erwin Data Intelligence Suite

Metadata Management Guide

Release v10.2

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Contents

Managing Metadata

This section walks you through the metadata management. Metadata management is done via Metadata Manager. It involves scanning metadata from a data source and storing it in a central repository.

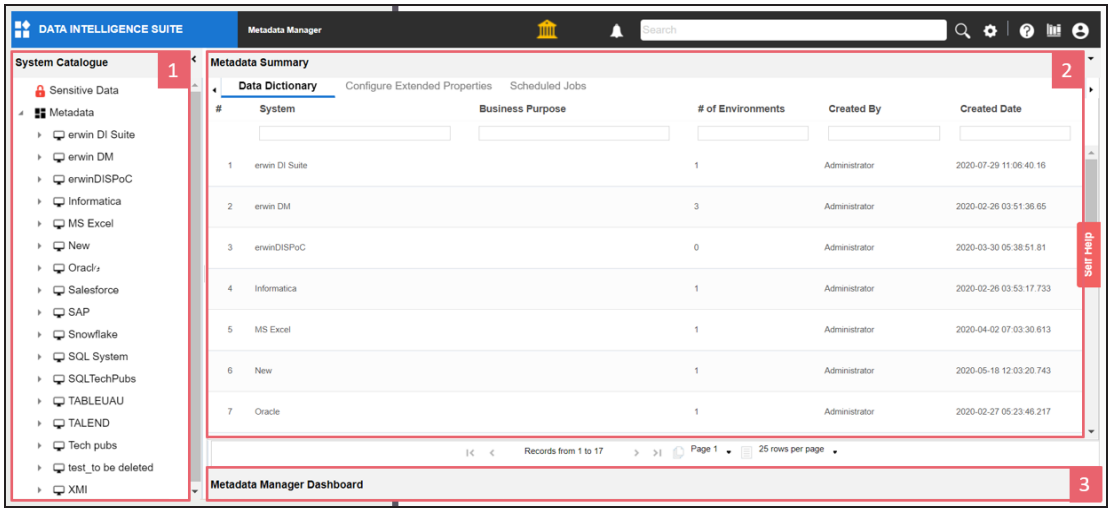
You can preview the data, profile it, generate pattern summary report and provide data quality score.

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.

For further information on accessing and using the Metadata Manager, refer to the Using Metadata Manager topic.

Using Metadata Manager

To access the Metadata Manager, go to **Application Menu** > **Data Catalog** > **Metadata Manager**. The Metadata Manager dashboard appears:



UI Section	Function
1-System Catalogue	Use this pane to browse through your metadata that is stored in a hierarchical manner, System > Environment > Table > Column.
2-Right Pane	Use this pane to view or work on the data based on your selection in the System Catalogue.
3-Metadata Manager Dashboard	Use this pane to view consolidated reports on system overview, system usage in mappings, system summary, and sensitive data indicators.

Managing metadata involves the following:

- Creating and managing systems
- 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
- Configuring extended properties
- Creating and managing test cases for tables
- Viewing metadata manager dashboard
- Viewing access rights and data governance report

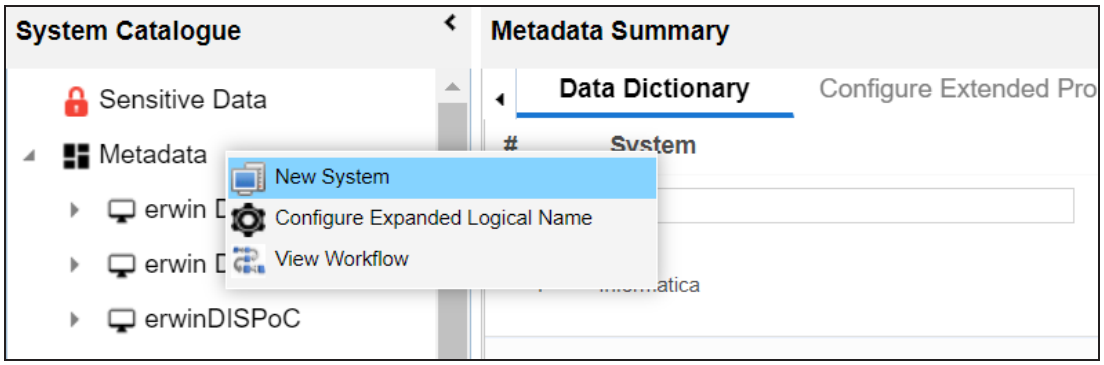
Creating Systems

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 System Catalogue.

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.

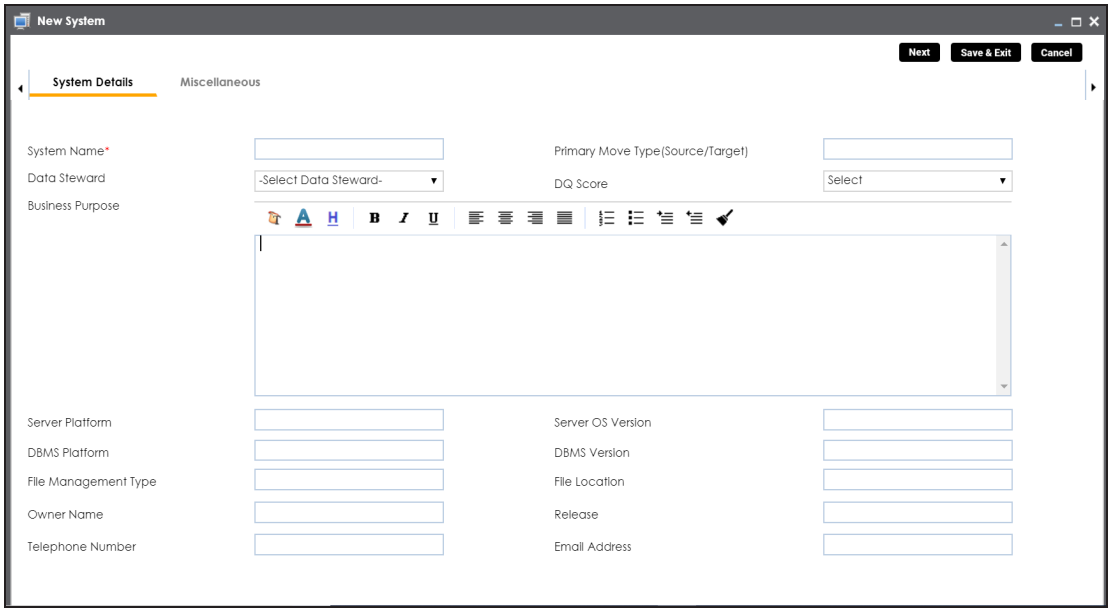
To create systems, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, right-click the **Metadata** node.



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.
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.
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.

Field Name	Description
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.
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
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.
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.

Field Name	Description
	For example, Oracle 18c.
Email Address	Specifies the system owner's email address. For example, talon.smith@mauris.edu

5. Click the **Miscellaneous** tab and 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.
Sensitive Data Indicator (SDI) Flag	Specifies whether the system is sensitive. Switch **Sensitive Data Indicator (SDI) Flag** to  to mark the system sensitive.

Field Name	Description
Sensitive Data Indicator (SDI) Classification	Specifies the SDI classification of the system. For example, PHI. This list is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to  . For more information on configuring SDI classifications, refer to the Configuring Sensitivity Classifications topic.
Sensitive Data Indicator (SDI) Description	Specifies the description of the SDI classification. For example: Protected Health Information. It is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to  . The field autopopulates based on the SDI Classification.
Special Instructions	Specifies any special instructions or comments about the system. For example: The system acts as a source for creating the mapping specification.

6. Click **Save and Exit**.

   A new system is created and added under the system tree.

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

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

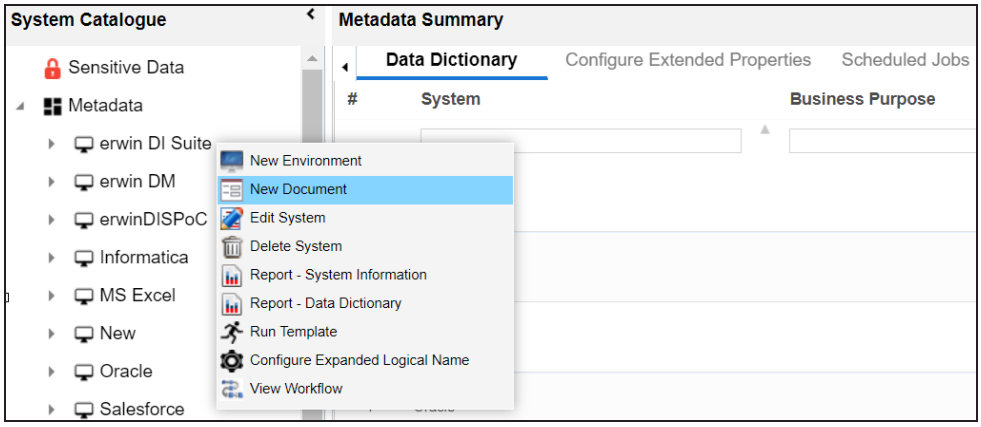
- Editing or deleting systems
- Exporting systems information

Adding Documents

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

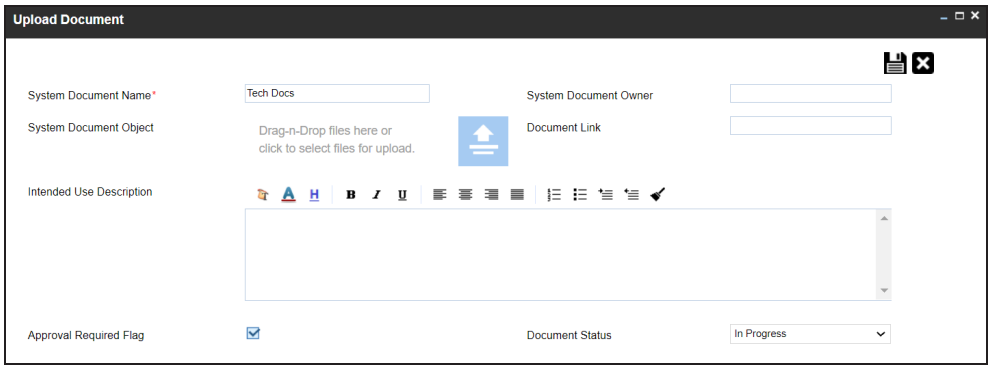
To add documents to systems, follow these steps:

1. In the **System Catalogue** pane, right-click a system.



2. Click **New Document**.

   The Upload Document page appears.

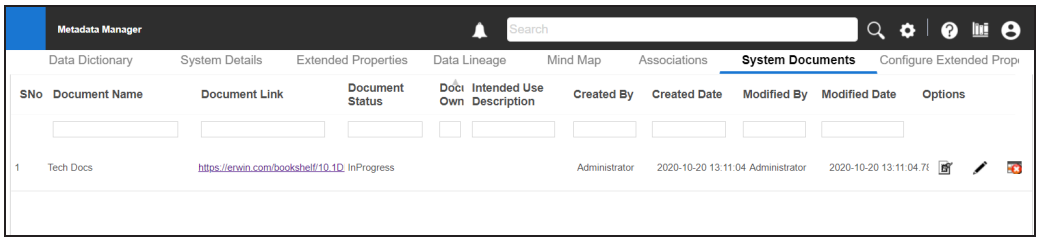


3. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

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. 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.

4. 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 ( **)**

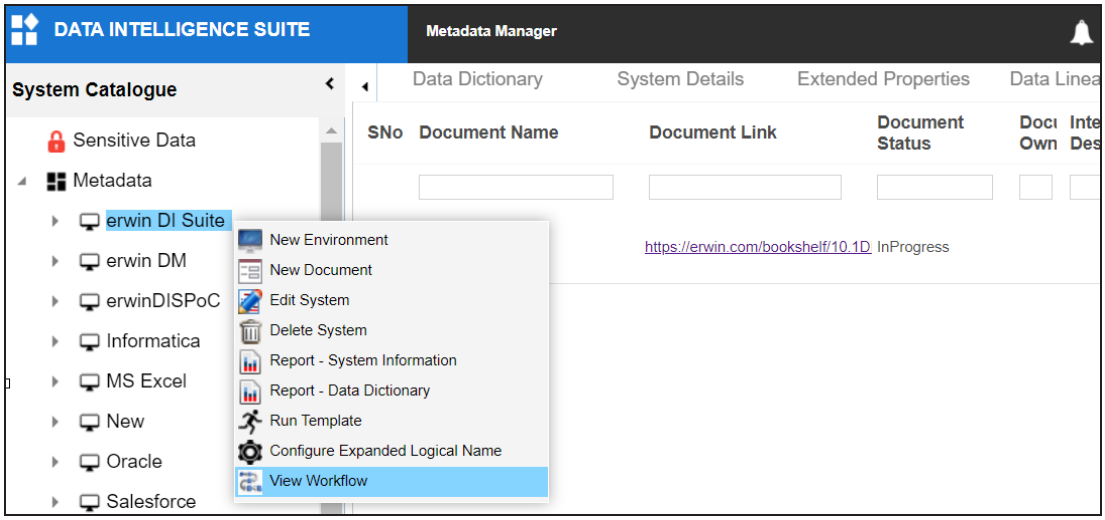
Use this option to delete the document that is not required.

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.

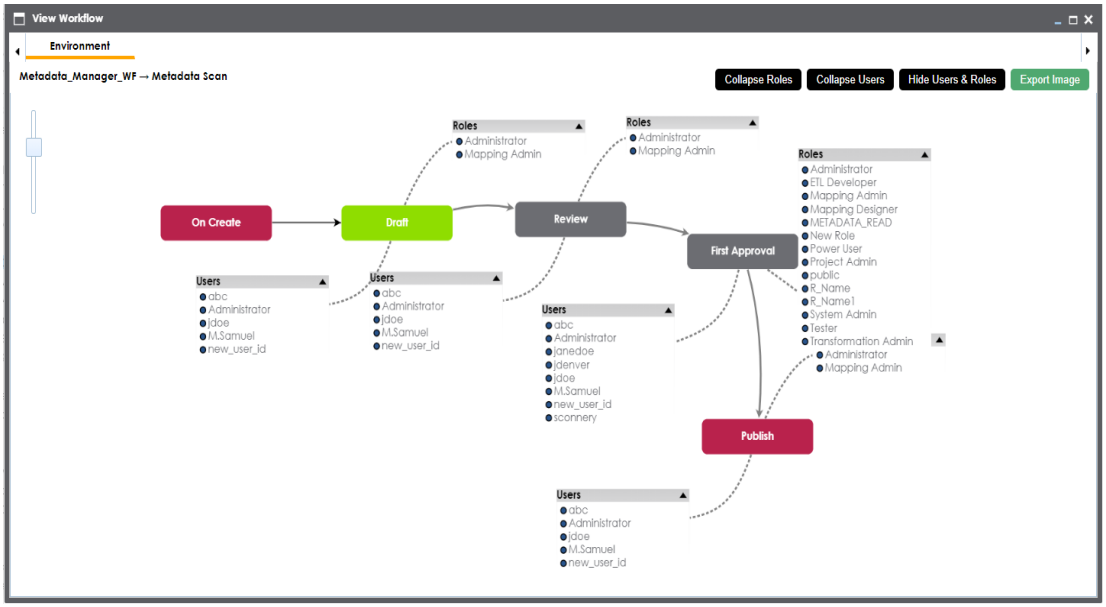
To view workflow logs of systems, follow these steps:

1. In the **System Catalogue** pane, right-click a system.



2. 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:

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 Systems

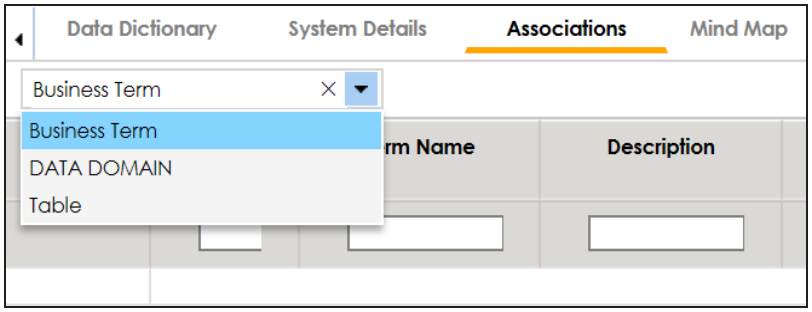
You can associate systems with business assets, systems, environments, tables, and columns. You can view these associations on mind maps and analyze association statistics.

Ensure that:

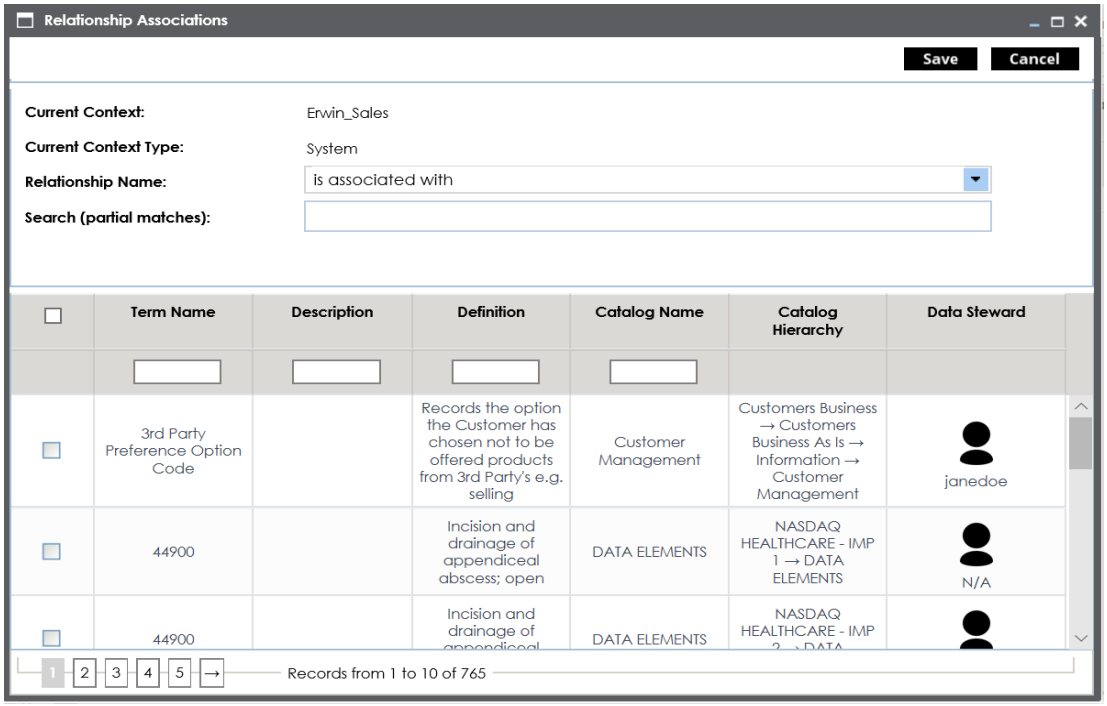
- Business assets are enabled. You can add new business assets and enable them in the Business Glossary Manager Settings.
- Relationship between system and the asset type is defined. You can define associations and relationships in the Business Glossary Manager Settings.

To associate systems with asset types, follow these steps:

1. In the **System Catalogue** pane, click the required system.
2. In the central pane, click the **Associations** tab.
3. Select the asset type from the drop down.

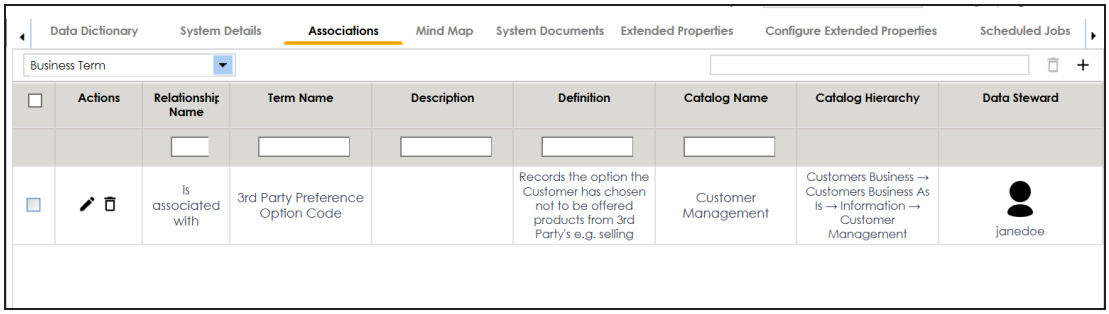


4. Click +.



5. Select **Relationship Name**, and the asset type.
6. Click **Save**.

   The asset is added to the system.



Use the following options under the **Actions** column:

Edit Association ( )

Use this option to edit the association.

Delete Association ( )

Use this option to delete the association.

To view mind map, click the **Mind Map** tab. For more information on working on mind map, refer to the Viewing Mind Maps 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 is applied to all the tables and columns under the system. This includes all the environments under the system.
- **Environment level**: The expanded logical name is 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 the business term definition and the part after the underscore, ID will be retained in the expanded logical name.

Entity	Value	Comment
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.

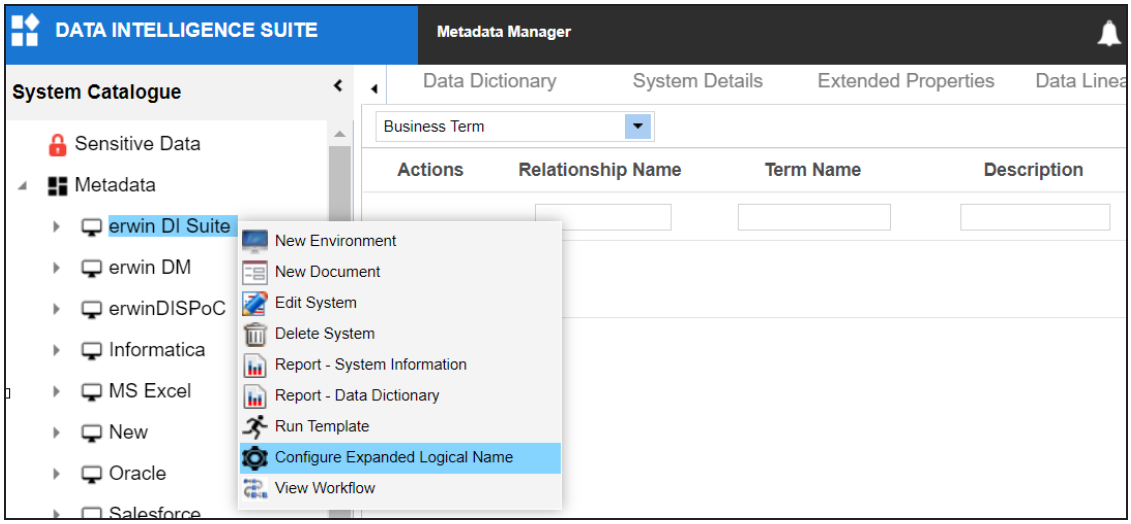
After the job runs successfully, the expanded logical name of the table and column is updated as mentioned in the following table:

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:

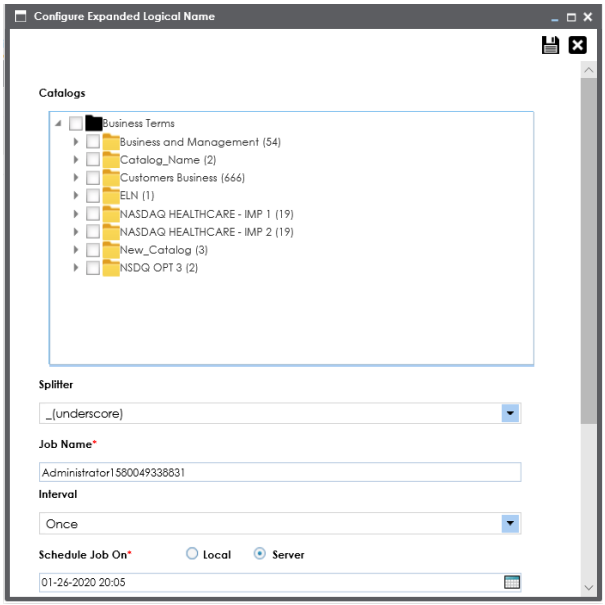
1. In the **System Catalogue** pane, right-click a system or environment.

   The available options appear.



2. Click **Configure Expanded Logical Name**.

   The Configure Expanded Logical Name page appears.

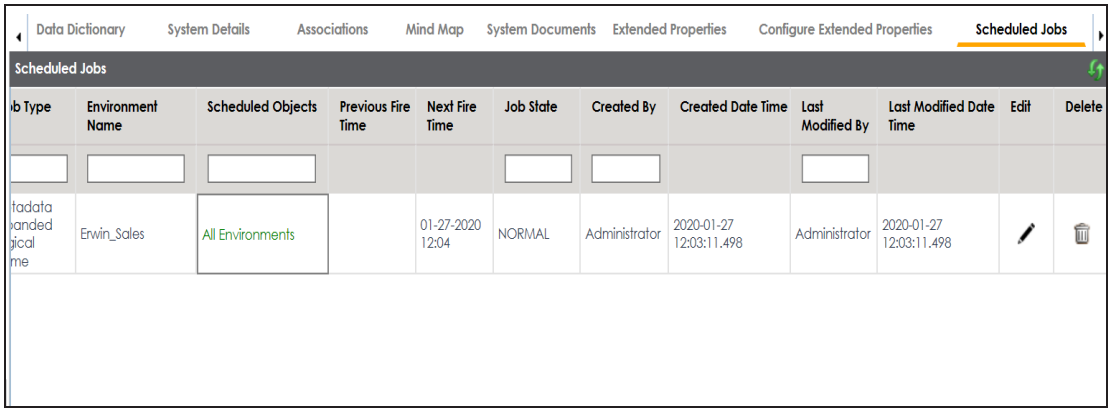


3. Select or enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Catalogs	Select the catalog containing the required business term.
Splitter	Select appropriate splitter based on the table name or column name.
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 erwinDIS has been deployed.
Schedule Job On	Select date and time of the execution of the job.
Notify Me	Turn 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.

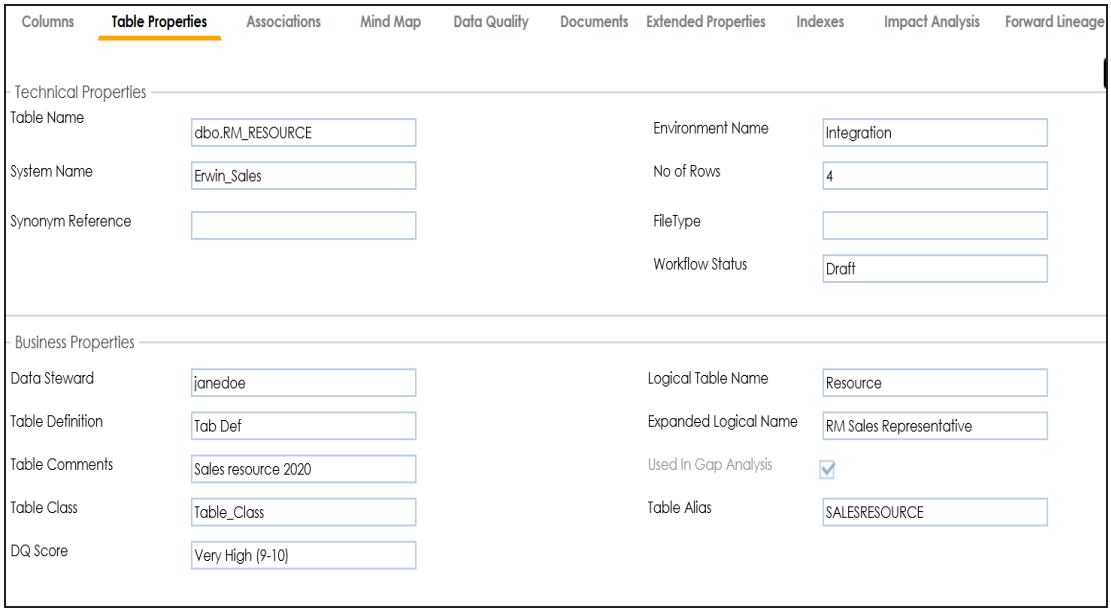
4. Click  .

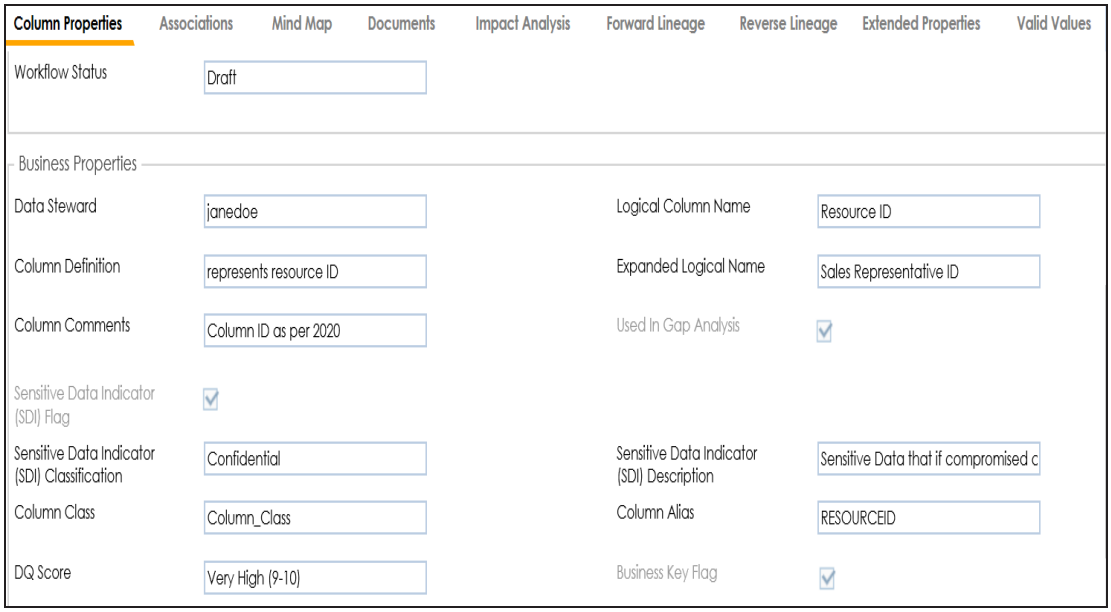
   The job is scheduled and added to the Scheduled Jobs list on the **Scheduled Jobs** tab.



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.





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

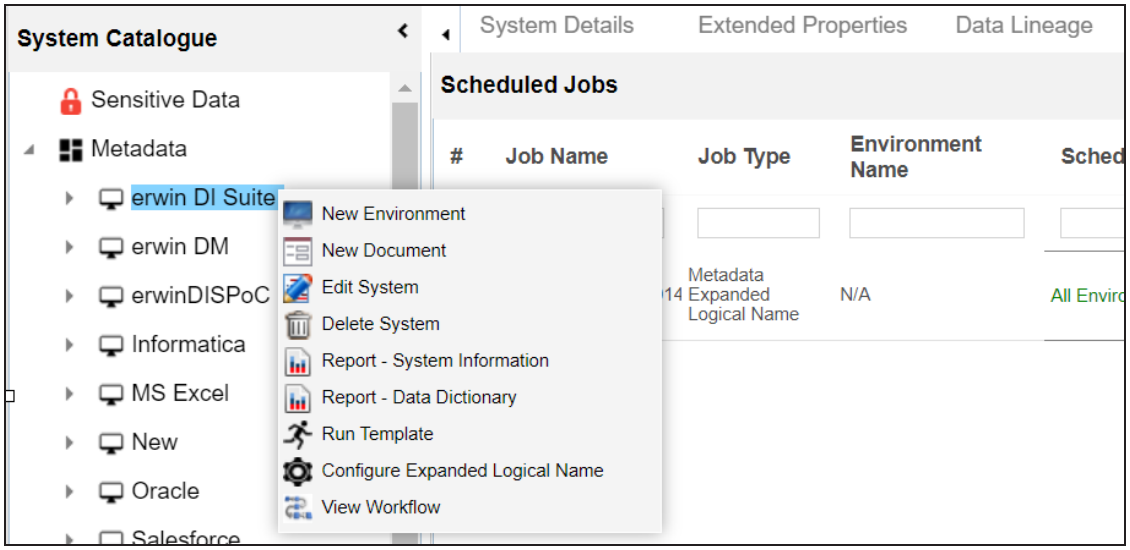
Managing systems involves:

- Editing or deleting systems
- Exporting systems information

To manage systems, follow these steps:

1. In the **System Catalogue** pane, right-click a system.

   The available options appear.



2. Use the following options:

   Edit System

   Use this option to edit the system details.

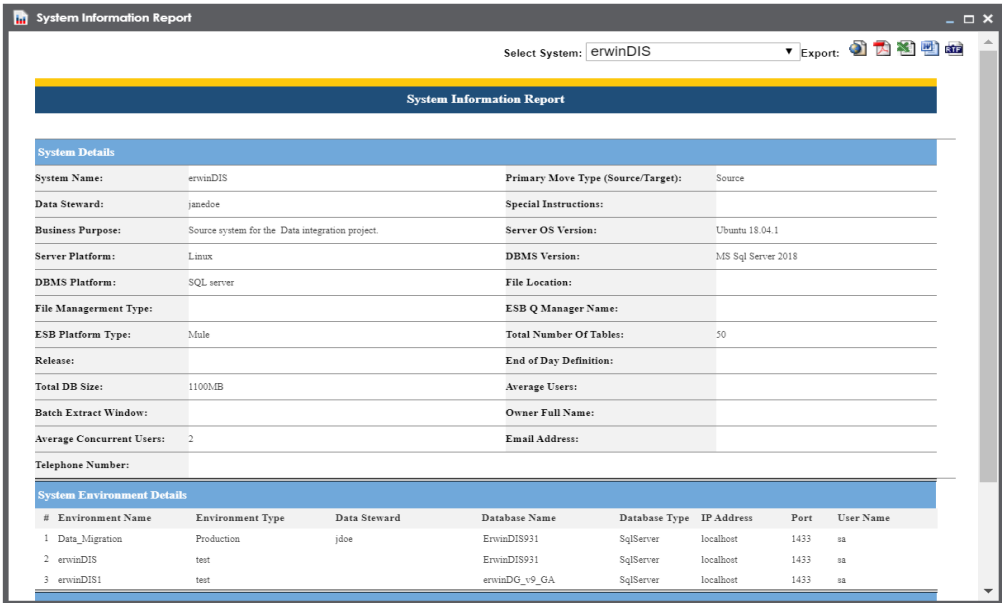
   Delete System

   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.



From 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.

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:

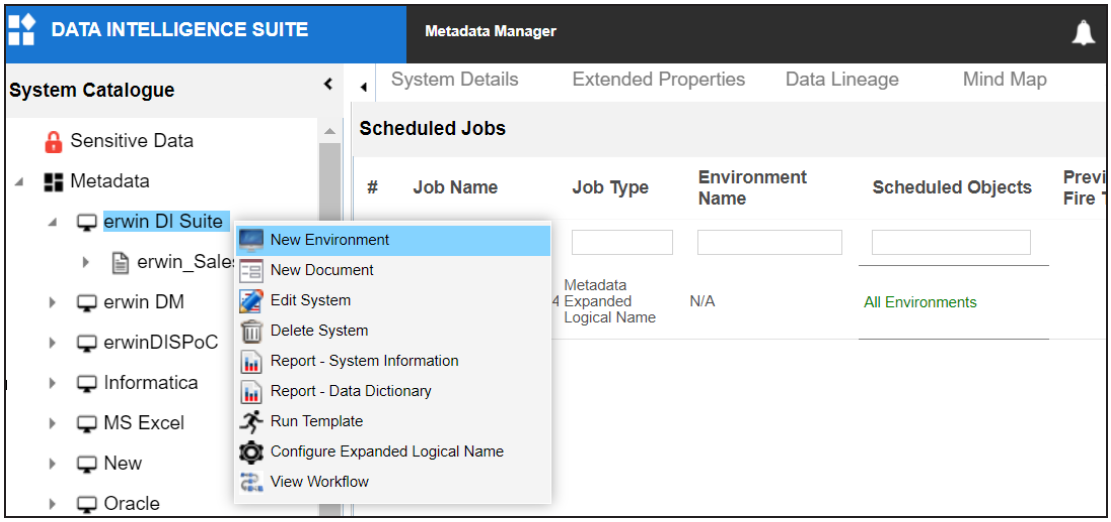
- Creating environments
- Assigning roles and users
- Managing environments
- Updating Sensitivity
- Viewing Sensitive Data Dashboard
- Uploading documents
- Cloning environments
- Viewing ER diagrams
- Viewing workflow logs
- Associating Environments
- Configuring Business Properties
- Configuring Expanded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

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.

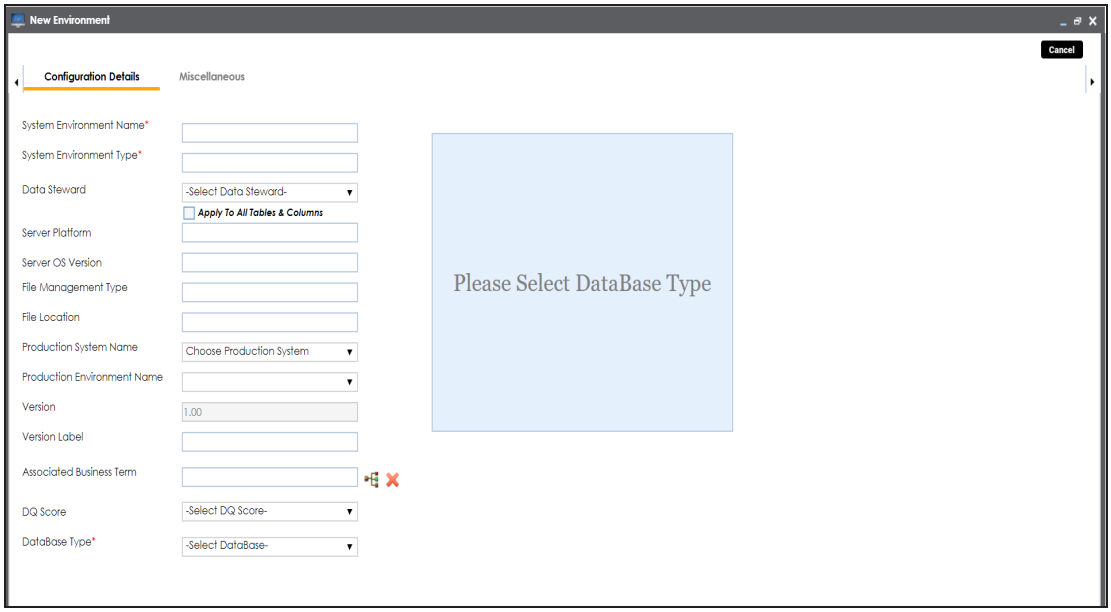
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, right-click a system.

   The available options appear.



3. Click **New Environment**.

   The New Environment 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 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.
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
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.
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.
DQ Score	Specifies the overall data quality score of the environment. For example, High (7-8). For more information on configuring DQ scores, refer to the Configuring Data Profiling and DQ Scores topic.
Database Type	Specifies the database type. For example, Sql Server. Select the type of database from where you wish to scan metadata. Depending upon your choice of database type you need to provide additional fields (connection parameters) appearing on the right hand side.

Field Name	Description
	There are no additional fields for MS Excel File, and XSD.

5. Click  to test the connection.

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

6. Click the **Miscellaneous** tab and 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
Sensitive Data Indicator (SDI) Flag	Specifies whether the environment is sensitive.
Sensitive Data Indicator (SDI) Classification	Specifies the SDI classification of the environment. For example, PHI. This list is enabled when the Sensitive Data Indicator (SDI) Flag is switched to  . For more information on configuring SDI classifications, refer to the Configuring Sensitivity Classifications topic.
Sensitive Data Indicator (SDI) Description	Specifies the description of the SDI Classification. For example: Protected Health Information. It is enabled when the Sensitive Data Indicator (SDI) Flag is switched to  . The field autopopulates based on the SDI Classification.
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.
Environments Notes	Specifies relevant notes about the environment. For example: The environment uses Sql Server as database to scan the metadata.
Approval Instructions	Specifies any instructions for the environment's approval.

Field Name	Description
	For example: The environment must contain 50 tables from erwinDIS database.

7. Click **Save and Exit**.

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

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

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

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 erwin with Metadata Read-only privileges in SQL Server Database
2. Firewall connection open between SQL Server and erwin DI Suite application server
3. Opening of SQL Server database port to accept connections from erwin DI Suite 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 erwin DI Suite application. Hence, no JDBC driver configuration is required from end user standpoint.

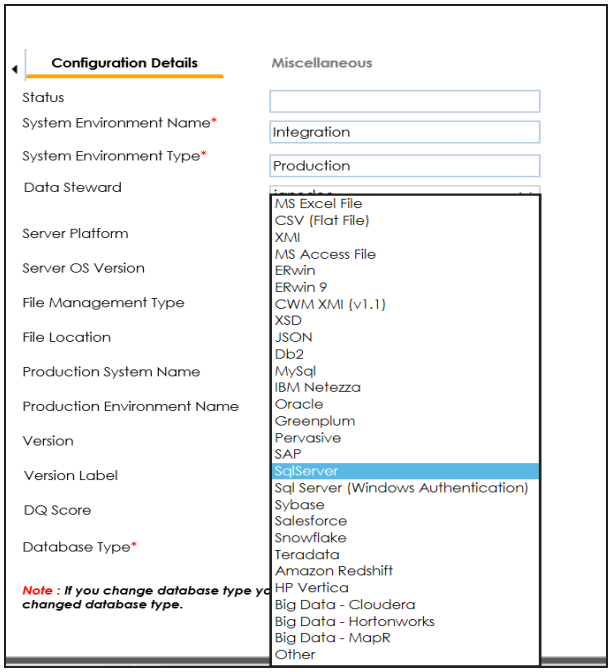
TLS Connection Details

- 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;

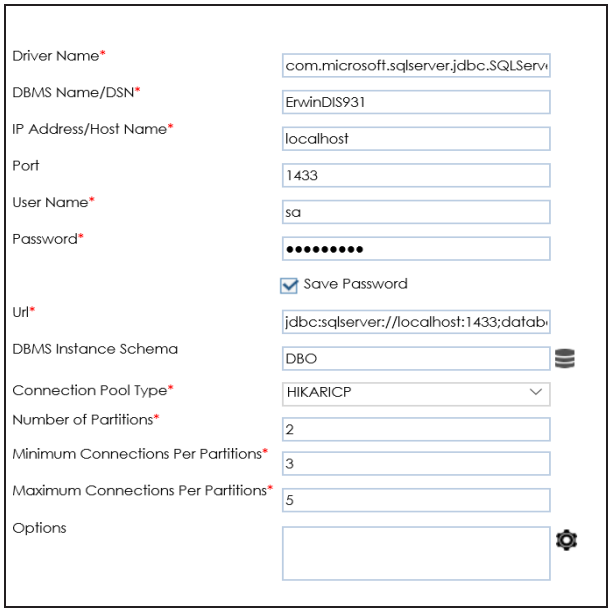
JDBC Connection Parameters

To enter SQL Server (SQL authentication) connection parameters, follow these steps:

1. Select the **Database Type** as **SqlServer** while creating the environment.



When you select database type as Sql Server, the following connection parameters appear on the right hand side.



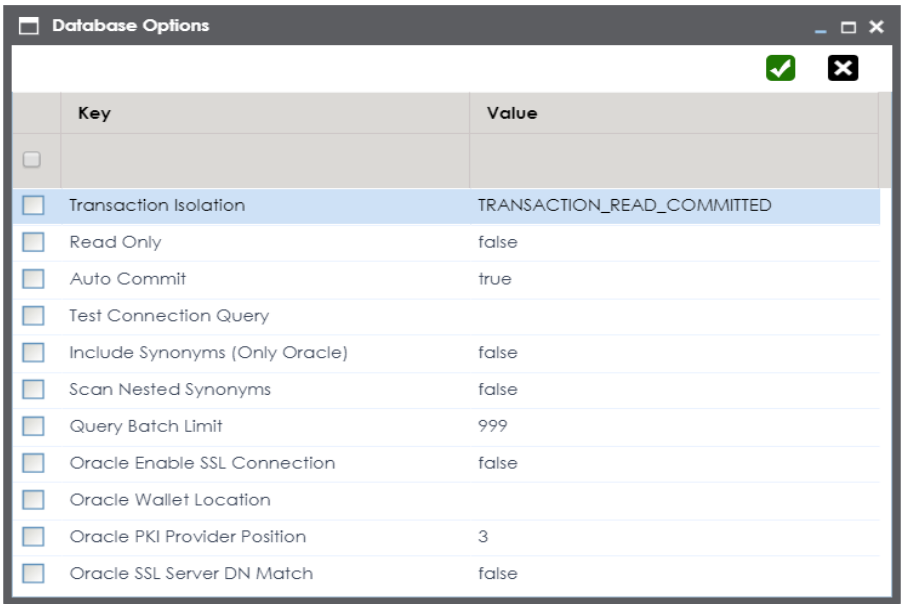
2. Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.microsoft.sqlserver.jdbc.SQLServerDriver
DBMS Name/DSN	Specifies the SQL Server database name being used to connect to the environment. For example, ErwinDIS931.
IP Address/Host Name	Specifies the IP address or server host name of the database. For example, localhost.
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.
Password	Specifies the SQL Server (Service Account) password. For example, goerwin@1.
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.
DBMS 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

Field Name	Description
	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  .

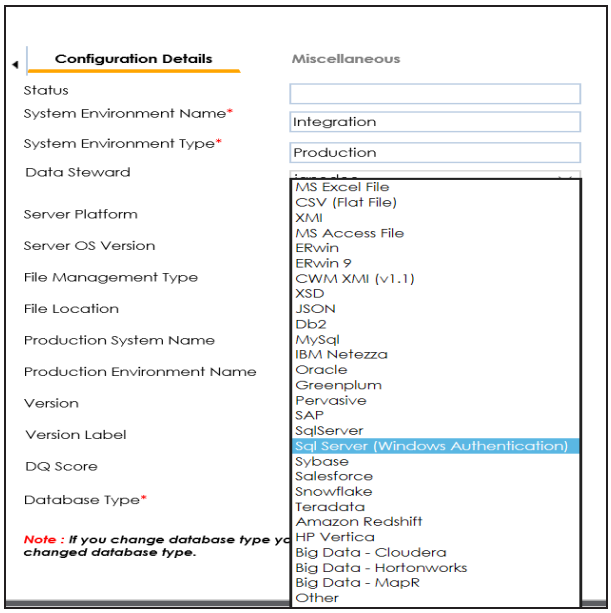
The Database Options page appears. It displays the available database options.



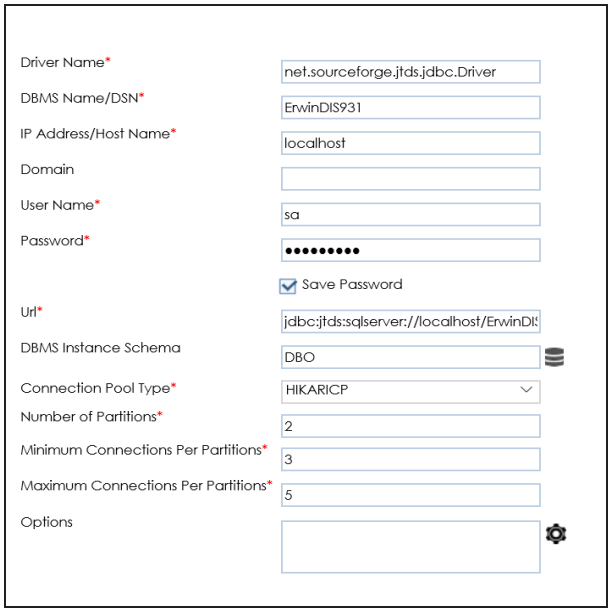
Select keys and double-click the cells under the **Value** column to set the values of the keys. Use  to save the database options.

To enter SQL Server (Window authentication) connection parameters, follow these steps:

1. Select the **Database Type** as **Sql Server (Windows Authentication)**.



When you select database type as **Sql Server (Windows Authentication)**, the following connection parameters appear on the right hand side.



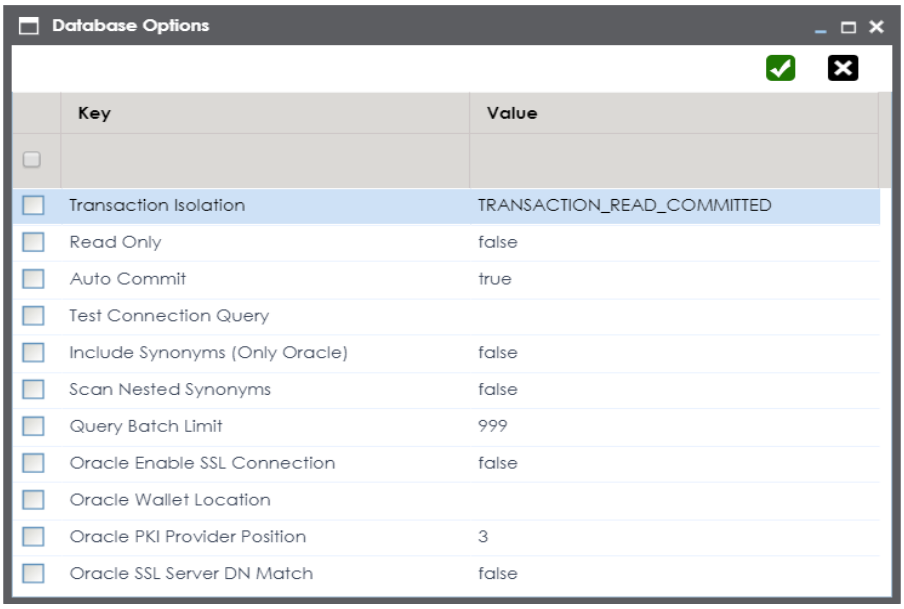
2. Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.microsoft.sqlserver.jdbc.SQLServerDriver
DBMS Name/DSN	Specifies the SQL Server database name being used to connect to the environment. For example, ErwinDIS931.
IP Address/H-ost Name	Specifies the IP address or server host name of the database. For example, localhost.
Domain	Specifies the network domain name on which database resides. For example, U-DOM1.
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.
Password	Specifies the SQL Server (Service Account) password. For example, goerwin@1.
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#;data-baseName=DatabaseName;domain=DomainName;useNTLMv2=true;**
DBMS Schema	Specifies the schema for the database. Use this option to select multiple or narrow down to single schema. For example, DBO.
Con-	Specifies the connection pool type being used to connect via JDBC.

Field Name	Description
nection Pool Type	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 Par-titions	Specifies the minimum connections per partitions for 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 Con-nections Per Par-titions	Specifies the maximum connections per partitions for 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  .

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.

Oracle

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 erwin with Metadata read-only privileges in Oracle database
- **Firewall connection open** between Oracle and erwin DI Suite application server
- **Oracle Database port** opened to accept connections from erwin DI Suite application server

JDBC Driver Details

Oracle JDBC driver is out of box packaged with erwin DI Suite 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.

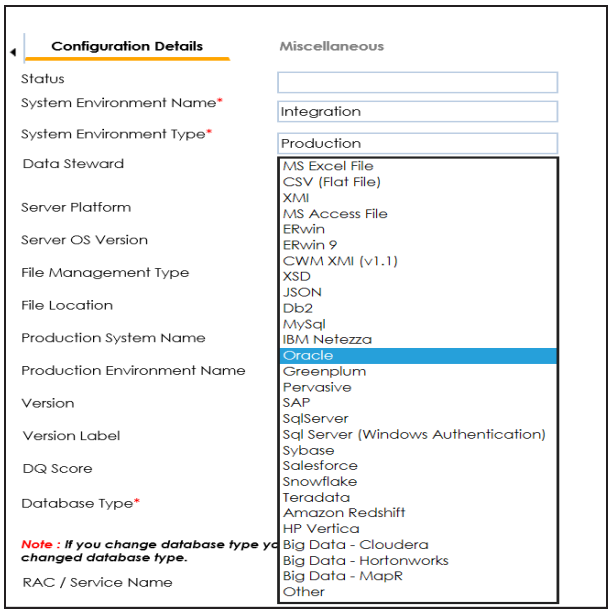
- Once the product is upgraded to the oracle JDBC 8 driver, TLS connectivity can be ensured by setting a few system parameters and also adding TLS parameters to the JDBC URL string to support connectivity using TLS 1.2

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

JDBC Connection Parameters

To enter Oracle connection parameters, follow these steps:

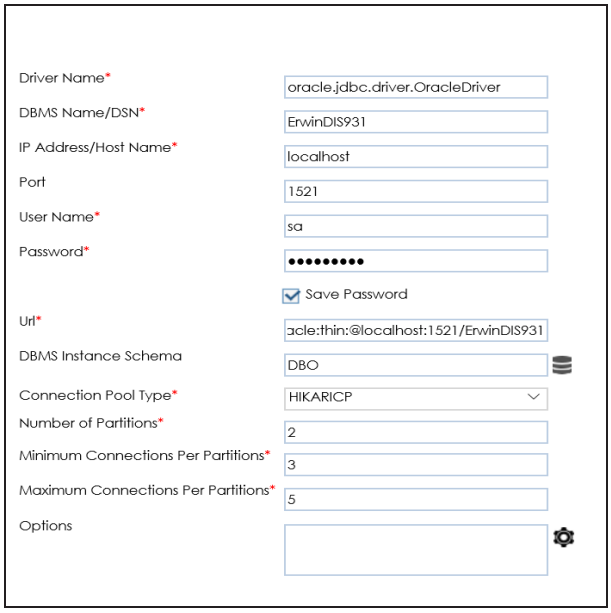
1. Select Database Type as Oracle while creating the environment.



You can select the **RAC/Service** check box to :

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

The following connection parameters appear on the right hand side.



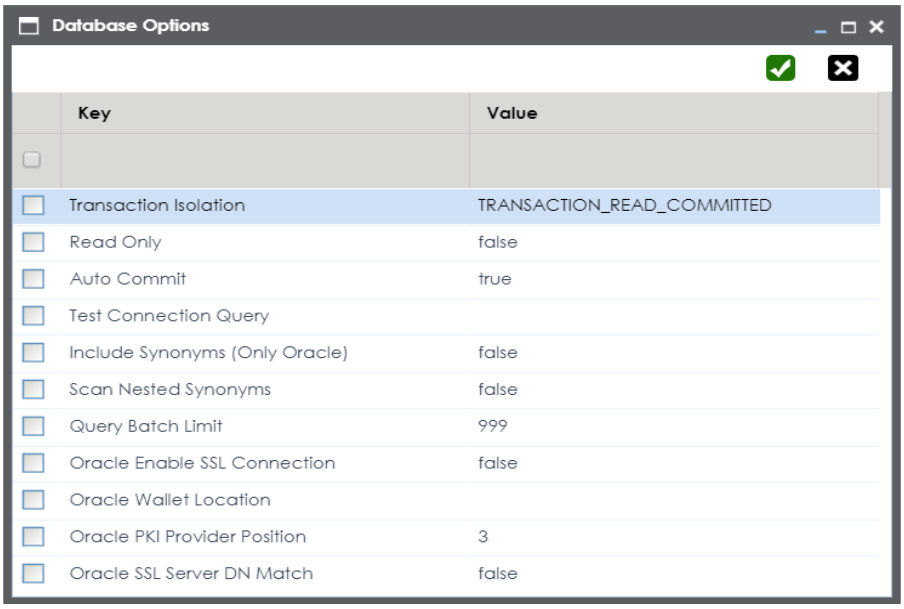
2. Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, oracle.jdbc.driver.OracleDriver
DBMS Name/DSN	Name of the Oracle Service – SID or TNS Service Name. For example, ErwinDIS931.
IP Address/Host Name	Enter the IP address or server host name. For example, 10.32.445.21
Port	Specifies the port to connect with the database. 1521 is the default port for the Oracle database. User can change it, if required.
User Name	Enter the Oracle (Service account) user name. For example, erwinuser.
Password	Enter the Oracle (Service account) password. For example, goerwin@1.

Field Name	Description
URL	It is autopopulated based on the other parameters. For example, **jdbc:oracle:thin:@ <Ip Address>:<Port>/< service name>**
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.

3. Click  to use database 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.

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 erwin with Metadata read-only privileges in MySQL database
- **Firewall connection open** between MySQL and erwin DI Suite application server
- **MySQL Database port** opened to accept connections from erwin DI Suite application server

JDBC Driver Details

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

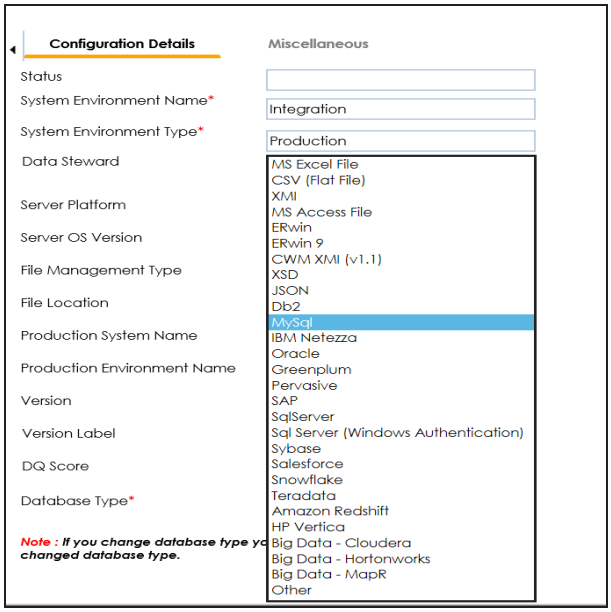
TLS Connection Details

- 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: jdb-c:mysql://IPADDRESS:3306/DATABASENAME ?useSSL=true &en-abledTLSProtocols=TLSv1.2

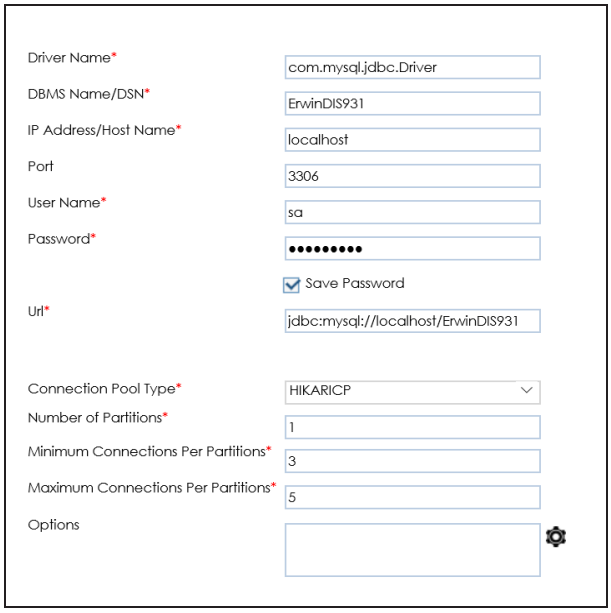
JDBC Connection Parameters

To enter MySQL connection parameters, follow these steps:

1. Select Database Type as MySQL while creating the environment.



The following connection parameters appear on the right hand side.



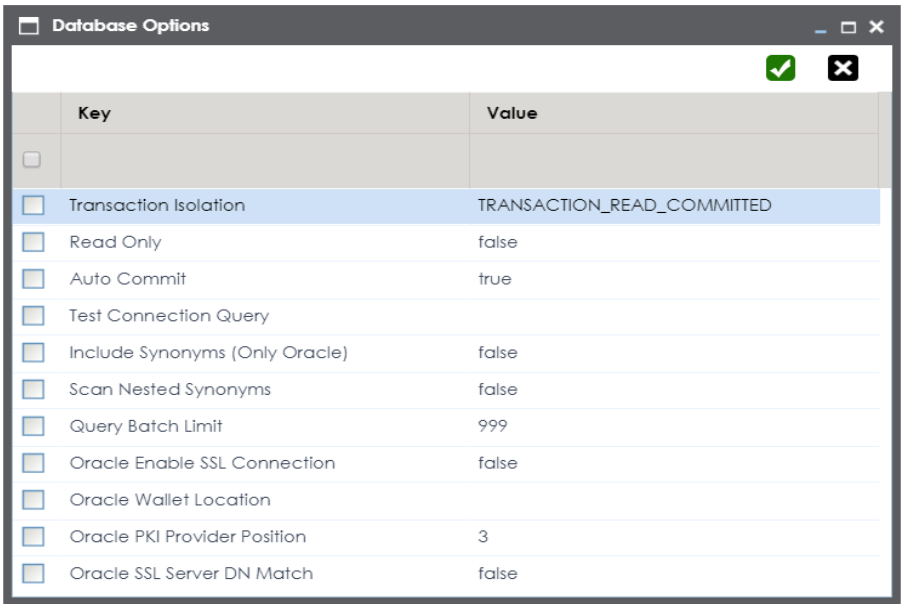
2. Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.mysql.jdbc.Driver
DBMS Name/DSN	Enter the MySQL database name. For example, ErwinDIS931.
IP Address/Host Name	Enter the IP address or server host name. For example, 10.32.445.21
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.
Password	Enter the MySQL (Service account) password.

Field Name	Description
	For example, goerwin@1.
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
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 the database options, click  .

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 Snowflake environment by providing the necessary connection parameters.

Before creating a Snowflake 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 erwin with Metadata read-only privileges in Snowflake database
- **Snowflake Database ports 443 and 80** should be opened via firewall to accept connections from erwin DI Suite application server

JDBC Driver Details

Currently Snowflake JDBC driver is not packaged with erwin DI Suite application. Hence, Snowflake JDBC driver should be downloaded from the below mentioned URL.

Download URL: https://docs.snowflake.net/manuals/user-guide/jdbc-download.html#downloading-the-driver

Location to configure the JDBC driver: Once downloaded, the snowflake drivers should be placed in the following path in erwin DI Suite application server. \Apache Software Foundation\<Tomcat X.X>\webapps\erwinDISuite\WEB-INF\lib

TLS Connection Details

- The Snowflake packaged JDBC driver version 3.1.X and above implement TLS v1.2 providing the latest security patches on the protocol. So, you will not need to set any

additional properties. The connection will use TLS 1.2 encryption by default.

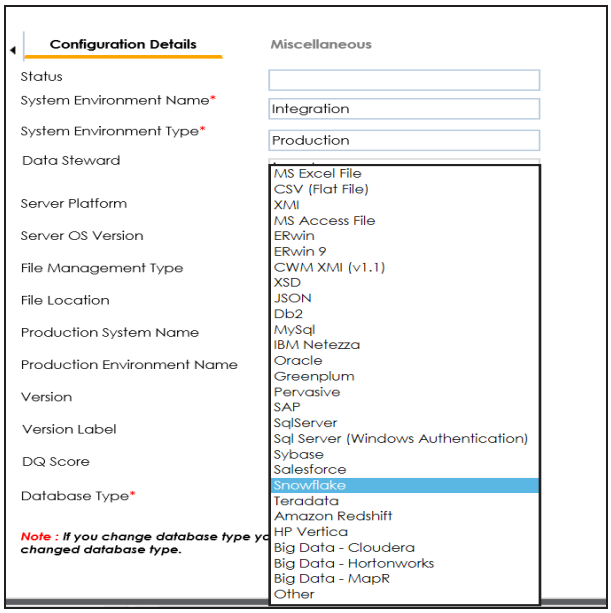
- Add SSL Parameter in Connection String (if required):

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

JDBC Connection Parameters

To enter Snowflake connection parameters, follow these steps:

1. Select Database Type as Snowflake while creating the environment.



The following connection parameters appear on the right hand side.

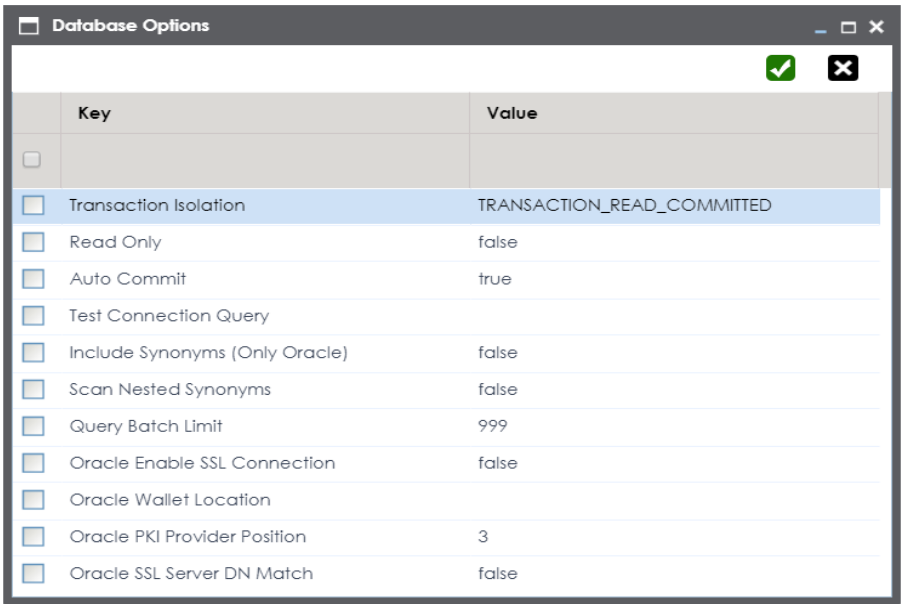
2. Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.snowflake.client.jdbc.SnowflakeDriver
DBMS Name/DSN	Enter the Snowflake database name. For example, AW2012_DV.
IP Address/Host Name	Enter <accountname>.snowflakecomputing.com For example, analytixds.us-east-1.snowflakecomputing.com
Port	Specifies the port to connect with the database. 443 is the default port for the Snowflake database. You can change it, if required.
User Name	Enter the Snowflake (Service account) user name. For example, shawn.
Password	Enter the Snowflake (Service account) password. For example, goerwin@1.

Field Name	Description
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, `jdb-c:snowflake://<accountname>.snowflakecomputing.com/?warehouse=DataWarehouseName&db=DatabaseName&schema=SchemaName`
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 autopopulated with default number of partitions. You can edit and provide the number of partitions as required. For example, 1.
Minimum Connections Per Par-titions	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 Par-titions	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 the database options, click  .

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.

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 erwin 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 erwin 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 erwin DI Suite 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 erwin application server: \Apache Software Foundation\<Tomcat X.X>\webapps\erwinDISuite\WEB-INF\lib and restart the Tomcat.

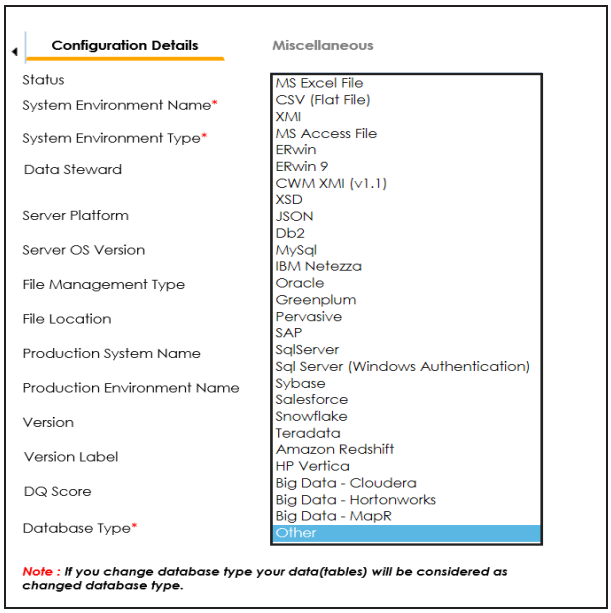
TLS Connection Details

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.

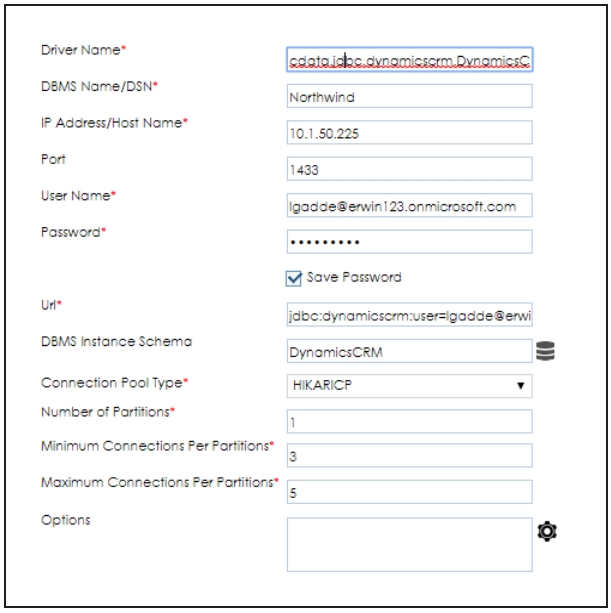
JDBC Connection Parameters

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

1. Select **Database Type** as **Other** while creating the environment.



The following connection parameters appear on the right hand side.



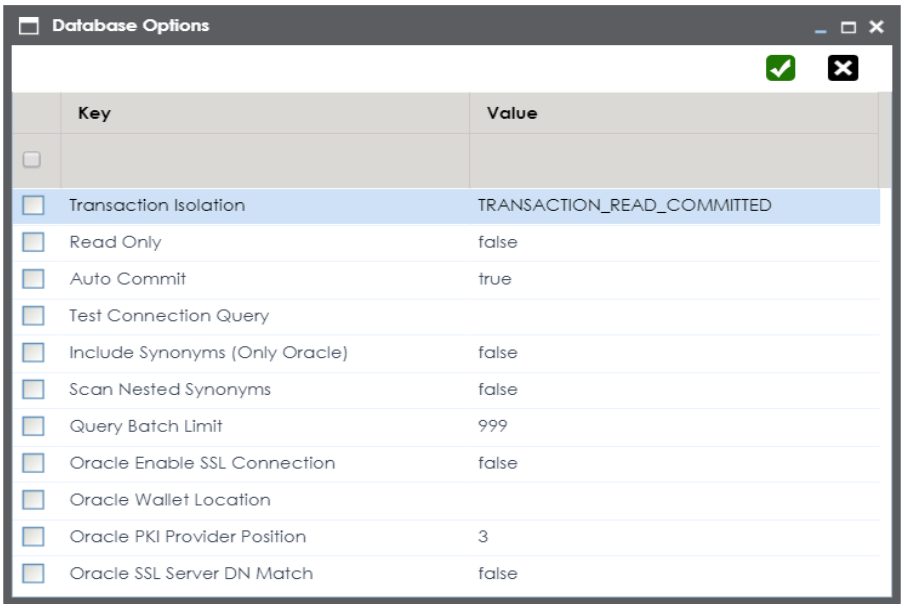
2. Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

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

Field Name	Description
	For example, goerwin@1.
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, jdb-c: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;
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.
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  .

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 erwin with Metadata read-only privileges in SAP system
- Open Firewall connection between SAP and erwin DI Suite application server
- Get the SAP System Number and Client details

JDBC Driver Details

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

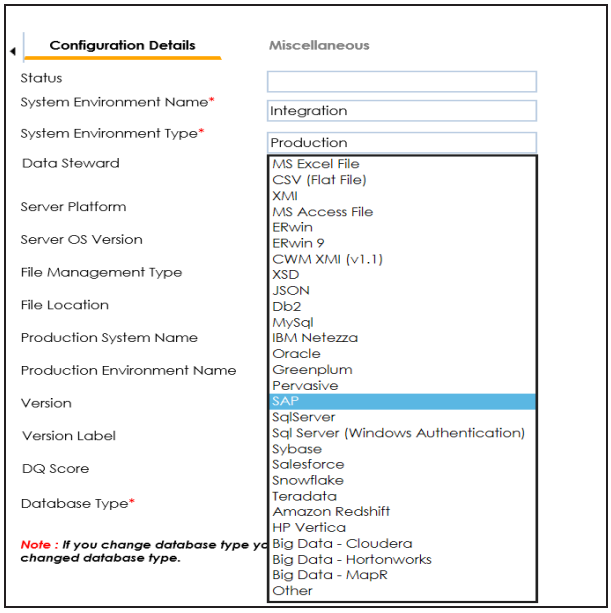
In order to use SSL with the JCO, we will need to:

- 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

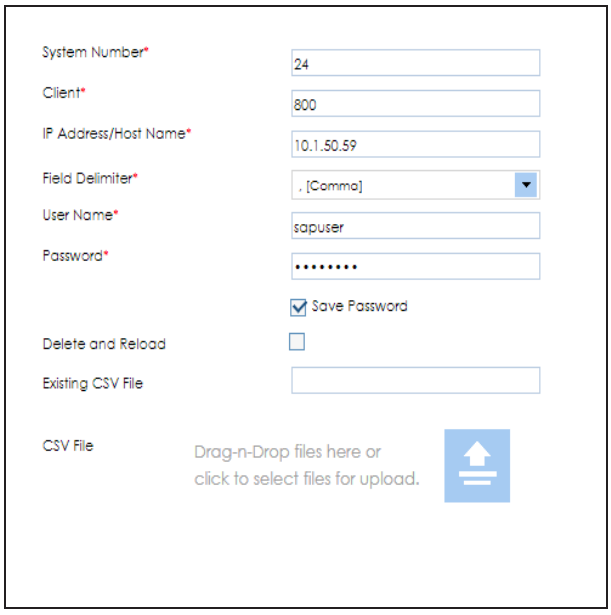
JCO Connection Parameters

To enter SAP connection parameters, follow these steps:

1. Select Database Type as SAP while creating the environment.



The following connection parameters appear on the right-hand side.



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

Field Name	Description
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.
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. For example, sapuser.
Password	Specifies the SAP (Service account) password. For example, goerwin@1.
CSV File Upload	Browse the CSV file which contains name of SAP tables to be harvested.
Field Delimiter	Select the required delimiter. For example: , [Comma].

Assigning Roles and Users

Users can get 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

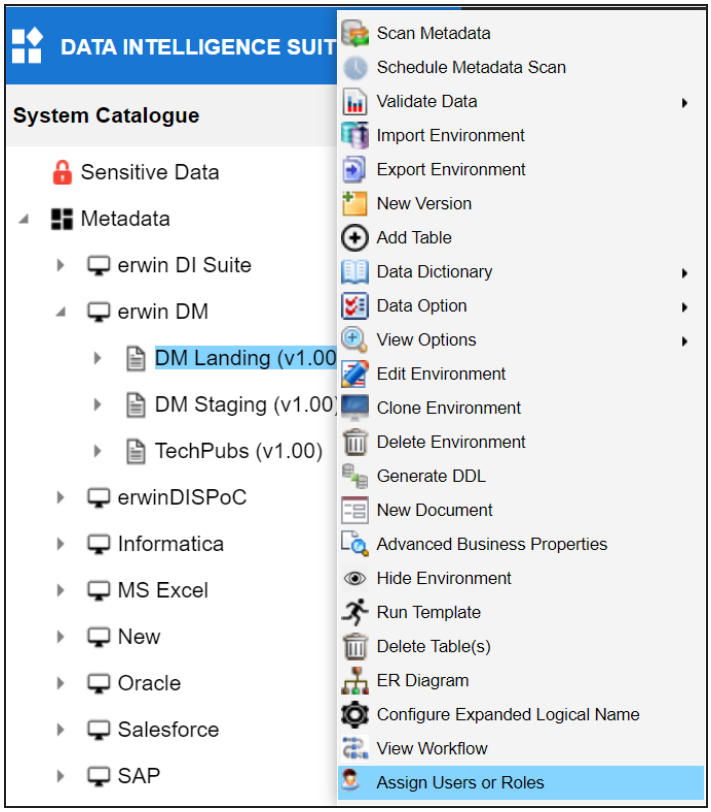
Ensure that you provide necessary permissions to the roles assigned to the users.

Assigning Roles

To assign roles, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue**, right-click an environment.

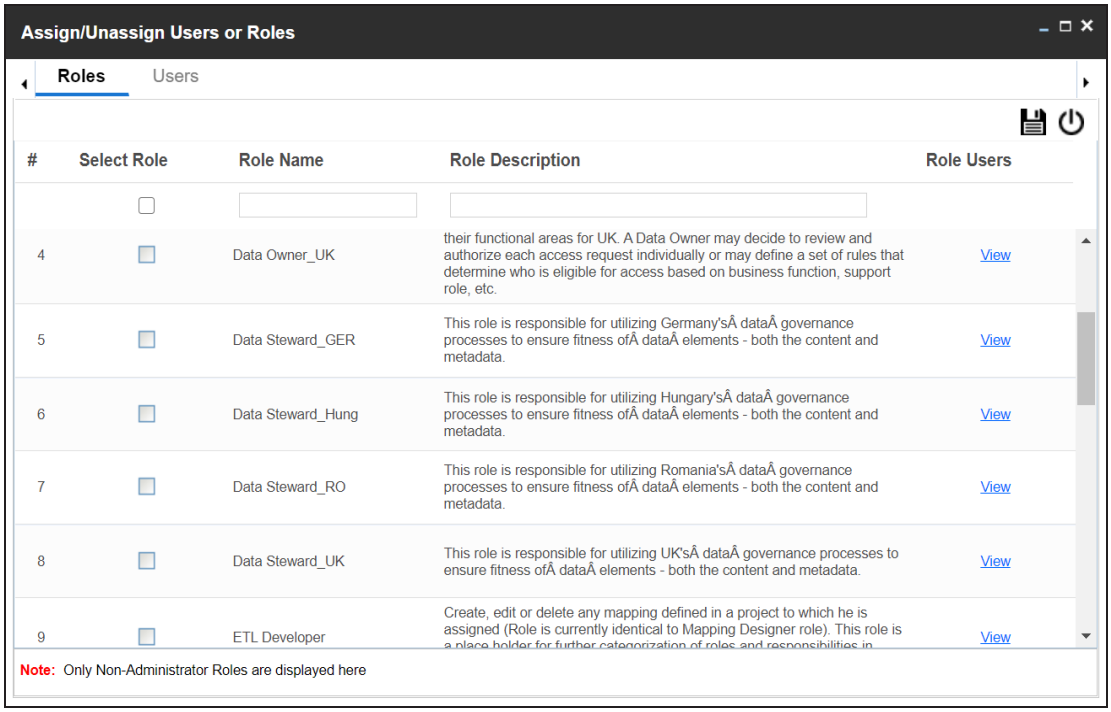
   The available options appear.



3. Click **Assign Users or Roles**.

   The Assign/Unassign Users or Roles page appears. By default, the Roles tab opens.

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

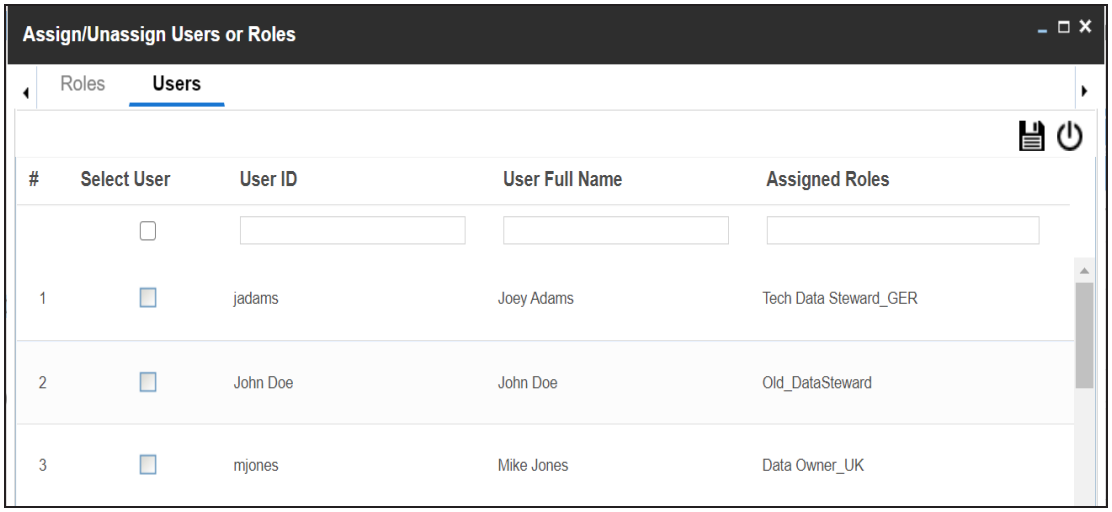


4. Select the required roles.
5. Click .

   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:

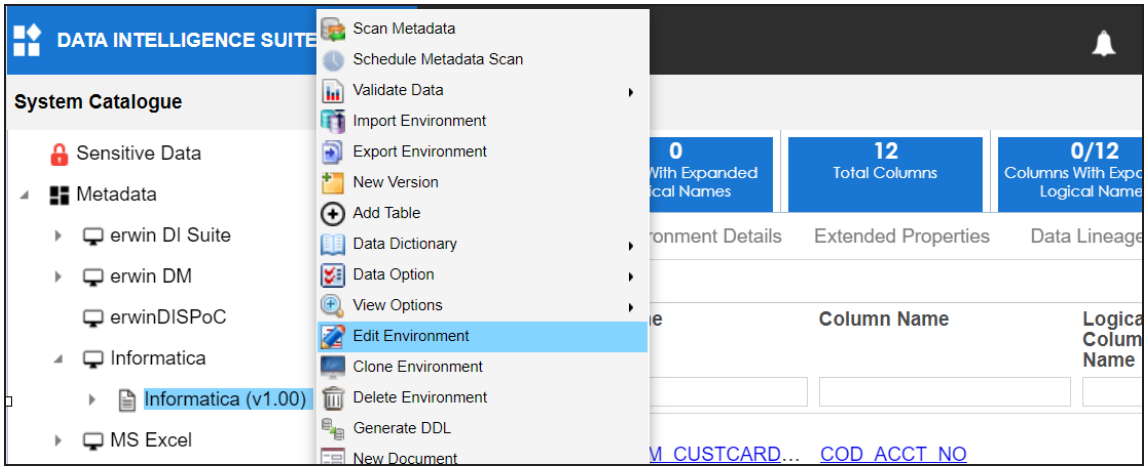
- Editing or deleting environments
- Importing metadata from different environments

Editing and Deleting Environments

To edit or delete environments, follow these steps:

1. In the **System Catalogue** pane, right-click an environment.

   The options available appear.



2. 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 workflow to environments, refer to the Managing Metadata Manager Workflows section.

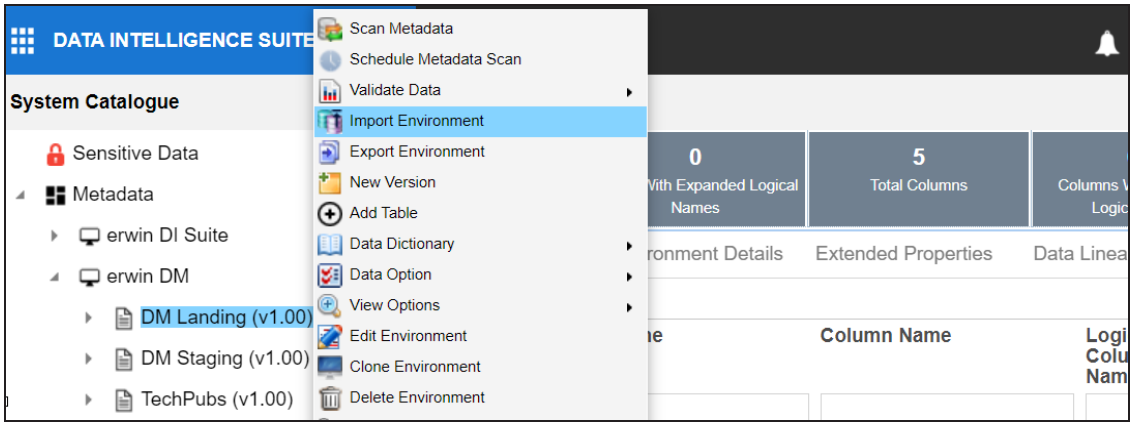
   Delete Environment

Use this option to delete the environment.

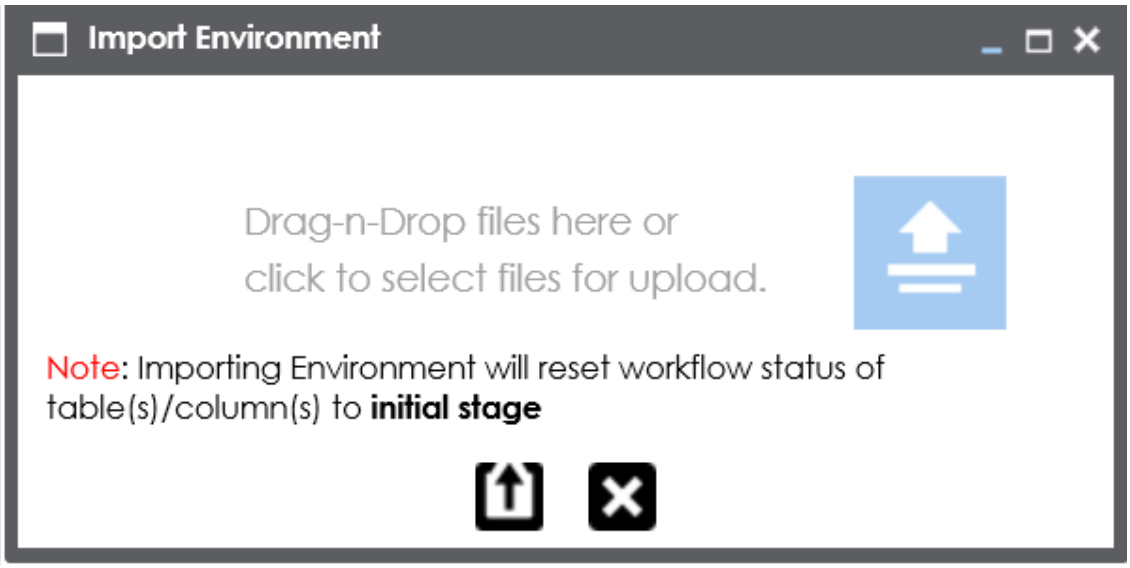
Importing Metadata from an Environment

To import metadata from an environment, follow these steps:

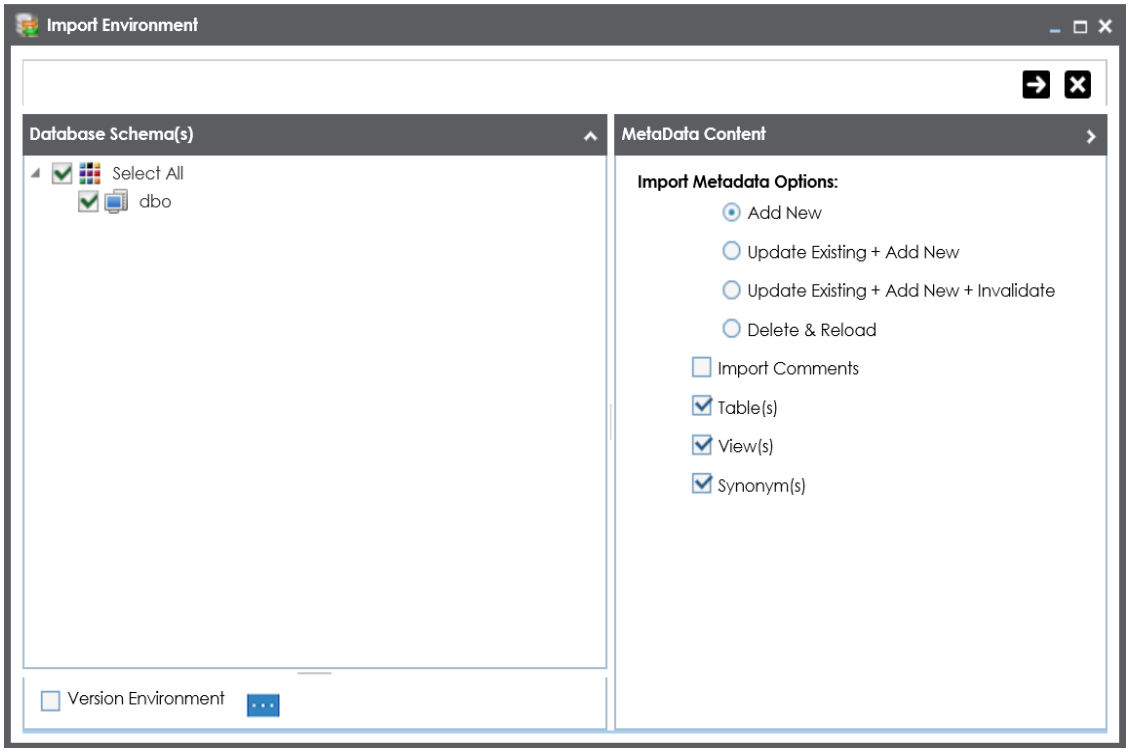
1. In the **System Catalogue** pane, right-click an environment.



2. Click **Import Environment**.
   The Import Environment page appears.



3. Drag and drop or use  to browse the exported AMP file.
4. Click  .



5. Select Schemas and appropriate import metadada options.

> Select the **Version Environment** check box to create a version of the environment.

6. Click .
7. Select the tables and click .

   The environment is imported.

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.

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.

Bulk Asset Update

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

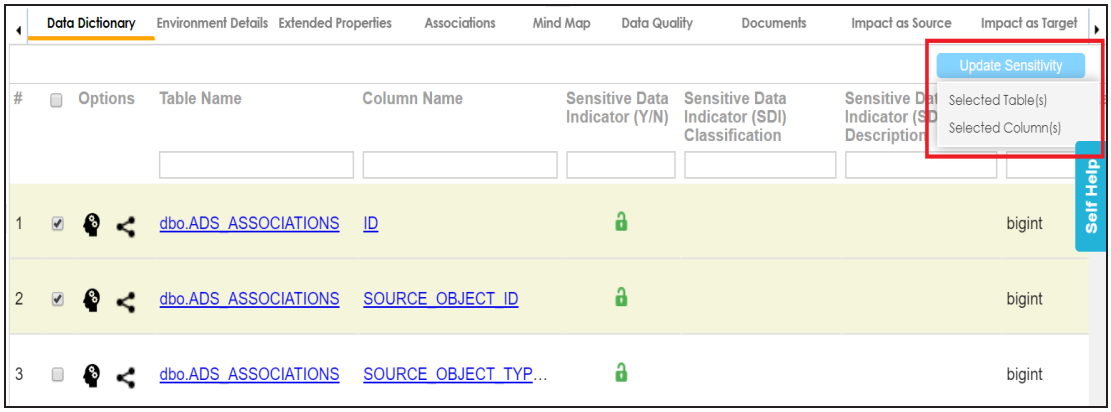
Table Level

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

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

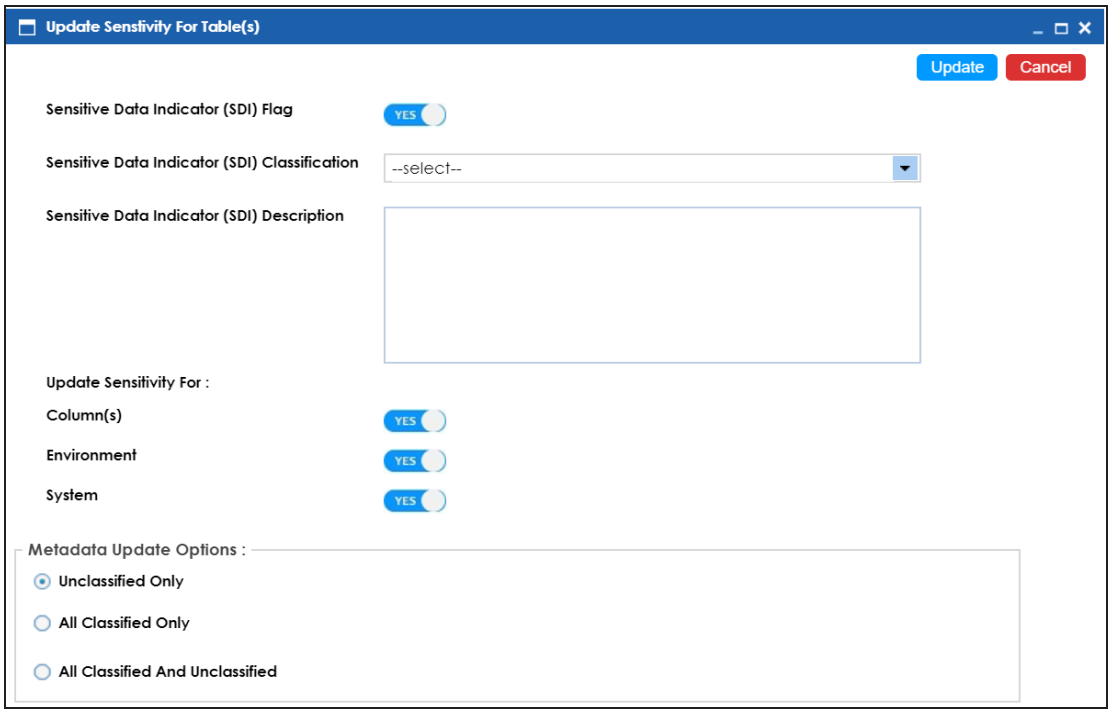
   By default, the Data Dictionary tab opens.
3. On the **Data Dictionary** tab, select the required rows.

   You can use the check box at top to select all the rows.
4. Hover over **Update Sensitivity**.



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

   The Update Sensitivity For Table(s) page appears.



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

Field Name	Description
Sensitive Data Indicator (SDI) Flag	Specifies whether the selected tables are sensitive. Switch **Sensitive Data Indicator (SDI) Flag** to **YES** to mark the tables as sensitive.
Sensitive Data Indicator (SDI) Classification	Specifies the SDI classification of the selected tables. For example, PHI. This list is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to **YES**. For more information on configuring SDI classifications, refer to the Configuring Sensitivity Classifications topic.
Sensitive Data Indicator (SDI) Description	Specifies the description of the SDI classification. For example: Protected Health Information. It is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to **YES**. The field autopopulates based on the SDI classification.
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.

7. Click **Update**.

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

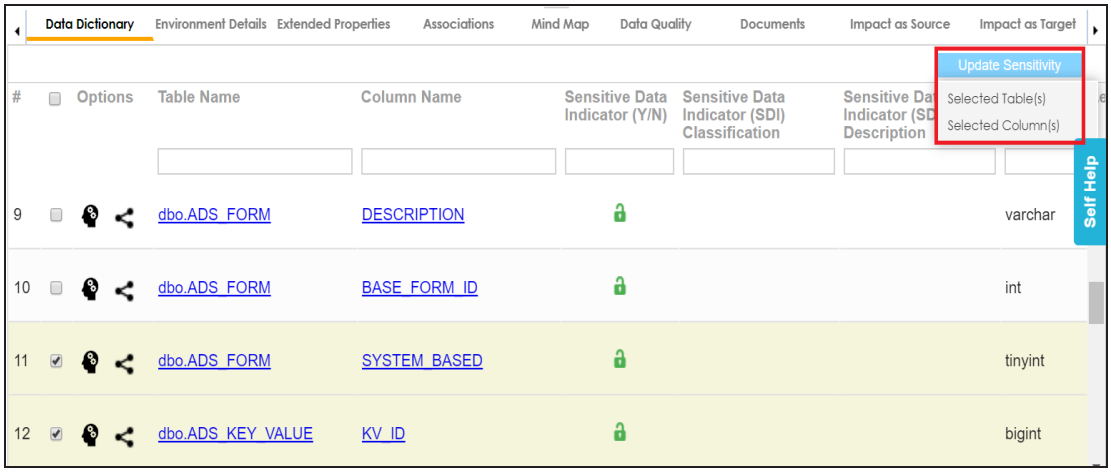
Column Level

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

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

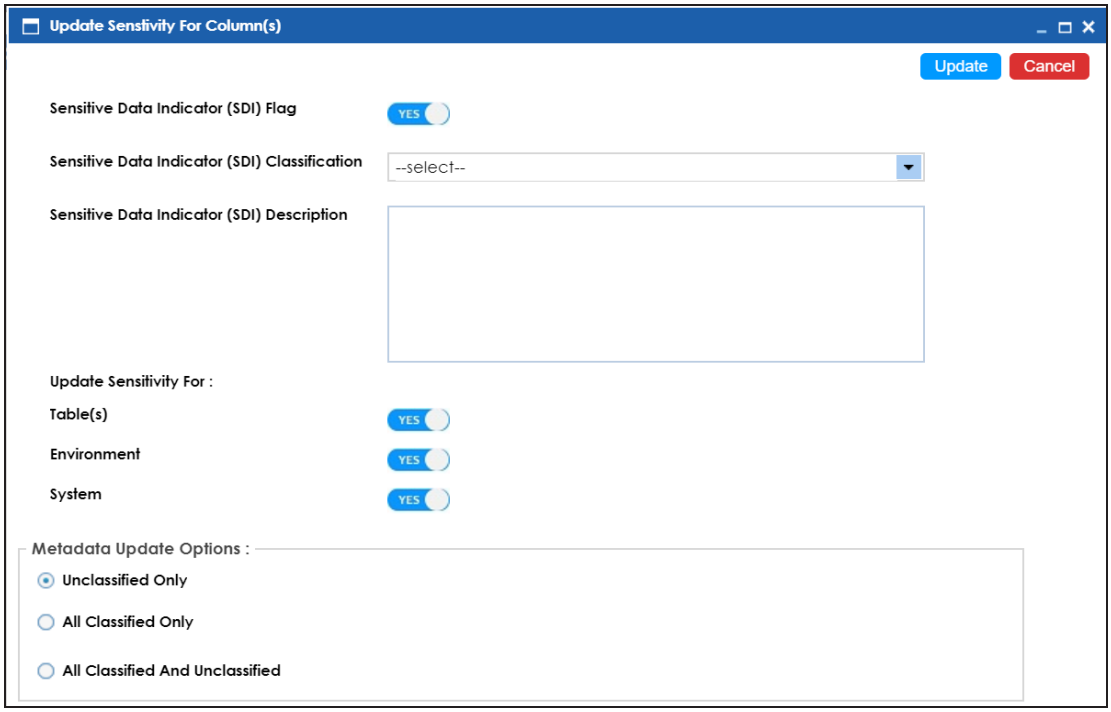
   You can use the check box at top to select all the rows.

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) Flag	Specifies whether the selected columns are sensitive. Switch **Sensitive Data Indicator (SDI) Flag** to **YES** to mark the columns as sensitive.
Sensitive Data Indicator (SDI) Classification	Specifies the SDI classification of the selected columns. For example, PHI. This list is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to **YES**. For more information on configuring SDI classifications, refer to the Configuring Sensitivity Classifications topic.
Sensitive Data Indicator (SDI) Description	Specifies the description of the SDI classification. For example: Protected Health Information. It is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to **YES**. The field autopopulates based on the SDI classification.

Field Name	Description
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.

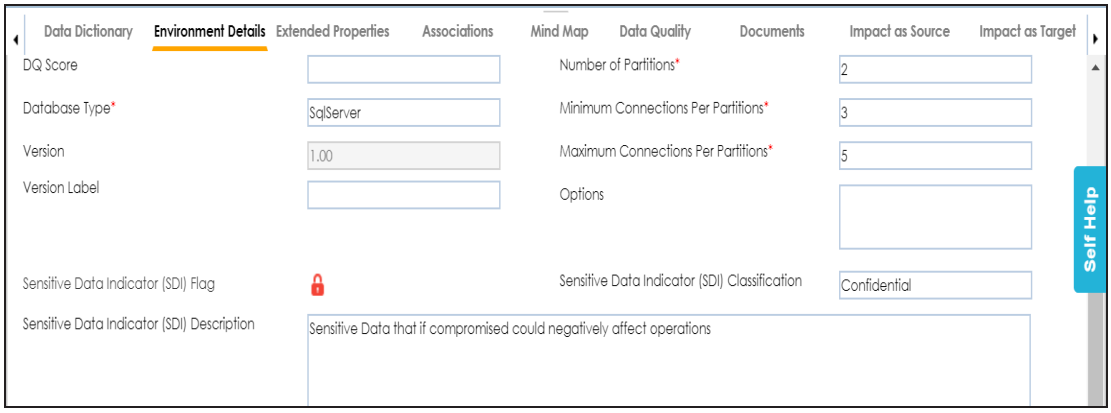
Individual Asset Update

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:

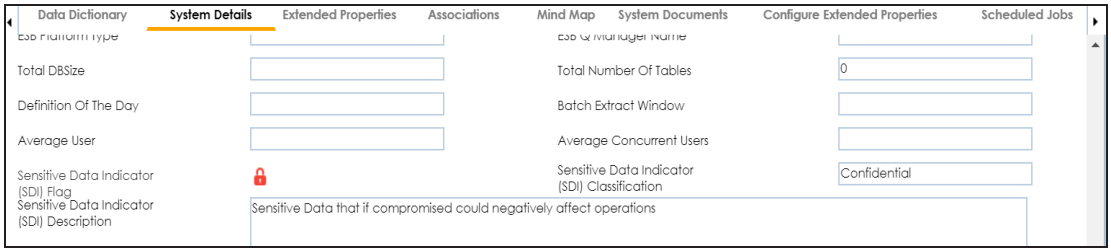
- **Table and Column:**
  In the Data Dictionary tab, you can click <Column_Name> and <Table_Name> to view and edit the sensitivity of the column and table respectively.
- **Environment:**
  Sensitivity of an environment can be viewed under the Environment Details tab. You

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.



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.

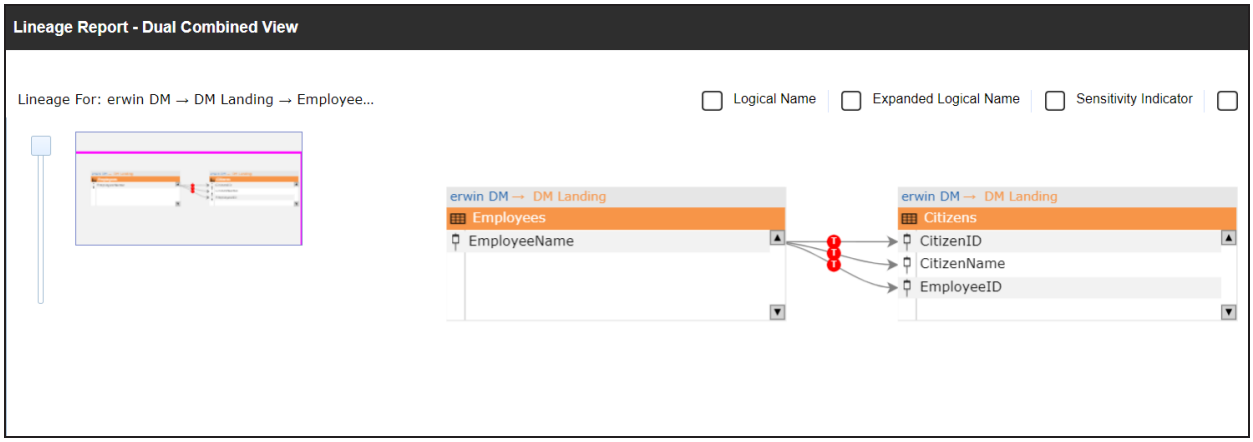
To update sensitivity of columns in lineage reports, follow these steps:

1. In the **System Catalogue** pane, click an environment.

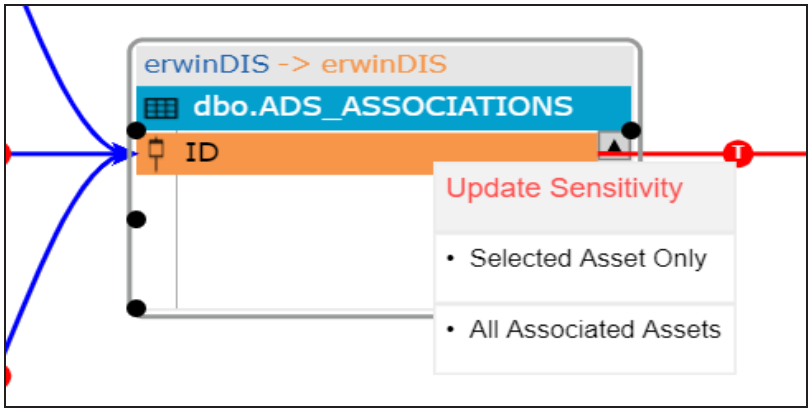
   By default, the Data Dictionary tab opens.

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

   The Lineage Report - Dual Combined View page appears.



3. In the lineage report, 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) Flag	Specifies whether the selected columns are sensitive. Switch **Sensitive Data Indicator (SDI) Flag** to **YES** to mark the selected assets as sensitive.
Sensitive Data Indicator (SDI) Classification	Specifies the SDI classification of the selected columns. For example, PHI. This list is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to **YES**. For more information on configuring SDI classifications, refer to the Configuring Sensitivity Classifications topic.
Sensitive Data Indicator (SDI) Description	Specifies the description of the SDI classification. For example: Protected Health Information.

Field Name	Description
	It is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to **YES**. The field autopopulates based on the SDI classification.
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.
Update Sensitivity For	Specifies whether the sensitivity is applicable to: ▪ System(s): Switch **System(s)** to **Yes** to apply sensitivity to all the systems containing the columns. ▪ Environment(s): Switch **Environment(s)** to **YES** to apply sensitivity to all the environments containing the columns. ▪ Table(s): Switch **Table(s)** to **YES** to apply sensitivity to the tables containing the columns.

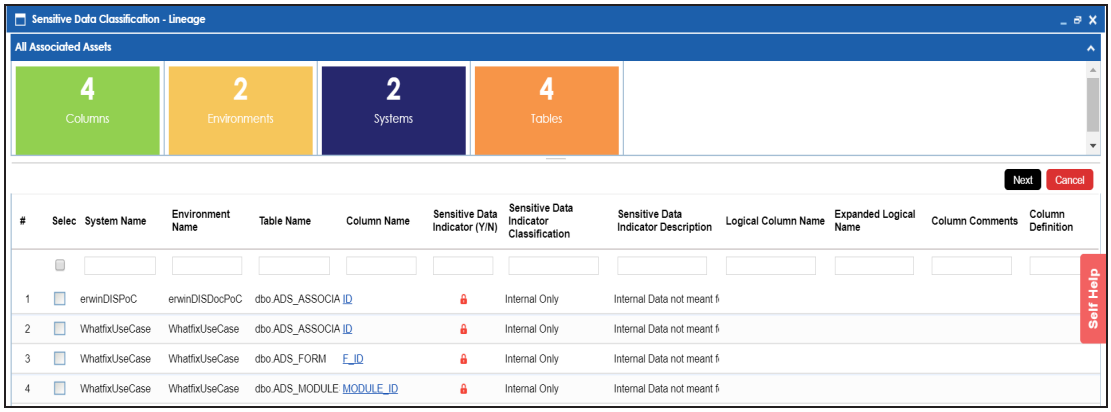
5. Click **Update**.

   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**.

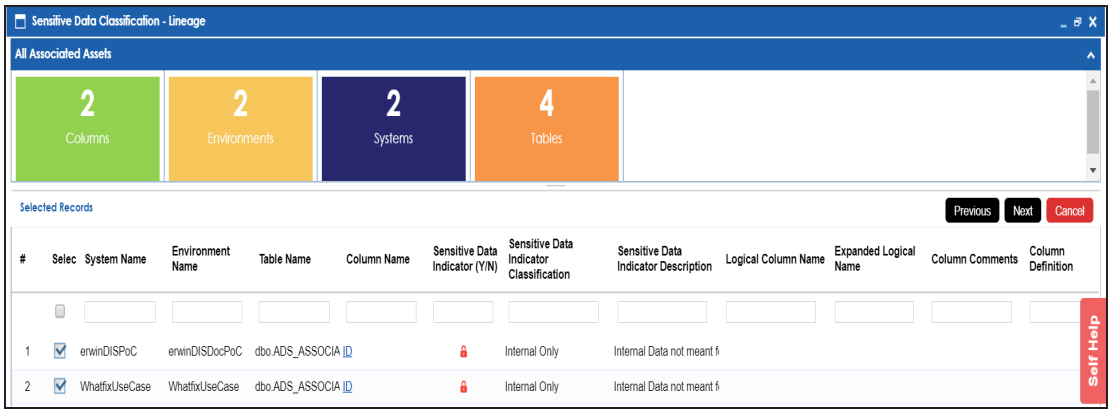
   The Sensitive Data Classification - Lineage page appears.



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

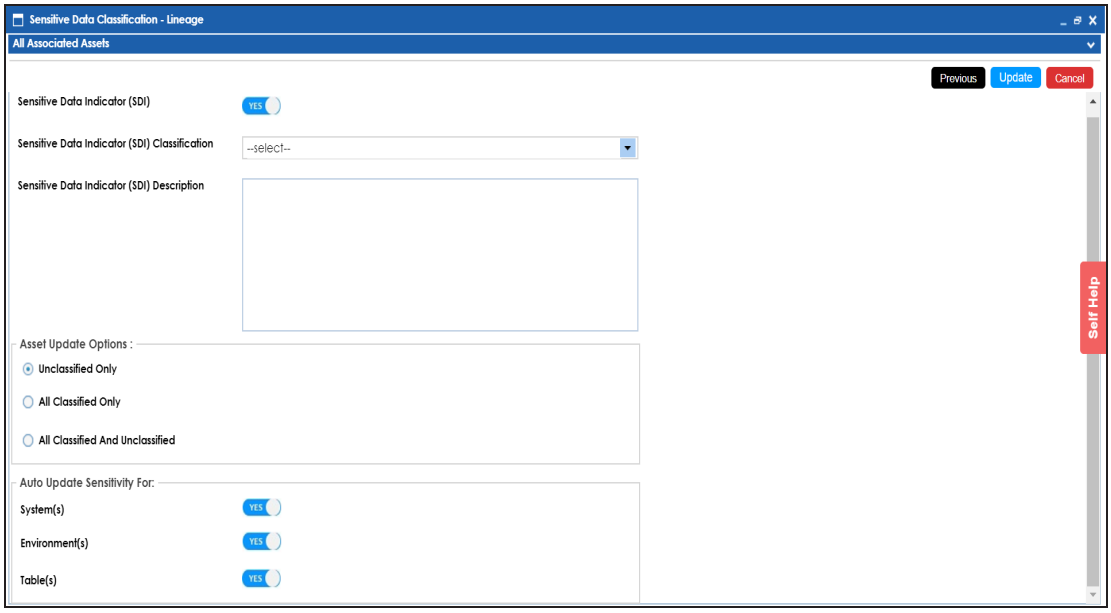
   You can filter the rows using the filter box.

   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.

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.

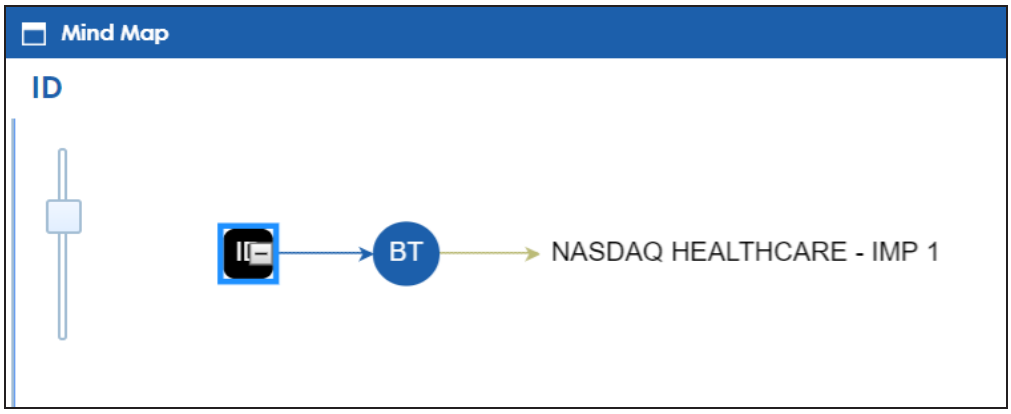
To update sensitivity of assets individually through mind maps, follow these steps:

1. In the **System Catalogue** pane, click an environment.

   By default, the Data Dictionary tab opens.

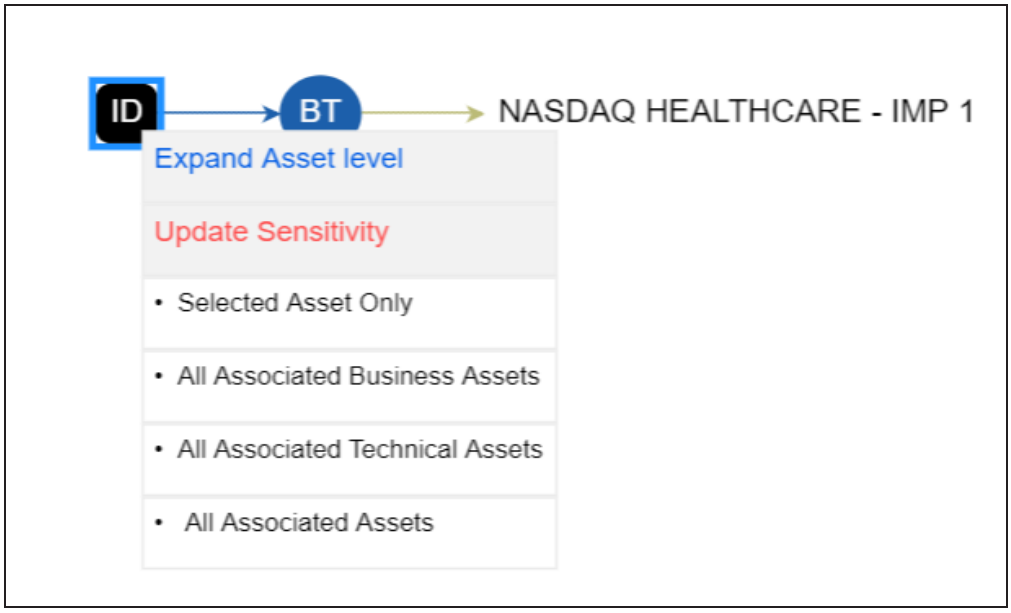
2. On the **Data Dictionary** tab, click for the required column.

   The Mind Map page appears.



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

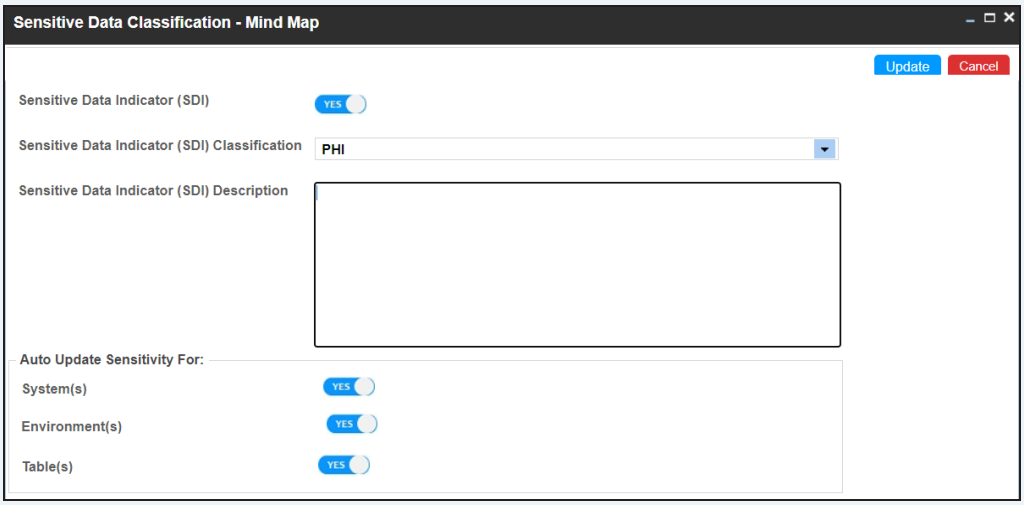
The options available for the asset appear.



4. Click **Selected Asset Only**.

   The Sensitive Data Classification - Mind Map 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) Flag	Specifies whether the selected asset is sensitive. Switch **Sensitive Data Indicator (SDI) Flag** to **YES** to mark the selected asset as sensitive.
Sensitive Data Indicator (SDI) Classification	Specifies the SDI classification of the selected asset. For example, PHI. This list is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to **YES**. For more information on configuring SDI classifications, refer to the Configuring Sensitivity Classifications topic.
Sensitive Data Indicator (SDI) Description	Specifies the description of the SDI classification. For example: Protected Health Information. It is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to **YES**. The field autopopulates based on the SDI classification.
Auto Update Sensitivity For	Specifies whether sensitivity is applicable to: ▪ System(s): Switch **System(s)** to **Yes** to apply sensitivity to all the systems containing the assets. ▪ Environment(s): Switch **Environment(s)** to **YES** to apply sensitivity to all the environments containing the assets. ▪ Table(s): Switch **Table(s)** to **YES** 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.

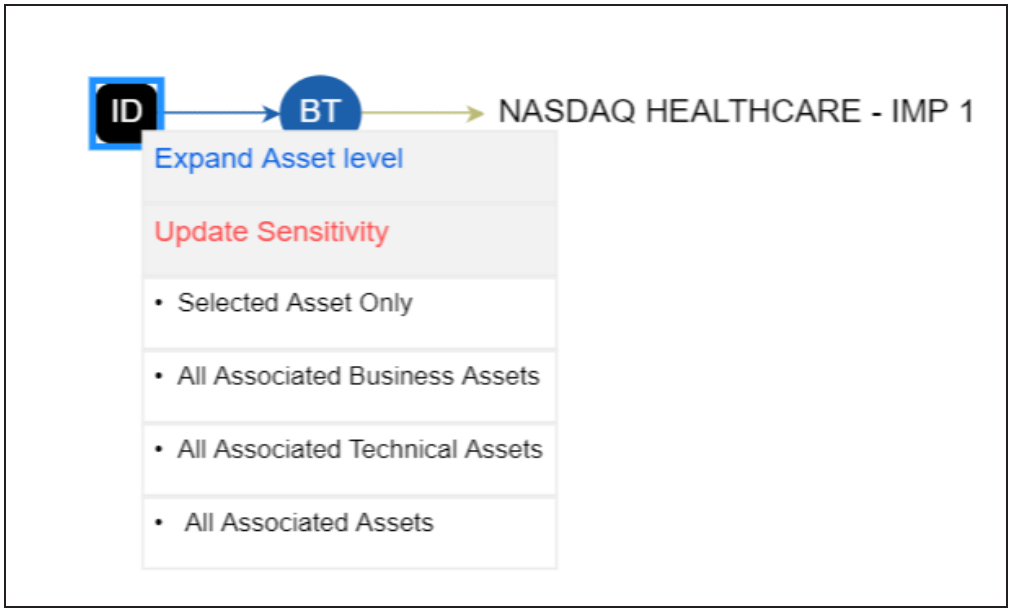
Associated Assets

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.

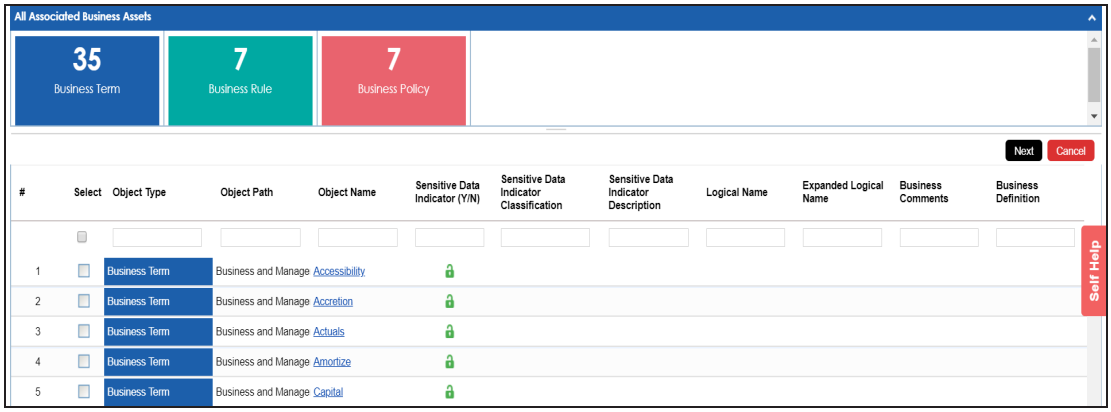
   The options available for the asset appear.



2. Click any one of the following:

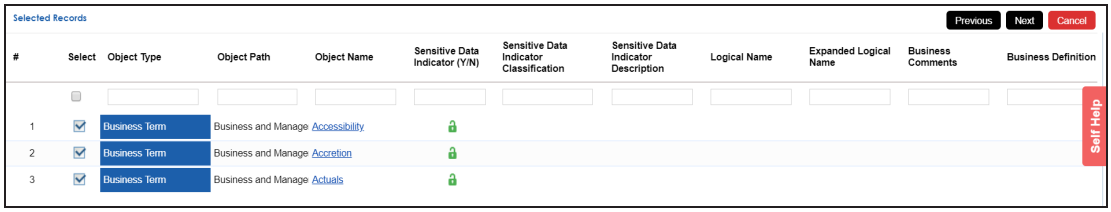
   - **All Associated Business Assets**:
     Click this option to update sensitivity of associated business assets.
   - **All Associated Technical Assets**:
     Click this option to update sensitivity of associated technical assets.
   - **All Associated Assets**:
     Click this option to update sensitivity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

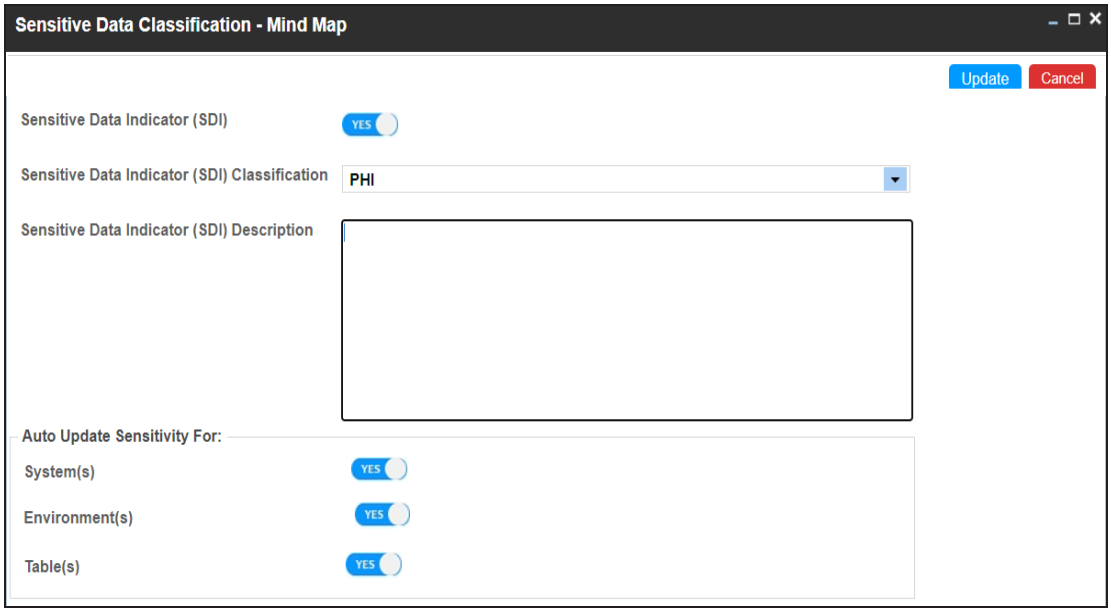
   The Selected Records page appears. You can verify the selected assets and clear the check box if required.



4. Click **Next**.

   The following page appears.

> The Auto 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 table above for field descriptions.
6. Click **Update**.

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

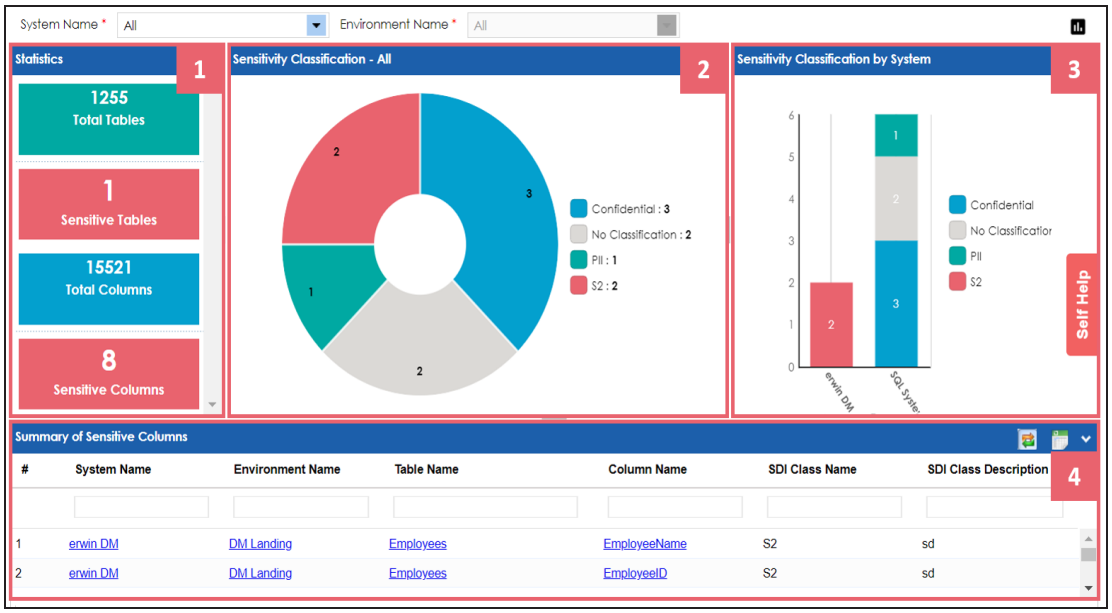
Viewing Sensitive Data Dashboard

Sensitive data dashboard is the primary window to gain insights about distribution of sensitive columns across systems and environments. The dashboard helps to rediscover sensitive columns with their Sensitive Data Indicator (SDI) classifications. It displays sensitive data in several formats including a statistics board, pie chart, bar graph, and summary grid.

To access sensitive data dashboard, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click **Sensitive Data**.

   The sensitive data dashboard appears.



UI Section	Function
1-Statistics Board	It displays total number of tables, columns, sensitive tables, and sensitive columns.
2-Pie Chart	It displays distribution of sensitive columns based on SDI classifications across all the systems.
3-Bar Graph	It displays number of sensitive columns and their SDI classifications in

UI Section	Function
	each system.
4-Summary Grid	It displays list of all the sensitive columns with their SDI classifications.

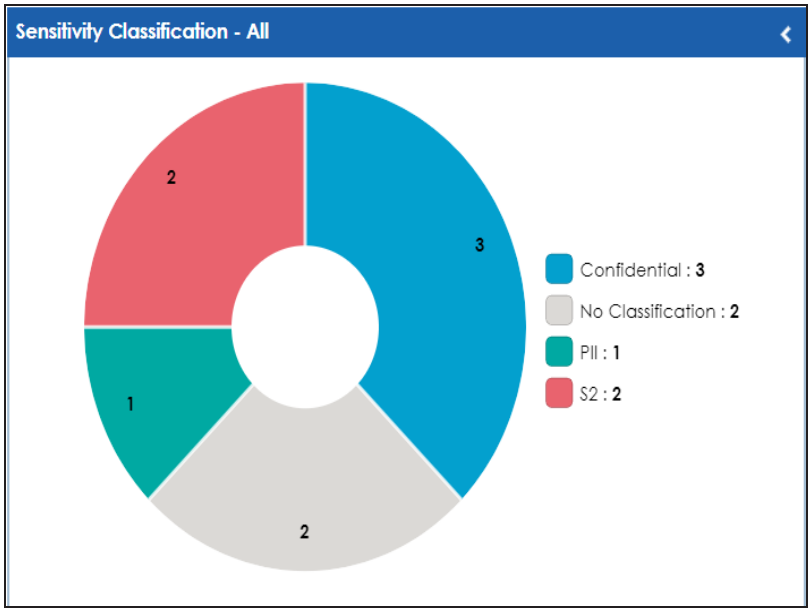
Statistics Board

By default, It shows number of sensitive tables and columns across all the systems. For example, in the following image there is one sensitive table and eight sensitive columns across all the systems.

You can use System Name to view number of sensitive columns and tables in a system. If a system has multiple environments, then use Environment Name to view number of sensitive columns and tables in an environment.

Pie Chart

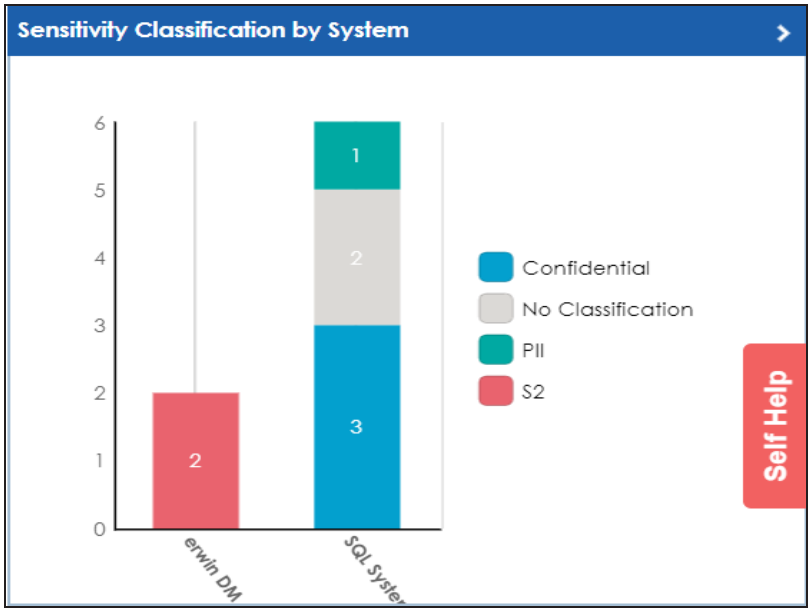
By default, it displays distribution of sensitive columns based on SDI classifications across all the systems. For example, the following image displays a pie chart, in which three columns are classified as Confidential, two columns as No Classification, one column as PII, and two columns as S2.



You can use System Name to view distribution of sensitive columns based on SDI classifications in a system. If a system has multiple environments, then use Environment Name to view distribution of sensitive columns based on SDI classifications in an environment.

Bar Graph

By default, it displays the number of sensitive columns and their SDI classifications in each system. For example, the following image displays a bar graph where, the number of sensitive columns and their SDI classifications is shown in the two systems, erwin DM and SQL System.



You can use System Name to view distribution of sensitive columns based on SDI classifications by environments in a system. If a system has multiple environments, then you can use Environment Name to view distribution of sensitive columns based on SDI classifications in an environment.

Summary Grid

By default, it displays a list of all the sensitive columns with their SDI classifications across all the systems. You can click the required <System Name>, <Environment Name>, <Table Name>, or <Column Name> in the grid to view their details.

For example, the following image displays all the sensitive columns across all the systems in the grid.

Summary of Sensitive Columns

#	System Name	Environment Name	Table Name	Column Name	SDI Class Name	SDI Class Description
1	erwin DM	DM Landing	Employees	EmployeeName	S2	sd
2	erwin DM	DM Landing	Employees	EmployeeID	S2	sd
3	SQL System	Northwind	dbo.Categories	CategoryID	Confidential	Confidential
4	SQL System	SQL Env	dbo.DimAccount	Operator	Confidential	Confidential

Records from 1 to 8 Page 1 25 rows per page

You can use System Name and Environment Name to filter the sensitive columns in the grid. You can also click the pie chart and bar graph to display relevant sensitive columns in the grid.

Use **System Name** and **Environment Name** to filter the statistics and summary of the sensitive columns.

You can also click on pie chart and bar graph to filter summary of the sensitive columns.

Use the following options to work on the Summary of Sensitive Columns grid.

Filtering Rows

Use this option to filter the required rows by entering the required text in one of the five filters.

Reset ()

Use this option to reset the Summary of Sensitive Columns grid.

Export to excel ()

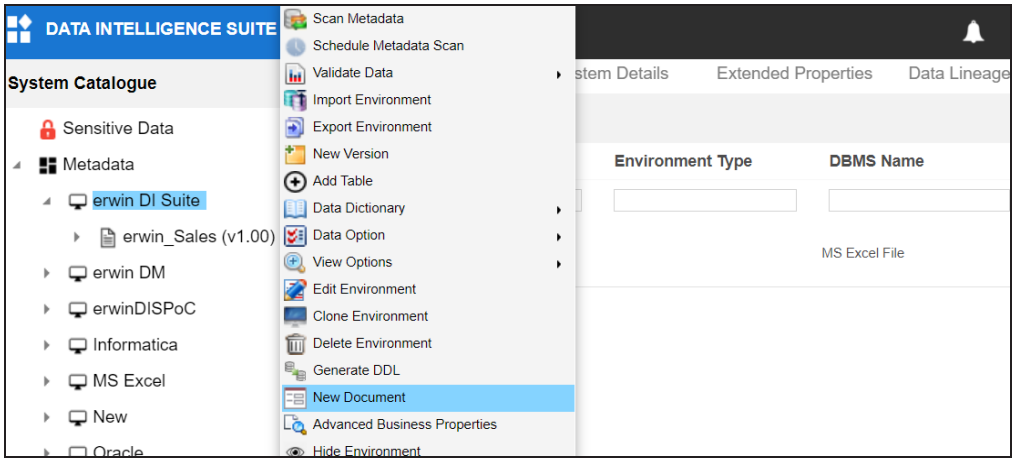
Use this option to download the required summary of the sensitive columns.

Adding Documents

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

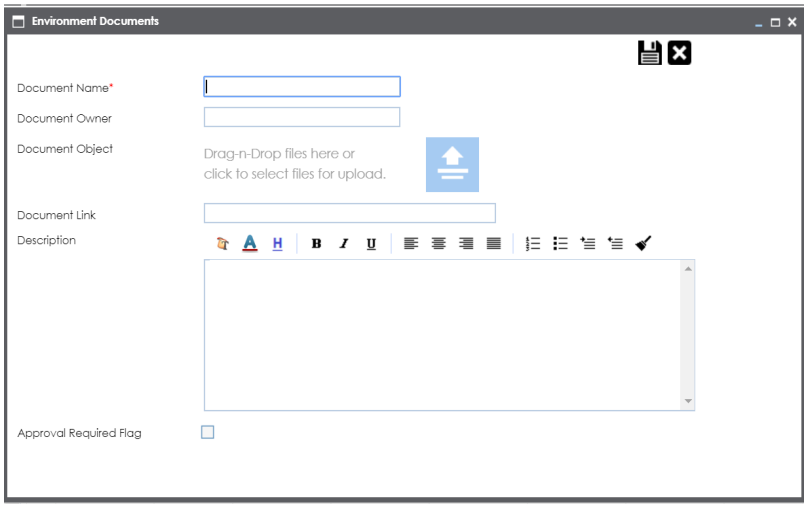
To add documents to environments, follow these steps:

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



3. Click **New document**.

   The Environment Documents page appears.



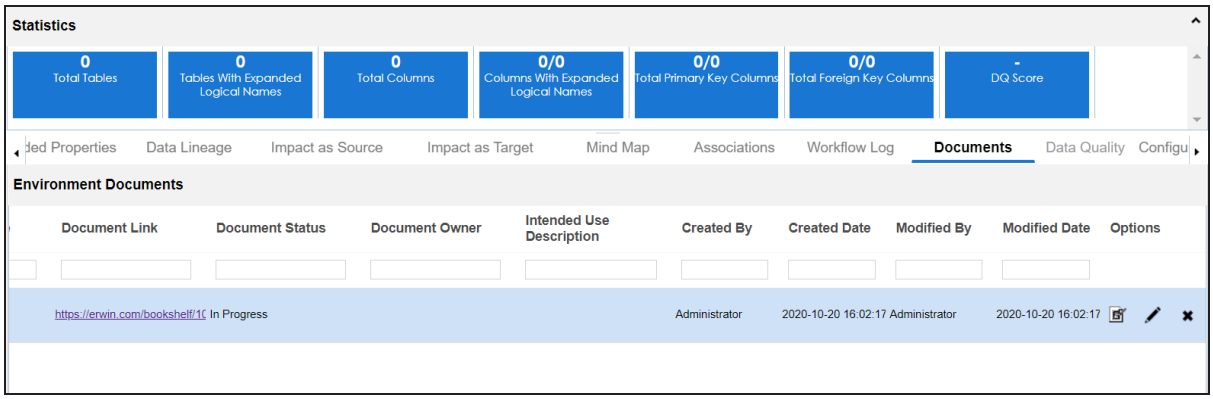
4. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Document Name	Specifies the name of the physical document being attached to the 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 document status.

Field Name	Description
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 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 ( )

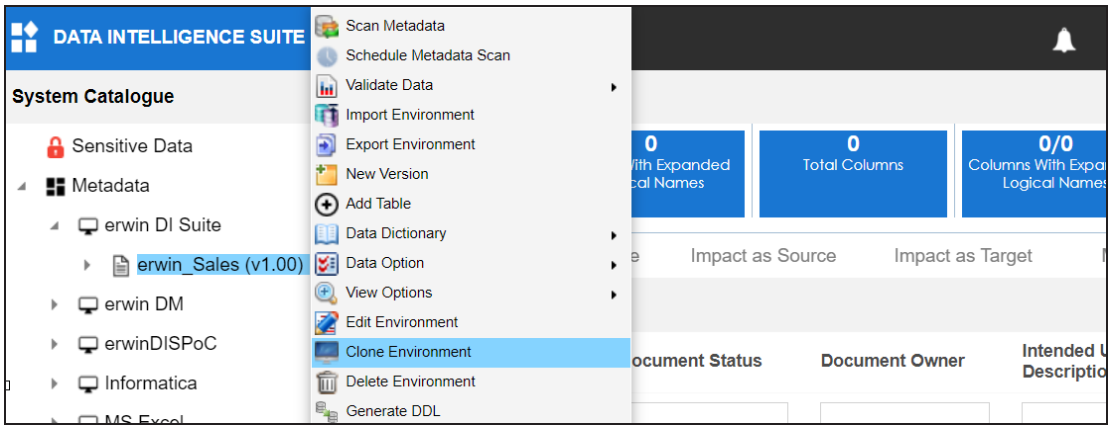
Use this option to delete the document that is not required.

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.

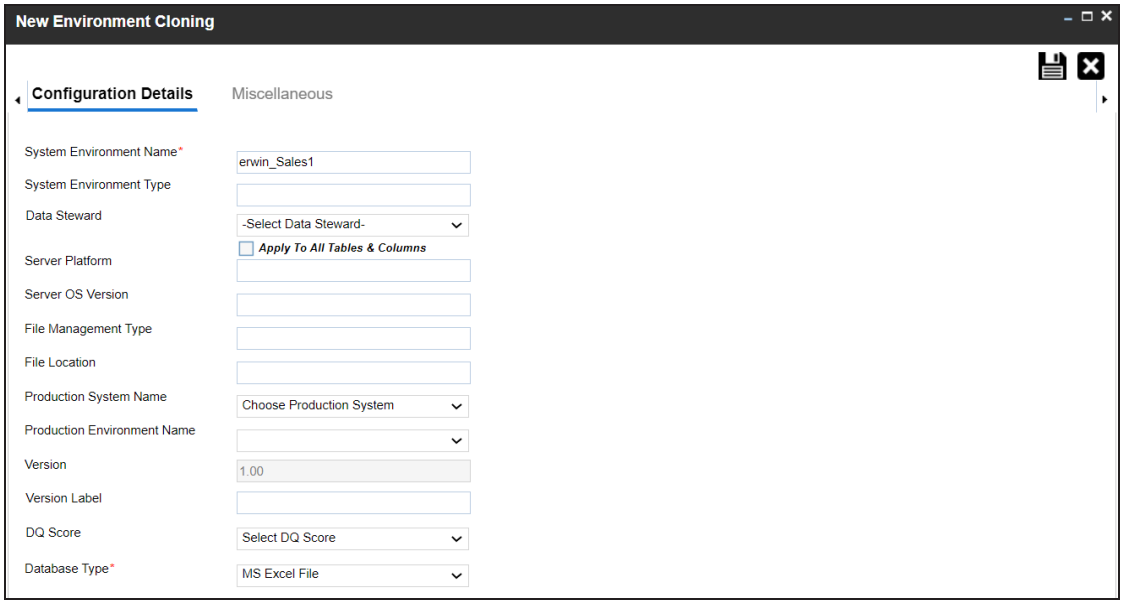
To clone environments, follow these steps:

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



3. Click **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
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.
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.
Server Platform	Specifies the server platform of the environment.

Field Name	Description
	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.
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.
DQ Score	Specifies the overall data quality score of the environment. For example, High (7-8). For more information on configuring DQ scores, refer to the Configuring Data Profiling and DQ Scores topic.
Database Type	Specifies the database type. For example, Sql Server. Select the type of database from where you wish to scan metadata. Depending upon your choice of database type you need to provide additional fields (connection parameters) appearing on the right hand side. There are no additional fields for MS Excel File, and XSD.

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:

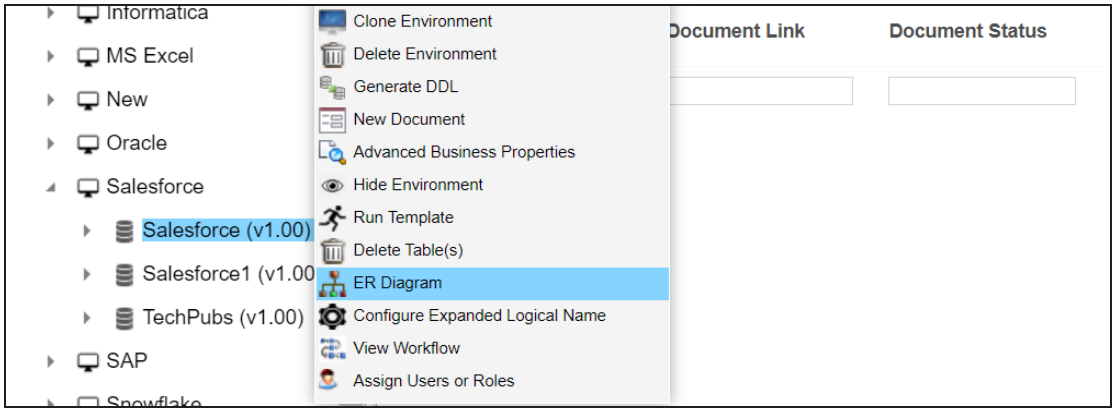
- SQL Server - via SQL or Window authentication mode
- Oracle and Oracle RAC
- MySQL
- Snowflake
- MS Dynamics CRM
- SAP ECC R/3 and IS-U Metadata via JCO Driver

Viewing ER Diagram

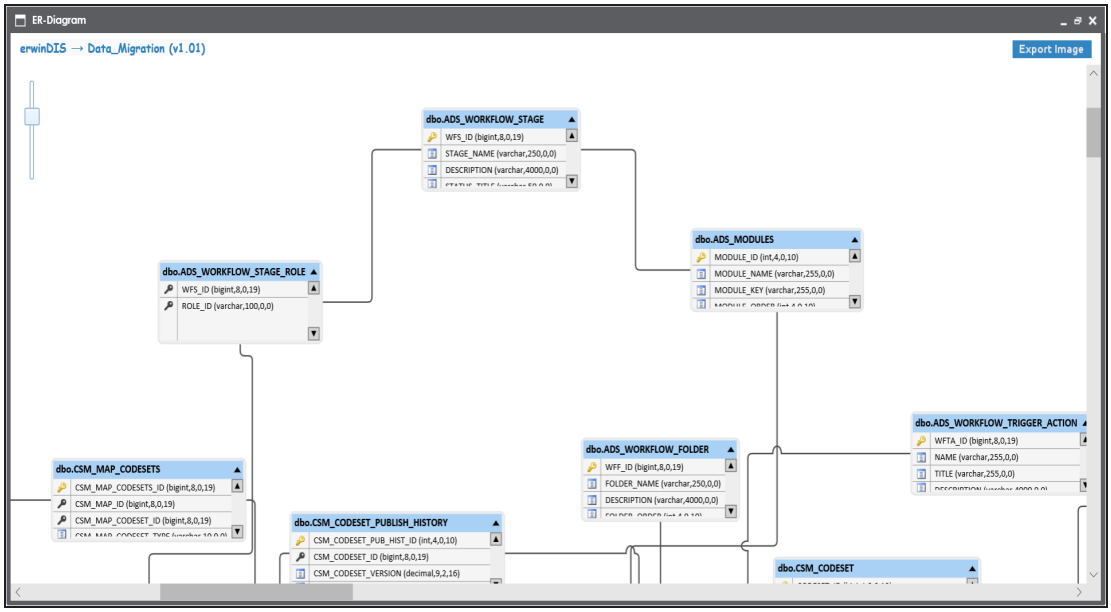
You can view Entity Relationship (ER) diagram after scanning or importing metadata in an environment. You can view ER diagrams at environment level and export it in the JPG format.

To view entity relationship diagram, follow these steps:

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



3. Click **ER Diagram**.



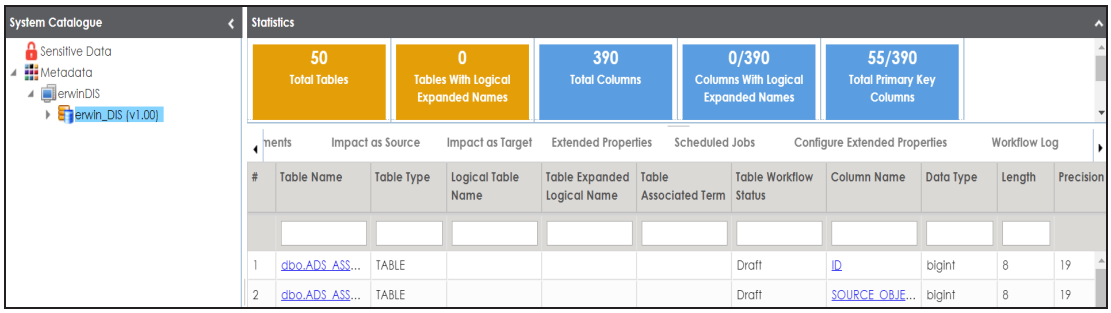
You can download the ER diagram. To download the ER diagram, click **Export Image**.

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.

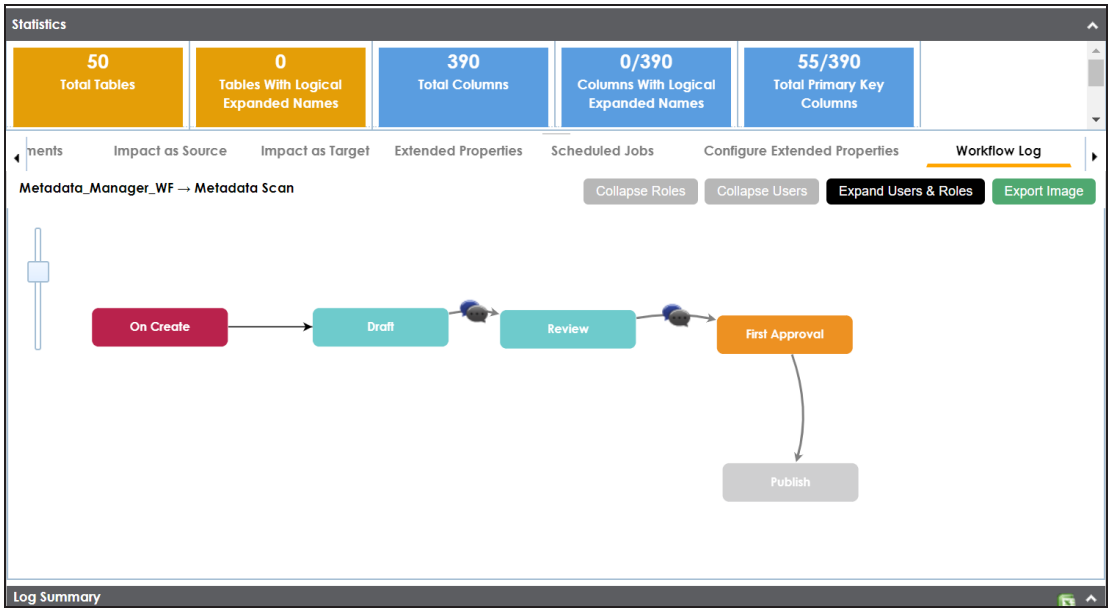
To view workflow logs of environments, follow these steps:

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



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

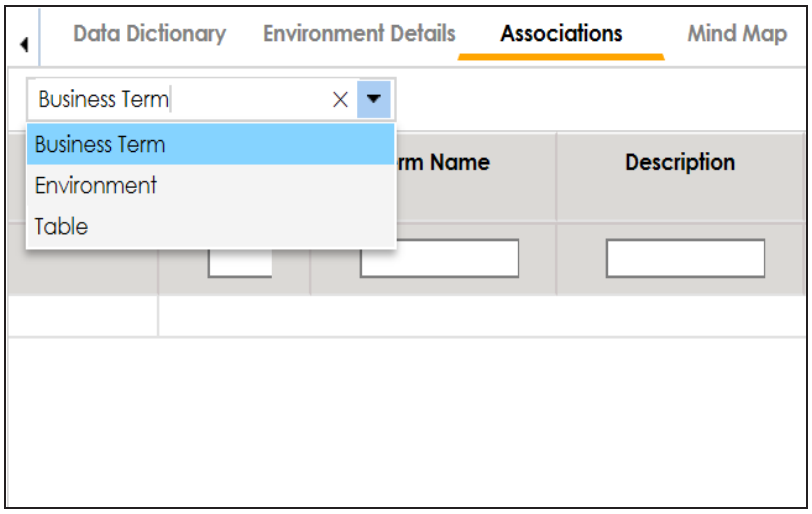
You can associate environments with business assets, systems, environments, tables, and columns. You can also view mind map and association statistics.

Ensure that:

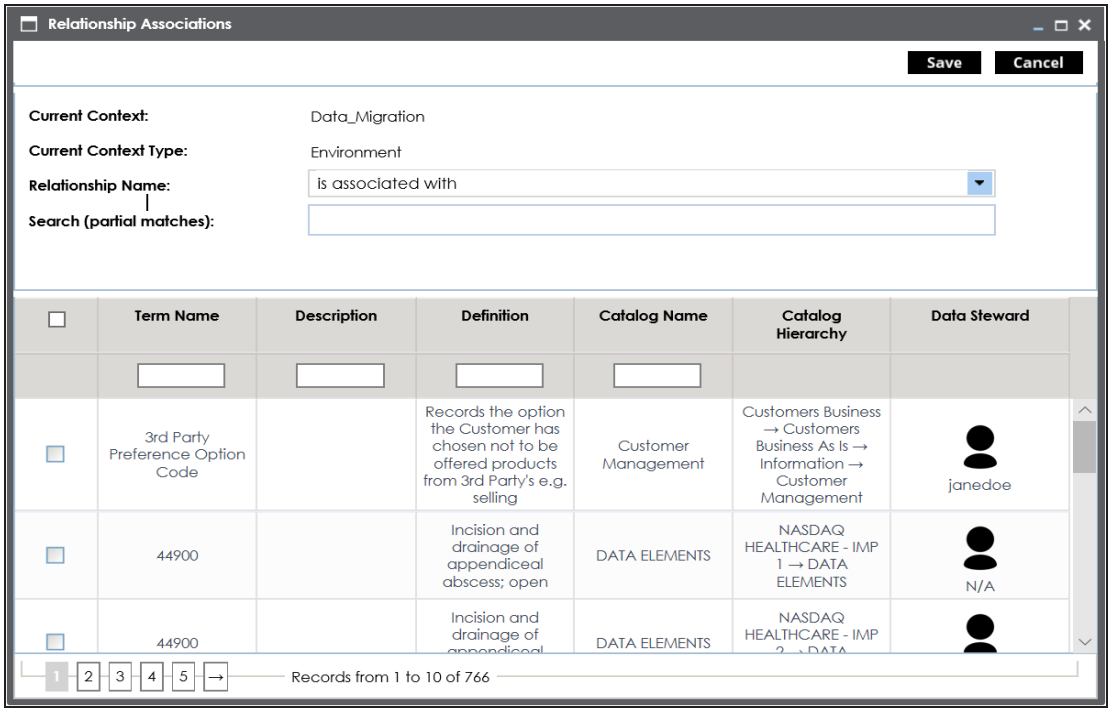
- Business assets are enabled. You can add new business assets and enable them in Business Glossary Manager Settings.
- Relationship between environment and the asset type is defined. You can define associations and relationships in Business Glossary Manager Settings.

To associate environments with asset types, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click an environment.
3. Click the **Associations** tab.
4. Select an asset type from the drop down.

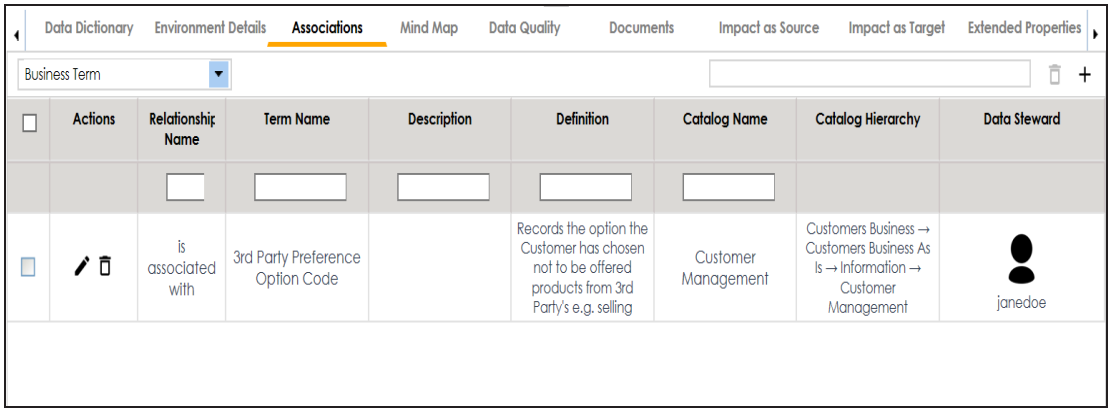


5. Click +.



6. Select **Relationship Name**, and the asset.
7. Click **Save**.

   The asset is added to the environment.



Use the following options under the **Actions** column:

Edit Association ( )

Use this option to edit the association.

Delete Association ()

Use this option to delete the association.

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

Configuring Business Properties

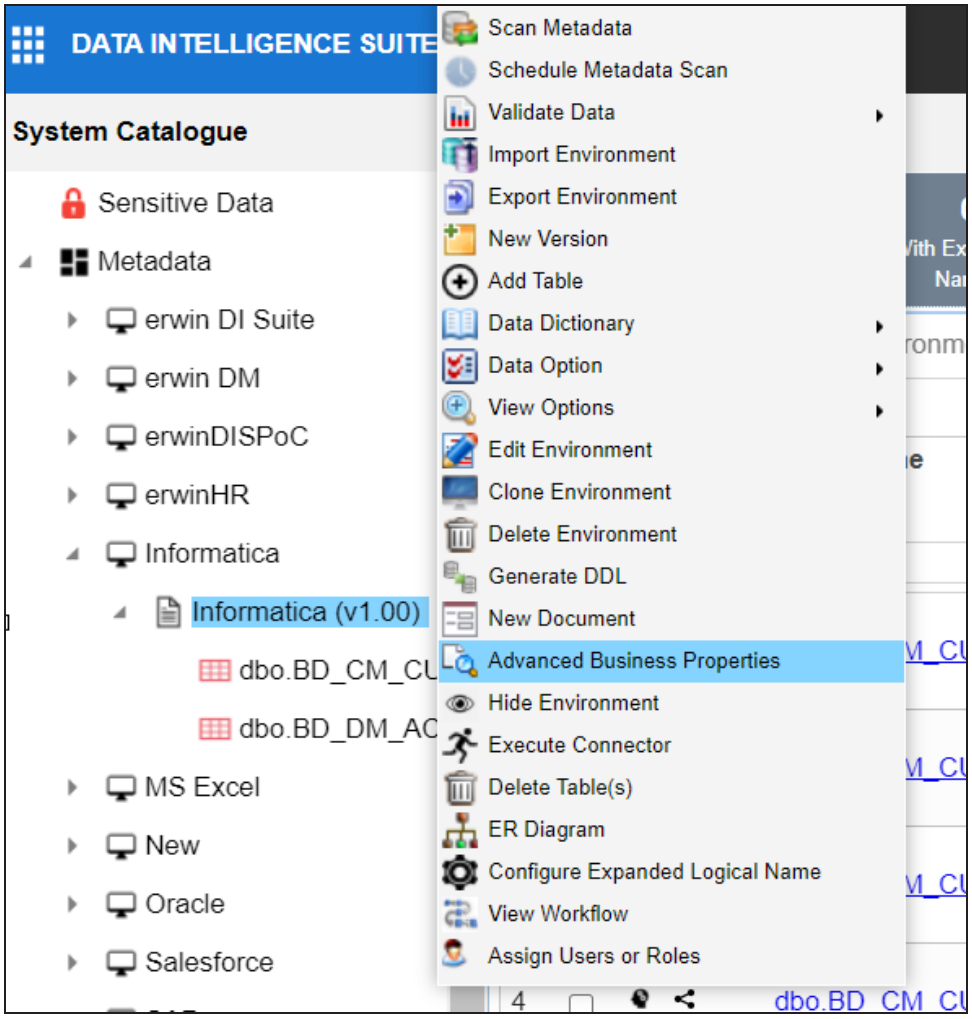
You can configure business properties of all the tables and columns under an environment.

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.

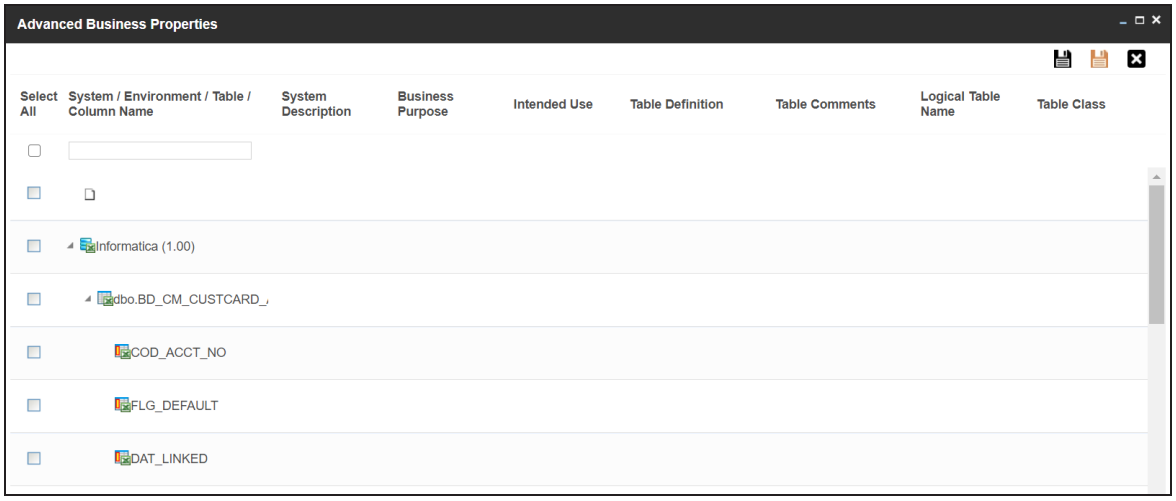
To configure business properties at environment level, follow these steps:

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



3. Click **Advanced Business Properties**.

   The Advanced Business Properties page appears.

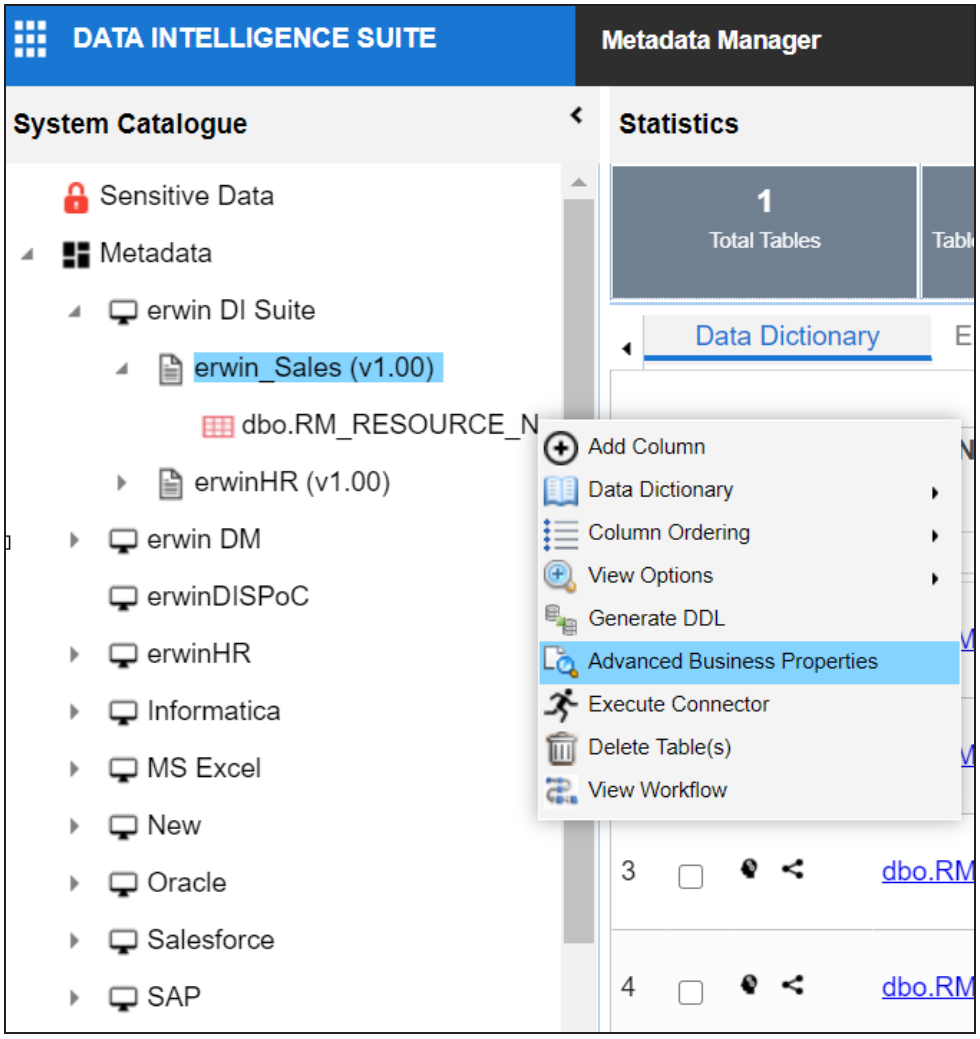


4. Double-click cells to enter business properties of tables and columns.
5. Click  to apply changes.
6. Click  .

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

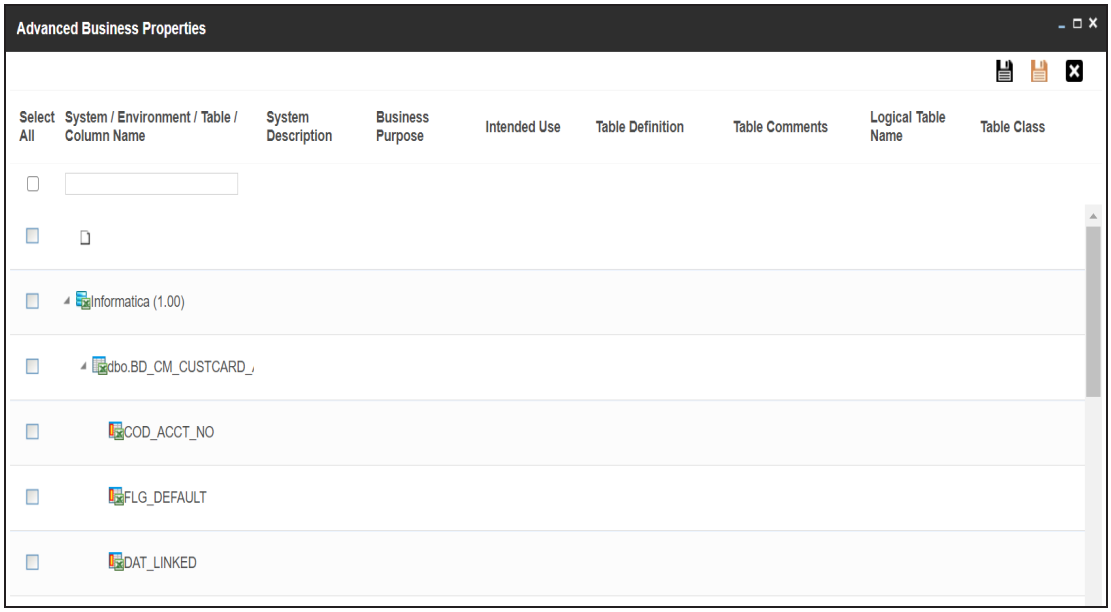
To configure business properties at table level, follow these steps:

1. Under the **System Catalogue** pane, right-click a table.



2. Click **Advanced Business Properties**.

   The Advanced Business Properties page appears.



3. Double-click cells to enter table and column properties.
4. Click  to apply changes.
5. 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 is applied to all the tables and columns under the system. This includes all the environments under the system.
- **Environment level**: The expanded logical name is 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 the business term definition and the part after the underscore, ID will be retained in the expanded logical name.

Entity	Value	Comment
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.

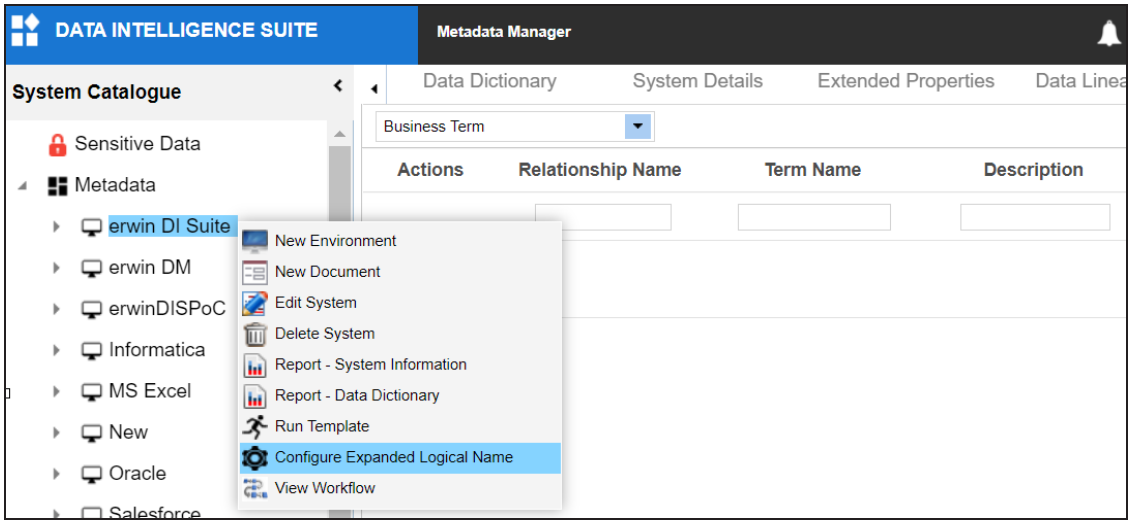
After the job runs successfully, the expanded logical name of the table and column is updated as mentioned in the following table:

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:

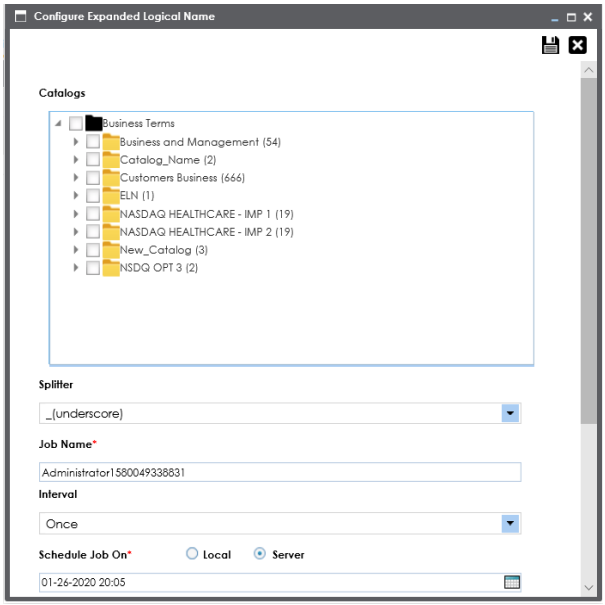
1. In the **System Catalogue** pane, right-click a system or environment.

   The available options appear.



2. Click **Configure Expanded Logical Name**.

   The Configure Expanded Logical Name page appears.

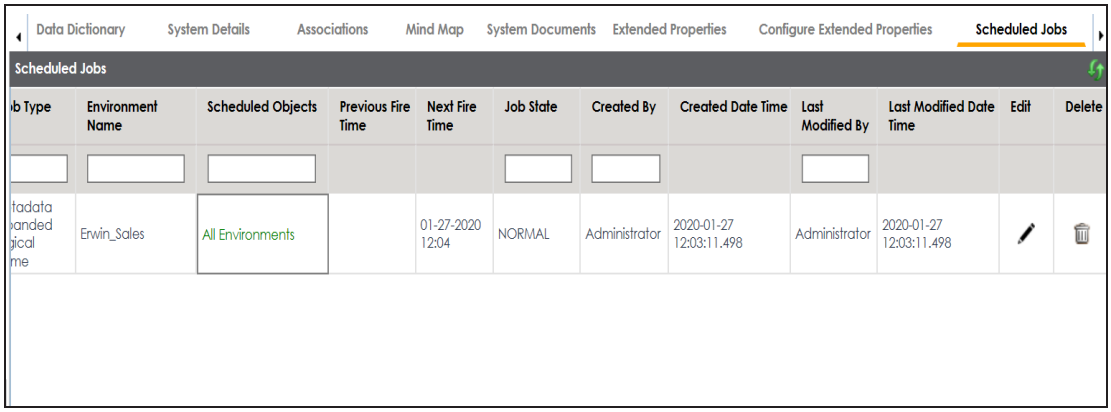


3. Select or enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Catalogs	Select the catalog containing the required business term.
Splitter	Select appropriate splitter based on the table name or column name.
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 erwinDIS has been deployed.
Schedule Job On	Select date and time of the execution of the job.
Notify Me	Turn 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.

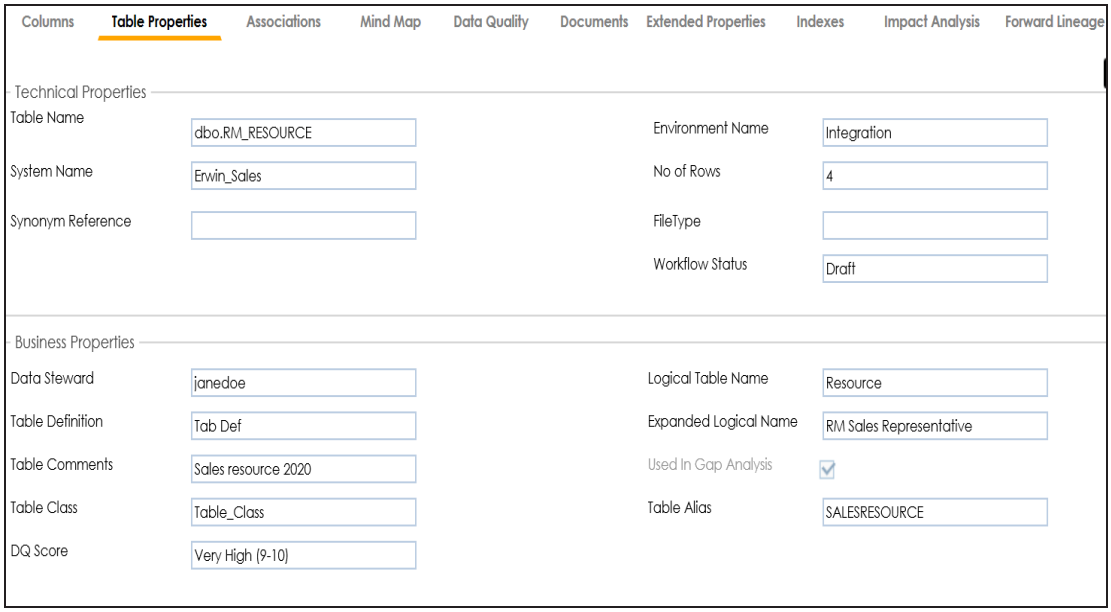
4. Click  .

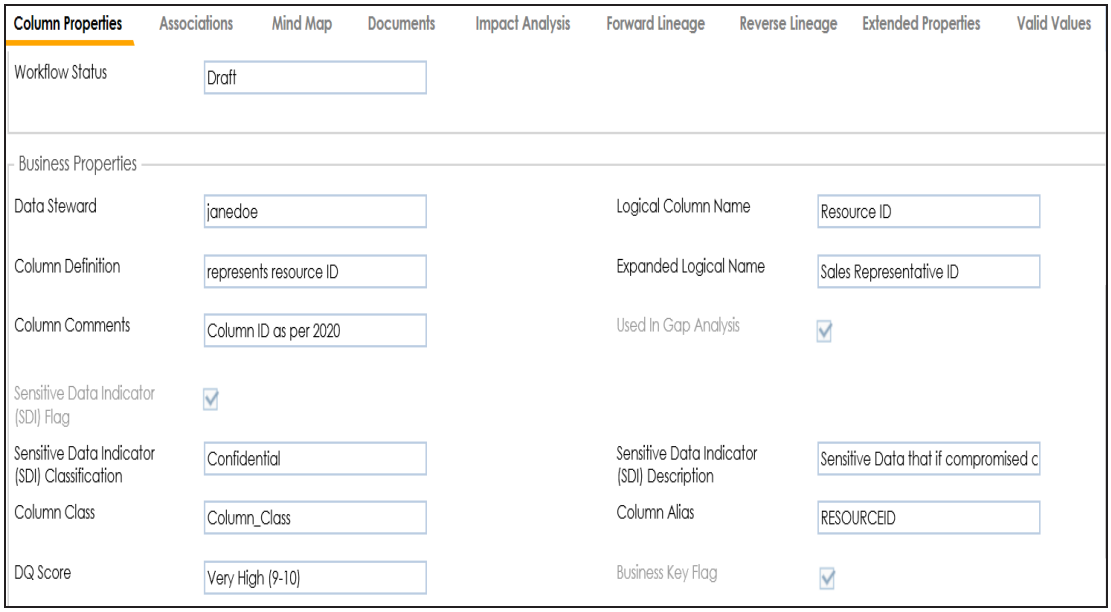
   The job is scheduled and added to the Scheduled Jobs list on the **Scheduled Jobs** tab.



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.





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.

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:

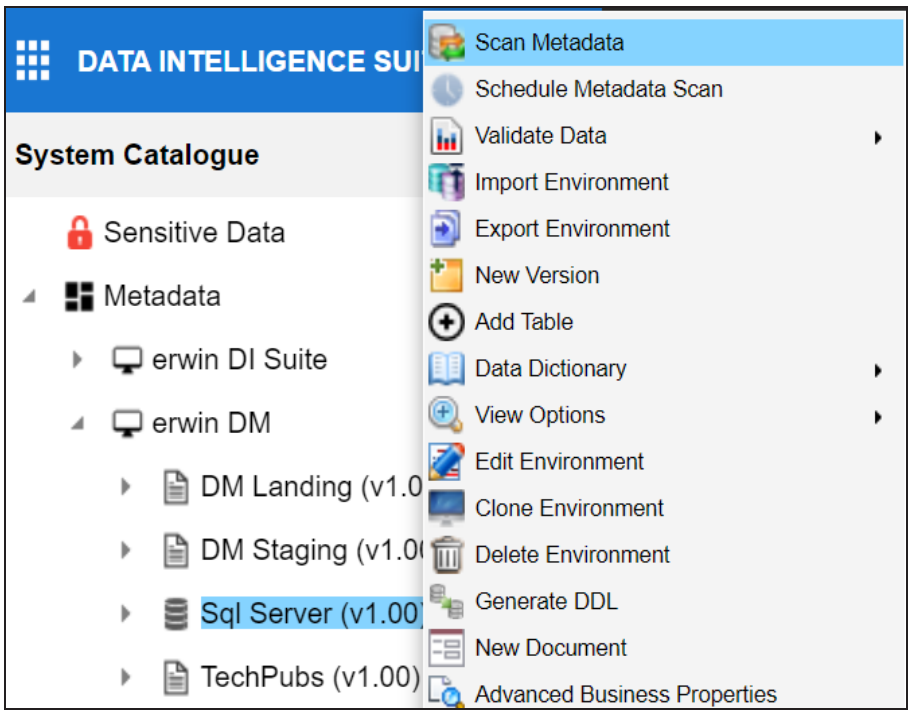
- Scanning metadata from data sources
- Adding tables
- Adding Columns
- Deleting tables and columns
- Scheduling metadata scans
- Updating table properties
- Updating column properties
- Validating data
- Assigning codesets to columns
- Viewing workflow logs of tables
- Viewing workflow logs of columns
- 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 the environment is able to establish connection with the database.

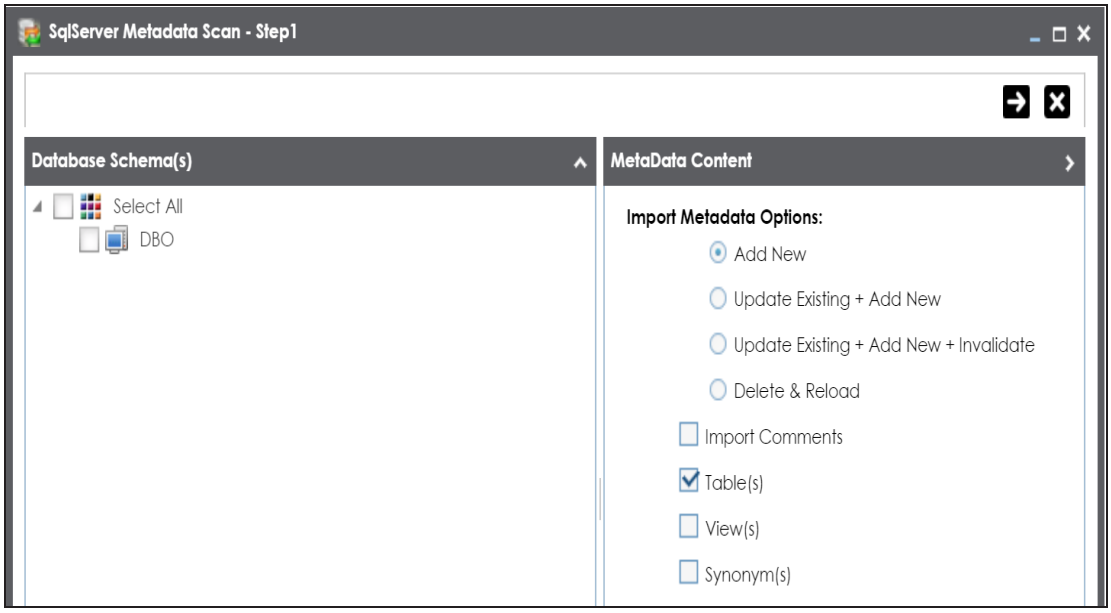
To scan source or target metadata, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, right-click the required environment.



3. 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.



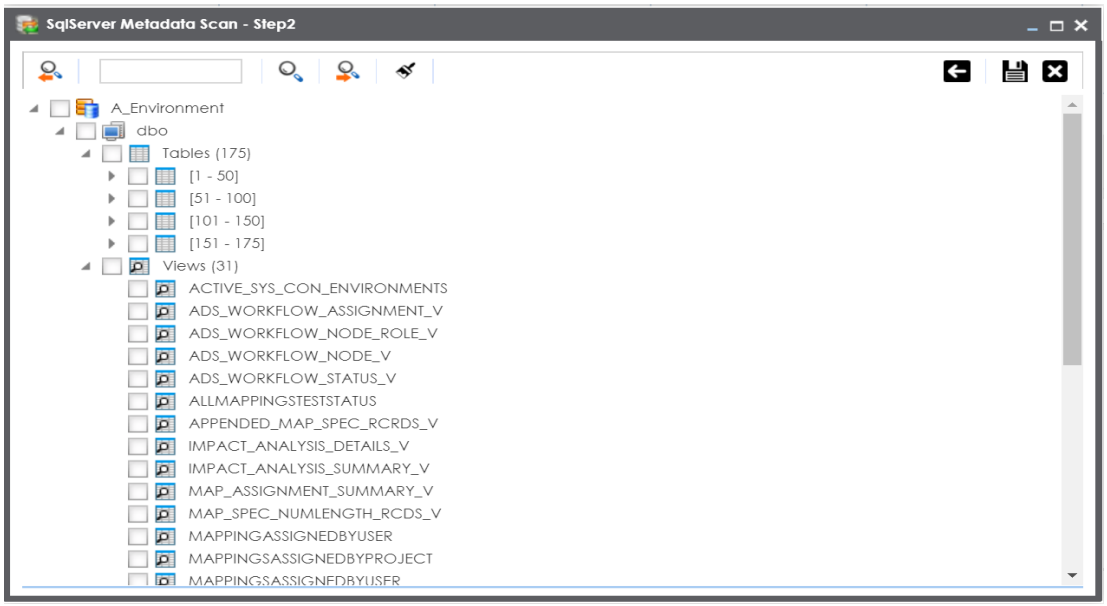
4. In the **Database Schema(s)** pane, select the database schemas.
5. In the **Metadata Content** pane, select the appropriate **Import Metadata Options**.

   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 at the same time the existing metadata is also updated.
Update Existing + Add New + Invalidate	This option adds new objects to the existing list, updates existing and invalidates 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 check box to import comments.
Table(s)	Select the check box to import Tables.
View(s)	Select the check box to import Views.
Synonym(s)	Select the check box to import Synonyms.

6. 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.



7. Select the required objects.
8. Click  .

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

You can also import metadata from:

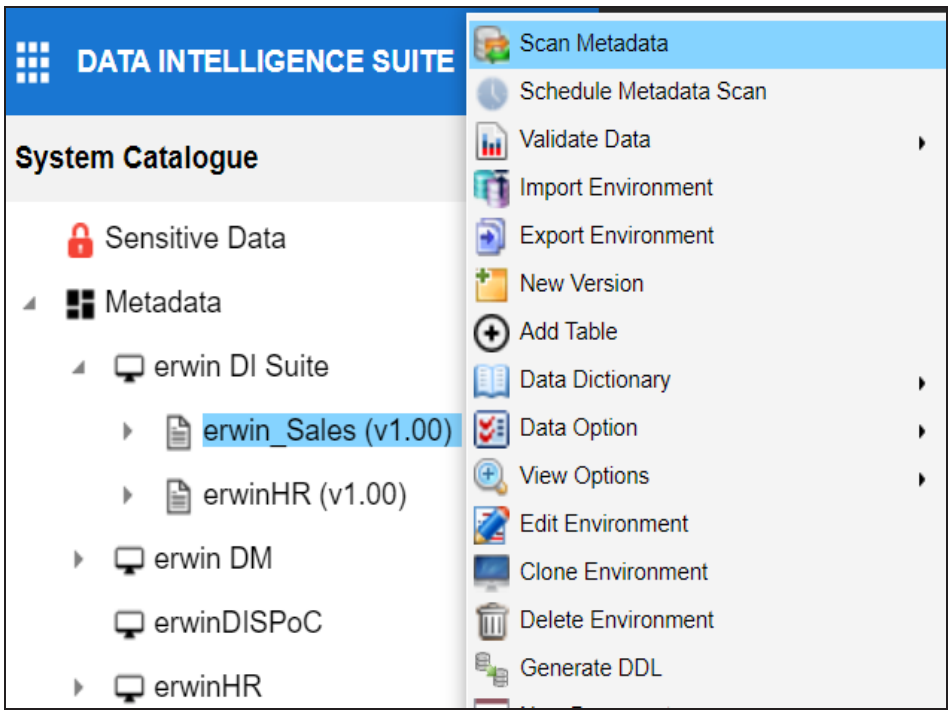
- MS Excel File
- JSON
- CSV (Flat File)
- XMI
- MS Access File
- XSD

MS Excel

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

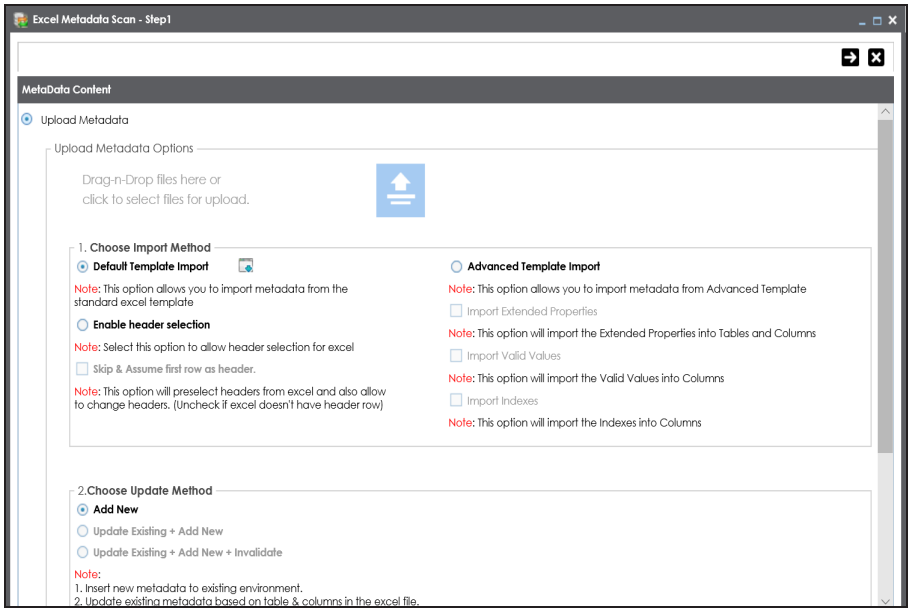
To import metadata from MS Excel files, follow these steps:

1. In the **System Catalogue** pane, right-click an MS Excel environment.



2. Click **Scan Metadata**.

   The Excel Metadata Scan - Step1 page appears.



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

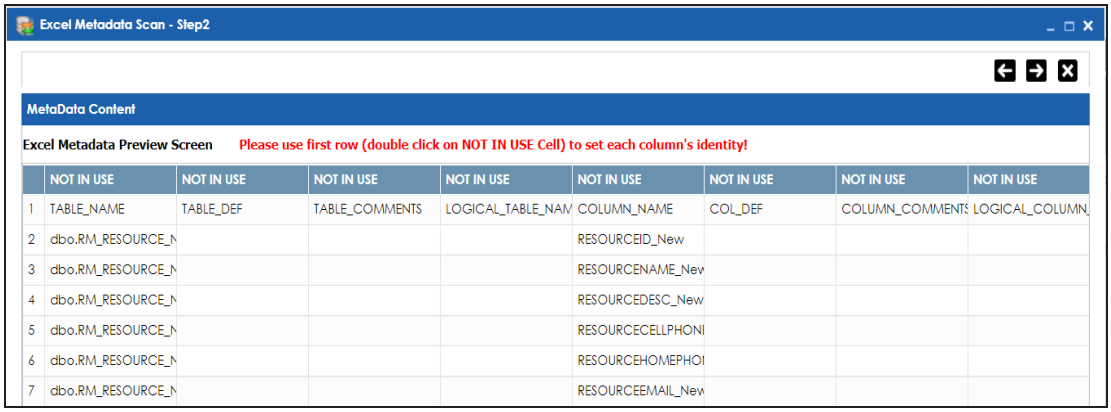
Default Template Import

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.



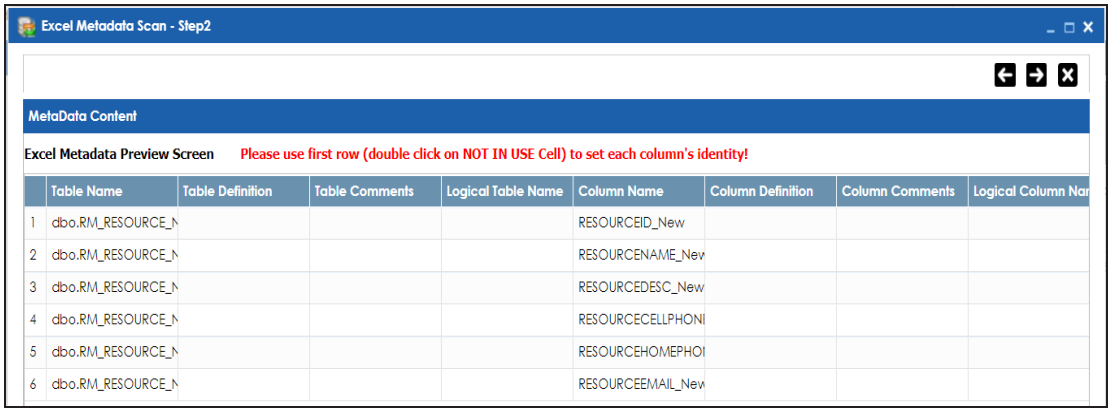
To select headers, on the **Excel Metadata Scan - Step2** page, double-click the **NOT IN USE** cell.

Skip & Assume first row as header

You can use this option only when you click Enable header selection. Use this option 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 advance 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.

5. 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 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.

6. Click  .

The Excel Metadata Scan - Step2 page appears.

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

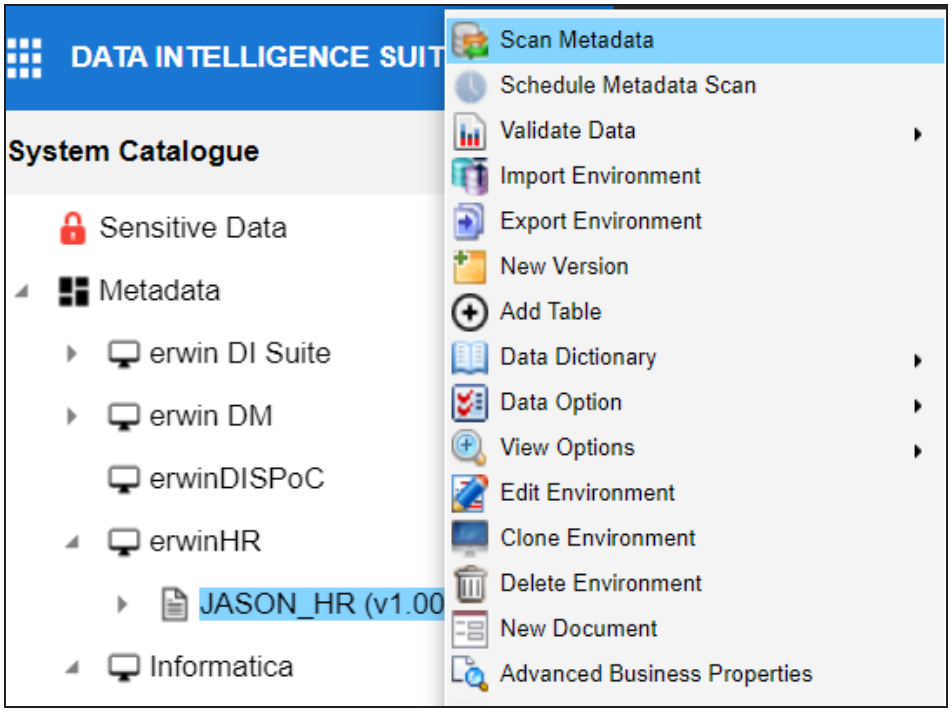
The metadata is imported and saved in the environment.

JSON

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

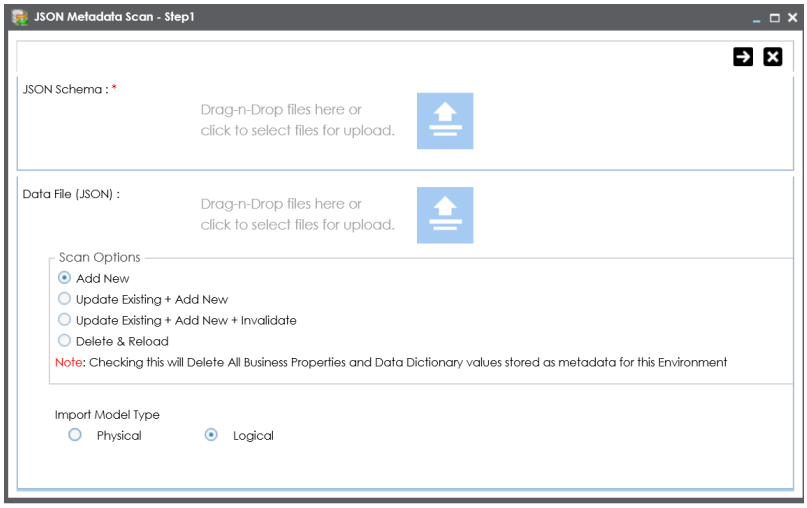
To import metadata from JSON files, follow these steps:

1. In the **System Catalogue** pane, right-click a JSON environment.



2. Click **Scan Metadata**.

   The JSON Metadata Scan - Step1 page appears.



3. Under the **JSON Schema** section, drag and drop or use to browse and select the JSON schema file.
4. Under the **Data File [JSON]** section, drag and drop or use to browse and select the JSON data 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 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.
6. Click the appropriate **Import Model Type**.
7. Click .

The JSON Metadata Scan - Step2 page appears.

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

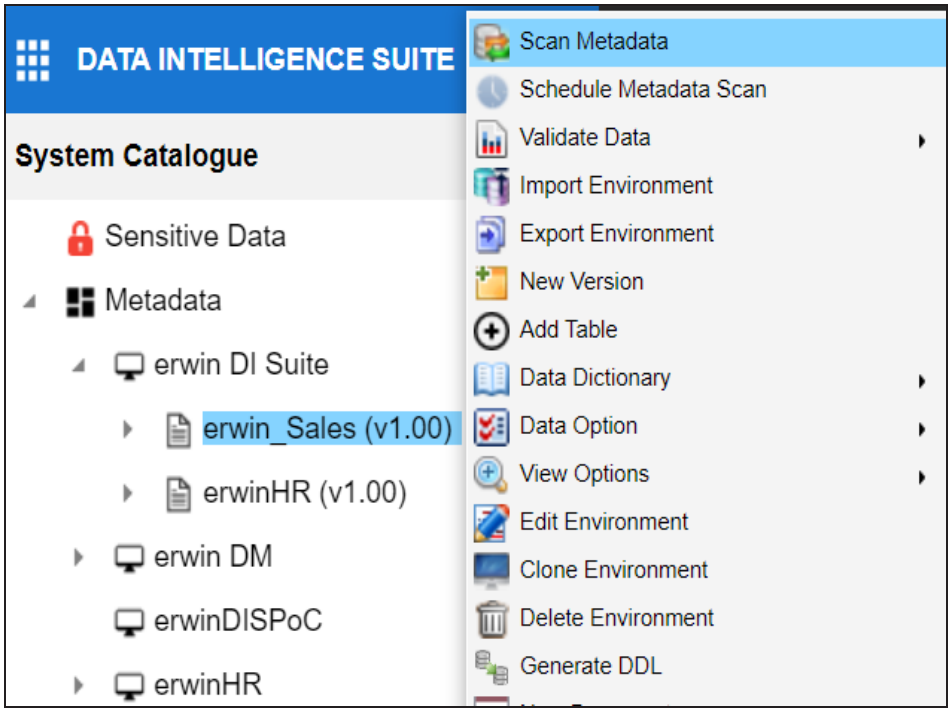
   The metadata is imported and saved in the environment.

CSV

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

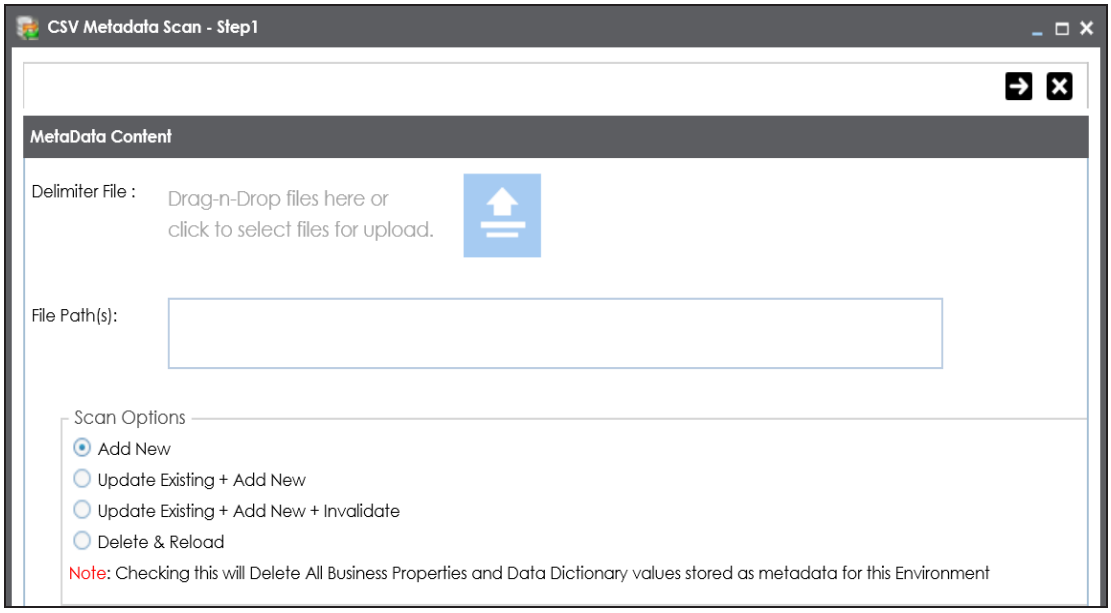
To import metadata from CSV files, follow these steps:

1. In the **System Catalogue** pane, right-click a CSV environment.



2. Click **Scan Metadata**.

   The CSV Metadata Scan - Step1 page appears.



3. Drag and drop or use to browse and select the delimiter file.
4. In the **File Path(s)** box, enter the file path.
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 table and columns in the CSV file.

   Update Existing + Add New + Invalidate

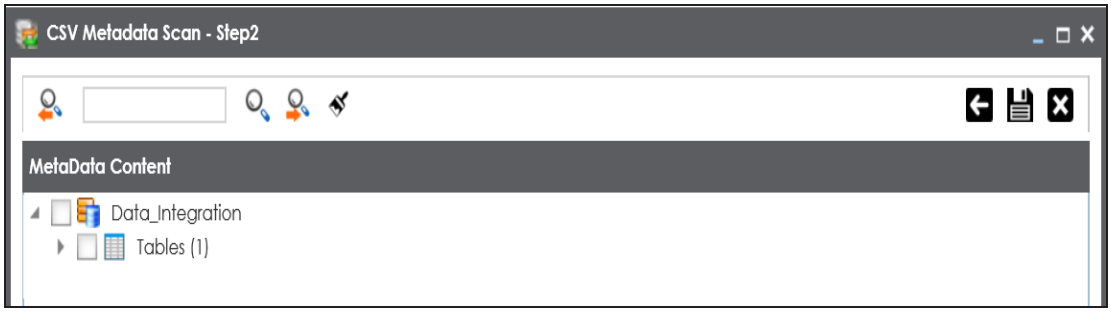
   Use this option to update the existing metadata without deleting it.

   Delete & Reload

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

6. Click .

   The CSV Metadata Scan - Step2 page appears.



7. Select the required tables.
8. Click  .

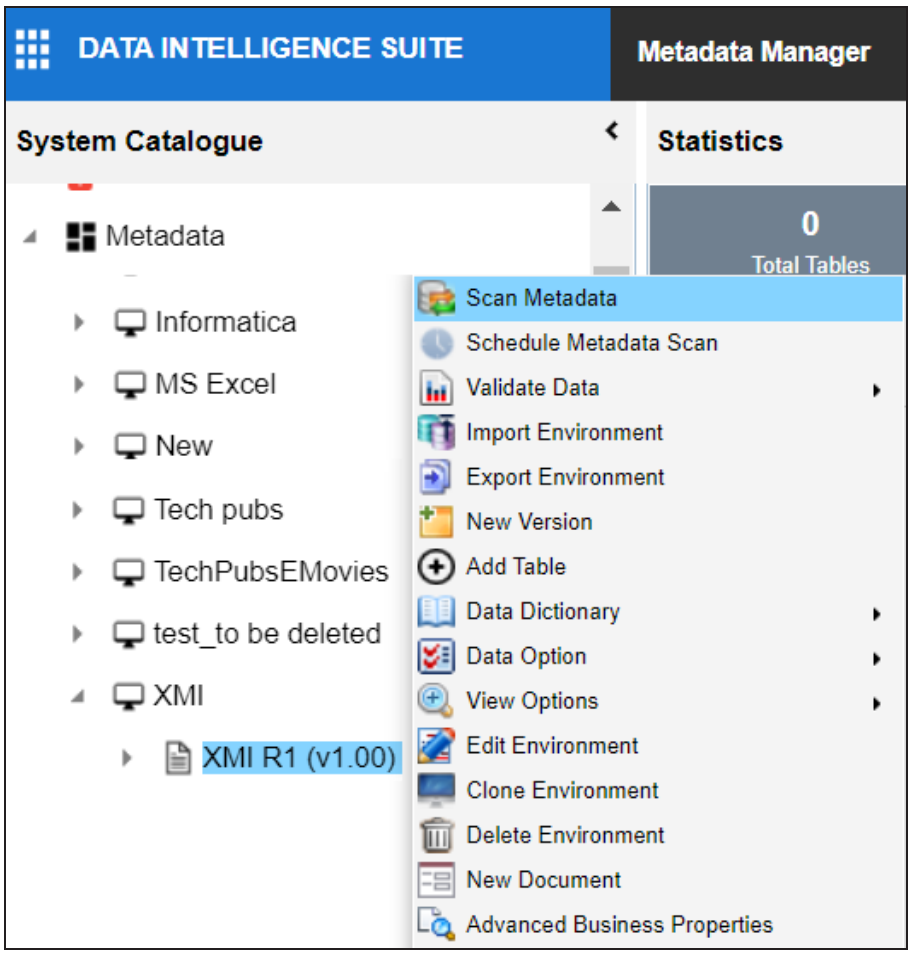
   The metadata is imported and saved in the environment.

XMI

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

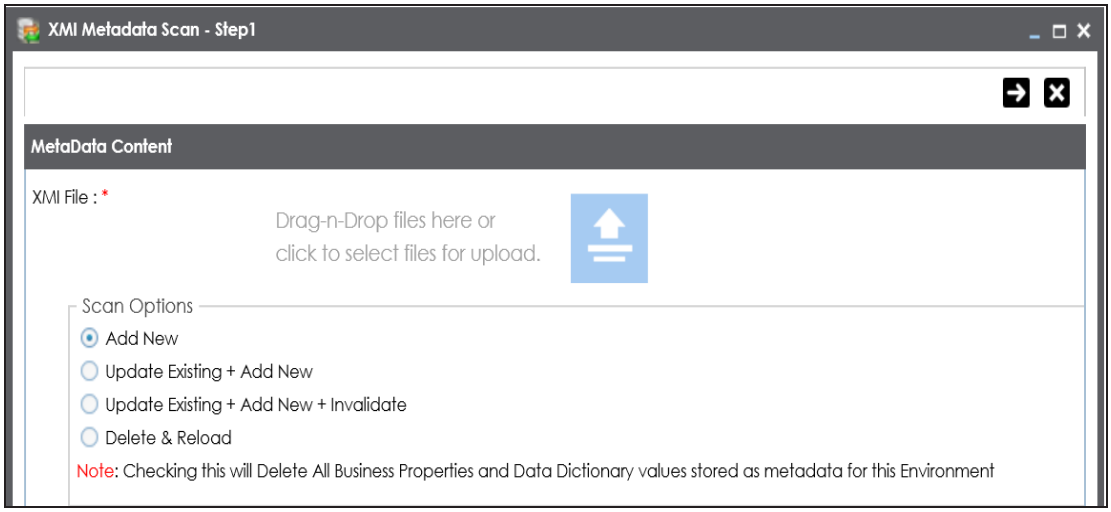
To import metadata from XMI files, follow these steps:

1. In the **System Catalogue** pane, right-click a XMI environment.



2. Click **Scan Metadata**.

   The XMI Metadata Scan - Step1 page appears.



3. Drag and drop or use to browse and select the XMI file.
4. 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

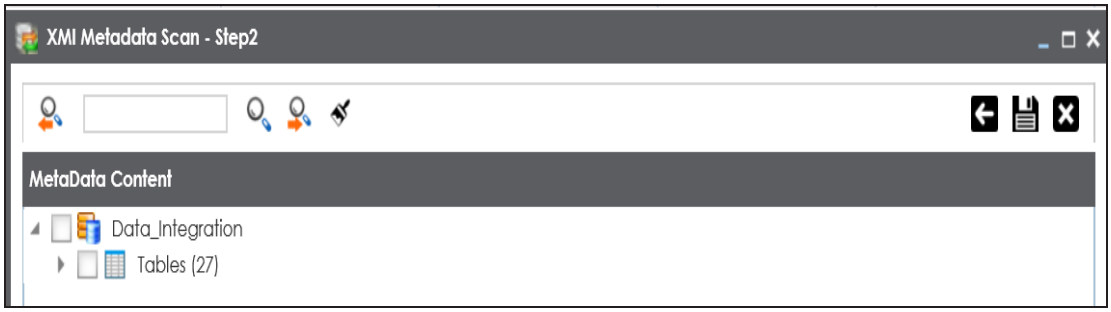
   Use this option to update the existing metadata without deleting it.

   Delete & Reload

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

5. Click .

   The XMI Metadata Scan - Step2 page appears.



6. Select the required tables.
7. Click  .

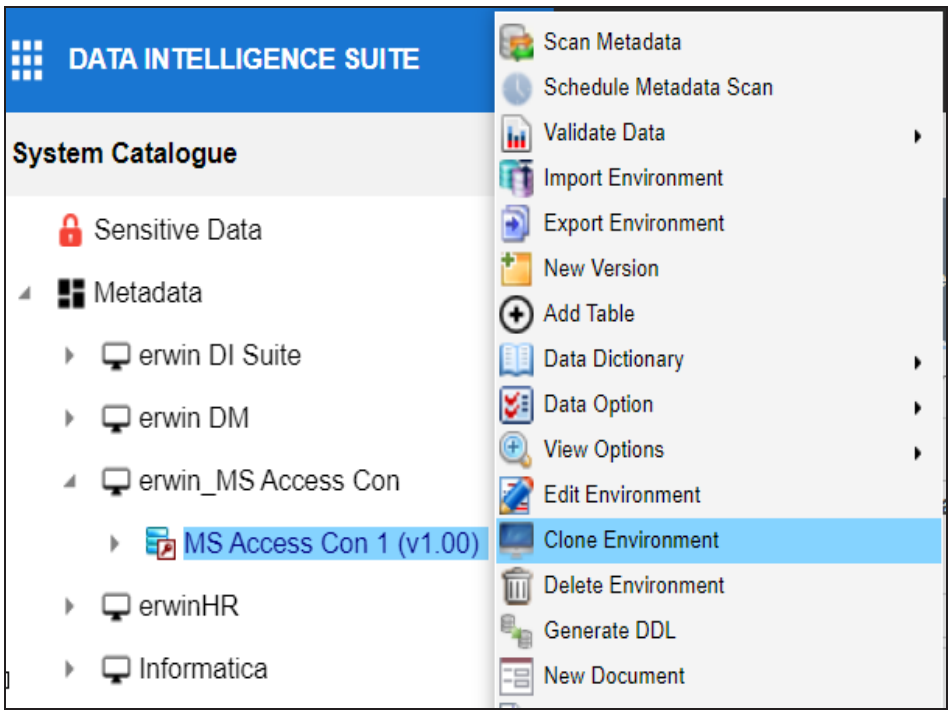
   The metadata is imported and saved in the environment.

MS Access File

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

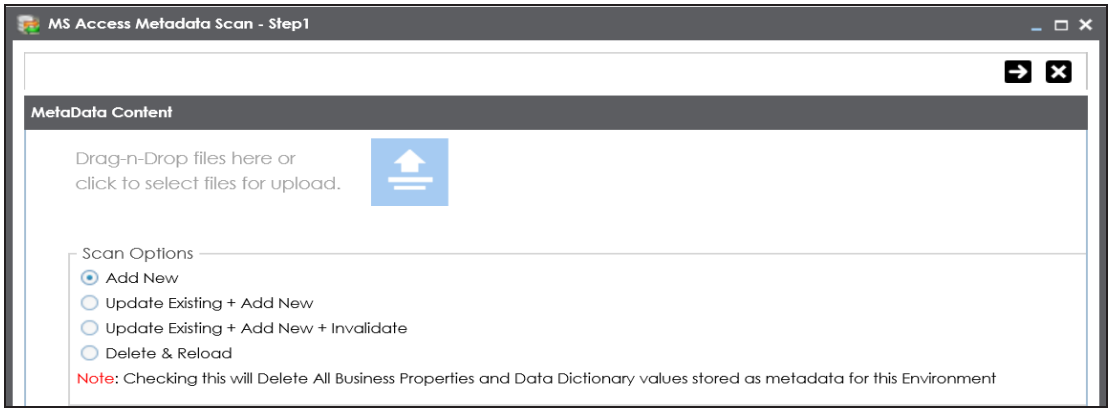
To import metadata from MS Access files, follow these steps:

1. In the **System Catalogue** pane, right-click a MS Access environment.



2. Click **Scan Metadata**.

   The MS Access Metadata Scan - Step1 page appears.



3. Drag and drop or use to browse and select the MS Access file.
4. 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

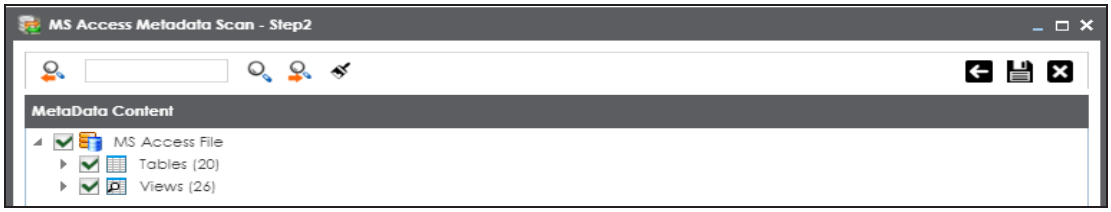
Use this option to update the existing metadata without deleting it.

Delete & Reload

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

5. Click .

The MS Access Metadata Scan - Step2 page appears.



6. Select the required tables.
7. Click  .

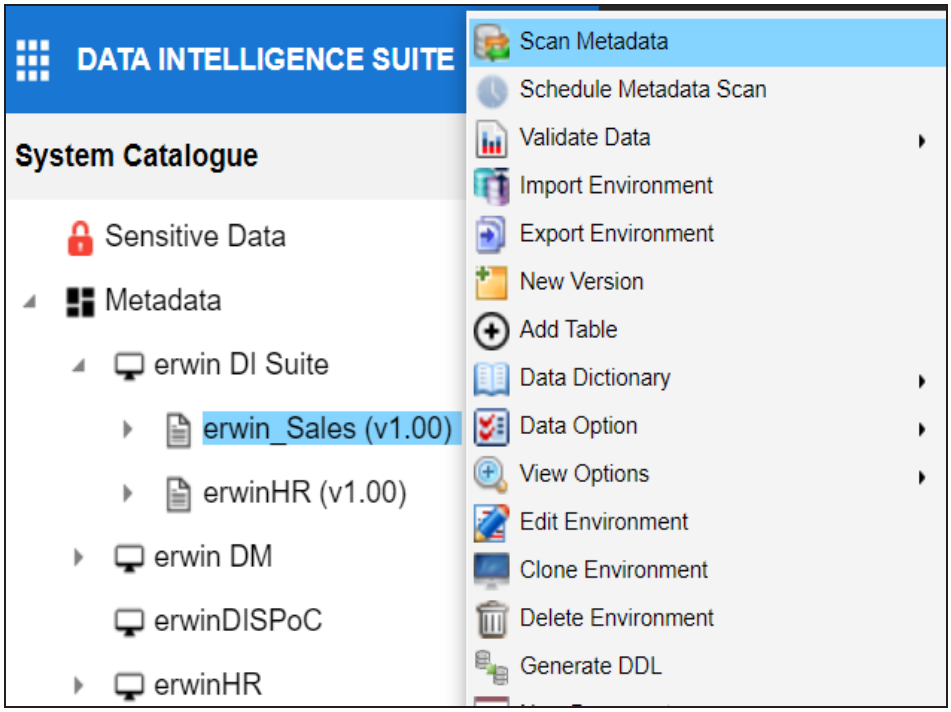
   The metadata is imported and saved in the environment.

XSD

You can import metadata from XSD files into XSD environments.

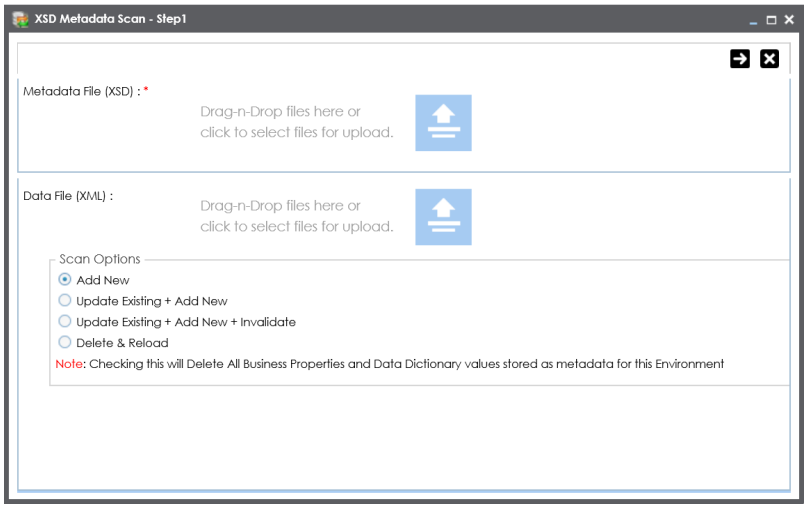
To import metadata from XSD files, follow these steps:

1. In the **System Catalogue** pane, right-click a XSD environment.



2. Click **Scan Metadata**.

   The XSD Metadata Scan - Step1 page appears.



3. Under the **Metadata File [XSD]** section, use to browse or drag and drop the metadata file with .xsd extension.
4. Under the **Data File [XML]** section, use to browse or drag and drop the data file with .xml extension.
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 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.

6. Click .

   The XSD Metadata Scan - Step2 page appears.

7. Select the required tables.
8. Click  .

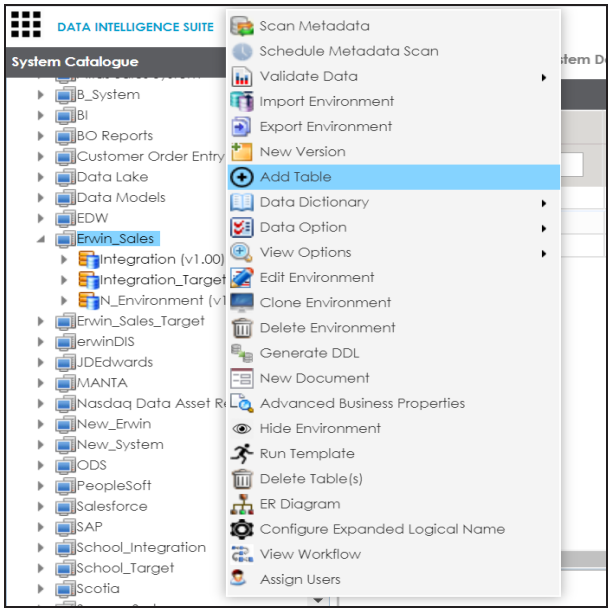
   The metadata is imported and saved in the environment.

Adding Tables

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

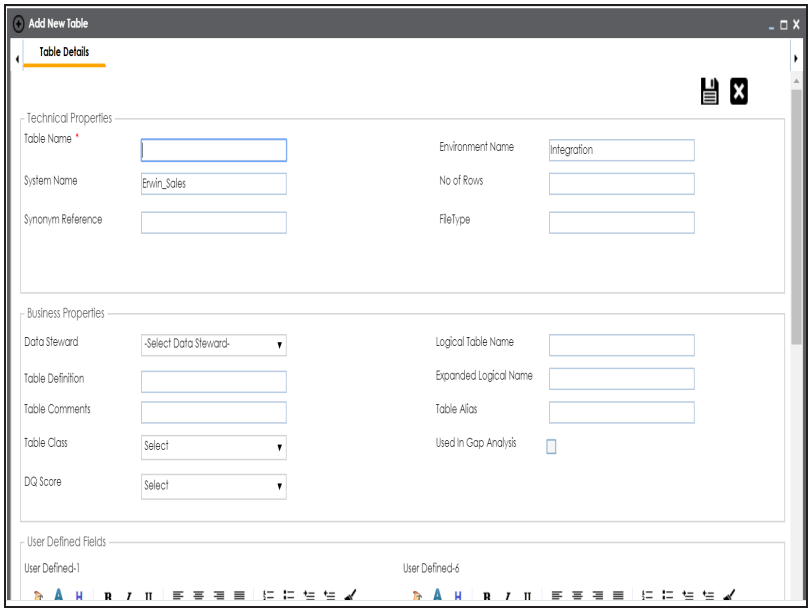
To add tables, follow these steps:

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



3. Click **Add Table**.

   The Add New Table page appears.



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

Field Name	Sub-Field	Description
Technical Properties	Table Name	Specifies the physical name of the table. For example, Account or Currency.
	System Name	Specifies the physical name of the system under which the table exists. For example, Enterprise Data Warehouse. You cannot edit this field.
	Synonym Reference	Specifies the synonym reference of the table. For example, Sales_Rep_Information. This field is autopopulated during the metadadata scan. You cannot enter it manually.
	Environment Name	Specifies the physical name of the environment under which the table exists. For example, EDW-Test.

Field Name	Sub-Field	Description
		You cannot edit this field.
	No of Rows	Specifies the total number of rows in the table. For example, 100.
	Workflow Status	Specifies the workflow status of the table. For example, draft. By default, Metadata_Manager_Default_Workflow_1 is assigned to all the tables in the Metadata Manager. You can create and re-assign a workflow to all the tables in an environment. For more information on workflow status, refer to the Assigning Workflows to Tables topic.
Business Properties	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.
	Table Definition	Specifies the definition of the table. For example: The table contains five columns with emp ID column as the primary key.
	Table Comments	Specifies comments about the table. For example: The table contains details of the employees.
	Table Class	Specifies the table class property. For more information on configuring table class, refer to Configuring Table and Column Class topic.
	DQ Score	Specifies the overall data quality score of the table. For example, High (7-8).

Field Name	Sub-Field	Description
		For more information on configuring DQ scores, refer to the Configuring Data Profiling and DQ Scores topic.
	Logical Table 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.
	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.
	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.
	Sensitive Data Indicator (SDI) Flag	Specifies whether the table is sensitive. Switch **Sensitive Data Indicator (SDI) Flag** to to mark the table sensitive.
	Sensitive Data Indicator (SDI) Classification	Specifies the SDI classification of the table. For example, PHI. This list is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to . For more information on configuring SDI classifications, refer to the Configuring Sensitive Data Indicator Classifications topic.
	Sensitive Data Indic-	Specifies the description of the SDI classification. For example: Protected Health Information.

Field Name	Sub-Field	Description
	ator (SDI) Description	It is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to  . The field autopopulates based on the SDI classification.
	Table Alias	Specifies the alias name of the table. For example, Sales_Representative_Table.

5. Click  .

   The table is added to the environment.

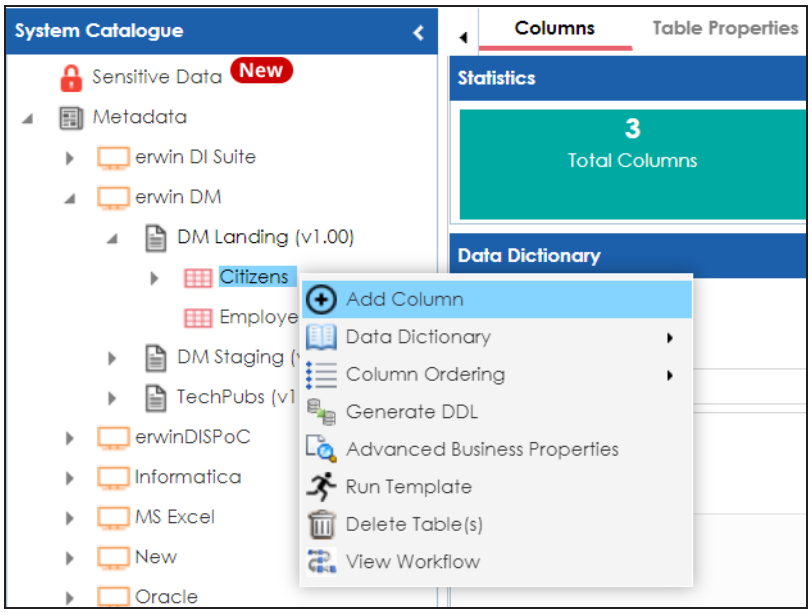
Adding Columns

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:

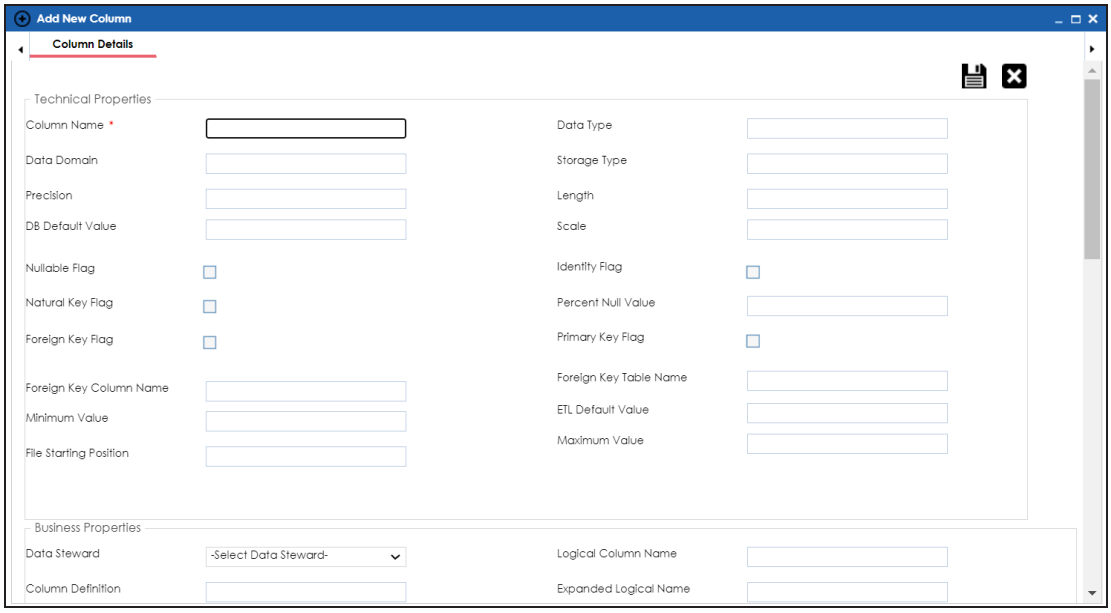
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, right-click a table.

   The available options appear.



3. Click **Add Column**.

   The Add New Column page appears.



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

Field Name	Sub-Field	Description
Technical Properties	Column Name	Specifies the physical name of the column. For example, Object_ID.
	Data Domain	Specifies the data domain values for the column. For example, data domain of a Gender column is M and F.
	Precision	Specifies the precision of the column. For example: 5, the number 123.45 has a precision of 5 and a scale of 2.
	DB Default Value	Specifies the default value of the column in the database. For example, True.
	Nullable Flag	Specifies whether the column allows null values. Select the check box if the column allows null values.
	Natural Key Flag	Specifies whether the column is a natural key. Select the check box if the column is a natural key.

Field Name	Sub-Field	Description
	Foreign Key Flag	Specifies whether the column is a foreign key. Select the check box if the column is a foreign key.
	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). For example, ID.
	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.
	Workflow Status	Specifies the workflow status of the column. For example, draft. By default, Metadata_Manager_Default_Workflow is assigned to all the columns in the Metadata Manager. You can create and re-assign a workflow to all the columns in a table. For more information on the workflow status, refer to the Assigning Workflows to the Columns topic.
	Data Type	Specifies the physical data type of the column. For example, varchar.
	Storage Type	Specifies the storage type of the column. For example, row store/column store in the case of SAP systems.
	Length	Specifies the physical length of the column. For example, if the column datatype is char(5), then its physical length is 5.
	Scale	Specifies the physical scale of the column. For example: The number 123.45 has a precision of 5 and a scale of 2.
	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.

Field Name	Sub-Field	Description
	Percent Null Value	Specifies the percentage of null values in the column. For example, 10%.
	Primary Key Flag	Specifies whether the column is a primary key. Select the check box if the column is used as the primary key.
	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).
	ETL Default Value	Specifies the default ETL value of the column during the load process.
	Maximum Value	Specifies the maximum value of the column. For example, maximum value of ID column can be 1503.
Business Properties	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.
	Column Definition	Specifies the definition of the column. For example: The column is a primary key that allows 5 alpha-numeric characters.
	Column Comments	Specifies the comments about the column. For example: The column provides unique identification of employee in the employee table.
	Sensitive Data Indicator (SDI) Flag	Specifies whether the column is sensitive. Switch **Sensitive Data Indicator (SDI) Flag** to  to mark the column sensitive.
	Sensitive	Specifies the SDI classification of the column.

Field Name	Sub-Field	Description
	Data Indicator (SDI) Classification	For example, PHI. This list is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to  . 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. It is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to  . The field autopopulates based on the SDI classification.
	Column 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.
	DQ Score	Specifies the overall data quality score of the column. For example, High (7-8). For more information on configuring DQ scores, refer to the Configuring Data Profiling and DQ Scores topic.
	Logical Column 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.
	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.
	Used in Gap Analysis	Specifies whether the column is being used in a gap analysis for usage in mappings.

Field Name	Sub-Field	Description
		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.
	Column Alias	Specifies the alias name of the column. For example, Resource_ID.
	Business Key Flag	Specifies whether the column is a business key. Select the check box if the column is a business key.

5. Click  .

   The column is added to the table.

Deleting Tables and Columns

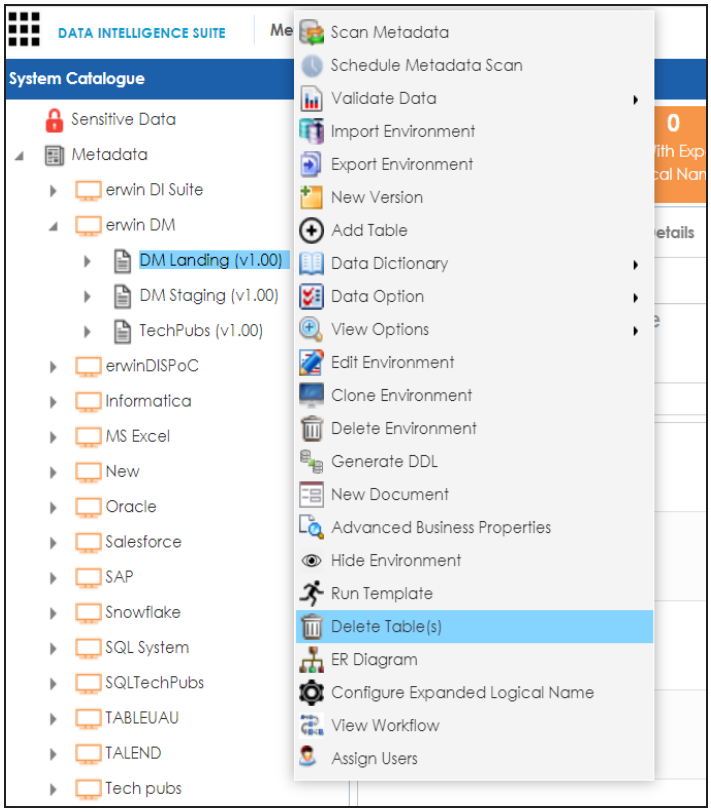
You can delete tables and columns that are not required.

Tables

To delete tables from environments, follow these steps:

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

   The available options appear.



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

   The Delete Tables page appears.

4. Select the required tables.
5. Click  .

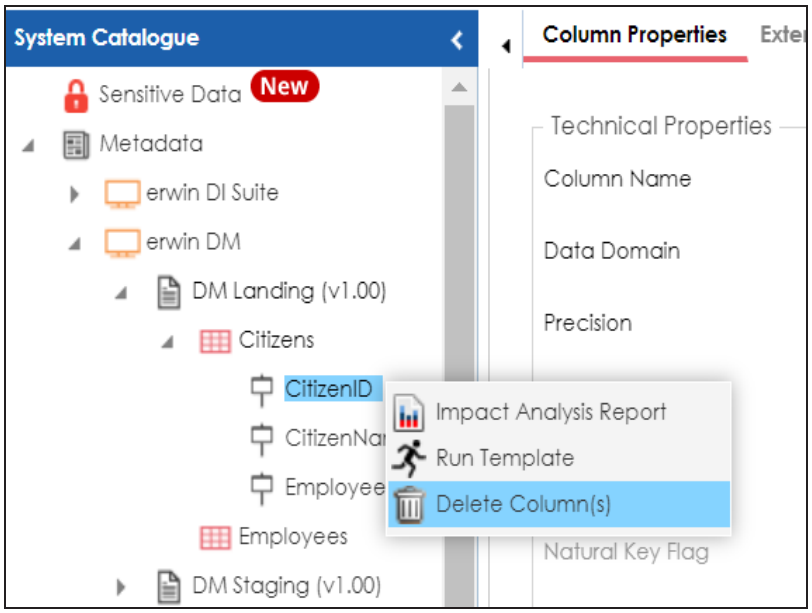
   The selected tables are deleted from the environment.

Columns

To delete columns from tables, follow these steps:

1. In the **System Catalogue**, right-click a column.

   The available options appear.



2. Click **Delete Column(s)**.

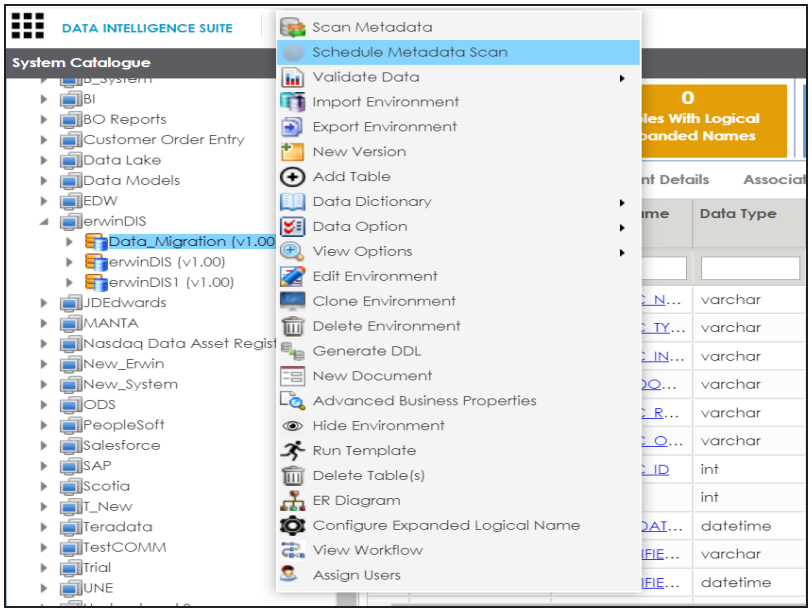
   The column is deleted.

Scheduling Metadata Scans

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

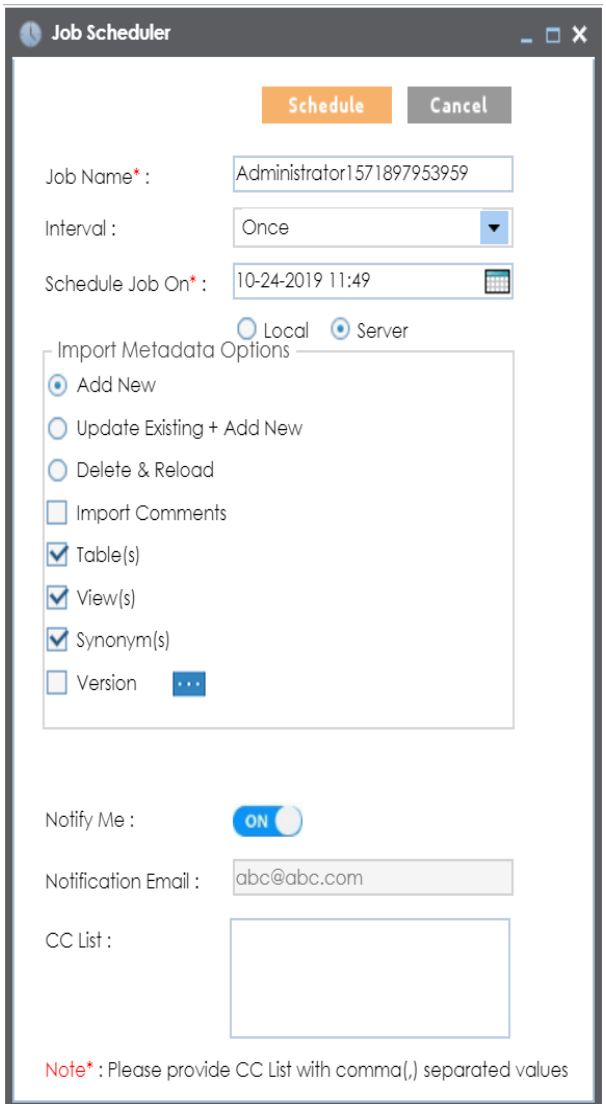
To schedule a metadata scan, follow these steps:

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



3. Click **Schedule Metadata Scan**.

   The Job Scheduler 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.

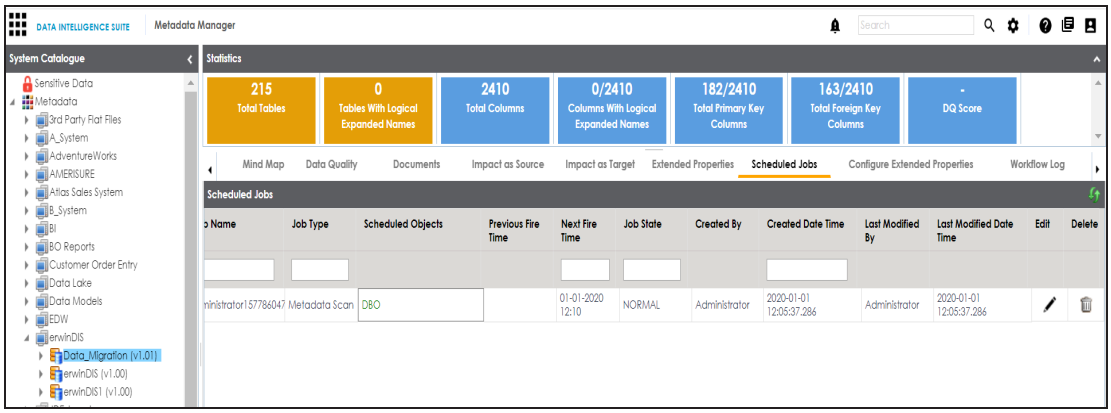
Field Name	Description
Job Name	Specifies the job name. For example, Administrator1585030550001. This field autopopulates with a job name. You can edit it and enter a different job name.

Field Name	Description
Interval	Specifies the frequency of the job. For example, Every Week.
Schedule 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.
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. ▪ **Delete & Reload**: This option deletes all the existing metadata and scans only the new objects that have been selected. ▪ **Import Comments**: Select the check box to import comments. ▪ **Table(s)**: Select the check box to import Tables. ▪ **View(s)**: Select the check box to import Views. ▪ **Synonym(s)**: Select the check box to import Synonyms. ▪ **Version**: Select the check box to create a new version of the environment. To enter version label and change description, click  .
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 noti-

Field Name	Description
	fications about the scheduled job. For example, ab.dav@xyz.com, cal.kai@xyz.com

5. 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.

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.

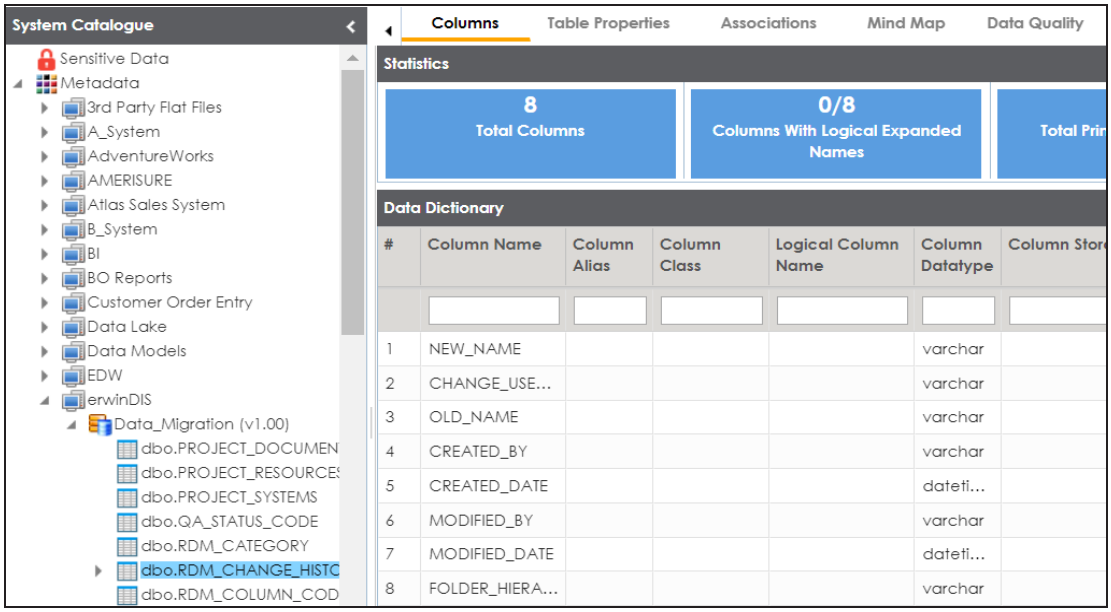
Updating Table Properties

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.

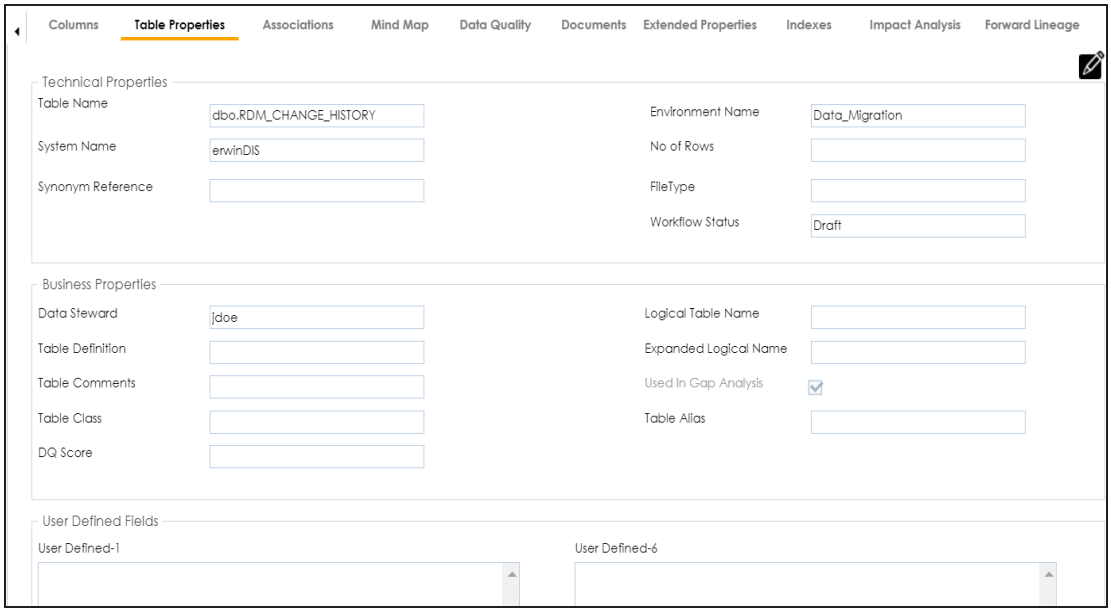
To update Table Properties, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click a table.

   By default, the Column tab opens.



3. Click the **Table Properties** tab.



4. Click  .

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	Sub-Field	Description
Technical Properties	Table Name	Specifies the physical name of the table. For example, Account or Currency.
	System Name	Specifies the physical name of the system under which the table exists. For example, Enterprise Data Warehouse. You cannot edit this field.
	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.
	Environment Name	Specifies the physical name of the environment under which the table exists.

Field Name	Sub-Field	Description
		For example, EDW-Test. You cannot edit this field.
	No of Rows	Specifies the total number of rows in the table. For example, 100.
	Workflow Status	Specifies the workflow status of the table. For example, draft. By default, Metadata_Manager_Default_Workflow_1 is assigned to all the tables in the Metadata Manager. You can create and re-assign a workflow to all the tables in an environment. For more information on workflow status, refer to the Assigning Workflows to Tables topic.
Business Properties	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.
	Table Definition	Specifies the definition of the table. For example: The table contains five columns with emp ID column as the primary key.
	Table Comments	Specifies comments about the table. For example: The table contains details of the employees.
	Table Class	Specifies the table class property. For more information on configuring table class, refer to Configuring Table and Column Class topic.
	DQ Score	Specifies the overall data quality score of the table.

Field Name	Sub-Field	Description
		For example, High (7-8). For more information on configuring DQ scores, refer to the Configuring Data Profiling and DQ Scores topic.
	Logical Table 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.
	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.
	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.
	Sensitive Data Indicator (SDI) Flag	Specifies whether the table is sensitive. Switch **Sensitive Data Indicator (SDI) Flag** to  to mark the table sensitive.
	Sensitive Data Indicator (SDI) Classification	Specifies the SDI classification of the table. For example, PHI. This list is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to  . For more information on configuring SDI classifications refer to the Configuring Sensitive Data Indicator Classifications topic.
	Sensitive	Specifies the description of the SDI classification.

Field Name	Sub-Field	Description
	Data Indicator (SDI) Description	For example: Protected Health Information. It is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to  . The field autopopulates based on the SDI classification.
	Table Alias	Specifies the alias name of the table. For example, Sales_Representative_Table.

6. 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.

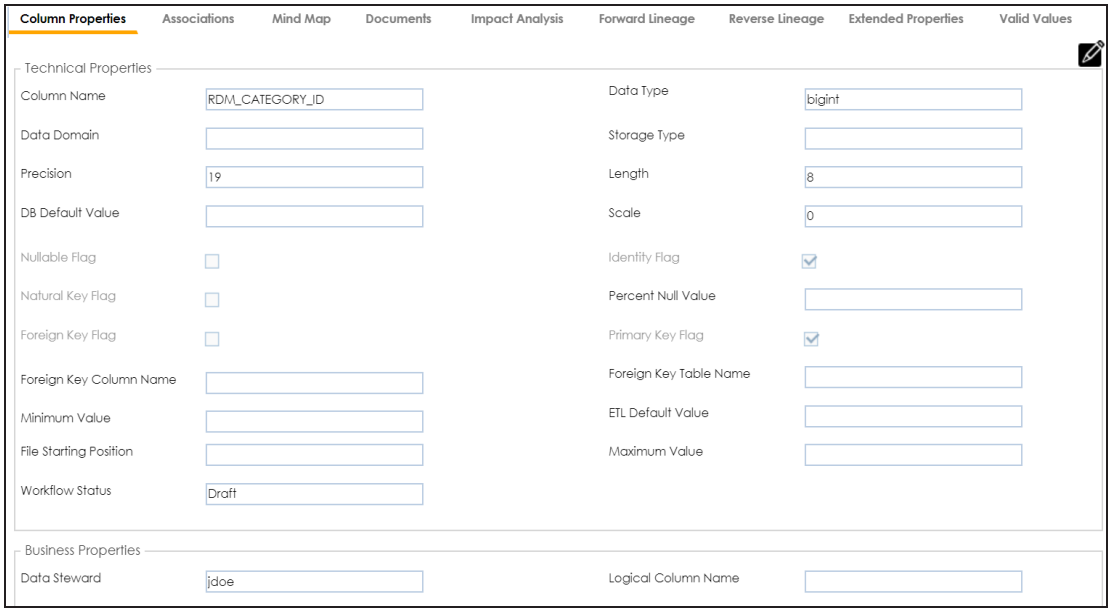
Updating Column Properties

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:

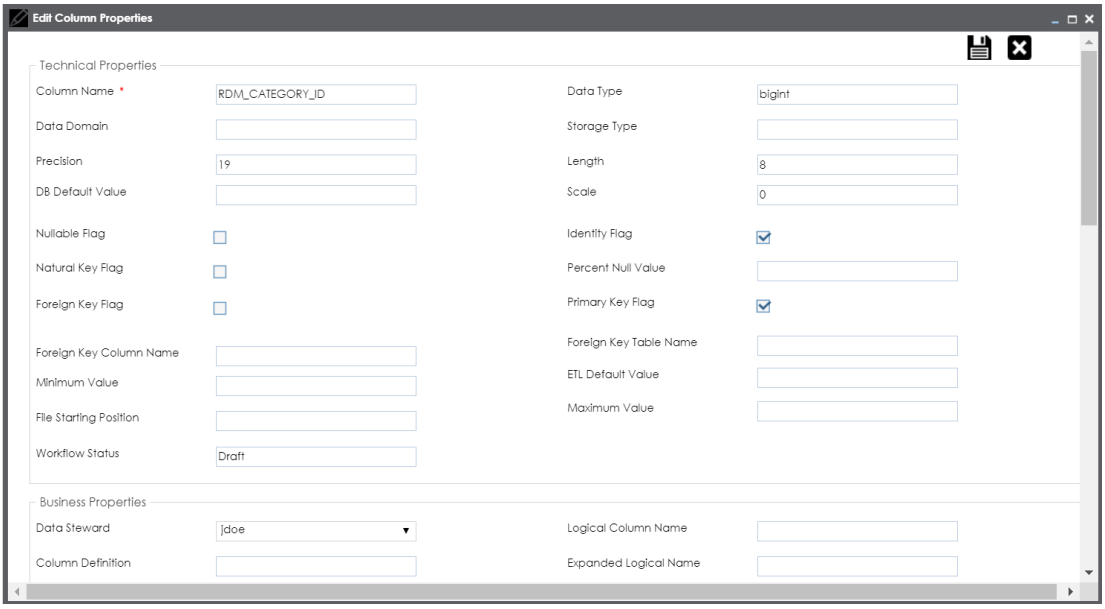
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click a column.

   By default, the Column Properties tab opens.



3. Click  .

   The Edit Column Properties 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	Sub-Field	Description
Technical Properties	Column Name	Specifies the physical name of the column. For example, Object_ID.
	Data Domain	Specifies the data domain values for the column. For example, data domain of a Gender column is M and F.
	Precision	Specifies the precision of the column. For example: 5, the number 123.45 has a precision of 5 and a scale of 2.
	DB Default Value	Specifies the default value of the column in the database. For example, True.
	Nullable Flag	Specifies whether the column allows null values. Select the check box if the column allows null values.
	Natural Key Flag	Specifies whether the column is a natural key. Select the check box if the column is a natural key.

Field Name	Sub-Field	Description
	Foreign Key Flag	Specifies whether the column is a foreign key. Select the check box if the column is a foreign key.
	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). For example, ID.
	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.
	Workflow Status	Specifies the workflow status of the column. For example, draft. By default, Metadata_Manager_Default_Workflow is assigned to all the columns in the Metadata Manager. You can create and re-assign a workflow to all the columns in a table. For more information on the workflow status, refer to the Assigning Workflows to the Columns topic.
	Data Type	Specifies the physical data type of the column. For example, varchar.
	Storage Type	Specifies the storage type of the column. For example, row store/column store in the case of SAP systems.
	Length	Specifies the physical length of the column. For example, if the column datatype is char(5), then its physical length is 5.
	Scale	Specifies the physical scale of the column. For example: The number 123.45 has a precision of 5 and a scale of 2.
	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.

Field Name	Sub-Field	Description
	Percent Null Value	Specifies the percentage of null values in the column. For example, 10%.
	Primary Key Flag	Specifies whether the column is a primary key. Select the check box if the column is used as the primary key.
	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).
	ETL Default Value	Specifies the default ETL value of the column during the load process.
	Maximum Value	Specifies the maximum value of the column. For example, maximum value of ID column can be 1503.
Business Properties	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.
	Column Definition	Specifies the definition of the column. For example: The column is a primary key that allows 5 alpha-numeric characters.
	Column Comments	Specifies the comments about the column. For example: The column provides unique identification of employee in the employee table.
	Sensitive Data Indicator (SDI) Flag	Specifies whether the column is sensitive. Switch **Sensitive Data Indicator (SDI) Flag** to  to mark the column sensitive.
	Sensitive	Specifies the SDI classification of the column.

Field Name	Sub-Field	Description
	Data Indicator (SDI) Classification	For example, PHI. This list is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to  . 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. It is enabled when **Sensitive Data Indicator (SDI) Flag** is switched to  . The field autopopulates based on the SDI classification.
	Column 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.
	DQ Score	Specifies the overall data quality score of the column. For example, High (7-8). For more information on configuring DQ scores, refer to the Configuring Data Profiling and DQ Scores topic.
	Logical Column 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.
	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.
	Used in Gap Analysis	Specifies whether the column is being used in a gap analysis for usage in mappings.

Field Name	Sub-Field	Description
		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.
	Column Alias	Specifies the alias name of the column. For example, Resource_ID.
	Business Key Flag	Specifies whether the column is a business key. Select the check box if the column is a business key.

5. 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.

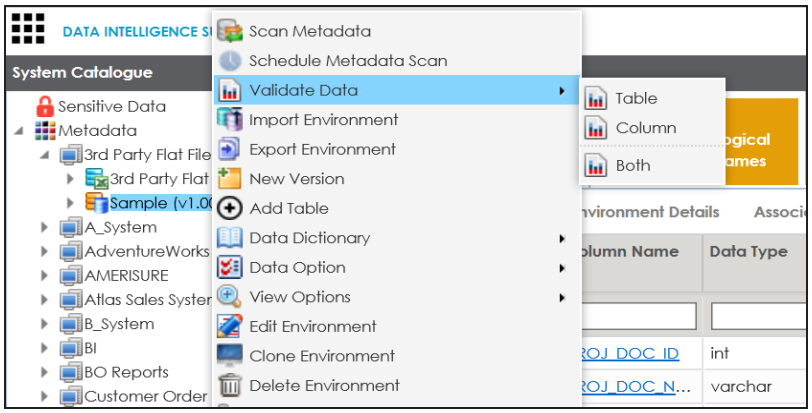
   You can also hide user defined fields on the Column Properties tab. For more information on hiding user defined fields, refer to the Displaying User Defined Fields topic.

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**.
2. In the **System Catalogue** pane, right-click an environment.



3. Hover over **Validate Data**.
4. Use the following options:

   Table

   To validate tables in the environment, click **Table**.

   Column

   To validate columns in the environment, click **Column**.

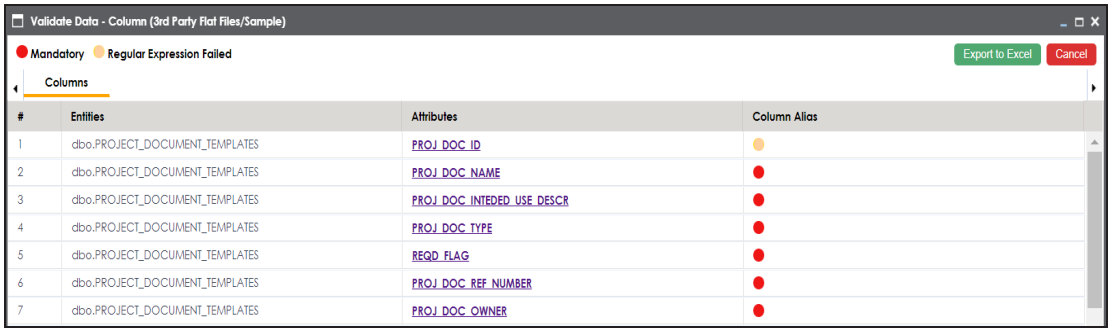
   Both

   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.



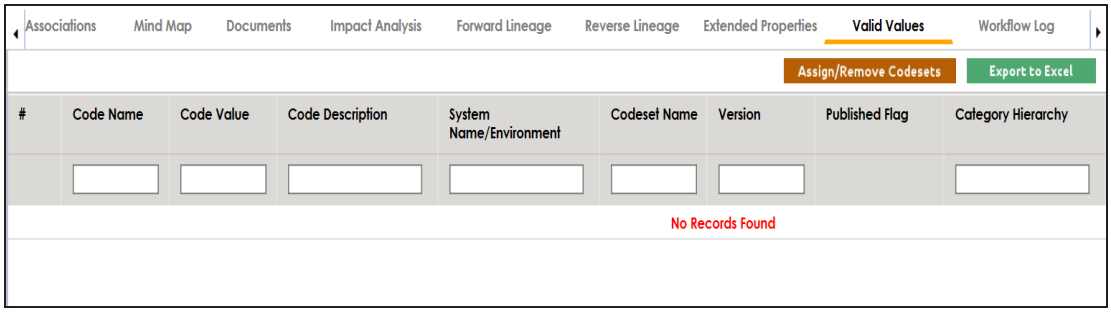
You can download the validation report in the XLSX format. To download the validation reports, click **Export to Excel**.

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.

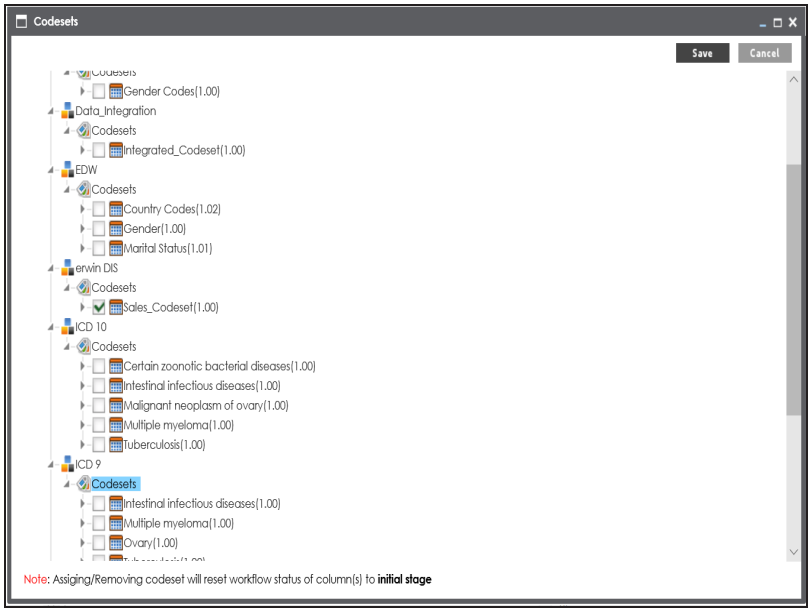
To assign codesets to columns, follow these steps:

1. In the **System Catalogue** pane, click a column.
2. Click the **Valid Values** tab.



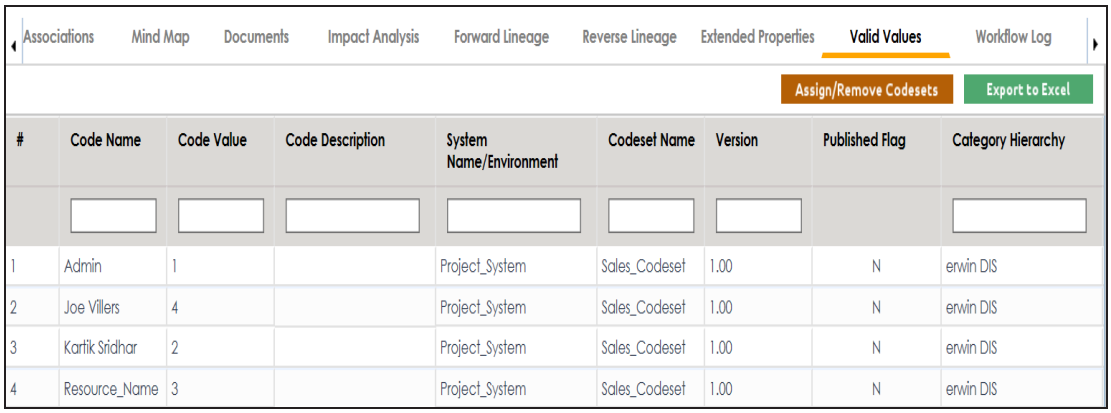
3. On the **Valid Values** tab, click **Assign/Remove Codesets**.

   The Codesets page appears.



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

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



#	Code Name	Code Value	Code Description	System Name/Environment	Codeset Name	Version	Published Flag	Category Hierarchy
1	Admin	1		Project_System	Sales_Codeset	1.00	N	erwin DIS
2	Joe Villers	4		Project_System	Sales_Codeset	1.00	N	erwin DIS
3	Kartik Sridhar	2		Project_System	Sales_Codeset	1.00	N	erwin DIS
4	Resource_Name	3		Project_System	Sales_Codeset	1.00	N	erwin DIS

   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 Code-sets section.

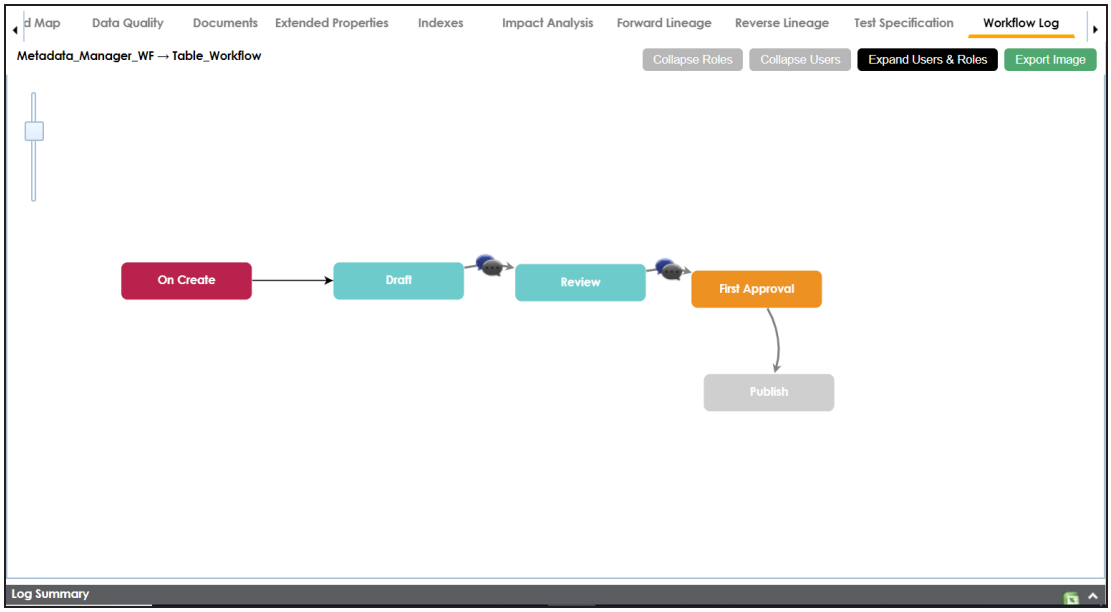
Viewing Workflow Logs of Tables

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**.
2. In the **System Catalogue** pane, click a table.
3. 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.

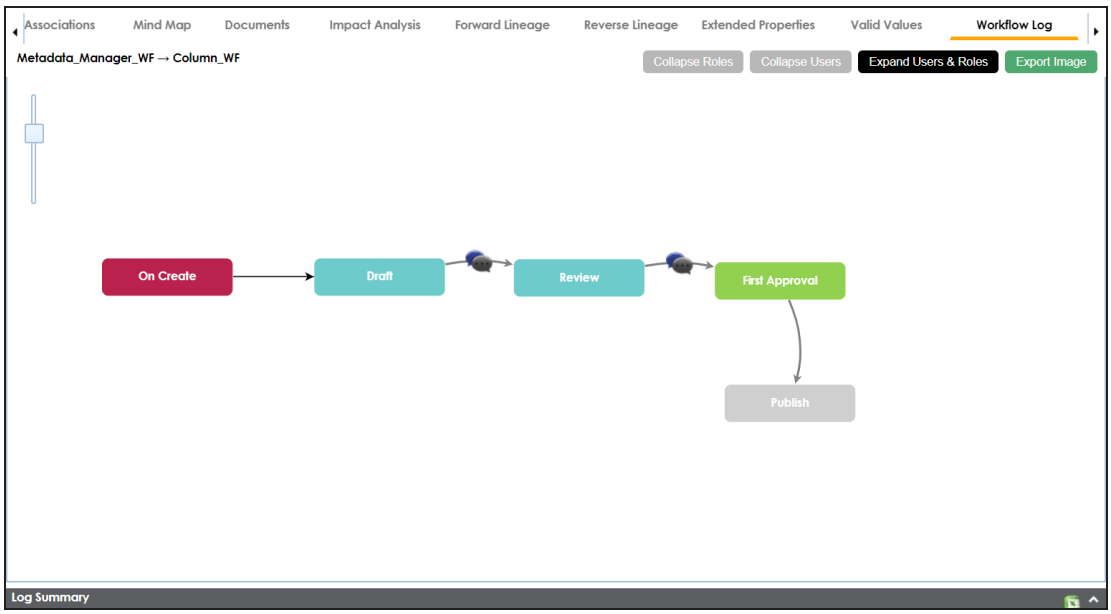
Viewing Workflow Logs of Columns

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**.
2. In the **System Catalogue** pane, click a column.
3. 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

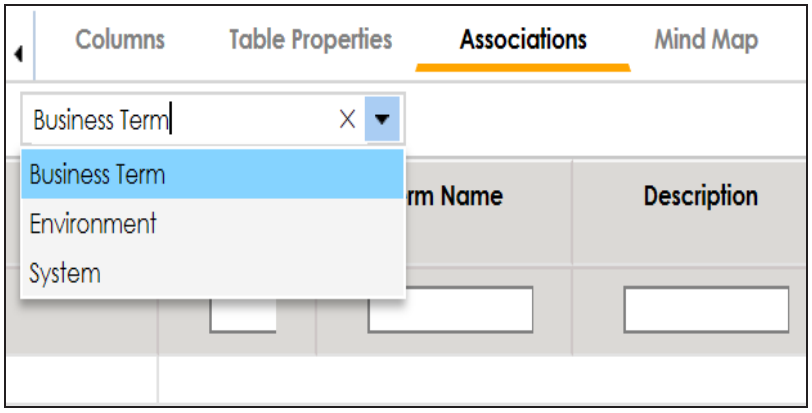
You can associate tables with business assets, systems, environments, tables, and columns. You can also view mind map and association statistics.

Ensure that:

- Business assets are enabled. You can add new 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.

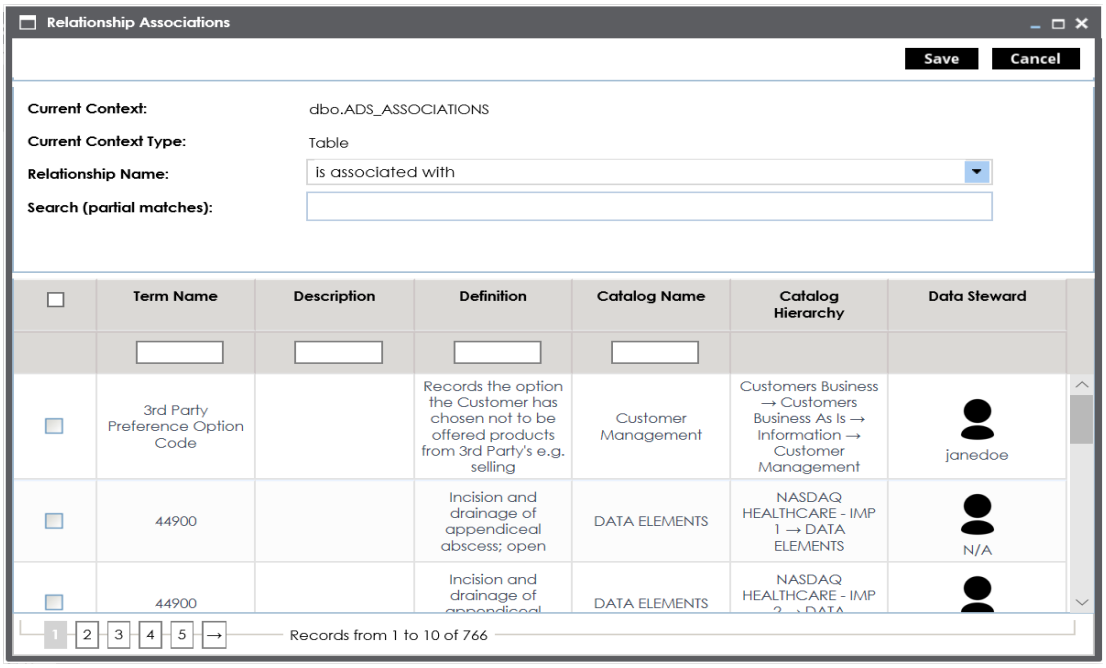
To associate tables with asset types, follow these steps:

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



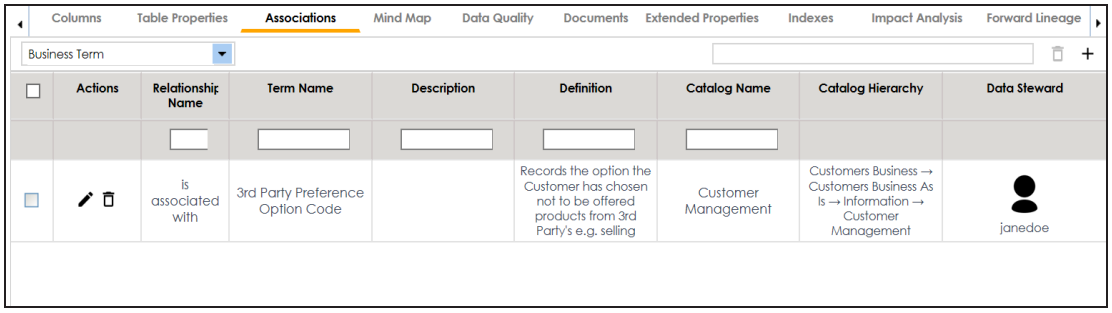
4. Click +.

   The Relationship Associations page appears.



5. Select **Relationship Name** and the asset type.
6. Click **Save**.

   The asset is added to the table.



Use the following options under the **Actions** column:

Edit Association ( )

Use this option to edit the association.

Delete Association ( )

Use this option to delete the association.

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

Associating Columns

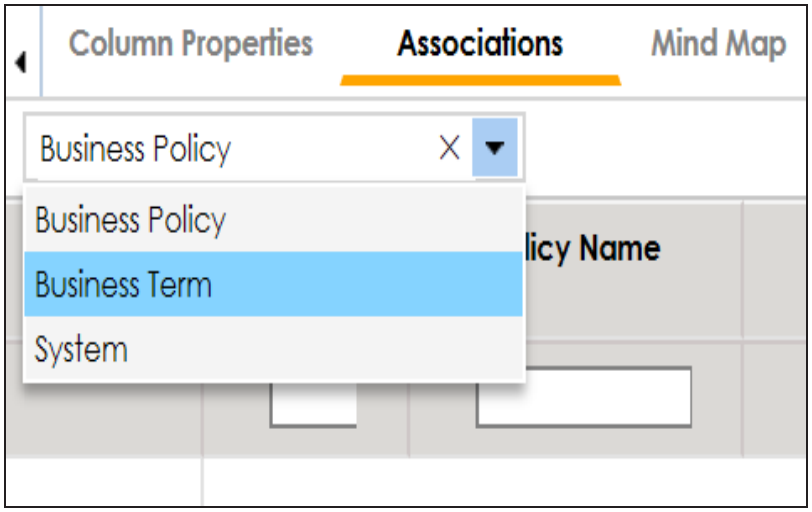
You can associate columns with business assets, systems, environments, tables, and columns. You can also view mind map and association statistics.

Ensure that:

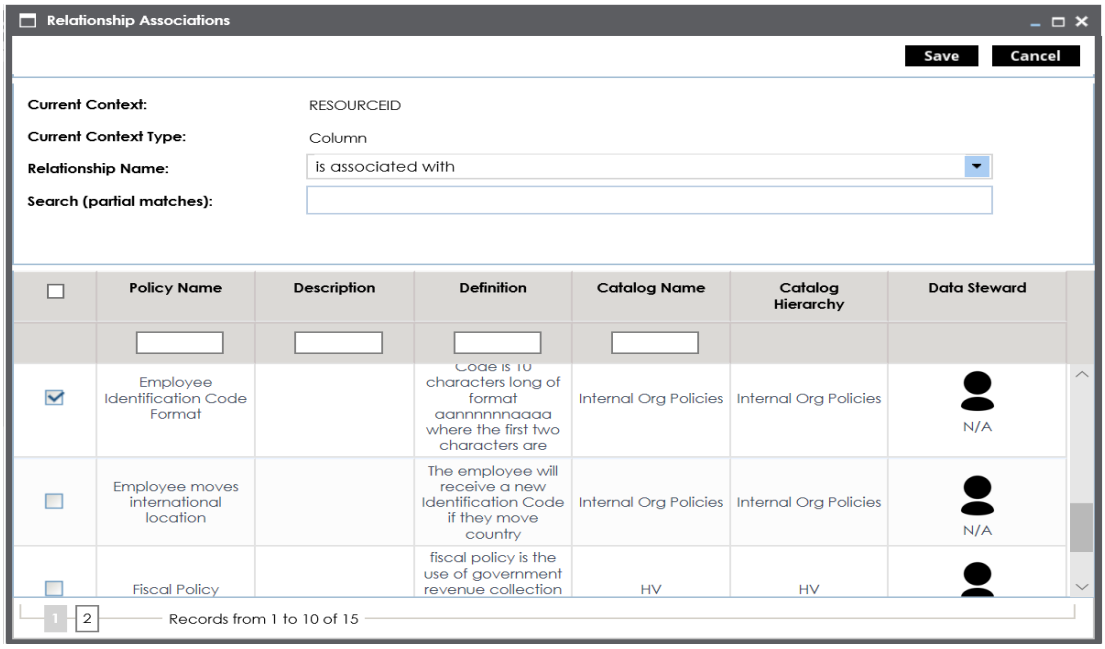
- Business assets are enabled. You can add new business assets and enable them in Business Glossary Manager Settings.
- Relationship between column and the asset type is defined. You can define associations and relationships in Business Glossary Manager Settings.

To associate columns with asset types, follow these steps:

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

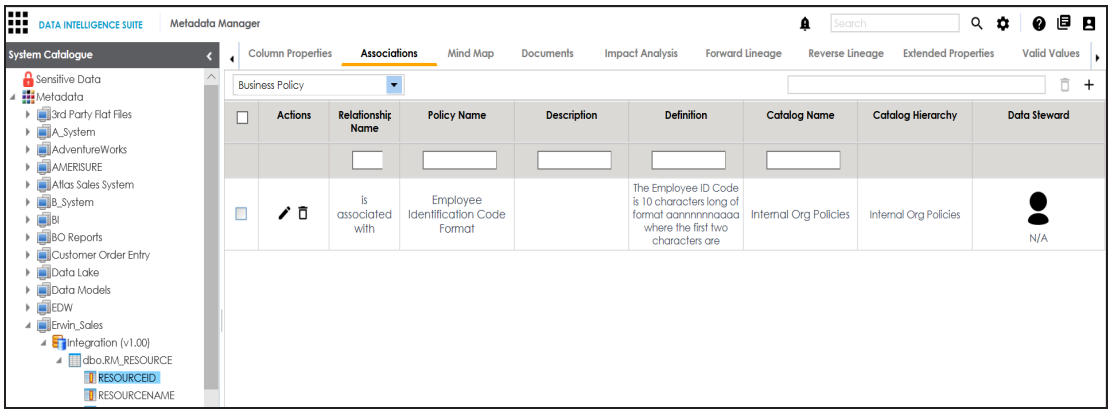


4. Click +.



5. Select **Relationship Name**, and asset type.
6. Click **Save**.

   The asset is added to the column.



Use the following options under the **Actions** column:

Edit Association ( )

Use this option to edit the association.

Delete Association ()

Use this option to delete the association.

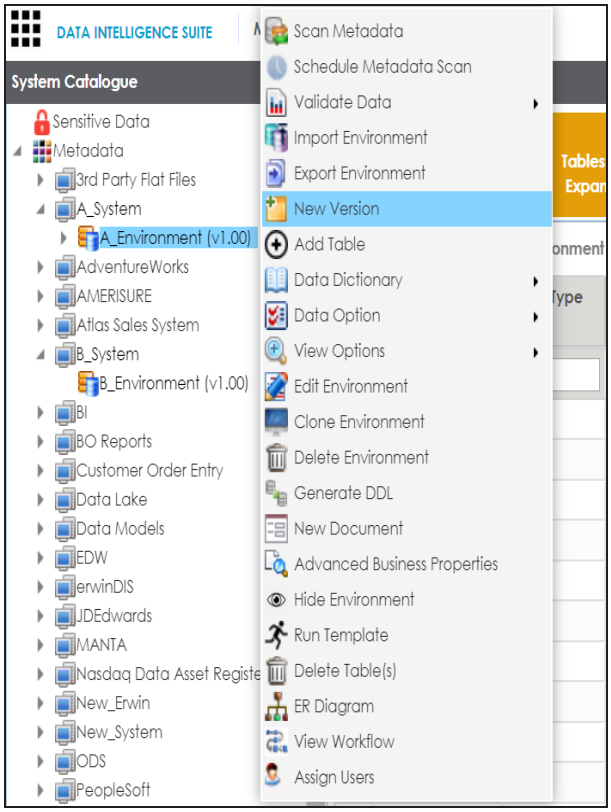
To view mind map, click the **Mind Map** tab. For more information on working on mind maps, refer to the Viewing Mind Maps topic.

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.

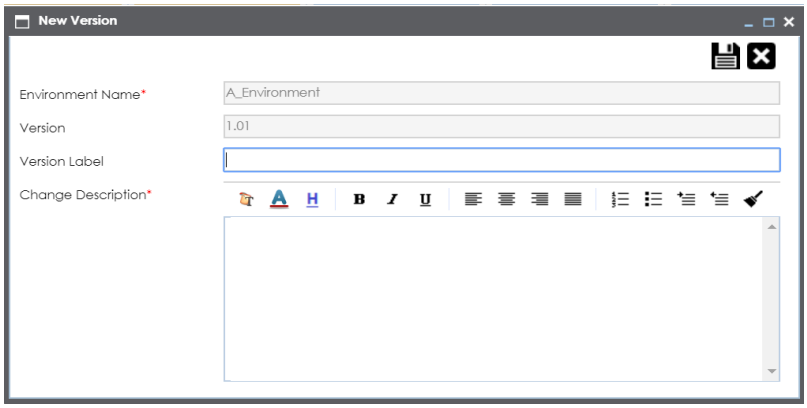
To create new versions of environments, follow these steps:

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



3. Click **New Version**.

   The New Version 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
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.

5. 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.

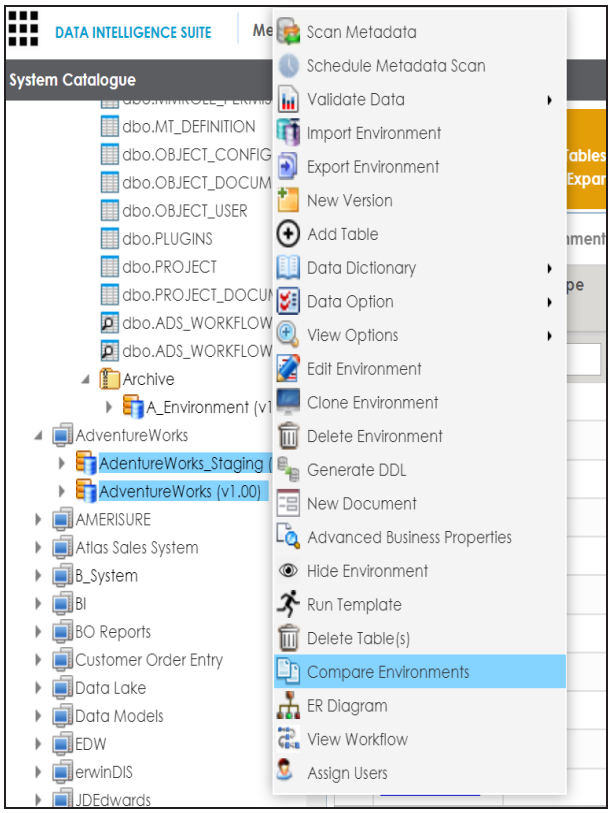
Comparing Environments

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:

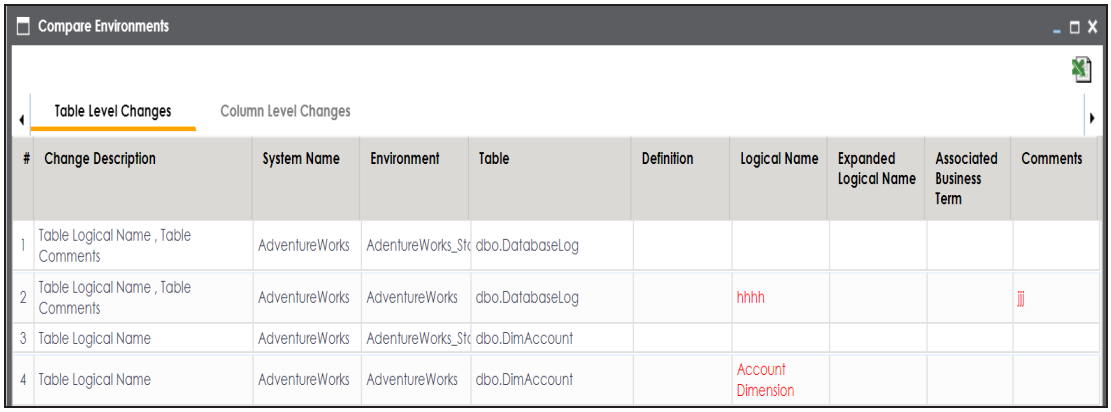
1. In the **System Catalogue** pane, select any two environments.

   You can use CTRL or Shift Key to select two environments.



2. Click **Compare Environments**.

   The Compare Environments page appears. 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.

Column level changes are displayed.

To download the comparison report, click .

The comparison report is downloaded in the XLSX format.

Downloading Data Dictionaries

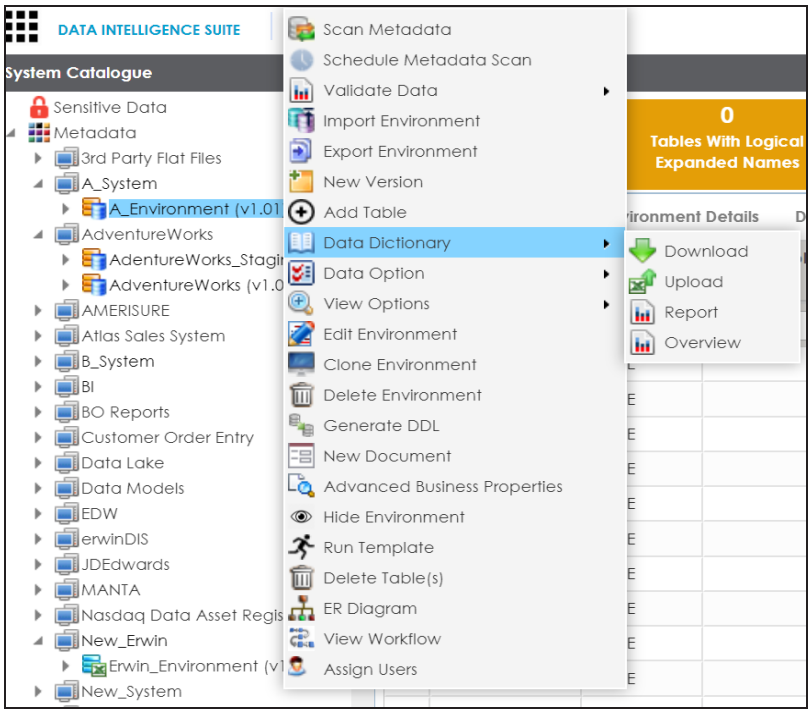
Once the metadata is scanned and stored in the repository, you can instantly view and export data dictionary at the environment and table levels.

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

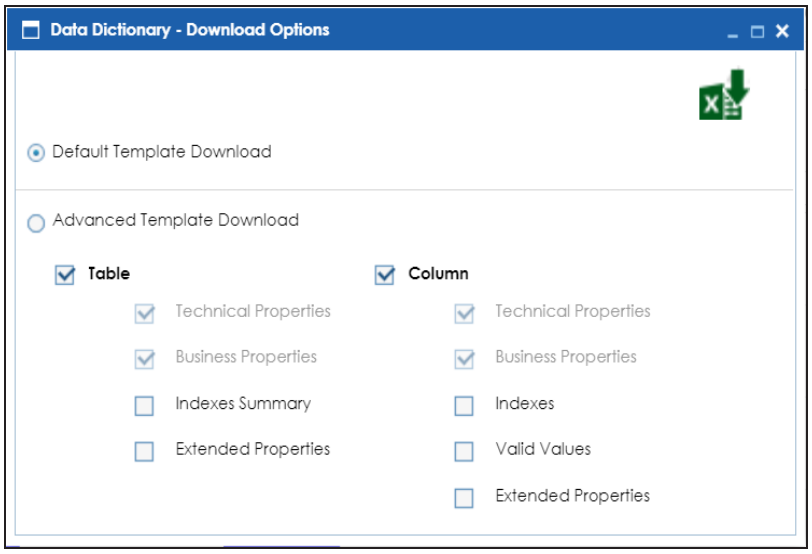
To download data dictionaries at environment level, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, right-click an environment.
3. Hover over **Data Dictionary**.



4. Click **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.

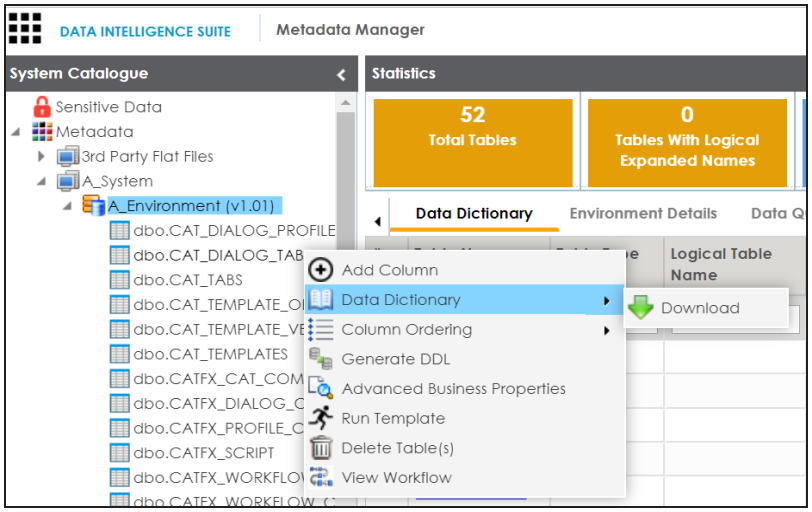
6. Click .

   Data dictionary is downloaded in the XLSX format.

Table Level

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

1. In the **System Catalogue** pane, right-click a table.
2. Hover over **Data Dictionary**.



3. Click **Download**.

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

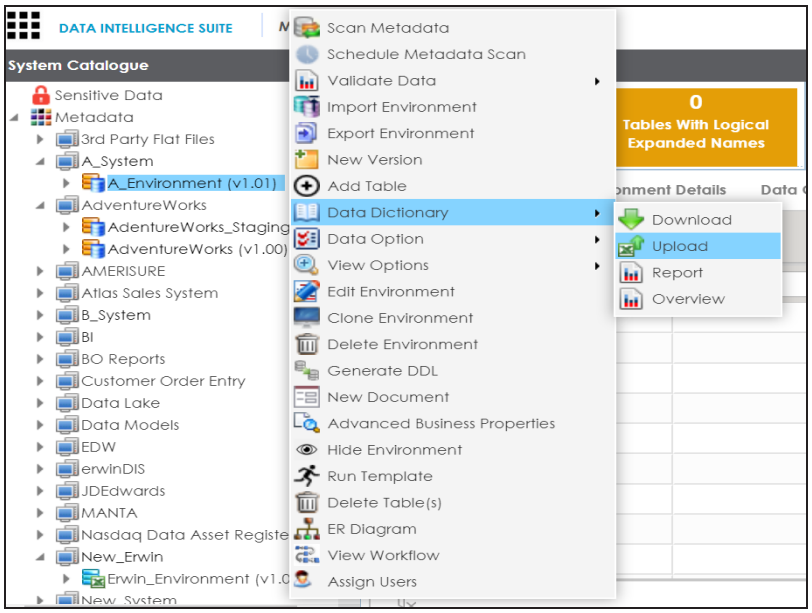
You can also view data dictionary report at system level and update data dictionary at environment level.

Uploading Data Dictionary

You can update and upload a data dictionary at 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.

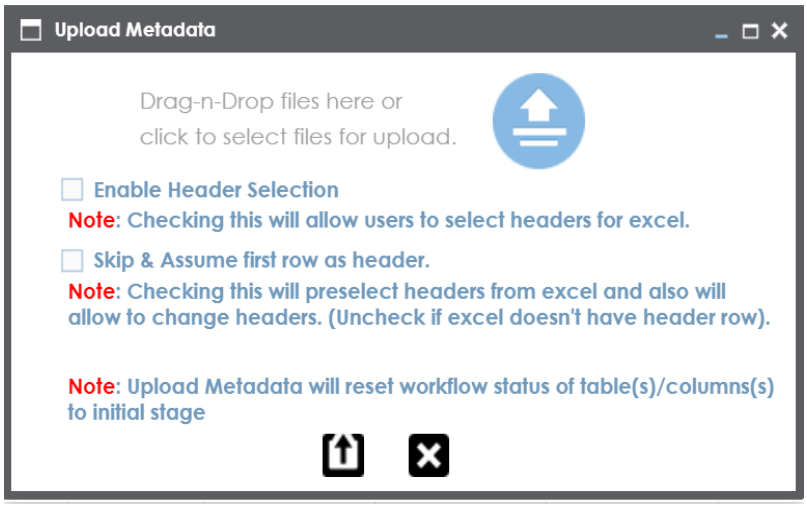
To upload data dictionaries at environment level, follow these steps:

1. In the **System Catalogue** pane, right-click an environment.
2. Hover over **Data Dictionary**.



3. Click **Upload**.

   The Upload Metadata page appears.



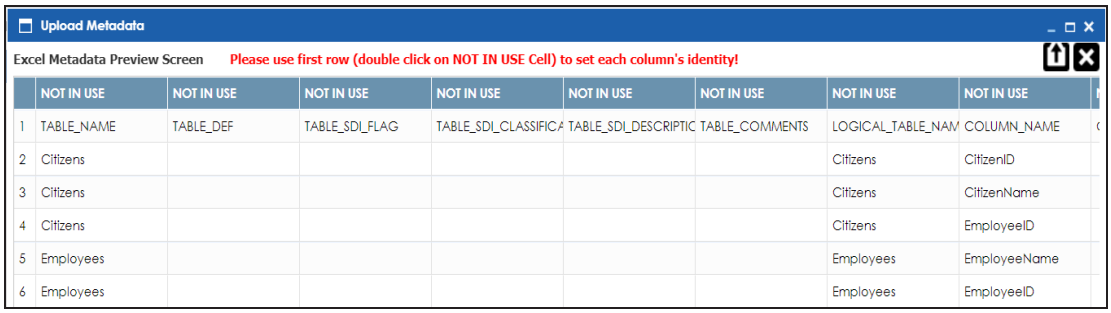
4. Drag and drop the updated data dictionary file or use  to upload the file.

   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 check box 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 check box is selected. Use this check box to use the first row as header.

Select the check box and click .

The Upload Metadata page appears. The first row in the XLSX file appears as the header.

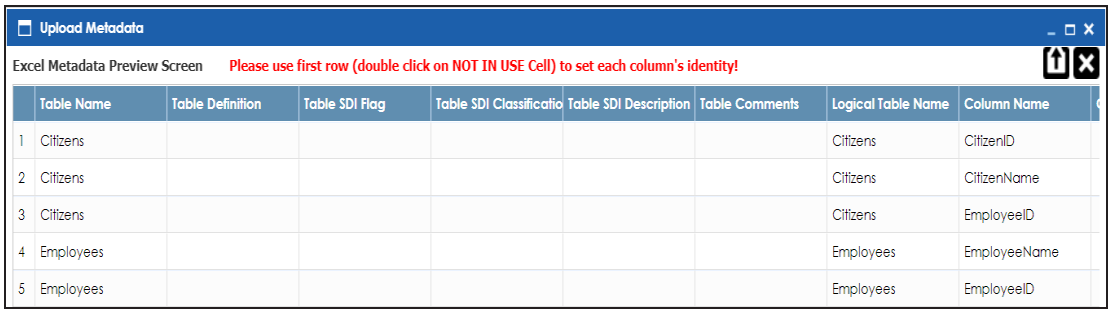


	Table Name	Table Definition	Table SDI Flag	Table SDI Classificatio	Table SDI Description	Table Comments	Logical Table Name	Column Name
1	Citizens						Citizens	CitizenID
2	Citizens						Citizens	CitizenName
3	Citizens						Citizens	EmployeeID
4	Employees						Employees	EmployeeName
5	Employees						Employees	EmployeeID

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

5. Click .

   The data dictionary is updated at the environment level.

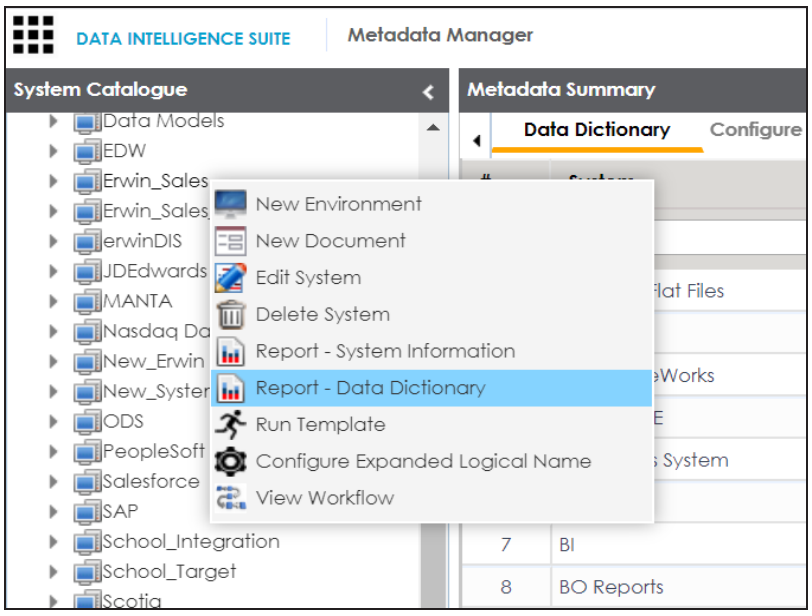
Viewing Data Dictionary Report

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.

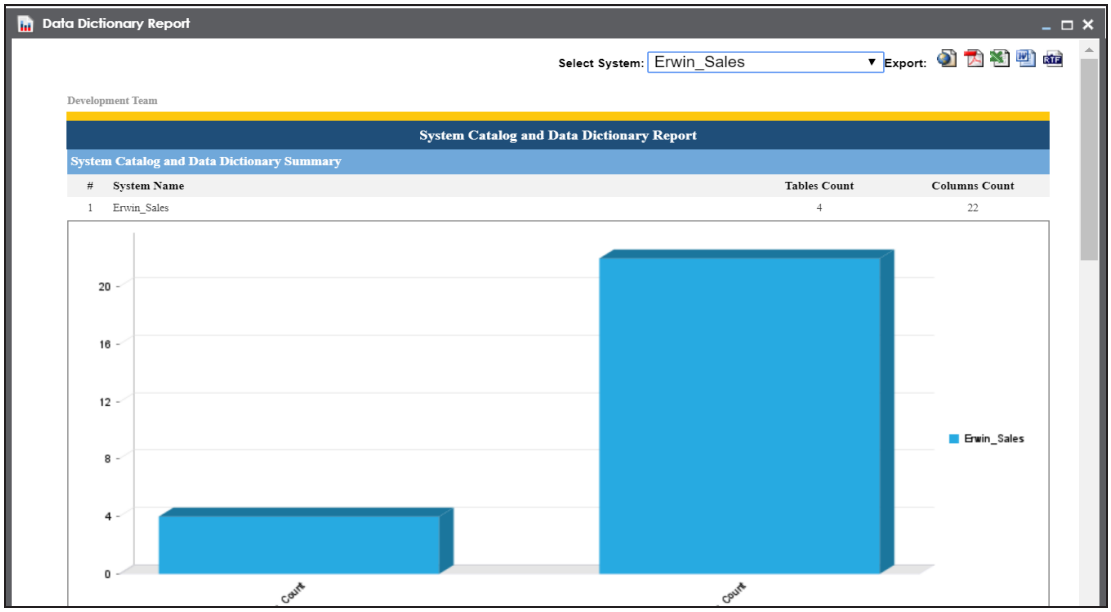
To view data dictionary at system level, follow these steps:

1. In the **System Catalogue** pane, right-click a system.



2. 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.

Running Impact Analysis

After mapping source metadata with target metadata, you can run impact analysis on the technical assets. The impact analysis helps you understand upstream and downstream dependencies of technical assets. It helps you assess the impact of transformations and source or target-level changes.

You can run impact analysis at the following levels:

- Environment
- Column
- Table

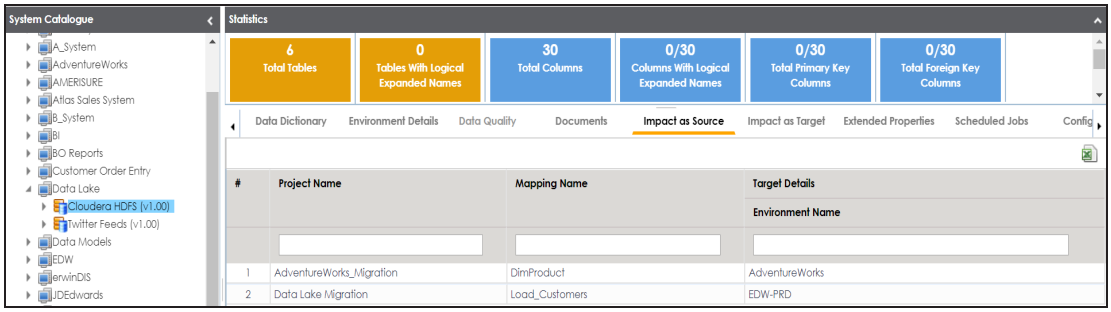
Environment

You can perform impact analysis on an environment and analyze its impact as source and target.

To perform impact analysis at environment level, follow these steps:

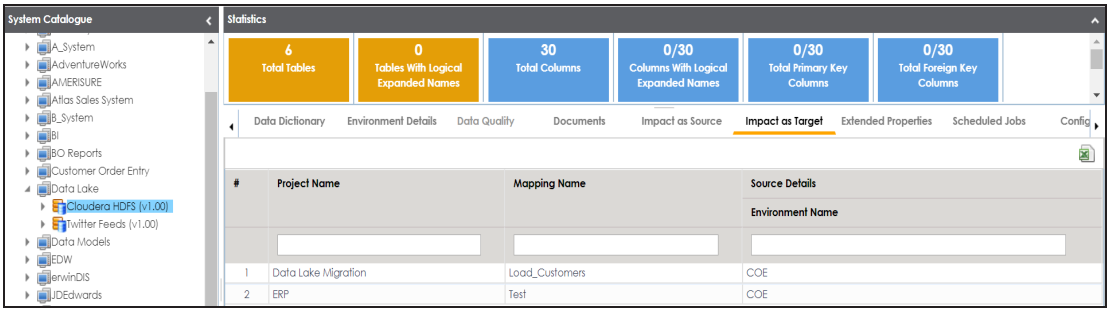
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click an environment.
3. In the central pane, click any one of the following tabs:
   - **Impact as Source**: Click this tab to analyze the impact of the environment as a source.

     The Impact as Source tab shows a list of mappings where the environment is a source.



   - **Impact as Target**: Click this tab to analyze the impact of the environment as target.

     The Impact as Target tab shows a list of mappings where the environment is a target.



You can download the impact analysis in the XLSX format. To download the impact analysis, click .

You can also perform impact analysis at the following levels:

- Table
- Column

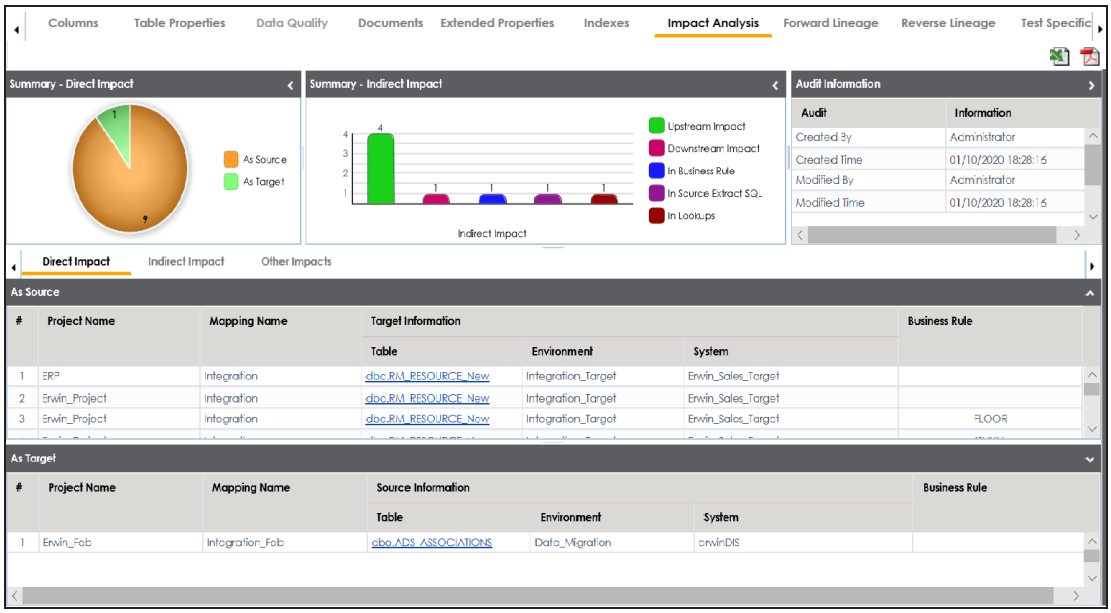
Table

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. The impact analysis on a table helps you identify these impacts of the table on mapping projects.

To run impact analysis at table level, follow these steps:

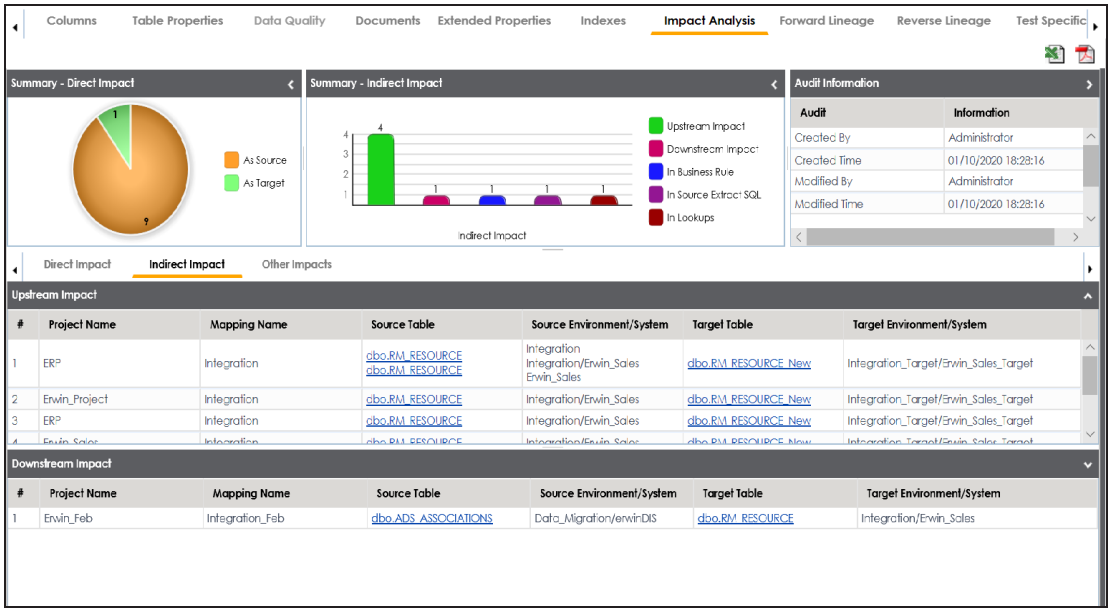
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click a table.
3. Click the **Impact Analysis** tab.

   By default, the Direct Impact tab opens. It displays the impact of the table as source and target.



   To view the indirect impact, click the **Indirect Impact** tab.

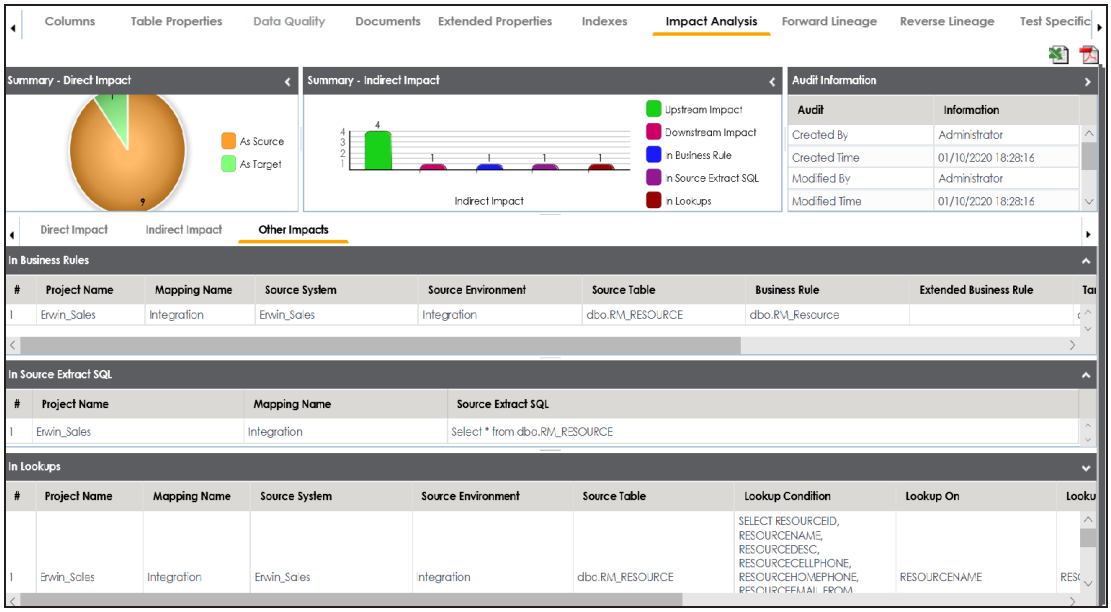
   It displays the upstream and downstream impact of the table.



To view other impacts, click the **Other Impacts** tab.

It displays the impact of the table on:

- Business rules
- Source Extract SQL
- Lookups



You can also perform impact analysis at the following levels:

- Environment
- Column

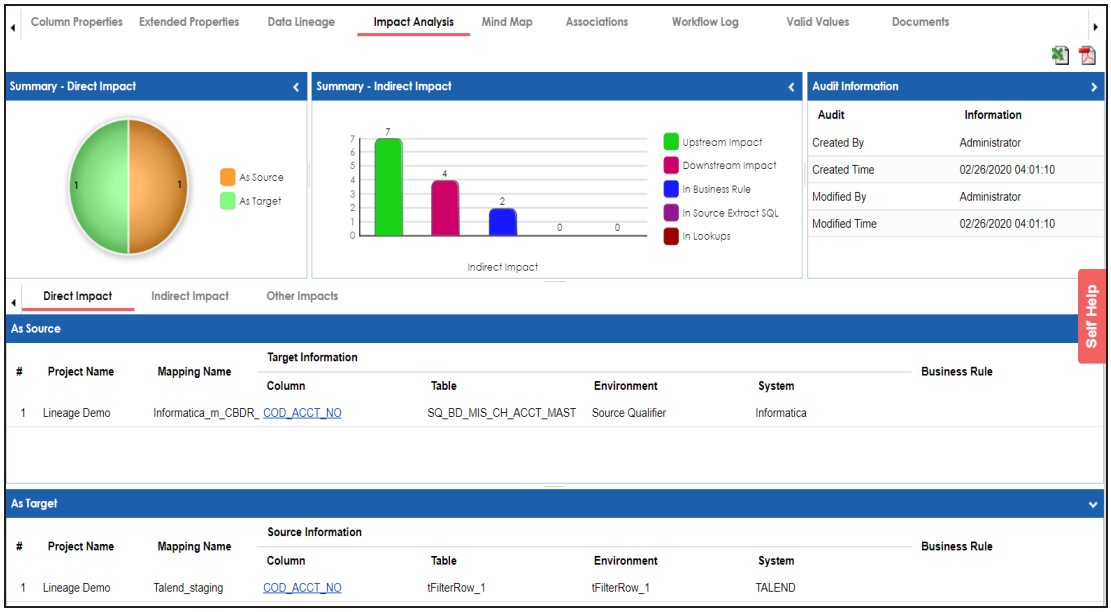
Column

A column 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. The impact analysis on a column helps you identify these impacts of the column on mapping projects.

To perform impact analysis on columns, follow these steps:

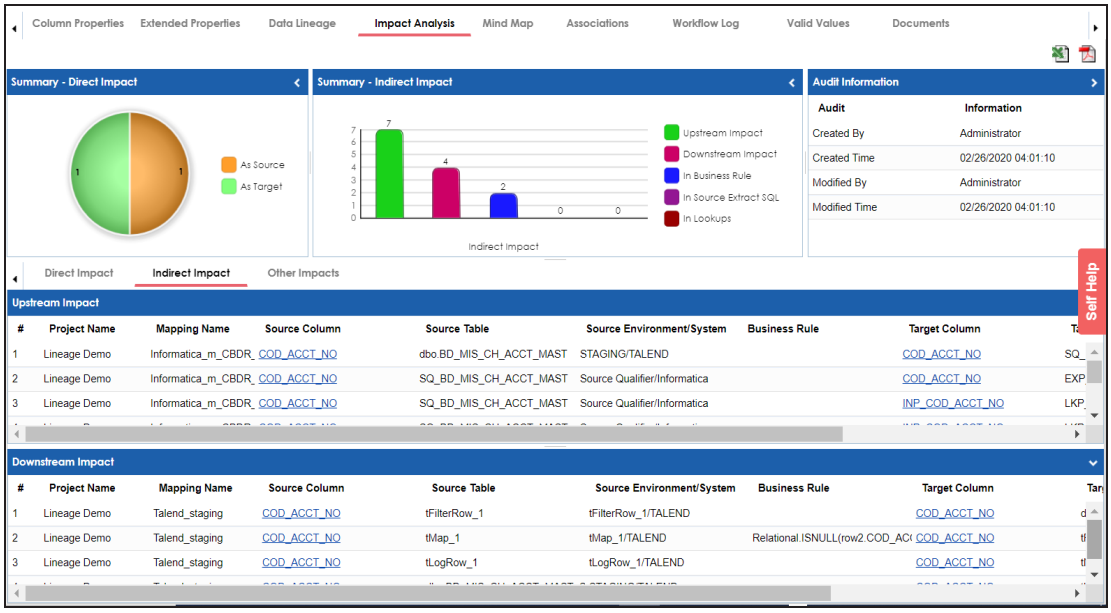
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click a column.
3. Click the **Impact Analysis** tab.

   By default, the Direct Impact tab opens. It displays the impact of the column as source and target.



   To view the indirect impact, click the **Indirect** tab.

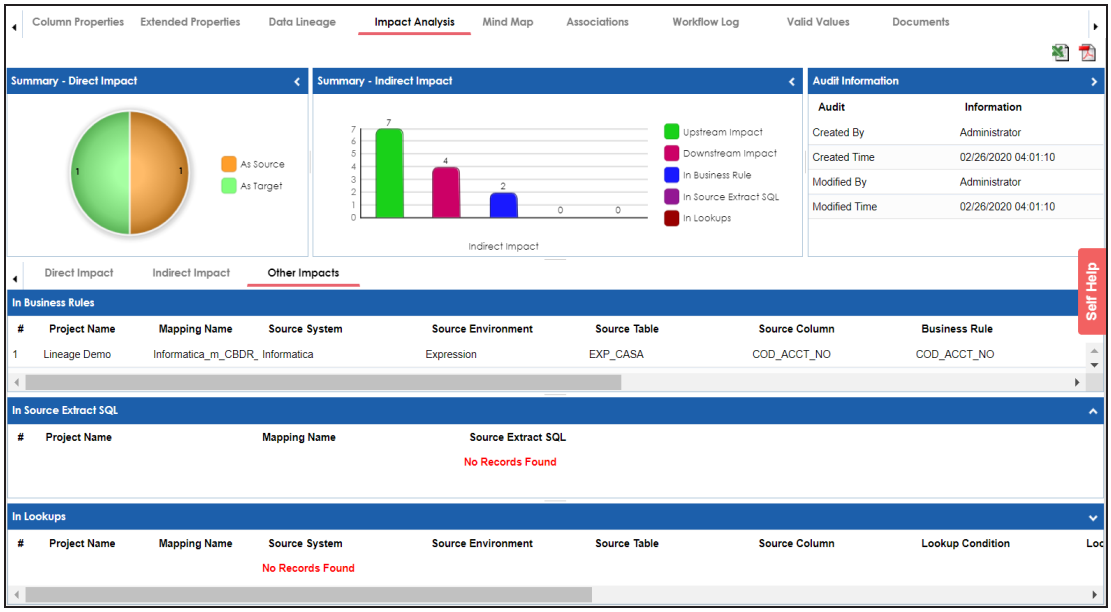
   It displays the upstream and downstream impact of the column.



To view other impacts, click the **Other Impacts** tab.

It displays the impact of the column on:

- Business rules
- Source extract SQL
- Lookups


Column Properties
Extended Properties
Data Lineage
Impact Analysis
Mind Map
Associations
Workflow Log
Valid Values
Documents
Summary - Direct Impact
As Source
As Target
Summary - Indirect Impact
Upstream Impact
Downstream Impact
In Business Rule
In Source Extract SQL
In Lookups
Indirect Impact
Audit Information
Audit
Information
Created By
Administrator
Created Time
02/26/2020 04:01:10
Modified By
Administrator
Modified Time
02/26/2020 04:01:10
Direct Impact
Indirect Impact
Other Impacts
Self Help
In Business Rules
Project Name Mapping Name Source System Source Environment Source Table Source Column Business Rule
1 Lineage Demo Informatica_m_CBDR_ Informatica Expression EXP_CASA COD_ACCT_NO COD_ACCT_NO
In Source Extract SQL
Project Name Mapping Name Source Extract SQL
No Records Found
In Lookups
Project Name Mapping Name Source System Source Environment Source Table Source Column Lookup Condition
No Records Found

Running Lineage Analysis

After mapping source metadata with target metadata, you can run 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

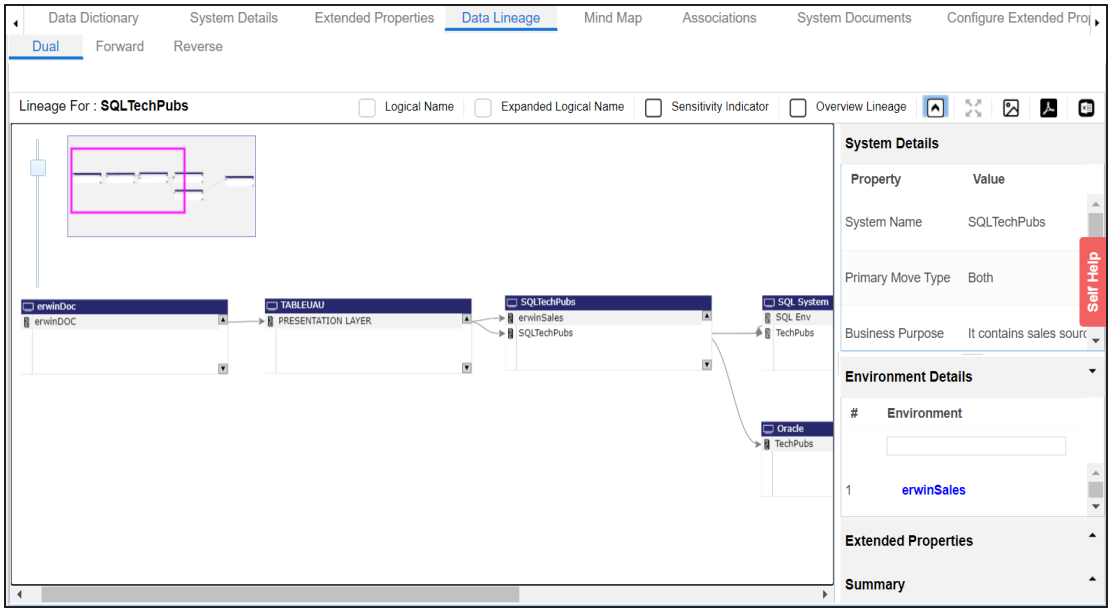
You can run forward and reverse lineage analysis to trace metadata at the system level. Forward lineage analysis generates lineage with the system as source. And, reverse lineage analysis generates lineage with the system as target. The Dual lineage analysis generates a lineage, which includes both forward and reverse lineage.

Viewing Lineage

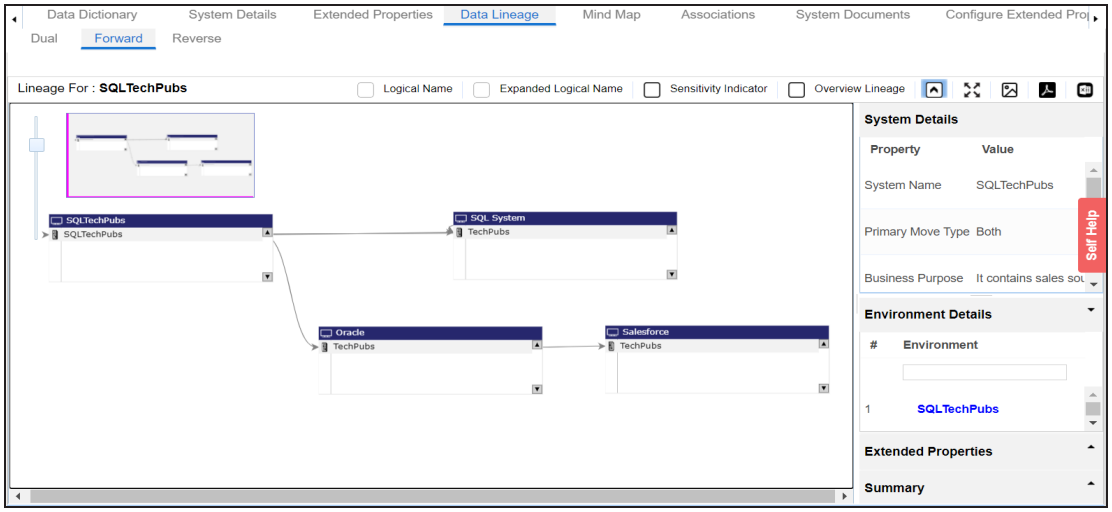
To run lineage analyzer at the system level, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click a system.
3. Click the **Data Lineage** tab.

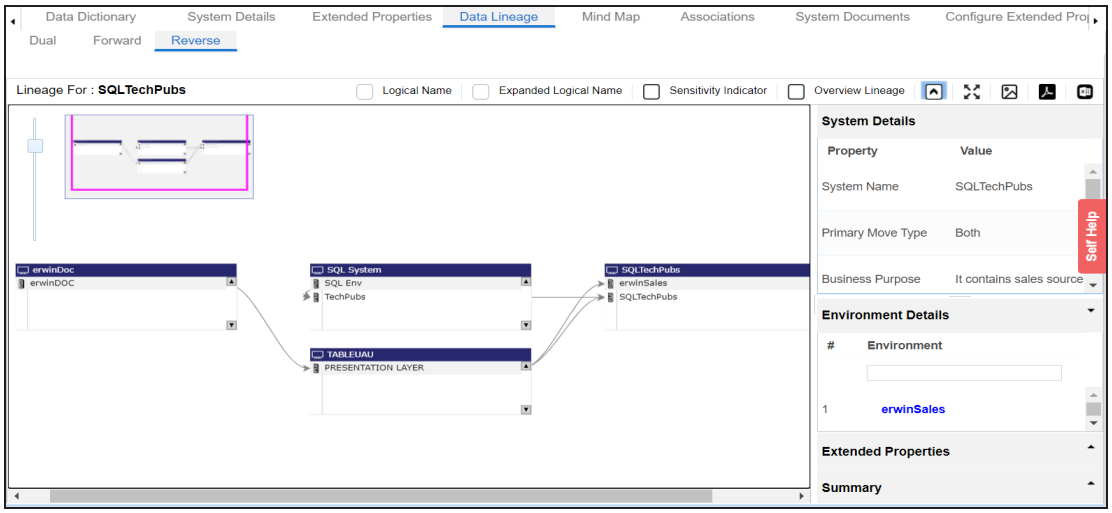
   By default, the dual lineage of the system appears.



To view forward lineage, click the **Forward** tab.



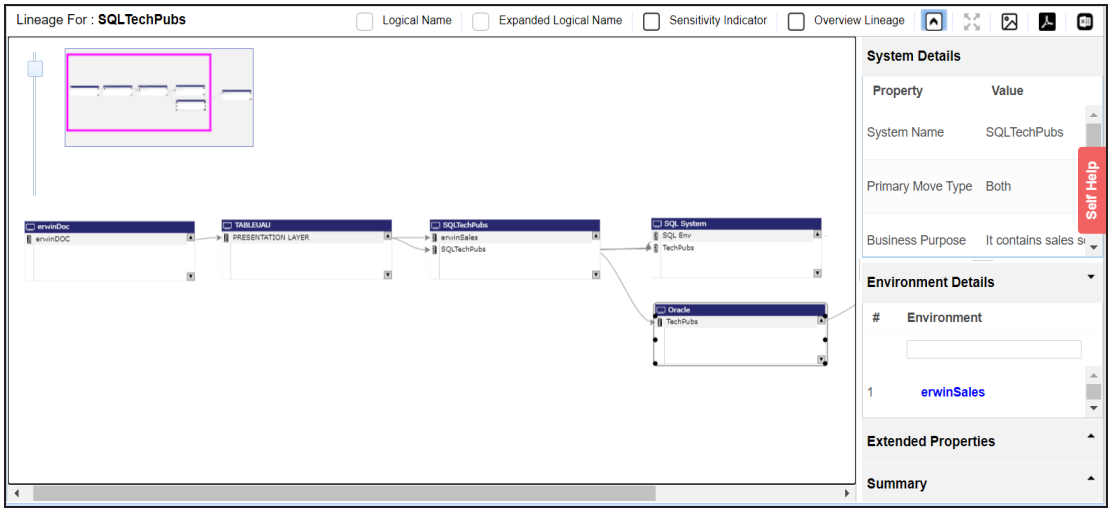
To view reverse lineage, click the **Reverse** tab.



Working on Lineage

Lineage of a system shows how metadata moves through systems. It provides a summary of environments used as source and target. Also, it gives you information about the systems and environments involved in the lineage.

For example, the following image displays a system's lineage.

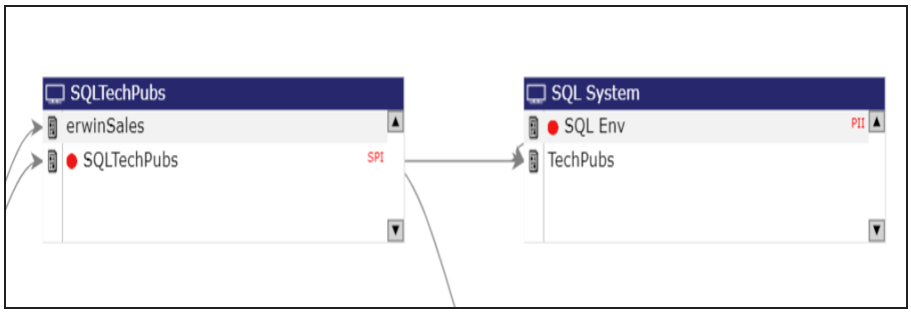


Use the following options:

Sensitivity Indicator

Use this option to view sensitivity of the environments in the lineage.

For example, in the following lineage, SQLTechPubs and SQL Env environments are sensitive.

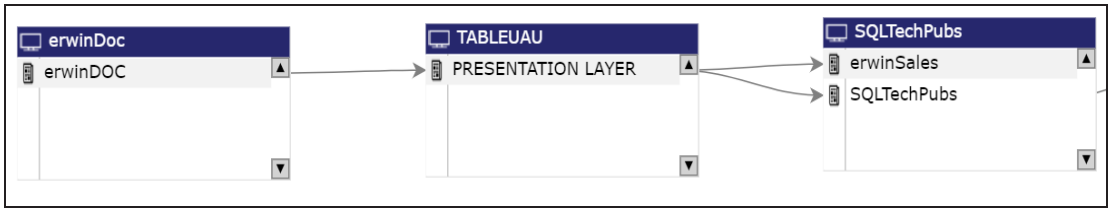


Overview Lineage

Use this option to switch between detailed and overview lineage view.

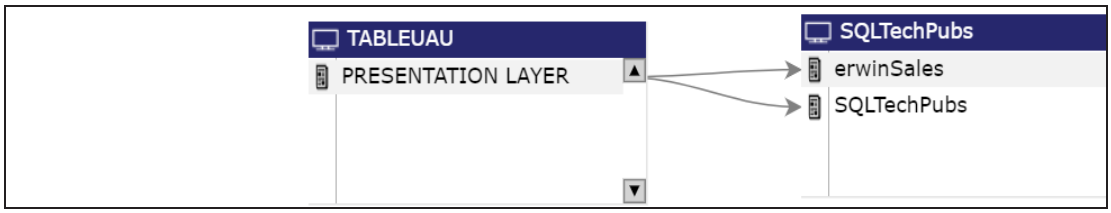
Detailed lineage view: This view is helpful to technical users like ETL developers. When you reverse engineer ETL jobs or SQL scripts, the lineage might contain temporary tables, ETL components (filters, joiners, routers etc.). This view includes systems and environments, that do not exist in the Metadata Manager.

For example, the following lineage displays the erwinDOC system and erwinDOC environment. These do not exist in the Metadata Manager.



Overview lineage view: This view is helpful to business users. It excludes systems and environments that do not exist in the Metadata Manager.

For example, the following lineage does not display erwinDOC system and erwinDOC environment. These do not exist in the Metadata Manager.



Collapse/Expand ( )

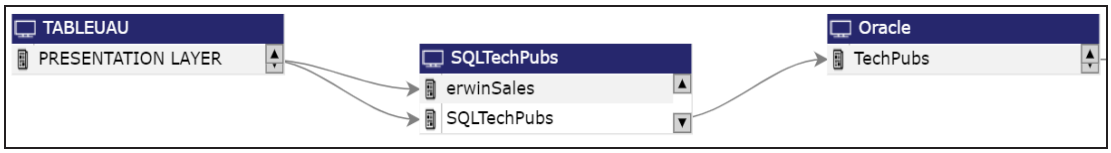
Use this option to switch between collapsed and expanded view. The expanded view includes environments involved in the lineage and the collapsed view excludes environments in the lineage.

For example, in the following lineage the collapsed view does not display environments involved in the lineage.

Auto Expand/Autofit ( )

This switch is enabled when you use the expanded view ( ). Use this option to switch between the Auto Expand view and Auto Fit view. The Auto Expand view shrinks the space for the list of environments and the Autofit view expands the space to fit the list of environments.

For example, the following lineage displays the Auto Expand view.



Export to Image ( )

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

Export to PDF ( )

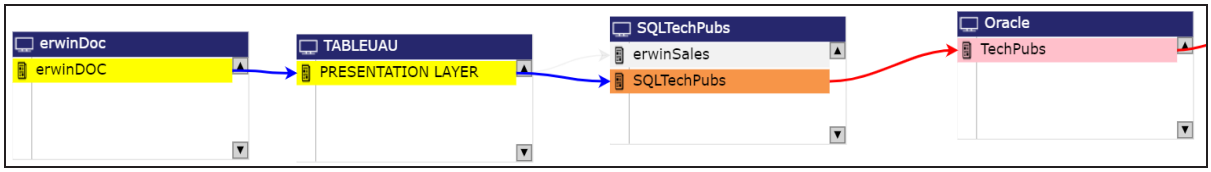
Use this option to download the lineage in the PDF format.

Export to Excel

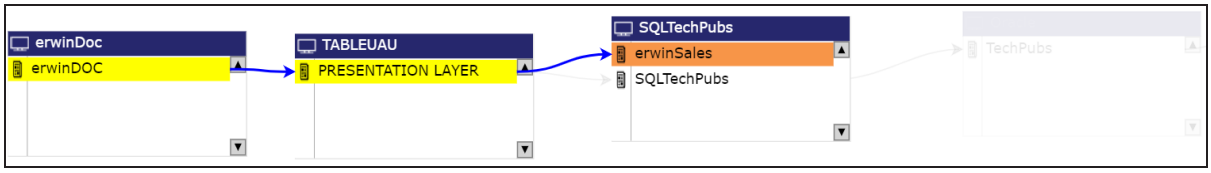
Use this option to download the lineage in the XLSX format.

Highlighting Lineage Path of an Environment

To highlight an environment's lineage path, click the environment. The environment is highlighted in orange color, its forward lineage path appears in red, and its reverse lineage path appears in blue.



Systems that are not part of a lineage path disappear. For example, in the following lineage, the Oracle system disappears in the lineage path with respect to the erwinSales environment.



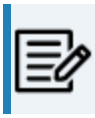
System Details

By default, this pane displays properties of a system for which, you ran lineage analysis. You can click a system in the lineage to view its properties in this pane.

Environment Details

By default, this pane displays a list of environments under the system for which, you ran lineage analysis.

You can click a system in the lineage to view list of environments under the system. You can then click <Environment_Name> to view lineage of the environment.



Environments that are not involved in lineage, are not included in the list.

Extended Properties

By default, this pane displays the extended properties of a system for which, you ran lineage analysis. You can click a system in the lineage to view its extended properties in this pane.

For more information, on configuring extended properties of a system, refer to the System topic.

Summary

This pane displays a summary of the lineage report. It gives information about number of environments acting as source, target, or both in the lineage.

Environment

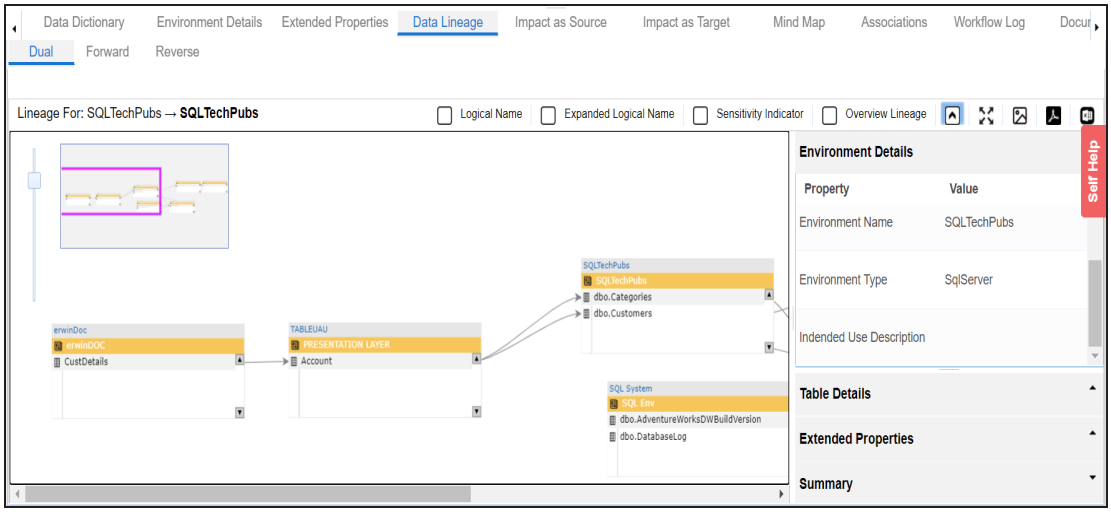
You can run forward and reverse lineage analysis to trace metadata at the environment level. Forward lineage analysis generates lineage with the environment as source. And, reverse lineage analysis generates lineage with the environment as target. The Dual lineage analysis generates a lineage, which includes both forward and reverse lineage.

Viewing Lineage

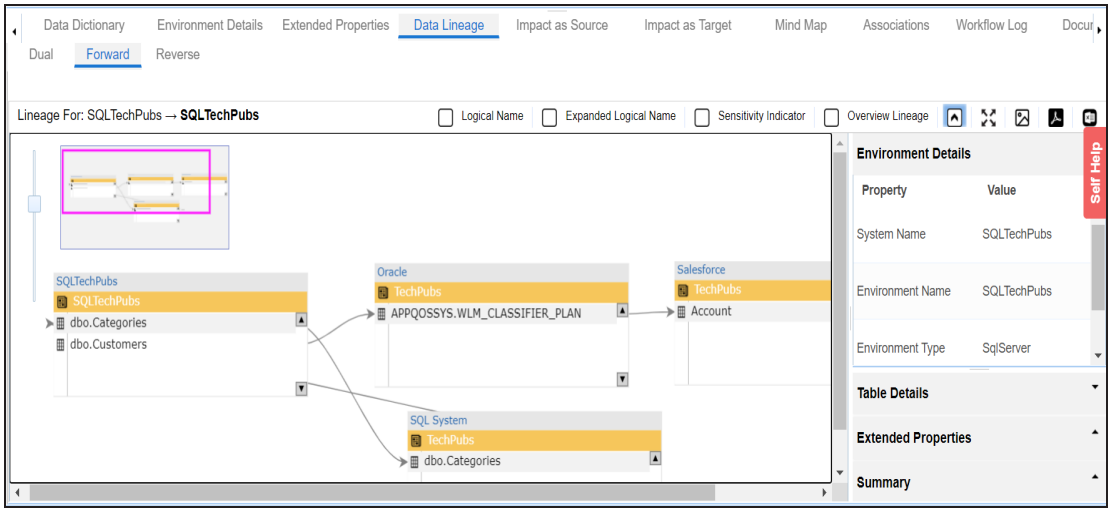
To run lineage analyzer at the environment level, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click an environment.
3. Click the **Data Lineage** tab.

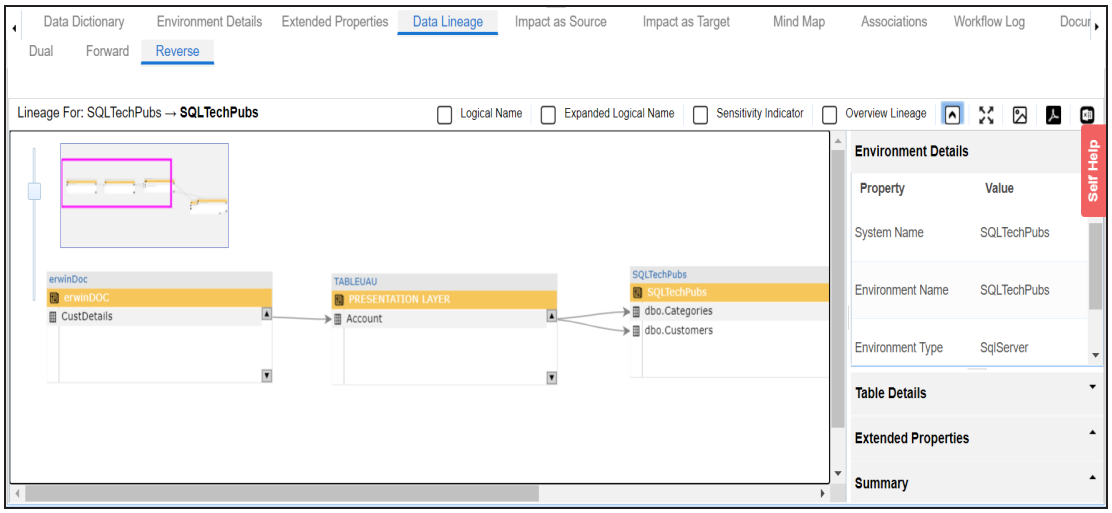
   By default, dual lineage of the environment appears.



To view forward lineage of the environment, click the **Forward** tab.



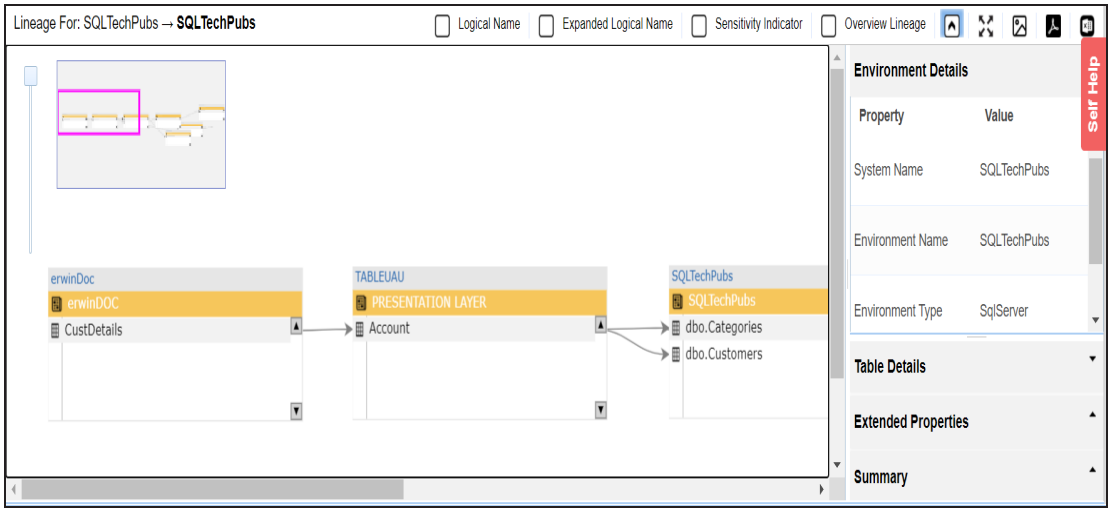
To view reverse lineage of the environment, click the **Reverse** tab.



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.

For example, the following image displays an environment's lineage.

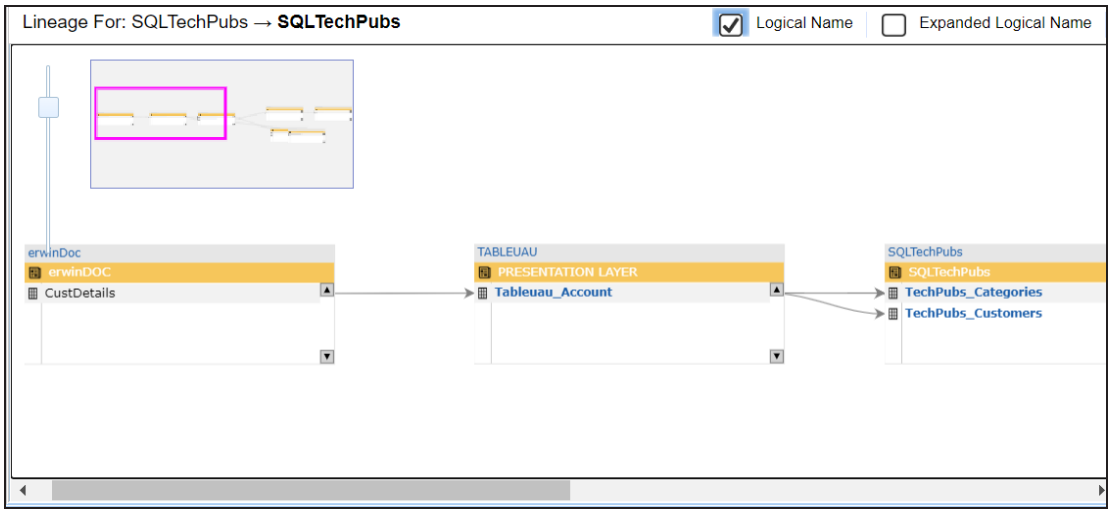


Use the following options:

Logical Name

Use this option to view logical names of the tables in the lineage.

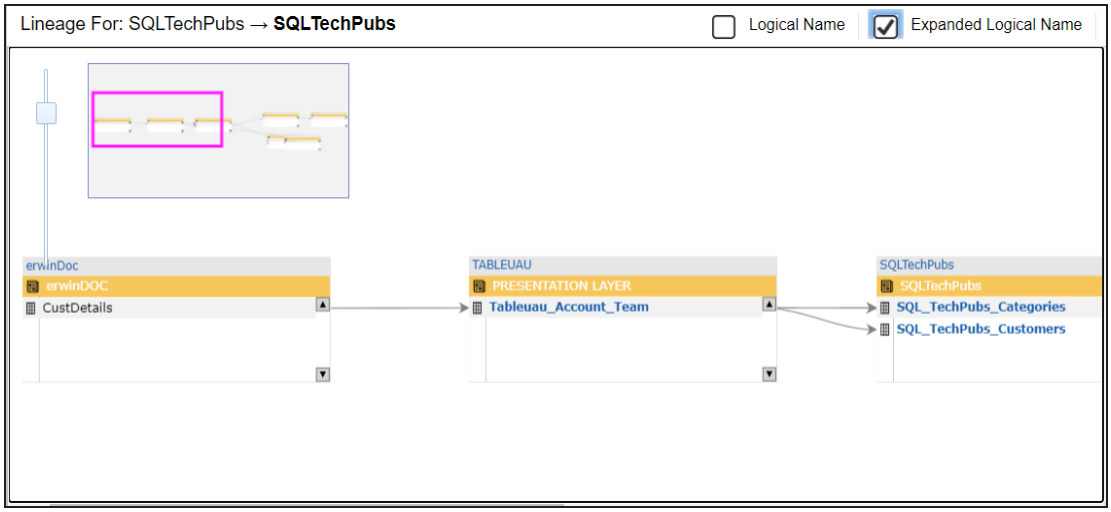
For example, in the following lineage, the table names are replaced with their logical names.



Expanded Logical Name

Use this option to view expanded logical names of the tables in the lineage.

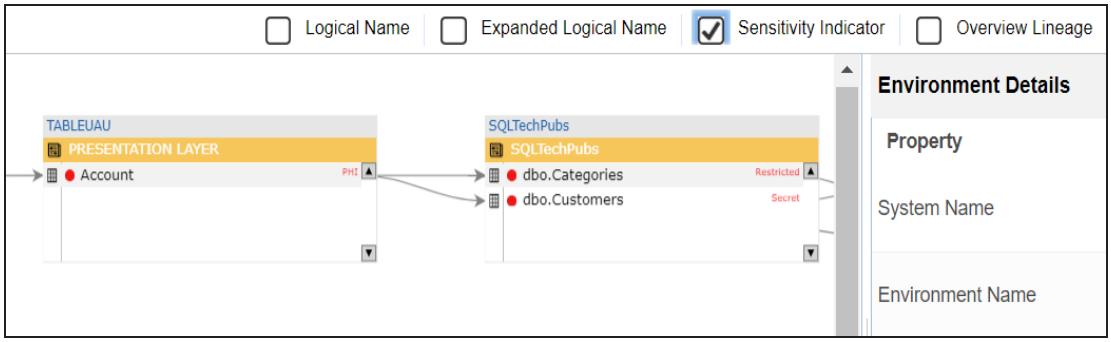
For example, in the following lineage, the table names are replaced with their expanded logical names.



Sensitive Data Indicator

Use this option to view sensitivity of tables in the lineage.

For example, the following lineage, displays the sensitivity of the tables.

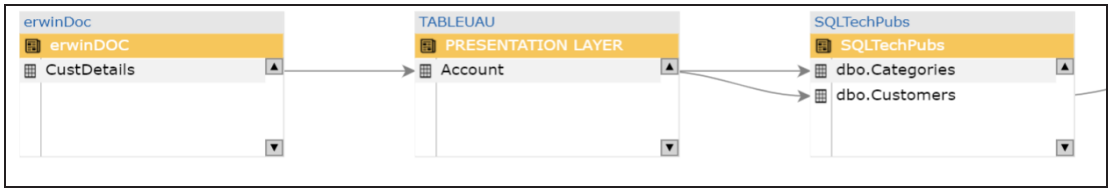


Overview Lineage

Use this option to switch between detailed and overview lineage view.

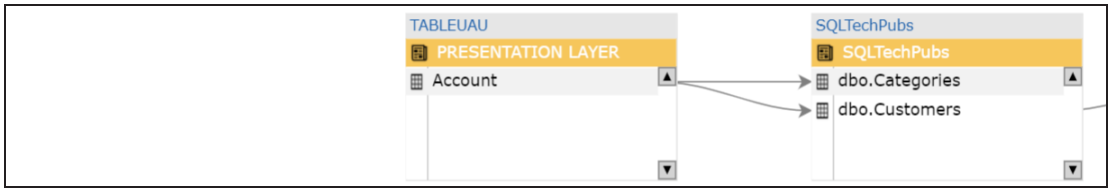
Detailed lineage view: This view is helpful to technical users like ETL developers. When you reverse engineer ETL jobs or SQL scripts, the lineage might contain temporary tables, ETL components (filters, joiners, routers etc.). This view includes environments and tables that do not exist in Metadata Manager.

For example, the following lineage displays the erwinDOC environment and CustDetails table. These, do not exist in the Metadata Manager.



Overview lineage view: This view is helpful to business users. It excludes environments and tables that do not exist in the Metadata Manager.

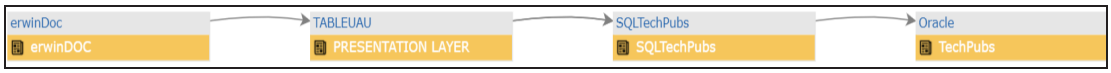
For example, the following lineage does not display erwinDOC environment and CustDetails table. These, do not exist in the Metadata Manager.



Collapse/Expand ( )

Use this option to switch between collapsed and expanded view. The expanded view includes tables involved in the lineage and the collapsed view excludes tables in the lineage.

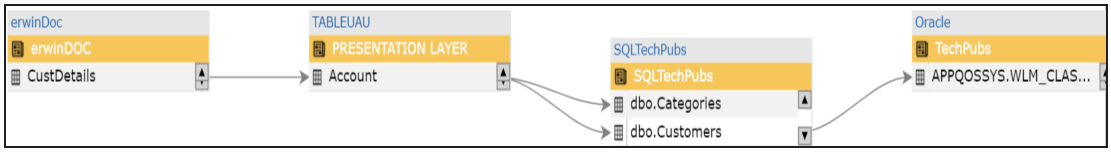
For example, in the following lineage the collapsed view does not display tables involved in the lineage.



Auto Expand/Autofit ( )

This switch is enabled when you use the expanded view ( ). Use this option to switch between the Auto Expand view and Auto Fit view. The Auto Expand view shrinks the space for the list of tables and the Autofit view expands the space to fit the list of tables.

For example, the following lineage displays the Auto Expand view.



Export to Image ( )

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

Export to PDF ( )

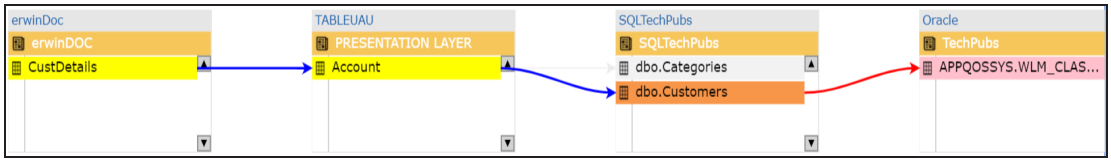
Use this option to download the lineage in the PDF format.

Export to Excel

Use this option to download the lineage in the XLSX format.

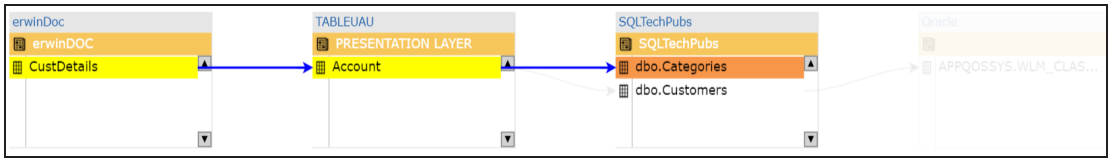
Highlighting Lineage Path of a Table

To highlight a table's lineage path, click the table. The table is highlighted in orange color, its forward lineage path appears in red, and its reverse lineage path appears in blue.



Environments that are not part of a lineage path disappear.

For example, in the following lineage, the TechPubs environment disappears in the lineage path with respect to the dbo.Categories table.



Environment Details

By default, this pane displays properties of an environment for which, you ran lineage analysis. You can click an environment in the lineage to view its properties in this pane.

Table Details

By default, this pane displays a list of tables under the environment for which, you ran lineage analysis.

You can click an environment in the lineage to view list of tables under the environment. You can then click <Table_Name> to view lineage of the table.


Tables that are not involved in lineage, are not included in the list.

Extended Properties

By default, this pane displays the extended properties of an environment for which, you ran lineage analysis. You can click an environment in the lineage to view its extended properties in this pane.

For more information, on configuring extended properties of an environment, refer to the Environment topic.

Summary

This pane displays a summary of the lineage report. It gives information about number of tables acting as source, target, or both in the lineage.

Table

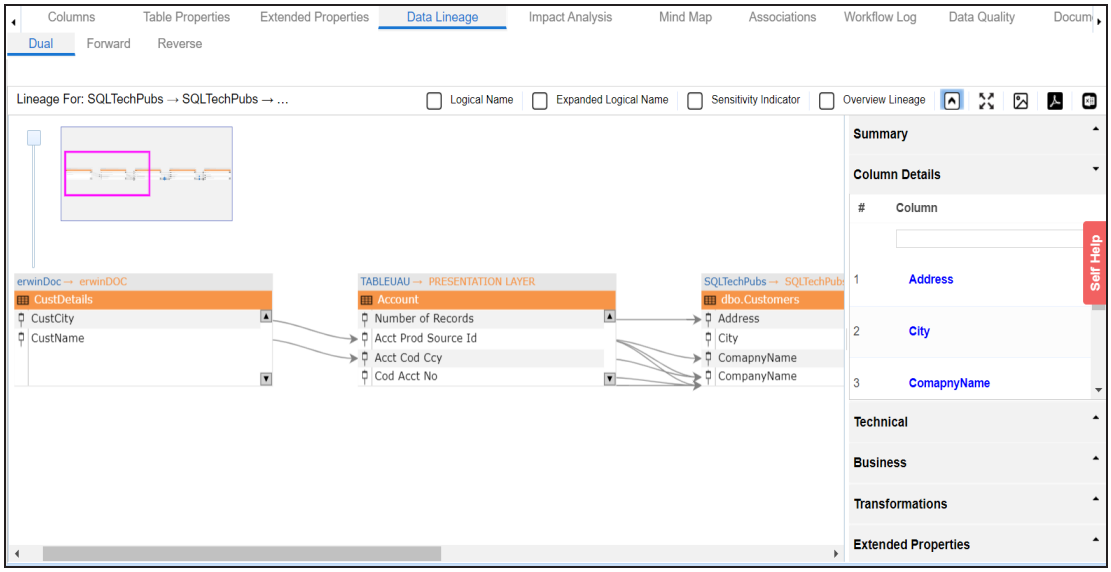
You can run forward and reverse lineage analysis to trace metadata at the table level. Forward lineage analysis generates lineage with the table as source. And, reverse lineage analysis generates lineage with the table as target. The Dual lineage analysis generates a lineage, which includes both forward and reverse lineage.

Viewing Lineage

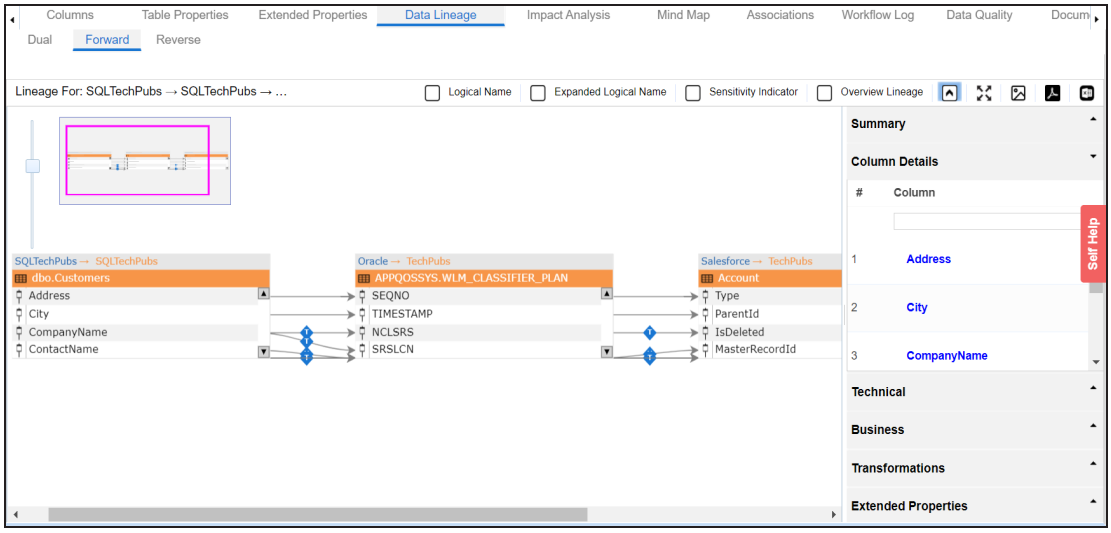
To run lineage analyzer at the table level, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click a table.
3. Click the **Data Lineage** tab.

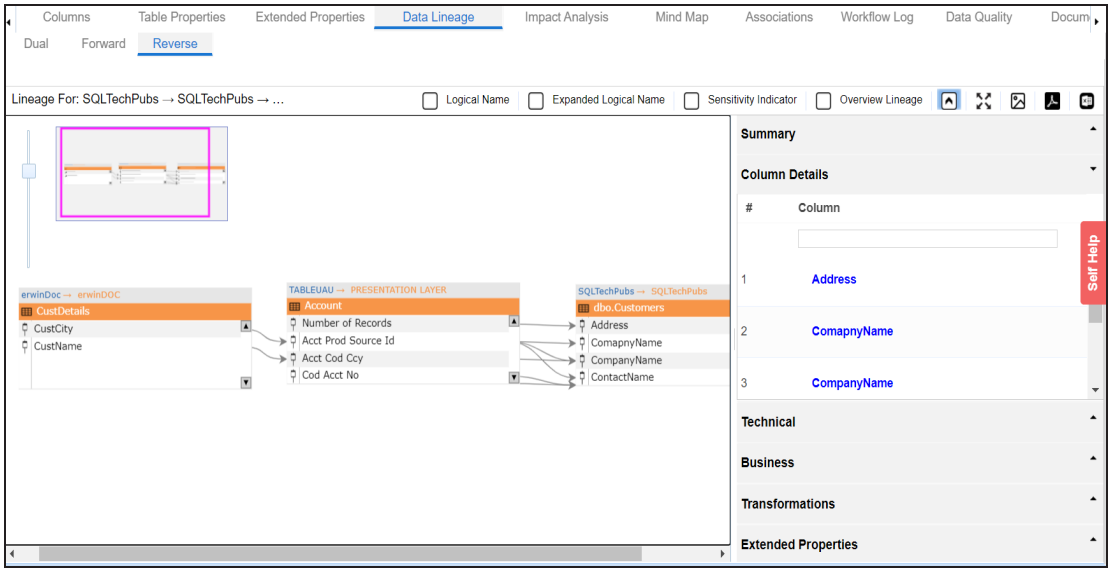
   By default, dual lineage of the table appears.

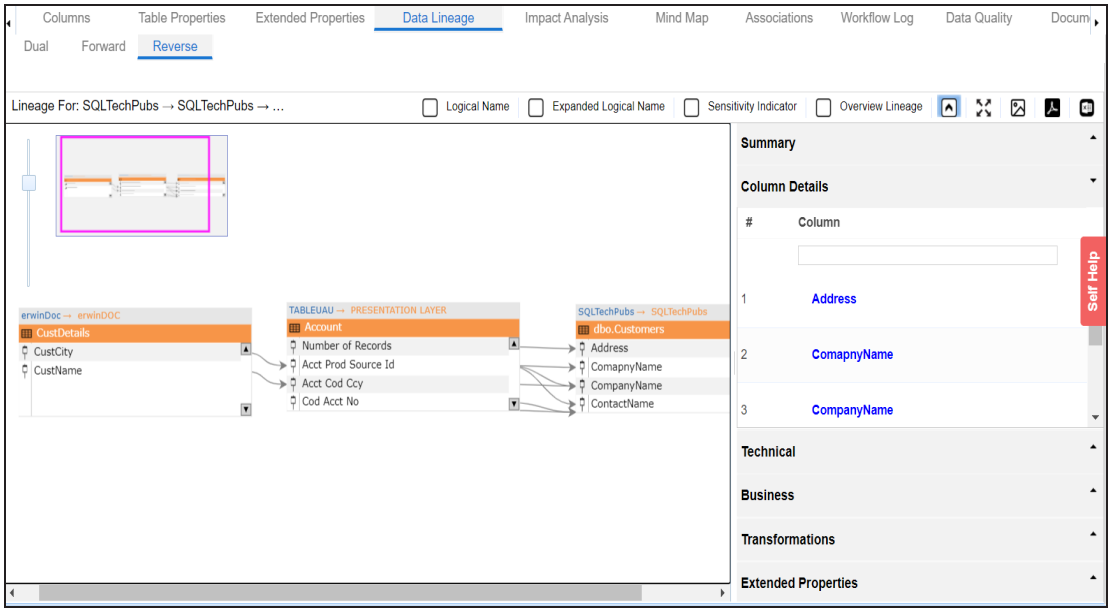


   To view forward lineage of the table, click the **Forward** tab.



To view reverse lineage of the table, click the **Reverse** tab.

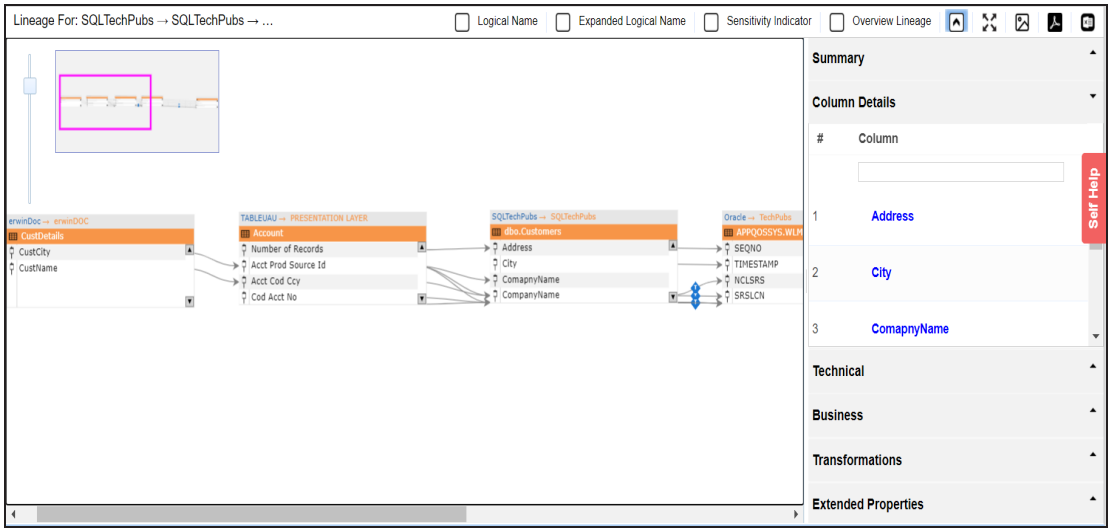




Working on Lineage

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.

For example, the following image displays a table's lineage.

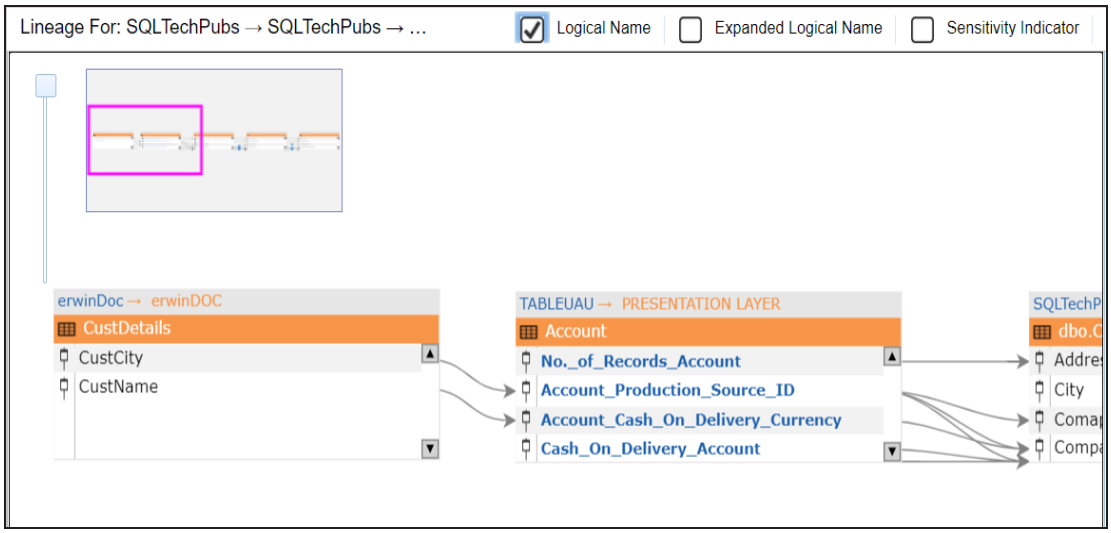


Use the following options:

Logical Name

Use this option to view logical names of columns in the lineage.

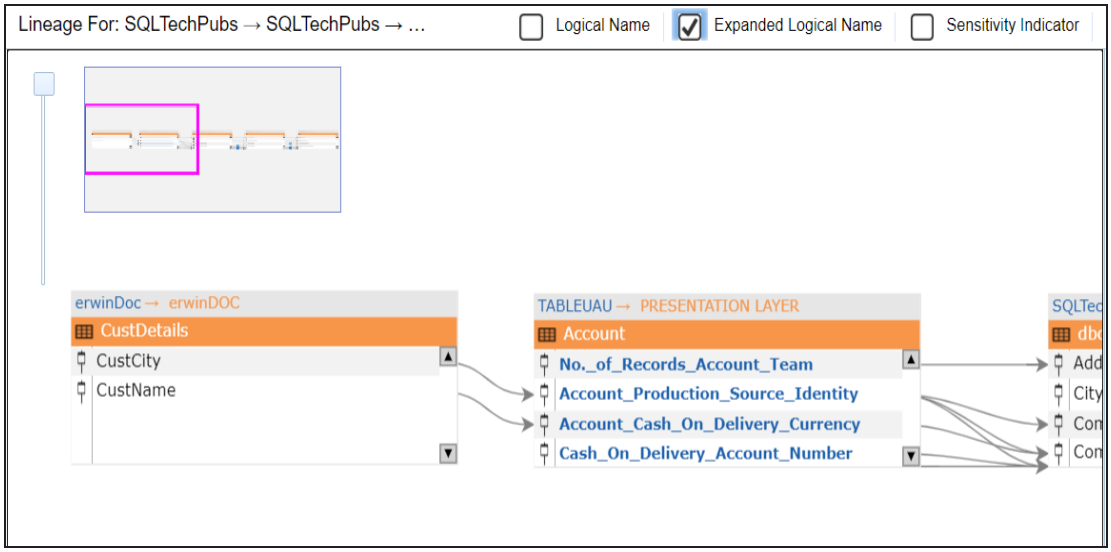
For example, in the following lineage, column names are replaced with their logical names.



Expanded Logical Name

Use this option to view expanded logical names of the columns in the lineage.

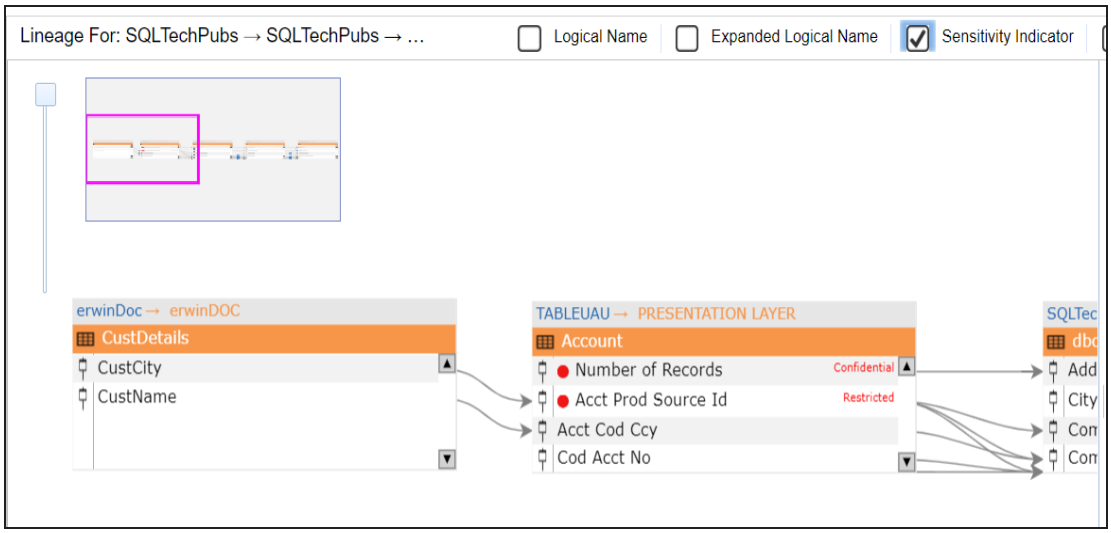
For example, in the following lineage, column names are replaced with their expanded logical names.



Sensitive Data Indicator

Use this option to view sensitivity of columns in the lineage.

For example, the following lineage displays the sensitivity of columns.

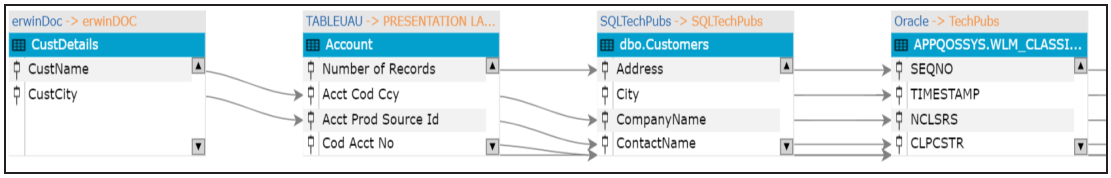


Overview Lineage

Use this option to switch between detailed and overview lineage view.

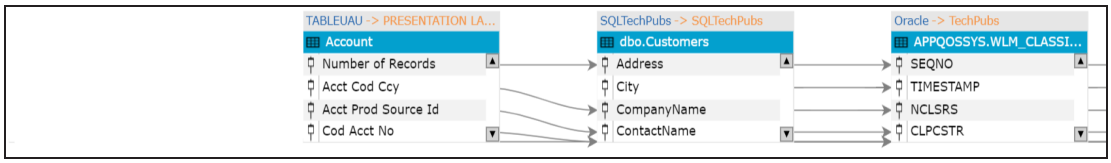
Detailed lineage view: This view is helpful to technical users like ETL developers. When you reverse engineer ETL jobs or SQL scripts, the lineage might contain temporary tables, ETL components (filters, joiners, routers etc.). This view includes tables and columns that do not exist in the Metadata Manager.

For example, the following lineage displays the CustDetails table that does not exist in the Metadata Manager.



Overview lineage view: This view is helpful to business users. It excludes tables and columns that do not exist in the Metadata Manager.

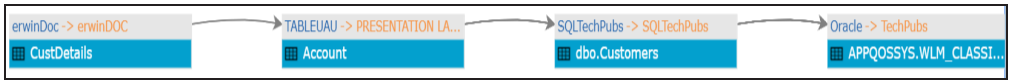
For example, the following lineage does not display CustDetails table that does not exist in the Metadata Manager.



Collapse/Expand ()

Use this option to switch between collapsed and expanded view. The expanded view includes columns involved in the lineage and the collapsed view excludes columns in the lineage.

For example, in the following lineage the collapsed view does not display columns involved in the lineage.

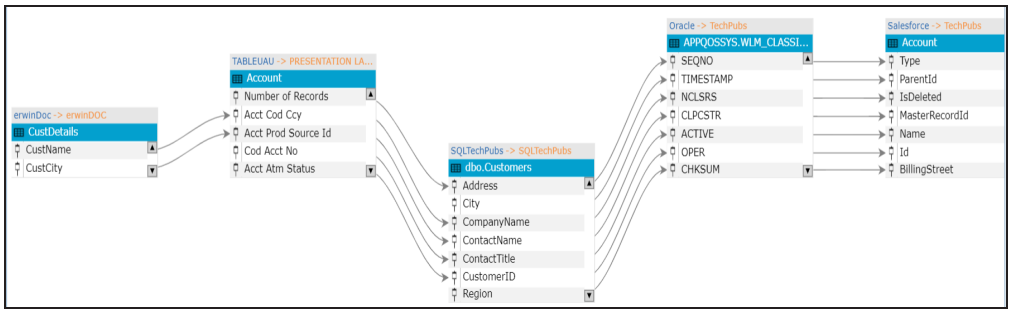


Auto Expand/Autofit ()

This switch is enabled when you use the expanded view (). Use this option to switch between the Auto Expand view and Auto Fit view. The Auto Expand view

shrinks the space for the list of columns and the Autofit view expands the space to fit the list of columns.

For example, the following lineage displays the Auto Expand view.



Export to Image ( )

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

Export to PDF ( )

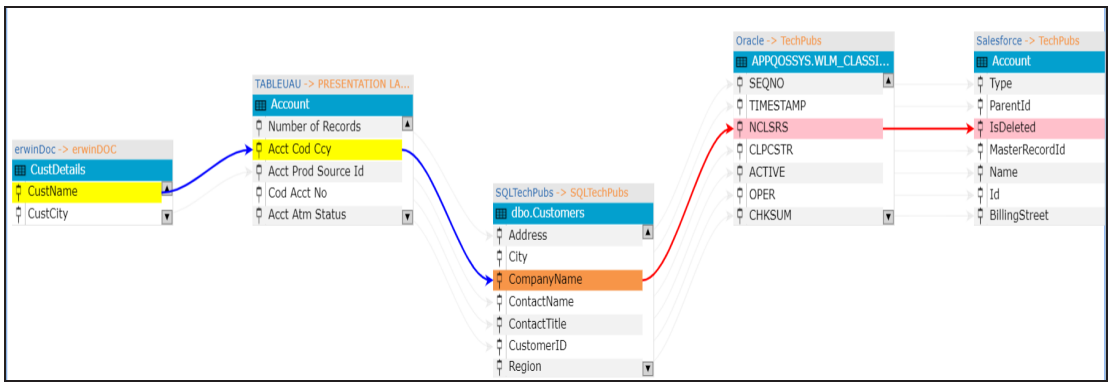
Use this option to download the lineage in the PDF format.

Export to Excel

Use this option to download the lineage in the XLSX format.

Highlighting Lineage Path of a Column

To highlight a column's lineage path, click the column. The column is highlighted in orange color, its forward lineage path appears in red, and its reverse lineage path appears in blue.



Tables that are not part of a lineage path disappear.

For example, in the following lineage, the CustDetails and Account table disappear in the lineage path with respect to the City column.

Summary

This pane displays a summary of the lineage report. It gives information about number of columns acting as source, target, or both in the lineage.

Column Details

By default, this pane displays a list of columns under the table for which, you ran lineage analysis.

You can click a table in the lineage to view list of columns under the table. You can then click <Column_Name> to view lineage of the column.

Columns that are not involved in lineage, are not included in the list.

Technical

This pane displays technical properties of a table. By default, it displays the technical properties of the table for which, you ran lineage analysis. You can click a table in the lineage and view its technical properties. The technical properties of a table include System Name, Environment Name, Table Name, and so on. For more information on updating table properties, refer to the Updating Table Properties topic.

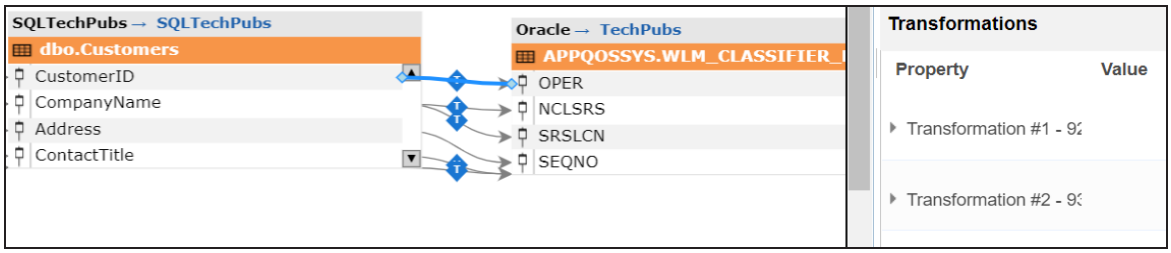
Business

This pane displays business properties of a table. By default, it displays the business properties of the table for which, you ran lineage analysis. You can click a table in the

lineage and view its business properties. The business properties of a table include Logical Table Name, Table Definition, Expanded Logical Name, and so on. For more information on updating table properties, refer to the Updating Table Properties topic.

Transformations

To view transformations between two columns, click the link between the columns. The Transformations pane expands and displays the transformations.



You can expand the transformation node to view the transformation details that includes Business Rule, Extended Business Rule, Trans lookup Condition, and Lookup On.

Extended Properties

By default, this pane displays the extended properties of a table for which, you ran the lineage analysis. You can click a table in the lineage to view its extended properties in this pane. For more information on configuring extended properties of tables, refer to the Table topic.

Column

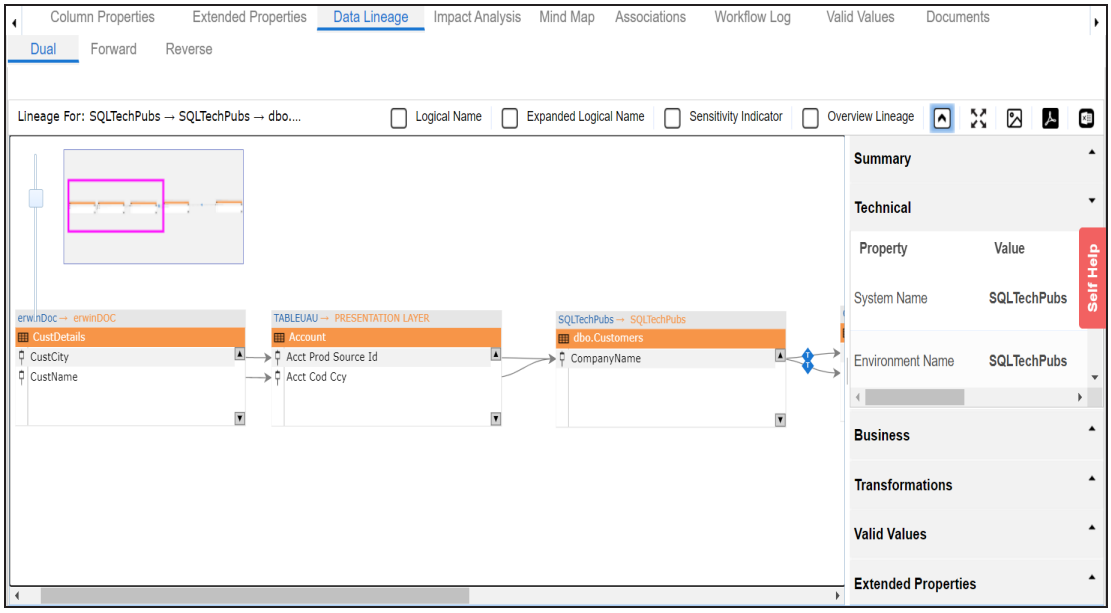
You can run forward and reverse lineage analysis to trace metadata at the column level. Forward lineage analysis generates a lineage with the column as source. And, reverse lineage analysis generates a lineage with the column as target. The Dual lineage analysis generates a lineage, which includes both forward and reverse lineage.

Viewing Lineage

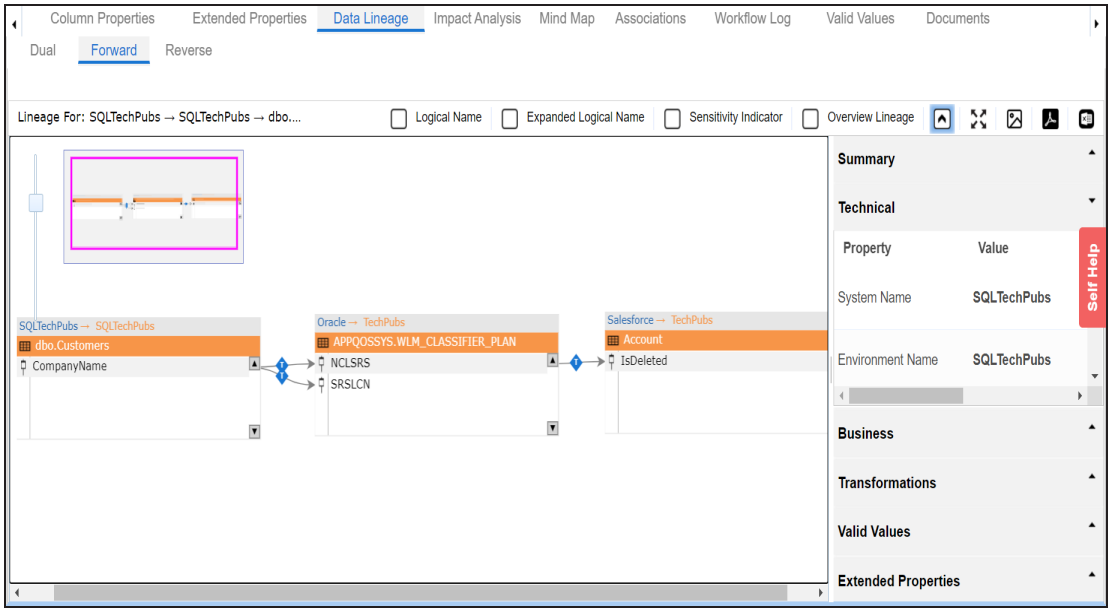
To run lineage analyzer at the column level, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click a column.
3. Click the **Data Lineage** tab.

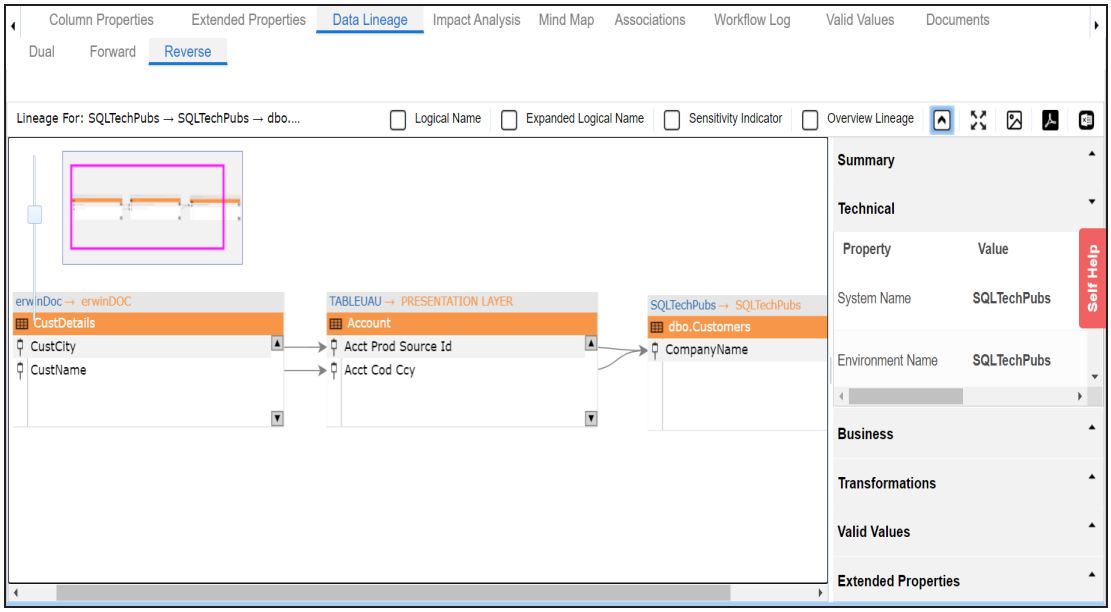
   By default, dual lineage of the column appears.



   To view forward lineage, click the **Forward** tab.



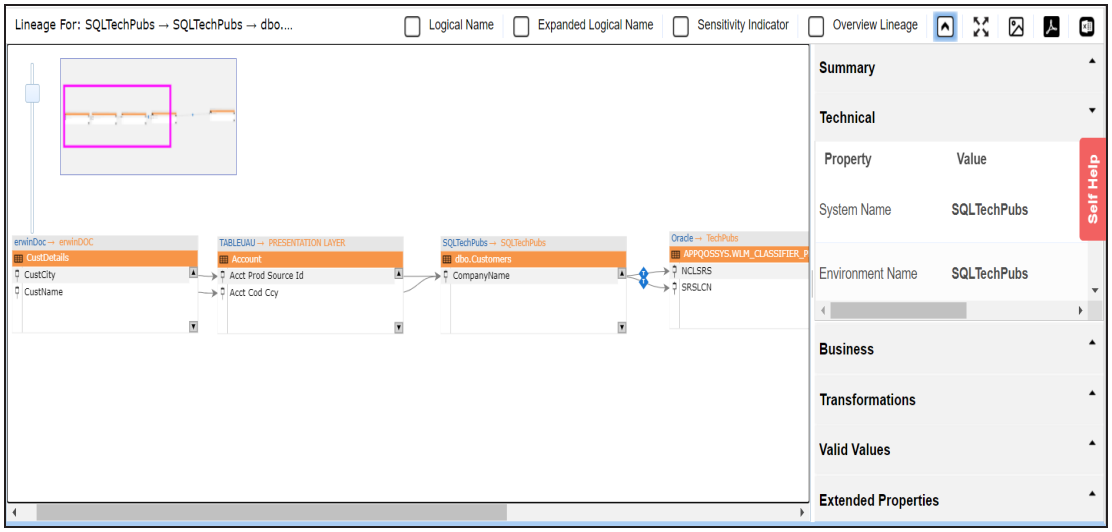
To view reverse lineage of the column, click the **Reverse** tab.



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.

For example, the following image displays a column's lineage.

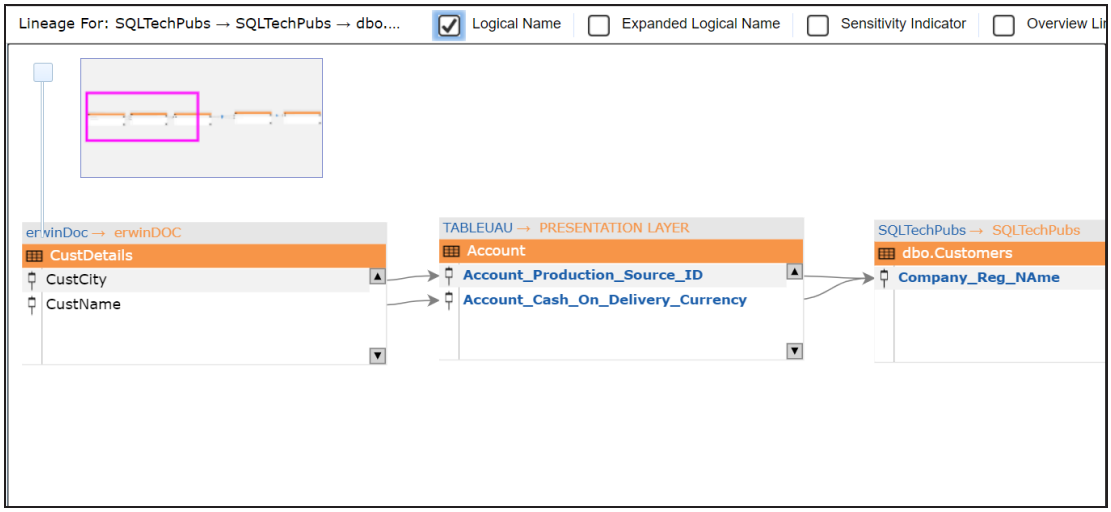


Use the following options:

Logical Name

Use this option to view logical names of the columns in the lineage.

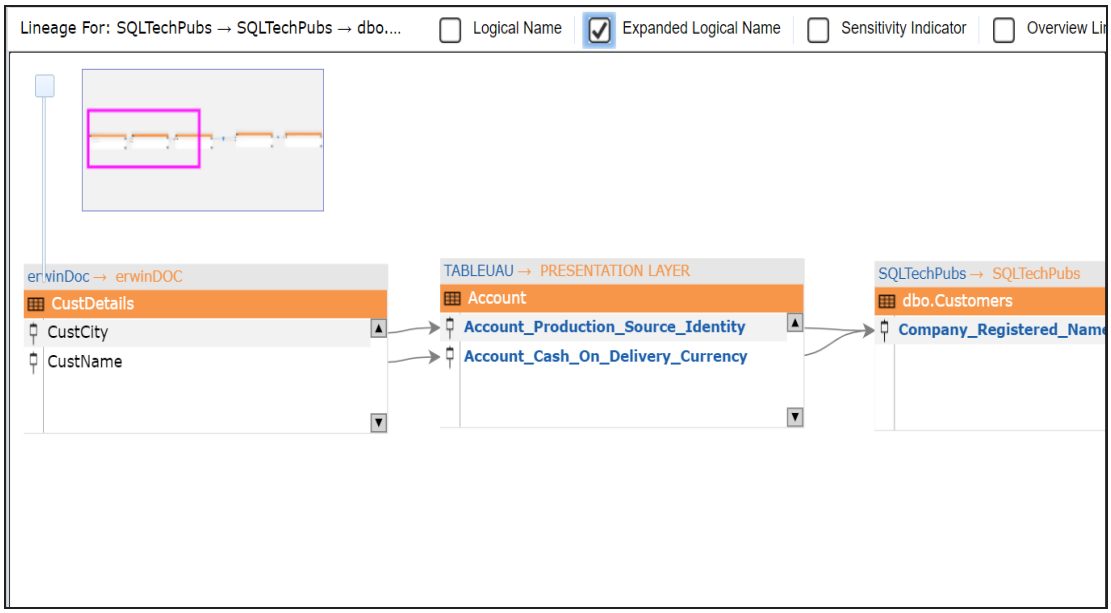
For example, in the following lineage the column names are replaced with their logical names.



Expanded Logical Name

Use this option to view expanded logical names of the columns in the lineage.

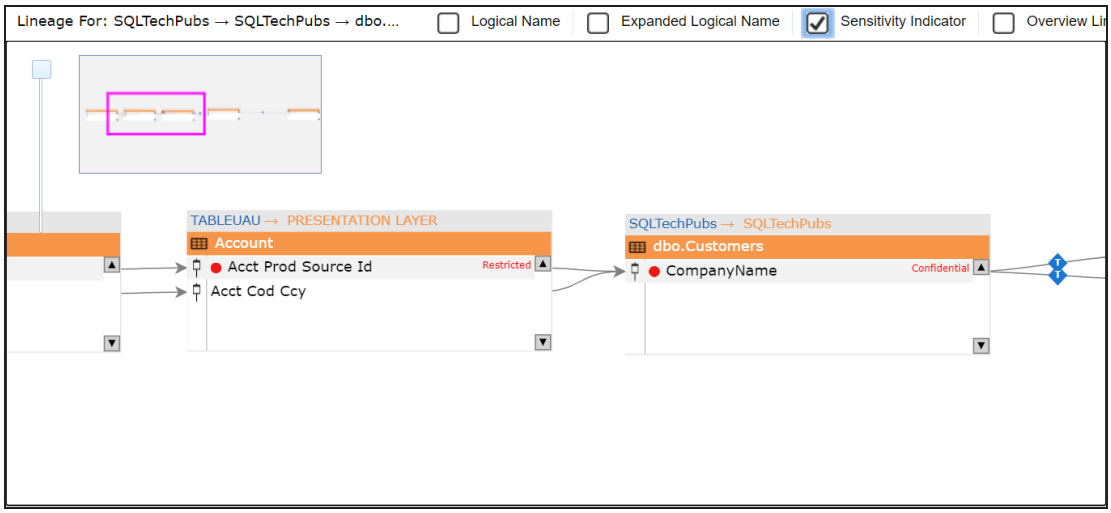
For example, in the following lineage the column names are replaced with their expanded logical names.



Sensitivity Indiacator

Use this option to view sensitivity of columns in the lineage.

For example, the following lineage displays the sensitivity of the columns.

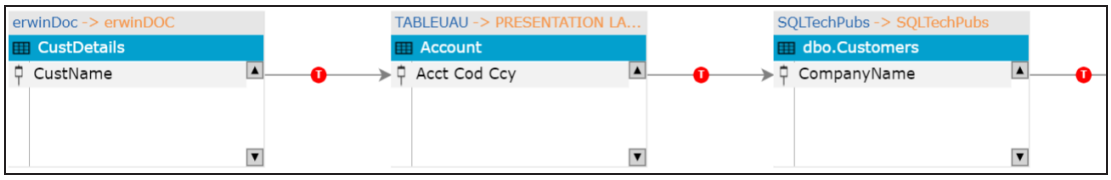


Overview Lineage

Use this option to switch between detailed and overview lineage view.

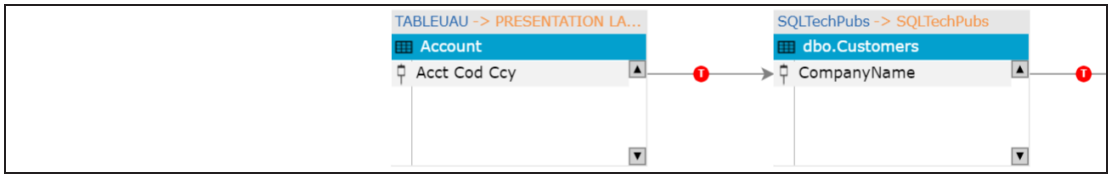
Detailed lineage view: This view is helpful to technical users like ETL developers. When you reverse engineer ETL jobs or SQL scripts, the lineage might contain temporary tables, ETL components (filters, joiners, routers etc.). This view includes tables and columns that do not exist in the Metadata Manager.

For example, the following lineage displays the CustDetails table that does not exist in the Metadata Manager.



Overview lineage view: This view is helpful to business users. It excludes tables and columns that do not exist in the Metadata Manager.

For example, the following lineage does not display CustDetails table that does not exist in the Metadata Manager.



Collapse/Expand ( )

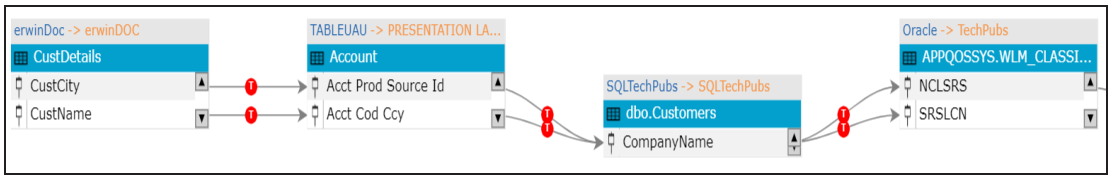
Use this option to switch between collapsed and expanded view. The expanded view includes columns involved in the lineage and the collapsed view excludes columns in the lineage.

For example, in the following lineage the collapsed view does not display columns involved in the lineage.

Auto Expand/Autofit ( )

This switch is enabled when you use the expanded view ( ). Use this to switch between the Auto Expand view and Auto Fit view. The Auto Expand view shrinks the space for the list of columns and the Autofit view expands the space to fit the list of columns.

For example, the following lineage displays the Auto Expand view.



Export to Image ( )

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

Export to PDF ( )

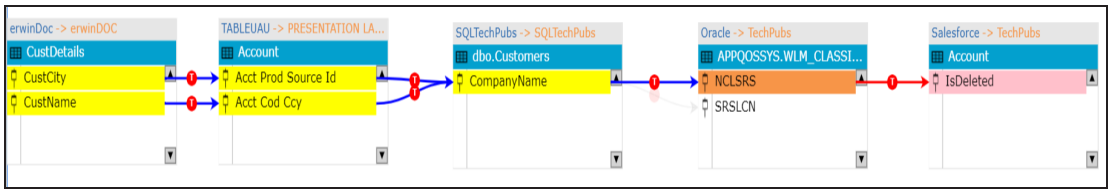
Use this option to download the lineage in the PDF format.

Export to Excel

Use this option to download the lineage in the XLSX format.

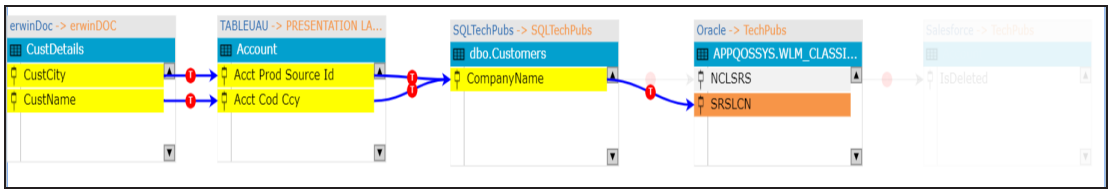
Highlighting Lineage Path of a Column

To highlight a column's lineage path, click the column. The column is highlighted in orange color, its forward lineage path appears in red, and its reverse lineage path appears in blue.



Tables that are not part of a lineage path disappear.

For example, in the following lineage, the Account table disappears in the lineage path with respect to the SRSLCN column.



Summary

This pane displays a summary of the lineage report. It gives information about number of columns acting as source, target, or both in the lineage.

Technical

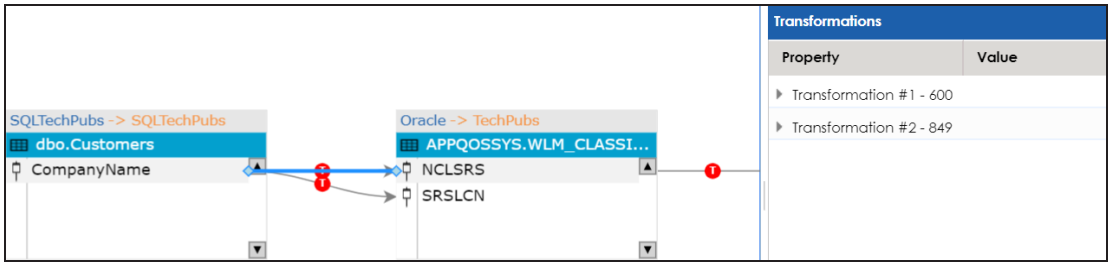
By default, this pane displays technical properties of the column for which, you ran lineage analysis. You can click a column in the lineage and view its technical properties. The technical properties of a column include Column Data Type, Column Precision, Column Length, and so on. For more information on updating column properties, refer to the Updating Column Properties topic.

Business

By default, this pane displays business properties of the column for which, you ran the lineage analysis. You can click a column in the lineage and view its business properties. The business properties of a column include Column Definition, Logical Column Name, Column Class, and so on. For more information on updating column properties, refer to the Updating Column Properties topic.

Transformations

To view transformations between two columns, click the link between the columns. The Transformations pane expands and displays the transformations.



You can expand the transformation node to view the transformation details that includes Business Rule, Extended Business Rule, Trans lookup Condition, and Lookup On.

Transformations

Property	Value
Target Column Scale	
Business Rule	UPPER
Extended Business Rule	
Trans lookup Condition	SELECT CompanyName FROM db dbo.Customers.CompanyName
Lookup On	CompanyName

Valid Values

To view valid values for a column, Click a column in the lineage, expand the Valid Values pane, and click the **Click Here** hyperlink. For more information on assigning valid values using codesets, refer to the Assigning Codesets to Columns topic.

Extended Properties

By default, this pane displays the extended properties of the column for which, you ran the lineage analysis. You can click a column in the lineage to view its extended properties in this pane. For more information on configuring extended properties of columns, refer to the Column topic.

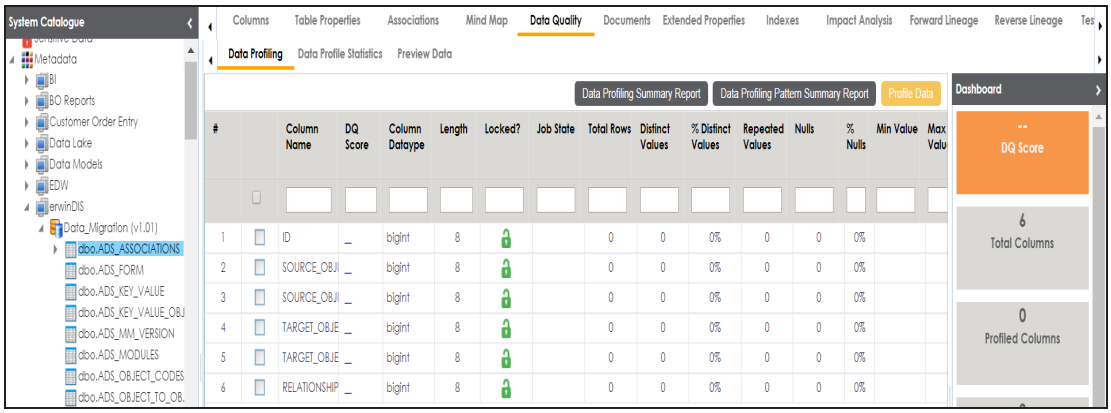
Previewing Data

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.

To preview table data, follow these steps:

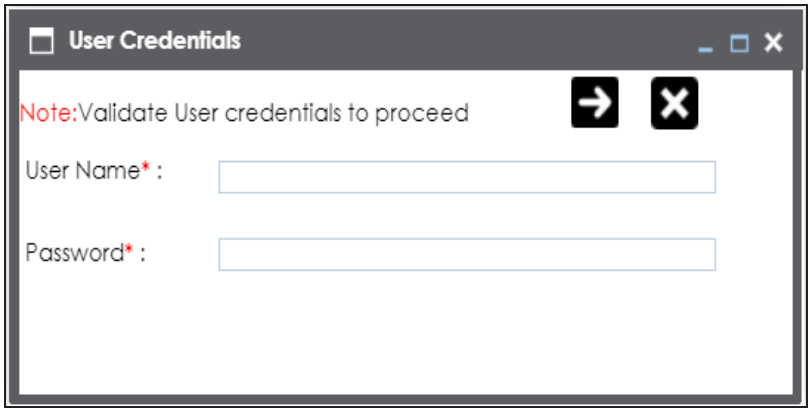
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click a table.
3. Click the **Data Quality** tab.

   By default the Data Profiling tab opens.



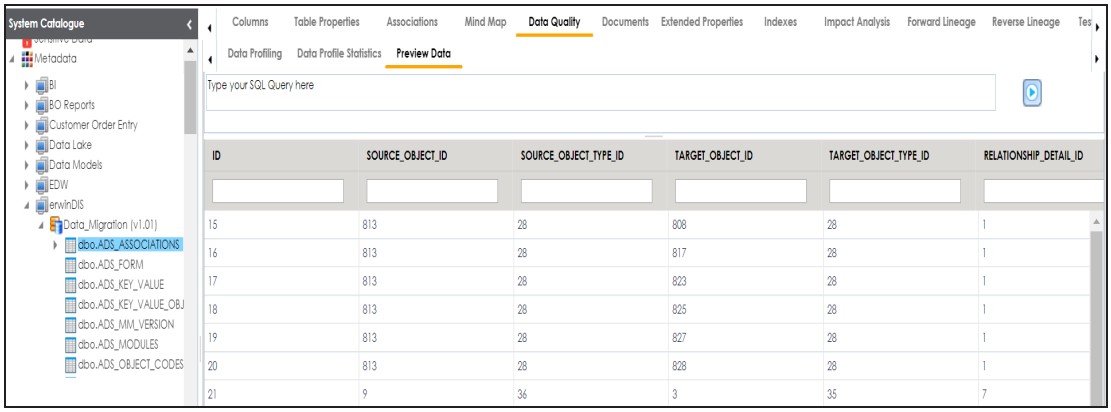
4. Click the **Preview Data** tab.

   The User Credentials page appears. For more information on enforcement of user credentials, refer to the Enforcing Credentials for Data Access or Preview topic.



5. 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.

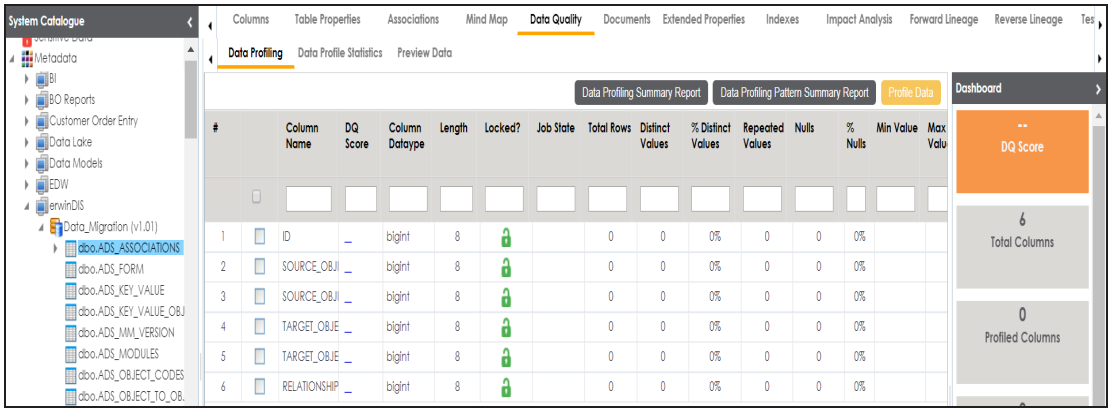
Profiling Data at Table Level

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.

To profile data at table level, follow these steps:

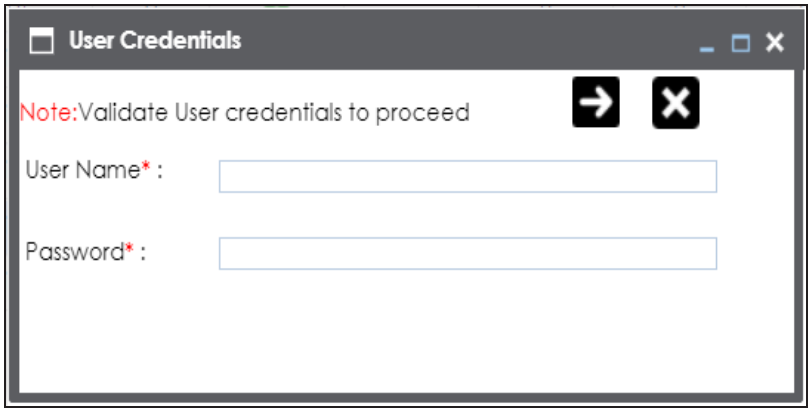
1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click a table.
3. Click **Data Quality**.

   By default the Data Profiling tab opens.



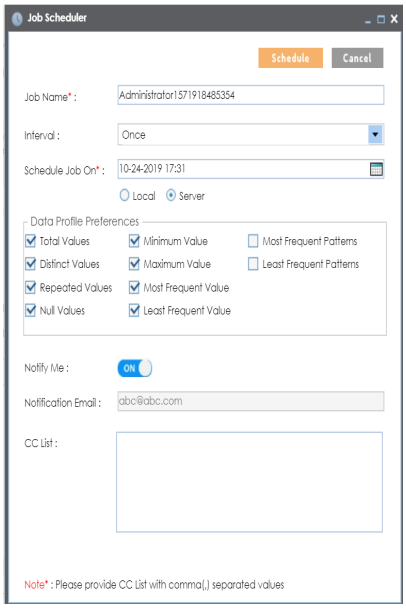
4. Select columns.
5. Click the **Profile Data** button.

   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.

   The Job Scheduler page appears.



7. 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 dif-

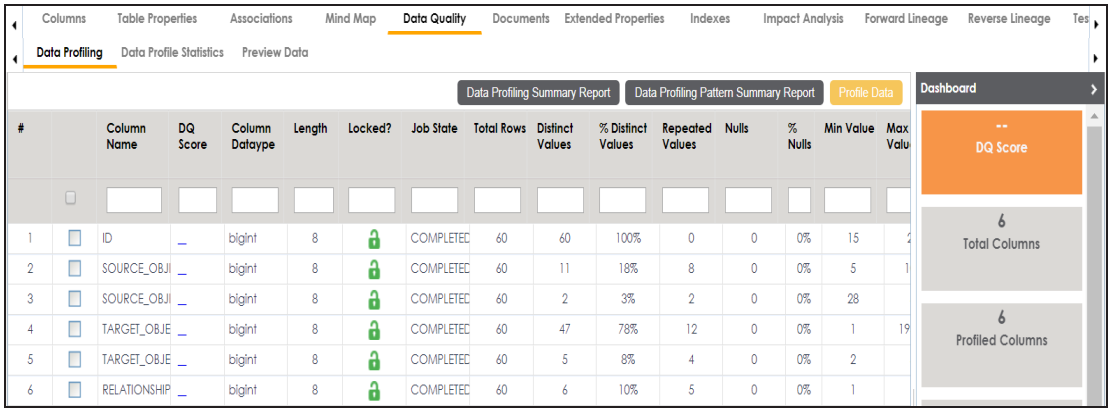
Option	Description
	ferent job name.
Interval	Specifies the frequency of the job. For example, Every Week.
Scheduled Job On	Set the date and time of the job using  . For example, 03-24-2020 11:45.
Local or Server	Select whether the job uses local or server time. ▪ Local: Refers to your local machine. ▪ 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 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 fre-

Option	Description
	quent 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

8. 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**.

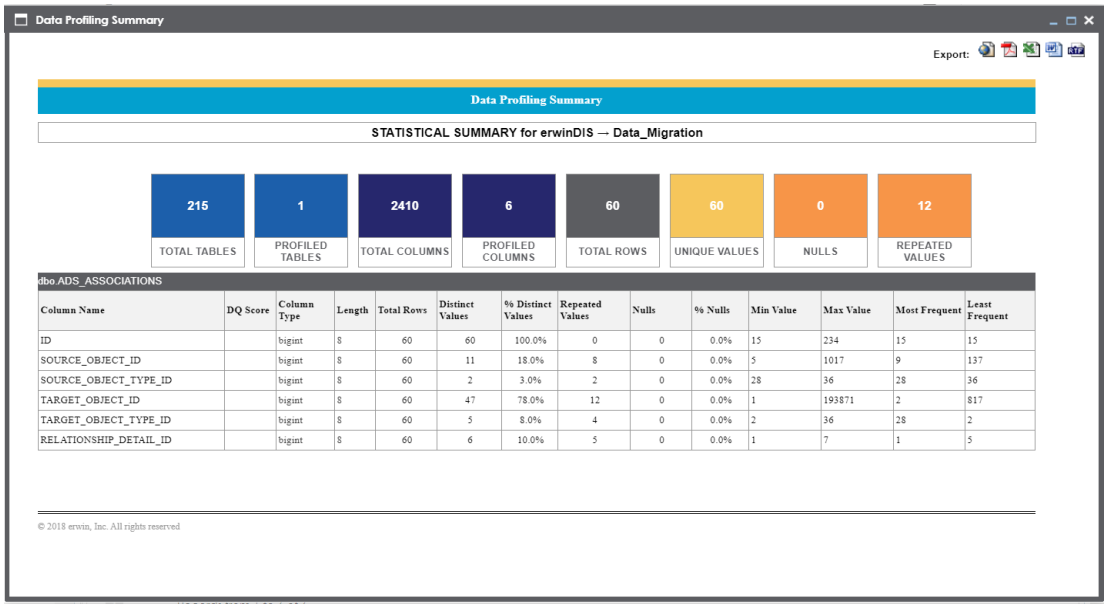


9. Use the following options:

Data Profiling Summary Report

To view data profiling summary, click **Data Profiling Summary Report**.

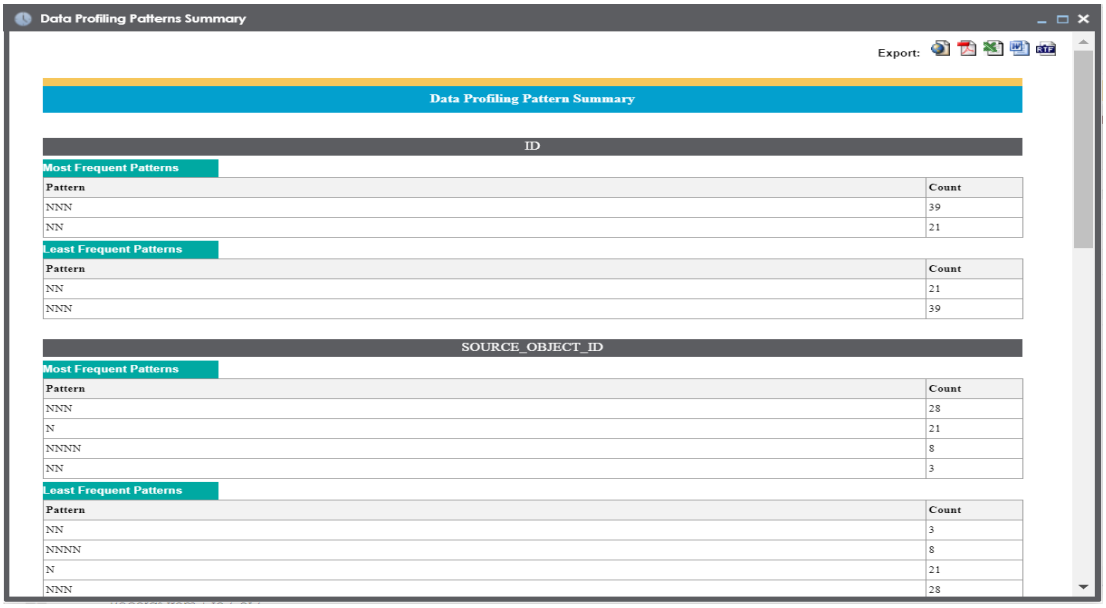
Data Profiling Summary page appears.



Data Profiling Pattern Summary

To view data profiling pattern summary report, click **Data Profiling Pattern Summary Report**.

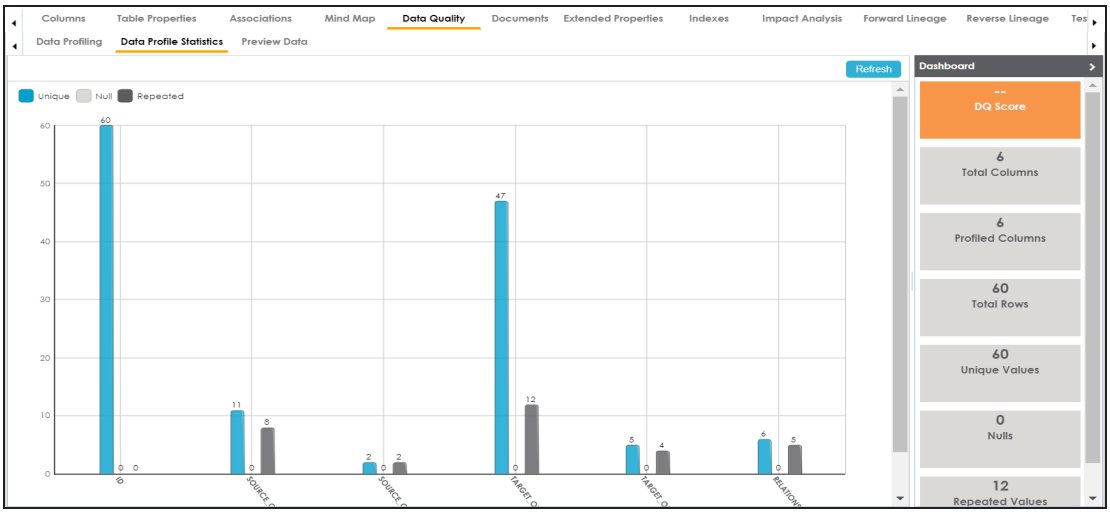
The Data Profiling Pattern Summary page appears.



Data Profile Statistics

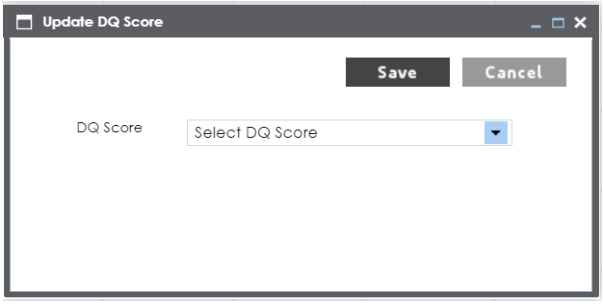
To view data profile statistics, click **Data Profile Statistics**.

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. The technical assets refer to systems, environments, tables, and columns. The business assets refer to business terms, business policies, business rules, and other business assets as defined in the Business Glossary Manager Settings.

You can see Mind Maps in different 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**.
2. In the **System Catalogue** pane, click a <Technical_Asset>.
3. In the right pane, click the **Mind Map** tab.

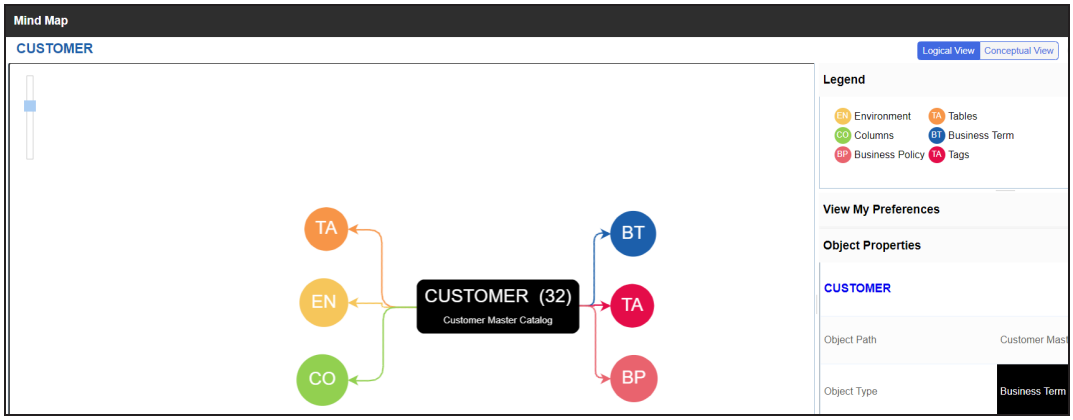
   The Mind map page appears and the Logical View opens by default.

   For example, if you click an environment in the System Catalogue pane and then click the Mind Map tab, the mind map of the environment appears.
4. From the Mind Map page, you can click **Logical View** or **Conceptual View** to switch between them.
   For more information on views, see the list below:

   - **Logical View**

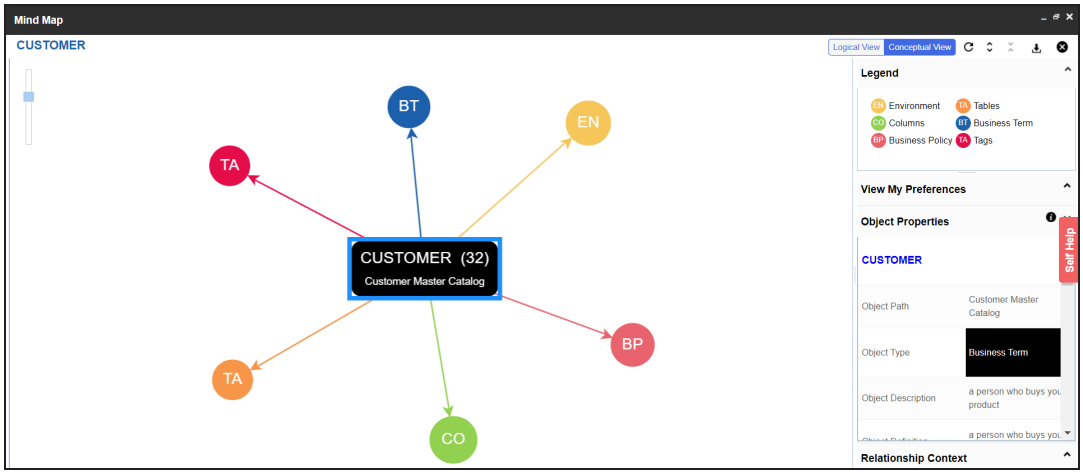
     The logical view displays the associated technical assets on the left side and associated business assets on the right of the business asset. Also, view Mind

Map properties on the right-hand side pane.



- **Conceptual View**

  The logical view displays the associated technical assets in non-hierarchical representation. Also, view the Mind Map properties on the right-hand side 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 .jpg format. Ensure that you expand the mind map before downloading the mind map image.

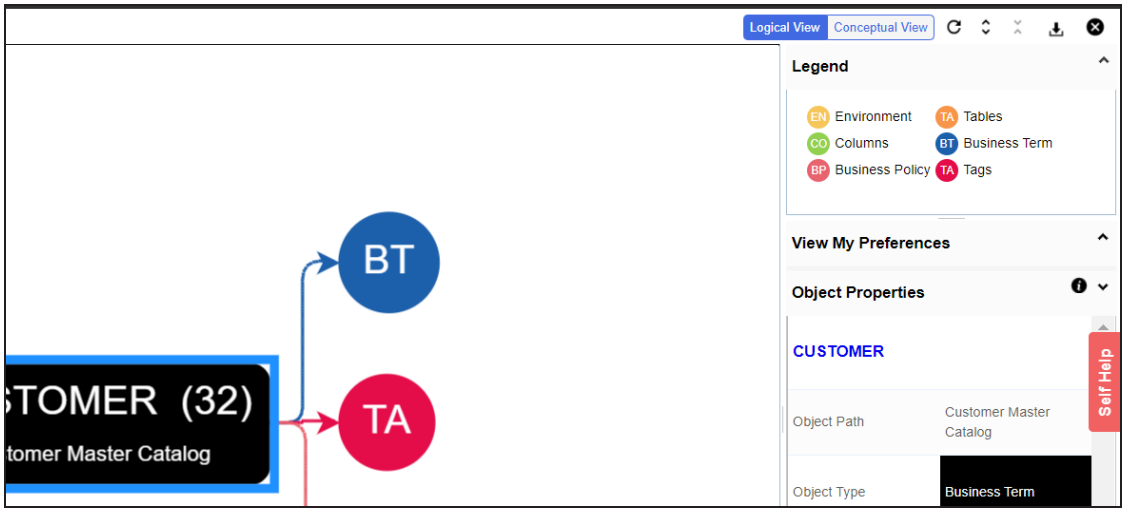
Sensitivity Details - Excel Report: Use this option to download the sensitivity report of all associated assets in the .xlsx format. This report includes sensitive data indicator (SDI), SDI classification, and SDI description of the associated assets.

You can use the following panes to view and analyze a mind map:

- Legend
- View My Preferences
- Object Properties
- Overview

Legends

Use the legends to identify the list of components on a mind map.



View My Preferences

You can set your preferences to view the mind map according to your requirements. The preferences setting differs based on the logical and conceptual view. Expand the **View My Preferences** pane on the right-side and use the following options:

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

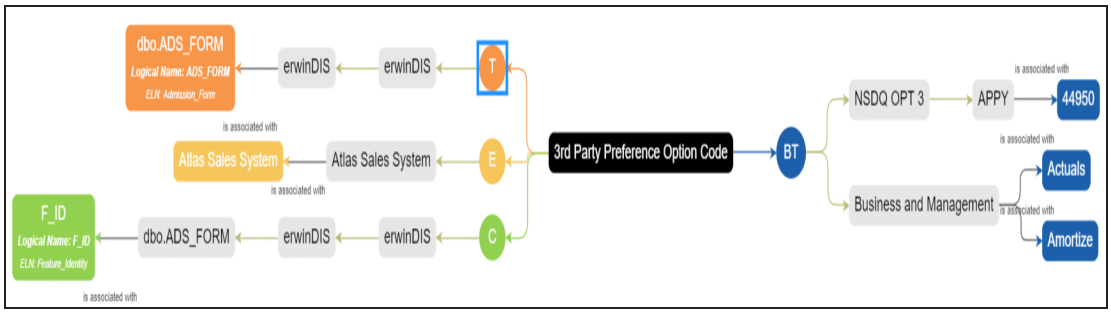
Use the following options to configure relationship options:

- **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

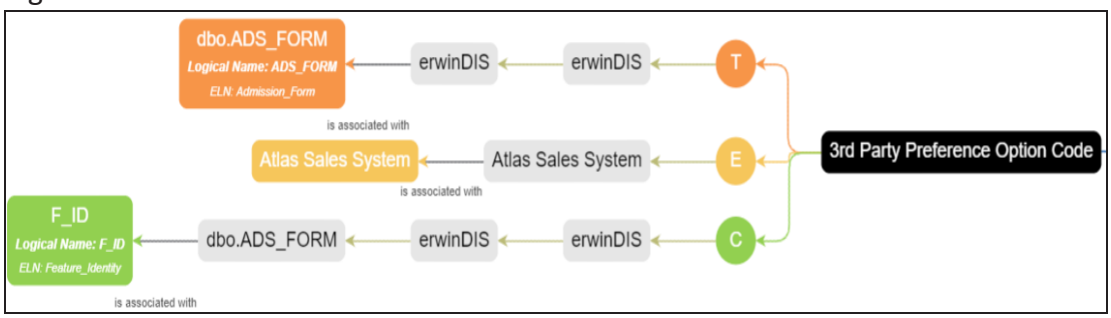
Use the following options to view logical and expanded logical names of tables and columns on the mind map:

- **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.



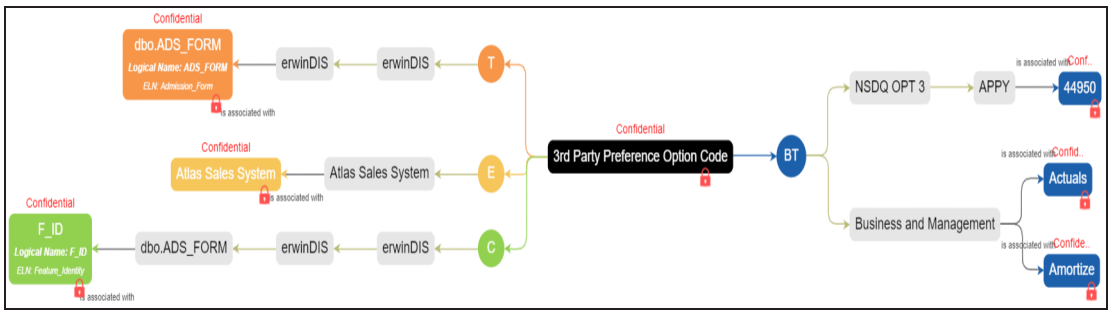
View Sensitivity

Use the following options to view sensitivity details of the assets on the mind map:

- **Sensitivity Data Indicator(Y/N)**:
  Select the check box to view the sensitive assets on the mind map.
- **Sensitive Data Classification**:
  Select the check box to view the sensitive data classification of the assets on the mind map.

  For example, the following mind map displays the sensitive data indicator as sensitive (🔒) and sensitive data classification as Confidential.

  For more information on updating sensitivity of assets in a mind map, refer to the Updating Sensitivity topic.



Filter

To filter the components of mind map, expand the **Filter** pane and use the following options:

- **By Asset Type**:
  Use this option to filter in the required asset types in the mind map
- **By Relationship**:
  Use this option to filter in the required assets in the mind map based on relationship.

  For example, if you select only Column for By Asset Type and is associated with for By Relationship, then only associated columns with is associated with relationship are shown in the mind map.

Object Properties

Click an asset on mind map and view its properties with association statistics and sensitivity. Asset properties differ for technical and business assets.

Overview

Expand this pane to open a pan view of the mind map. You can slide the purple box to navigate across the mind map.


Overview

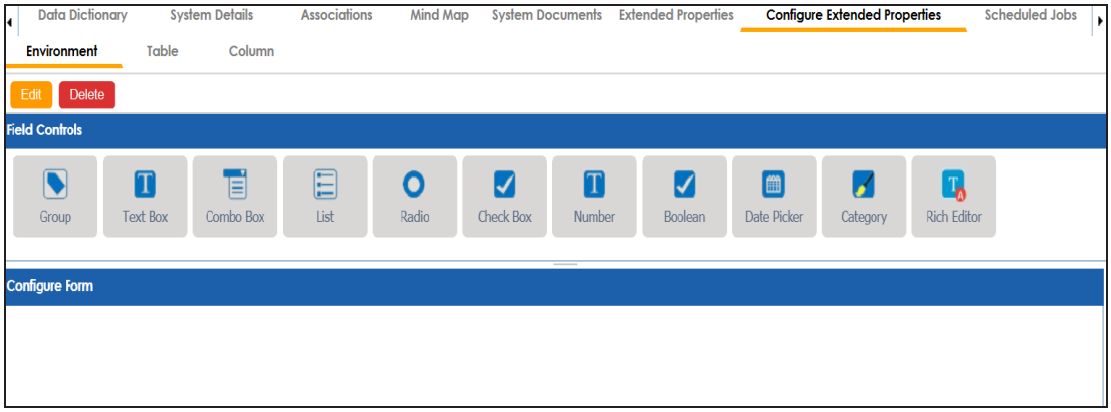
Configuring Extended Properties

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.

At the system level, you can configure extended properties for three objects, environments, tables, and columns. Extended properties configured at the system level for these objects are applicable to all objects under the system. For example, extended properties configured at system level for environments are applicable to all the environments under the system.

To configure extended properties at the system level, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, click the required system.
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.

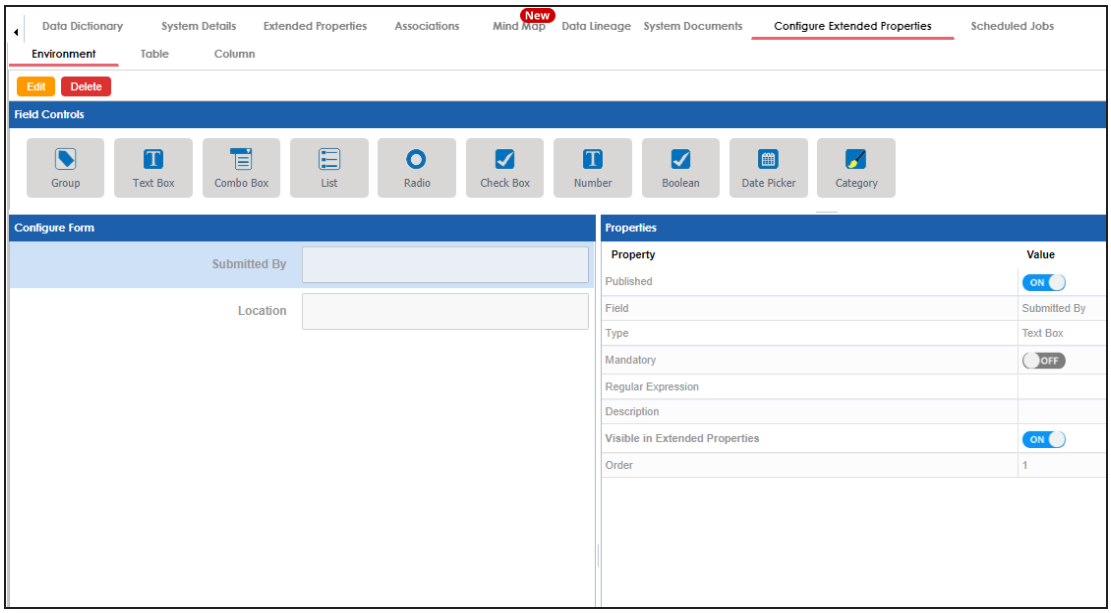
Table

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**. Then, double-click or drag and drop the required UI elements from the **Field Controls** pane to the **Configure Form** pane.
6. 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:

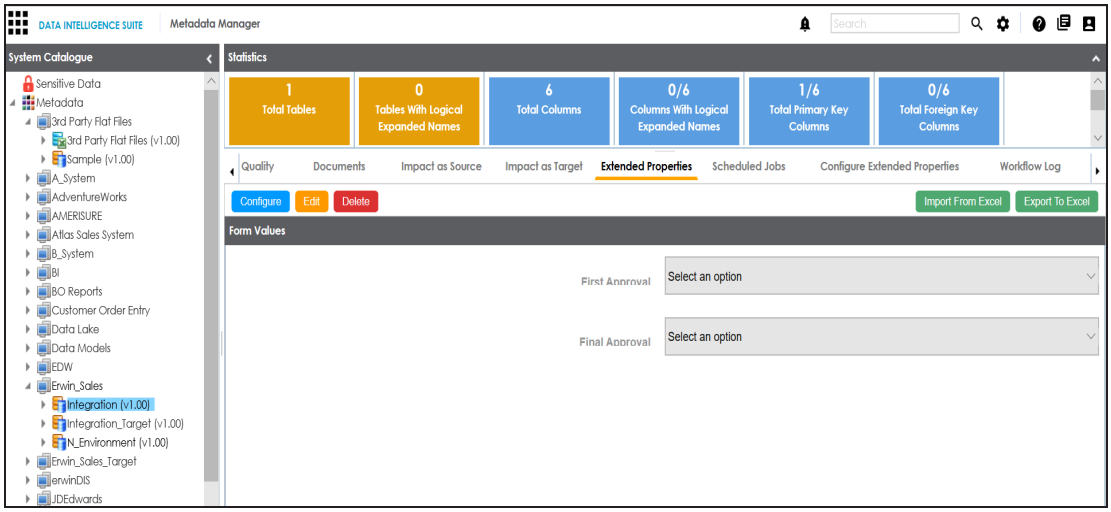
Property	Description
Published	Switch **Published** to **ON** to publish the field.
Field	Specifies the field label. To change the field labels, double-click the corresponding **Value** cell. For example, Metadata Scanned On.
Type	Specifies the type of the field. To select field types, double-click the 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 it visible on the Extended Properties tab.
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.

7. Click **Save**.

The form is saved and is available on the Extended Properties tab of the selected object (Environment, Table, or Column).

To use the form, follow these steps:

1. In the **System Catalogue** pane, click the required object (Environment, Table, or Column).
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, on the **Extended Properties** tab, click **Export To Excel**.

You can also configure extended properties specific to:

- Systems
- Environments

- Tables
- Columns

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.

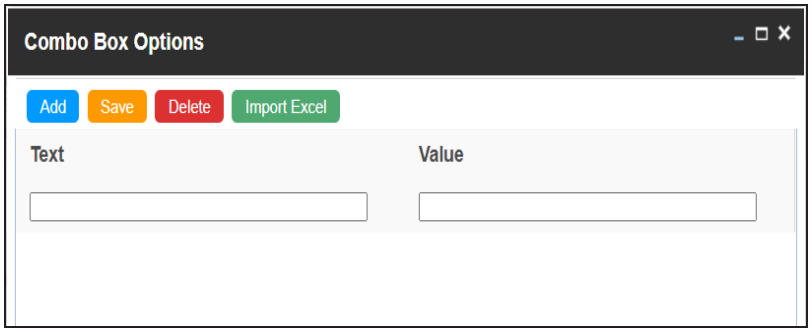
   Ensure that you are in edit mode.

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

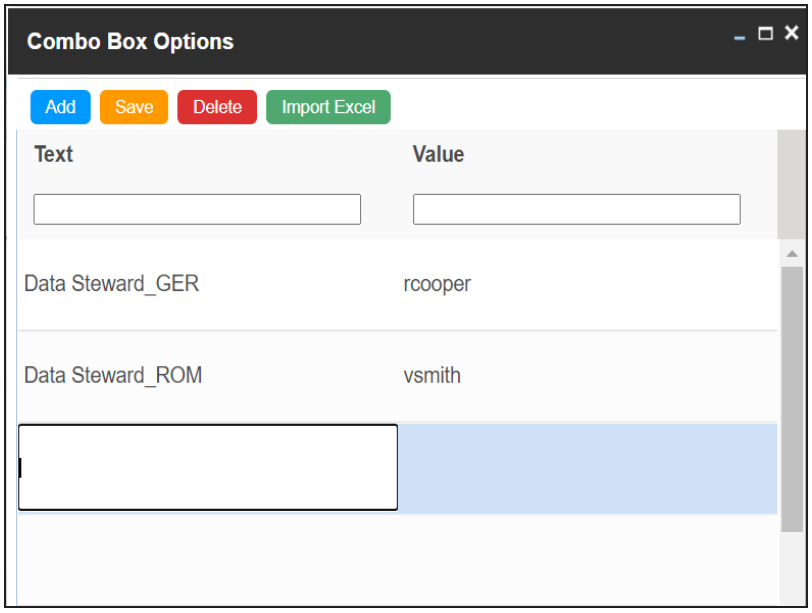
   Use this option to import options from MS Excel files.

5. After configuring option values, click **Save**.

To add option values manually, follow these steps:

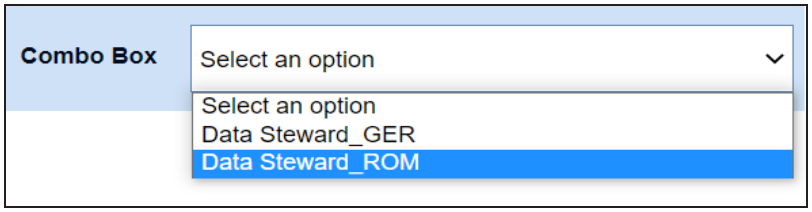
1. Click **Add**.
2. Enter values to the Text and Value fields.

   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**.

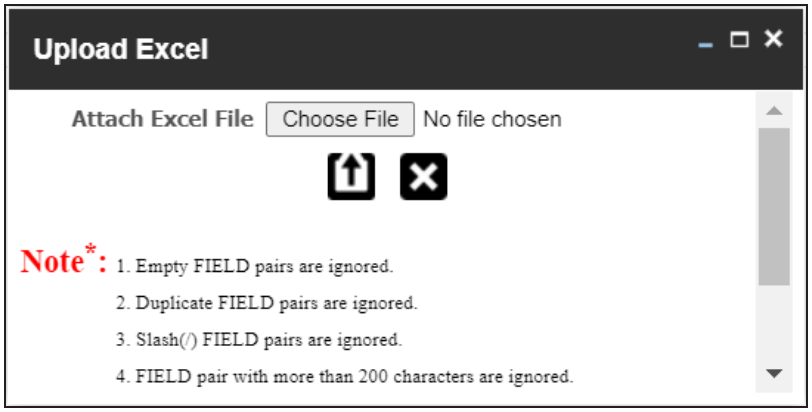
   The option values appear in the UI element under the Configure Form section.



To import option values from MS Excel files, follow these steps:

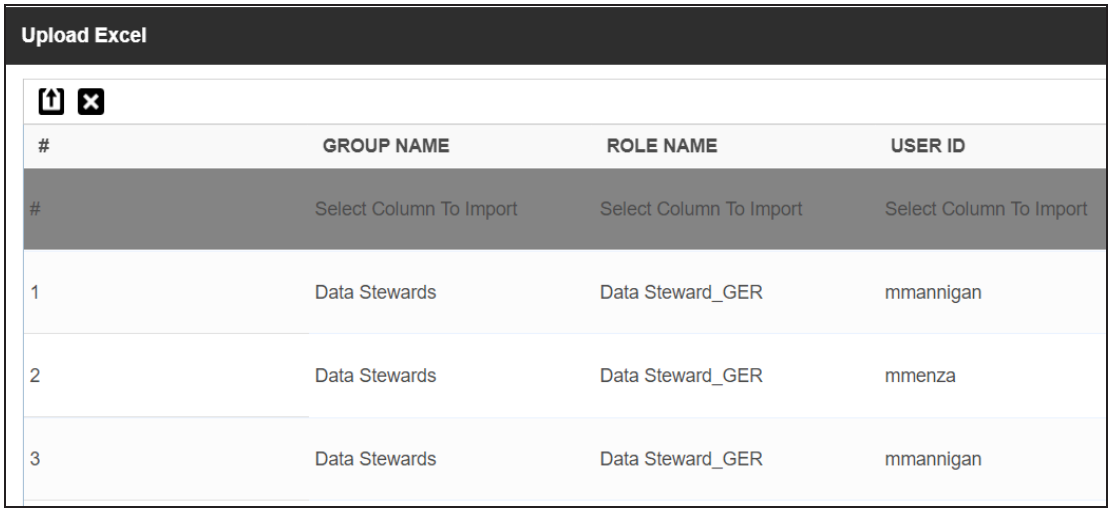
1. Click **Import Excel**.

   The Upload Excel page appears.



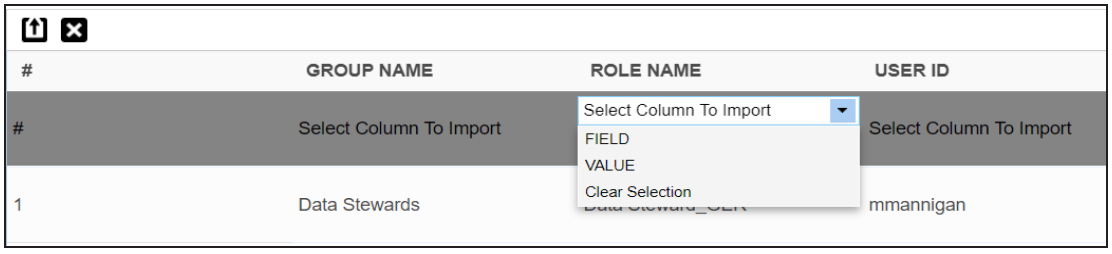
2. Click **Choose File** and select the required MS Excel file.

   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.

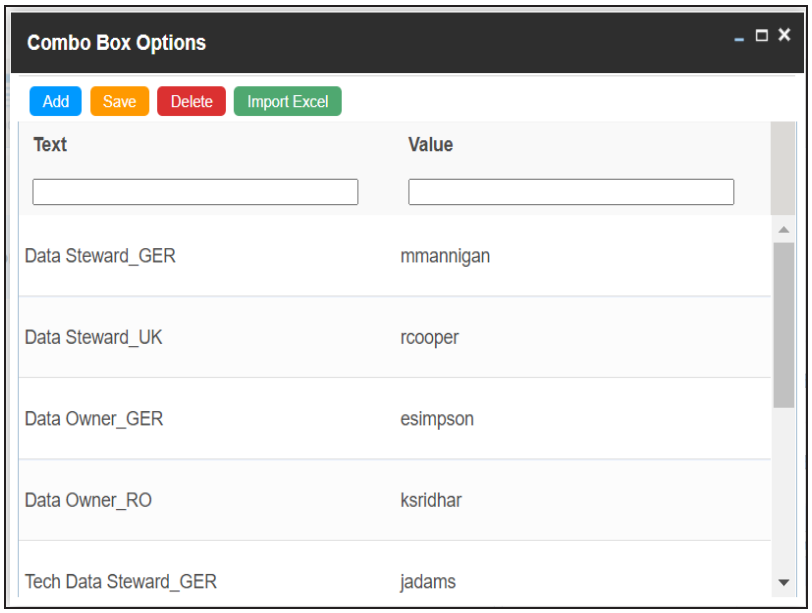


4. Select the appropriate option.

   Field corresponds to options and Value corresponds to value of an option. You can import multiple columns. Use Clear Selection to undo the selection.

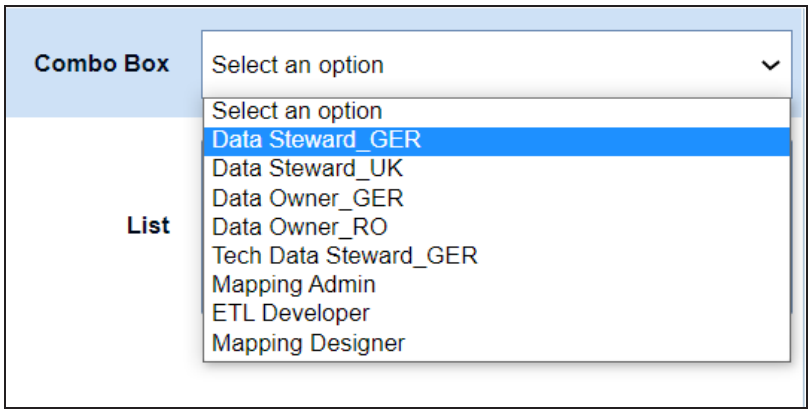
5. Click  .

   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.

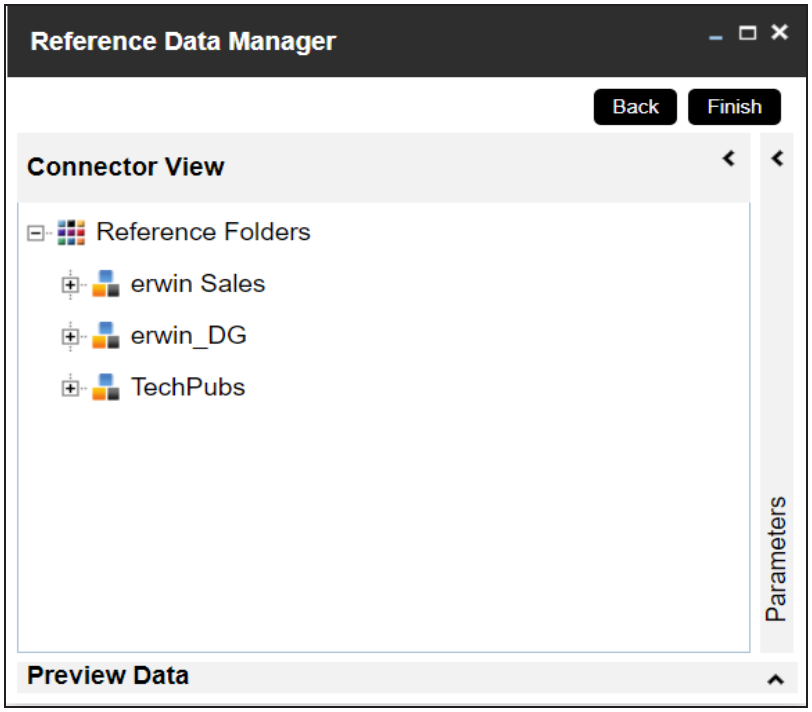
   Ensure that you are in edit mode.

2. In the **Properties** section, click **Configure**.

   The Connectors page appears.

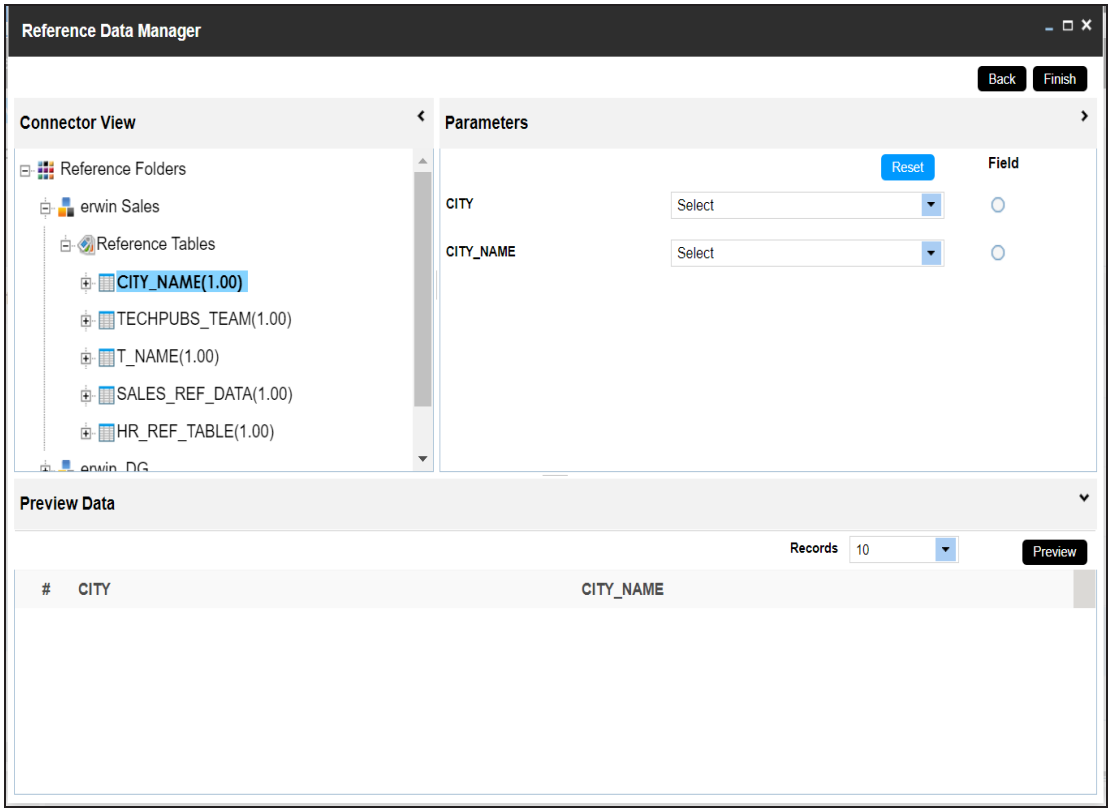
3. On the **Connectors** page, click **Reference Data Manager** and then click **Next**.

   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.

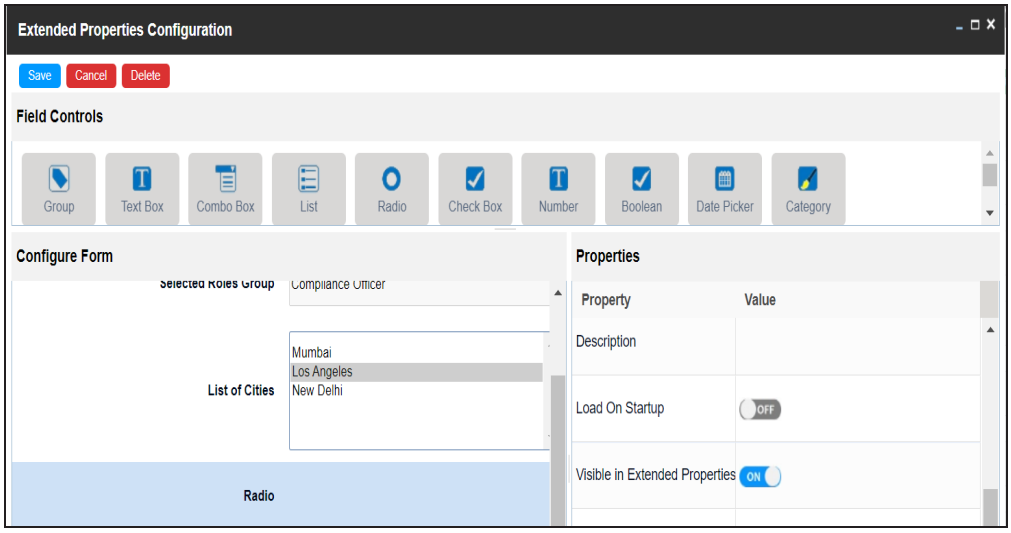


5. In the **Parameters** pane, click the radio button next to the required column.

   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.

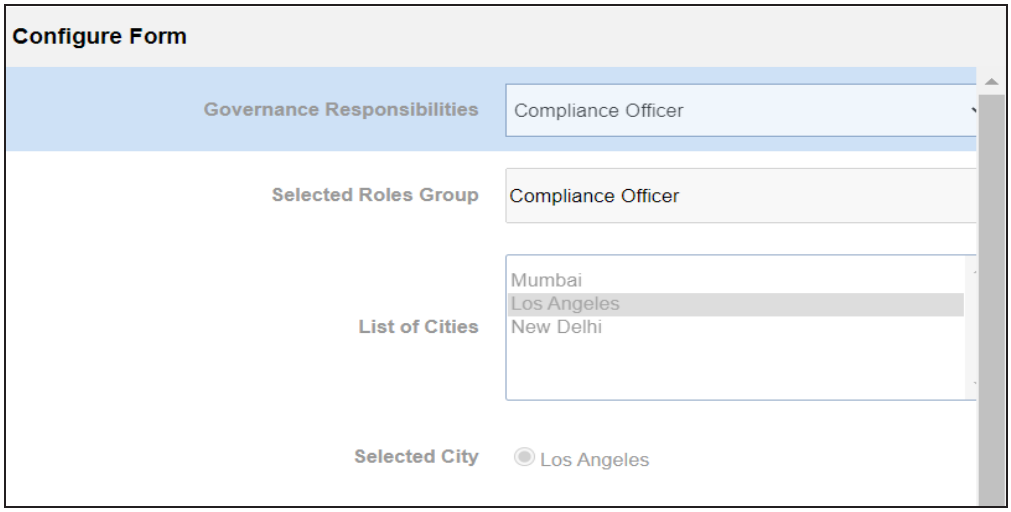
6. Click **Finish**.

   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.

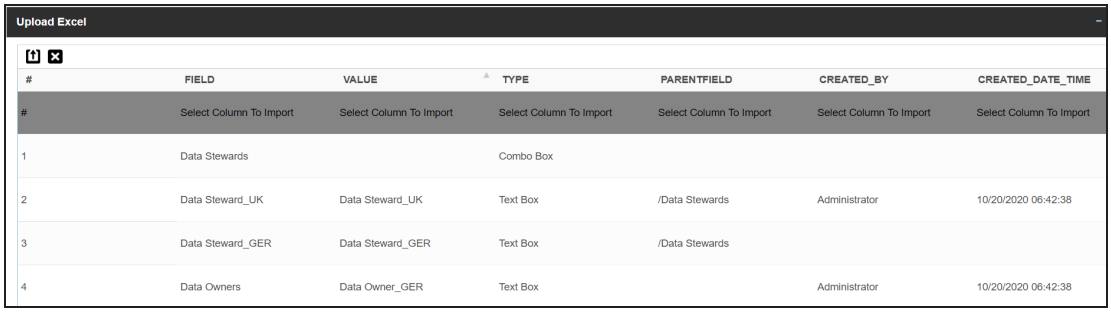
To import extended properties from XLSX files, follow these steps:

1. On the **Extended Properties** tab, click **Import From Excel**.

   The Upload Excel page appears.

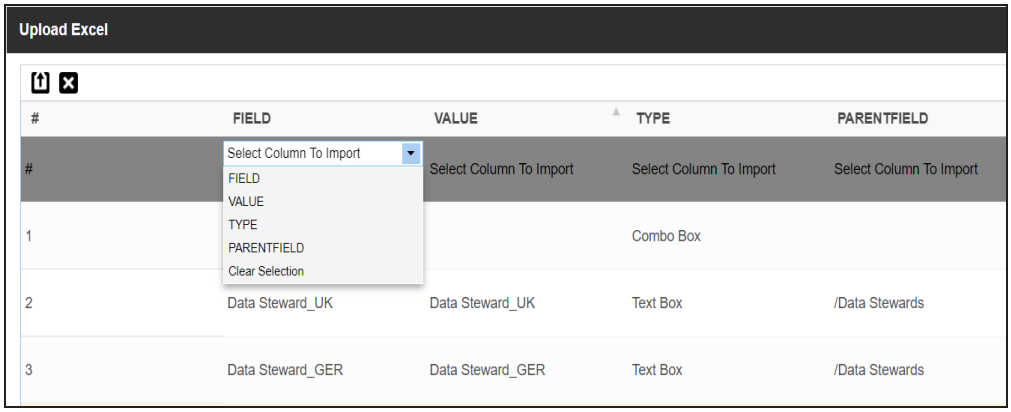
2. Click **Choose File**.
3. Browse and select the XLSX file.
4. Click  .

   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.



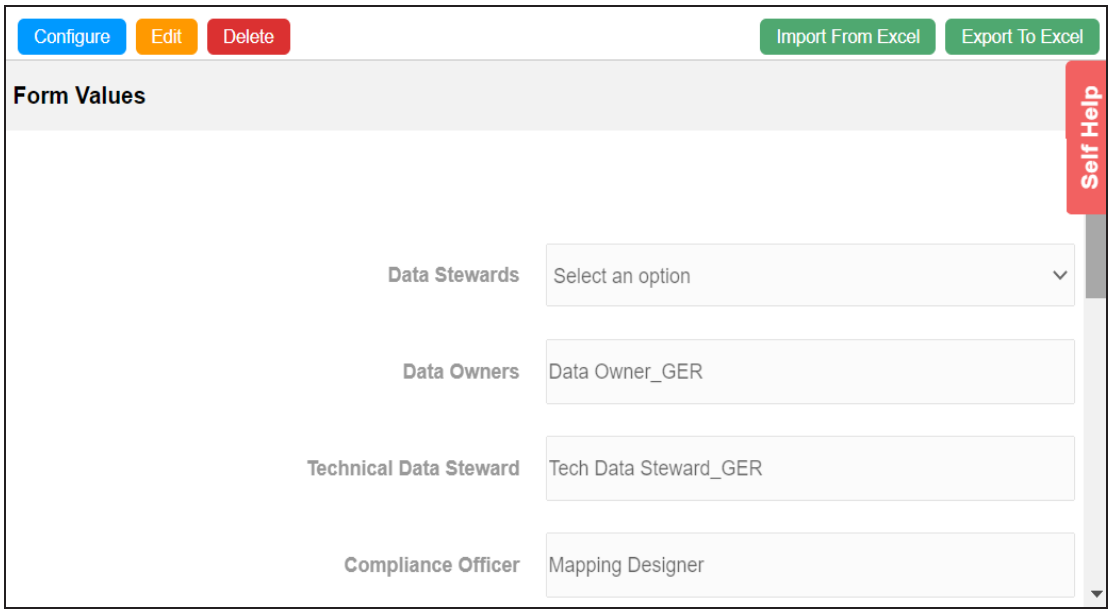
6. Select an appropriate option.

   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.

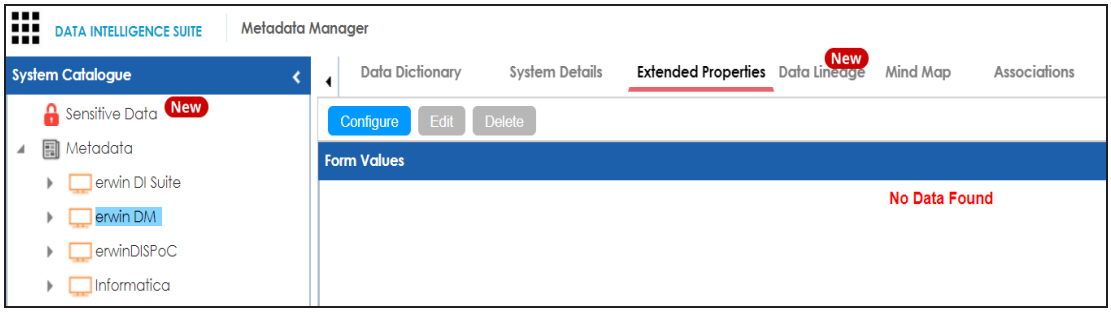


System

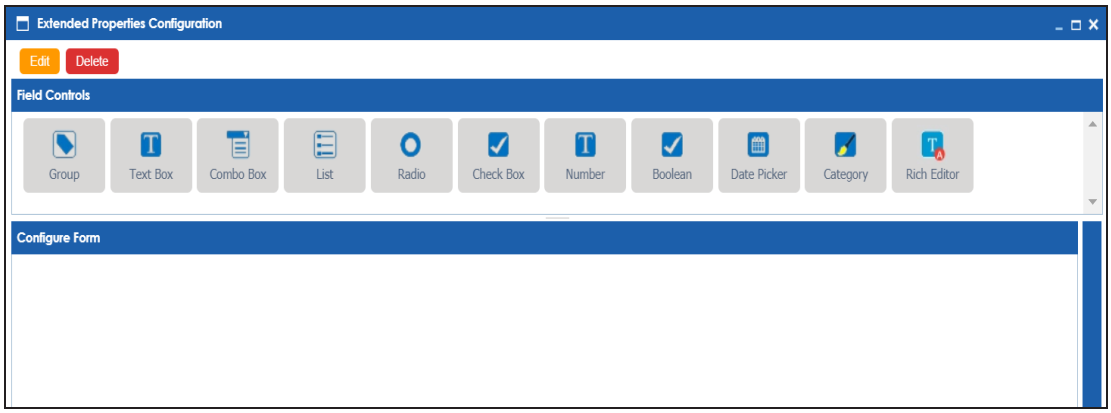
You can configure extended properties specific to a system.

To configure system specific extended properties, follow these steps:

1. In the **System Catalogue** pane, click a system.
2. Click the **Extended Properties** tab.



3. Click **Configure**.



The **Extended Properties Configuration** page 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 available UI elements in the **Field Controls** pane.
- **Properties**: Use this pane to view the properties of the UI element selected in the **Configure Form** pane.

4. Click **Edit**. Then, double-click or drag and drop the required UI elements from the **Field Controls** pane to the **Configure Form** pane.
5. Select UI elements, one at a time, and configure their properties in the **Properties** pane.
6. Click **Save**.

The form is saved, and is available on the **Extended Properties** tab.

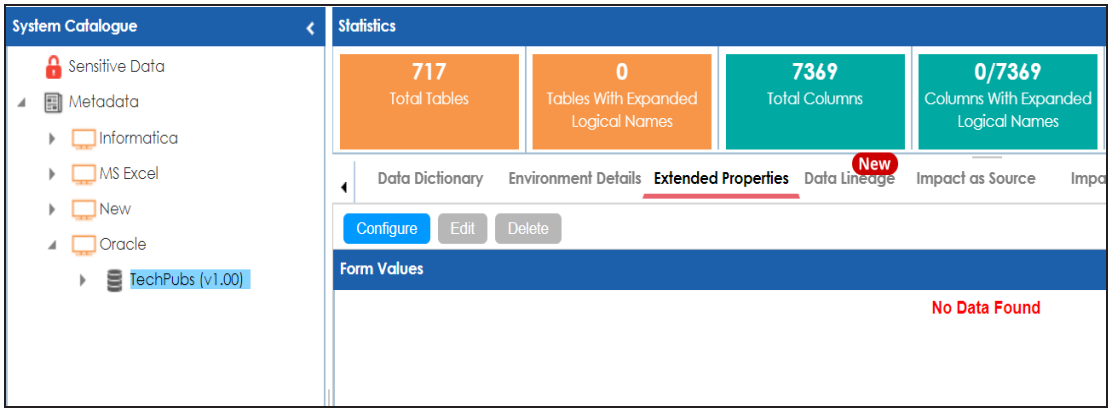
You can download the extended properties in the XLSX format and use it as a template to import extended properties. To download extended properties, on the **Extended Properties** tab, click **Export To Excel**.

Environment

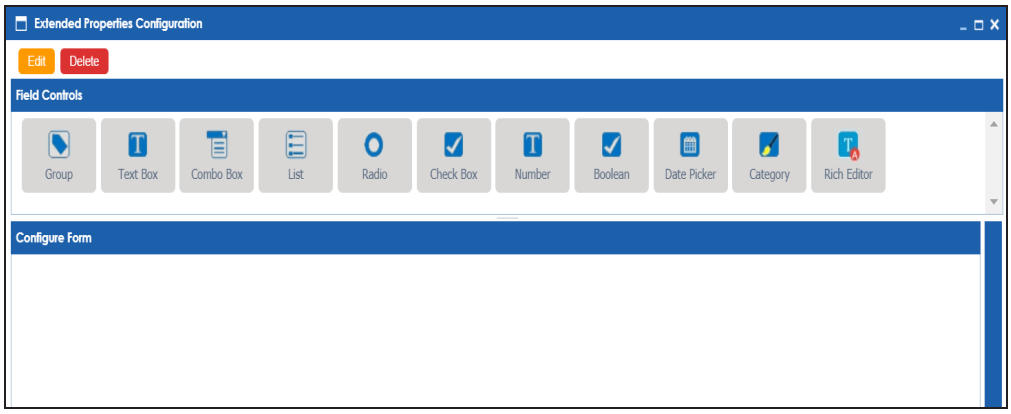
You can configure extended properties specific to an environment.

To configure environment specific extended properties, follow these steps:

1. In the **System Catalogue** pane, click an environment.
2. Click the **Extended Properties** tab.



3. Click **Configure**.



The **Extended Properties Configuration** page 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 available UI elements in the **Field Controls** pane.

- **Properties**: Use this pane to view the properties of the UI element selected in the **Configure Form** pane.

4. Click **Edit**. Then, double-click or drag and drop the required UI elements from the **Field Controls** pane to the **Configure Form** pane.
5. Select UI elements, one at a time, and configure their properties in the **Properties** pane.
6. Click **Save**.

The form is saved, and is available on the **Extended Properties** tab.

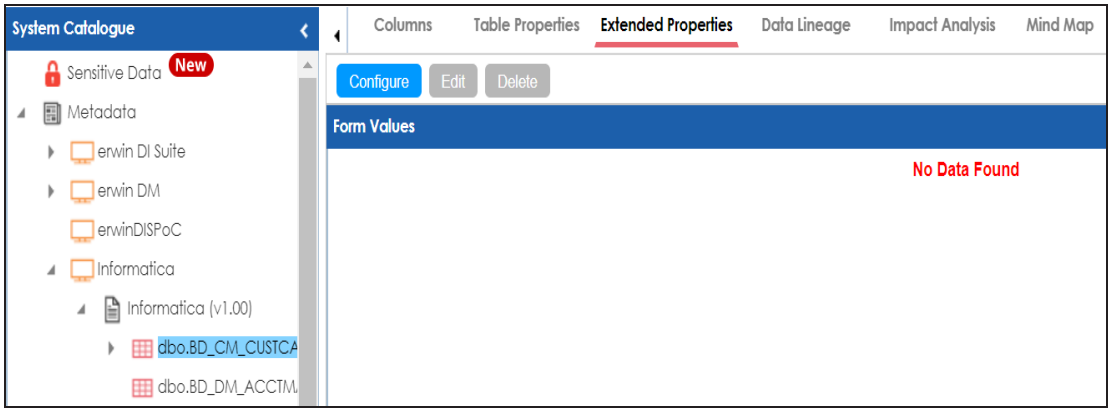
You can download the extended properties in the XLSX format and use it as a template to import extended properties. To download extended properties, on the **Extended Properties** tab, click **Export To Excel**.

Table

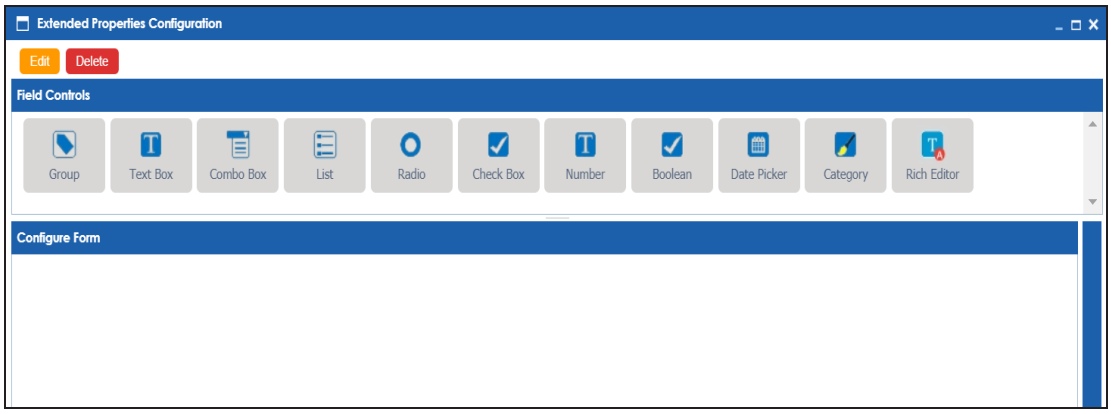
You can configure extended properties specific to a table.

To configure table specific extended properties, follow these steps:

1. In the **System Catalogue** pane, click a table.
2. Click the **Extended Properties** tab.



3. Click **Configure**.



The **Extended Properties Configuration** page 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 available UI elements in the **Field Controls** pane.

- **Properties**: Use this pane to view the properties of the UI element selected in the **Configure Form** pane.

4. Click **Edit**. Then, double-click or drag and drop the required UI elements from the **Field Controls** pane to the **Configure Form** pane.
5. Select UI elements, one at a time, and configure their properties in the **Properties** pane.
6. Click **Save**.

The form is saved, and is available on the **Extended Properties** tab.

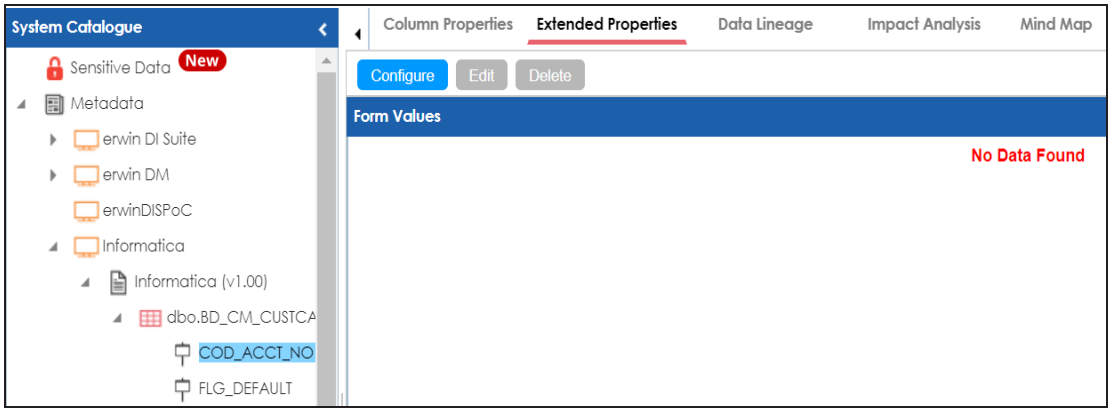
You can download the extended properties in the XLSX format and use it as a template to import extended properties. To download extended properties, on the **Extended Properties** tab, click **Export To Excel**.

Column

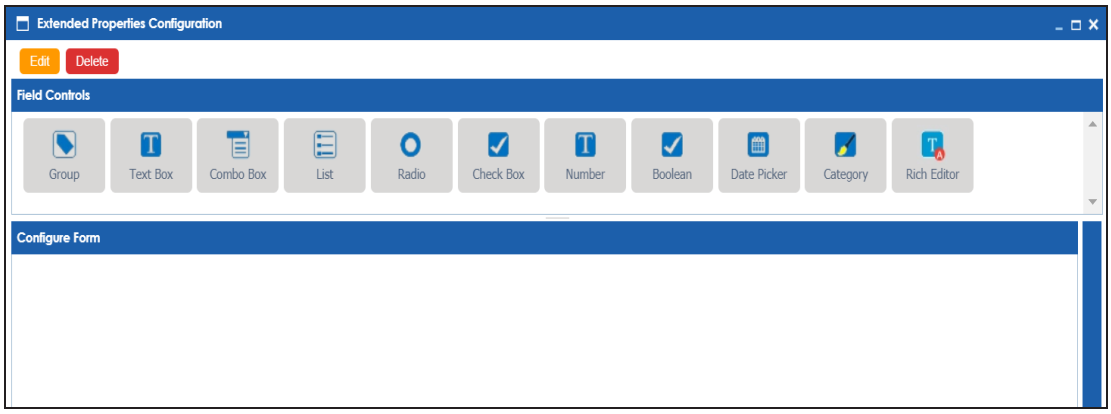
You can configure and use extended properties specific to a column.

To configure column specific extended properties, follow these steps:

1. In the **System Catalogue** pane, click a column.
2. Click the **Extended Properties** tab.



3. Click **Configure**.



The **Extended Properties Configuration** page 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 available UI elements in the **Field Controls** pane.

- **Properties**: Use this pane to view the properties of the UI element selected in the **Configure Form** pane.

4. Click **Edit**. Then, double-click or drag and drop the required UI elements from the **Field Controls** pane to the **Configure Form** pane.
5. Select UI elements, one at a time, and configure their properties in the **Properties** pane.
6. Click **Save**.

The form is saved under the **Extended Properties** tab.

You can download the 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**.

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:

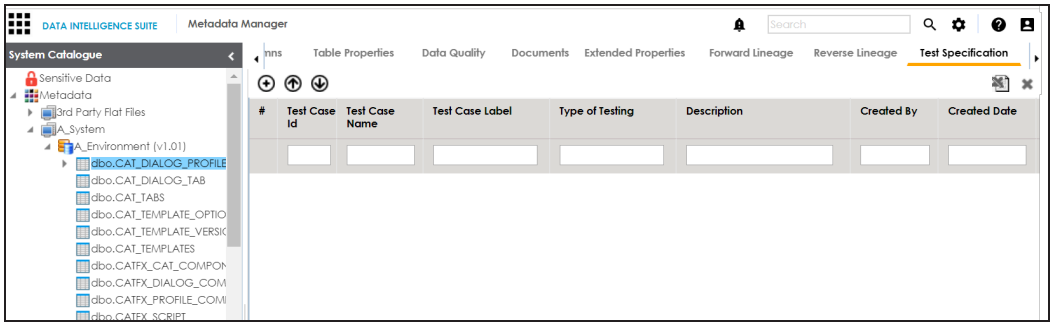
- Creating test cases
- Adding validation steps
- Adding documents
- Managing test cases

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.

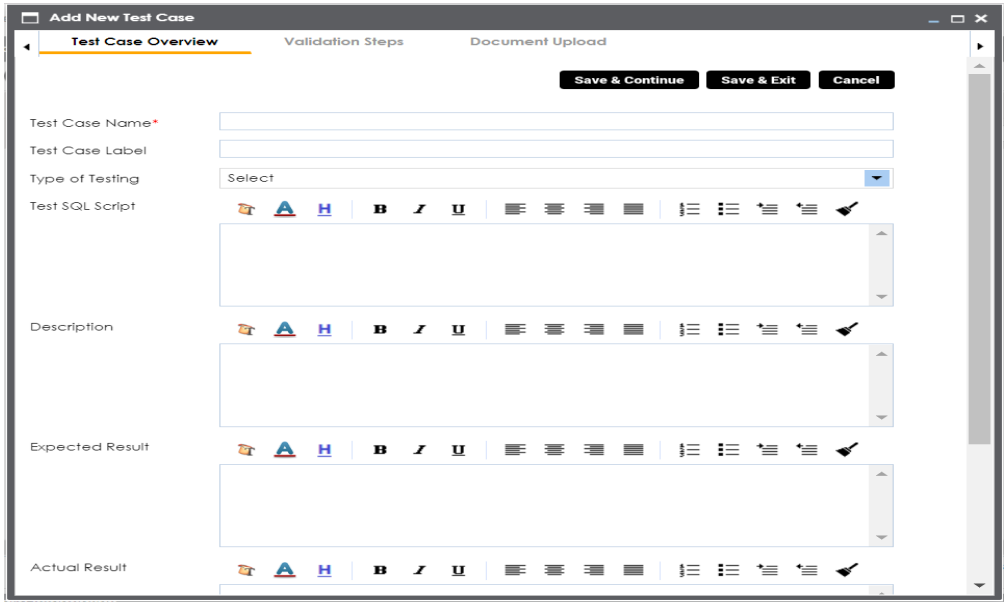
To create table-level test cases, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.
2. In the **System Catalogue** pane, expand a system, and click a table.
3. Click the **Test Specification** tab.



4. Click ⊕.

   The Add New Test Case 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
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.
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 erwin DI Suite 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 erwin DI Suite.
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.

6. 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

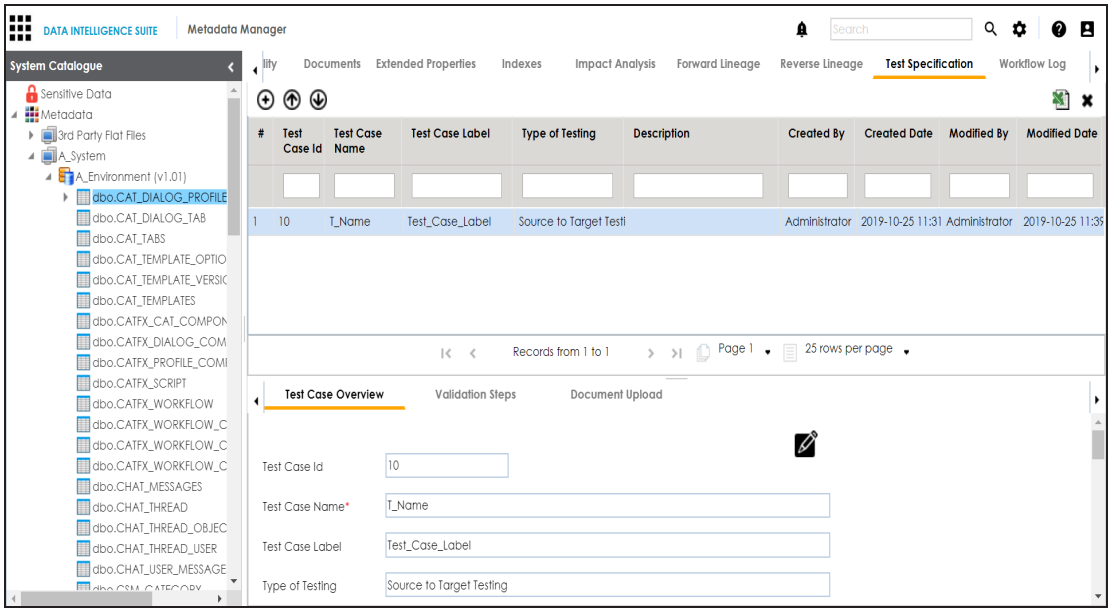
Adding Validation Steps

In Metadata Manager, you can add multiple validation steps to a table. You can also specify actual and expected results for each validation step.

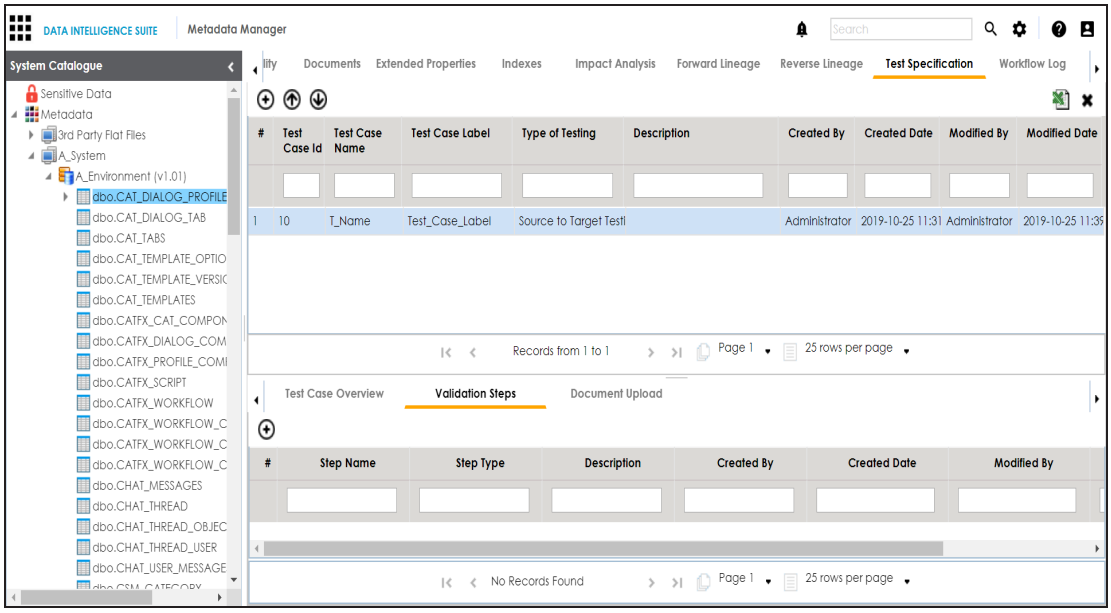
To add validation steps to table-level test cases, follow these steps:

1. In **System Catalogue**, click a table, and click the **Test Specification** tab.

   The Test Case Overview appears in the bottom pane.

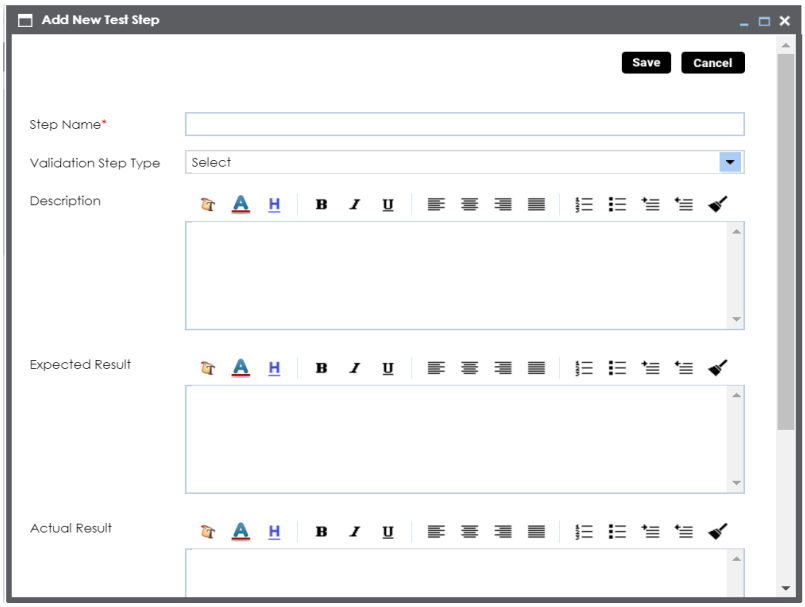


2. In the bottom pane, click the **Validation Steps** tab.



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
Validation Step Type	Select the validation step type from the drop-down.
Step Name	Enter an unique name of each step.
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.
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.

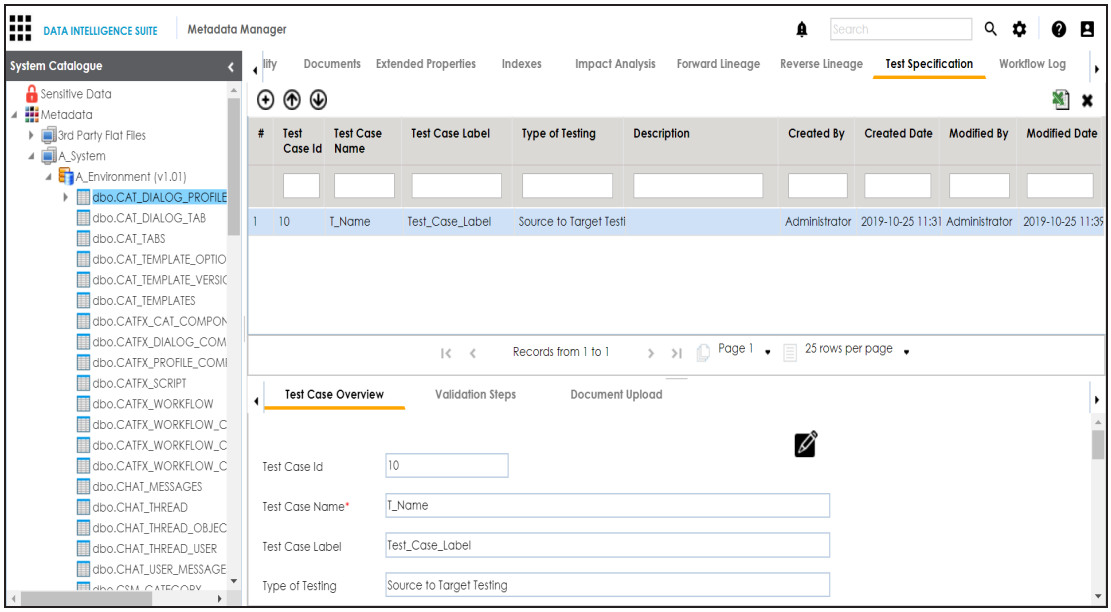
Adding Documents

You can upload supporting documents such as text files, audio files, videos, and so on to table-level test cases.

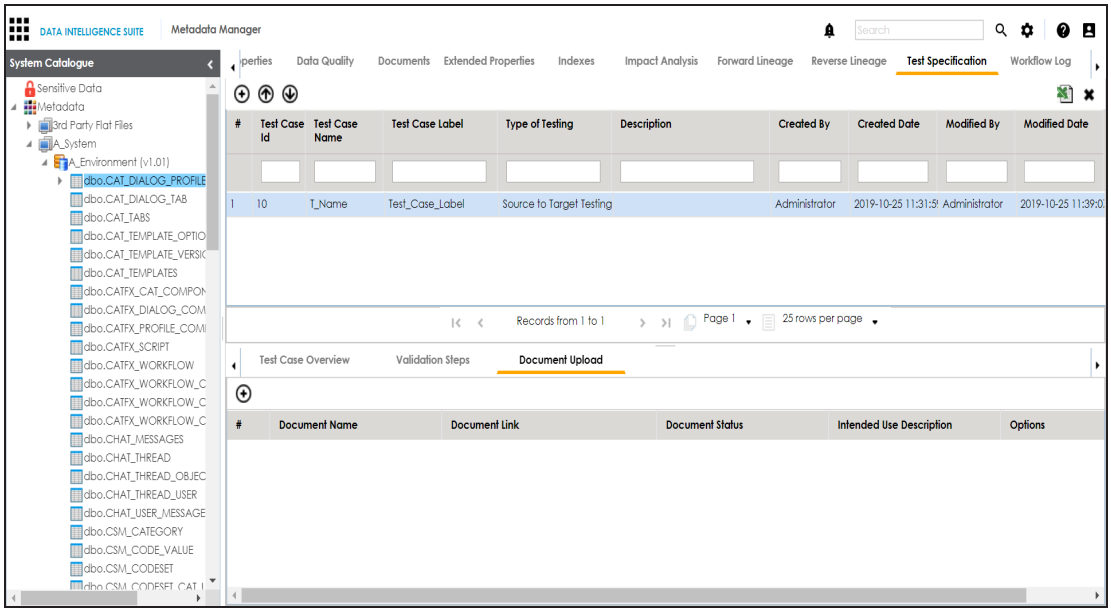
To add documents to table-level test cases, follow these steps:

1. In the **System Catalogue** pane, click a table, and click **Test Specification**.

   The Test Case Overview appears.

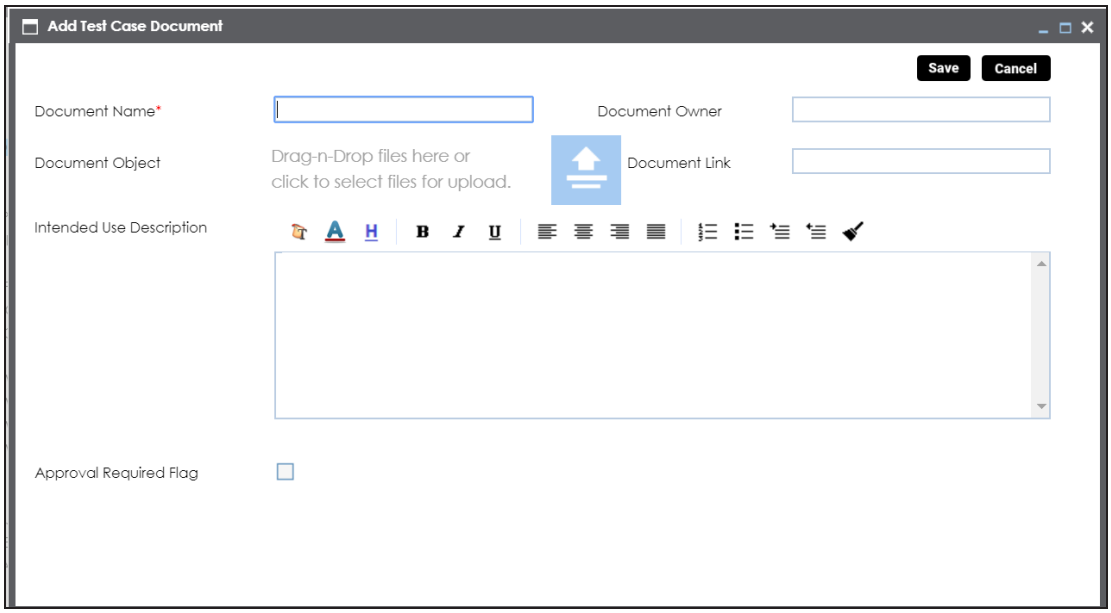


2. In the bottom pane, click **Document Upload**.



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.

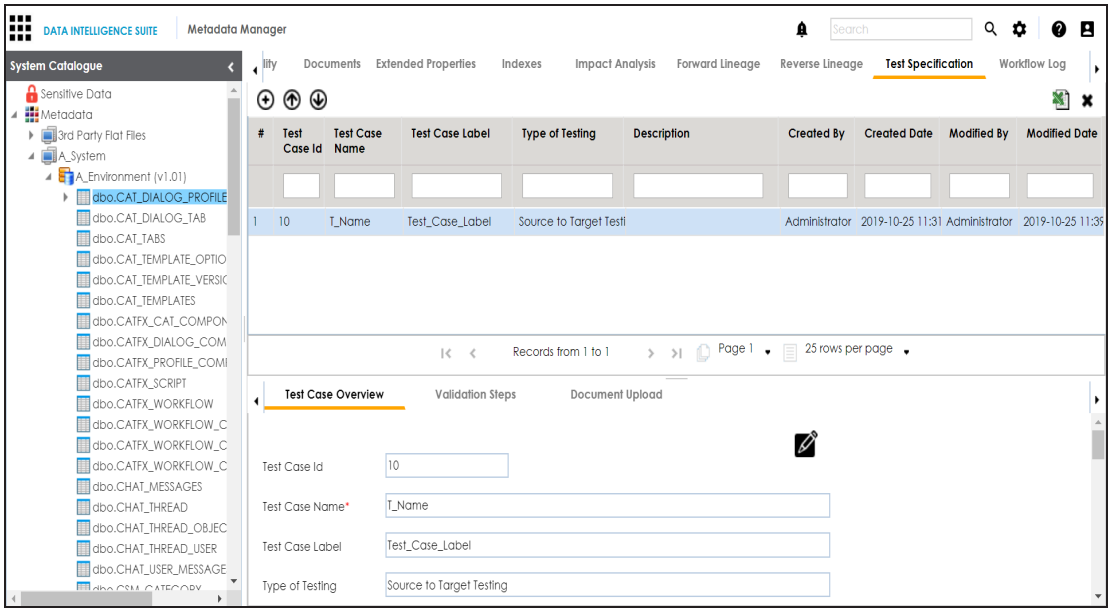
Managing Test Cases

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 **System Catalogue** 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 .

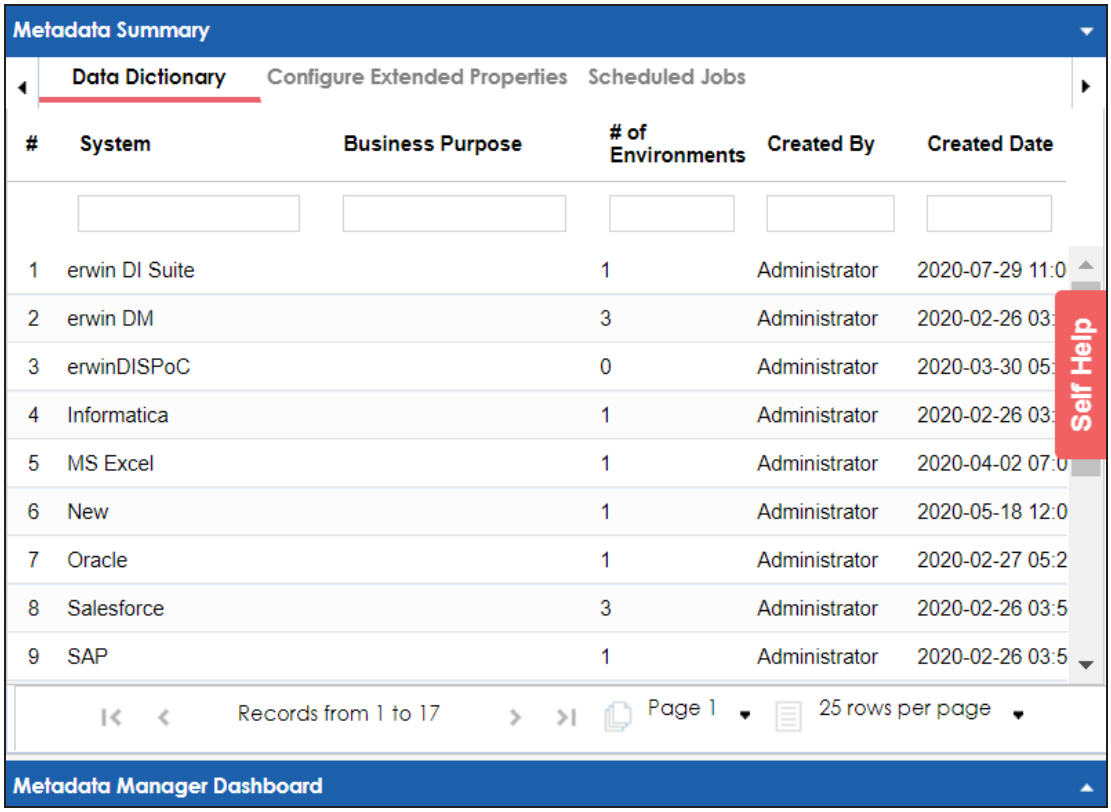
To delete a test case, click the test case in the **Test Case Summary** pane, and click .

Viewing 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.

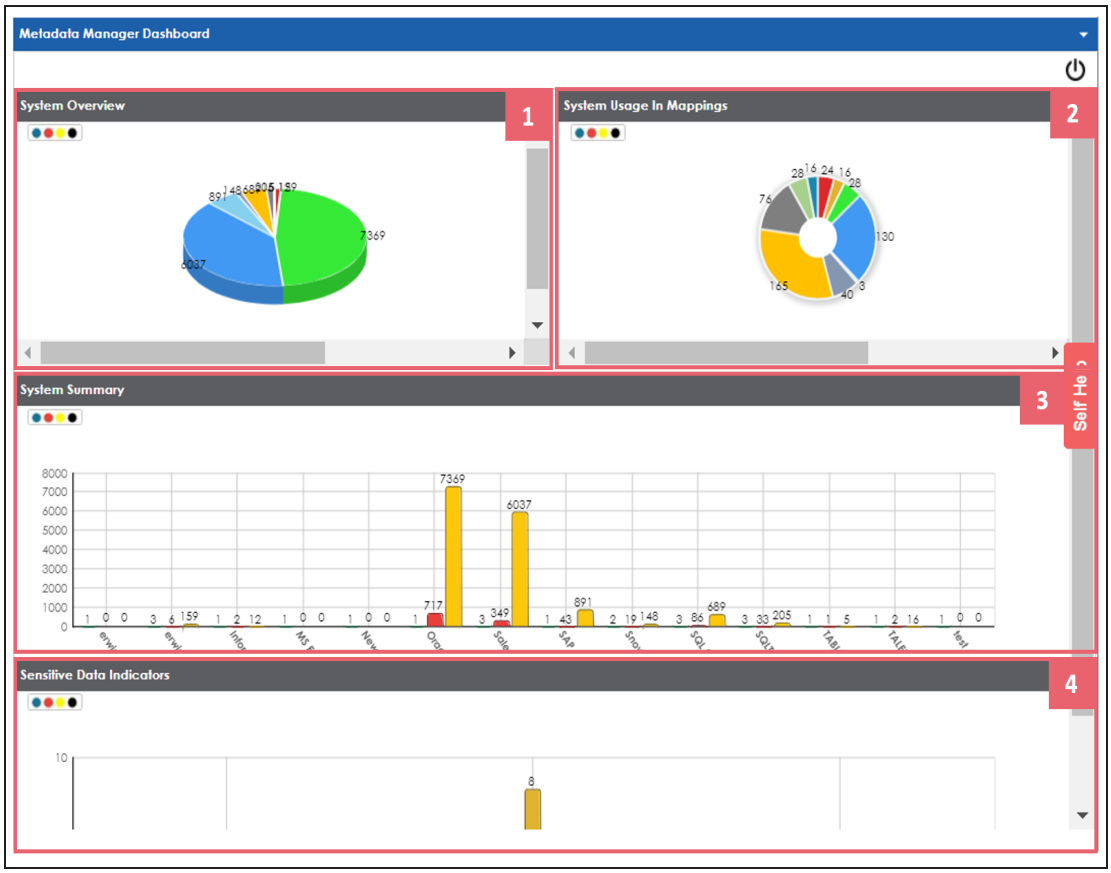
To access Metadata Manager Dashboard, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Metadata Manager**.



2. Click the **Metadata Manager Dashboard** pane.

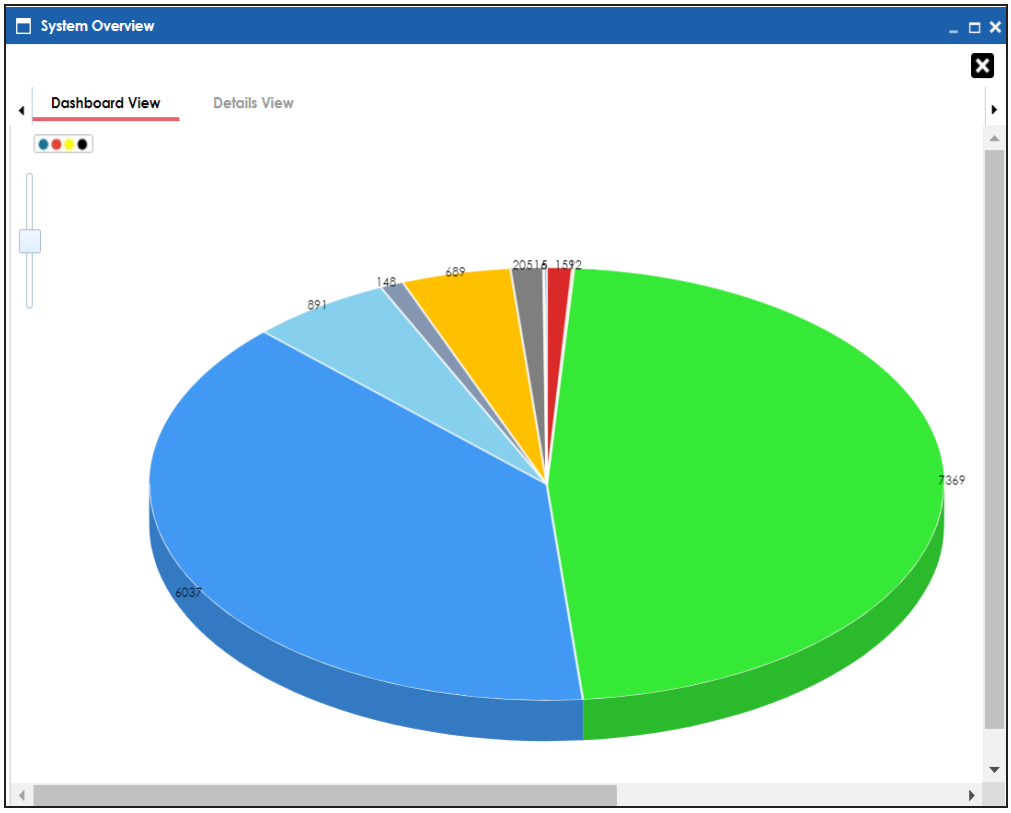
The Metadata Manager Dashboard pane appears.



UI Section	Function
1-System Overview	It displays number of columns in each system.
2-System Usage in Mappings	It displays usage of each system in mappings.
3-System Summary	It displays number of environments, tables, and columns in each system.
4-Sensitive Data Indicators	It displays number of sensitive columns in each system.

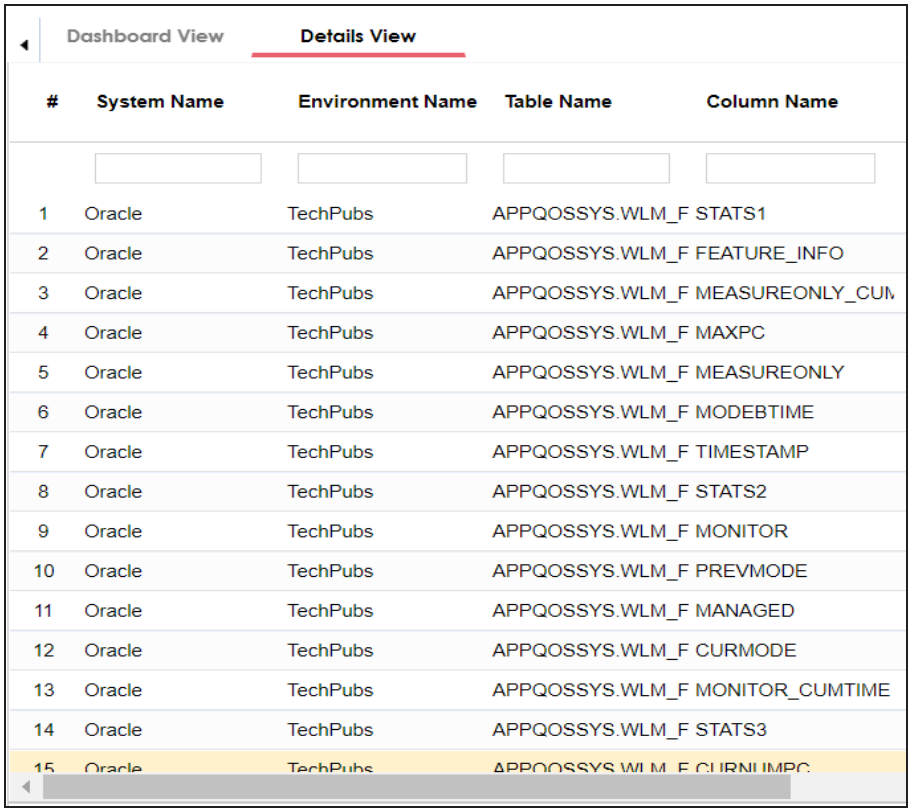
System Overview

The System Overview pane displays the number of columns in each system in a pie chart. To open the chart in the Dashboard View, click the pie chart.



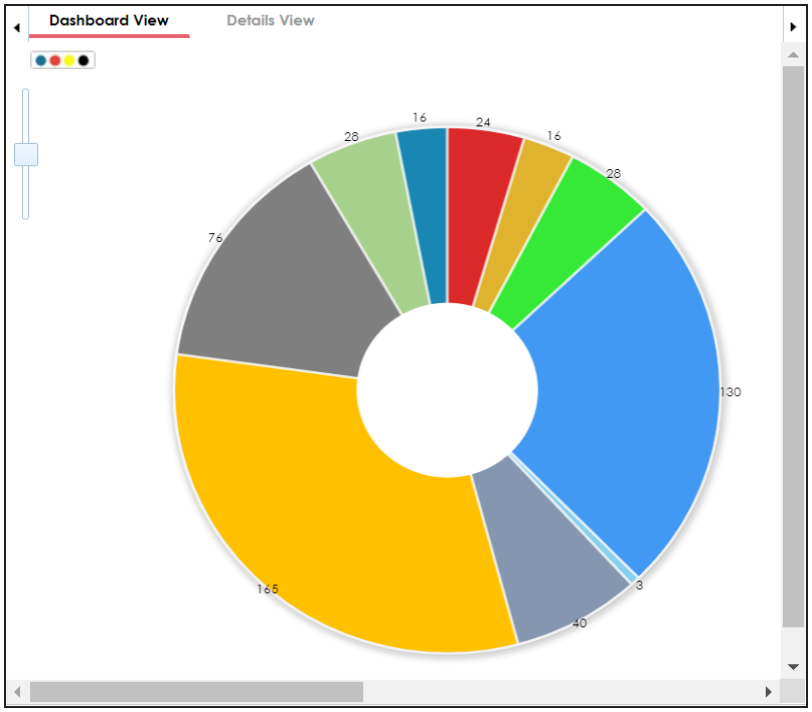
Each slice of the pie chart corresponds to a system. You can drill down and view detailed information in the list format.

To view detailed information about a system, click a slice. The Details View tab opens. It includes system name, enviro-nment name, table name, and column name.



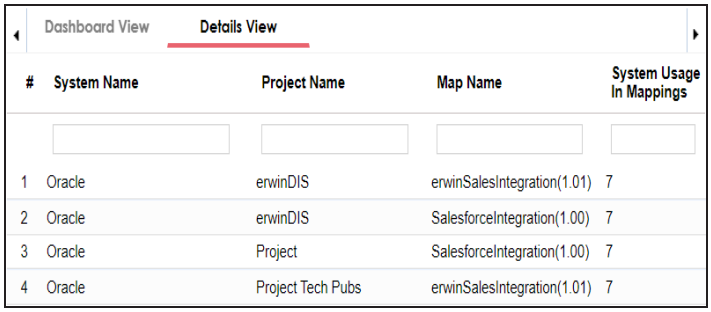
System Usage in Mappings

The System Usage in Mappings pane displays the number of instances each system is used in mappings in a pie chart. To open the chart in Dashboard View, click the pie chart.



Each slice of the pie chart corresponds to a system. You can drill down and view detailed information in the list format.

To view detailed information about a system, click a slice. The Details View tab opens. It displays system name, project name, map name, and system usage in mappings.

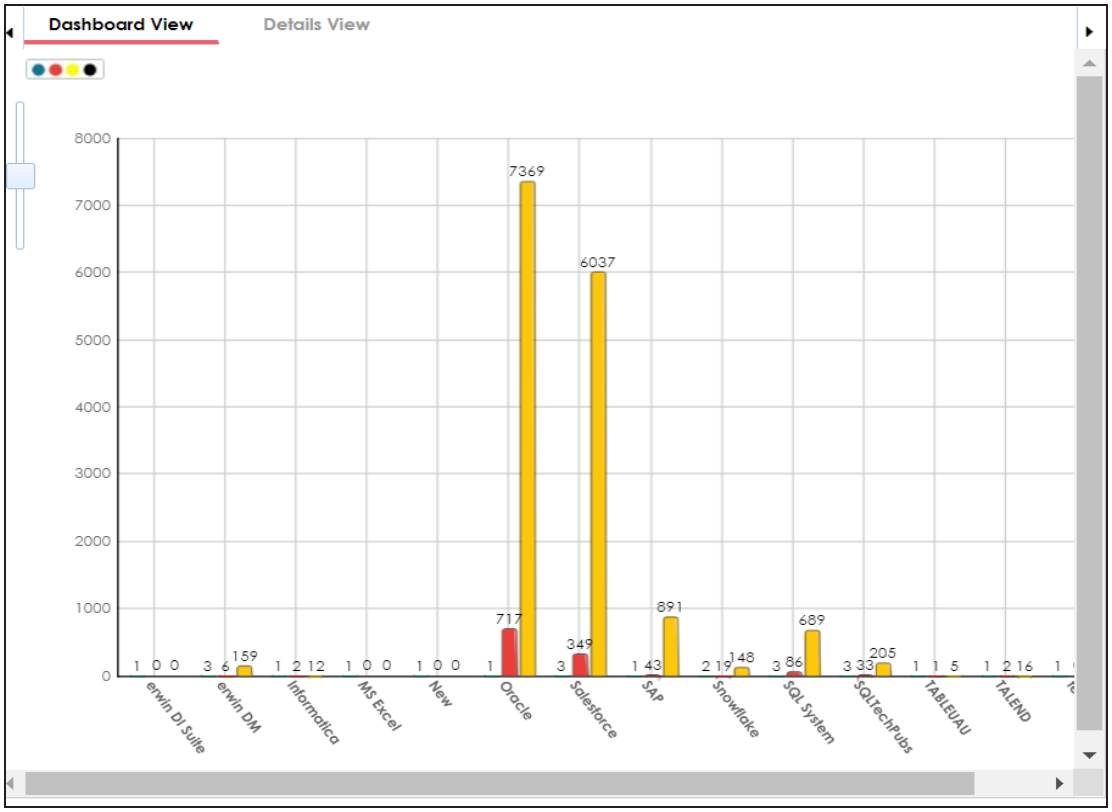


#	System Name	Project Name	Map Name	System Usage In Mappings
1	Oracle	erwinDIS	erwinSalesIntegration(1.01)	7
2	Oracle	erwinDIS	SalesforceIntegration(1.00)	7
3	Oracle	Project	SalesforceIntegration(1.00)	7
4	Oracle	Project Tech Pubs	erwinSalesIntegration(1.01)	7

System Summary

The System Summary pane displays the number of environments, tables, and columns in each system in a bar graph. To open the bar graph in the Dashboard View, click the bar

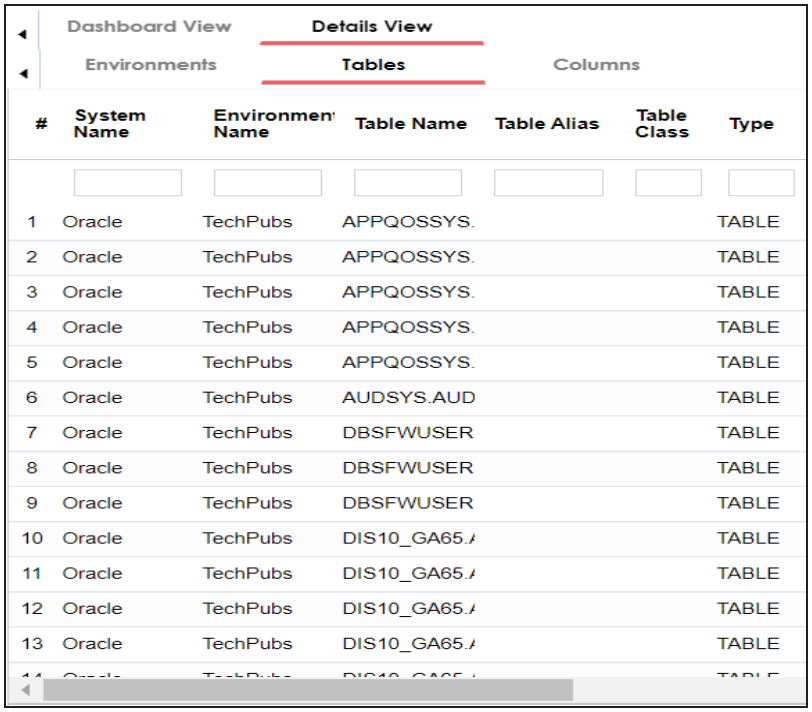
graph.



Each set of three bars corresponds to a system and represents the number of environments, tables, and columns in the system. You can drill down and view detailed information in the list format.

To view the detailed information, click a bar.

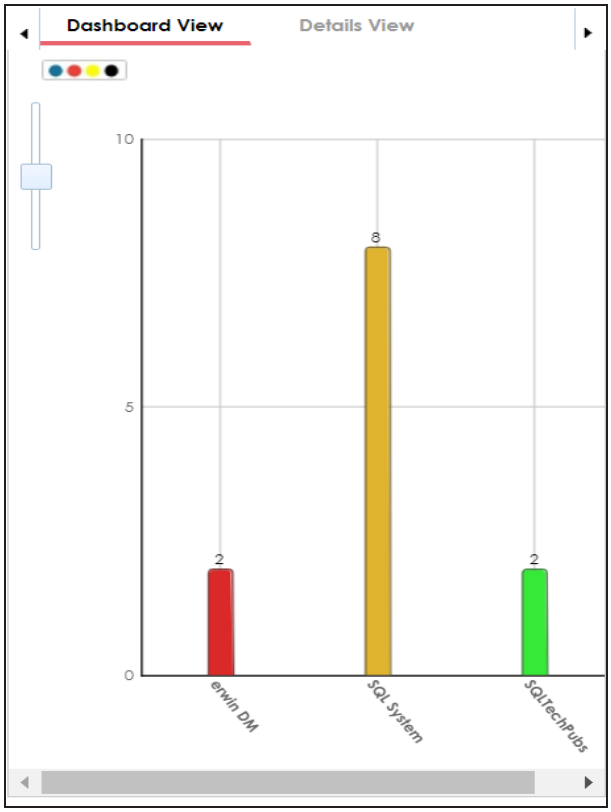
For example, if you click a table bar, then the Tables tab opens.



#	System Name	Environmen Name	Table Name	Table Alias	Table Class	Type
1	Oracle	TechPubs	APPQOSSYS.			TABLE
2	Oracle	TechPubs	APPQOSSYS.			TABLE
3	Oracle	TechPubs	APPQOSSYS.			TABLE
4	Oracle	TechPubs	APPQOSSYS.			TABLE
5	Oracle	TechPubs	APPQOSSYS.			TABLE
6	Oracle	TechPubs	AUDSYS.AUD			TABLE
7	Oracle	TechPubs	DBSFWUSER			TABLE
8	Oracle	TechPubs	DBSFWUSER			TABLE
9	Oracle	TechPubs	DBSFWUSER			TABLE
10	Oracle	TechPubs	DIS10_GA65.A			TABLE
11	Oracle	TechPubs	DIS10_GA65.A			TABLE
12	Oracle	TechPubs	DIS10_GA65.A			TABLE
13	Oracle	TechPubs	DIS10_GA65.A			TABLE

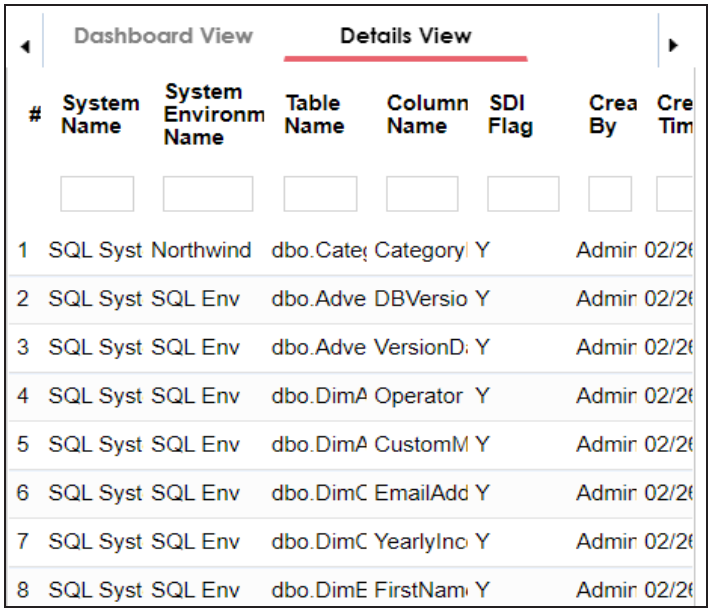
Sensitive Data Indicators

The Sensitive Data Indicators pane displays the number of sensitive columns in each system in a bar graph. To open the bar graph in the Dashboard View, click the bar graph.



Each bar of the bar graph corresponds to a system. You can drill down and view detailed information in the list format.

To view detailed information about sensitive columns in a system, click a bar. The Details View tab opens. It displays system name, environment name, table name, column name, and SDI flag.



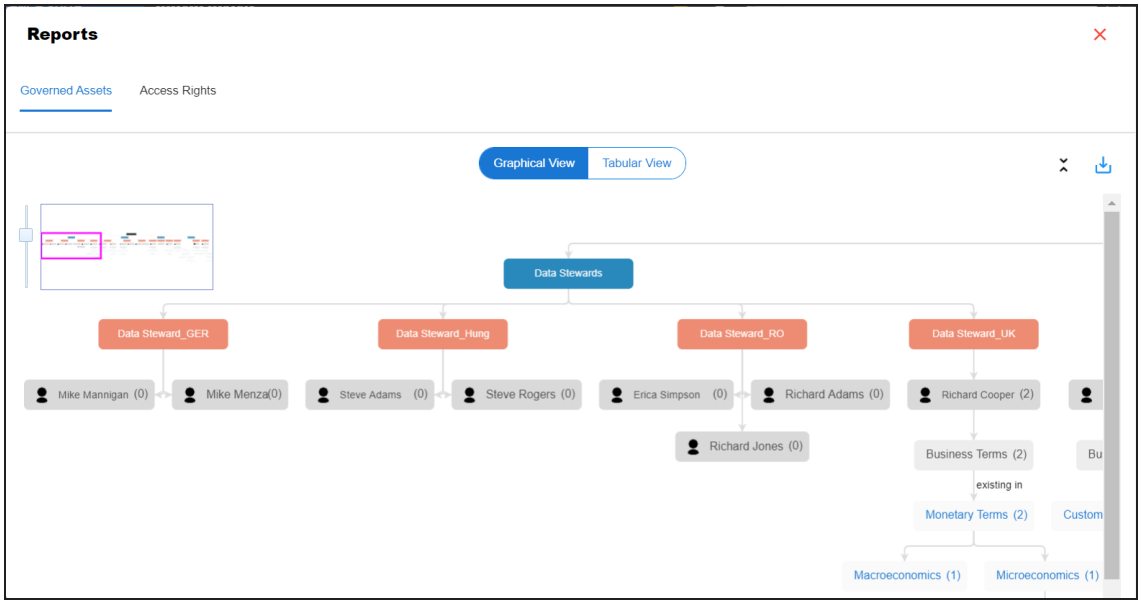
Viewing Access Rights and Data Governance Reports

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.

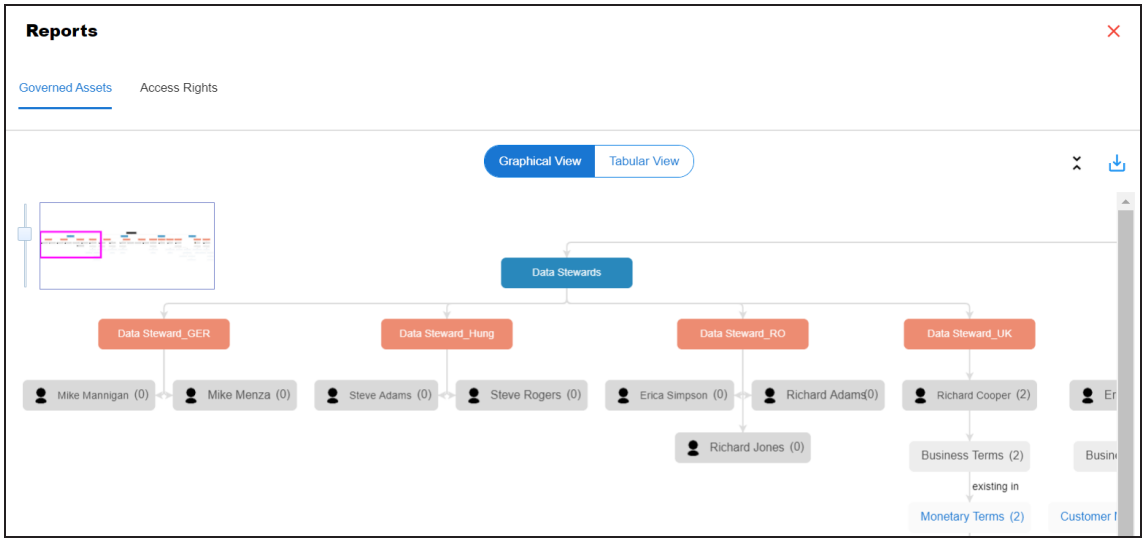
Reports page appears. From the Reports page, you can view governed assets and access rights. For more information on viewing access rights and data governance reports, follow the below topics.



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:

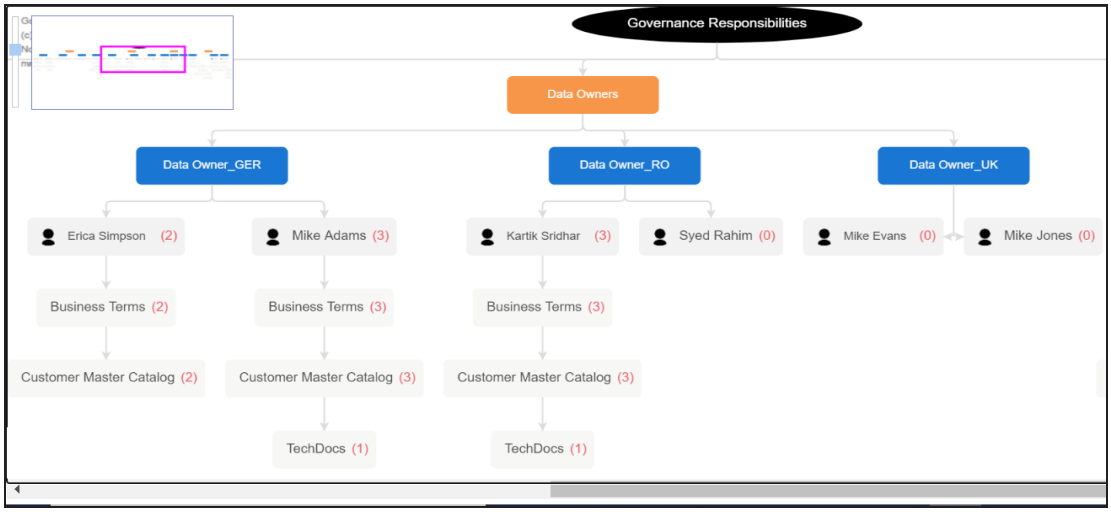
- **Graphical View**:
  The graphical view displays the governance responsibilities in a tree structure.
- **Tabular View**:
  The tabular view displays the governance responsibilities in a grid format.

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.



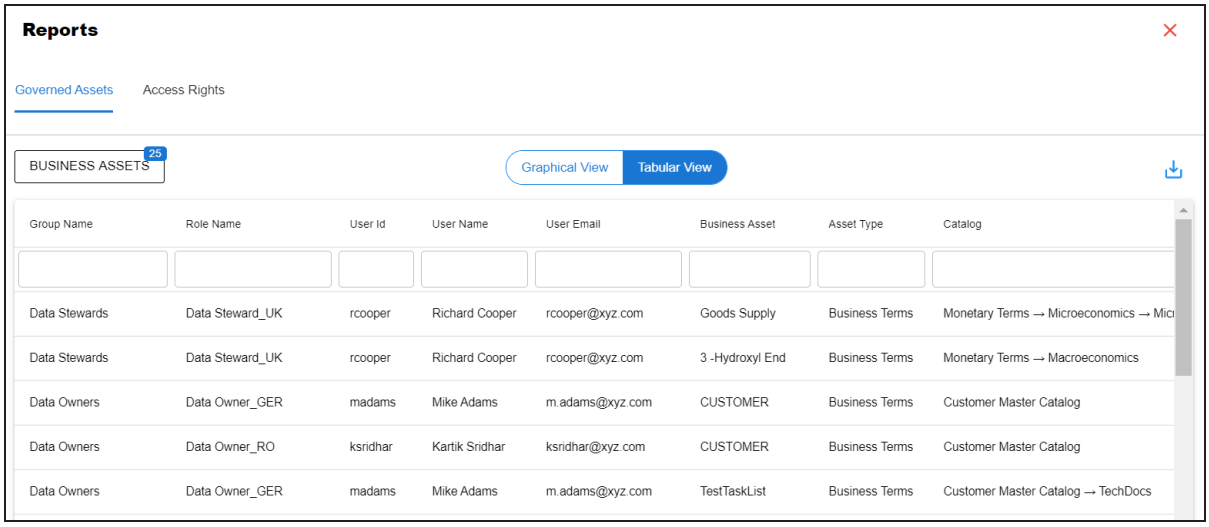
- **Pan View**

  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.



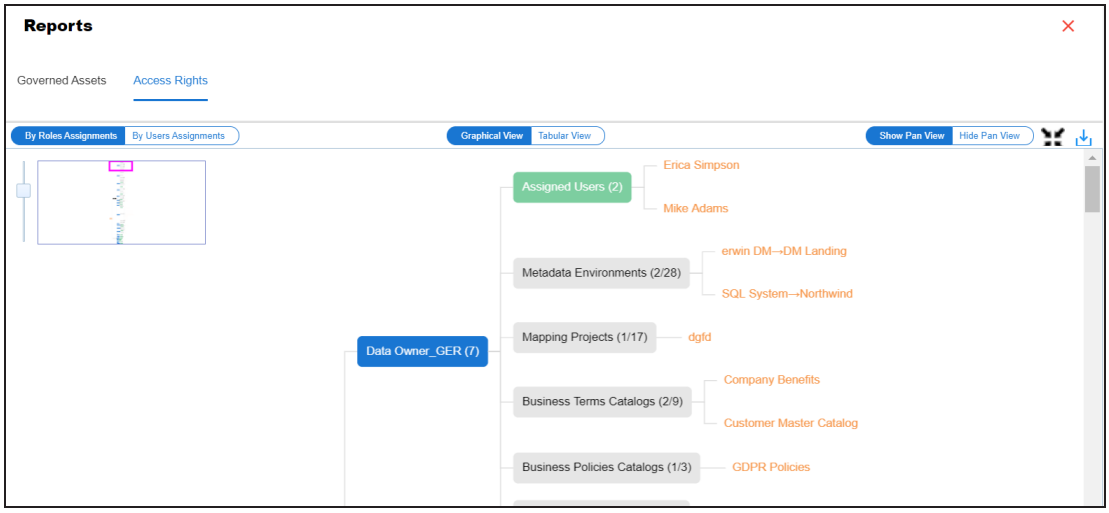
To download the report in the XLSX format, click .

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:

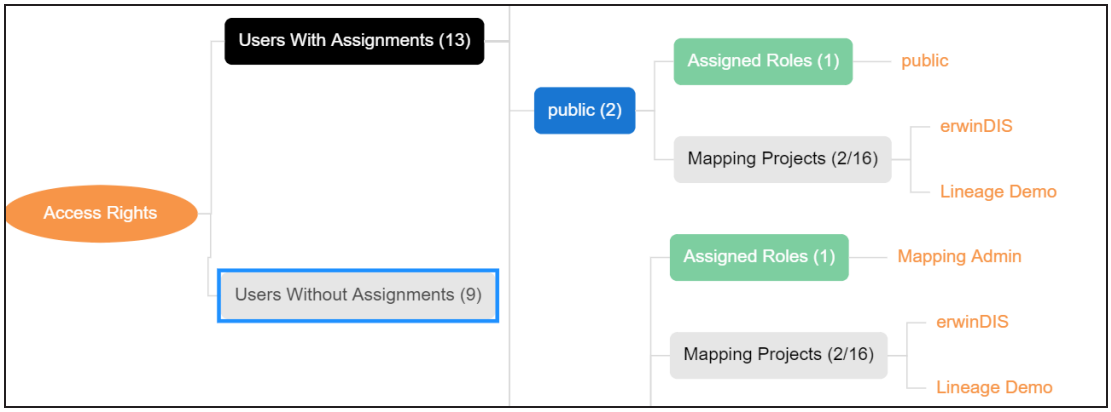
By Roles Assignments/By Users Assignments

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.



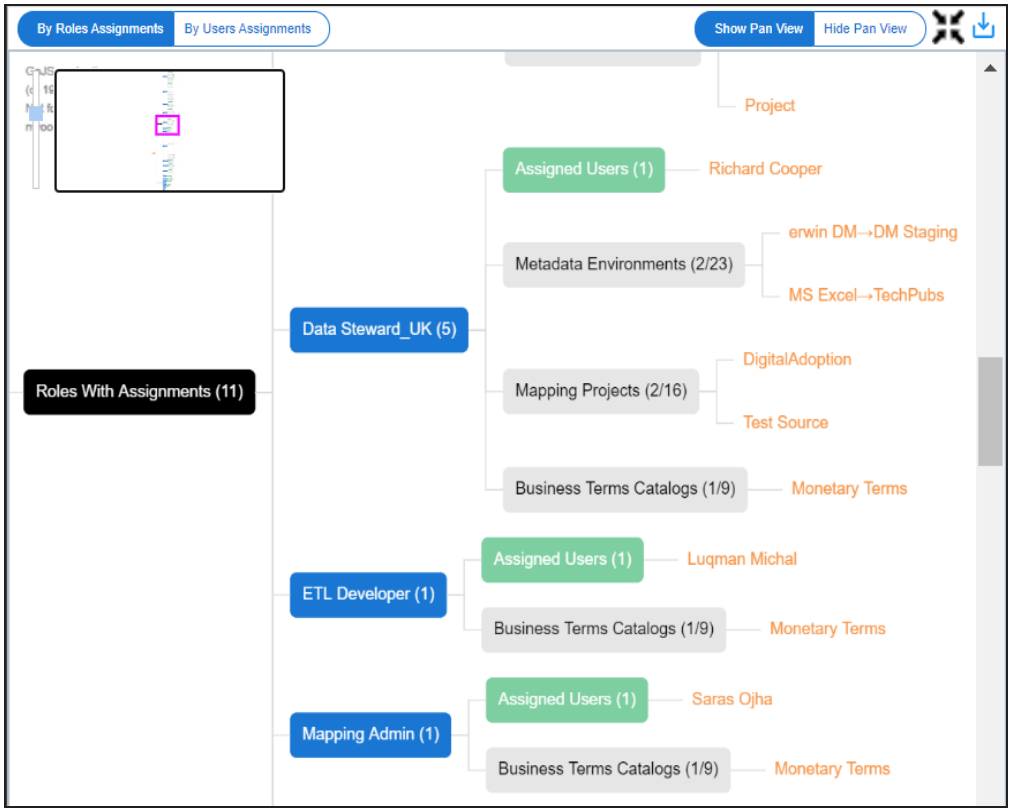
Use the following options on the Graphical View:

- **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.



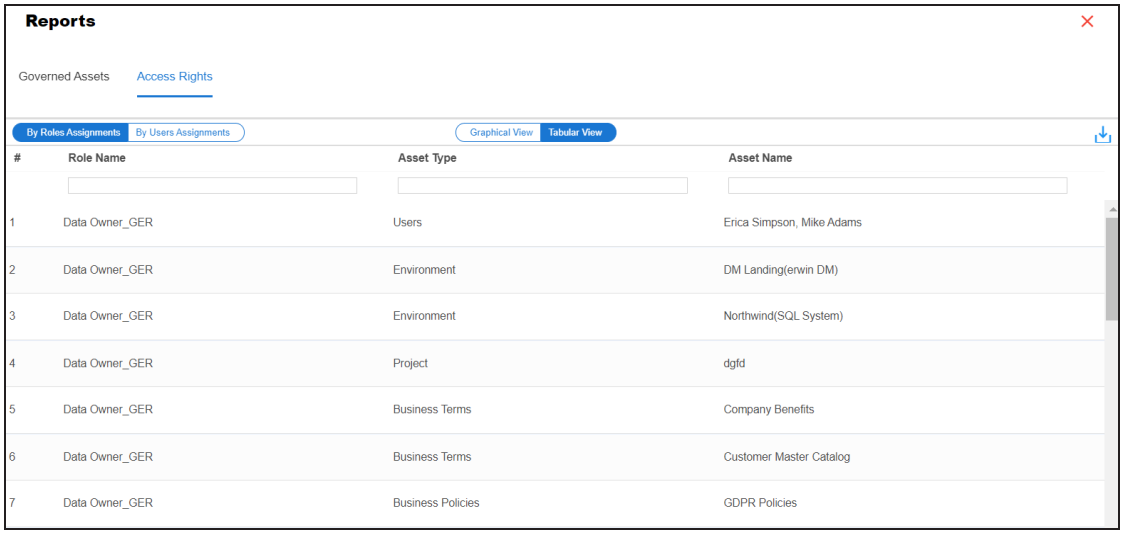
- **Expand Node Level**

  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 .