nodes in a lineage before downloading the lineage report as PDF.
- **Excel ( )**: Use this option to download the lineage report in the .XLSX format. Ensure that you expand the required nodes in a lineage before downloading the report.

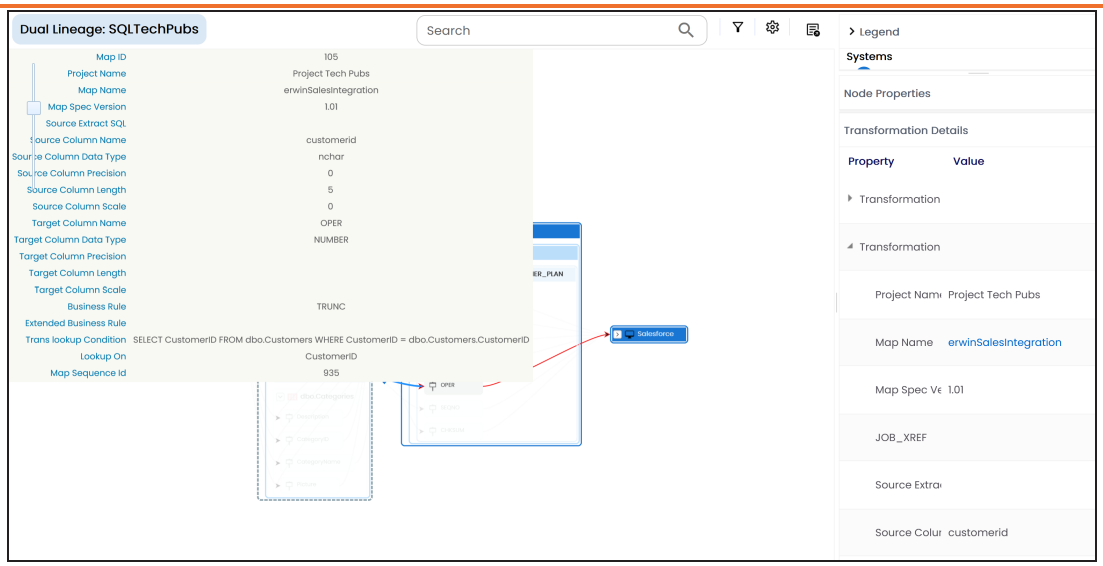
On the lineage, expand a system node, and select a table to view its lineage path. The environment is highlighted in blue color, its forward lineage path appears in red, and its reverse lineage path appears in blue. Systems and environments that are not part of a lineage path disappear.



Right-click a path around the selected object to highlight its path of the source or target in the lineage.

Viewing Transformations

Transformations between columns are indicated using in the lineage. Hover over to view transformation rules for the columns on a pop-up. Or, click the path between the columns to highlight it to view detailed transformations between them in the Transformation Details pane.



You can expand the transformation node to view the transformation details that includes Business Rule, Extended Business Rule, Trans lookup Condition, Lookup On, and more relevant properties.

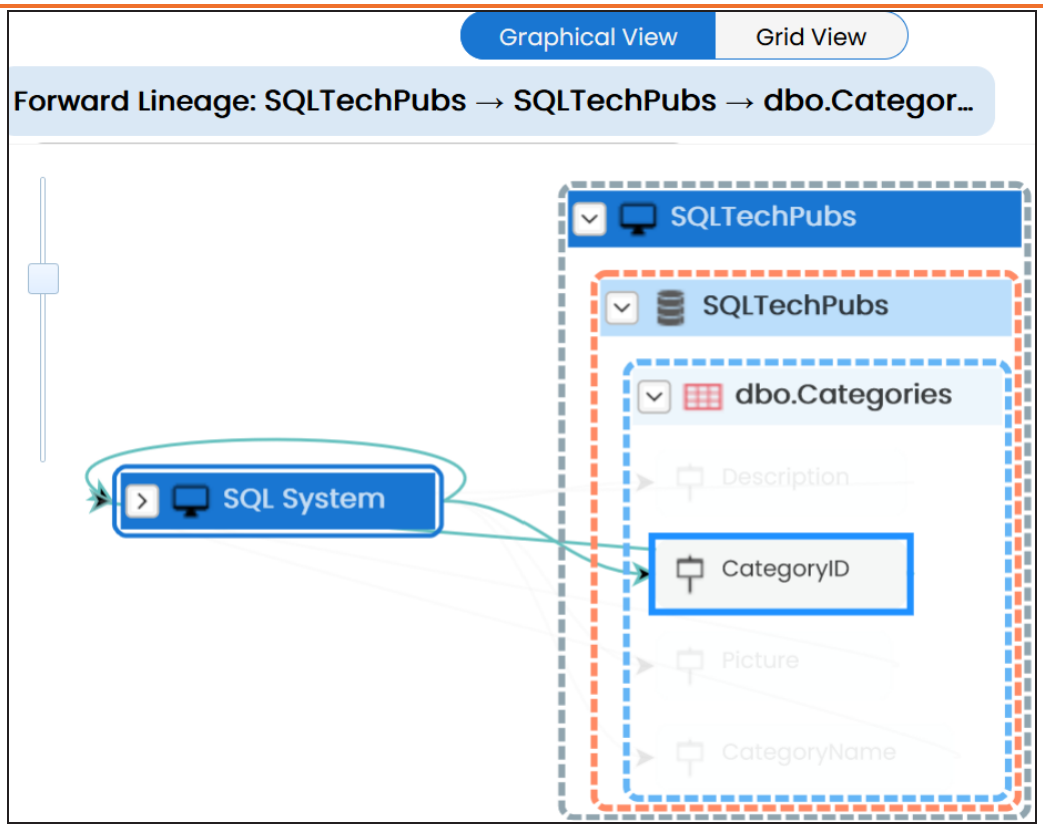
Working on Lineage

Lineage of a column shows how metadata moves through columns. It provides a summary of columns used as source and target. Also, it gives information about technical and business properties of columns involved in the lineage.

Use the following options to work on lineage:

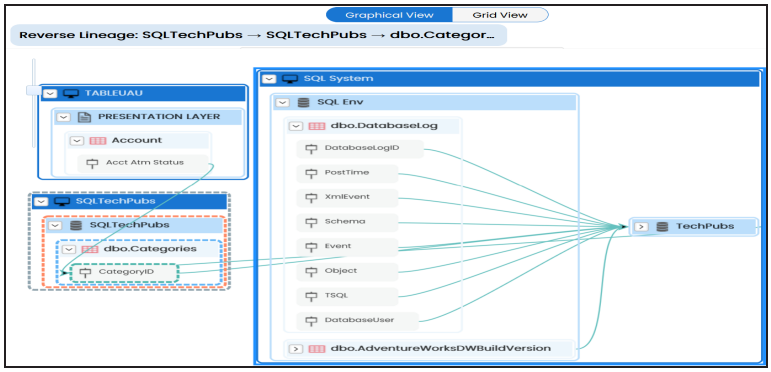
Forward Lineage

Use this option to view forward lineage of the column.



Reverse Lineage

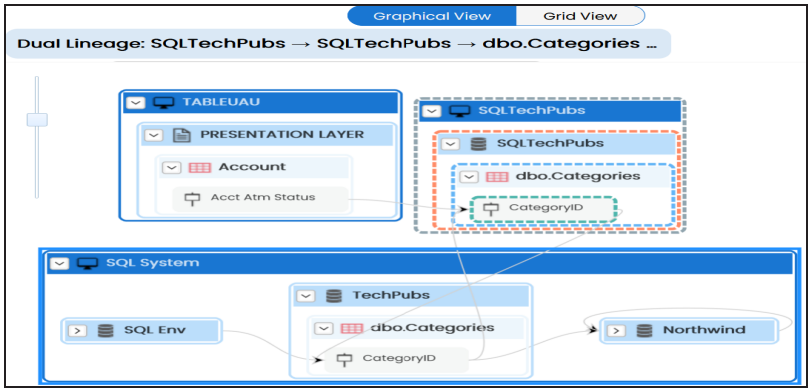
Use this option to view reverse lineage of the column.



Dual Lineage

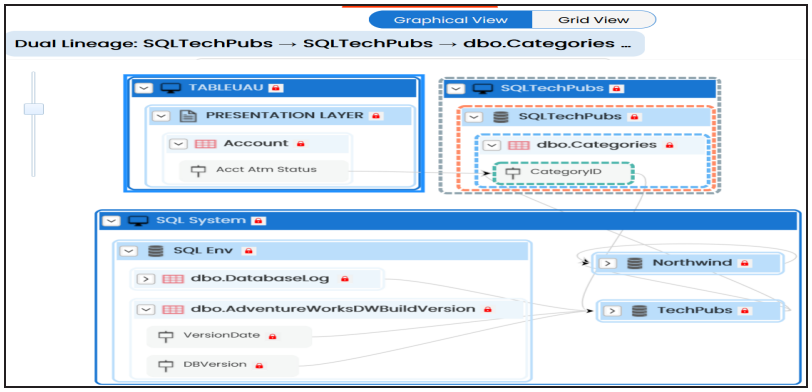
Column

Use this option to view dual lineage, which includes both forward and reverse lineage of the column.



Sensitivity Indicator

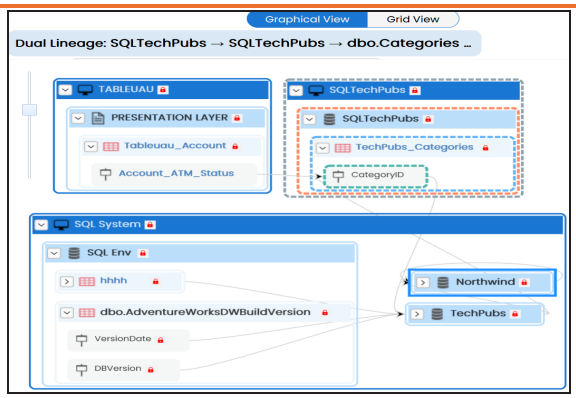
Use this option to view sensitivity of the columns in the lineage. You can expand the environment node to view sensitive columns. The sensitive assets are indicated using .



Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments and tables.

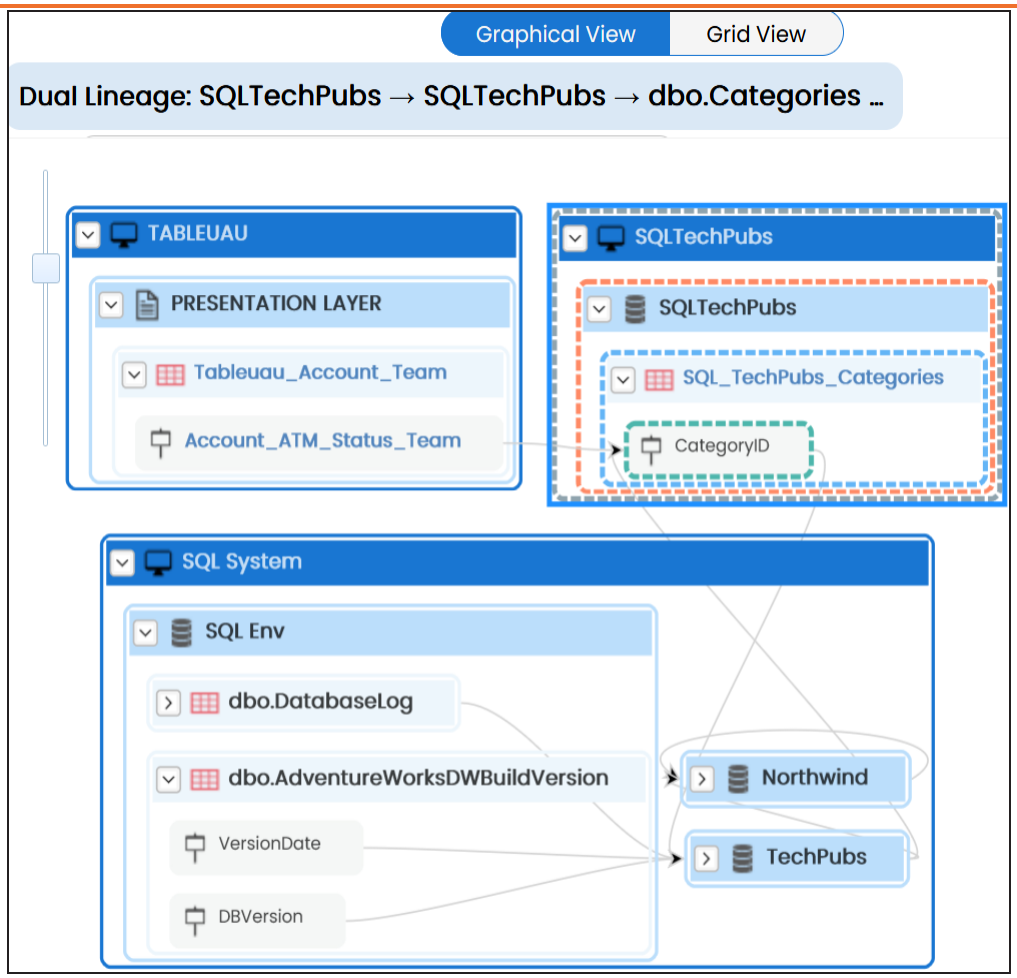
For example, the following image displays the table's logical name in the lineage.



Expanded Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments, tables, and columns. or more information on configuring extended properties of columns, refer to the Configuring Extended Properties topic.

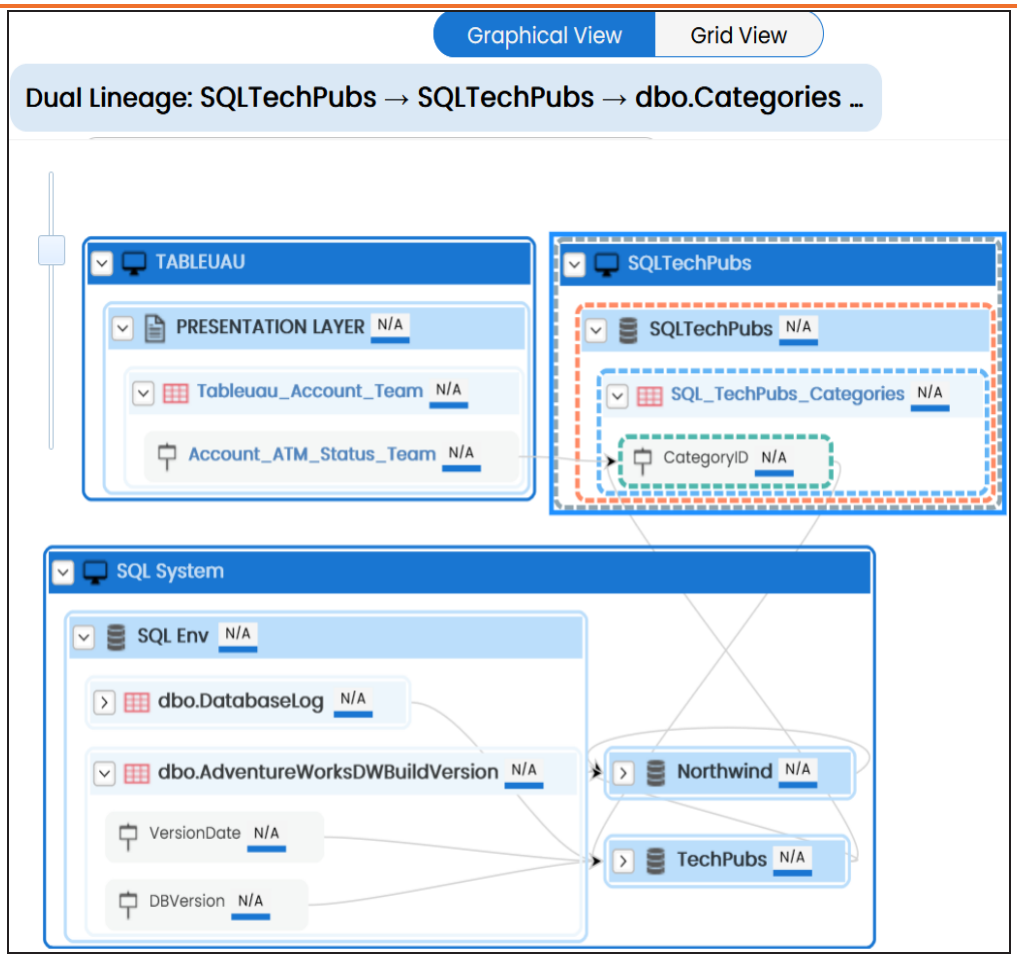
For example, the following image displays the table's expanded logical name in the lineage.



DQ Tool Score

Use this option to view the data quality score of the environments, tables, and columns in the lineage. You can expand a system node to view data quality scores for environments, tables, and columns.

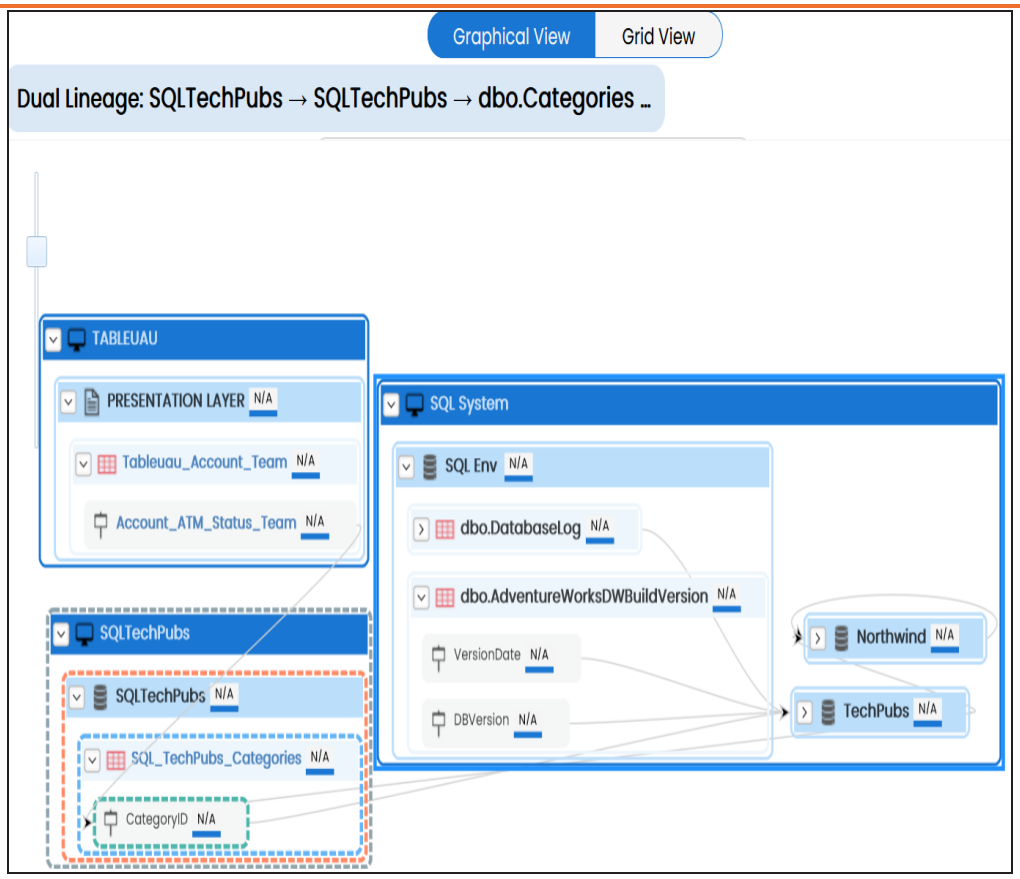
For example, the following image displays the data quality score in the lineage.



Auto Layout

Use this option to rearrange the layout of the lineage automatically.

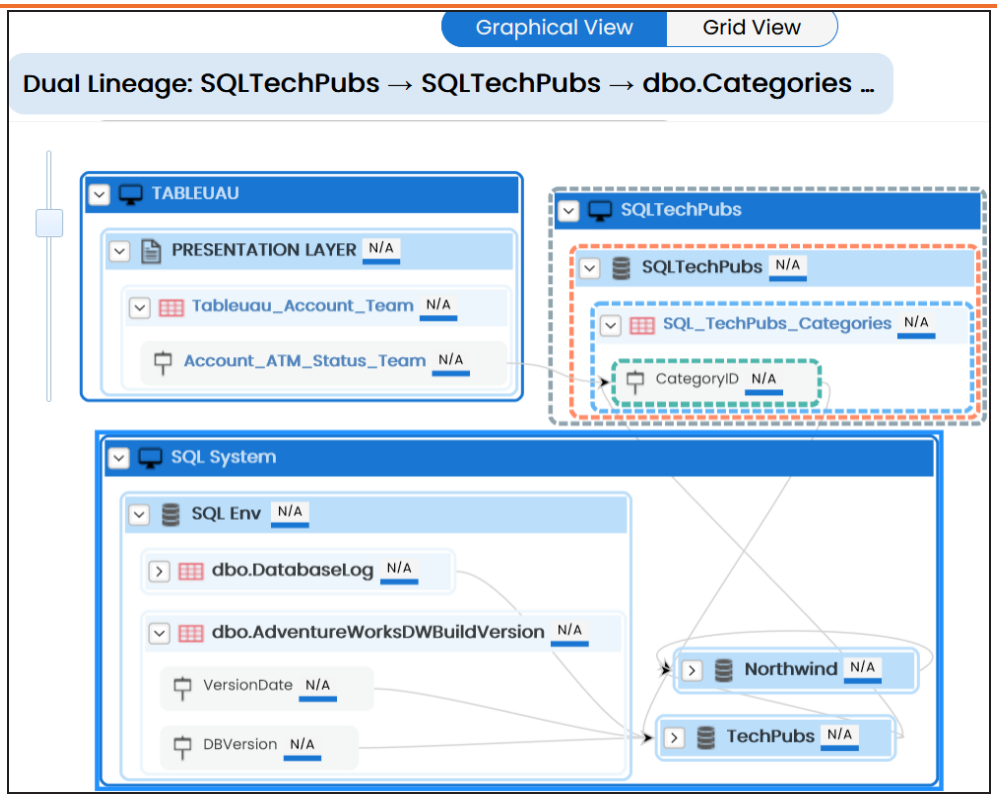
For example, the following image displays the rearranged object layout with respect to the previous screenshot.



Overview Lineage

Use this option to view the lineage excluding systems and environments that do not exist in the Metadata Manager. When this option is switched off, the views include systems and environments, that do not exist in the Metadata Manager.

For example, the following image displays lineage excluding assets that do not exist in Metadata Manager.



Overview Pane

Use this option to remove the lineage overview pane from the graphical view.

Previewing Data

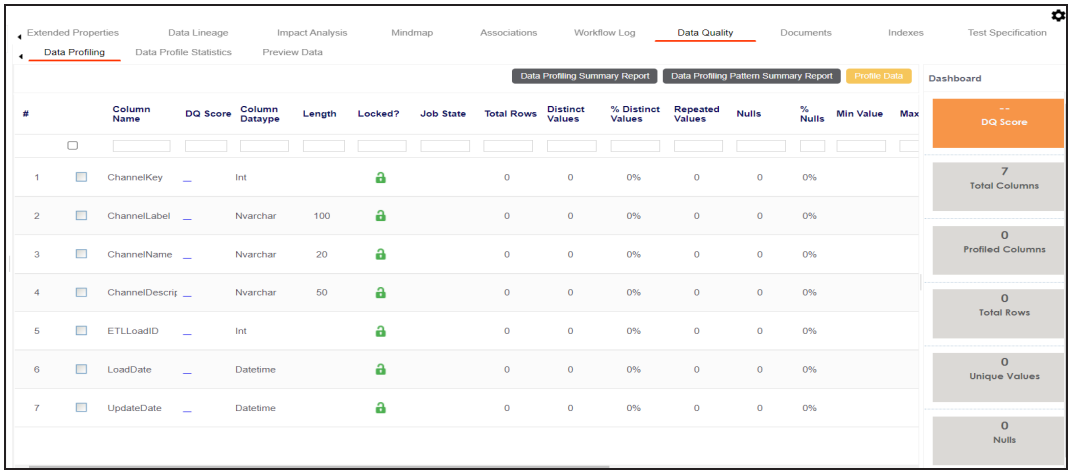
You can preview data at table level using SQL queries. Data previewing capability at table level enables you to view data instantly and profile the data. You can also schedule a data profiling job and view data profiling summary report at the scheduled time.

Data Quality tab is not available if the Enable DQ Sync option is enabled for environments.

To preview table data, follow these steps:

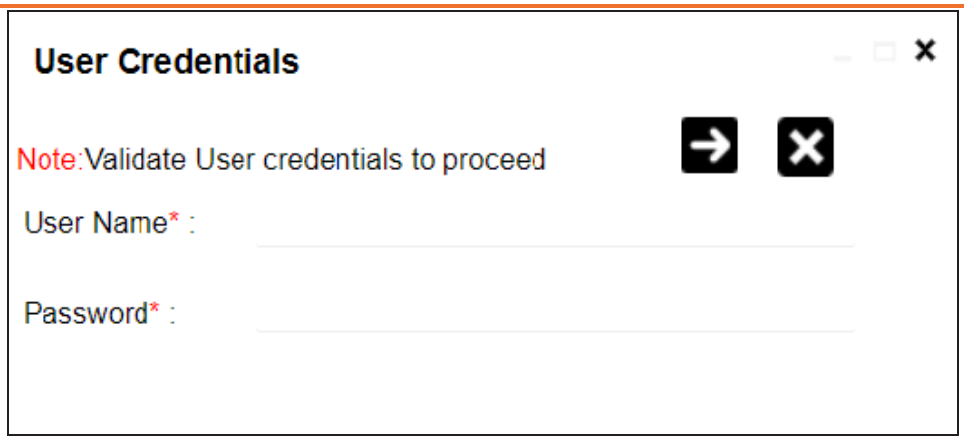
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to see its details.
3. In the **Data Catalog** pane, click a table.
4. Click the **Data Quality** tab.

   By default, the Data Profiling tab opens.



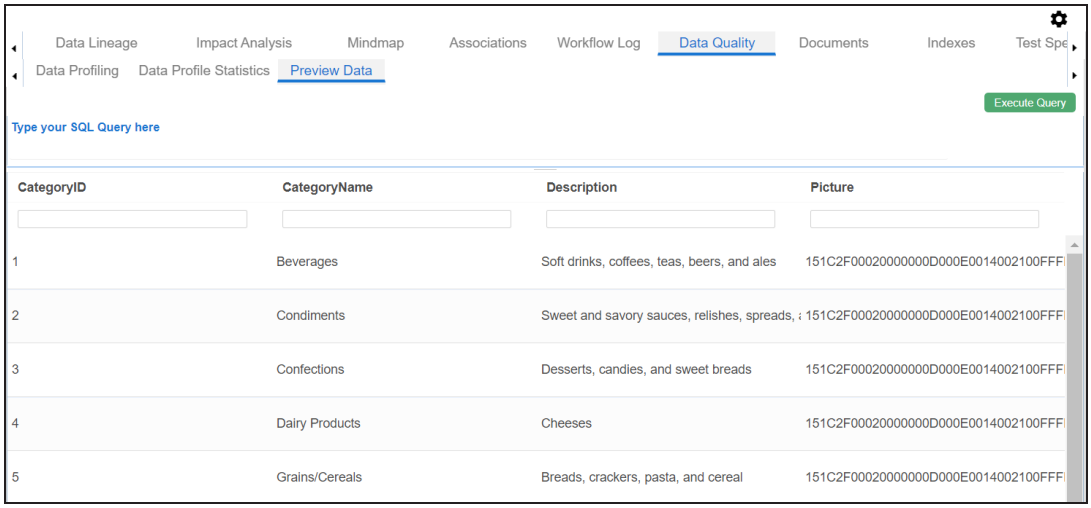
5. Click the **Preview Data** tab.

   The User Credentials page appears. For more information on enforcement of user credentials, refer to the Enforcing Credentials for Data Access or Preview topic.



6. Enter credentials to connect with the database.

   Data at table level can be viewed. You can use SQL Editor to execute a SQL query to preview data.



You can also profile data at table level and provide data quality score.

Profiling Data at Table Level

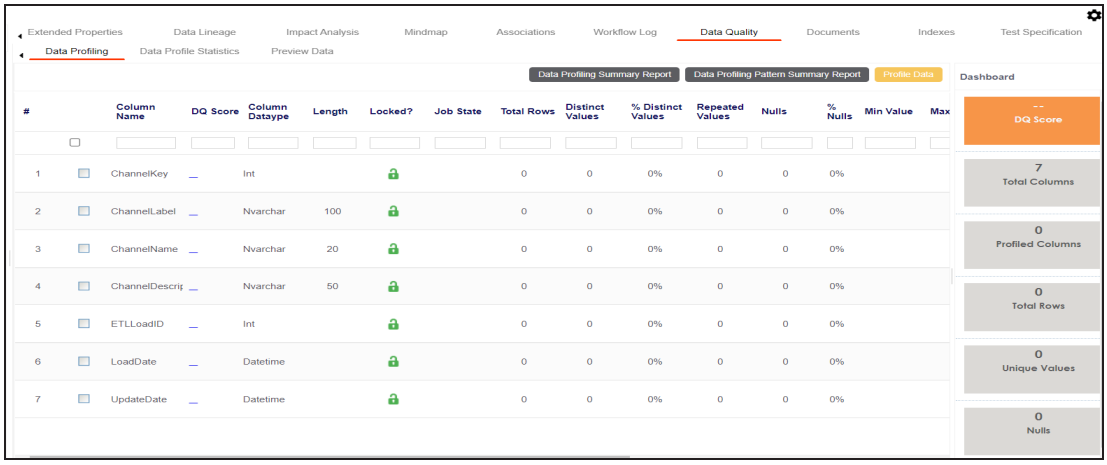
You can assess your data quality by profiling the data at table level. You need to schedule a data profiling job and provide the data quality score by assessing the data quality.

> Data Quality tab is not available if the Enable DQ Sync option is enabled for environments.

To profile data at table level, follow these steps:

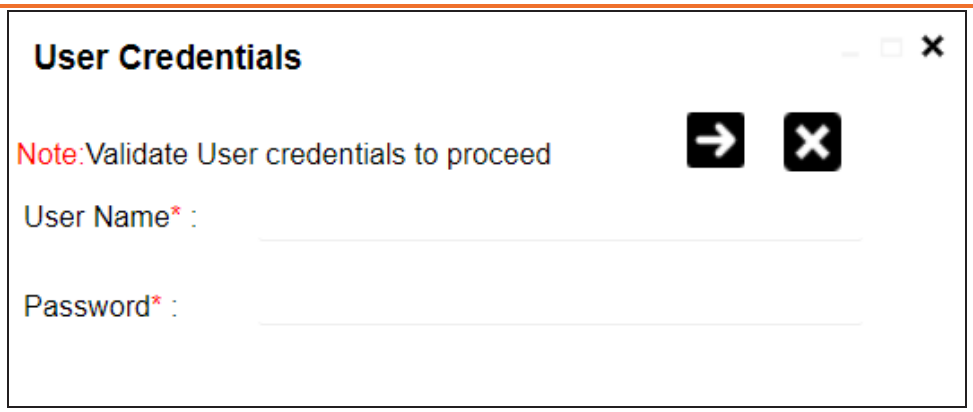
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to see its details.
3. In the **Data Catalog** pane, click a table.
4. Click the **Data Quality** tab.

   By default, the Data Profiling tab opens.



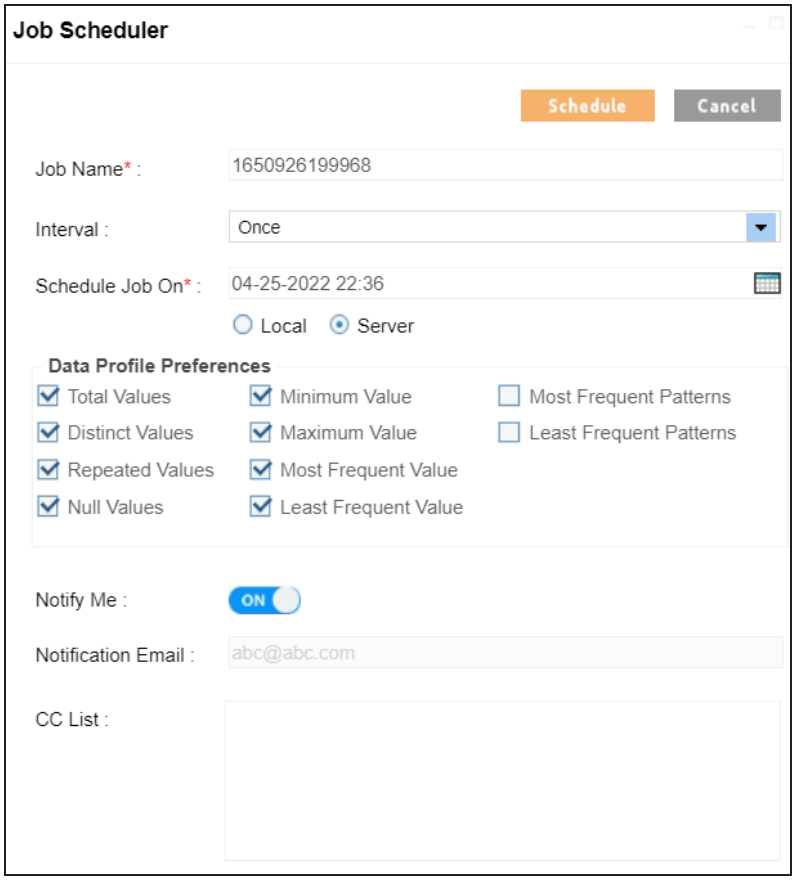
5. Select columns.
6. Click **Profile Data**.

   The User Credentials page appears. For more information on enforcement of user credentials, refer to the Enforcing Credentials for Data Access or Preview topic.



7. Enter credentials to connect with the database.

   The Job Scheduler page appears.



8. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

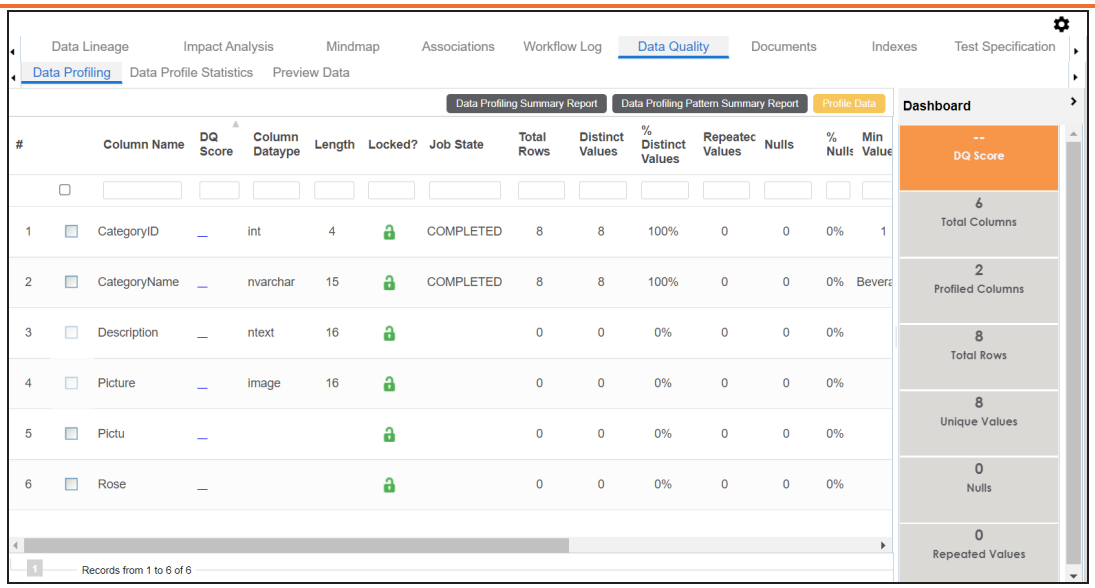
Option	Description
Job Name	Specifies the job name. For example, Administrator1585030550001. This field autopopulates with a job name. You can edit it and enter a different job name.
Interval	Specifies the frequency of the job. For example, Every Week.
Scheduled Job On	Set the date and time of the job using  . For example, 03-24-2020 11:45.
Local or Server	Select whether the job uses local or server time. ▪ Local: Refers to your local machine. ▪ Server: Refers to the machine where your application is deployed.
Data Profile Preferences	Select the corresponding check boxes to give your data profile preferences in the profile grid report. ▪ **Total Values**: Select the check box to display the total number of rows in the selected columns. ▪ **Distinct Values**: Select the check box to display the number of distinct values in the selected columns. ▪ **Repeated Values**: Select the check box to display the number of repeated values in the selected columns. ▪ **Null Values**: Select the check box to display the number of null values in the selected columns. ▪ **Minimum Value**: Select the check box to display the minimum value in the selected columns. You can enable or disable analysis of minimum value for character data. For more information on this, refer to the Configuring Data Profiling and DQ Scores topic. ▪ **Maximum Value**: Select the check box to display the maximum value in the selected columns. For more information on this, refer

Option	Description
	to the Configuring Data Profiling and DQ Scores topic. ▪ **Most Frequent Value**: Select the check box to display the most frequent values in the selected columns. ▪ **Least Frequent Value**: Select the check box to display the least frequent values in the selected columns. ▪ **Most Frequent Patterns**: Select the check box to display the most frequent patterns in the selected columns. For more information on this, refer to the Configuring Data Profiling and DQ Scores topic. ▪ **Least Frequent Patterns**: Select the check box to display the least frequent patterns in the selected columns. For more information on this, refer to the Configuring Data Profiling and DQ Scores topic.
Notify Me	Switch **Notify Me** to **ON** to receive email notification. For more information on email notification, refer to the Configuring Notification on Profiling Data topic.
Notification Email	This field is autopopulated with your email ID. If you enable notifications in the Metadata Manager Settings, you can receive email notifications from the administrator's email ID about the scheduled job.
CC list	Enter a comma-separated list of email IDs that should receive email notifications about the scheduled job. For example, ab.dav@xyz.com, cal.kai@xyz.com

9. Click **Schedule**.

   The data profiling job is scheduled.

   The data profiling job is completed at the scheduled time and the job state changes to **COMPLETED**.

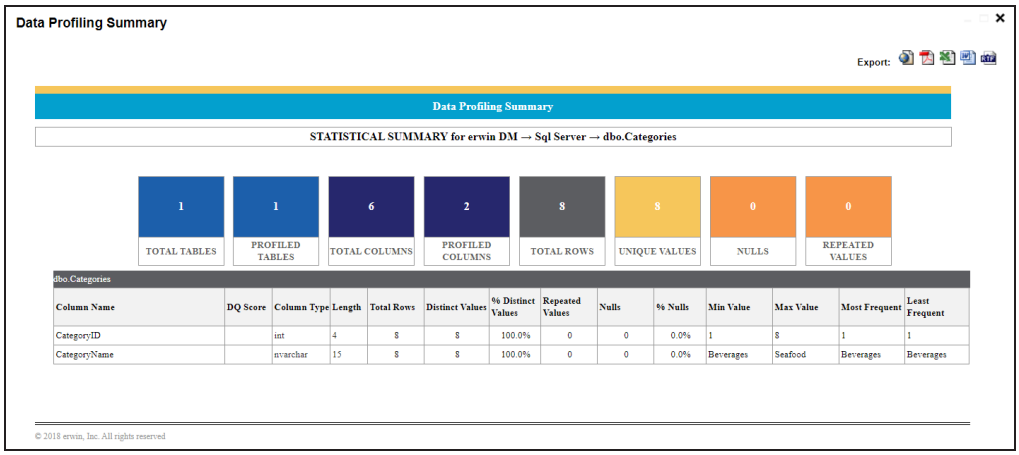


10. Use the following options:

Data Profiling Summary Report

To view data profiling summary, click **Data Profiling Summary Report**.

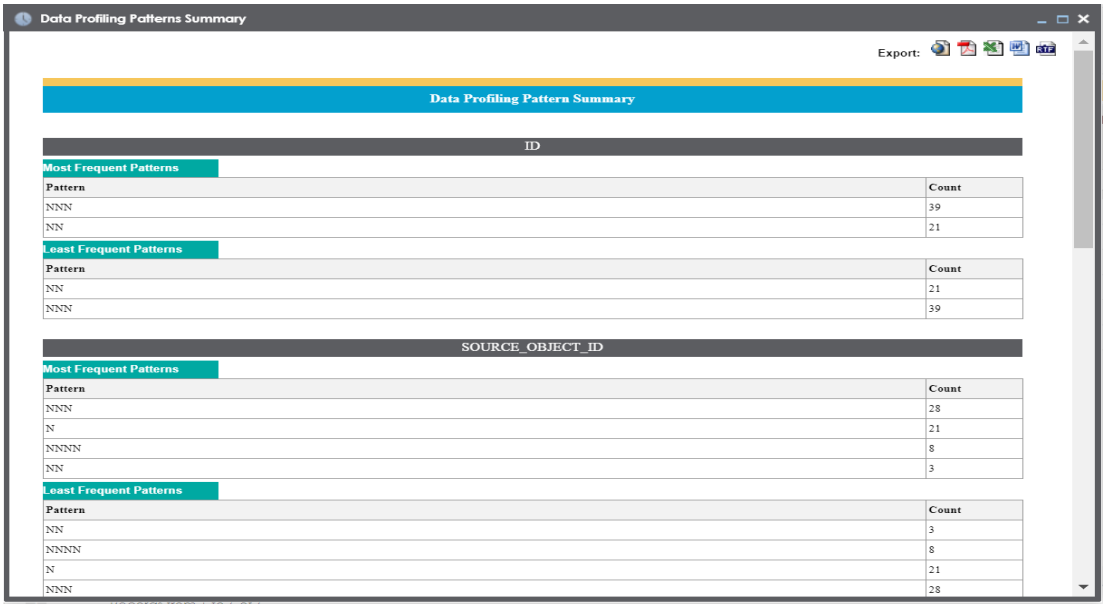
Data Profiling Summary page appears.



Data Profiling Pattern Summary

To view data profiling pattern summary report, click **Data Profiling Pattern Summary Report**.

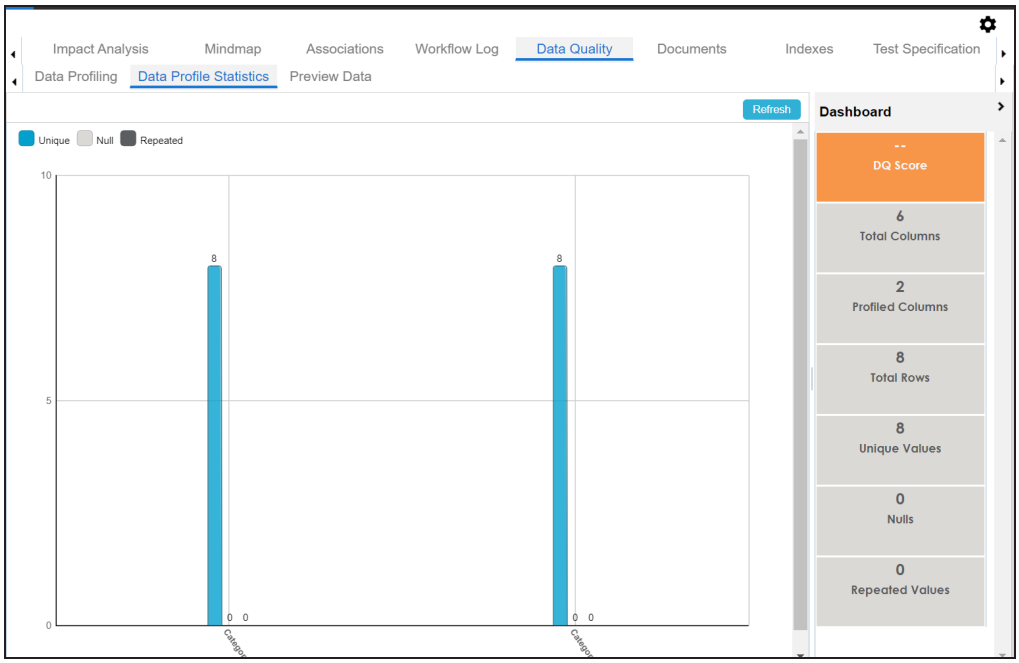
The Data Profiling Pattern Summary page appears.



Data Profile Statistics

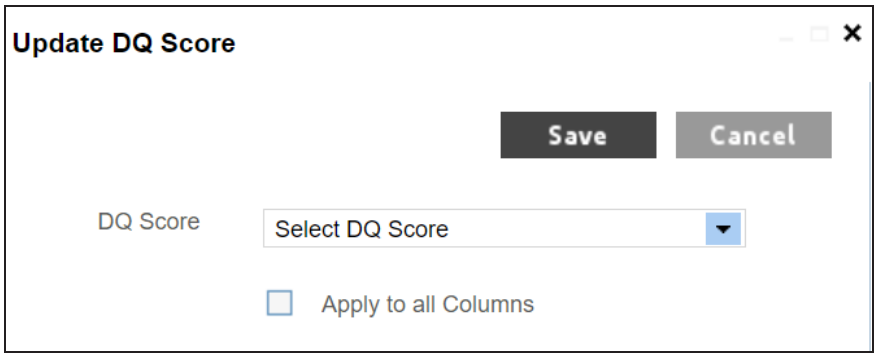
To view data profile statistics, click **Data Profile Statistics**.

The data profile statistics appears in a bar graph.



Click **DQ Score**.

The Update DQ Score page appears.



Select **DQ Score** and click **Save**. The DQ Score is updated.

Viewing Mind Maps

A mind map displays the pictorial representation of a technical asset and its association with other business and technical assets. Technical assets refer to systems, environments, tables, and columns. Business assets refer to business terms, business policies, business rules, and other business assets as defined in the Business Glossary Manager Settings.

You can view and analyze Mind Maps in following views:

- Logical View
- Conceptual View

You can select an asset on a mind map and view its properties, association statistics, and sensitivity under the Object Properties pane.

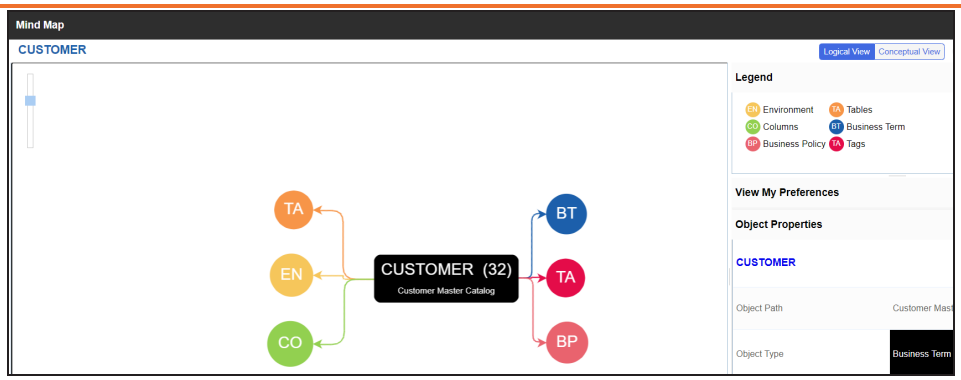
To view mind maps, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an asset to see its details.
3. Click the **Mind Map** tab.

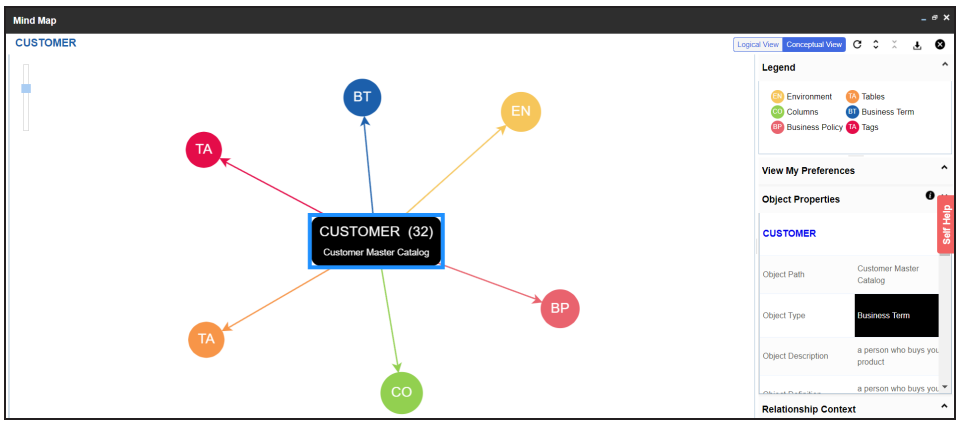
   The Mind Map page appears, and the Logical View opens by default.

   For example, if you click an environment in the Data Catalog pane and then click the Mind Map tab, the mind map of the environment appears.
4. On the Mind Map page, you can click **Logical View** or **Conceptual View** to switch between them:

   - **Logical View**: The logical view displays the associated technical assets on the left side and associated business assets on the right of the business asset. Selecting an asset on the mind map displays it properties in the Object Properties pane.



- **Conceptual View**: The logical view displays the associated technical assets in non-hierarchical representation. Selecting an asset on the mind map displays it properties in the Object Properties pane.



5. Use the following options to work on the mind map:

Reload Diagram (↻)

Use this option to reload the mind map.

Expand Diagram (⇕)

Use this option to expand the mind map to view the associated technical and business assets.

Reset Diagram to Original View (⇲)

Use this option to collapse the expanded nodes and restore the mind map to its original form.

Export ( )

Use this option to export the mind map. Hover over **Export** and use the following options:

Mind Map - Excel Report: Use this option to download the mind map in the .xlsx format. Ensure that you expand the mind map before downloading the report.

Mind Map - Image: Use this option to download the mind map as an image, in the .jpg format. Ensure that you expand the mind map before downloading the mind map image.

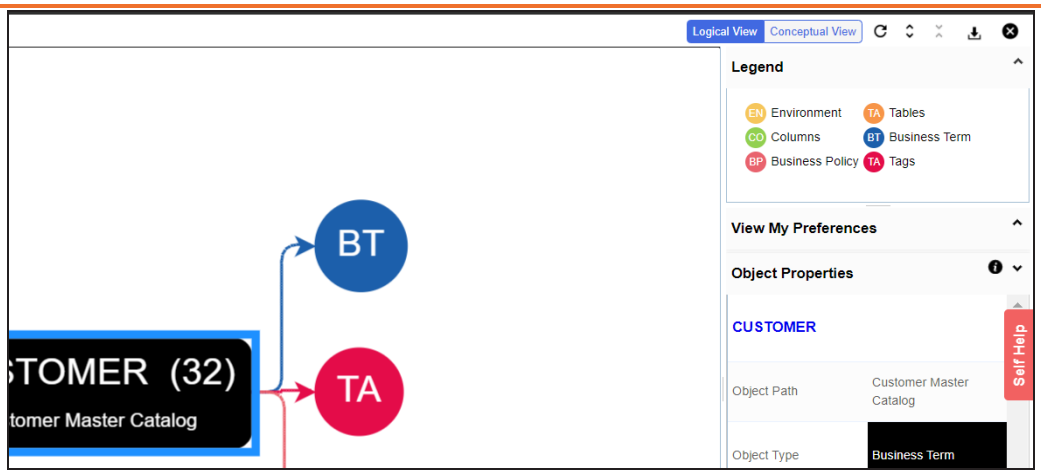
Sensitivity Details - Excel Report: Use this option to download the sensitivity report of all associated assets in the .xlsx format. This report includes sensitive data indicator (SDI), SDI classification, and SDI description of the associated assets.

You can use the following panes to view properties and configure preferences for the mind map:

- Legend
- View My Preferences
- Object Properties
- Overview

Legends

Use legends to identify the list of components on the mind map.



View My Preferences

You can set your preferences to view the mind map according to your requirements. The available settings differ based on the logical and conceptual view. Expand the **View My Preferences** pane and use the following options:

Qualifier

Use the **Show Qualified View** option to display associated assets with other business and technical assets that are created using a unique qualifier. For more information about creating associations using a qualifier, refer to the Setting Up Associations Using Qualifiers topic.

Asset Hierarchy

Use the following options to view asset hierarchy:

- **Gray Background**:
  Use this option to display gray colored background for the asset hierarchy nodes. For example, the following mind map displays nodes in the hierarchy with a gray-colored background.

  This option is only available for Logical View.

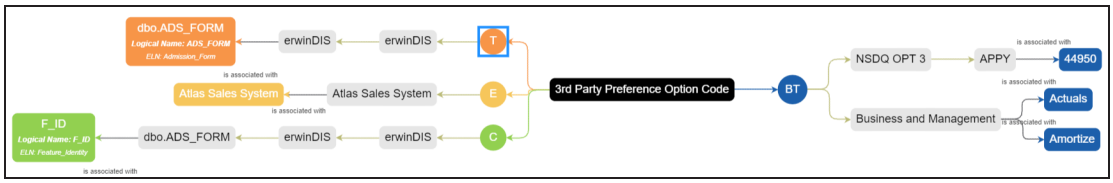
- **Show Asset Hierarchy/Show Hierarchy**:
  Use this option to view hierarchy of all the assets in a mind map.

Relationship Options

Use the following options to configure relationship options:

- **Include Relationships**: Select the check box to display relationships between the assets on the mind map.
- **Switch to Enterprise Relationship configuration**: Select the check box to apply the selected line color and type configured in the Business Glossary Manager Settings.

  For example, in the following mind map, the relationships (is a Synonym of and is Parent Of) and the line color as set in Business Glossary Manager Settings appear on the mind map.



View Logical Names

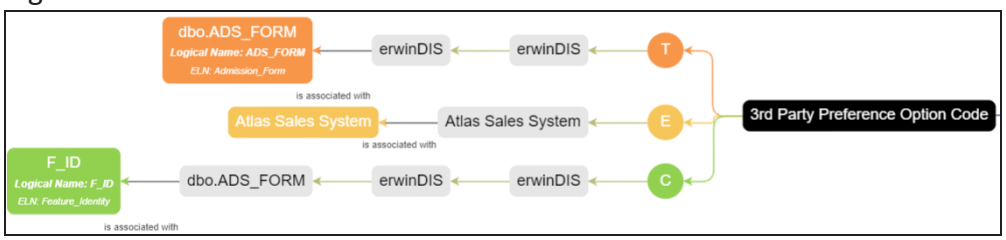
Use the following options to view logical and expanded logical names of tables and columns on the mind map:

- **Logical Names**: Select the check box to view logical names of tables and columns on the mind map.
- **Expanded Logical Names**: Select the check box to view expanded logical names of tables and columns on the mind map.

  You can configure logical names and expanded logical names of tables and columns in Metadata Manager.

  For example, the following mind map displays logical names and expanded

logical names.



View Sensitivity

Use the following options to view sensitivity details of the assets on the mind map:

Filters

Use the following filter options to select information availability on mind maps:

- **By Asset Type**: Use this option to filter and display asset types on the mind map.
- **By Relationship**: Use this option to filter and display assets on the mind map based on relationships.

  For example, in the By Asset Type list, select Column and in the By Relationship list select is associated with. Doing this displays only those columns that have the is associated type of relationship with the asset.

  - **Sensitivity Data Indicator(Y/N)**: Select the check box to indicate whether an asset is classified as sensitive.
  - **Sensitive Data Classification**: Select the check box to view the sensitivity classification of assets.

    For example, the following mind map displays the sensitive data indicator as sensitive (🔒) and sensitive data classification as Confidential.

    For more information on updating asset's sensitivity in mind maps, refer to the Updating Sensitivity topic.

Object Properties

Expand the Object Properties pane to view the selected asset's information such as its path, type, association statistics, data governance responsibilities, and sensitivity classification of an asset.

Overview

Expand this pane to open a panned view of the mind map. You can drag the purple box to move across the mind map and focus on specific areas.

Setting Up Associations using Qualifiers

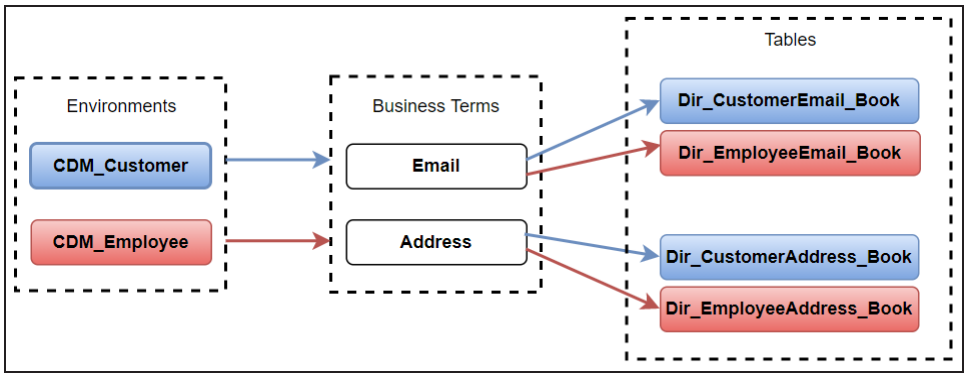
You can associate technical and business assets based on a unique qualifier. A qualifier displays associations that are uniquely identified by a business or technical asset in a mind map. You can also create multiple levels of associations that are unique for a technical or business asset.

This topic walks you through the steps to create associations between environments, business terms, and tables. Then, use the environment as a unique qualifier for association using an example.

The example creates association between technical and business assets in two parts:

- Environments, CDM_Customer and CDM_Employee are associated with respective assets, such as Email and Address.
- Business terms, Email and Address are associated with relevant assets using CDM_Customer and CDM_Employee environments as qualifier.

The following diagram shows how technical and business assets are associated.



In this diagram:

1. Customer information (customer's email and address) is associated with environment, CDM_Customer, using it as a qualifier.
2. Employee information (employee’s email and address) is associated with the environment, CDM_ Employee, using it as a qualifier.

As a result, when you view mind map of either of the Environments (CDM_Customer or CDM_Employee) with the qualifier option enabled, only the associations related to CDM_ Customer or CDM_Employee are displayed. For more information on mind map, refer to the Viewing Mind Maps topic.

For the qualifier option to function as intended, we recommend that you follow the example in this topic to set up associations.

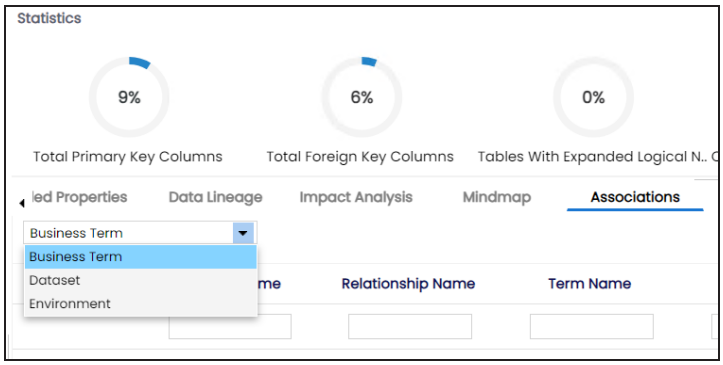
To set up associations for Environments (CDM_Customer or CDM_Employee) using a qualifier, go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**. Then, set up associations as follows:

- Associating CDM_Customer as a Unique Qualifier
- Associating CDM_Employee as a Unique Qualifier

Associating CDM_Customer as a Unique Qualifier

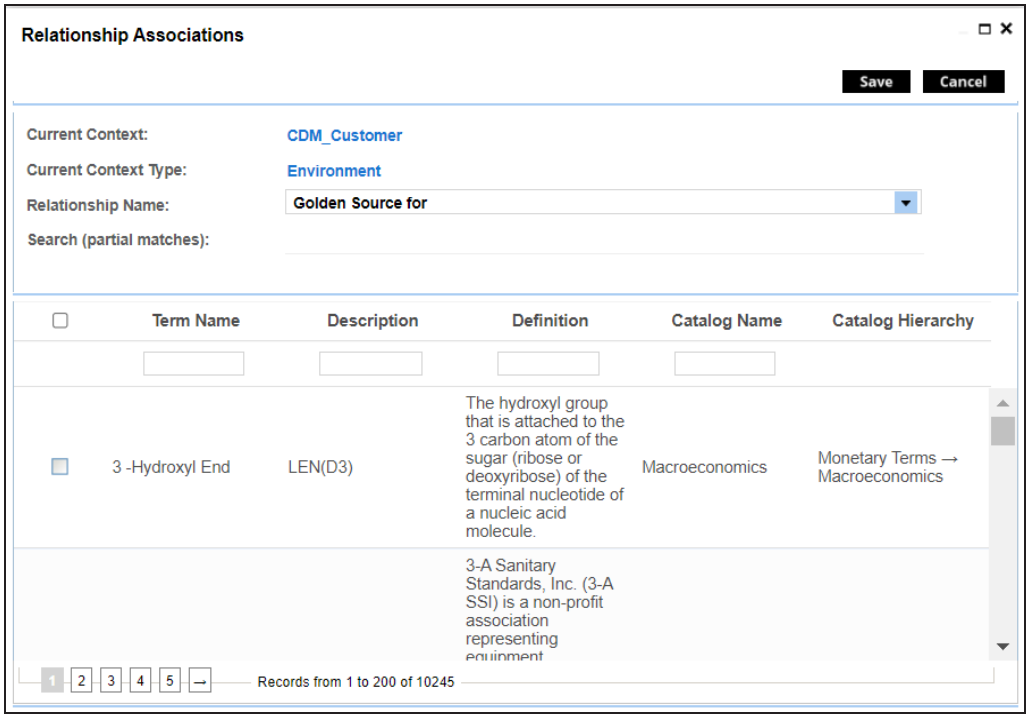
To define associations for CDM_Customer based on the diagram explained above, and use it as a unique qualifier for its associations, follow these steps:

1. On the Explore tab, click CDM_Customer environment tile.
2. Click the **Associations** tab.
3. In the asset type (business policies, business terms, columns, environments, and tables) list, select Business Term to associate with the environment, CDM_Customer.

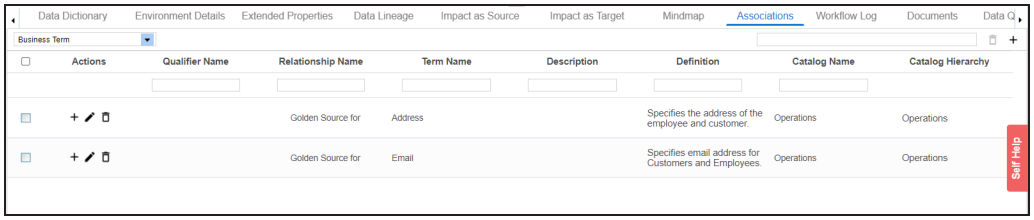


4. Click +.
   The Relationship Associations page appears. Based on the asset type that you select, it

displays a list of available assets.

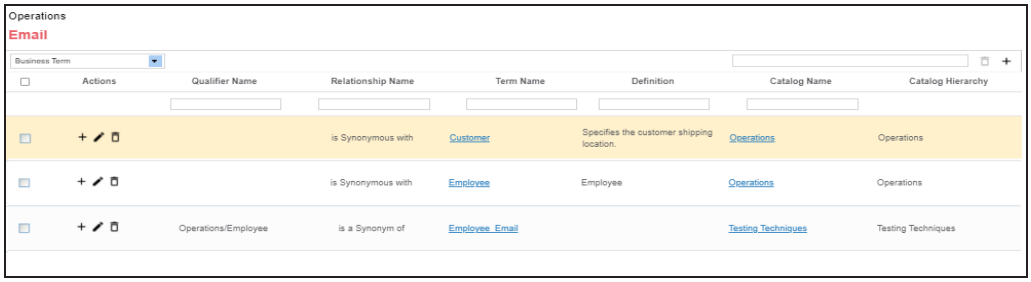


5. Select the assets, Email and Address to associate with CDM_Customer.
   If you know the asset name, use the Search (partial matches) field to look up for it
6. Click **Save**.
   Email and Address are associated with the CDM_Customer and added to its list of associations.

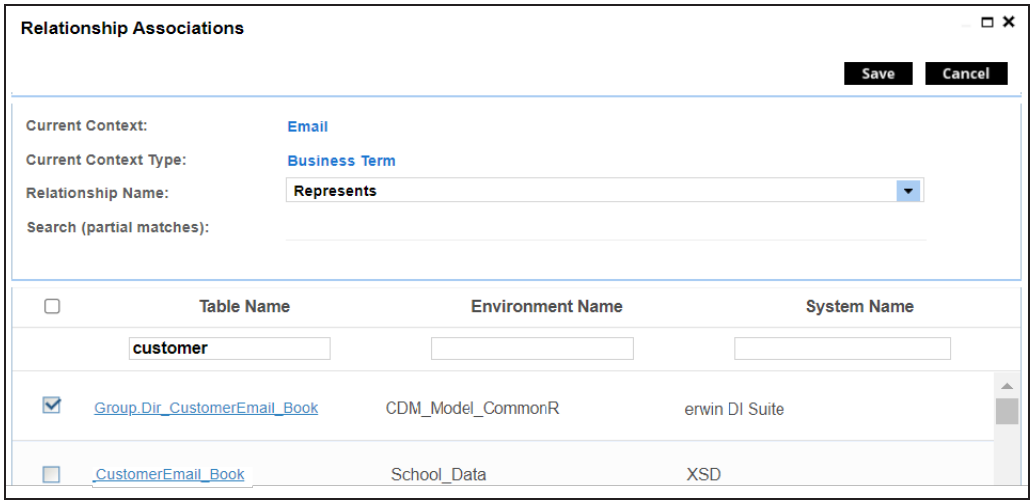


7. For Email, under the **Actions** column, click + to associate with other assets using CDM_Customer as a qualifier.

The Operations page for Email appears and displays other associations.

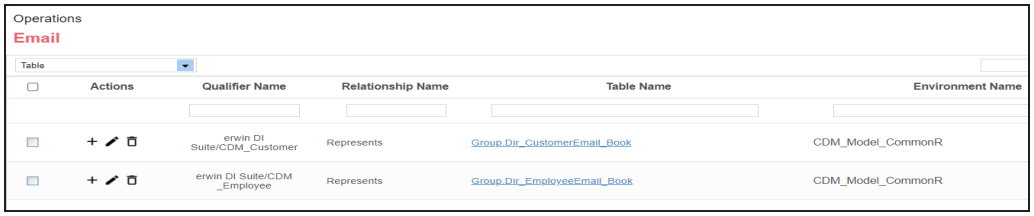


8. In the asset type (business policies, business terms, columns, environments, and tables) list, select **Table** to associate with the business term Email using CDM_Customer as a qualifier.
9. Click + on the top-right corner.
   The Relationship Associations page appears.
10. Select Dir_CustomerEmail.Book to associate with Email, using CDM_Customer as a qualifier.
    If you know the asset name, use the Search (partial matches) field to look up for it.



11. Click **Save**.
    Dri_CustomerEmail_Book is associated with Email using CDM_Customer as a qualifier. Once the Dri_CustomerEmail_Book table is associated with Email, the **Qualifier Name**

column displays Customer as a unique qualifier for the asset.



12. Repeat steps 7 to 11 to associate Dri_Customer_Address with Address using CDM_Customer as a qualifier.
    Once the Dir_CustomerAddress_Book table is associated with Address, the **Qualifier Name** column displays CDM_Customer as a unique qualifier for the asset.

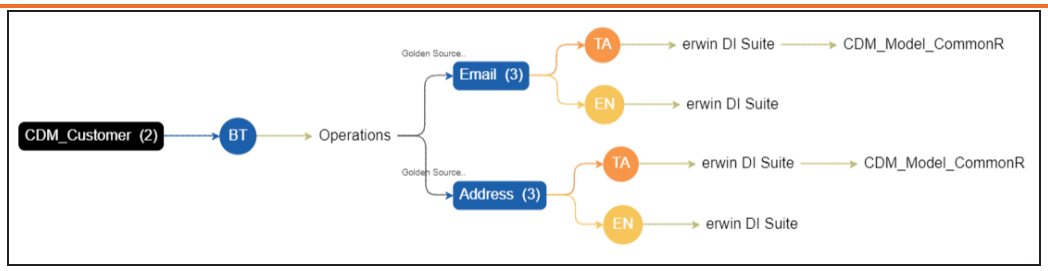
Associating CDM_Employee as a Unique Qualifier

Similarly, you can define associations for CDM_Employee based on the diagram explained above, and use it as a unique qualifier for its associations. To create association based on the diagram, follow steps in Association CDM_Customer as a Unique Qualifier section.

Once you have created associations, you can view them in mind map. Use the **Show Qualified View** option in the mind map to view the association based on a qualifier. In this case, CDM_Customer.

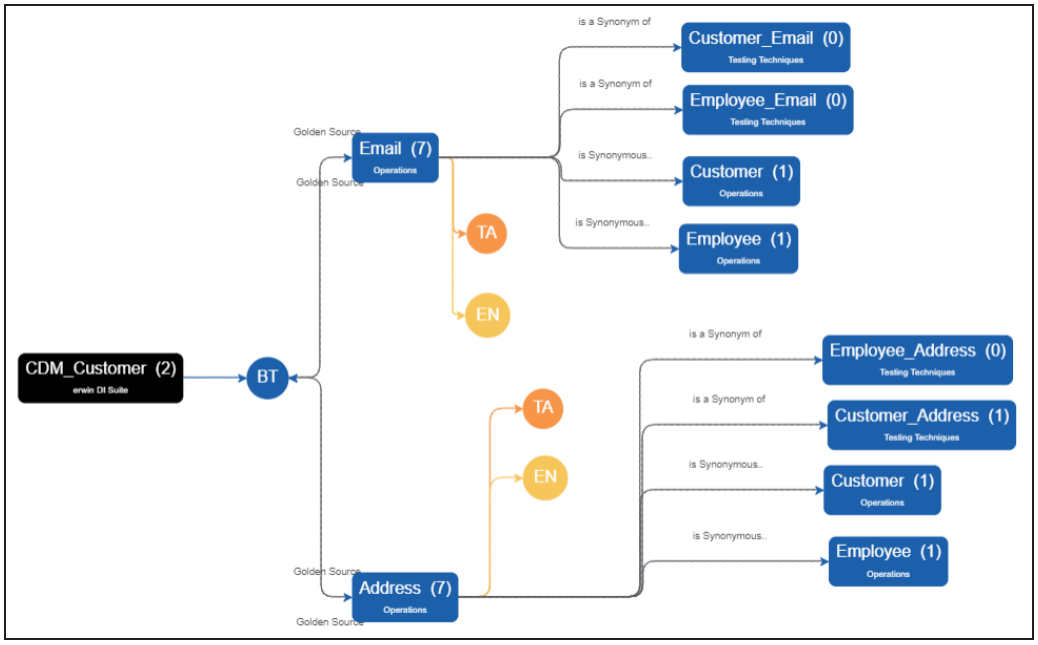
To view mind map, click **Mind Map** tab for the CDM_Customer. Then, select the **Show Qualified View** option. Selecting this option displays only associations that are based on the unique qualifier, CDM_Customer.

- **With Show Qualified View option**: View associations based on CDM_Customer as a qualifier.



Similarly, you can view associations in a mind map using CDM_Employee as a qualifier.

- **Without Show Qualified View option**: View all associations without a qualifier.



Similarly, you can view associations in a mind map for the environment CDM_ mployee.

Configuring Extended Properties

You can configure user-defined properties for technical assets. First, you need to set up a form and then use it to configure user-defined extended properties.

You can configure extended properties of technical assets in the following ways:

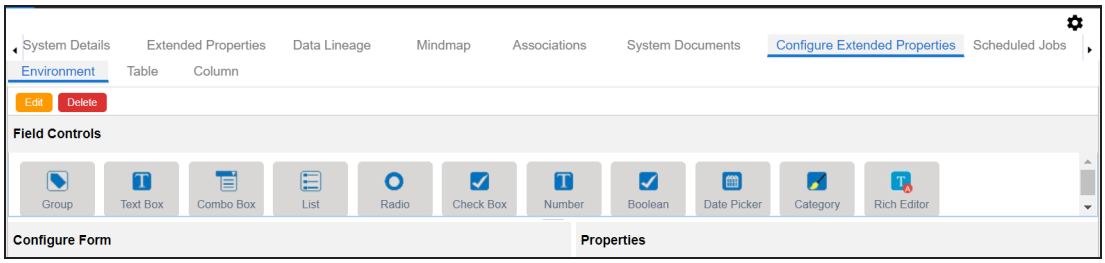
- Configure extended properties globally
- Configure extended properties for individual assets

Configure Extended Properties Globally

At the system level, you can configure extended properties for environments, tables, and columns. Extended properties configured at the system level for these objects apply to the objects under the system. For example, extended properties configured at system level for environments apply to all environments under that system.

To configure extended properties at system level, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. In the **Asset Catalog** pane, hover over a system and click Info to view system details.
3. Click the **Configure Extended Properties** tab.



The Configure Extended Properties tab contains the following sections:

- **Field Controls**: Use this pane to get the required UI elements.
- **Configure Form**: Use this pane to design forms using the UI elements available in the **Field Controls** pane.

- **Properties**: Use this pane to view the properties of the UI element selected in the **Configure Form** pane.

4. Use the following tabs:

   Environment

   Use this tab to configure extended properties for environments under the selected system.

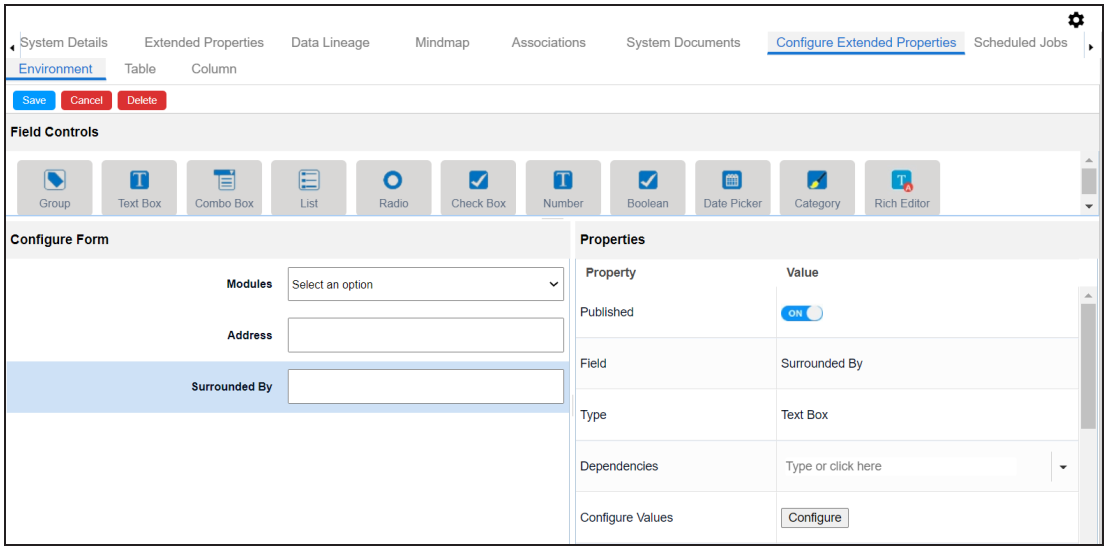
   Table

   Use this tab to configure extended properties for tables under the selected system.

   Column

   Use this tab to configure extended properties for columns under the selected system.

5. On these tabs, click **Edit**.
6. Double-click or drag and drop the required UI elements from the **Field Controls** pane to the **Configure Form** pane.
7. Select UI elements, one at a time, and configure their properties in the **Properties** pane.




The available properties differ based on the type of UI element.

Refer to the following table for property descriptions:

Property	Description
Published	Switch **Published** to **ON** to publish the field.
Field	Specifies the field label. To change the field labels, double-click the corresponding **Value** cell. For example, Metadata Scanned On.
Type	Specifies the type of the field. To select field types, double-click the corresponding **Value** cell.
Dependencies	Defines the pick list fields that can be used as controlling fields. It works only with the Reference Data Manager connector. To define pick list fields, select the fields from the drop-down option.
Configure Values	Specifies the connectors for the field. To configure option values, click **Configure Values**. Use the following options: ▪ **Default connector**: Use this option to enter option values manually or using an XLSX file. ▪ **Reference Data Manager**: Use this option to pull option values from reference tables in the Reference Data Manager.
Mandatory	Specifies whether the field is mandatory.
Description	Specifies the field description. To enter field descriptions, double-click the corresponding **Value** cell.
Visible in Extended Properties	Switch **Visible in Extended Properties** to **ON** to make the field visible on the Extended Properties tab.
Use in Discover	Switch **Use in Discover Assets** to **ON** to use the field as a filter in

Property	Description
Assets	the Discover Assets module. Ensure the following: ▪ Filter feature supports field types such drop-down, list, checkbox, radio, and boolean. ▪ Switch the **Include Extended Properties** option **ON** on the Discover Asset Settings page. ▪ Schedule a synchronization job or manually synchronize the asset before you can filter assets on the Discover Assets module.
Order	Specifies the order of the field on the Extended Properties tab. To enter the order number, double-click the corresponding Value cell. You can also drag and move fields in the Configure Form pane to change their order.

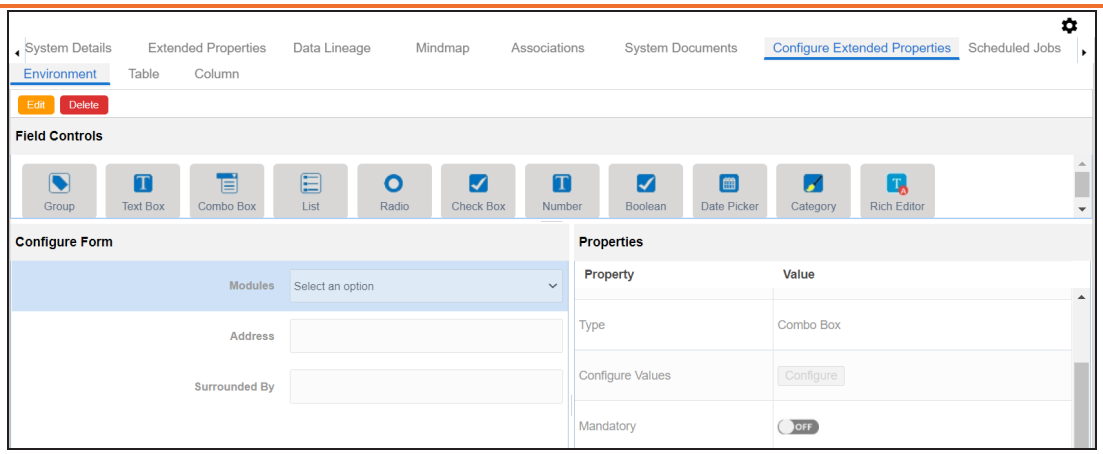
8. Click **Save**.

The form is saved and is available on the Extended Properties tab of the selected object (Environment, Table, or Column).

Similarly, you can also configure the extended properties form at environment, table, and column levels. Once you configure the form, you can set up extended property values on the Extended Properties tab at system level or individual asset levels.

To use the form, at system level or other (environment, table, or column) levels, follow these steps:

1. In the **Data Catalog** pane, click the required object.
2. Click the **Extended Properties** tab.



3. Click **Edit** and set extended properties.
4. Click **Save**.

   The extended properties are saved.

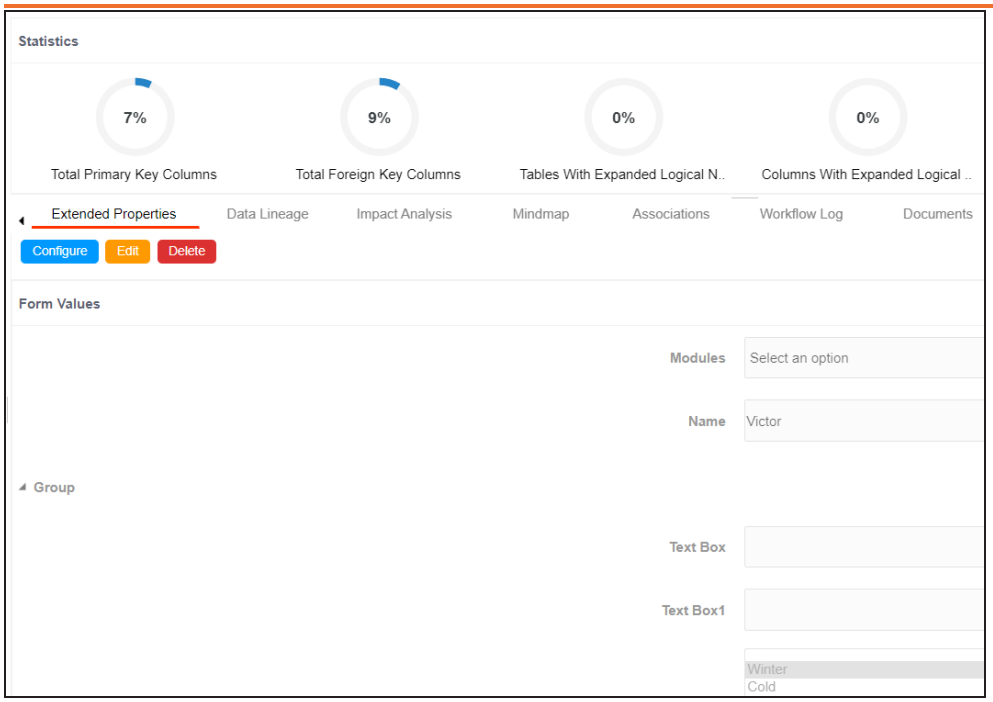
You can download extended properties in the XLSX format and use it as a template to import extended properties. To download extended properties, click **Export To Excel**.

Configure Extended Properties for Individual Assets

You can also configure the extended properties for any individual technical asset.

To configure the extended properties for an individual asset, select an asset from the Metadata Manager, and click the **Extended Properties** tab.

For example, the following image displays the Extended Properties tab for the selected environment. Similarly, you can configure the extended properties of individual assets such as systems, tables, and columns.



You can download extended properties in the XLSX format and use it as a template to import extended properties. To download extended properties, on the **Extended Properties** tab, click **Export To Excel**.

Default Connector

When you configure extended properties using UI elements, such as combo box, radio button, and list, you also need to configure their option values. You can use the default connector to import option values from an MS Excel file or enter them manually.

To configure option values using the default connector, follow these steps:

1. In the **Configure Form** section, click the required UI element.

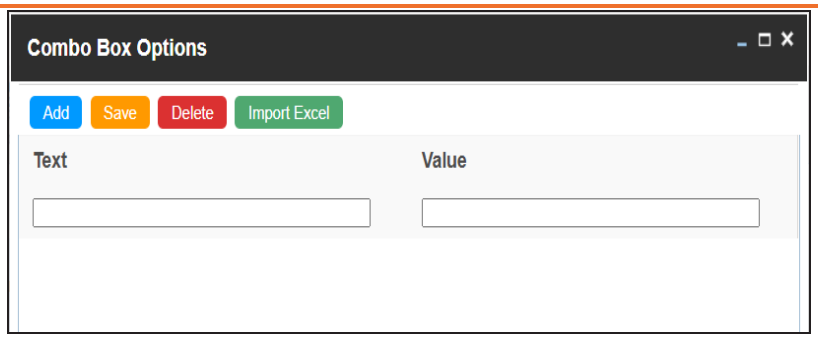
   Ensure that you are in edit mode.

2. In the **Properties** section, click **Configure**.

   The Connectors page appears.

3. On the **Connectors** page, ensure that the Default Connector option is selected. Then, click **Next**.

   The <UI_Element> Options page appears. For example, if the UI element is Combo Box, the Combo Box Options page appears.



4. Use the following options:

   Add

   Use this option to enter text and value manually.

   Import Excel

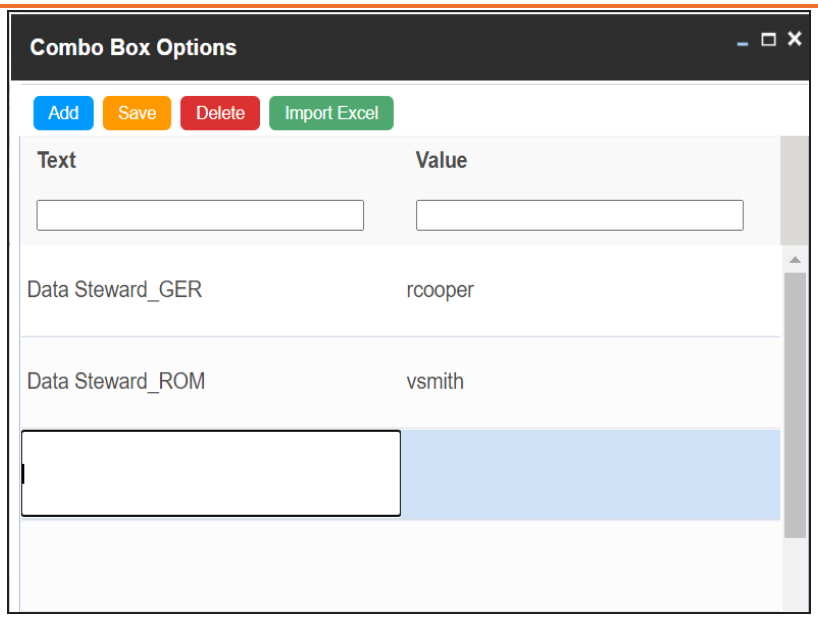
   Use this option to import options from MS Excel files.

5. After configuring option values, click **Save**.

To add option values manually, follow these steps:

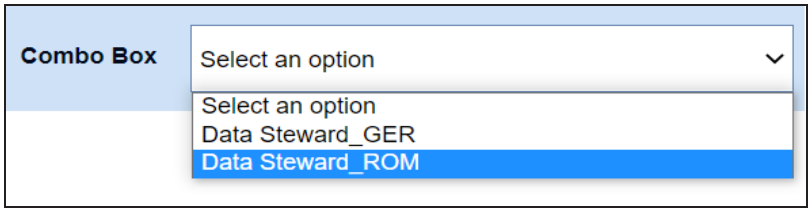
1. Click **Add**.
2. Enter values in the Text and Value fields.

   The Text corresponds to options whereas the Value corresponds to underlying value of an option. You can add as many values as needed.



3. Click **Save**.

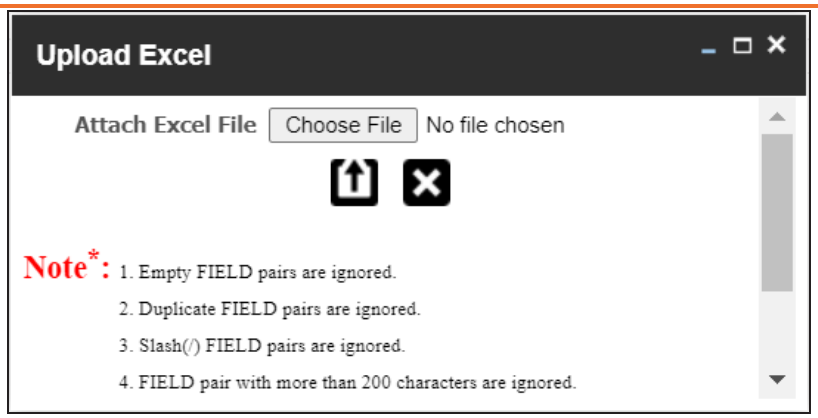
   The option values appear in the UI element under the Configure Form section.



To import option values from MS Excel files, follow these steps:

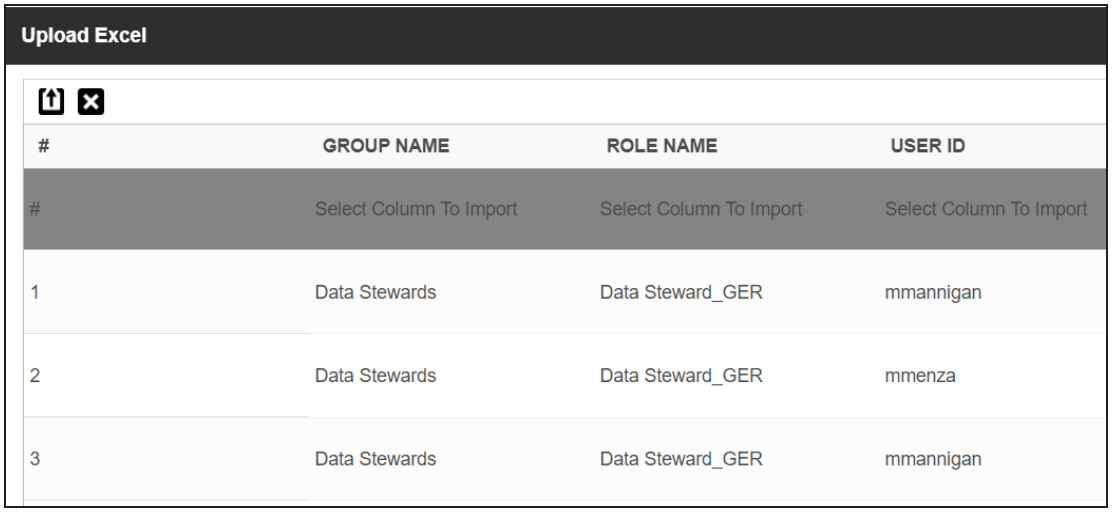
1. Click **Import Excel**.

   The Upload Excel page appears.



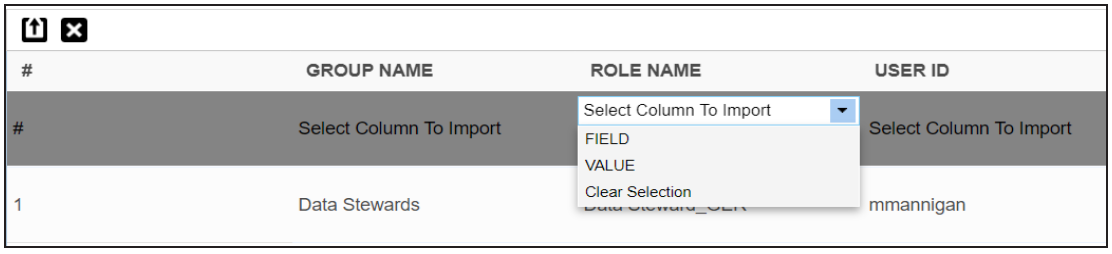
2. Click **Choose File** and select the required MS Excel file.

   The Upload Excel page appears. It displays the data in the MS Excel file.



3. Double-click the **Select Column To Import** cell in the required column.

   The available options appear.

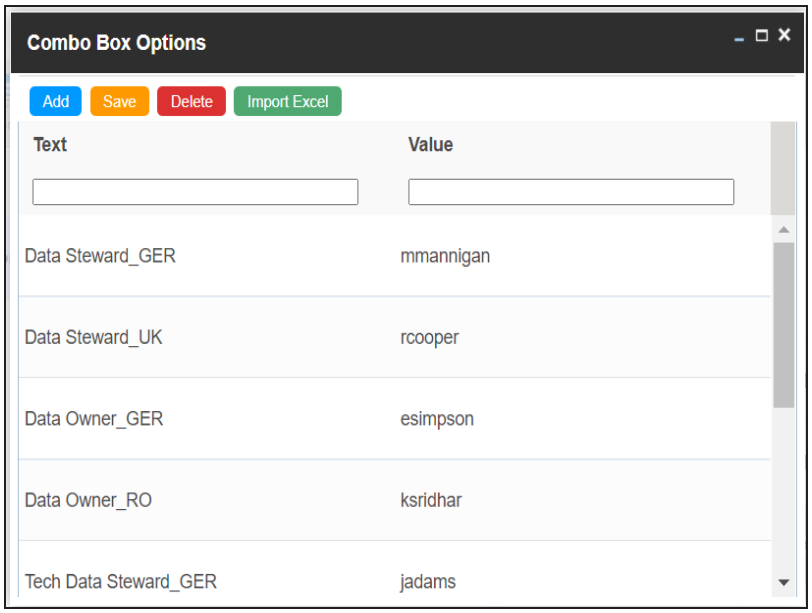


4. Select the appropriate option.

   Field corresponds to options and Value corresponds to value of an option. You can import multiple columns. Use Clear Selection to undo the selection.

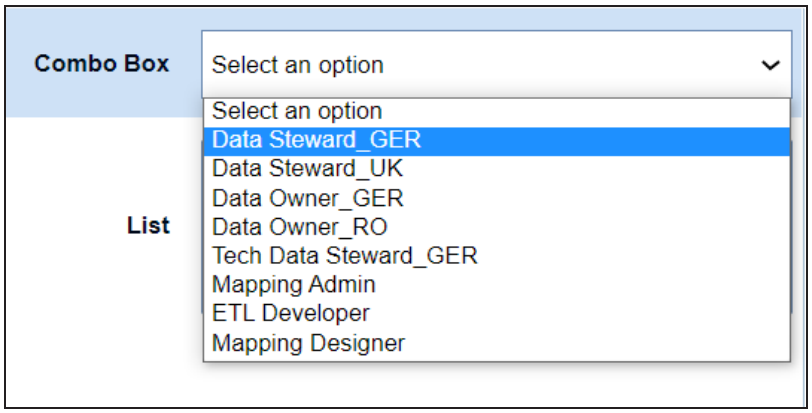
5. Click  .

   The <UI_Element> Options page appears. It displays the imported columns. You can delete a row that is not required. To delete rows, click a row and then click **Delete**.



6. Click **Save**.

   The option values appear in the UI element under the Configure Form section.



Reference Data Manager

When you configure extended properties using UI elements, such as combo box, radio button, and list, you also need to configure their option values. You can use the Reference Data Manager connector to import option values from tables in the Reference Data Manager.

To configure option values using reference data manager connector, follow these steps:

1. In the **Configure Form** section, click the required UI element.

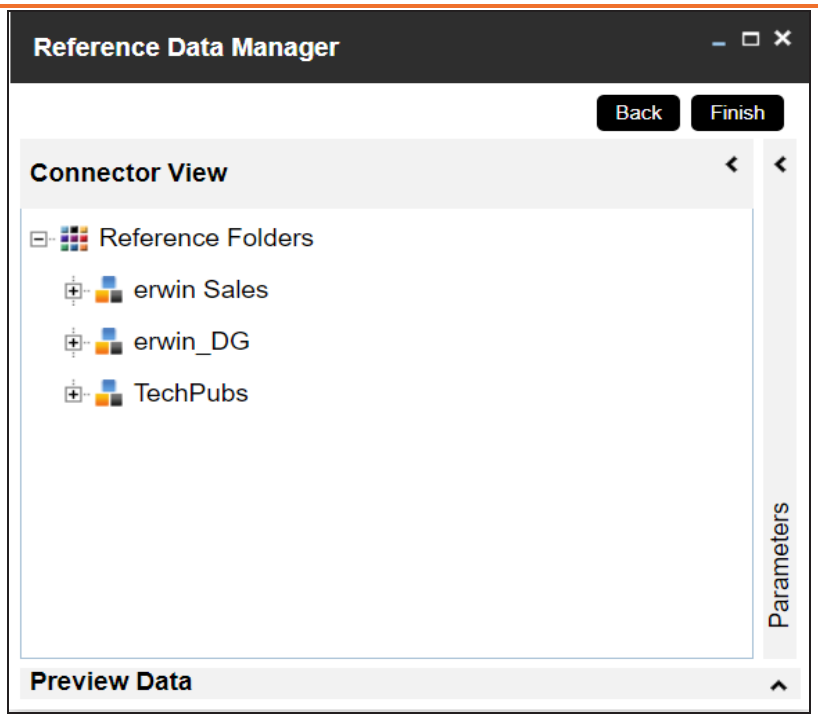
   Ensure that you are in edit mode.

2. In the **Properties** section, click **Configure**.

   The Connectors page appears.

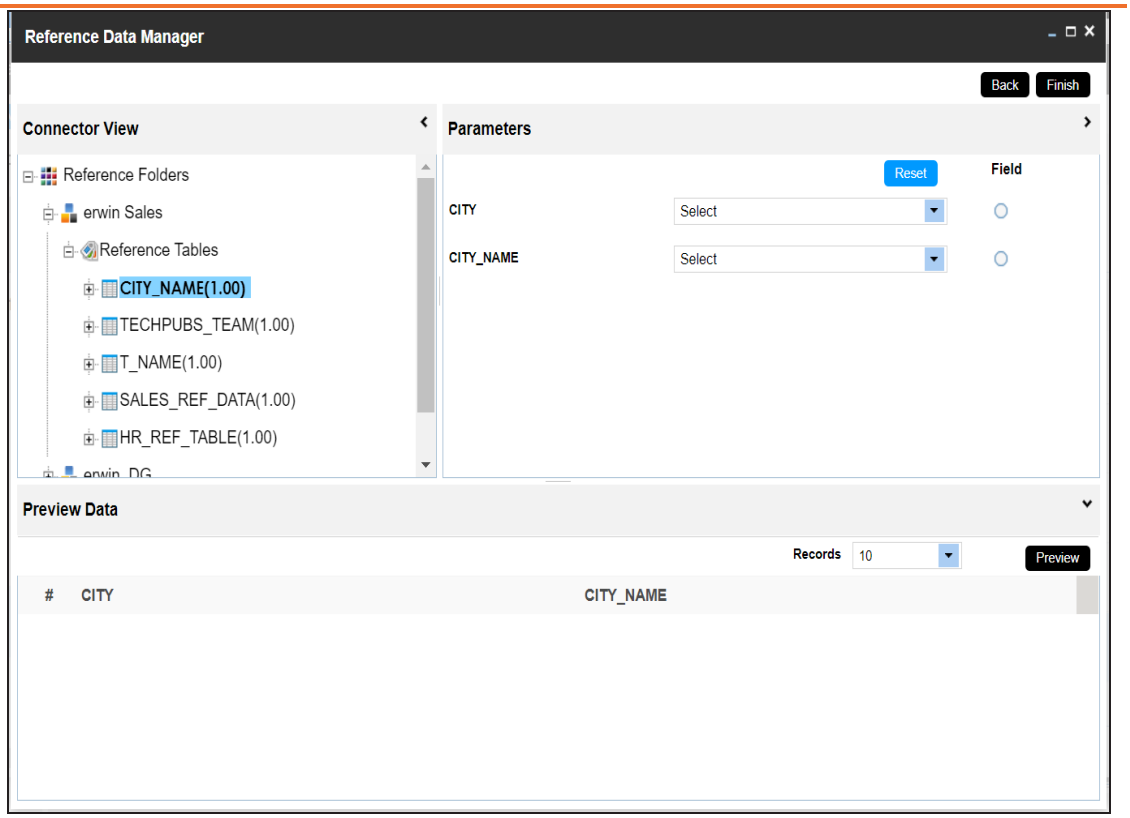
3. On the **Connectors** page, click **Reference Data Manager** and then click **Next**.

   The Reference Data Manager page appears. It displays the reference folders in the Connector View pane.



4. In the **Connector View** pane, expand a reference folder and select a reference table.

   The Parameters pane displays the columns in the reference table. You can also click Preview to view the data in the reference table.

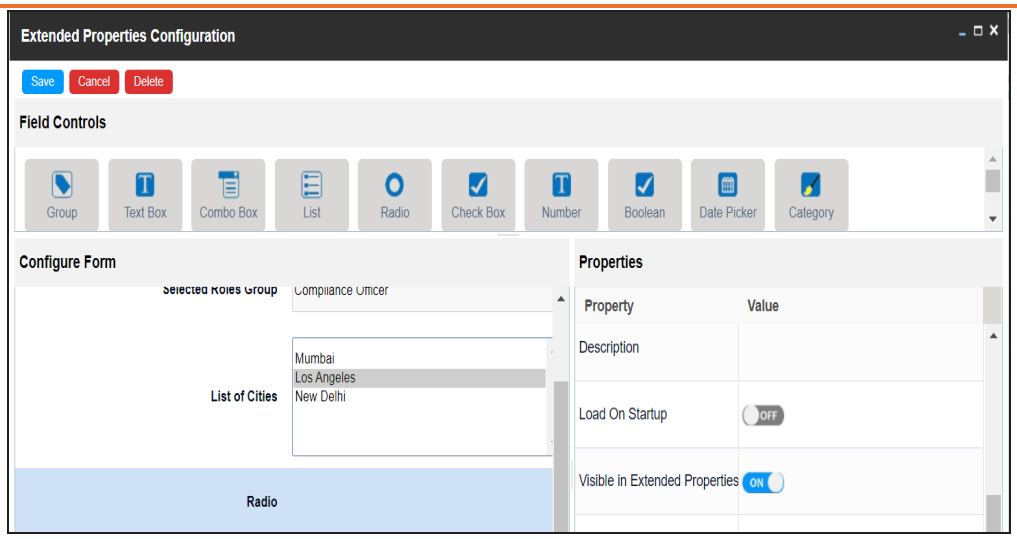


5. In the **Parameters** pane, click the radio button next to the required column.

   You can select the controlling field from the drop down option. Ensure that you define the required dependencies in the Properties pane and that the option values for controlling field are configured using the same reference column.

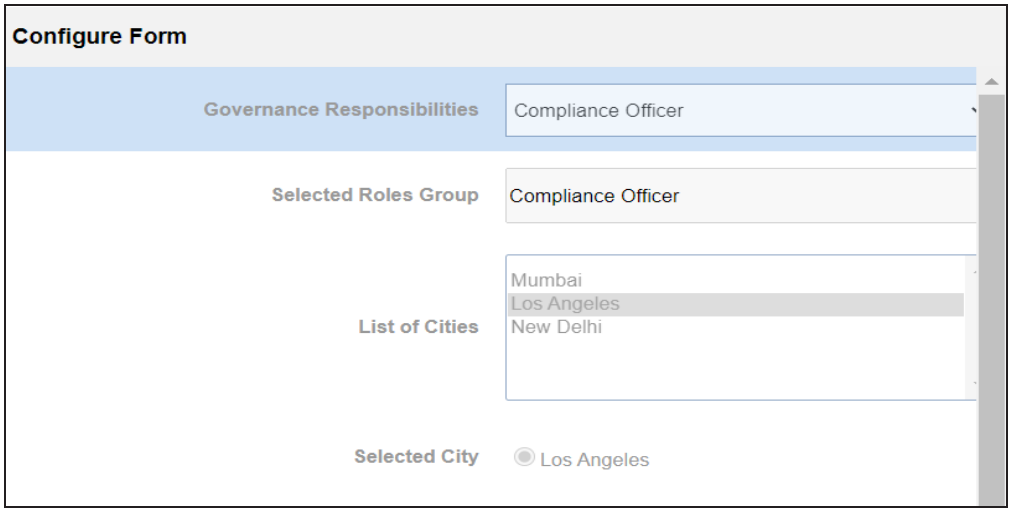
6. Click **Finish**.

   The Extended Properties Configuration page appears.



7. Under the **Properties** section, switch **Load on Startup** to **ON**.
8. Click **Save**.

   The option values are configured. For example, in the following form the List of Cities is the controlling field for Selected City. Both the fields get their option values from the same reference column.



Importing from Excel

You can import user-defined properties for technical assets from an XLSX file. You can either use an existing XLSX file or download an extended properties file from the Extended Properties tab. Ensure that the XLSX file follows the correct template.

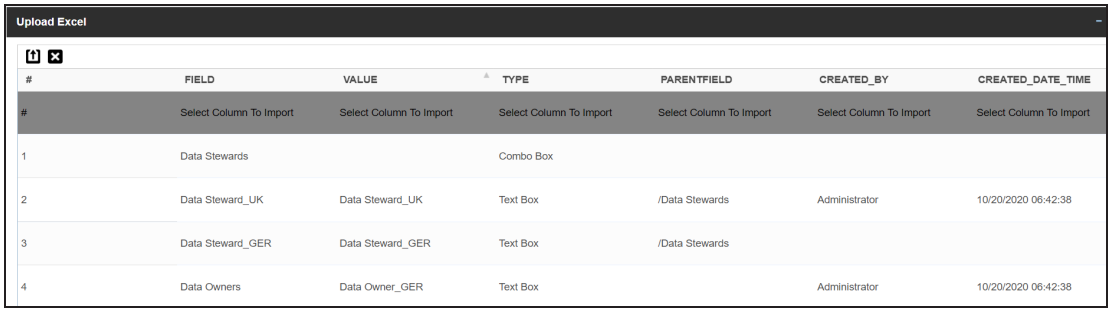
To import extended properties from XLSX files, follow these steps:

1. On the **Extended Properties** tab, click **Import From Excel**.

   The Upload Excel page appears.

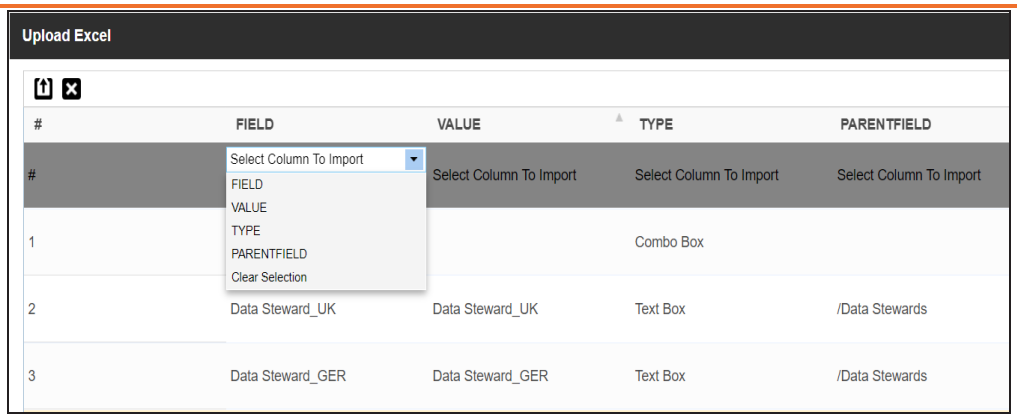
2. Click **Choose File**.
3. Browse and select the XLSX file.
4. Click  .

   The Upload Excel page appears. It displays the data in the XLSX file.



5. Double-click the **Select Column To Import** cell in the required column.

   The available options appear.



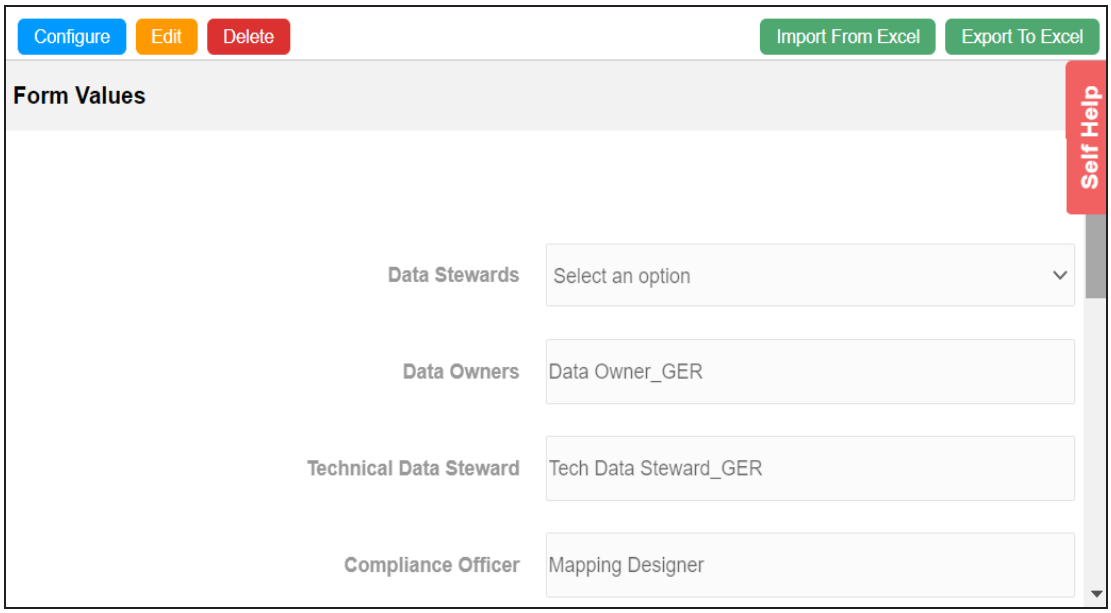
6. Select an appropriate option.

   For example, if you select Field, then the selected column is imported as Field.

   Similarly, you can also select the Value, Type, and Parentfield columns. Ensure that you at least select a Field column.

7. Click  .

   The extended properties are imported.



Creating and Managing Test Cases for Tables

You can define test cases for a table in the Metadata Manager and determine the testing type, expected and actual results, SQL script, and more. You can also enrich a test case by adding validation steps and supporting documents to it.
The metadata-level test cases are stored in the Test Manager under a project. This project follows the <System_Name>_<Environment_Name> nomenclature format.

Creating and managing test cases involves:

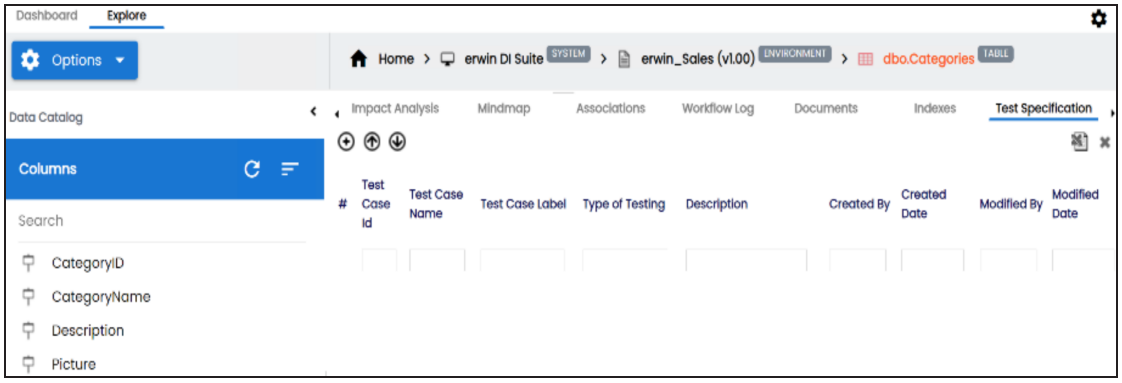
- Creating test cases
- Adding validation steps
- Adding documents
- Managing test cases

Creating Test Cases

In the Metadata Manager, you can define test cases for tables. You can also add documents and multiple validation steps to the test cases.

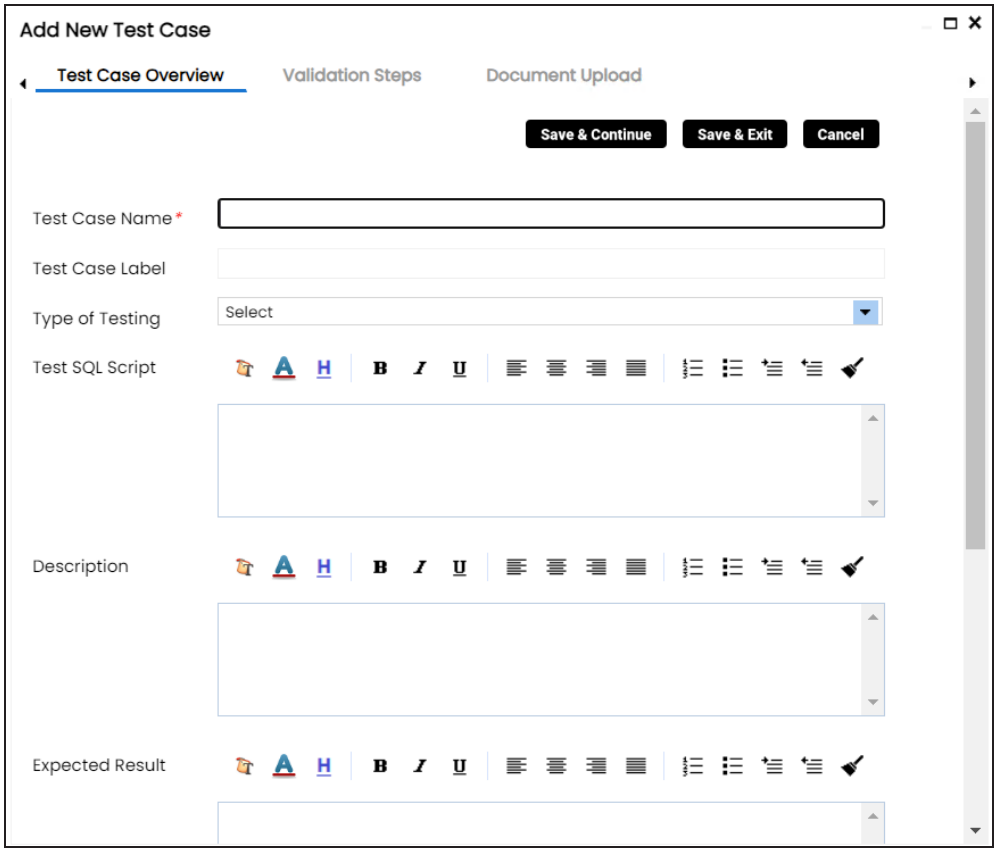
To create table-level test cases, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Explore**.
2. On the Explore tab, click an environment tile to view its details and tables.
3. In the **Data Catalog** pane, click a table.
4. Click the **Test Specification** tab.



5. Click ⊕.

The Add New Test Case page appears.



6. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Test Case Name	Specifies the name of the test case. For example, Verifying Log in Page.
Test Case Label	Specifies the unique label for the test case. For example, Log in Page.
Type of Testing	Specifies the type of testing. For example, PERFORMANCE-TEST.

Field Name	Description
Test SQL Script	Specifies the SQL script required in the test execution. For example, select * from dbo.RM_Resource.
Description	Specifies the test objective in brief. For example: The objective of the test case is to verify log in page with a valid user name and password.
Expected Result	Specifies the expected result of the test case in detail. For example: All the users can log on to Quest DI with their user name and password.
Actual Result	Specifies the actual test result after the execution of the test. For example: One user cannot log on to Quest DI.
Testing Comments	Specifies the testing comments about the test case. For example: The user name and passwords are saved in the dbo.RM_Resource table.

7. Click **Save and Exit**.

   The test case is created.

Once the test case is created, you can enrich it further by:

- Adding validation steps
- Adding documents

Managing test cases involves:

- Updating test cases
- Exporting test cases
- Deleting test cases

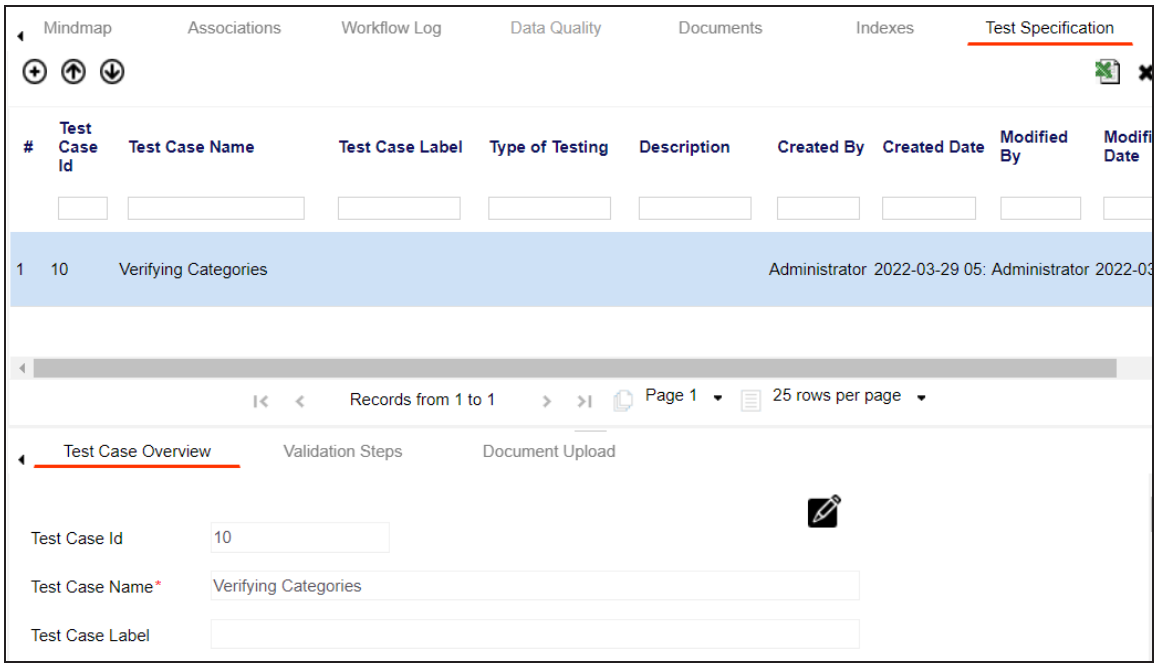
Adding Validation Steps

In Metadata Manager, you can add multiple validation steps to a table. You can also specify actual and expected results for each validation step.

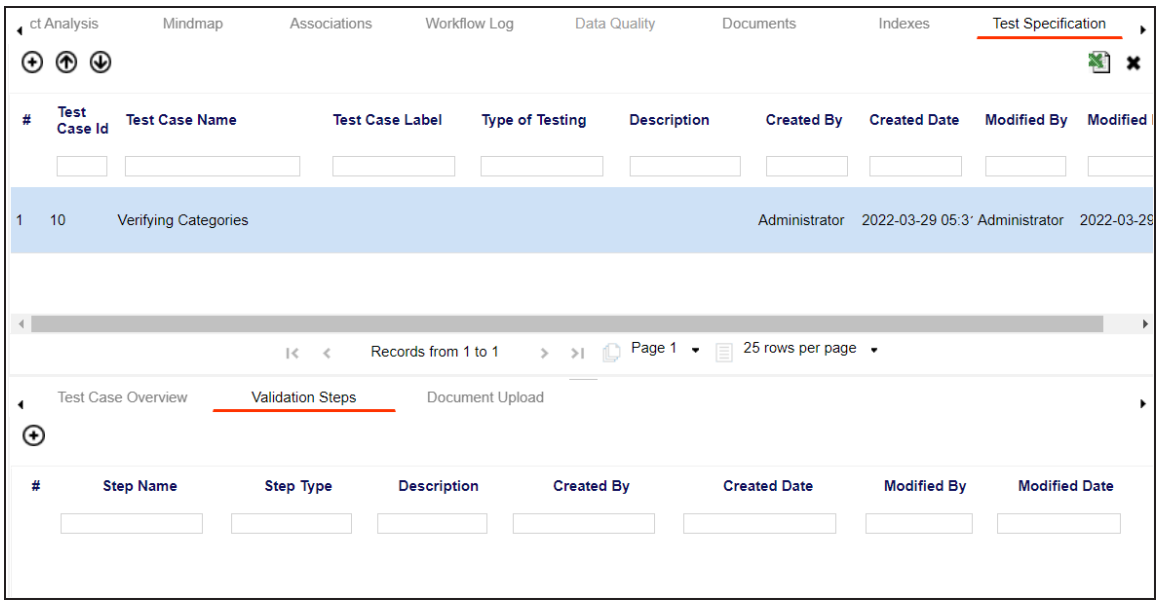
To add validation steps to table-level test cases, follow these steps:

1. In **Data Catalog**, click a table, and click the **Test Specification** tab.

   The Test Case Overview appears in the bottom pane.

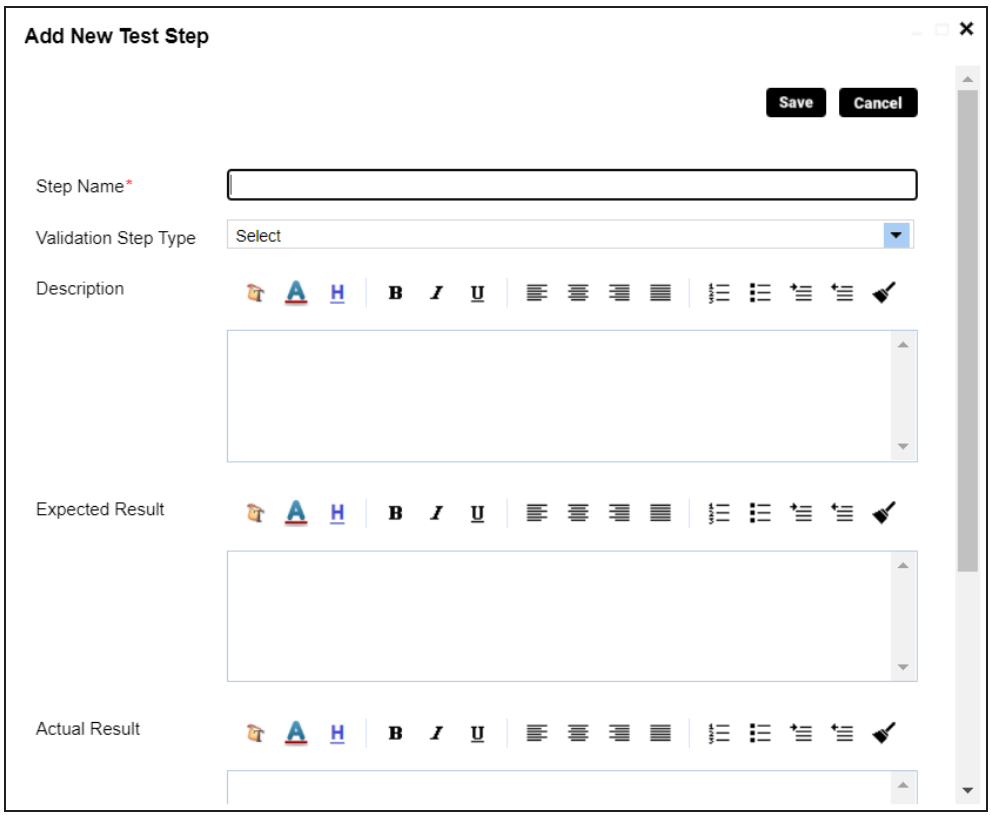


2. In the bottom pane, click the **Validation Steps** tab.



3. Click ⊕.

The Add New Test Step page appears.



4. Enter appropriate values to the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Step Name	Enter an unique name of each step.
Validation Step Type	Select the validation step type from the drop-down.
Description	Describe the object in brief.
Expected Result	Enter the SQL script to run the test case.
Actual Result	Enter the actual test result after the execution of the test.

Field Name	Description
Expected Result	Enter the expected result in detail, including the error-message that is displayed on screen.
Test Step Comments	Enter relevant test step comments.

5. Click **Save**.

The validation step is added to the test case.

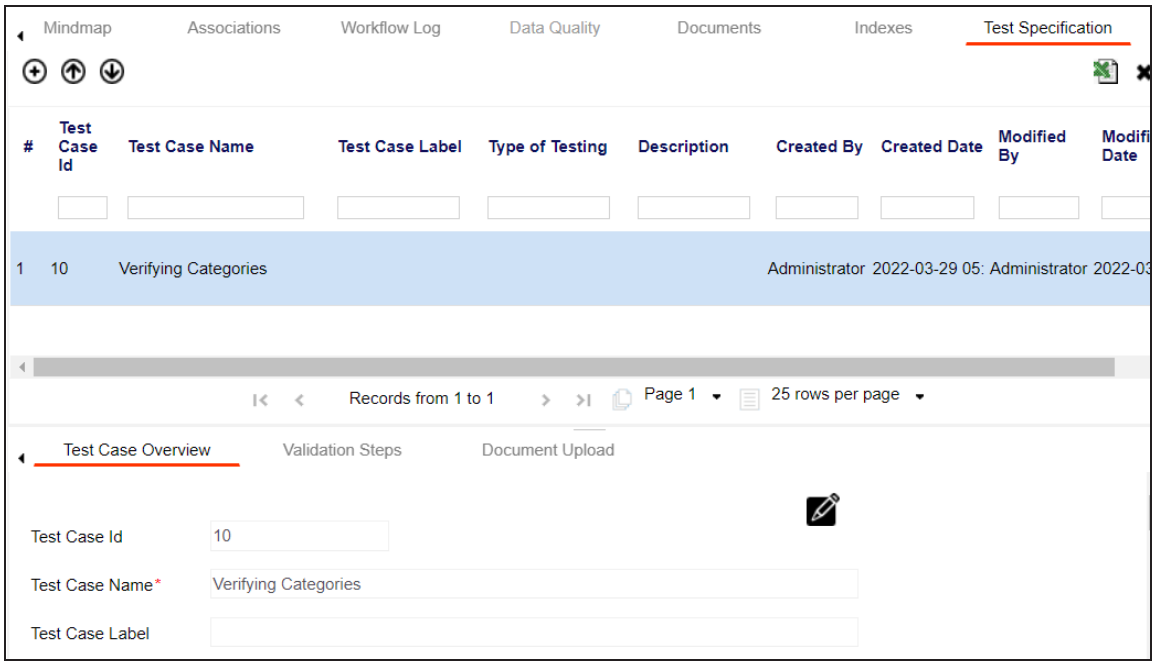
Adding Documents

You can upload supporting documents such as text files, audio files, videos, and so on to table-level test cases.

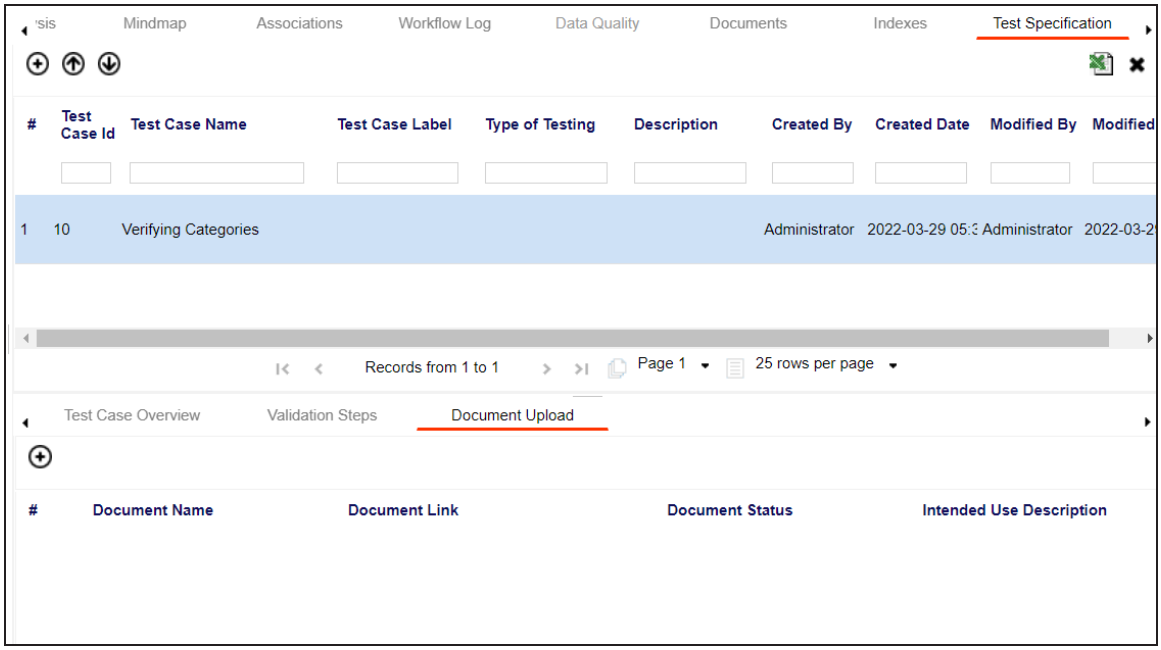
To add documents to table-level test cases, follow these steps:

1. In the **Data Catalog** pane, click a table, and click **Test Specification**.

   The Test Case Overview appears.

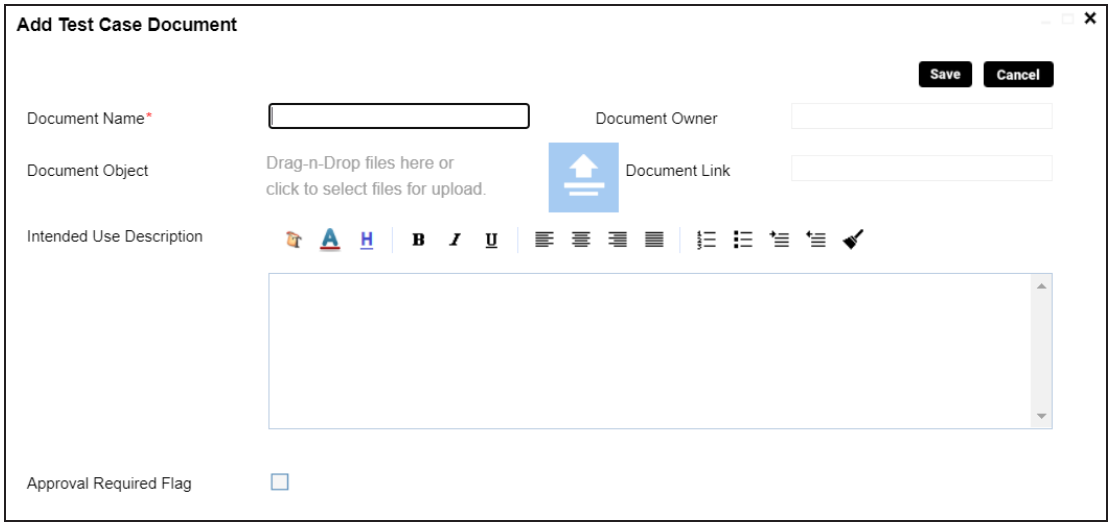


2. In the bottom pane, click **Document Upload**.



3. Click ⊕.

   The Add Test Case Document page appears.



4. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Document Name	Specifies the name of the physical document being attached to the test case. For example, Resource Details.
Document Object	Drag and drop document files or use  to select and upload document files.
Document Owner	Specifies the document owner's name. For example, John Doe.
Document Link	Specifies the URL of the document. For example, https://drive.google.com/file/l/2sC2_SZIyeFKI7OOnb5YkMBq4ptA7jhg5/view
Intended Use Description	Specifies the intended use of the document. For example: The document has information about the resources of the application.
Approval Required Flag	Specifies whether the document requires approval. Select the **Approval Required Flag** check box to select the document status.
Document Status	Specifies the status of the document. For example, In Progress. This field is available only when the **Approval Required Flag** check box is selected.

5. Click **Save**.

   The document is added to the test case.

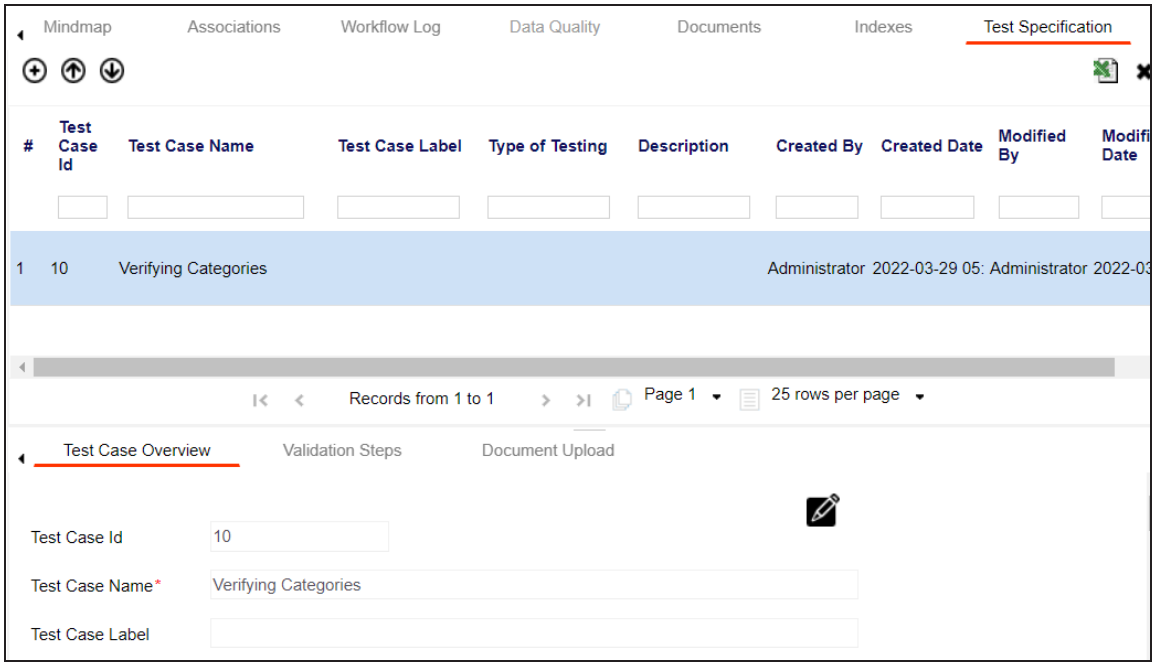
Managing Test Cases

Managing table-level test cases involves:

- Updating test cases
- Exporting test cases
- Deleting test cases

To update table-level test cases, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **Data Catalog** pane, click a table.
3. Click the **Test Specification** tab and double-click a test case.



4. In the **Test Case Overview** tab, click .

   You can update the test case.

To export a test case, click the test case in the **Test Case Summary** pane, and click .

To delete a test case, click the test case in the **Test Case Summary** pane, and click .

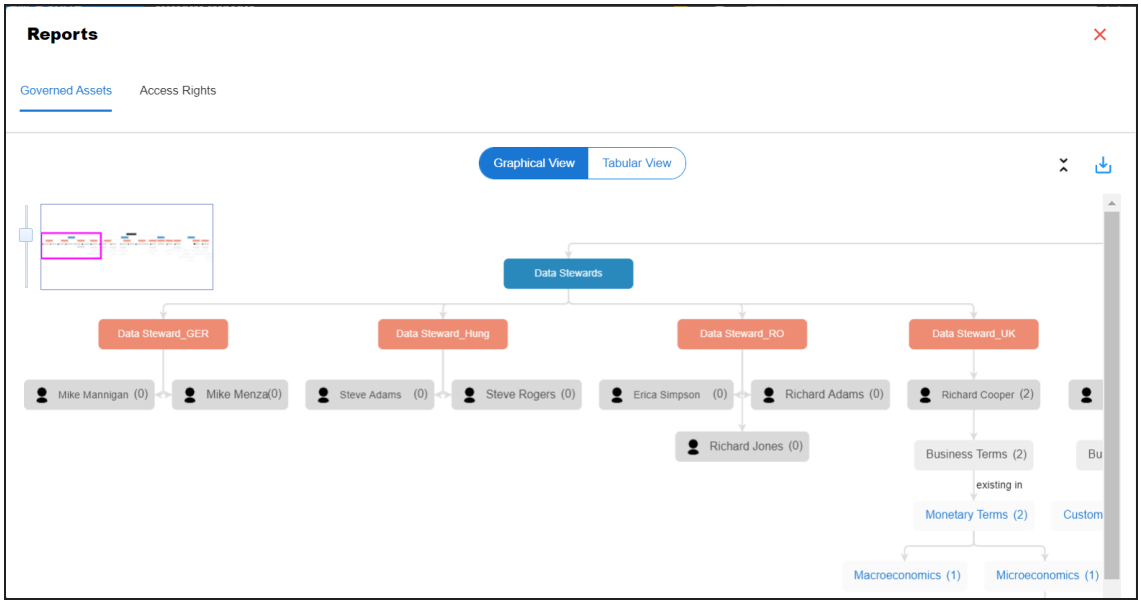
Viewing Access Rights and Data Governance Reports

From the Access to Enterprise Access Rights and Data Governance Documentation Reports page, you can view:

- Access rights
- Data governance reports

To view access rights and data governance reports, click  from the top navigation pane.

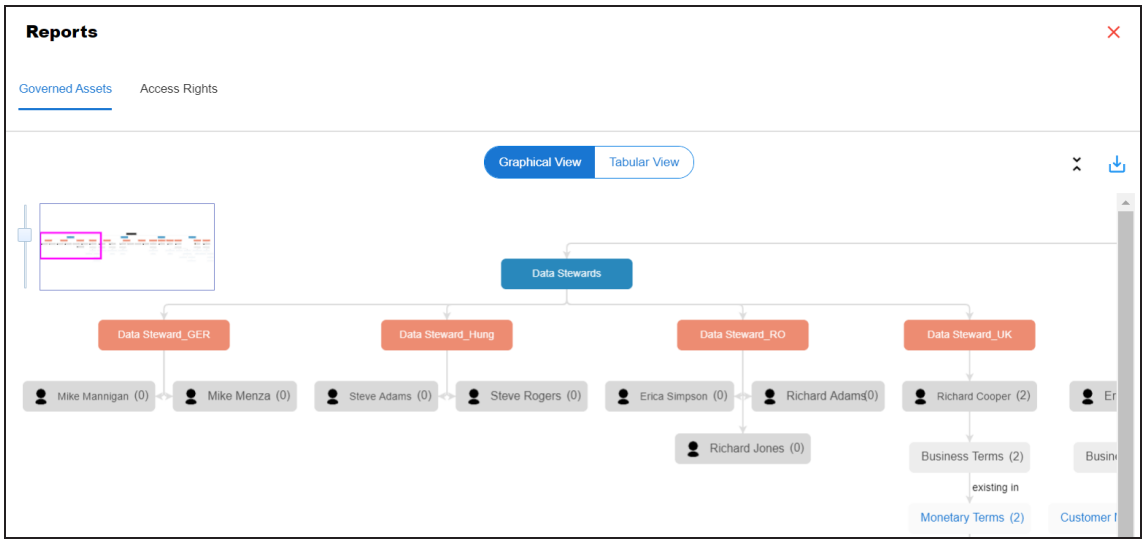
Reports page appears. From the Reports page, you can view governed assets and access rights. For more information on viewing access rights and data governance reports, follow the below topics.



Data Governance Report

A successful data governance program demands an efficient grouping of roles based on the responsibilities. It is also important to assign appropriate users and roles to catalogs and then assign governance responsibilities to business assets. The governance responsibilities report helps you track assignments of these governance responsibilities to the business assets in the Business Glossary Manager.

To view reports, click the **Governed Assets** tab.



Use the following two views to view reports:

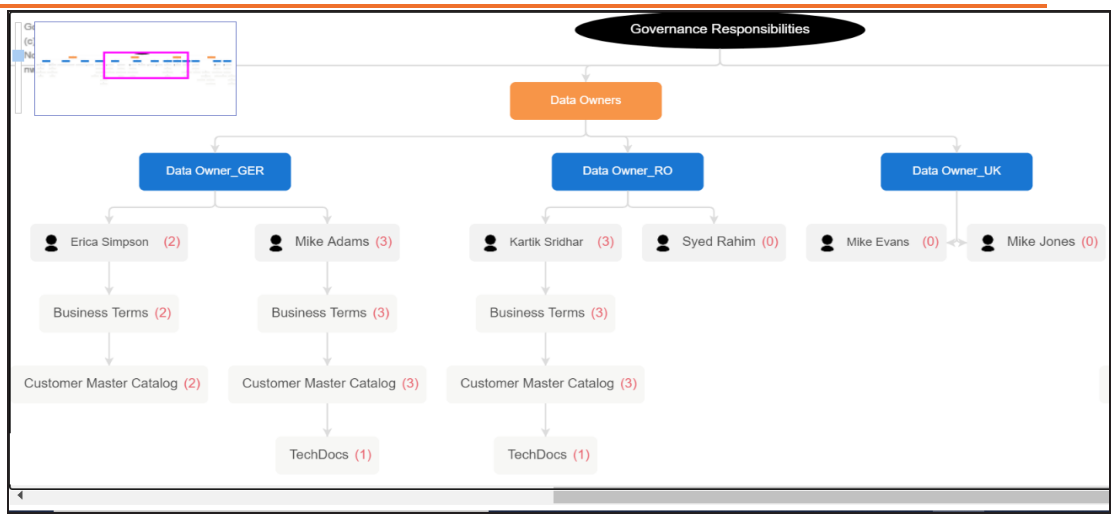
- **Graphical View**:
  The graphical view displays the governance responsibilities in a tree structure.
- **Tabular View**:
  The tabular view displays the governance responsibilities in a grid format.

By default, the graphical view opens.

To view report details in the graphical view, use the following options:

- **Expand/Collapse** (⌃⌄)

  Use this option to switch between the expanded or collapsed view. For example, the report displays the governance responsibilities in the expanded view.



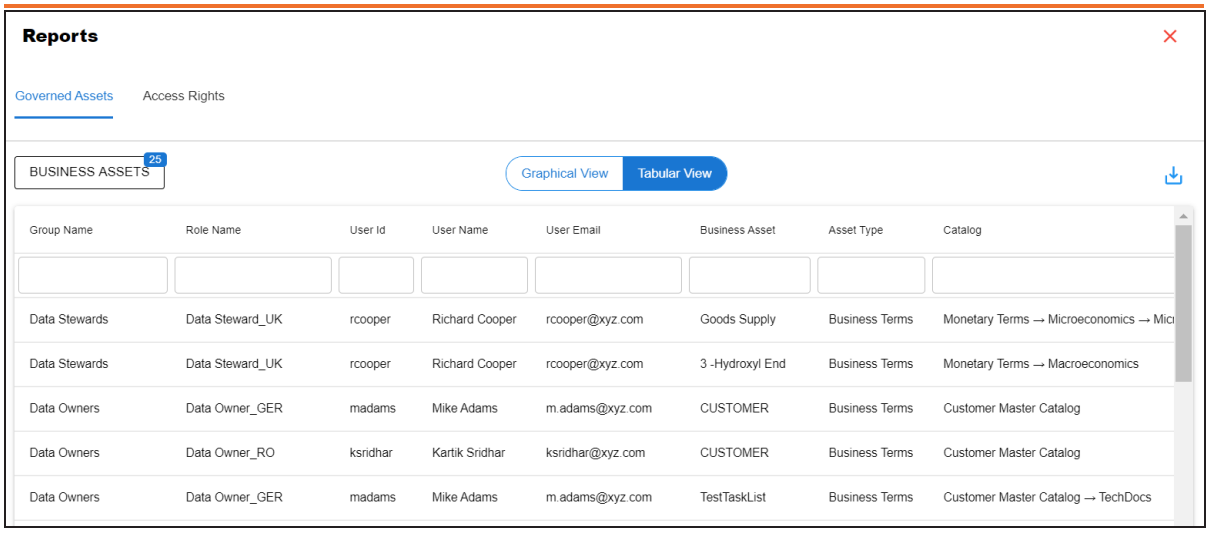
- **Pan View**

  Use this option to focus on a part of the governance responsibilities tree.

- **Export** ( )

  Use this option to download the report in the JPG format.

The Tabular View displays the governance responsibilities in a grid that includes, roles group, role, user details, asset name, asset type, and catalogs.



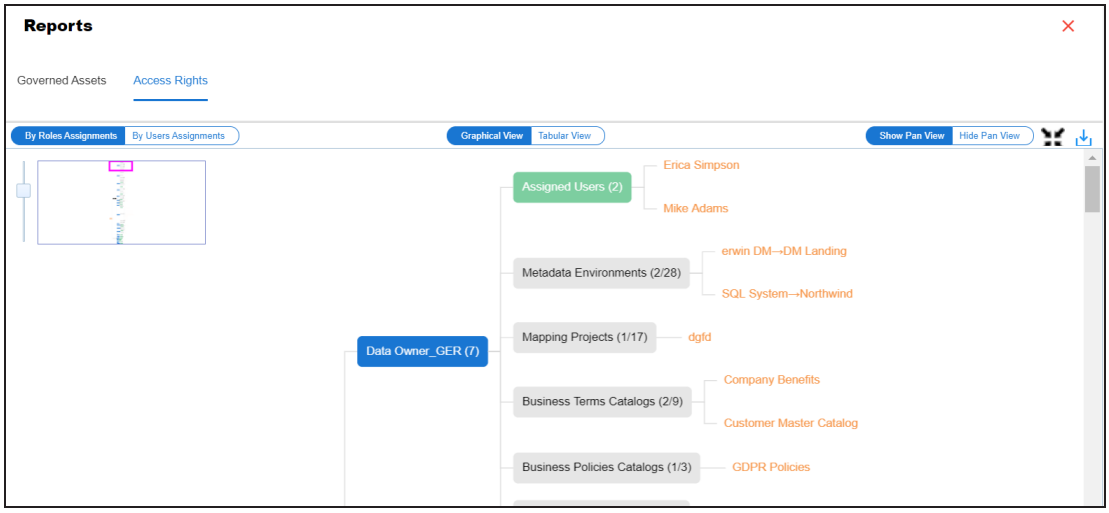
To download the report in the XLSX format, click .

Access Rights

The Access Rights tab displays the roles and user assignments. You can view these assignments in the graphical and tabular views. The graphical view displays the assigned asset types and names in a tree structure that can be expanded. Whereas the tabular view displays the assigned asset types and names in a grid format.

To view access rights, follow these steps:

1. From the **Reports** page, click the **Access Rights** tab.



2. Use the following options:

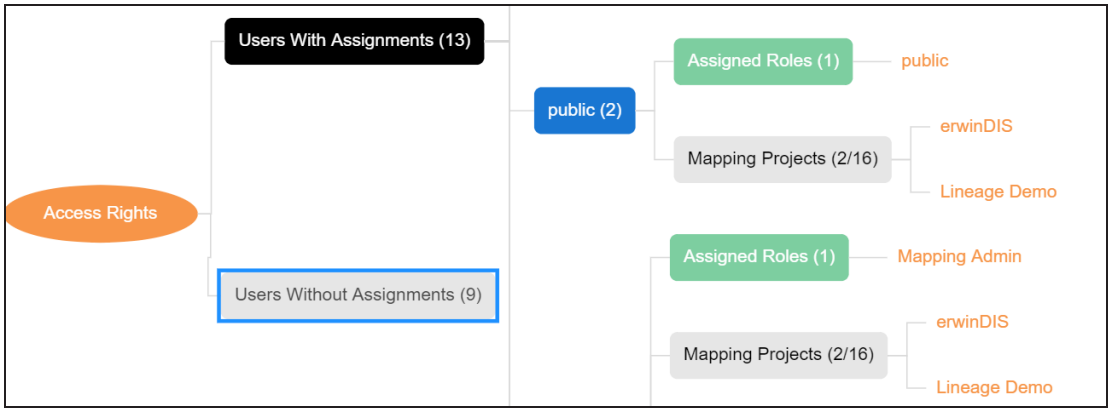
By Roles Assignments/By Users Assignments

Use this option to switch between the roles and user's assignments.

Graphical View/Tabular View

Use this option to switch between the graphical and tabular views.

The graphical view displays the assignments in a tree structure. You can expand the tree to view the asset types and names. For example, the following graphical view displays the users assignment.



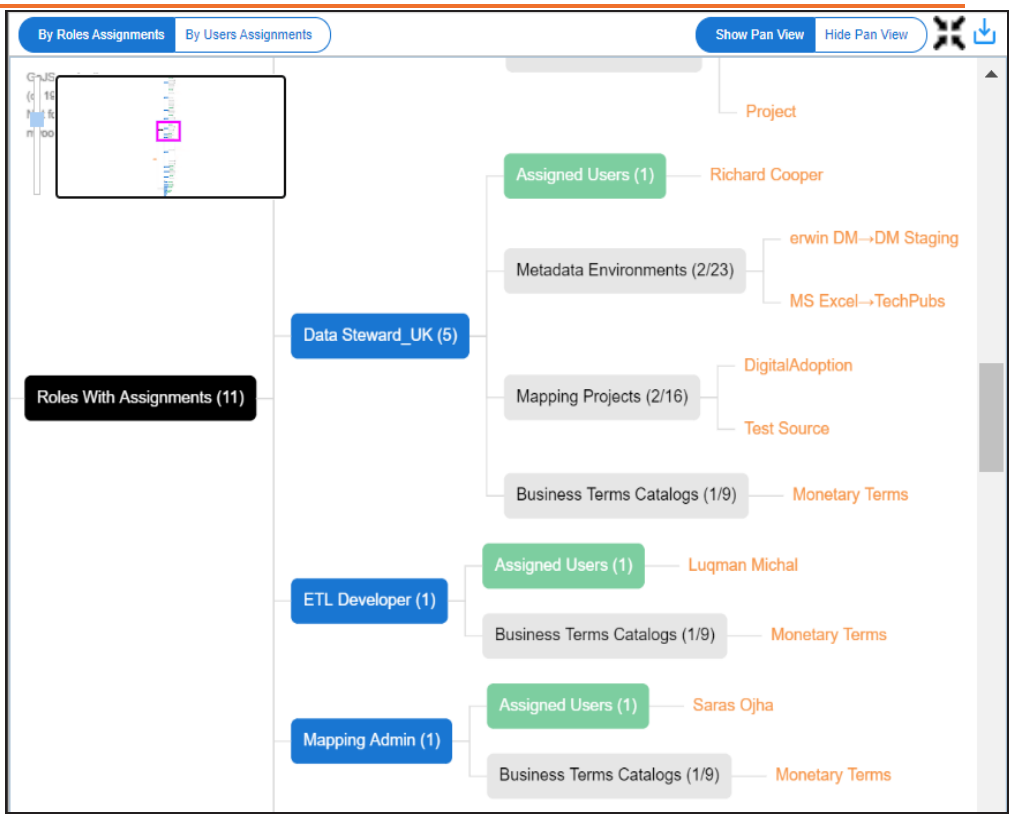
Use the following options on the Graphical View:

- **Show Pan View/Hide Pan View**

  Use this option to show or hide the pan view. The pan view facilitates navigation across the expanded assignment tree. To navigate across the expanded, on the **Pan View**, move the purple box.

- **Expand/Collapse** ()

  Use this option to switch between the expanded or collapsed view. For example, the following assignment tree appears in the expanded view.



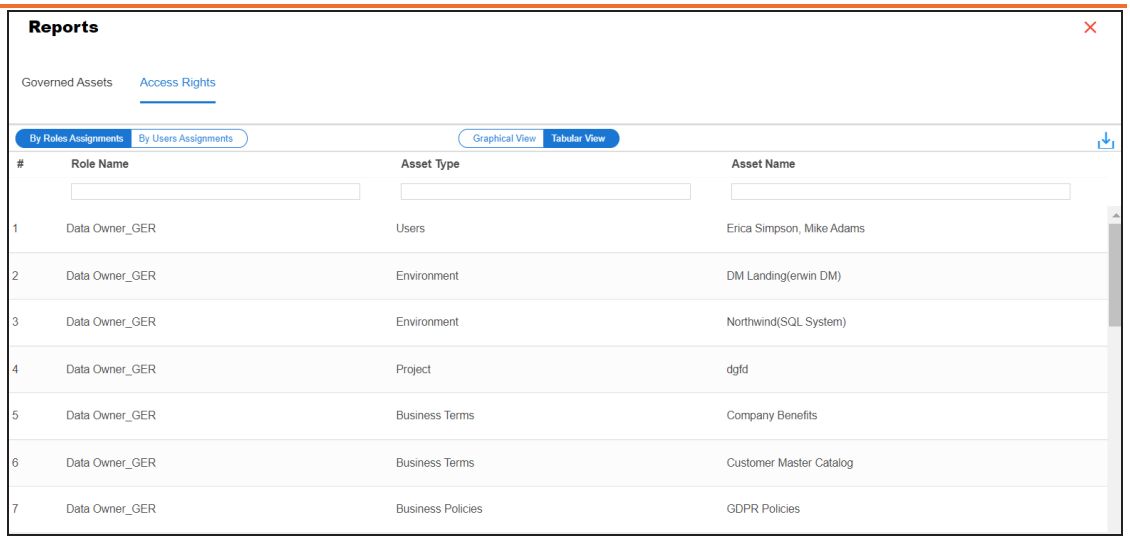
- **Expand Node Level**

  Use this option to expand the assignment tree at the node level. Hover over a node and click the plus (+) icon.

- **Export Image** ()

  Use this option to download the assignment tree in the JPG format.

The Tabular View displays the assignment details in a grid format. For example, the following roles assignments are displayed in the grid format.

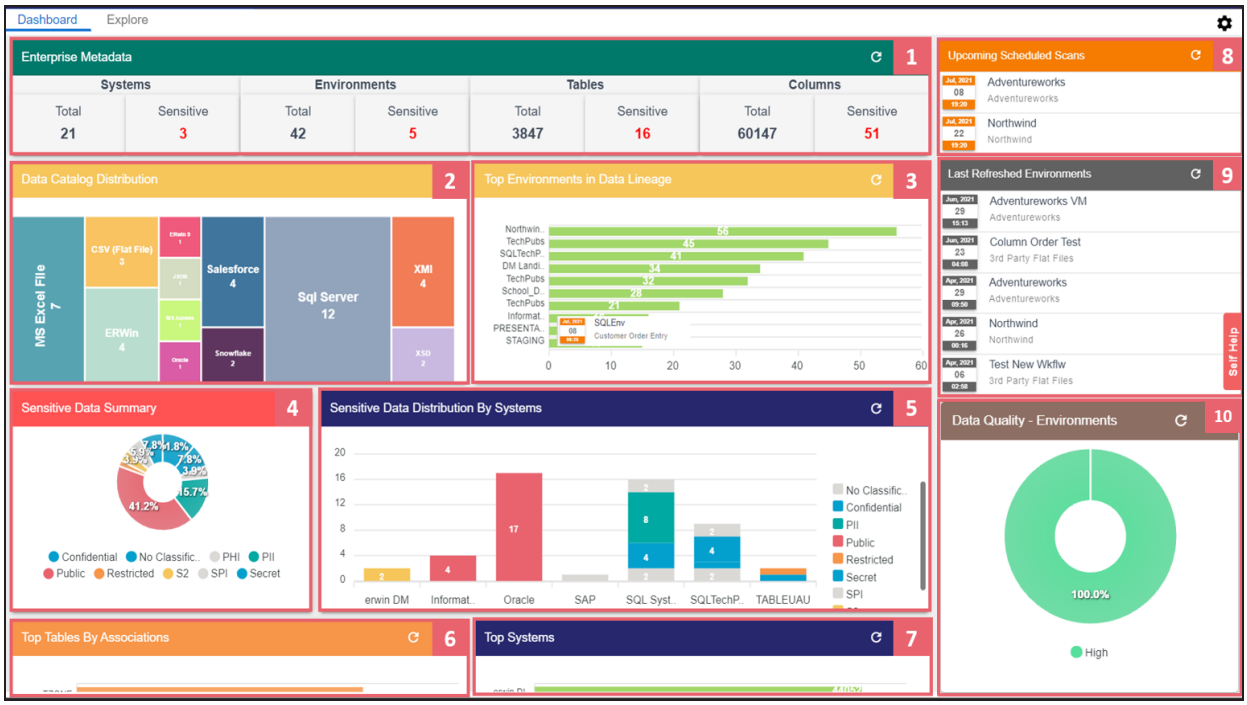


You can download the assignment details in the XLSX format. To download the assignments, on the **Tabular View**, click .

Viewing Metadata Manager Dashboard

The Metadata Manager Dashboard displays metrics that help you analyze and track your metadata. It presents this information using charts and graphs in a card format. By default, the dashboard displays information derived from all the assets. You can configure it to display only the information derived from the data that is assigned to you. For more information, refer to the Configuring Asset Settings topic.

To access Metadata Manager Dashboard, go to **Application Menu** > **Data Catalog** > **Metadata Manager** > **Dashboard**.



Each card is clickable and displays information points using charts or graphs that provide a snapshot of the underlying data.

UI Section	Function
1-Enterprise Metadata	It displays the number of each type of technical assets (systems, environments, tables, and columns) and the distribution of sensitive metadata across these technical assets.

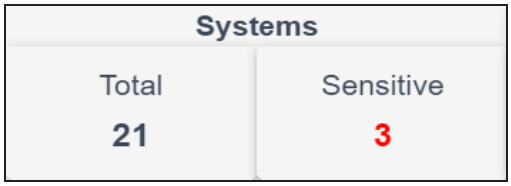
UI Section	Function
2-Data Catalog Distribution	It displays the distribution of environments based on database type.
3-Top <Technical_Assets> in Data Lineage	It displays top systems or environments based on number of columns used in mappings.
4-Sensitive Data Summary	It displays the distribution of sensitive columns based on SDI classification across all the systems.
5-Sensitive Data Distribution By <Technical_Assets>	It displays the number of sensitive columns and their SDI classifications in a system or environment.
6-Top <Technical_Assets> By Associations	It displays top technical assets based on their number of associations.
7-Top <Technical_Assets>	It displays top systems or environments based on their number of tables and columns.
8-Upcoming Scheduled Scans	It displays a list of environments that are scheduled for a metadata scan.
9-Last Refereshed Environments	It displays a list of recently refreshed environments.
10-Data Quality	It displays data quality score for environments, tables or columns.

Enterprise Metadata

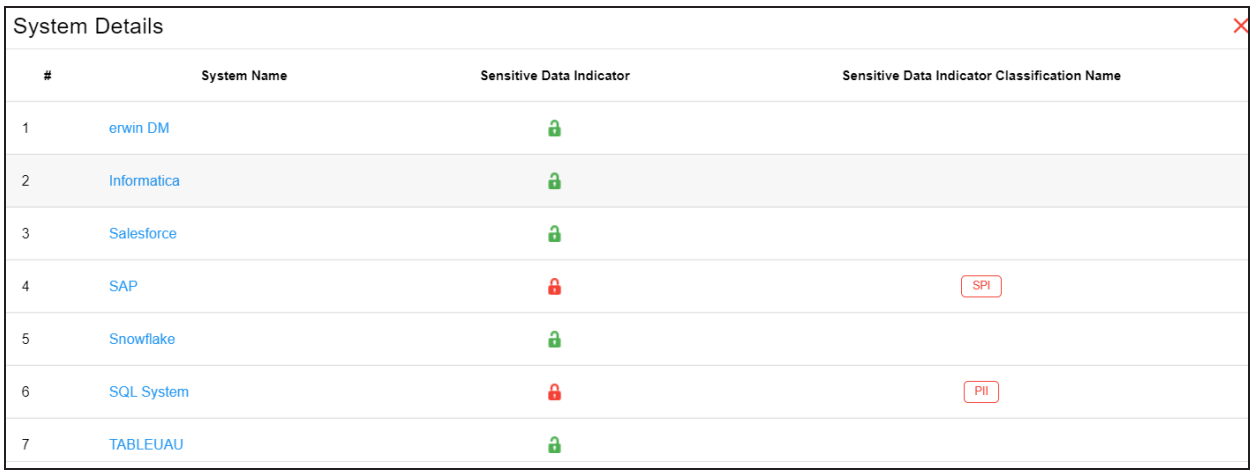
The Enterprise Metadata section displays the number of each technical asset and the distribution of sensitive metadata across these technical assets. This section has four clickable technical asset-specific cards. You can use them to drill down further and view technical asset details.

Systems

The Systems card displays the total number of systems and the number of sensitive systems. For example, the following Systems card displays that there are 21 systems, out of which three systems are sensitive.



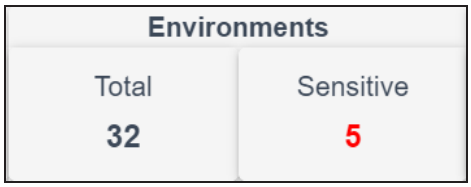
You can drill down and view the list of systems and their sensitivity. To view the list of systems, on the **Systems** card, click **Total**. The System Details page appears. On this page, you can click a system name to navigate to a system and work on it.



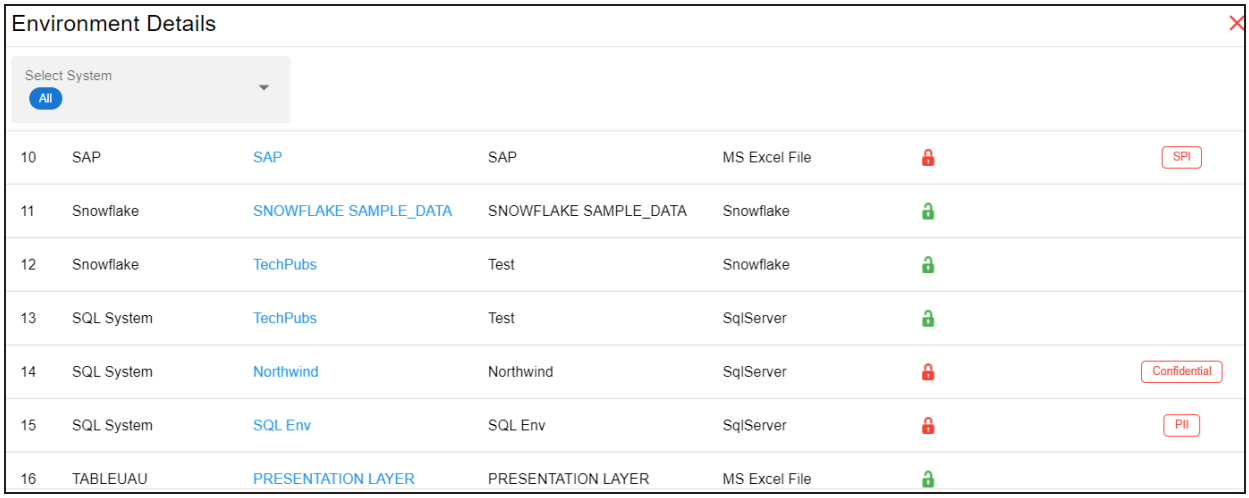
To focus on a list of sensitive systems only and view their details, on the **Systems** card, click **Sensitive**. The System Details page appears. It displays a list of sensitive systems.

Environments

The Environments card displays the total number of environments and the number of sensitive environments. For example, the following Environments card displays that there are 32 environments, out of which five environments are sensitive.



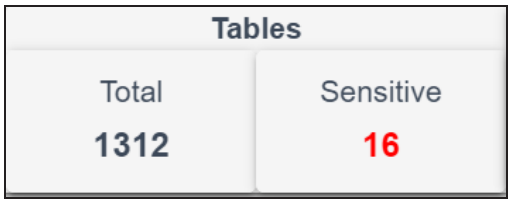
You can drill down and view the list of environments and their DBMS schema. To view the list of environments, on the **Environments** card, click **Total**. The Environment Details page appears. By default, it displays environments in all systems. On this page, you can click an environment name to navigate to an environment and work on it. Also you can use select a system in the Select System list to view environments in a specific system.



To focus on a list of sensitive environments only and view their details, on the **Environments** card, click **Sensitive**. The System Details page appears. By default, it displays a list of sensitive environments in all systems. To view sensitive environments in a specific system, you can use the Select System list.

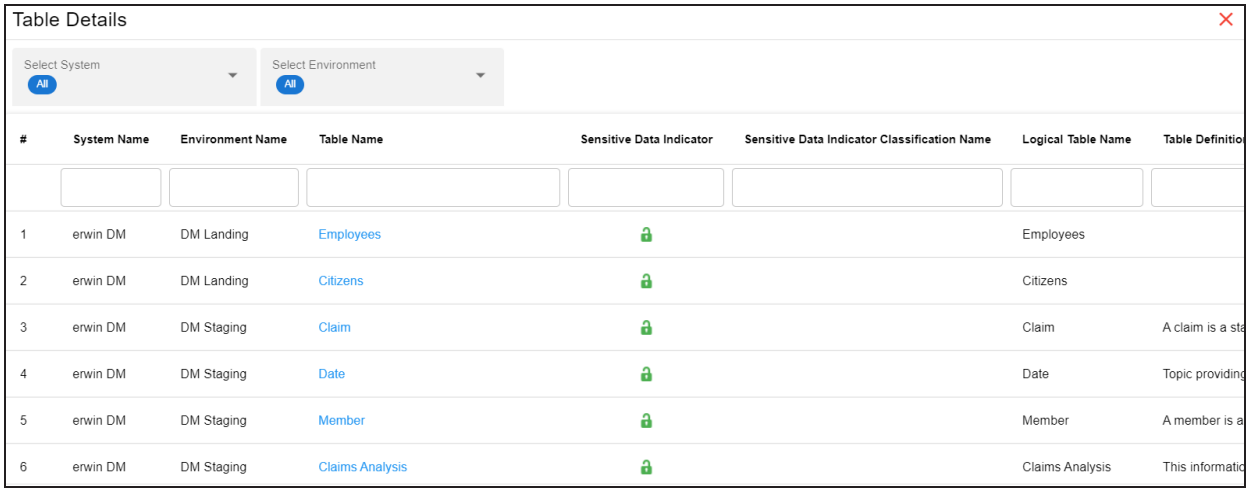
Tables

The Tables card displays the total number of tables and the number of sensitive tables. For example, the following Tables card displays that there are 1312 tables, out of which 16 tables are sensitive.



You can drill down and view the list of tables. To view the list of tables, on the **Tables** card, click **Total**. The Table Details page appears. By default, it displays a list of tables in all

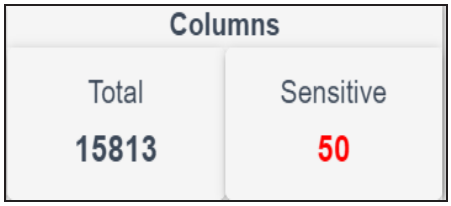
systems and environments. On this page, you can click a table name to navigate to a table and work on it. You can select a system in the Select System list and an environment in the Select environment list to view tables in a specific environment.



To focus on a list of sensitive tables only and view their details, on the **Tables** card, click **Sensitive**. The Table Details page appears. By default, it displays a list of sensitive tables in all environments. To view sensitive tables in a specific environment, you can use the Select System and Select Environment lists.

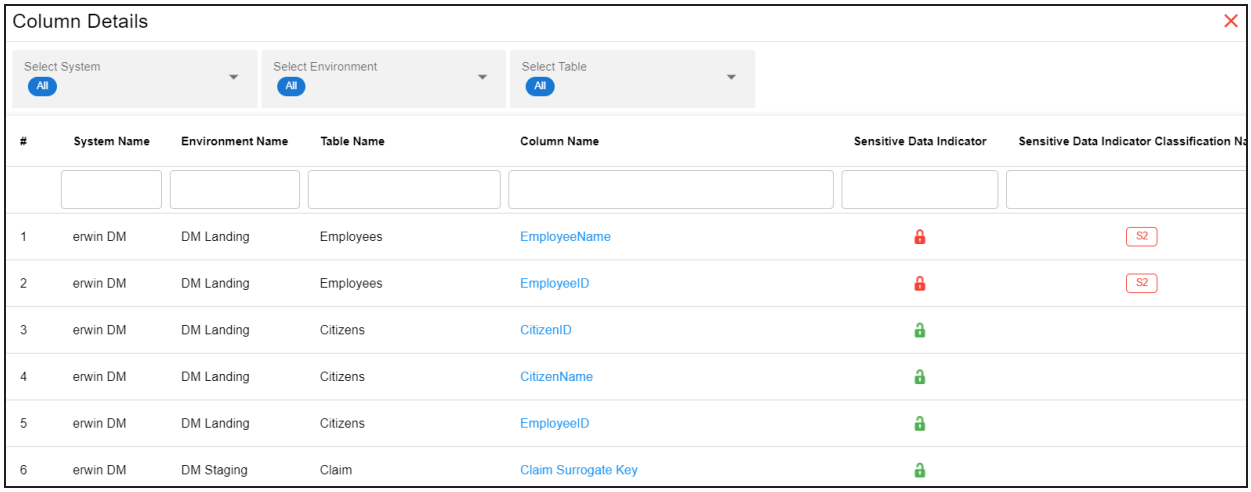
Columns

The Columns card displays the total number of columns and the number of sensitive columns. For example, the following Columns card displays that there are 15813 columns, out of which 50 are sensitive.



You can drill down and view the list of columns. To view the list of columns, on the **Columns** card, click **Total**. The Column Details page appears. By default, it displays a list of columns in all tables. On this page, you can click a column name to navigate to a column and work on it. Also, you can select a system in the Select System list, select an environment in the Select

Environment list, and select a table in the Select Table list to view columns in a specific table.

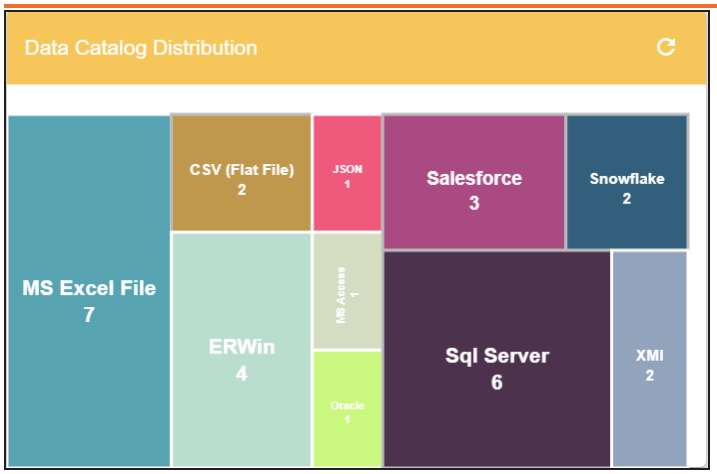


To focus on the list of sensitive columns and view their details, on the **Columns** card, click **Sensitive**. The Column Details page appears. By default, it displays a list of sensitive columns in all tables. To view sensitive columns in a specific table, you can use the Select System and Select Environment lists.

You can change the background color of the Enterprise Metadata section. To change the background color, click and then, click **Background** to select a color from the palette.

Data Catalog Distribution

The Data Catalog Distribution card displays the number of environments based on database types. For example, the following Data Catalog Distribution card displays that there are seven CSV environments, four ERWin environments, six SQL Server environments, and so on.



You can drill down and view a list of environments belonging to a particular database type. For example, to view a list of SQL Server environments, click **Sql Server**. The Data Catalog Distribution page appears. On this page, you can click an environment name to navigate to an environment and work on it.

Data Catalog Distribution

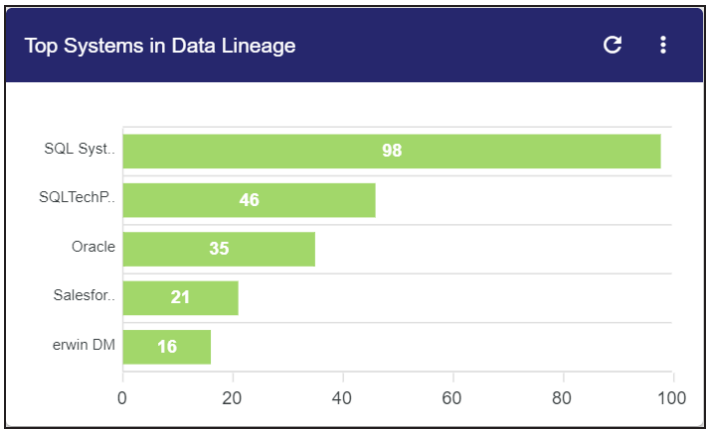
#	System Name	Environment Name	Database Type	Environment Type	Sensitive Data Indicator	Sensitive Data Indicator Classification Name
1	SQL System	Northwind	SqlServer	Northwind		Confidential
2	SQL System	SQL Env	SqlServer	SQL Env		PII
3	TALEND	STAGING	SqlServer	STAGING		
4	SQL System	TechPubs	SqlServer	Test		
5	SQLTechPubs	SQLTechPubs	SqlServer	Test		Secret
6	erwin DM	Sql Server	SqlServer	Sql Server		
7	High	Low	SqlServer			
8	erwin DM	Sales	SqlServer			

Top <Technical_Assets> in Data Lineage

The Top <Technical_Assets> chart card displays top technical assets based on the number of columns used in mappings. You can switch between the technical assets to view number of columns in systems or environments used in mappings. To switch between systems and

environments, click . The available options appear. Click **Change Type** and then click the required technical asset.

For example, the following chart card displays top systems in data lineage. The SQL System on this chart card has 98 columns that are used in mappings.



To control the number of records appearing on the chart card, click . The available options appear. Click **Records** and then, click the required number.

To view data lineage details of technical assets, on the chart card, click a bar graph. For example, the Top Systems in Data Lineage page appears on clicking a bar graph. On this page, you can click a system name to navigate to a system and work on it.

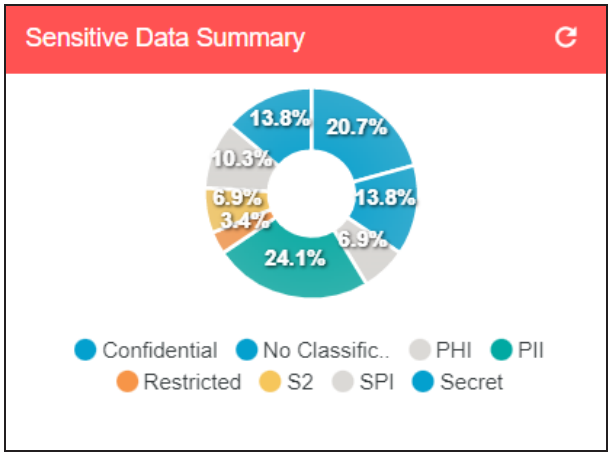
Top Systems in Data Lineage

#	System Name	Environment Name	Project Name	Map Name	System Usage In Mappings	Database Type
1	SQL System	Northwind	Lineage Demo	TestMap3	22	SqlServer
2	SQL System	Northwind	DigitalAdoption	Flow Test	15	SqlServer
3	SQL System	SQL Env	erwinDIS	TechPubsBUgTrial	8	SqlServer
4	SQL System	Northwind	Lineage Demo	TestDataMap1	8	SqlServer
5	SQL System	Northwind	Lineage Demo	TestMap2	8	SqlServer

Sensitive Data Summary

The Sensitive Data Summary chart card displays the distribution of sensitive columns based on SDI classification across all systems in a donut chart. Each arc of the donut chart

corresponds to an SDI classification. For example, the following donut chart displays that 24.1% of the columns are PII, 20.7% of the columns are confidential, and so on.



Hover over the donut chart to view the absolute number of columns belonging to an SDI classification. To view columns details, click an arc. The Summary of <SDI_Classification> page appears. On this page, you can click a column name to navigate to a column and work on it.

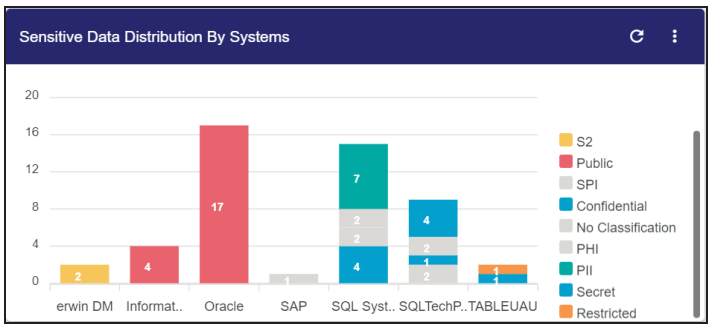
Summary Of Confidential

#	System Name	Environment Name	Table Name	Column Name	Sensitive Data Indicator	Sensitive Data Indicator Classification Name
1	SQL System	Northwind	dbo.Categories	CategoryID		Confidential
2	SQL System	Northwind	dbo.Categories	CategoryName		Confidential
3	SQL System	SQL Env	dbo.DimAccount	Operator		Confidential
4	SQL System	SQL Env	dbo.DimEmployee	FirstName		Confidential
5	TABLEUAU	PRESENTATION LAYER	Account	Number of Records		Confidential
6	SQLTechPubs	SQLTechPubs	dbo.Customers	CompanyName		Confidential

Sensitive Data Distribution By <Technical_Assets>

The Sensitive Data Distribution By <Technical_Assets> chart card displays the number of sensitive columns and their SDI classification in a system or environment. To switch

between systems and environments, click and then, click the required technical asset. For example, the following card displays the number of sensitive columns and their classification in Quest DM, Informatica, Oracle, SAP, and other systems.



Each bar in the graph corresponds to a system or environment. You can drill down and view detailed information in the list format. To view detailed information about sensitive columns, click a bar. The Sensitive Data Distribution page appears. On this page, you can click a column name to navigate to a column and work on it.

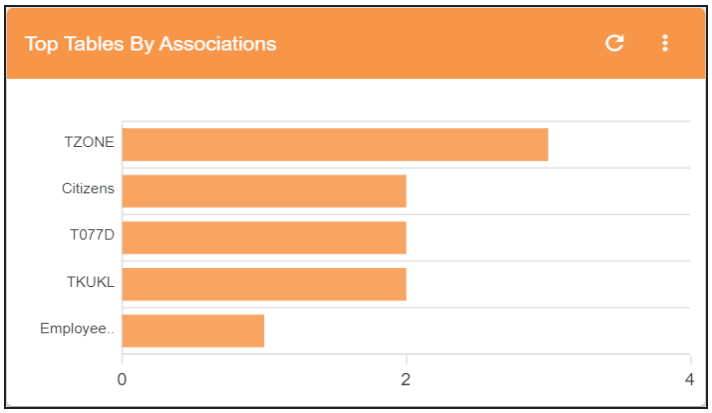
Sensitive Data Distribution

#	System Name	Environment Name	Table Name	Column Name	Sensitive Data Indicator	Sensitive Data Indicator Classification Name
1	SQL System	SQL Env	dbo.DimCurrency	CurrencyKey		PII
2	SQL System	SQL Env	dbo.DimCurrency	CurrencyName		PII
3	SQL System	SQL Env	dbo.DimCustomer	YearlyIncome		PII
4	SQL System	SQL Env	dbo.DimOrganization	CurrencyKey		PII
5	SQL System	SQL Env	dbo.FactCurrencyRate	CurrencyKey		PII
6	SQL System	SQL Env	dbo.FactInternetSales	CurrencyKey		PII
7	SQL System	SQL Env	dbo.FactResellerSales	CurrencyKey		PII

Top <Technical_Assets> By Associations

The Top <Technical_Assets> By Associations chart card displays the top technical assets based on the number of associations it has with other assets. You can switch between

technical assets to view top systems, environments, tables, or columns based on the number of associations. To switch between technical assets, click . The available options appear. Click **Change Type** and then, click the required technical asset. For example, the following card displays top tables based on the number of associations.

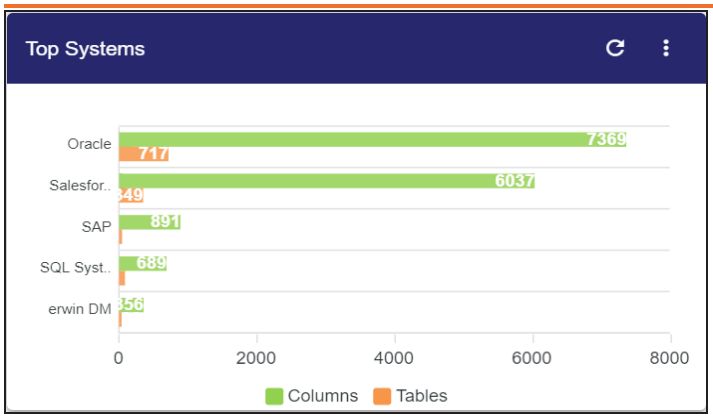


To control the number of records appearing on the chart card, click . The available options appear. Click **Records** and then click the required number.

Each bar in the graph corresponds to a technical asset. Hover over a bar to view the number of associations.

Top <Technical_Assets>

The Top <Technical_Assets> chart card displays top systems or environments based on the number of tables and columns. To switch between systems and environments, click . The available options appear. Click **Change Type** and then, click the required technical asset. For example, the following chart card displays the top five systems.



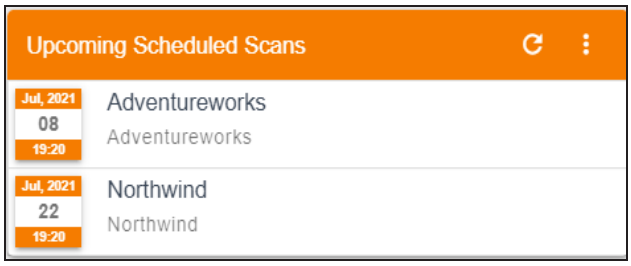
To control the number of records available on the chart, click ⋮. The available options appear. Click **Records** and then, click the required number.

Each pair of bars in the graph corresponds to a technical asset. Hover over green and orange bars to view the number of columns and tables respectively.

Upcoming Scheduled Scans

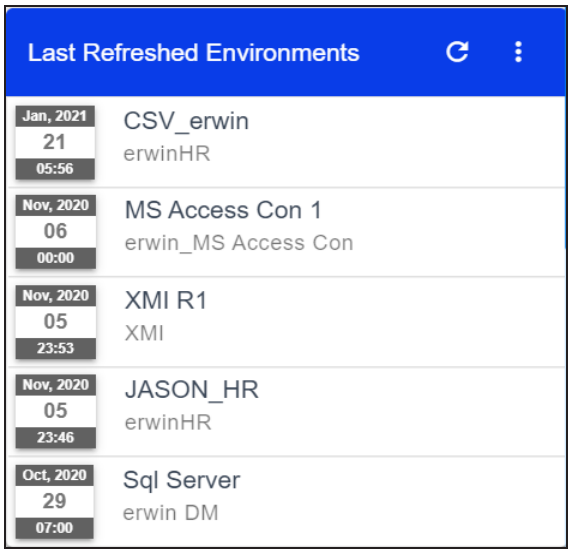
The Upcoming Scheduled Scans card displays a list of environments that are scheduled for a metadata scan. This list includes time of the scheduled scan for each environment. To control the number of records available on the chart, click ⋮. The available options appear. Click **Records** and then click the required number.

To customize the card background, click ⋮. The available options appear. Click **Background** and then use the color palette. For example, the following card's background color is set to orange color.



Last Refreshed Environments

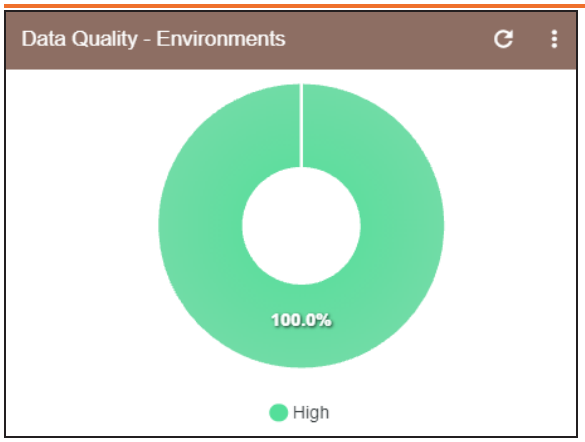
The Last Refreshed Environments card displays a list of recently refreshed environments. It displays the environment name, date, and time of the environment refresh. This helps in tracking environments that are recently updated. To control the number of records available on the chart, click ⋮. The available options appear. Click **Records** and then click the required number. For example, the following chart card displays a record of five environments



To customize the card background, click ⋮. The available options appear. Click **Background** and then use the color palette.

Data Quality <Technical_Assets>

The Data Quality card displays the data quality score for environments, tables, and columns. The card displays data quality score in percentage for environments by default.



To view data quality for tables or columns, click .