



## **erwin Data Intelligence**

# **Metadata Management Guide**

**Release v13.0**

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## Using Metadata Manager

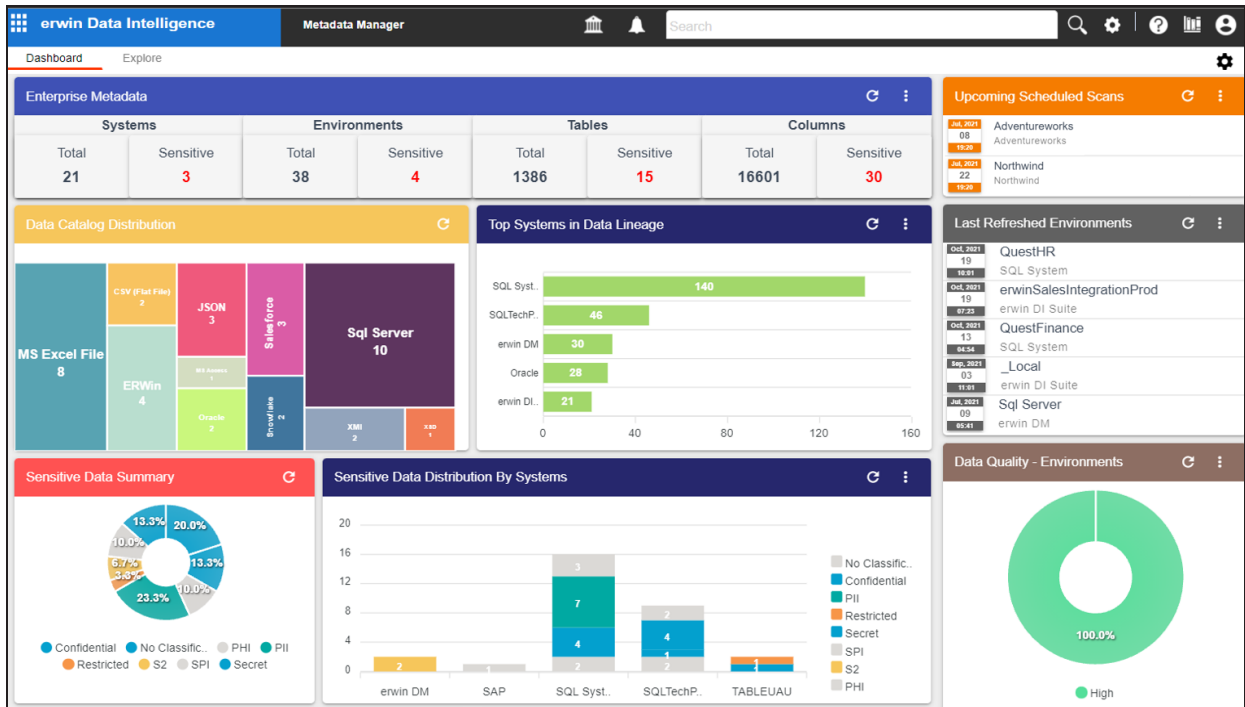
To access the Metadata Manager, go to **Application Menu > Data Catalog > Metadata Manager**.

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

- [Dashboard](#)
- [Explore](#)

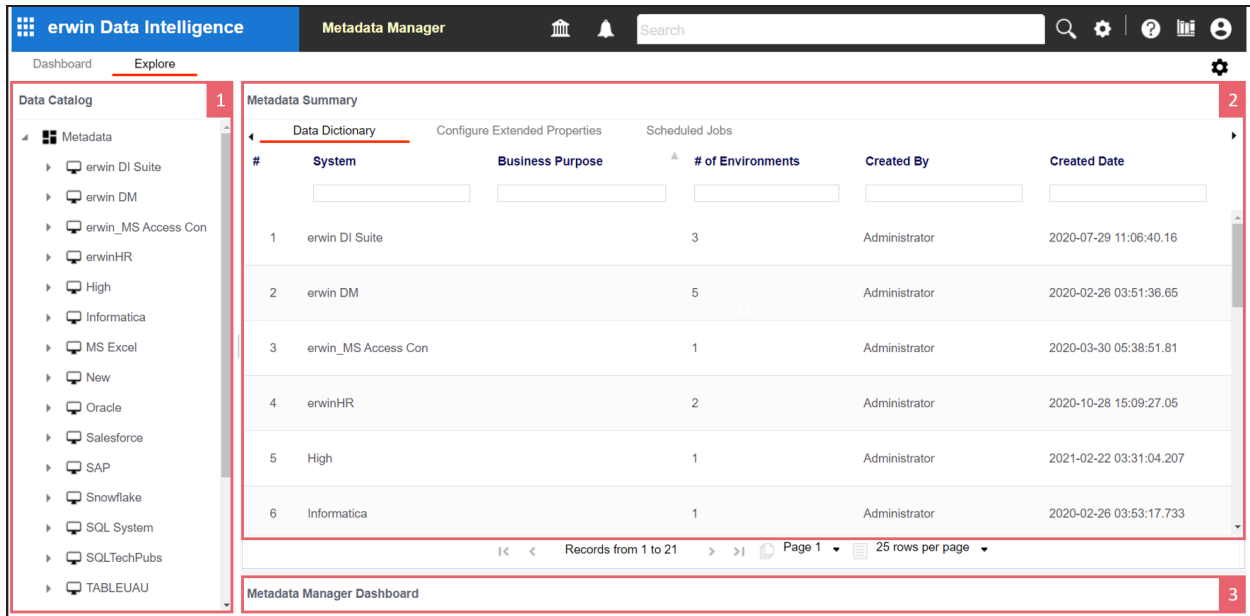
### Dashboard

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



## Explore

The Explore tab is the primary work area. It displays the scanned or imported metadata in a hierarchy and lets you manage metadata. On the Explore tab, you can scan metadata from data sources, associate technical assets with other assets, view mind maps, analyze data lineage, and so on.

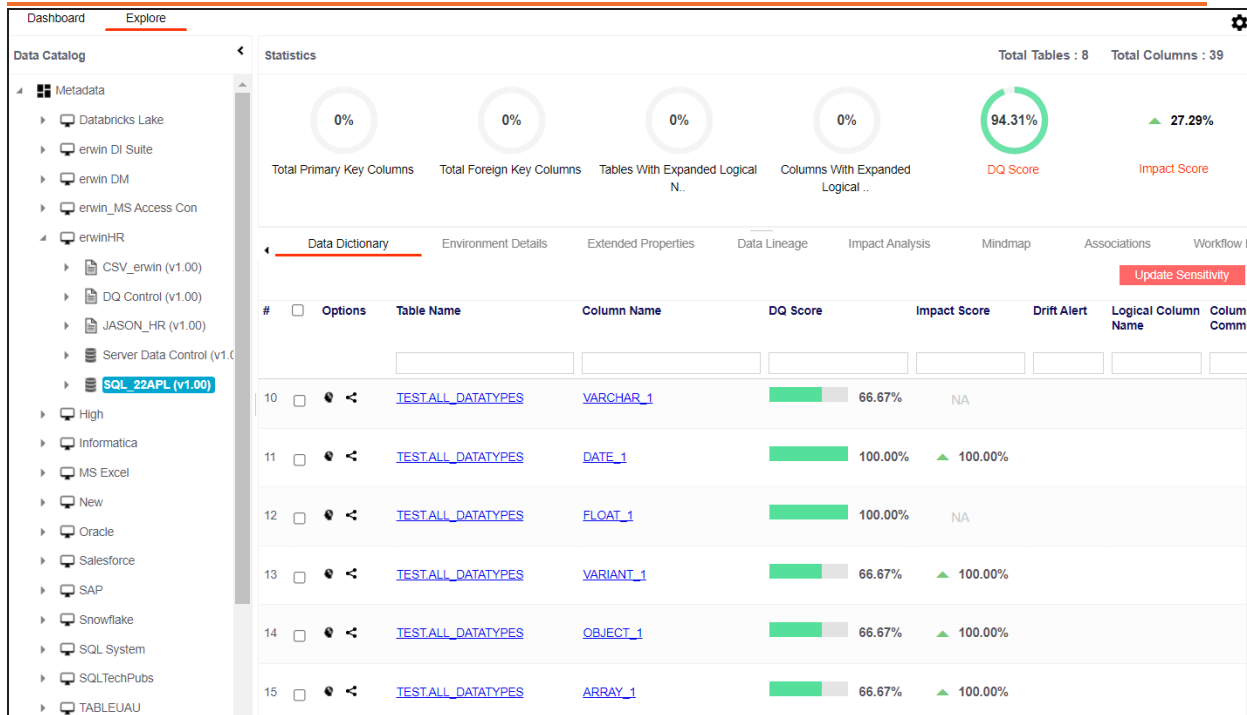


UI Section	Function
1-Data Catalog	Use this pane to browse through your metadata that is stored in a hierarchical manner, System > Environment > Table > Column.
2-Right Pane	Use this pane to view or work on the data based on your selection in the Data Catalog.
3-Metadata Manager Dashboard	Use this pane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

On the Explore tab, expand a system node and then, select an environment to view stats about environment on the Statistics section. This section displays environment's Total Primary Key Column, Total Foreign Key Columns, Tables and Columns with Expanded Logical Name, DQ Score, and Impact Score.



## Using Metadata Manager



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

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](#)
- [Exporting and Importing Sensitive Data Classification](#)
- [Running impact analysis](#)
- [Running lineage analysis](#)
- [Previewing and profiling data](#)
- [Configuring extended properties](#)

## Using Metadata Manager

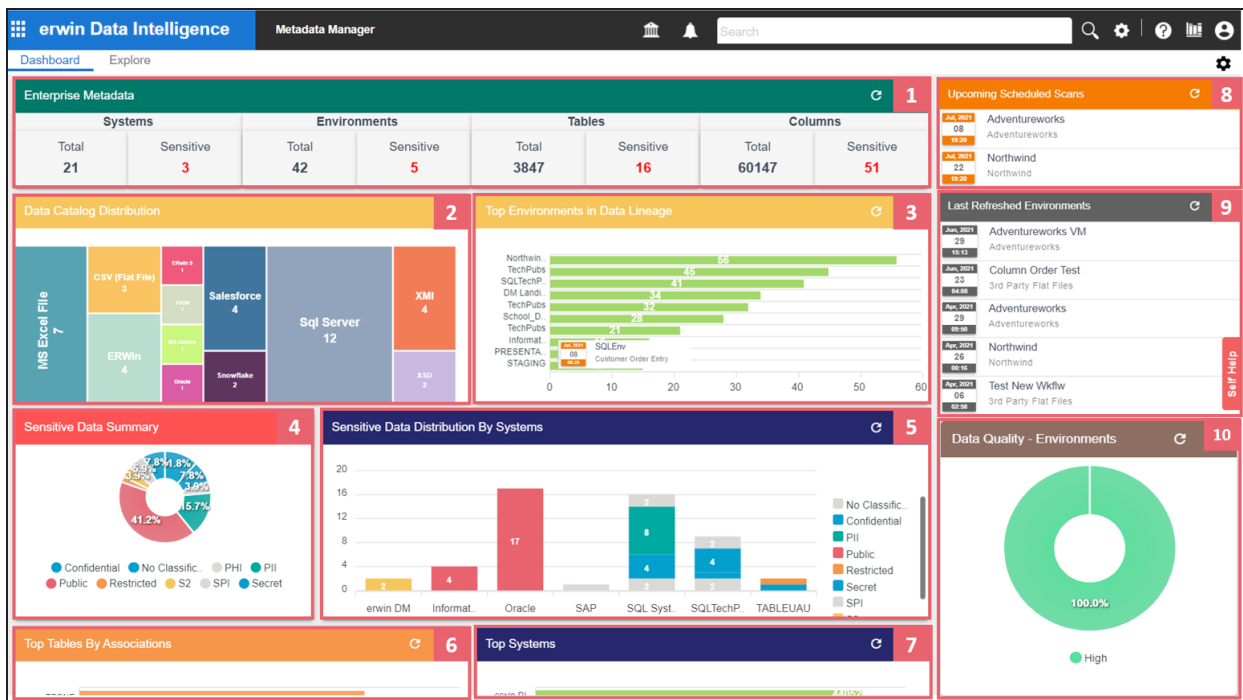
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- [Creating and managing test cases for tables](#)
- [Viewing metadata manager dashboard](#)
- [Viewing access rights and data governance reports](#)

## Viewing Metadata Manager Dashboard

The Metadata Manager Dashboard displays metrics that help you analyze and track your metadata. It presents this information using charts and graphs in a card format. By default, the dashboard displays information derived from all the assets. You can configure it to display only the information derived from the data that is assigned to you. For more information, refer to the [Configuring Asset Settings](#) topic.

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



Each card is clickable and displays information points using charts or graphs that provide a snapshot of the underlying data.

UI Section	Function
<a href="#">1-Enterprise Metadata</a>	It displays the number of each type of technical assets (systems, environments, tables, and columns) and the distribution of sensitive metadata across these technical assets.
<a href="#">2-Data Catalog Dis-</a>	It displays the distribution of environments based on database type.

## Viewing Metadata Manager Dashboard

UI Section	Function
<a href="#">tribution</a>	
<a href="#">3-Top &lt;Technical Assets&gt; in Data Lineage</a>	It displays top systems or environments based on number of columns used in mappings.
<a href="#">4-Sensitive Data Summary</a>	It displays the distribution of sensitive columns based on SDI classification across all the systems.
<a href="#">5-Sensitive Data Distribution By &lt;Technical Assets&gt;</a>	It displays the number of sensitive columns and their SDI classifications in a system or environment.
<a href="#">6-Top &lt;Technical Assets&gt; By Associations</a>	It displays top technical assets based on their number of associations.
<a href="#">7-Top &lt;Technical Assets&gt;</a>	It displays top systems or environments based on their number of tables and columns.
<a href="#">8-Upcoming Scheduled Scans</a>	It displays a list of environments that are scheduled for a metadata scan.
<a href="#">9-Last Refereshed Environments</a>	It displays a list of recently refreshed environments.
<a href="#">10-Data Quality</a>	It displays data quality score for environments, tables or columns.

## Enterprise Metadata

The Enterprise Metadata section displays the number of each technical asset and the distribution of sensitive metadata across these technical assets. This section has four clickable technical asset-specific cards. You can use them to drill down further and view technical asset details.








## Systems

The Systems card displays the total number of systems and the number of sensitive systems. For example, the following Systems card displays that there are 21 systems, out of which three systems are sensitive.

## Viewing Metadata Manager Dashboard

Systems	
Total	Sensitive
21	3

You can drill down and view the list of systems and their sensitivity. To view the list of systems, on the **Systems** card, click **Total**. The System Details page appears. On this page, you can click a system name to navigate to a system and work on it.

System Details			
#	System Name	Sensitive Data Indicator	Sensitive Data Indicator Classification Name
1	<a href="#">erwin DM</a>		
2	<a href="#">Informatica</a>		
3	<a href="#">Salesforce</a>		
4	<a href="#">SAP</a>		<span>SPI</span>
5	<a href="#">Snowflake</a>		
6	<a href="#">SQL System</a>		<span>PII</span>
7	<a href="#">TABLEUAU</a>		

To focus on a list of sensitive systems only and view their details, on the **Systems** card, click **Sensitive**. The System Details page appears. It displays a list of sensitive systems.

## Environments

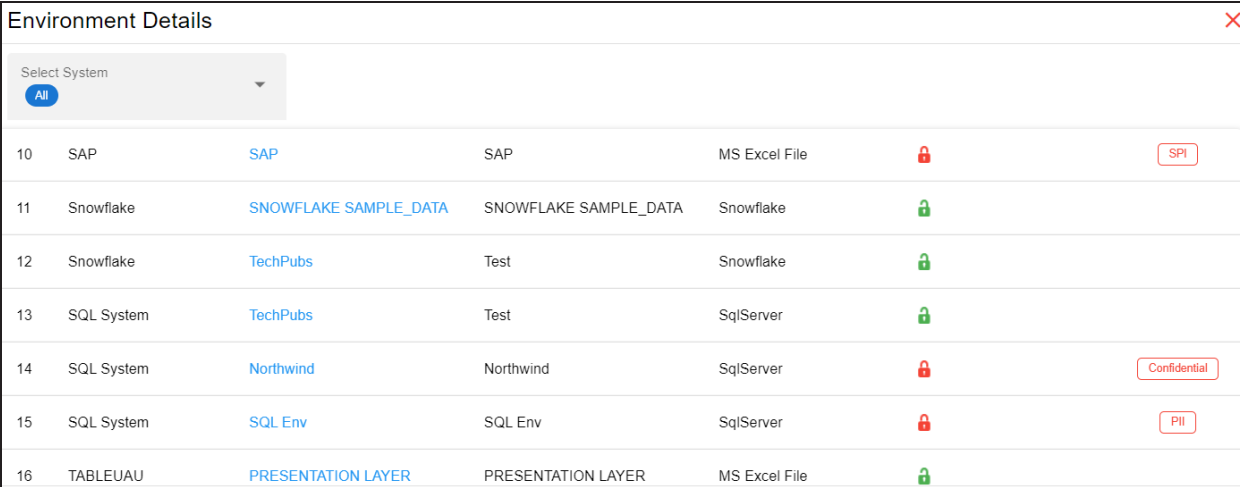
The Environments card displays the total number of environments and the number of sensitive environments. For example, the following Environments card displays that there are 32 environments, out of which five environments are sensitive.

Environments	
Total	Sensitive
32	5

You can drill down and view the list of environments and their DBMS schema. To view the list of environments, on the **Environments** card, click **Total**. The Environment Details page

## Viewing Metadata Manager Dashboard

appears. By default, it displays environments in all systems. On this page, you can click an environment name to navigate to an environment and work on it. Also you can use select a system in the Select System list to view environments in a specific system.

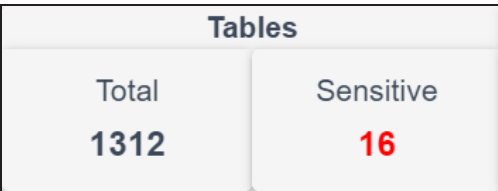


Environment Details						
Select System						
All						
10	SAP	SAP	SAP	MS Excel File	🔒	SPI
11	Snowflake	SNOWFLAKE SAMPLE_DATA	SNOWFLAKE SAMPLE_DATA	Snowflake	🔓	
12	Snowflake	TechPubs	Test	Snowflake	🔓	
13	SQL System	TechPubs	Test	SqlServer	🔓	
14	SQL System	Northwind	Northwind	SqlServer	🔒	Confidential
15	SQL System	SQL Env	SQL Env	SqlServer	🔒	PII
16	TABLEUAU	PRESENTATION LAYER	PRESENTATION LAYER	MS Excel File	🔓	

To focus on a list of sensitive environments only and view their details, on the **Environments** card, click **Sensitive**. The System Details page appears. By default, it displays a list of sensitive environments in all systems. To view sensitive environments in a specific system, you can use the Select System list.

## Tables

The Tables card displays the total number of tables and the number of sensitive tables. For example, the following Tables card displays that there are 1312 tables, out of which 16 tables are sensitive.

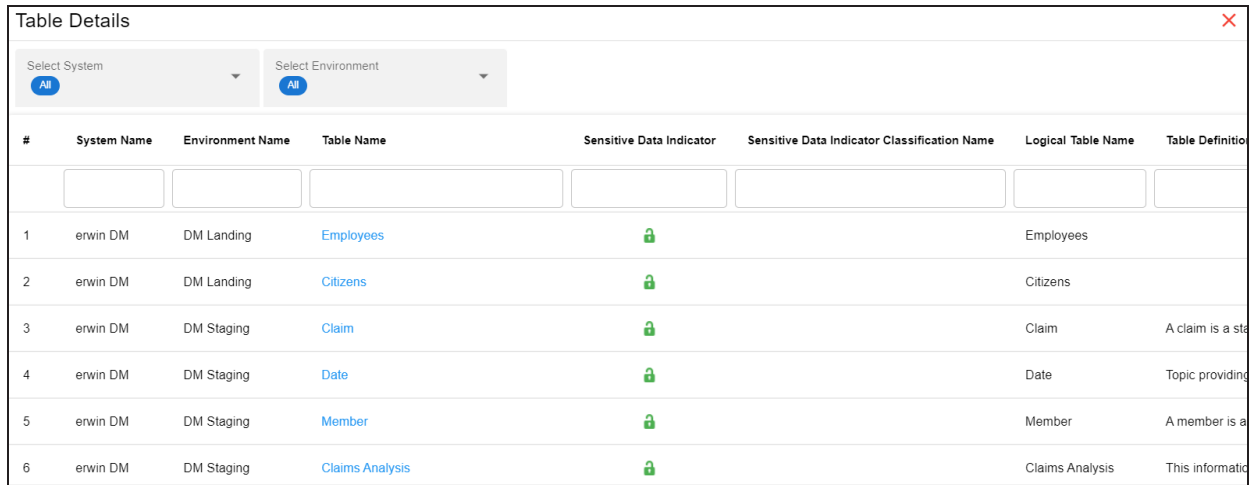


Tables	
Total	Sensitive
1312	16

You can drill down and view the list of tables. To view the list of tables, on the **Tables** card, click **Total**. The Table Details page appears. By default, it displays a list of tables in all systems and environments. On this page, you can click a table name to navigate to a table and

## Viewing Metadata Manager Dashboard

work on it. You can select a system in the Select System list and an environment in the Select environment list to view tables in a specific environment.



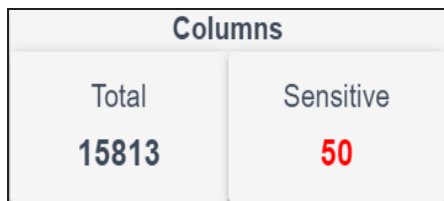
The screenshot shows a 'Table Details' window with a search bar and two dropdown menus: 'Select System' (set to 'All') and 'Select Environment' (set to 'All'). Below is a table with columns: #, System Name, Environment Name, Table Name, Sensitive Data Indicator, Sensitive Data Indicator Classification Name, Logical Table Name, and Table Definition.

#	System Name	Environment Name	Table Name	Sensitive Data Indicator	Sensitive Data Indicator Classification Name	Logical Table Name	Table Definition
1	erwin DM	DM Landing	Employees	🔒		Employees	
2	erwin DM	DM Landing	Citizens	🔒		Citizens	
3	erwin DM	DM Staging	Claim	🔒		Claim	A claim is a sta
4	erwin DM	DM Staging	Date	🔒		Date	Topic providing
5	erwin DM	DM Staging	Member	🔒		Member	A member is a
6	erwin DM	DM Staging	Claims Analysis	🔒		Claims Analysis	This informatio

To focus on a list of sensitive tables only and view their details, on the **Tables** card, click **Sensitive**. The Table Details page appears. By default, it displays a list of sensitive tables in all environments. To view sensitive tables in a specific environment, you can use the Select System and Select Environment lists.

## Columns

The Columns card displays the total number of columns and the number of sensitive columns. For example, the following Columns card displays that there are 15813 columns, out of which 50 are sensitive.



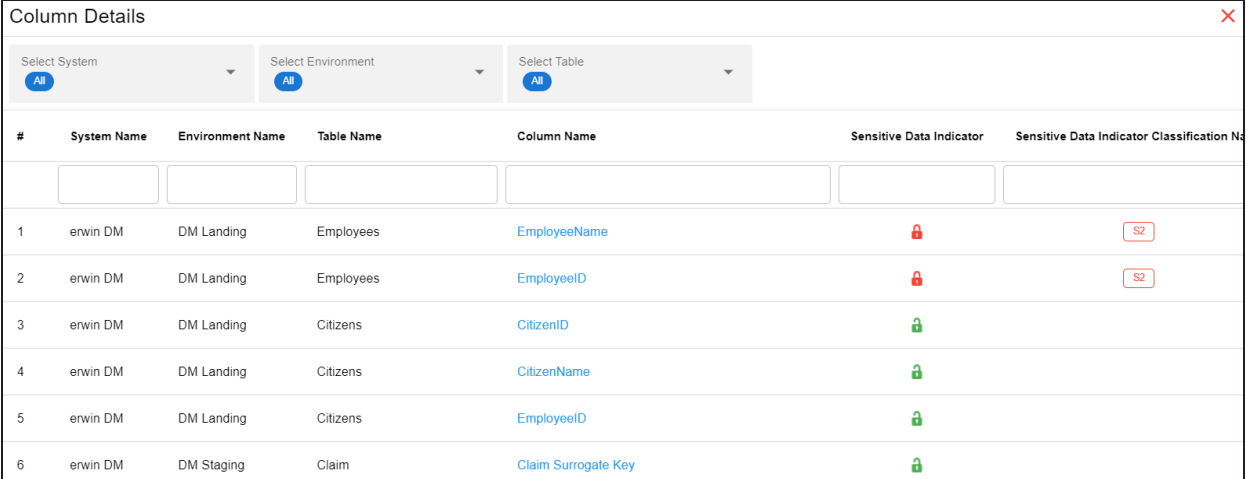
The screenshot shows a 'Columns' card with two columns: 'Total' and 'Sensitive'. The 'Total' value is 15813 and the 'Sensitive' value is 50.

Columns	
Total	Sensitive
15813	50

You can drill down and view the list of columns. To view the list of columns, on the **Columns** card, click **Total**. The Column Details page appears. By default, it displays a list of columns in all tables. On this page, you can click a column name to navigate to a column and work on it. Also, you can select a system in the Select System list, select an environment in the Select


## Viewing Metadata Manager Dashboard

Environment list, and select a table in the Select Table list to view columns in a specific table.



#	System Name	Environment Name	Table Name	Column Name	Sensitive Data Indicator	Sensitive Data Indicator Classification
1	erwin DM	DM Landing	Employees	EmployeeName	🔒	S2
2	erwin DM	DM Landing	Employees	EmployeeID	🔒	S2
3	erwin DM	DM Landing	Citizens	CitizenID	🔒	
4	erwin DM	DM Landing	Citizens	CitizenName	🔒	
5	erwin DM	DM Landing	Citizens	EmployeeID	🔒	
6	erwin DM	DM Staging	Claim	Claim Surrogate Key	🔒	

To focus on the list of sensitive columns and view their details, on the **Columns** card, click **Sensitive**. The Column Details page appears. By default, it displays a list of sensitive columns in all tables. To view sensitive columns in a specific table, you can use the Select System and Select Environment lists.

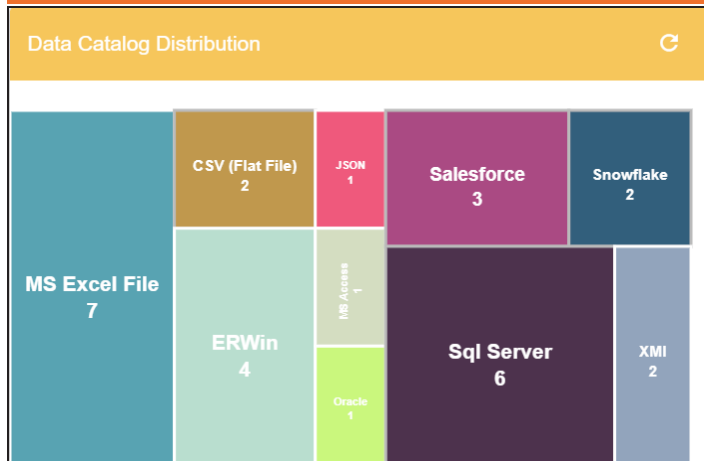
You can change the background color of the Enterprise Metadata section. To change the background color, click  and then, click **Background** to select a color from the palette.

## Data Catalog Distribution

The Data Catalog Distribution card displays the number of environments based on database types. For example, the following Data Catalog Distribution card displays that there are seven CSV environments, four ERWin environments, six SQL Server environments, and so on.



## Viewing Metadata Manager Dashboard



You can drill down and view a list of environments belonging to a particular database type. For example, to view a list of SQL Server environments, click **Sql Server**. The Data Catalog Distribution page appears. On this page, you can click an environment name to navigate to an environment and work on it.

#	System Name	Environment Name	Database Type	Environment Type	Sensitive Data Indicator	Sensitive Data Indicator Classification Name
1	SQL System	Northwind	SqlServer	Northwind	🔒	Confidential
2	SQL System	SQL Env	SqlServer	SQL Env	🔒	PII
3	TALEND	STAGING	SqlServer	STAGING	🔒	
4	SQL System	TechPubs	SqlServer	Test	🔒	
5	SQLTechPubs	SQLTechPubs	SqlServer	Test	🔒	Secret
6	erwin DM	Sql Server	SqlServer	Sql Server	🔒	
7	High	Low	SqlServer		🔒	
8	erwin DM	Sales	SqlServer		🔒	

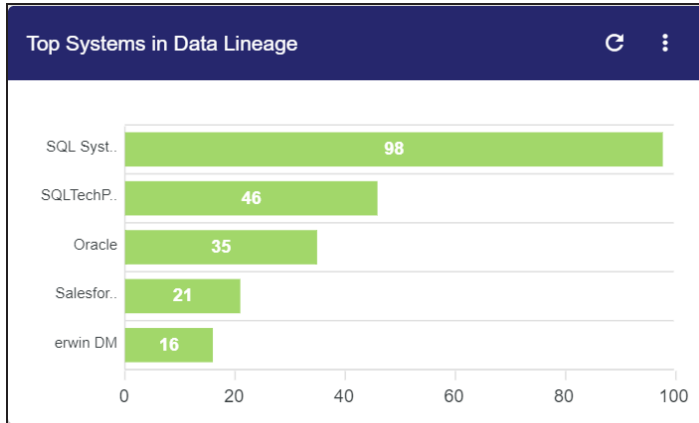
## Top <Technical\_Assets> in Data Lineage


The Top <Technical\_Assets> chart card displays top technical assets based on the number of columns used in mappings. You can switch between the technical assets to view number of columns in systems or environments used in mappings. To switch between systems and

## Viewing Metadata Manager Dashboard

environments, click . The available options appear. Click **Change Type** and then click the required technical asset.

For example, the following chart card displays top systems in data lineage. The SQL System on this chart card has 98 columns that are used in mappings.



To control the number of records appearing on the chart card, click . The available options appear. Click **Records** and then, click the required number.

To view data lineage details of technical assets, on the chart card, click a bar graph. For example, the Top Systems in Data Lineage page appears on clicking a bar graph. On this page, you can click a system name to navigate to a system and work on it.

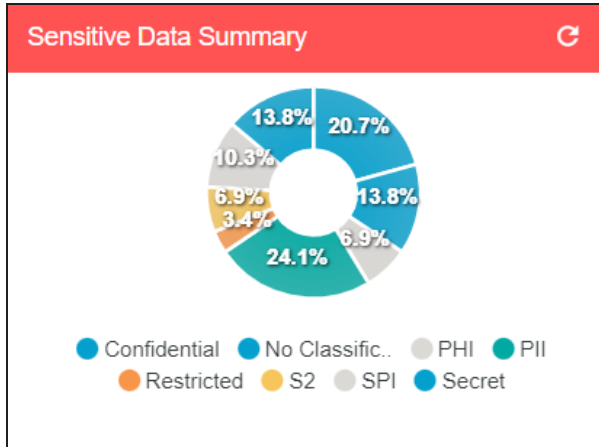
#	System Name	Environment Name	Project Name	Map Name	System Usage In Mappings	Database Type
1	<a href="#">SQL System</a>	Northwind	Lineage Demo	TestMap3	22	SqlServer
2	<a href="#">SQL System</a>	Northwind	DigitalAdoption	Flow Test	15	SqlServer
3	<a href="#">SQL System</a>	SQL Env	erwinDIS	TechPubsBUgTrial	8	SqlServer
4	<a href="#">SQL System</a>	Northwind	Lineage Demo	TestDataMap1	8	SqlServer
5	<a href="#">SQL System</a>	Northwind	Lineage Demo	TestMap2	8	SqlServer

## Sensitive Data Summary

The Sensitive Data Summary chart card displays the distribution of sensitive columns based on SDI classification across all systems in a donut chart. Each arc of the donut chart

## Viewing Metadata Manager Dashboard

corresponds to an SDI classification. For example, the following donut chart displays that 24.1% of the columns are PII, 20.7% of the columns are confidential, and so on.




Hover over the donut chart to view the absolute number of columns belonging to an SDI classification. To view columns details, click an arc. The Summary of <SDI\_Classification> page appears. On this page, you can click a column name to navigate to a column and work on it.

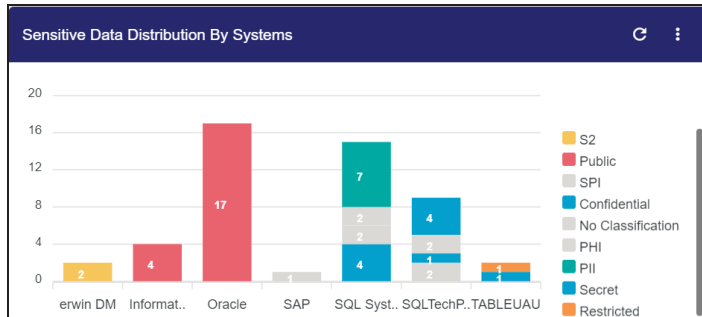
#	System Name	Environment Name	Table Name	Column Name	Sensitive Data Indicator	Sensitive Data Indicator Classification Name
1	SQL System	Northwind	dbo.Categories	CategoryID	🔒	Confidential
2	SQL System	Northwind	dbo.Categories	CategoryName	🔒	Confidential
3	SQL System	SQL Env	dbo.DimAccount	Operator	🔒	Confidential
4	SQL System	SQL Env	dbo.DimEmployee	FirstName	🔒	Confidential
5	TABLEUAU	PRESENTATION LAYER	Account	Number of Records	🔒	Confidential
6	SQLTechPubs	SQLTechPubs	dbo.Customers	CompanyName	🔒	Confidential

## Sensitive Data Distribution By <Technical\_Assets>








The Sensitive Data Distribution By <Technical\_Assets> chart card displays the number of sensitive columns and their SDI classification in a system or environment. To switch

## Viewing Metadata Manager Dashboard

between systems and environments, click  and then, click the required technical asset. For example, the following card displays the number of sensitive columns and their classification in erwin DM, Informatica, Oracle, SAP, and other systems.




Each bar in the graph corresponds to a system or environment. You can drill down and view detailed information in the list format. To view detailed information about sensitive columns, click a bar. The Sensitive Data Distribution page appears. On this page, you can click a column name to navigate to a column and work on it.

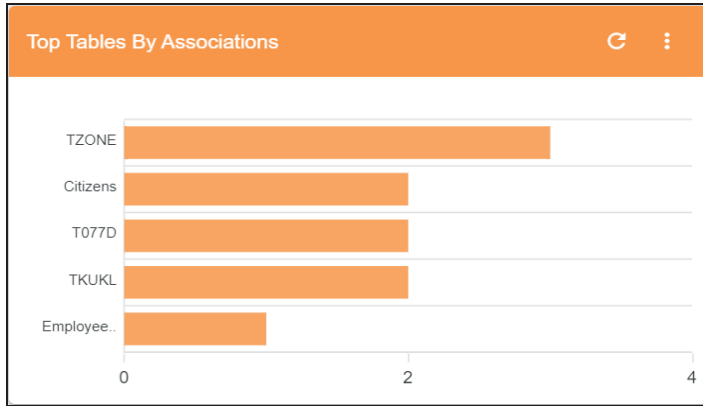
Sensitive Data Distribution						
#	System Name	Environment Name	Table Name	Column Name	Sensitive Data Indicator	Sensitive Data Indicator Classification Name
1	SQL System	SQL Env	dbo.DimCurrency	CurrencyKey		PII
2	SQL System	SQL Env	dbo.DimCurrency	CurrencyName		PII
3	SQL System	SQL Env	dbo.DimCustomer	YearlyIncome		PII
4	SQL System	SQL Env	dbo.DimOrganization	CurrencyKey		PII
5	SQL System	SQL Env	dbo.FactCurrencyRate	CurrencyKey		PII
6	SQL System	SQL Env	dbo.FactInternetSales	CurrencyKey		PII
7	SQL System	SQL Env	dbo.FactResellerSales	CurrencyKey		PII


## Top <Technical\_Assets> By Associations

The Top <Technical\_Assets> By Associations chart card displays the top technical assets based on the number of associations it has with other assets. You can switch between

## Viewing Metadata Manager Dashboard


technical assets to view top systems, environments, tables, or columns based on the number of associations. To switch between technical assets, click . The available options appear. Click **Change Type** and then, click the required technical asset. For example, the following card displays top tables based on the number of associations.



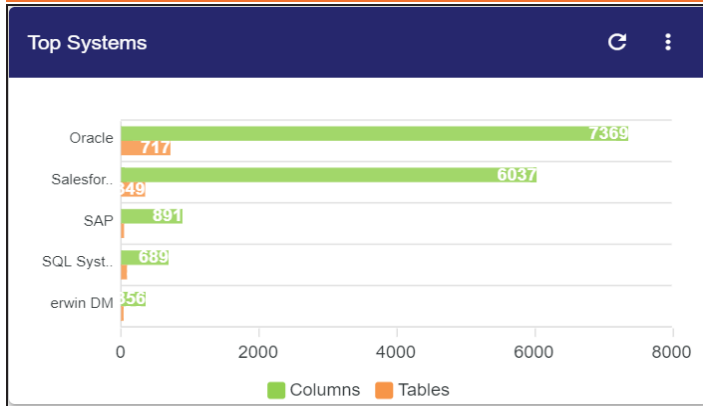
To control the number of records appearing on the chart card, click . The available options appear. Click **Records** and then click the required number.

Each bar in the graph corresponds to a technical asset. Hover over a bar to view the number of associations.

## Top <Technical\_Assets>

The Top <Technical\_Assets> chart card displays top systems or environments based on the number of tables and columns. To switch between systems and environments, click . The available options appear. Click **Change Type** and then, click the required technical asset. For example, the following chart card displays the top five systems.

## Viewing Metadata Manager Dashboard



To control the number of records available on the chart, click . The available options appear. Click **Records** and then, click the required number.

Each pair of bars in the graph corresponds to a technical asset. Hover over green and orange bars to view the number of columns and tables respectively.

## Upcoming Scheduled Scans


The Upcoming Scheduled Scans card displays a list of environments that are scheduled for a metadata scan. This list includes time of the scheduled scan for each environment. To control the number of records available on the chart, click . The available options appear. Click **Records** and then click the required number.

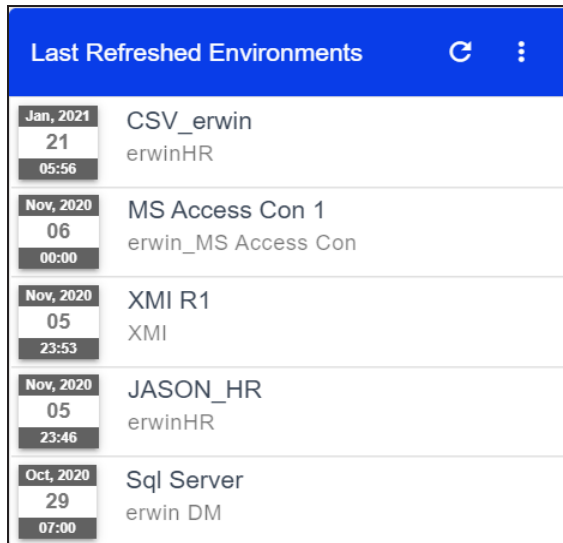
To customize the card background, click . The available options appear. Click **Background** and then use the color palette. For example, the following card's background color is set to orange color.

Upcoming Scheduled Scans	
Jul, 2021 08 19:20	Adventureworks Adventureworks
Jul, 2021 22 19:20	Northwind Northwind


## Last Refreshed Environments

## Viewing Metadata Manager Dashboard

The Last Refreshed Environments card displays a list of recently refreshed environments. It displays the environment name, date, and time of the environment refresh. This helps in tracking environments that are recently updated. To control the number of records available on the chart, click . The available options appear. Click **Records** and then click the required number. For example, the following chart card displays a record of five environments



Last Refreshed Environments	
Jan, 2021 21 05:56	CSV_erwin erwinHR
Nov, 2020 06 00:00	MS Access Con 1 erwin_MS Access Con
Nov, 2020 05 23:53	XMI R1 XMI
Nov, 2020 05 23:46	JASON_HR erwinHR
Oct, 2020 29 07:00	Sql Server erwin DM

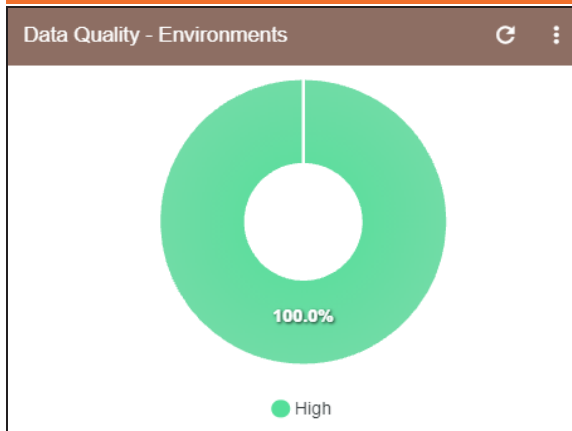
To customize the card background, click . The available options appear. Click **Background** and then use the color palette.


## Data Quality <Technical\_Assets>

The Data Quality card displays the data quality score for environments, tables, and columns. The card displays data quality score in percentage for environments by default.

## Viewing Metadata Manager Dashboard

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To view data quality for tables or columns, click .



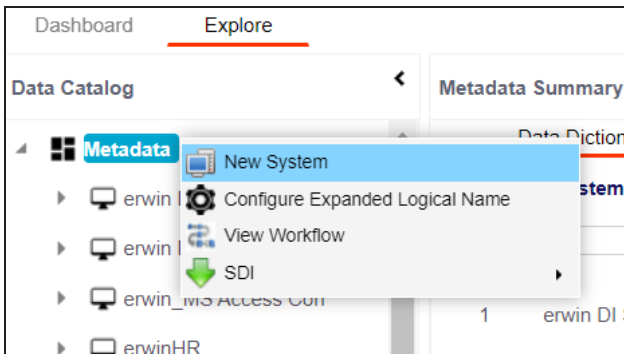
## Creating Systems

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

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

To create systems, follow these steps:

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



3. Click **New System**.

## Creating Systems

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 <a href="#">Best Practices</a> 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

## Creating Systems

Field Name	Description
	organization for a data integration project.
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: <ul style="list-style-type: none"> <li>▪ Source</li> <li>▪ Target</li> <li>▪ Both</li> </ul>
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 <a href="#">Configuring Data Profiling and DQ Scores</a> 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

## Creating Systems

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

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 Clas-	Specifies the sensitivity classification of the system. Also, you can add multiple classifications to the system.

## Creating Systems

Field Name	Description
sification	For example, PHI, Confidential. For more information on configuring Sensitive Data Indicator (SDI) classifications, refer to the <a href="#">Configuring Sensitivity Classifications</a> topic.
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](#)
- [Tagging Systems](#)

You can manage a system as per your requirements. [Managing systems](#) involves:

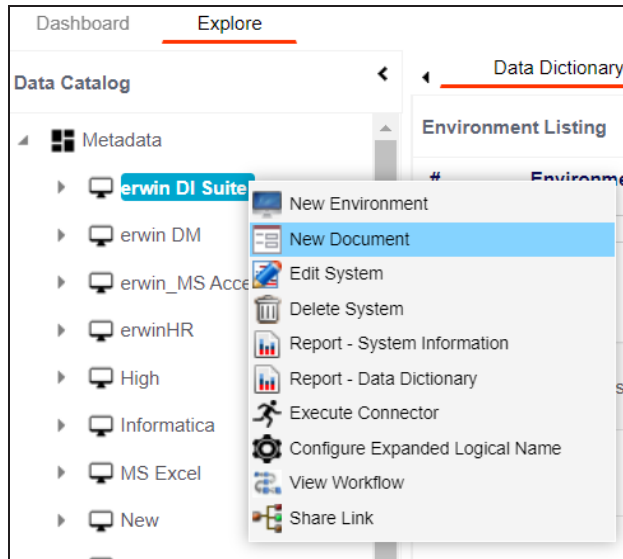
- Editing or deleting systems
- Exporting systems information

# Adding Documents

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

To add documents to systems, follow these steps:

1. In the **Data Catalog** pane, right-click a system.



2. Click **New Document**.


The Upload Document page appears.

## Adding Documents


The screenshot shows a web form titled "Upload Document". It contains the following fields and controls:

- System Document Name\***: A text input field with a red asterisk indicating it is mandatory.
- System Document Object**: A drag-and-drop area with the text "Drag-n-Drop files here or click to select files for upload." and a blue upload icon.
- System Document Owner**: A text input field.
- Document Link**: A text input field.
- Intended Use Description**: A rich text editor with a toolbar containing icons for bold, italic, underline, link, unlink, list, and other text formatting options.
- Approval Required Flag**: A checkbox.

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

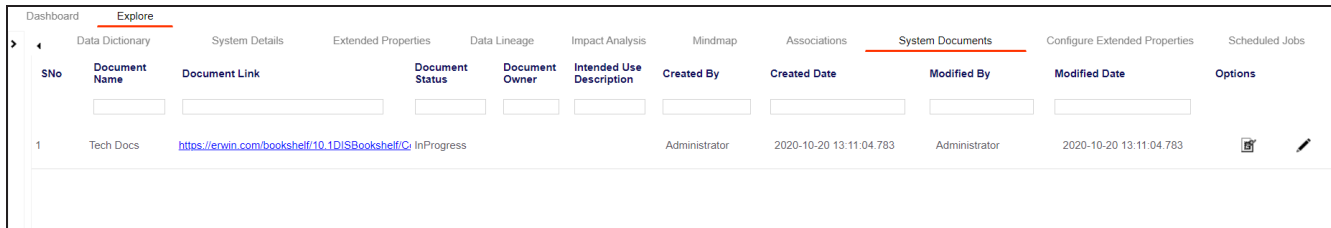
Field Name	Description
System Document Name	Specifies the name of the physical document being attached to the system. For example, Source System Details.
System Document Object	Drag and drop document files or use  to select and upload document files.
System Document Owner	Specifies the document owner's name. For example, John Doe.
Document Link	Specifies the URL of the document. For example, <a href="https://drive.google.com/file/d/12sC2_SZlYeFKI7OOn-b5YkMBq4ptA7jhg5/view">https://drive.google.com/file/d/12sC2_SZlYeFKI7OOn-b5YkMBq4ptA7jhg5/view</a>
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 <b>Approval Required Flag</b> check box to select the document status.



## Adding Documents

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

4. Click .

The document is saved on the System Documents tab.



SNo	Document Name	Document Link	Document Status	Document Owner	Intended Use Description	Created By	Created Date	Modified By	Modified Date	Options
1	Tech Docs	<a href="https://erwin.com/bookshelf/10_1D/ISBookshelf/C">https://erwin.com/bookshelf/10_1D/ISBookshelf/C</a>	InProgress	Administrator		Administrator	2020-10-20 13:11:04.783	Administrator	2020-10-20 13:11:04.783	 

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.

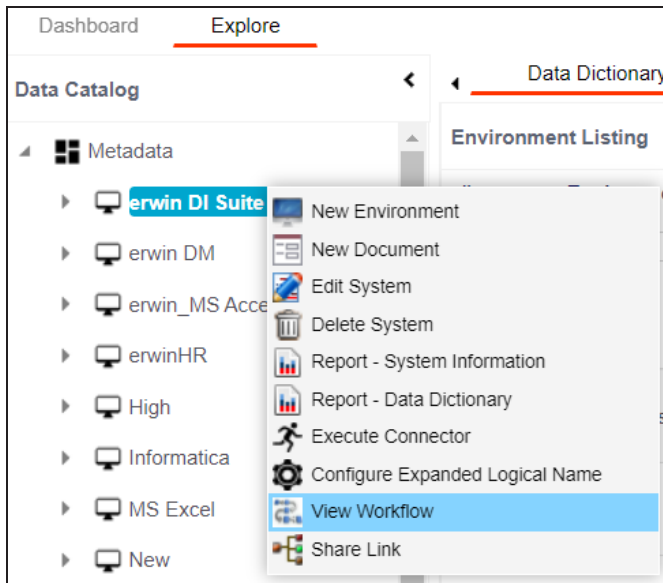


## Viewing Workflow Logs

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:

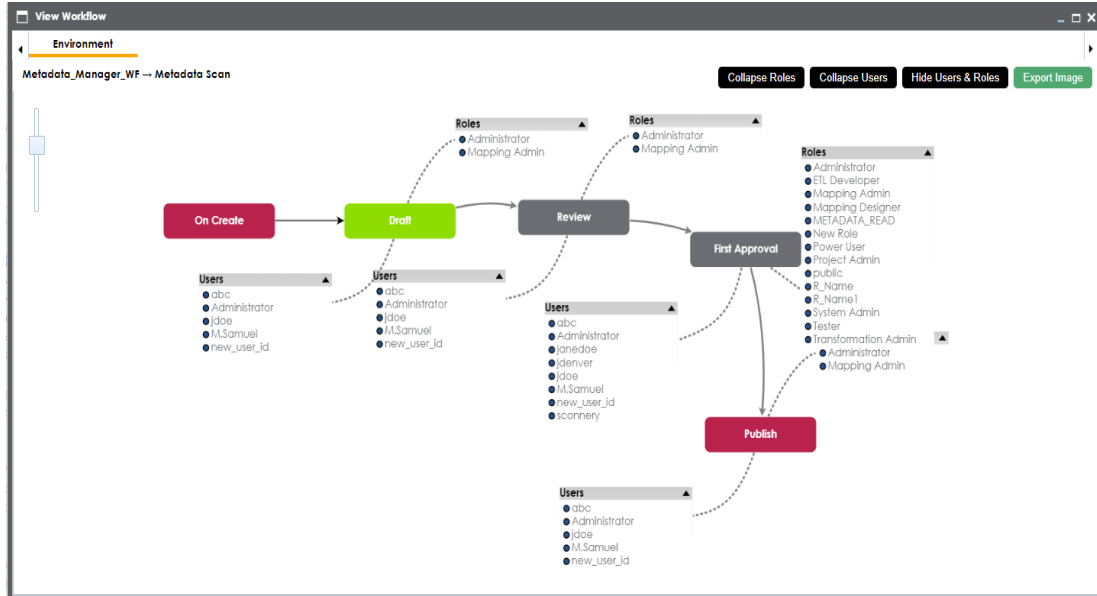
1. In the **Data Catalog** pane, right-click a system.



2. Click **View Workflow**.

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

## Viewing Workflow Logs



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

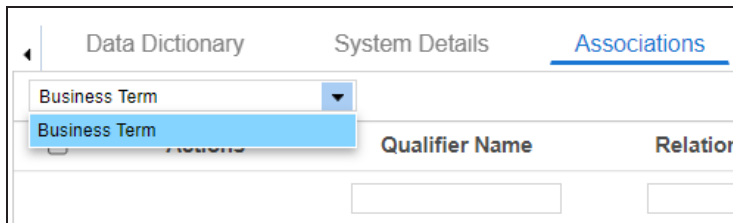
You can associate systems with business assets, systems, environments, tables, and columns. You can view these associations on mind maps and analyze association statistics.

Ensure that:

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

To associate systems with asset types, follow these steps:

1. In the **Data Catalog** pane, click the required system.
2. In the central pane, click the **Associations** tab.
3. In the asset type (business policies, business terms, columns, environments, and tables) list, select an asset type to associate with the system.



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

## Associating Systems

displays a list of available assets.

**Relationship Associations** [Save] [Cancel]

Current Context: **erwin DM**  
Current Context Type: **System**  
Relationship Name: **Golden Source for** [v]  
Search (partial matches):

<input type="checkbox"/>	Term Name	Description	Definition	Catalog Name	Catalog Hierarchy
<input type="checkbox"/>	<input type="text" value="address"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<input checked="" type="checkbox"/>	Address	LEN(D175)	To refer to a device or storage location by an identifying number, character, or group of characters	International Society for Pharmaceutical Engineering - ISPE	Pharmaceuticals → International Society for Pharmaceutical Engineering - ISPE
<input type="checkbox"/>	Address			Customer Terms	Customer Terms
<input type="checkbox"/>	Address		Specifies the address of the employee and customer.	Operations	Operations
<input type="checkbox"/>			Get the customer		

Records from 1 to 9 of 9

5. Select **Relationship Name**, and the asset type.

If you know the term name, use the Search (partial matches) field to look up for it.

6. Click **Save**.

The asset is associated to the system and added to the list of associations.

You can define as many associations as required.

Business Term [v]

Actions	Qualifier Name	Relationship Name	Term Name	Description	Definition	Catalog Name
<input type="checkbox"/>						
<input checked="" type="checkbox"/> + ✎ 🗑		Golden Source for	Address	LEN(D175)	To refer to a device or storage location by an identifying number, character, or group of characters	International Society for Pharmaceutical Engineering - ISPE
<input type="checkbox"/> + ✎ 🗑		Golden Source for	Agile Testing	Testing is NOT a Phase: Agile team tests continuously and continuous testing is the only way to ensure continuous progress. Testing Moves the project Forward: When following conventional methods, testing is considered as quality gate but agile testing provide feedback on an ongoing basis and the product meets the business demands.	software testing practice that follows the principles of agile software development is called Agile Testing. Agile is an iterative development methodology, where requirements evolve through collaboration between the customer and self-organizing teams and agile aligns development with customer needs.	Testing Techniques

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

## Associating Systems

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### Add Association (+)

Use this option to add associations using a qualifier.

### Edit Association (✎)

Use this option to edit the association.

### Delete Association (🗑)

Use this option to delete the association.

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

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

## Configuring Expanded Logical Name

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



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

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

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

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

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

### Configuring 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: <ul style="list-style-type: none"> <li>For the table, RM will be retained and Resource will be replaced with Sales Representative.</li> <li>For the column, ID will be retained and Resource will be replaced with Sales Representative.</li> </ul>
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:

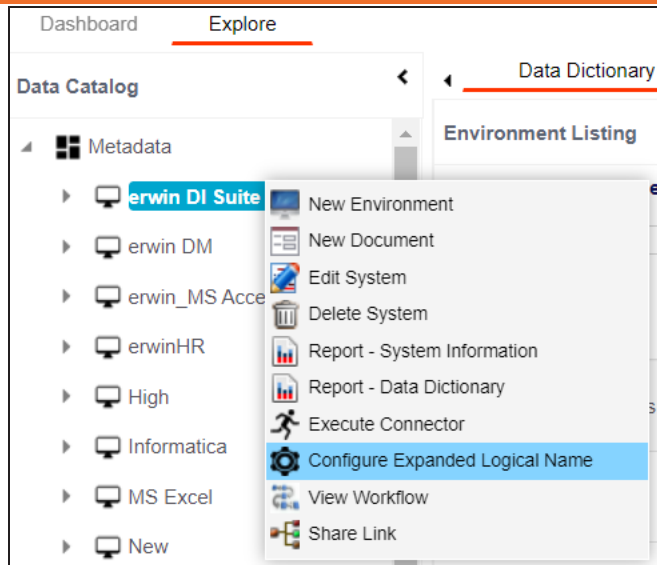
Entity	Expanded Logical Name	Comment
Table	RM Sales Representative	Here, RM retained from the table name and Sales Representative is added from business term definition.
Column	Sales Representative ID	Here, ID is retained from the column name and Sales Representative is added from business term definition.

To configure expanded logical name, follow these steps:

1. In the **Data Catalog** pane, right-click a system or environment.  
The available options appear.

## Configuring Expanded Logical Name

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

The Configure Expanded Logical Name page appears.



## Configuring Expanded Logical Name

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.
ELN Scope	Select an appropriate scope of the job. <ul style="list-style-type: none"> <li>▪ <b>Columns:</b> Indicates that the expanded logical names of all the</li> </ul>

## Configuring Expanded Logical Name

Field Name	Description
	<p>columns in this system are configured</p> <ul style="list-style-type: none"> <li>▪ <b>Tables:</b> Indicates that the expanded logical name of all the tables in this system are configured</li> <li>▪ <b>Both:</b> Indicates that the expanded logical names of all the tables and columns in this system are configured</li> </ul>
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	<p>Select the machine whose clock decides the time of the scheduled scan.</p> <ul style="list-style-type: none"> <li>▪ <b>Local:</b> Refers to your local machine.</li> <li>▪ <b>Server:</b> Refers to the machine where erwinDIS has been deployed.</li> </ul>
Schedule Job On	Select date and time of the execution of the job.
Notify Me	Turn the <b>Notify Me</b> to <b>ON</b> 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 <a href="#">Configuring Email Settings</a> 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.

## Configuring Expanded Logical Name

Job Type	Environment Name	Scheduled Objects	Previous Fire Time	Next Fire Time	Job State	Created By	Created Date Time	Last Modified By	Last Modified Date Time	Edit
	N/A	All Environments		05-26-2021 05:14	NORMAL	Administrator	2021-05-26 05:11:43.345	Administrator	2021-05-26 05:11:43.345	

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.

Columns	Properties	Extended Properties	Data Lineage	Impact Analysis	Mindmap	Associations
<b>Technical Properties</b>						
Name	dbo.RM_RESOURCE_New			Environment Name	erwin_Sales	
System Name	erwin DI Suite			No of Rows	100	
Synonym Reference				FileType		
Entity Type	TABLE					
Workflow Status	Preliminary Draft					
<b>Business Properties</b>						
Data Steward				Logical Name	RESOURCE	
Definition	Organization resource			Expanded Logical Name	RM RESOURCE Representative	
Comments				JSON Physical Name		
Sensitive Data Indicator (SDI) Flag	Confidential			Used In Gap Analysis	<input checked="" type="checkbox"/>	
Sensitive Data Indicator (SDI) Classification	Confidential			Sensitive Data Indicator (SDI) Description	Confidential	
Class	Table_Class			Alias		
DQ Score	High (7-8)					

## Configuring Expanded Logical Name

Properties	Extended Properties	Data Lineage	Impact Analysis	Mindmap	Associations	Workflow Log
Foreign Key Flag	<input type="checkbox"/>			Primary Key Flag	<input checked="" type="checkbox"/>	
Foreign Key Column Name				Foreign Key Table Name		
Minimum Value				ETL Default Value		
File Starting Position				Maximum Value		
Attribute Type	ENTITY_ELEMENT					
Workflow Status	Preliminary Draft					
Business Properties						
Data Steward				Logical Name	Sales ID	
Definition	Sales resource			Expanded Logical Name	Sale Representative ID	
Comments				JSON Physical Column Name		
Sensitive Data Indicator (SDI) Flag	<input checked="" type="checkbox"/>			Used In Gap Analysis	<input checked="" type="checkbox"/>	
Sensitive Data Indicator (SDI) Classification	Confidential			Sensitive Data Indicator (SDI) Description	Confidential	
Class	Column_Class			Alias		
DQ Score	Very High (9-10)			Business Key Flag	<input type="checkbox"/>	
User Defined Fields						



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

## Managing Systems

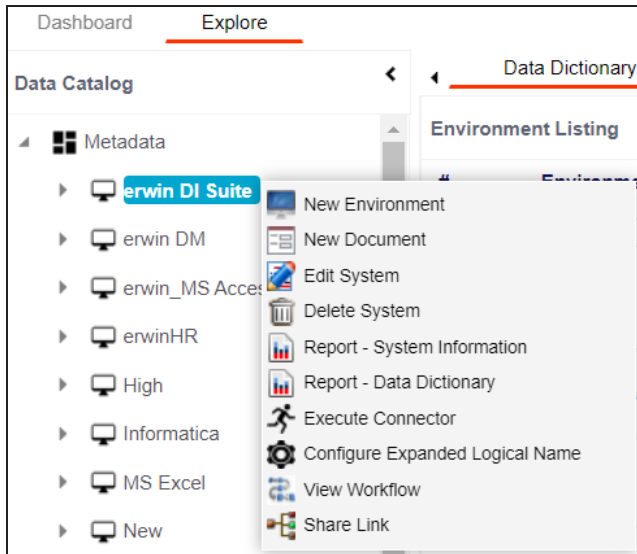
Managing systems involves:

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

To manage systems, follow these steps:

1. In the **Data Catalog** 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

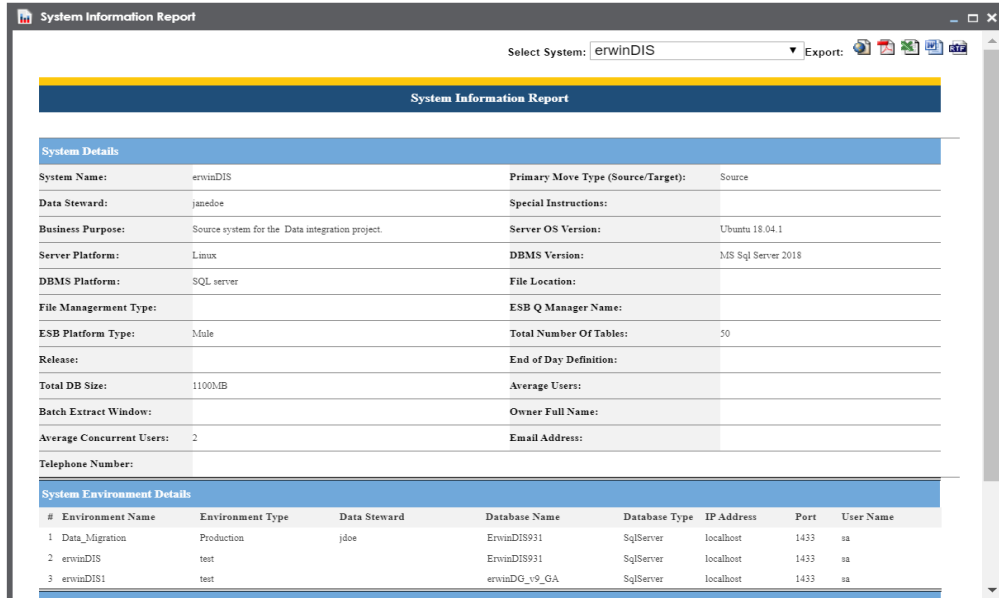
Use this option to delete systems that are not required. Ensure that you delete all the environments under a system before deleting it.

### 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.



System Environment Details								
#	Environment Name	Environment Type	Data Steward	Database Name	Database Type	IP Address	Port	User Name
1	Data_Migration	Production	jdoe	ErwinDIS931	SqlServer	localhost	1433	sa
2	erwinDIS	test		ErwinDIS931	SqlServer	localhost	1433	sa
3	erwinDIS1	test		erwinDG_19_GA	SqlServer	localhost	1433	sa

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

- **Export to HTML** (

### Report - Data Dictionary

## Managing Systems

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

### Share Link

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

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

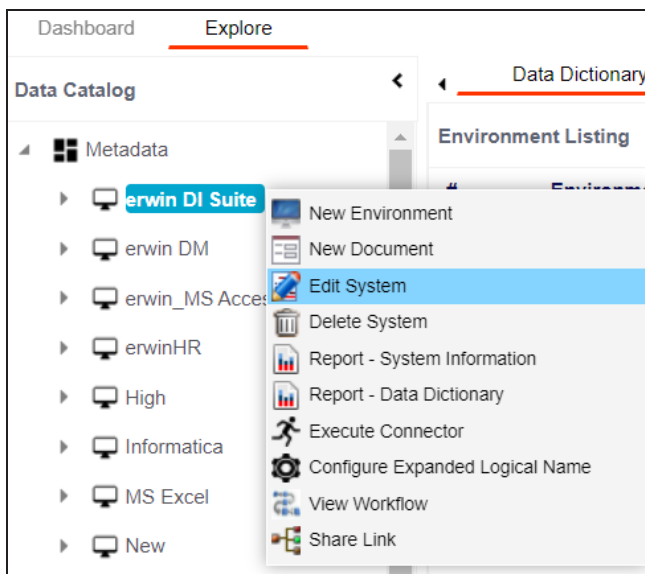
## Tagging Systems

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

To tag systems, follow these steps:

1. In the **Data Catalog** pane, right-click a system.

The available options appear.



2. Click **Edit System**.

The Edit System page appears.



## Tagging Systems

**Edit System**

ESB Platform Type	<input type="text"/>	ESB Q Manager Name	<input type="text"/>
Total DBSize	<input type="text"/>	Total Number Of Tables	<input type="text" value="0"/>
Definition Of The Day	<input type="text"/>	Batch Extract Window	<input type="text"/>
Average User	<input type="text"/>	Average Concurrent Users	<input type="text"/>

Sensitive Data Indicator Classification

Tags

Special Instructions

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



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

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

HRData

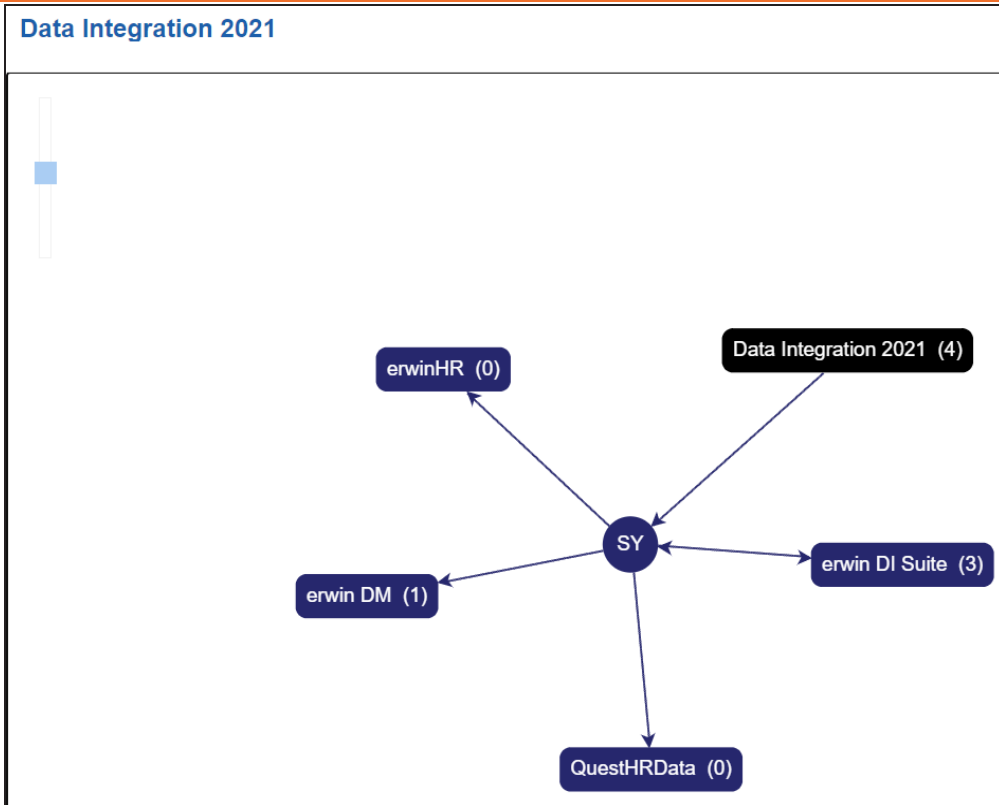
No Tags Available

HRData Data Integration 2021

4. Click

The tag is assigned to a system.

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



# Creating and Managing Environments

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

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

Creating and managing environments involves:

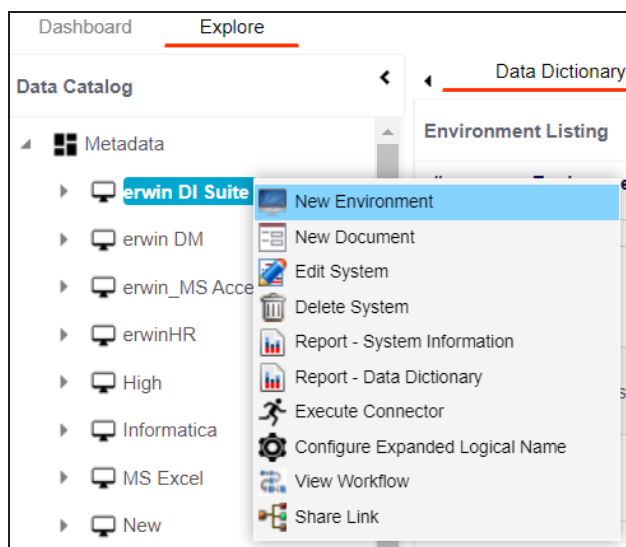
- [Creating environments](#)
- [Assigning roles and users](#)
- [Managing environments](#)
- [Updating Sensitivity](#)
- [Uploading documents](#)
- [Cloning environments](#)
- [Viewing ER diagrams](#)
- [Viewing workflow logs](#)
- [Associating Environments](#)
- [Configuring Business Properties](#)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

# Creating Environments

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

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

The available options appear.



3. Click **New Environment**.

The New Environment page appears.

## Creating Environments

The screenshot shows the 'New Environment' configuration window. The 'Configuration Details' tab is active, showing fields for System Environment Name (mandatory), System Environment Type, Data Steward, Server Platform, Server OS Version, File Management Type, File Location, Production System Name, Production Environment Name, Version (1.00), Version Label, DQ Score, Enable DQ Sync (OFF), Business Entity Type, and Datasource Type (mandatory). A large blue box on the right side of the window contains the text 'Please Select Database Type'.




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	<p>Specifies the unique name of the environment. For example, EDW-Test.</p> <p>The following special characters are supported in an environment name:</p> <ul style="list-style-type: none"> <li>▪ - (hyphen)</li> <li>▪ ( (opening parenthesis)</li> <li>▪ ) (closing parenthesis)</li> <li>▪ / (slash)</li> </ul> <p>For more information on naming conventions, refer to the <a href="#">Best Practices</a> section.</p>
System Environment Type	<p>Specifies the type of the environment. For example, development, test, or production.</p>

## Creating Environments

Field Name	Description
Data Steward	<p>Specifies the name of the data steward responsible for the environment.</p> <p>For example, Jane Doe.</p> <p>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.</p> <p>To assign data steward, select a data steward from the drop down options..</p>
Server Platform	<p>Specifies the server platform of the environment.</p> <p>For example, Windows.</p>
Server OS Version	<p>Specifies the OS version of the environment's server.</p> <p>For example, Windows Server 2012 R2.</p>
File Management Type	<p>Specifies the file management system (if the environment is a file-based source).</p> <p>For example, MS Excel.</p>
File Location	<p>Specifies a file path (if the environment is a file-based source).</p> <p>For example, C:\Users\Jane Doe\erwin\Mike - Target System</p>
Production System Name	<p>Specifies the system name being associated with the environment as the production system.</p> <p>For example, Enterprise Data Warehouse.</p>
Production Environment Name	<p>Specifies the environment name being associated with the environment as the production environment.</p> <p>For example, EDW-PRD.</p>
Version Label	<p>Specifies the version label of the environment to track change history.</p> <p>For example, Alpha.</p> <p>For more information on configuring version display, refer to the <a href="#">Configuring Version Display of the Environments</a> topic.</p>
DQ Score	<p>Specifies the overall data quality score of the environment.</p> <p>For example, High (7-8).</p> <p>For more information on configuring DQ scores, refer to the <a href="#">Con-</a></p>

## Creating Environments

Field Name	Description
	<a href="#">Configuring Data Profiling and DQ Scores</a> topic.
Enable DQ Sync	<p>Specifies whether to sync data quality analysis results from DQLabs.</p> <p>To view data quality analysis, ensure that you have configured DQLabs connection setting in erwin DI. For more information, refer to the <a href="#">Configuring DQLabs</a> topic.</p> <p> Data quality analysis is available for environments using Oracle, Salesforce, Snowflake, MySQL, MSSQL, Hadoop, and PostgreSQL database types.</p>
Business Entity Type	Specifies the database type of business entity.
Database Type	<p>Specifies the database type.</p> <p>For example, Sql Server.</p> <p>Select the type of database from where you wish to scan metadata.</p> <p>Depending upon your choice of database type you need to provide additional fields (connection parameters) appearing on the right hand side.</p> <p> For SQL Server (Windows Authentication), Sybase, HP Vertica, and Netezza databases, the TestConnectionQuery option is selected by default to validate the internal connection. The system displays exceptions if this option is not selected.</p> <p> There are no additional fields for MS Excel File, and XSD.</p>

5. Click  to test the connection.

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

## Creating Environments

---

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 Classification	Specifies the sensitivity data indicator (SDI) classification of the environment. Also, you can add multiple classifications to the environment. For example, PHI, Confidential. For more information on configuring SDI classifications, refer to the <a href="#">Configuring Sensitivity Classifications</a> topic.
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. For example: The environment must contain 50 tables from erwin DI 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 application server
3. Opening of SQL Server database port to accept connections from erwin DI application server

## Privileges

Following are the privileges given to service account for:

- **Metadata scanning:** Grant view definition on Schema
- **Data preview:** Db\_datareader

## JDBC Driver Details

## SQL Server

---

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

### TLS Connection Details

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

### JDBC Connection Parameters

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

## SQL Server

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

**Configuration Details** Miscellaneous

Status

System Environment Name\*

System Environment Type\*

Data Steward

Server Platform

Server OS Version

File Management Type

File Location

Production System Name

Production Environment Name

Version

Version Label

DQ Score

Database Type\*

*Note : If you change database type you changed database type.*

- MS Excel File
- CSV (Flat File)
- XMI
- MS Access File
- ERwin
- ERwin 9
- CWM XMI (v1.1)
- XSD
- JSON
- Db2
- MySQL
- IBM Netezza
- Oracle
- Greenplum
- Pervasive
- SAP
- SqlServer**
- Sql Server (Windows Authentication)
- Sybase
- Salesforce
- Snowflake
- Teradata
- Amazon Redshift
- HP Vertica
- Big Data - Cloudera
- Big Data - Hortonworks
- Big Data - MapR
- Other

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

Driver Name\*

DBMS Name/DSN\*

IP Address/Host Name\*

Port

User Name\*

Password\*

Save Password

Url\*

DBMS Instance Schema

Connection Pool Type\*

Number of Partitions\*

Minimum Connections Per Partitions\*

Maximum Connections Per Partitions\*

Options

## SQL Server


---

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

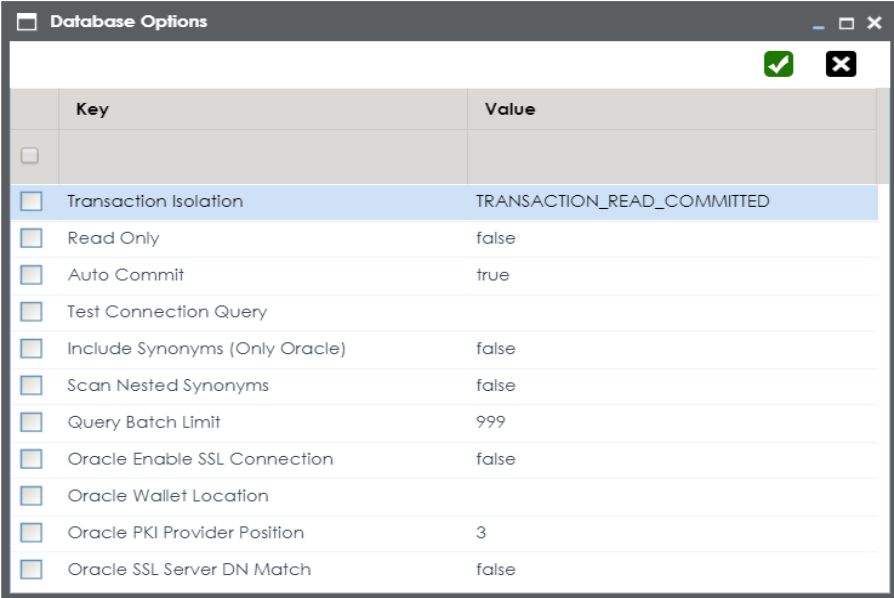
Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.microsoft.sqlserver.jdbc.SQLServerDriver
DBMS Name/DSN	Specifies the SQL Server database name being used to connect to the environment. For example, ErwinDIS931.
IP Address/Host Name	Specifies 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, <b><code>jdbc:sqlserver://SERVER_NAME:PORT#;databaseName=DatabaseName</code></b> 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

## SQL Server


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.



Key	Value
<input type="checkbox"/>	
<input checked="" type="checkbox"/> Transaction Isolation	TRANSACTION_READ_COMMITTED
<input type="checkbox"/> Read Only	false
<input type="checkbox"/> Auto Commit	true
<input type="checkbox"/> Test Connection Query	
<input type="checkbox"/> Include Synonyms (Only Oracle)	false
<input type="checkbox"/> Scan Nested Synonyms	false
<input type="checkbox"/> Query Batch Limit	999
<input type="checkbox"/> Oracle Enable SSL Connection	false
<input type="checkbox"/> Oracle Wallet Location	
<input type="checkbox"/> Oracle PKI Provider Position	3
<input type="checkbox"/> Oracle SSL Server DN Match	false

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:

## SQL Server

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

The screenshot shows the 'Configuration Details' panel on the left and a 'Miscellaneous' dropdown menu on the right. The 'Database Type\*' field is highlighted, and the dropdown menu is open, showing a list of database types. 'Sql Server (Windows Authentication)' is selected and highlighted in blue. A note at the bottom left of the panel reads: 'Note : If you change database type you changed database type.'

Configuration Details	Miscellaneous
Status	
System Environment Name*	Integration
System Environment Type*	Production
Data Steward	
Server Platform	MS Excel File
Server OS Version	CSV (Flat File)
File Management Type	XMI
File Location	MS Access File
Production System Name	ERwin
Production Environment Name	ERwin 9
Version	CWM XML (v1.1)
Version Label	XSD
DQ Score	JSON
Database Type*	Db2
	MySql
	IBM Netezza
	Oracle
	Greenplum
	Pervasive
	SAP
	SqlServer
	<b>Sql Server (Windows Authentication)</b>
	Sybase
	Salesforce
	Snowflake
	Teradata
	Amazon Redshift
	HP Vertica
	Big Data - Cloudera
	Big Data - Hortonworks
	Big Data - MapR
	Other

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

The screenshot shows the connection parameters form for SQL Server. The fields are as follows:

Driver Name*	net.sourceforge.jtds.jdbc.Driver
DBMS Name/DSN*	ErwinDS931
IP Address/Host Name*	localhost
Domain	
User Name*	sa
Password*	●●●●●●●●
	<input checked="" type="checkbox"/> Save Password
Uri*	jdbc:jtds:sqlserver://localhost/ErwinDS
DBMS Instance Schema	DBO
Connection Pool Type*	HIKARICP
Number of Partitions*	2
Minimum Connections Per Partitions*	3
Maximum Connections Per Partitions*	5
Options	


## SQL Server

---

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

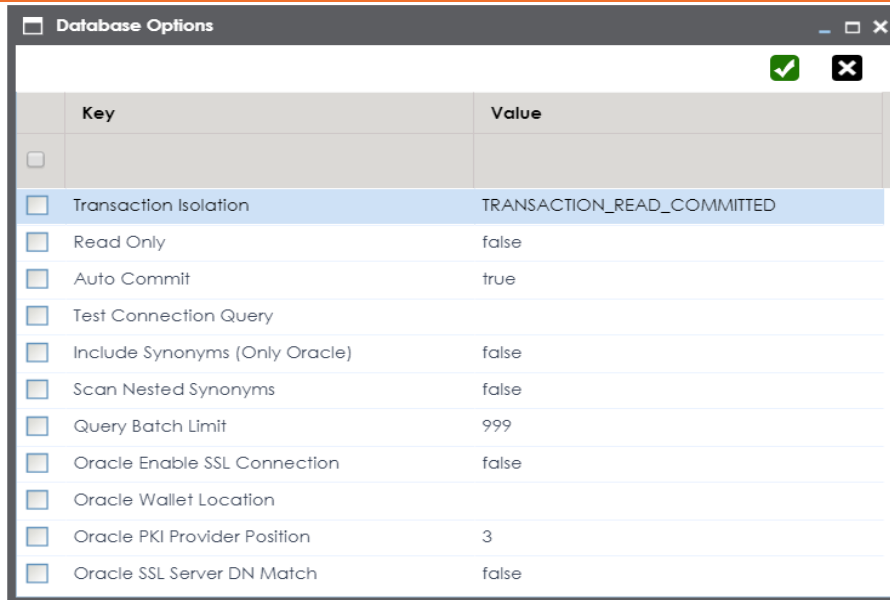
Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.microsoft.sqlserver.jdbc.SQLServerDriver
DBMS Name/DSN	Specifies the SQL Server database name being used to connect to the environment. For example, ErwinDIS931.
IP Address/Host Name	Specifies the IP address or server host name of the database. For example, localhost.
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. <b><code>jdbc:jtds:sqlserver://SERVER_NAME:PORT#;data-baseName=DatabaseName;domain=DomainName;useNTLMv2=true;</code></b>
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
Connection 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 Connections Per Partitions	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 Connections Per Partitions	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.






	Key	Value
<input type="checkbox"/>		
<input type="checkbox"/>	Transaction Isolation	TRANSACTION_READ_COMMITTED
<input type="checkbox"/>	Read Only	false
<input type="checkbox"/>	Auto Commit	true
<input type="checkbox"/>	Test Connection Query	
<input type="checkbox"/>	Include Synonyms (Only Oracle)	false
<input type="checkbox"/>	Scan Nested Synonyms	false
<input type="checkbox"/>	Query Batch Limit	999
<input type="checkbox"/>	Oracle Enable SSL Connection	false
<input type="checkbox"/>	Oracle Wallet Location	
<input type="checkbox"/>	Oracle PKI Provider Position	3
<input type="checkbox"/>	Oracle SSL Server DN Match	false



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

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

## Oracle

You can create Oracle environments 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 application server
- **Oracle Database port** opened to accept connections from erwin DI application server

### JDBC Driver Details

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

### TLS Connection Details

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

## Oracle

**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.

Configuration Details	Miscellaneous
Status	<input type="text"/>
System Environment Name*	Integration
System Environment Type*	Production
Data Steward	MS Excel File CSV (Flat File) XML MS Access File ERwin ERwin 9 CWM XML (v1.1) XSD JSON Db2 MySQL IBM Netezza
Server Platform	Oracle
Server OS Version	Greenplum Pervasive SAP SqlServer Sql Server (Windows Authentication) Sybase Salesforce Snowflake Teradata Amazon Redshift HP Vertica Big Data - Cloudera Big Data - Hortonworks Big Data - MapR Other
File Management Type	
File Location	
Production System Name	
Production Environment Name	
Version	
Version Label	
DQ Score	
Database Type*	
<b>Note :</b> If you change database type you changed database type.	
RAC / Service Name	




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.

## Oracle

Driver Name*	<input type="text" value="oracle.jdbc.driver.OracleDriver"/>
DBMS Name/DSN*	<input type="text" value="ErwinDIS931"/>
IP Address/Host Name*	<input type="text" value="localhost"/>
Port	<input type="text" value="1521"/>
User Name*	<input type="text" value="sa"/>
Password*	<input type="password" value="••••••••"/>
	<input checked="" type="checkbox"/> Save Password
Uri*	<input type="text" value="acle:thin:@localhost:1521/ErwinDIS931"/>
DBMS Instance Schema	<input type="text" value="DBO"/> 
Connection Pool Type*	<input type="text" value="HIKARICP"/> 
Number of Partitions*	<input type="text" value="2"/>
Minimum Connections Per Partitions*	<input type="text" value="3"/>
Maximum Connections Per Partitions*	<input type="text" value="5"/>
Options	<input type="text"/> 

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

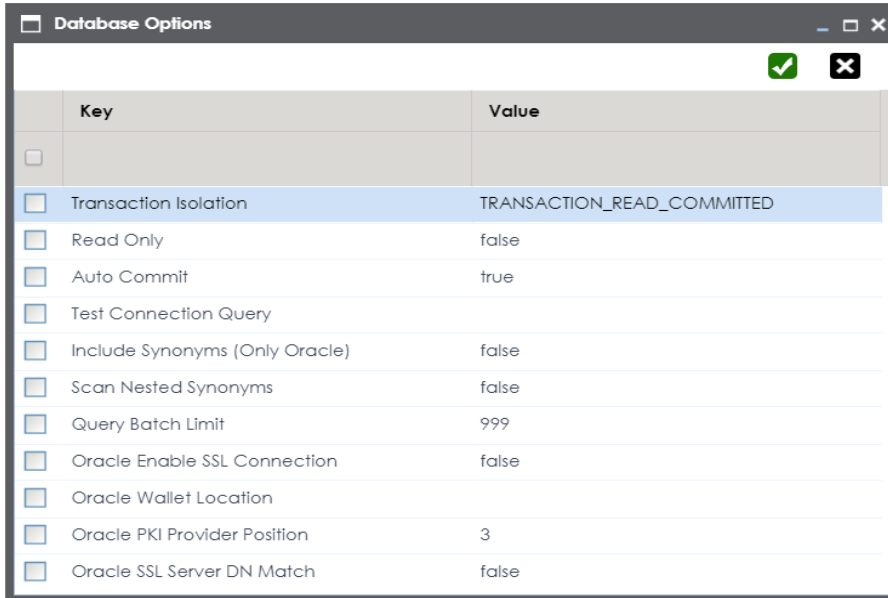
Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, oracle.jdbc.driver.OracleDriver
DBMS Name/DSN	Name of the Oracle Service – SID or TNS Service Name. For example, ErwinDIS931.
IP Address/Host Name	Enter the IP address or server host name. For 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, <b>jdbc:oracle:thin:@ &lt;Ip Address&gt;:&lt;Port&gt;/&lt; service name&gt;</b>
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.

- Click  to use database options.


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

## Oracle



The screenshot shows a window titled "Database Options" with a table of configuration keys and values. The table has two columns: "Key" and "Value". The "Transaction Isolation" row is highlighted in blue. In the top right corner of the window, there are two icons: a green checkmark and a black 'X'.

	Key	Value
<input type="checkbox"/>		
<input type="checkbox"/>	Transaction Isolation	TRANSACTION_READ_COMMITTED
<input type="checkbox"/>	Read Only	false
<input type="checkbox"/>	Auto Commit	true
<input type="checkbox"/>	Test Connection Query	
<input type="checkbox"/>	Include Synonyms (Only Oracle)	false
<input type="checkbox"/>	Scan Nested Synonyms	false
<input type="checkbox"/>	Query Batch Limit	999
<input type="checkbox"/>	Oracle Enable SSL Connection	false
<input type="checkbox"/>	Oracle Wallet Location	
<input type="checkbox"/>	Oracle PKI Provider Position	3
<input type="checkbox"/>	Oracle SSL Server DN Match	false

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 application server
- **MySQL Database port** opened to accept connections from erwin DI application server

### JDBC Driver Details

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

### TLS Connection Details

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

### JDBC Connection Parameters

## MySQL

To enter MySQL connection parameters, follow these steps:

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

The screenshot shows a 'Configuration Details' dialog box with a 'Miscellaneous' tab. The 'Database Type\*' field is highlighted, and a dropdown menu is open, listing various database options. 'MySQL' is selected and highlighted in blue. A note at the bottom of the dialog reads: 'Note: If you change database type you changed database type.'

Field	Value
Status	
System Environment Name*	Integration
System Environment Type*	Production
Data Steward	
Server Platform	
Server OS Version	
File Management Type	
File Location	
Production System Name	
Production Environment Name	
Version	
Version Label	
DQ Score	
Database Type*	MySQL

Note: If you change database type you changed database type.

The following connection parameters appear on the right hand side.

The screenshot shows a dialog box for entering connection parameters. The fields are filled with the following values:

Driver Name*	com.mysql.jdbc.Driver
DBMS Name/DSN*	ErwinDIS931
IP Address/Host Name*	localhost
Port	3306
User Name*	sa
Password*	••••••••
	<input checked="" type="checkbox"/> Save Password
Url*	jdbc:mysql://localhost/ErwinDIS931
Connection Pool Type*	HIKARICP
Number of Partitions*	1
Minimum Connections Per Partitions*	3
Maximum Connections Per Partitions*	5
Options	



## MySQL

---

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

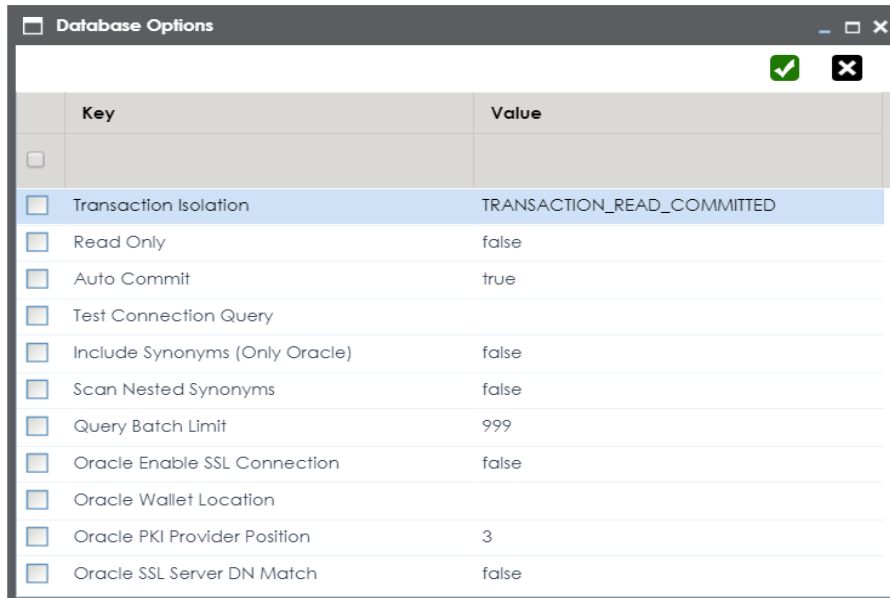
Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.mysql.jdbc.Driver
DBMS Name/DSN	Enter the MySQL database name. For example, ErwinDIS931.
IP Address/Host Name	Enter the IP address or server host name. For example, 10.32.445.21
Port	Specifies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


## MySQL

Field Name	Description
	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, ensure that you have the following:

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

## Prerequisites

To establish a connection, ensure that you have:

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

## JDBC Driver Configuration

Currently Snowflake JDBC driver is not packaged with erwin DI application. Hence, you can download it [here](#).

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

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

## TLS Connection Configuration

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

## Snowflake

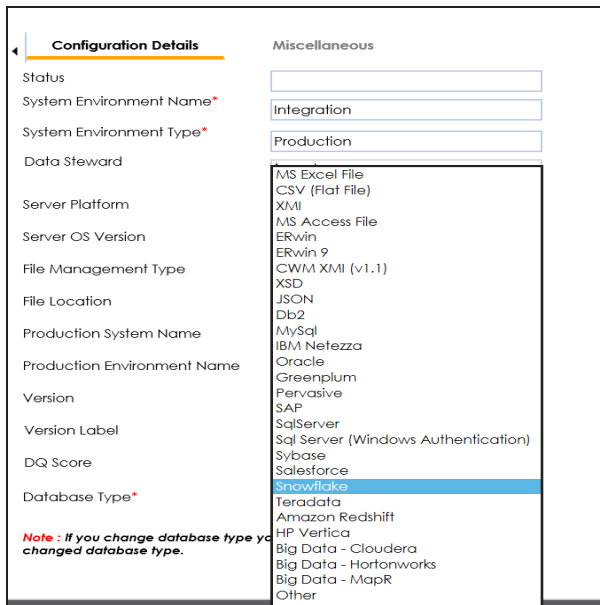
If required, you can add SSL Parameter in the JDBC connection string as follows:

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

## JDBC Connection Parameters

To configure Snowflake connection parameters, follow these steps:

1. While creating the environment, select Database Type as Snowflake.






The screenshot shows a configuration window with two panes: 'Configuration Details' on the left and 'Miscellaneous' on the right. The 'Database Type\*' field in the 'Configuration Details' pane is expanded to show a list of database options. 'Snowflake' is highlighted in blue. A note at the bottom of the list reads: 'Note: If you change database type you changed database type.'

Configuration Details	Miscellaneous
Status	
System Environment Name*	Integration
System Environment Type*	Production
Data Steward	
Server Platform	MS Excel File
Server OS Version	CSV (Flat File)
File Management Type	XMI
File Location	MS Access File
Production System Name	ERwin
Production Environment Name	ERwin 9
Version	CWM XMI (v1.1)
Version Label	XSD
DQ Score	JSON
Database Type*	Db2
	MySQL
	IBM Netezza
	Oracle
	Greenplum
	Pervasive
	SAP
	SqlServer
	Sql Server (Windows Authentication)
	Sybase
	Salesforce
	<b>Snowflake</b>
	Teradata
	Amazon Redshift
	HP Vertica
	Big Data - Cloudera
	Big Data - Hortonworks
	Big Data - MapR
	Other


The following connection parameters appear on the right side.

## Snowflake

Driver Name*	<input type="text" value="net.snowflake.client.jdbc.SnowflakeD"/>
DBMS Name/DSN*	<input type="text" value="ErwinDIS931"/>
IP Address/Host Name*	<input type="text" value="localhost"/>
Port	<input type="text" value="443"/>
User Name*	<input type="text" value="sa"/>
Password*	<input type="password" value="••••••••"/>
	<input checked="" type="checkbox"/> Save Password
Url*	<input type="text" value="jdbc:snowflake://localhost:null/?db=E"/>
DBMS Instance Schema	<input type="text" value="DBO"/> 
Connection Pool Type*	<input type="text" value="HIKARICP"/> 
Number of Partitions*	<input type="text" value="1"/>
Minimum Connections Per Partitions*	<input type="text" value="3"/>
Maximum Connections Per Partitions*	<input type="text" value="5"/>
Options	<input type="text"/> 

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

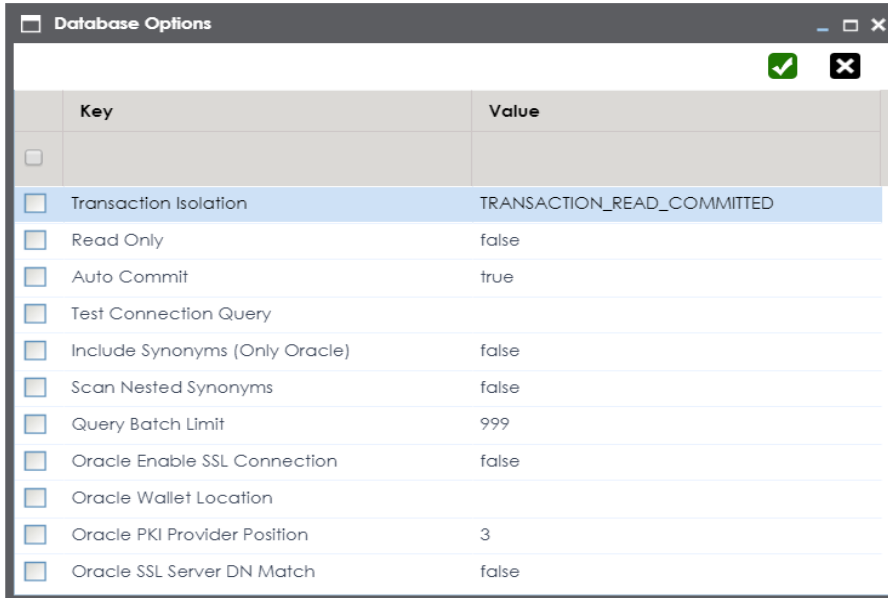
Field Name	Description
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.snowflake.client.jdbc.SnowflakeDriver
DBMS Name/DSN	Enter the Snowflake database name. For example, AW2012_DV.
IP Address/Host Name	Enter <accountname>.snowflakecomputing.com For example, analytixds.us-east-3.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) username. For example, shawn.
Password	Enter the Snowflake (Service account) password. This field is available only when Use KeyPair is not selected.

Field Name	Description
Use KeyPair	Specifies whether key pair authentication is used to connect. Click  to configure key pair. For more information, refer to the <a href="#">Configuring Key Pairs</a> topic.
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 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 configure database options, click .

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

## Snowflake



	Key	Value
<input type="checkbox"/>		
<input type="checkbox"/>	Transaction Isolation	TRANSACTION_READ_COMMITTED
<input type="checkbox"/>	Read Only	false
<input type="checkbox"/>	Auto Commit	true
<input type="checkbox"/>	Test Connection Query	
<input type="checkbox"/>	Include Synonyms (Only Oracle)	false
<input type="checkbox"/>	Scan Nested Synonyms	false
<input type="checkbox"/>	Query Batch Limit	999
<input type="checkbox"/>	Oracle Enable SSL Connection	false
<input type="checkbox"/>	Oracle Wallet Location	
<input type="checkbox"/>	Oracle PKI Provider Position	3
<input type="checkbox"/>	Oracle SSL Server DN Match	false

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

### Configuring Key Pairs


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

1. Generate a private and public key using OpenSSL. You can generate encrypted or unencrypted keys.
2. Configure public and private keys to your Snowflake user account.
3. Move the bc-fips-1.0.2.jar file from \Apache Software Foundation\<Tomcat X.X>\webapps\erwinDISuite\WEB-INF\lib to \Apache Software Foundation\<Tomcat X.X>\lib and restart tomcat.

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

### Encrypted Keys


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

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

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

### Unencrypted Keys

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

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



## Configuring Key Pairs

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

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

## 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 application. Hence, customers need 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/>

## MS Dynamics CRM

**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.

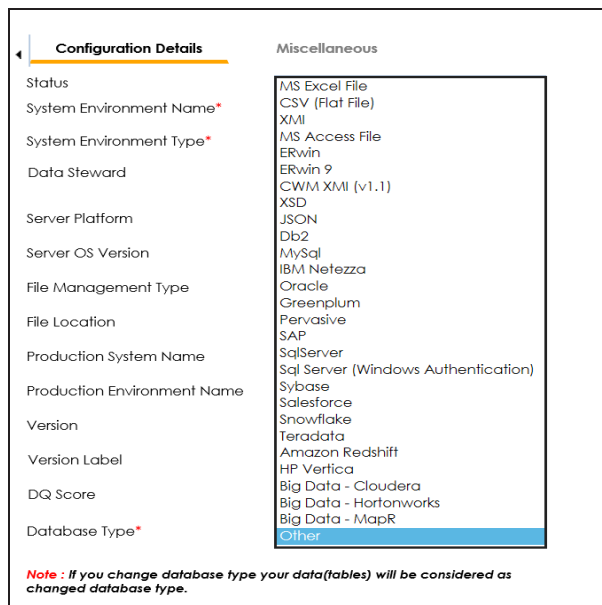
## TLS Connection Details

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.


## MS Dynamics CRM


The screenshot shows a configuration form for connecting to MS Dynamics CRM. The fields are as follows:

- Driver Name\***: cdata.jdbc.dynamicscrm.DynamicsC (highlighted with a red box)
- DBMS Name/DSN\***: Northwind
- IP Address/Host Name\***: 10.1.50.225
- Port**: 1433
- User Name\***: lgadde@erwin123.onmicrosoft.com
- Password\***: [masked]
- Save Password**:
- Uri\***: jdbc:dynamicscrm:user=lgadde@erwi
- DBMS Instance Schema**: DynamicsCRM
- Connection Pool Type\***: HIKARICP
- Number of Partitions\***: 1
- Minimum Connections Per Partitions\***: 3
- Maximum Connections Per Partitions\***: 5
- Options**: [empty field]

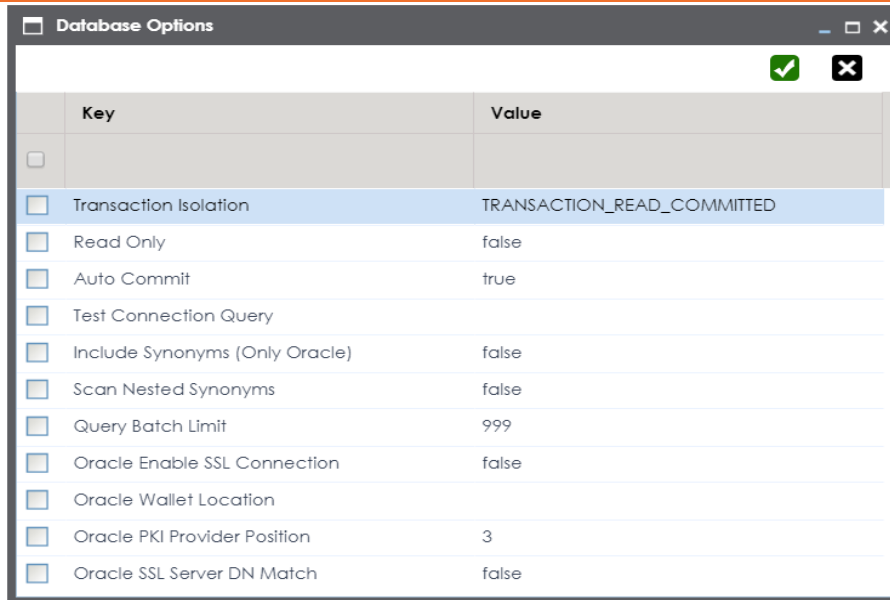
2. Enter appropriate values in the fields (connection parameters). The fields marked with a red asterisk are mandatory.

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	<p>Specifies the full JDBC URL that is used to establish a connection with the database.</p> <p>It is autopopulated based on the other parameters.</p> <p>For example, jdb- c:dynamicscrm:User=UserName;Password=XXX;URL=&lt;MS Dynamics CRM URL&gt;;</p> <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 5px; margin-top: 10px;">  <p>If user trying to connect CRM online version, then append the following value to above mentioned connection string CRM Version=CRM Online;</p> </div>
DBMS Instance Schema	<p>Specifies the schema of the database.</p> <p>For example, DynamicsCRM.</p>
Connection Pool Type	<p>Specifies the connection pool type being used to connect via JDBC.</p> <p>For example, HIKARICP and BONECP.</p>
Number of Partitions	<p>Specifies the number of partitions of the database.</p> <p>It is autopopulated with default number of partitions. You can edit and provide the number of partitions as required. For example, 1.</p>
Minimum Connections Per Partitions	<p>Specifies the minimum connections per partitions of the database.</p> <p>It is autopopulated with default minimum connections per partitions. You can edit and provide the minimum connections per partitions as required. For example, 3.</p>
Maximum Connections Per Partitions	<p>Specifies the maximum connections per partitions of the database.</p> <p>It is autopopulated with default maximum connections per partitions. You can edit and provide the maximum connections per partitions as required. For example, 5.</p>

To use database options, click .

The Database Options page appears displaying the different options available.



	Key	Value
<input type="checkbox"/>		
<input type="checkbox"/>	Transaction Isolation	TRANSACTION_READ_COMMITTED
<input type="checkbox"/>	Read Only	false
<input type="checkbox"/>	Auto Commit	true
<input type="checkbox"/>	Test Connection Query	
<input type="checkbox"/>	Include Synonyms (Only Oracle)	false
<input type="checkbox"/>	Scan Nested Synonyms	false
<input type="checkbox"/>	Query Batch Limit	999
<input type="checkbox"/>	Oracle Enable SSL Connection	false
<input type="checkbox"/>	Oracle Wallet Location	
<input type="checkbox"/>	Oracle PKI Provider Position	3
<input type="checkbox"/>	Oracle SSL Server DN Match	false

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 application server
- Get the SAP System Number and Client details

### JDBC Driver Details

The SAP JCO driver is not packaged with erwin DI 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:**

## SAP

---

- 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 screenshot shows a 'Configuration Details' form with a 'Miscellaneous' section. The 'Database Type\*' dropdown menu is open, displaying a list of options. 'SAP' is highlighted in blue. Other options include MS Excel File, CSV (Flat File), XML, MS Access File, ERwin, ERwin 9, CWM XML (v1.1), XSD, JSON, Db2, MySQL, IBM Netezza, Oracle, Greenplum, Pervasive, SAP, SqlServer, Sql Server (Windows Authentication), Sybase, Salesforce, Snowflake, Teradata, Amazon Redshift, HP Vertica, Big Data - Cloudera, Big Data - Hortonworks, Big Data - MapR, and Other. A note at the bottom left of the dropdown states: 'Note : If you change database type you changed database type.'

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

The screenshot shows a form for connection parameters. The fields are: System Number\* (24), Client\* (800), IP Address/Host Name\* (10.1.50.59), Field Delimiter\* (., [Comma]), User Name\* (sapuser), Password\* (masked with dots), Save Password (checked checkbox), Delete and Reload (unchecked checkbox), Existing CSV File (empty text box), and CSV File (drag-and-drop area with an upload icon). Fields marked with a red asterisk are mandatory.

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].

## Databricks

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

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

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

### Prerequisites

To establish a connection, ensure that you have:

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

### JDBC Driver Configuration

Currently Databricks JDBC driver is not packaged with erwin DI application. Hence, you can download it [here](#).

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

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

### TLS Connection Configuration

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

## Databricks

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

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

## JDBC Connection Parameters

To configure Databricks connection parameters, follow these steps:

## Databricks

---

1. While creating the environment, select Database Type as Databricks.




### New Environment

Configuration Details Miscellaneous

System Environment Name*	<input type="text"/>
System Environment Type	<input type="text"/>
Data Steward	-Select Data Steward- <input type="button" value="v"/>
	<input type="checkbox"/> Apply To All Tables & Columns
Server Platform	<input type="text"/>
Server OS Version	<input type="text"/>
File Management Type	<input type="text"/>
File Location	<input type="text"/>
Production System Name	Choose Production System <input type="button" value="v"/>
Production Environment Name	<input type="text"/> <input type="button" value="v"/>
Version	1.00
Version Label	<input type="text"/>
DQ Score	-Select DQ Score- <input type="button" value="v"/>
Enable DQ Sync	<input type="checkbox"/> OFF
Business Entity Type	Databricks <input type="button" value="v"/>
Datasource Type*	Databricks <input type="button" value="v"/>

The following connection parameters appear on the right side.

## Databricks

Driver Name*	<input type="text" value="com.simba.spark.jdbc.Driver"/>
DBMS Name/DSN*	<input type="text" value="Northwind"/>
IP Address/Host Name*	<input type="text" value="localhost"/>
Port*	<input type="text" value="443"/>
User Name*	<input type="text" value="sa"/>
Password*	<input type="password"/>
	<input type="checkbox"/> Save Password
Uri*	<input type="text" value="jdbc:spark://localhost:443/Northwind;ti"/>
DBMS Instance Schema	<input type="text"/> 
Connection Pool Type*	<input type="text" value="HIKARICP"/> 
Number of Partitions*	<input type="text" value="1"/>
Minimum Connections Per Partitions*	<input type="text" value="3"/>
Maximum Connections Per Partitions*	<input type="text" value="5"/>
Options	<input type="text"/> 

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.simba.spark.jdbc.Driver
DBMS Name/DSN	Enter the Snowflake database name. For example, AW2012_DV.
IP Address/Host Name	Enter <accountname>.databrickscomputing.com For example, analytixds.us-east-3.databrickscomputing.com
Port	Specifies the port to connect with the database. 443 is the default port for the Databricks database. You can change it, if required.
User Name	Enter the Databricks (Service account) username.

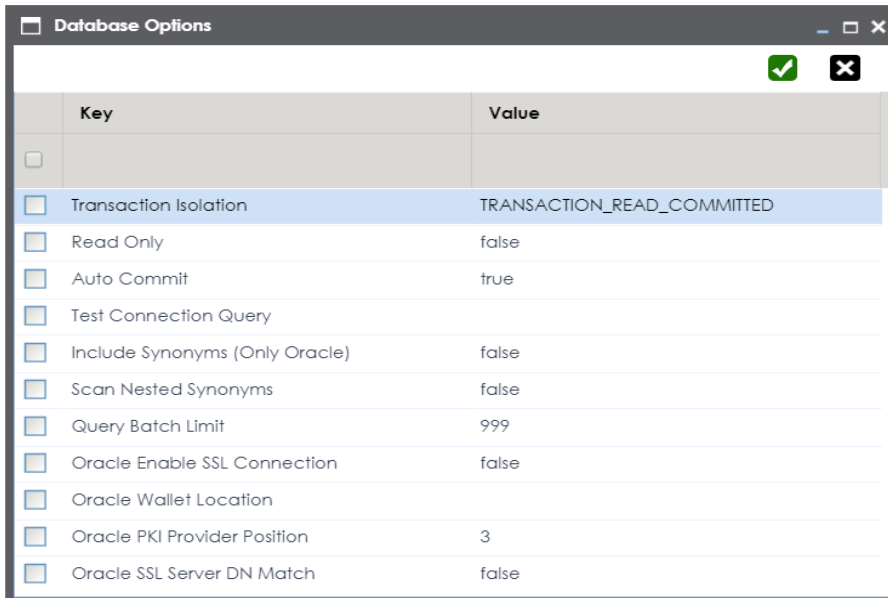
Field Name	Description
	For example, shawn.
Password	Enter the Databricks (Service account) password. This field is available only when Use KeyPair is not selected.
Save Password	Specifies whether the password is saved
URL	Specifies the full JDBC URL that is used to establish a connection with the database.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

To configure database options, click .


## Databricks

---

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



	Key	Value
<input type="checkbox"/>		
<input type="checkbox"/>	Transaction Isolation	TRANSACTION_READ_COMMITTED
<input type="checkbox"/>	Read Only	false
<input type="checkbox"/>	Auto Commit	true
<input type="checkbox"/>	Test Connection Query	
<input type="checkbox"/>	Include Synonyms (Only Oracle)	false
<input type="checkbox"/>	Scan Nested Synonyms	false
<input type="checkbox"/>	Query Batch Limit	999
<input type="checkbox"/>	Oracle Enable SSL Connection	false
<input type="checkbox"/>	Oracle Wallet Location	
<input type="checkbox"/>	Oracle PKI Provider Position	3
<input type="checkbox"/>	Oracle SSL Server DN Match	false

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



## Assigning Roles and Users

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

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

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

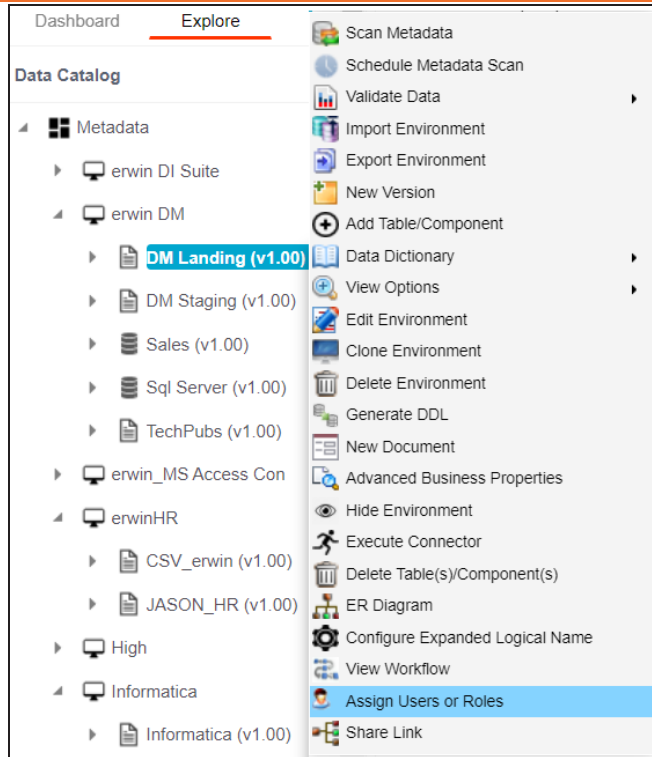
### Assigning Roles

To assign roles, follow these steps:

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

The available options appear.

## Assigning Roles and Users

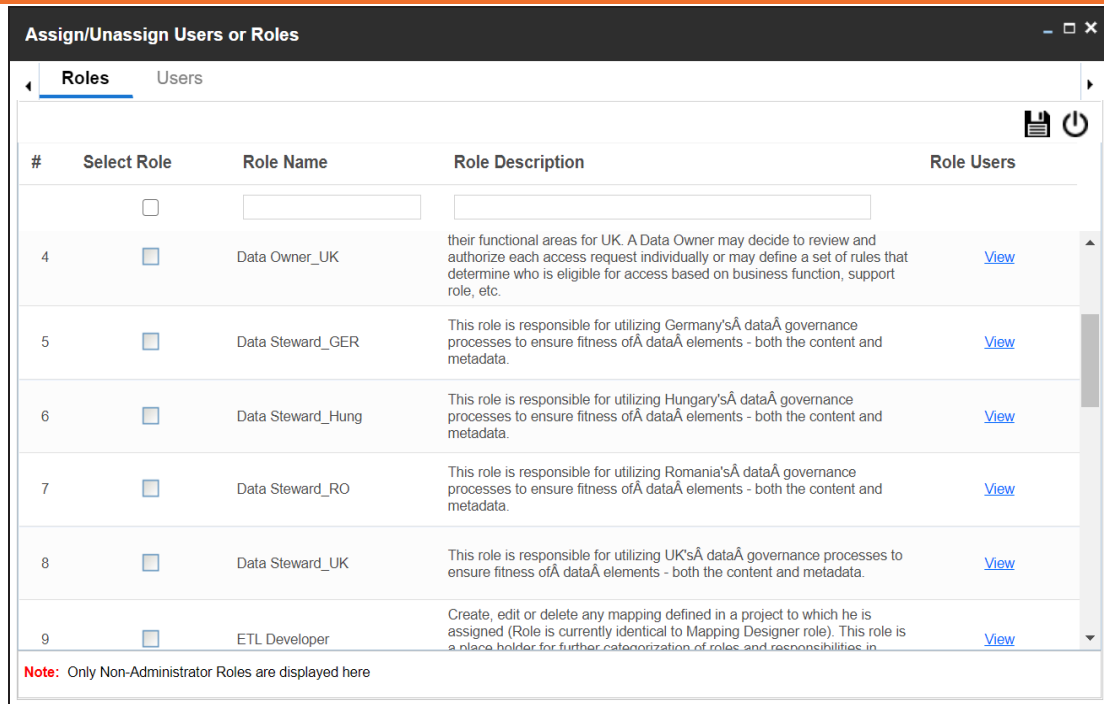


### 3. Click **Assign Users or Roles**.

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.

## Assigning Roles and Users



The screenshot shows a window titled "Assign/Unassign Users or Roles" with two tabs: "Roles" (selected) and "Users". The "Roles" tab displays a table with the following columns: "#", "Select Role", "Role Name", "Role Description", and "Role Users". The table lists several roles, including Data Owner\_UK, Data Steward\_GER, Data Steward\_Hung, Data Steward\_RO, Data Steward\_UK, and ETL Developer. Each role has a "View" link in the "Role Users" column. A note at the bottom states: "Note: Only Non-Administrator Roles are displayed here".

#	Select Role	Role Name	Role Description	Role Users
	<input type="checkbox"/>			
4	<input type="checkbox"/>	Data Owner_UK	their functional areas for UK. A Data Owner may decide to review and authorize each access request individually or may define a set of rules that determine who is eligible for access based on business function, support role, etc.	<a href="#">View</a>
5	<input type="checkbox"/>	Data Steward_GER	This role is responsible for utilizing Germany's data governance processes to ensure fitness of data elements - both the content and metadata.	<a href="#">View</a>
6	<input type="checkbox"/>	Data Steward_Hung	This role is responsible for utilizing Hungary's data governance processes to ensure fitness of data elements - both the content and metadata.	<a href="#">View</a>
7	<input type="checkbox"/>	Data Steward_RO	This role is responsible for utilizing Romania's data governance processes to ensure fitness of data elements - both the content and metadata.	<a href="#">View</a>
8	<input type="checkbox"/>	Data Steward_UK	This role is responsible for utilizing UK's data governance processes to ensure fitness of data elements - both the content and metadata.	<a href="#">View</a>
9	<input type="checkbox"/>	ETL Developer	Create, edit or delete any mapping defined in a project to which he is assigned (Role is currently identical to Mapping Designer role). This role is a place holder for further categorization of roles and responsibilities in	<a href="#">View</a>

**Note:** Only Non-Administrator Roles are displayed here

4. Select the required roles.

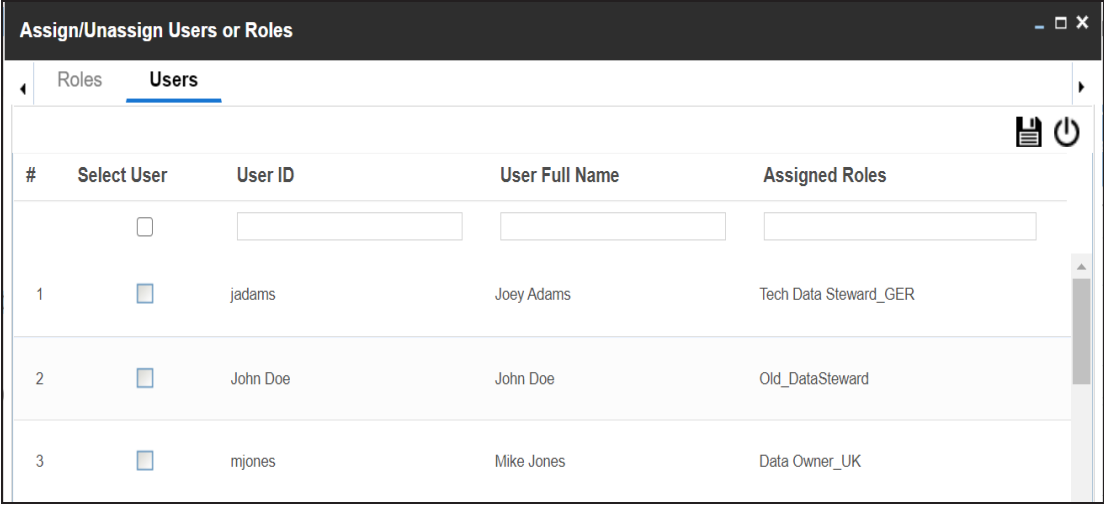
5. Click .

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.

## Assigning Roles and Users



The screenshot shows a window titled "Assign/Unassign Users or Roles" with a dark header. Below the header, there are two tabs: "Roles" and "Users", with "Users" selected. The main area contains a table with the following columns: "#", "Select User", "User ID", "User Full Name", and "Assigned Roles". The table has three rows of data. The first row is partially filled with empty input boxes. The second row shows user "jadams" with full name "Joey Adams" and role "Tech Data Steward\_GER". The third row shows user "John Doe" with full name "John Doe" and role "Old\_DataSteward". The fourth row shows user "mjones" with full name "Mike Jones" and role "Data Owner\_UK". There are icons for a document and a power button in the top right corner of the table area.

#	Select User	User ID	User Full Name	Assigned Roles
	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
1	<input checked="" type="checkbox"/>	jadams	Joey Adams	Tech Data Steward_GER
2	<input checked="" type="checkbox"/>	John Doe	John Doe	Old_DataSteward
3	<input checked="" type="checkbox"/>	mjones	Mike Jones	Data Owner_UK

Select the required users and click .

The users are assigned to the environment.

## Managing Environments

Managing Environments involves:

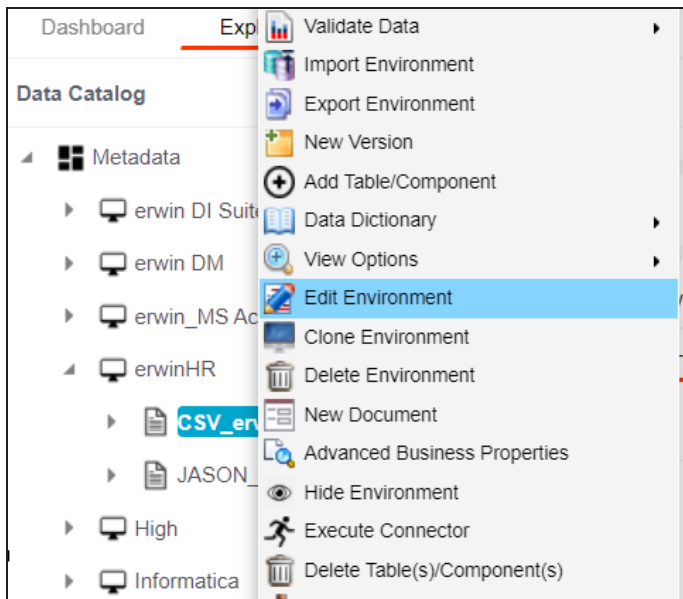
- [Editing or deleting environments](#)
- [Enable DQ Sync for environments](#)
- [Importing metadata from different environments](#)

### Editing and Deleting Environments

To edit or delete environments, follow these steps:

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

The options available appear.



2. Use the following options:

#### **Edit Environment**

Use this option to update the environment details.

## Managing Environments

---



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.

## Enabling DQ Sync

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



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

To enable DQ sync, follow these steps:

1. Right-click an environment and click **Edit Environment**.

The Edit Environment page appears.

## Managing Environments

**Edit Environment**

Configuration Details | Miscellaneous

System Environment Name\*

System Environment Type

Data Steward   Apply To All Tables & Columns

Server Platform

Server OS Version

File Management Type

File Location

Production System Name

Production Environment Name

Version

Version Label

DQ Score

Enable DQ Sync  OFF

Datasource Type\*

Please Select Database Type

### 2. Switch the **Enable DQ Sync** option On.

This displays the data quality analysis from DQLabs for an environment in the Metadata Manager.



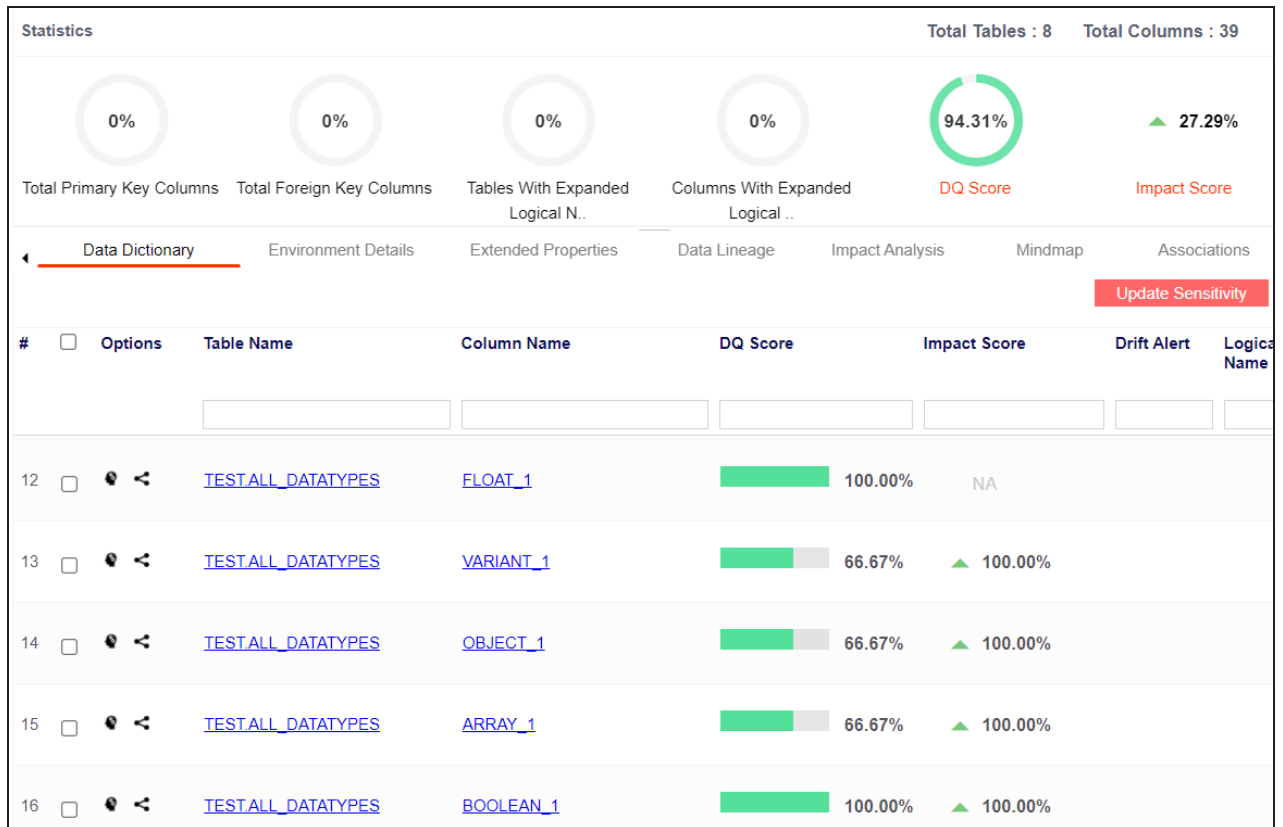
Ensure that you configure DQLabs the erwin DI to view the **Enable DQ Sync** option. For more information, refer to the [Configuring DQLabs](#) topic.

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

- ◆ Add your environments, tables, and columns as datasets in DQLabs, and run data profiling. For more information, refer to [Run Data Profiling](#) topic.
- ◆ Then, [schedule a job](#) in erwin DI to sync the data quality analysis results from DQLabs.

## Managing Environments

Once the data from DQLabs is synced, DQ Score, Impact Score, and Drift Alert for the environment are displayed.



## Importing Metadata from an Environment

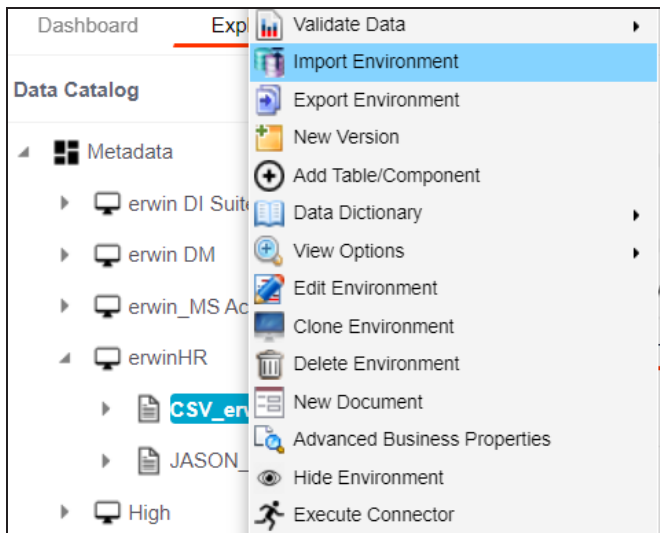
To import metadata from an environment, follow these steps:



## Managing Environments

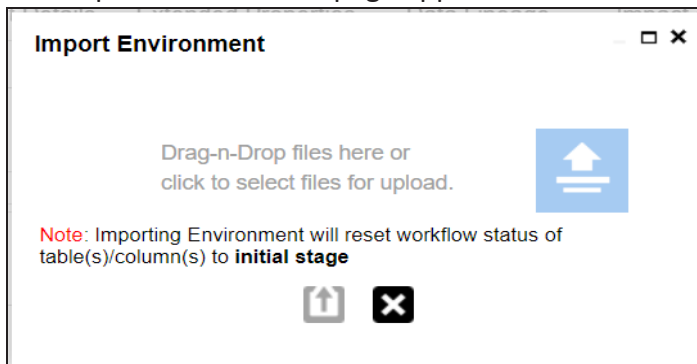
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1. In the **Data Catalog** pane, right-click an environment.



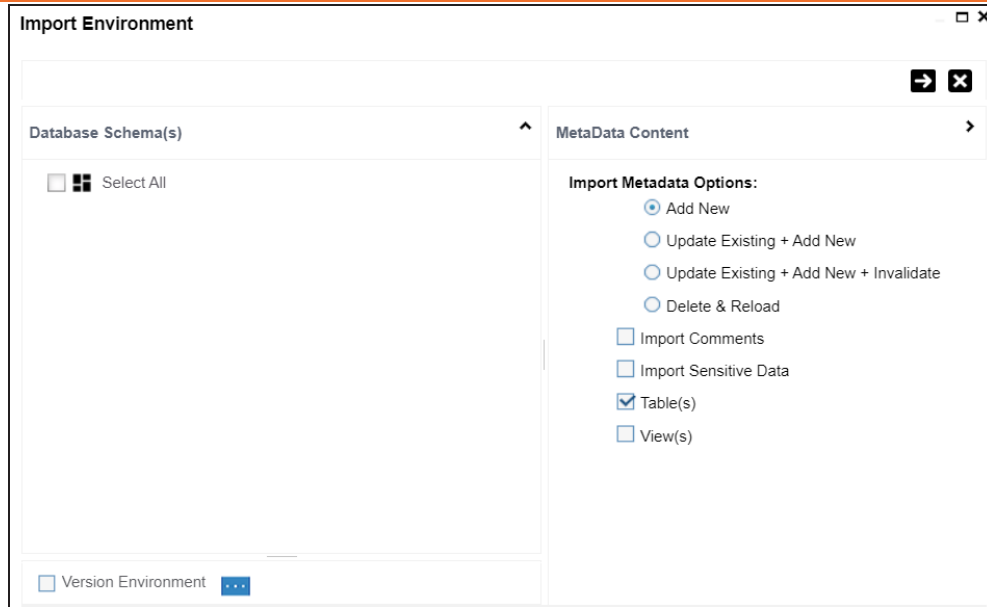
2. Click **Import Environment**.

The Import Environment page appears.



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



## Managing Environments



5. Select Schemas and appropriate import metadata 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.

# Updating Sensitivity-Data Dictionary

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



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

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

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

By default, the Data Dictionary tab opens.

#	Options	Table Name	Column Name	Logical Column Name	Column Comments	Column Definition	Sensitive Data Indicator (Y/N)	Sensitive Data Indicator (SDI) Classification	Data
6	<input type="checkbox"/>	dbo.CustomerCustomerDemo	CustomerTypeID				🔒		nct
7	<input type="checkbox"/>	dbo.CustomerDemographics	CustomerTypeID				🔒		nct
8	<input type="checkbox"/>	dbo.CustomerDemographics	CustomerDesc				🔒		nte
9	<input type="checkbox"/>	dbo.Customers	CustomerID				🔒	Secret	nct
10	<input type="checkbox"/>	dbo.Customers	CompanyName	Compa...			🔒	Confidential	nvt

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

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

- [Bulk](#)
- [Individual](#)

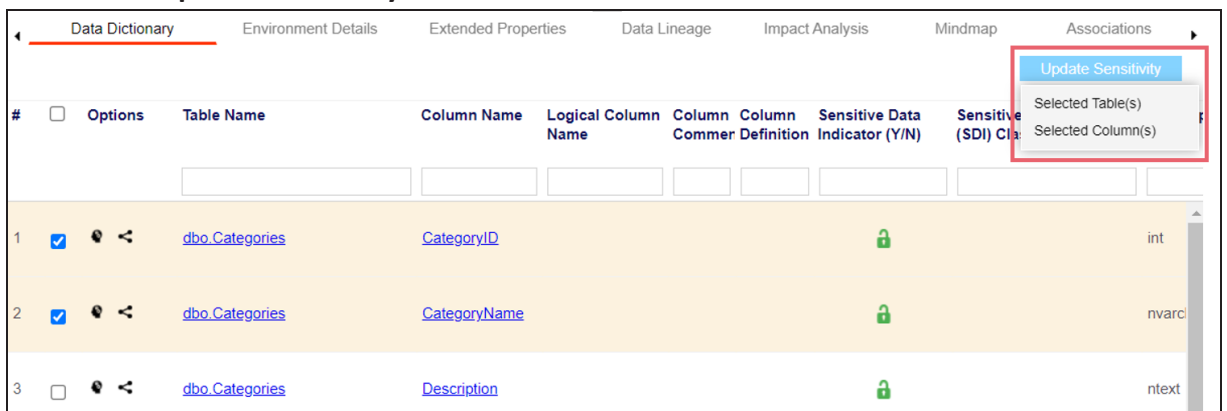
### Bulk Asset Update










You can update the sensitivity in bulk at [table](#) and [column](#) levels.

#### Table Level

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

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

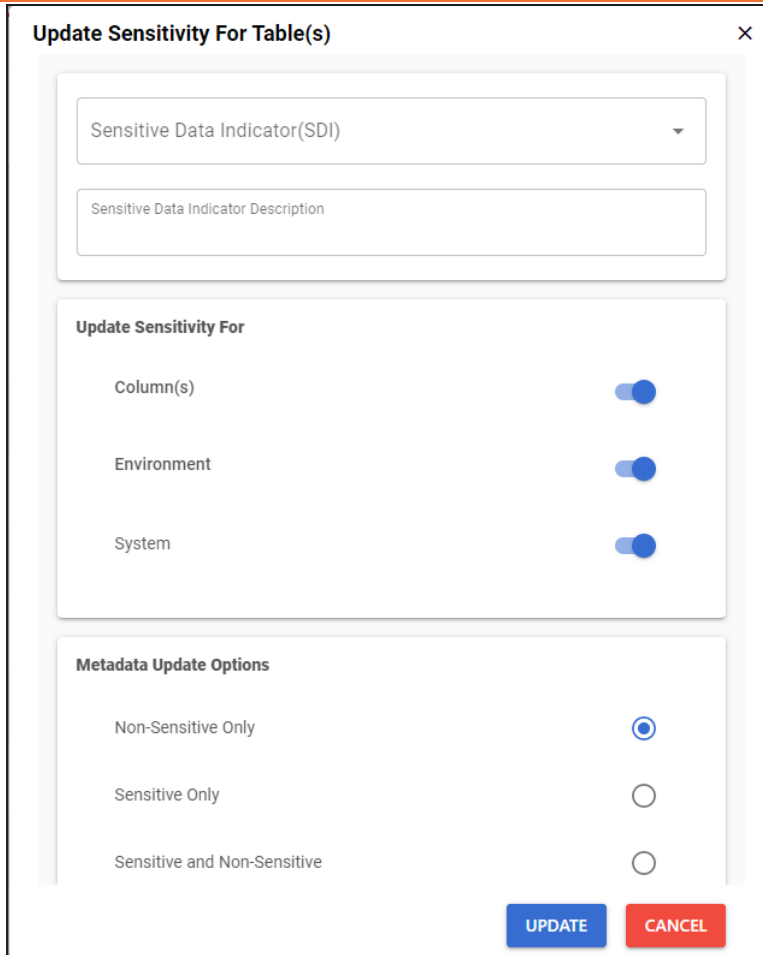


#	<input type="checkbox"/>	Options	Table Name	Column Name	Logical Column Name	Column Commerce Definition	Sensitive Data Indicator (Y/N)	Sensitive (SDI) Classification
1	<input checked="" type="checkbox"/>	 	<a href="#">dbo.Categories</a>	<a href="#">CategoryID</a>				int
2	<input checked="" type="checkbox"/>	 	<a href="#">dbo.Categories</a>	<a href="#">CategoryName</a>				nvarchar
3	<input type="checkbox"/>	 	<a href="#">dbo.Categories</a>	<a href="#">Description</a>				ntext

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

The Update Sensitivity For Table(s) page appears.

## Updating Sensitivity-Data Dictionary



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

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

## Updating Sensitivity-Data Dictionary

Field Name	Description
Indicator Description	For example, This classification indicates that the data contains personal identifiable information. Use this for data such as, address or social security number.
Update Sensitivity For	Specifies whether sensitivity is applicable to: <ul style="list-style-type: none"><li>▪ Column(s): Switch <b>Column(s)</b> to <b>YES</b> to apply the sensitivity to all the columns in the selected tables.</li><li>▪ Environment: Switch <b>Environment</b> to <b>YES</b> to apply sensitivity to the environment containing the tables.</li><li>▪ System: Switch <b>System</b> to <b>Yes</b> to apply sensitivity to the system containing the tables.</li></ul>
Metadata Update Options	Specifies whether sensitivity is applicable to: <ul style="list-style-type: none"><li>▪ Unclassified only: Click <b>Unclassified Only</b> to apply sensitivity to assets that are not marked sensitive.</li><li>▪ All Classified Only: Click <b>All Classified Only</b> to apply sensitivity to assets that are marked sensitive.</li><li>▪ All Classified And Unclassified: Click <b>All Classified And Unclassified</b> to apply sensitivity to both the types of assets, sensitive or not sensitive.</li></ul>

5. Click **Update**.

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

## Column Level

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

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

## Updating Sensitivity-Data Dictionary

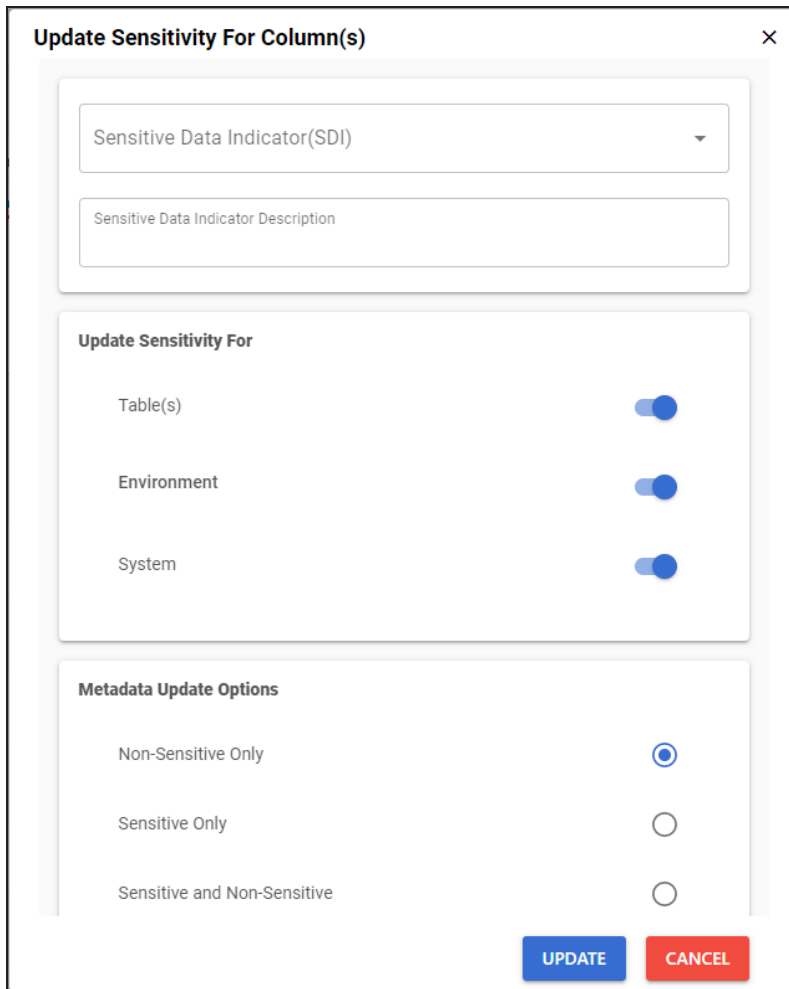
#	Options	Table Name	Column Name	Logical Column Name	Column Definition	Sensitive Data Indicator (Y/N)	Sensitive (SDI) Class	Data Type
1	<input checked="" type="checkbox"/>	<a href="#">dbo.Categories</a>	<a href="#">CategoryID</a>			Y		int
2	<input checked="" type="checkbox"/>	<a href="#">dbo.Categories</a>	<a href="#">CategoryName</a>			Y		nvarchar
3	<input type="checkbox"/>	<a href="#">dbo.Categories</a>	<a href="#">Description</a>			Y		ntext

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



## Updating Sensitivity-Data Dictionary

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)	<p>Specifies the sensitivity data indicator (SDI) classification of the selected columns. Also, you can add multiple classifications to the selected columns.</p> <p>For example, PHI, Confidential.</p> <p>For more information on configuring SDI classifications, refer to the <a href="#">Configuring Sensitivity Classifications</a> topic.</p>

## Updating Sensitivity-Data Dictionary

Field Name	Description
Sensitive Data Indicator Description	Specifies the description of the SDI classification. For example, This classification indicates that the data contains personal identifiable information. Use this for data such as, address or social security number.
Update Sensitivity For	Specifies whether sensitivity is applicable to: <ul style="list-style-type: none"><li>Table(s): Switch <b>Table(s)</b> to <b>YES</b> to apply sensitivity to the tables containing the columns.</li><li>Environment: Switch <b>Environment</b> to <b>YES</b> to apply sensitivity to the environment containing the columns.</li><li>System: Switch <b>System</b> to <b>Yes</b> to apply sensitivity to the system containing the columns.</li></ul>
Metadata Update Options	Specifies whether sensitivity is applicable to: <ul style="list-style-type: none"><li>Unclassified only: Click <b>Unclassified Only</b> to apply sensitivity to assets that are not marked sensitive.</li><li>All Classified Only: Click <b>All Classified Only</b> to apply sensitivity to assets that are marked sensitive.</li><li>All Classified And Unclassified: Click <b>All Classified And Unclassified</b> to apply sensitivity to both the types of assets, sensitive or not sensitive.</li></ul>

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

## Updating Sensitivity-Data Dictionary

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.

Field	Value
Workflow Status	
System Environment Name*	Northwind
System Environment Type	Northwind
Data Steward	
Server Platform	
Server OS Version	
File Management Type	
File Location	
Production System Name	SAP
Production Environment Name	SAP
DQ Score	
Datasource Type*	SqlServer
Version	1.00
Version Label	
Business Entity Type	Sql Server
Sensitive Data Indicator Classification	Confidential
SDI Description	
Tags	
Driver Name*	com.microsoft.sqlserver.jdbc.SQ...
DBMS Name/DSN*	Northwind
IP Address/Host Name*	10.1.85.178
Port**	1433
User Name*	sa
Password*	[Masked]
Uri*	[Masked]
DBMS Instance Schema	dbo
Connection Pool Type*	HIKARI
Number of Partitions*	2
Minimum Connections Per Partitions*	3
Maximum Connections Per Partitions*	5
Options	

- **System:**

The sensitivity of the system can be viewed under the System Details tab. You can [edit](#)

## Updating Sensitivity-Data Dictionary

a system, and update its sensitivity.


Data Dictionary	System Details	Extended Properties	Associations	Mind Map	System Documents	Configure Extended Properties	Scheduled Jobs	
ESB Platform Type	<input type="text"/>			ESB Manager Name		<input type="text"/>		
Total DBSize	<input type="text"/>			Total Number Of Tables		<input type="text" value="0"/>		
Definition Of The Day	<input type="text"/>			Batch Extract Window		<input type="text"/>		
Average User	<input type="text"/>			Average Concurrent Users		<input type="text"/>		
Sensitive Data Indicator (SDI) Flag				Sensitive Data Indicator (SDI) Classification		<input type="text" value="Confidential"/>		
Sensitive Data Indicator (SDI) Description	<input type="text" value="Sensitive Data that if compromised could negatively affect operations"/>							

## Updating Sensitivity-Lineage

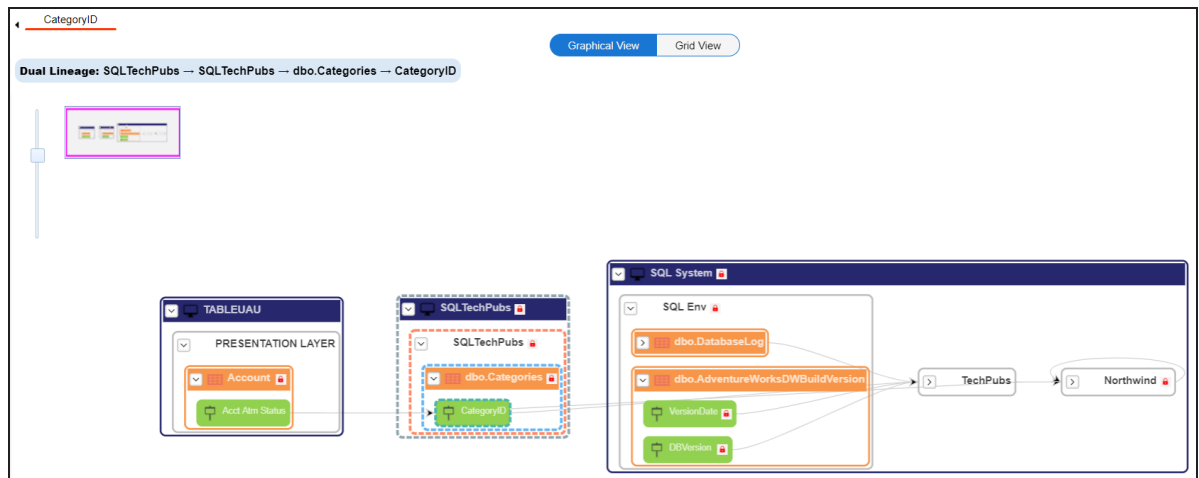
You can update the sensitivity of columns in a lineage report. You can also update the sensitivity of tables, environments, and systems containing these columns.

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

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

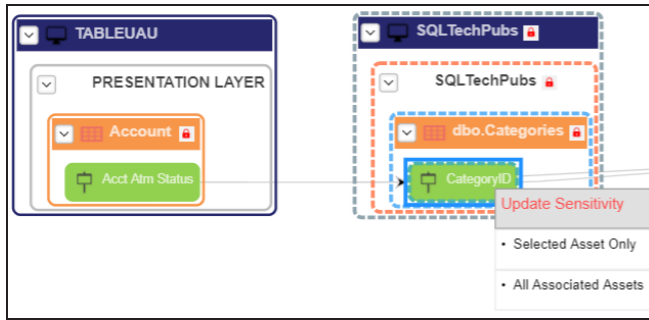
1. In the **Data Catalog** pane, click an environment.  
By default, the Data Dictionary tab opens.
2. On the **Data Dictionary** tab, click  for the required column.

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



## Updating Sensitivity-Lineage

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



- Use the following options:

### Selected Asset Only

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

### All Associated Assets

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

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

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

## Updating Sensitivity-Lineage

Field Name	Description
Sensitivity For	<ul style="list-style-type: none"><li>▪ System: Switch <b>System</b> option on to apply sensitivity to all the systems containing the columns.</li><li>▪ Environment: Switch <b>Environment</b> option on to apply sensitivity to all the environments containing the columns.</li><li>▪ Table: Switch <b>Table</b> option on to apply sensitivity to the tables containing the columns.</li></ul>
Asset Update Options	<p>Specifies whether sensitivity is applicable to:</p> <ul style="list-style-type: none"><li>▪ <b>Unclassified Only:</b> Click Unclassified Only to apply sensitivity to assets that are not marked sensitive.</li><li>▪ <b>All Classified Only:</b> Click All Classified Only to apply sensitivity to assets that are marked sensitive.</li><li>▪ <b>All Classified And Unclassified:</b> Click All Classified And Unclassified to apply sensitivity to both the types of assets, sensitive or not sensitive.</li></ul>

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.

## Updating Sensitivity-Lineage

The screenshot shows the 'Sensitive Data Classification - Lineage' window. At the top, there are five asset count cards: System (3), Environment (5), Tables (7), Columns (15), and an empty card. Below these is a table with columns: #, Sele, System Name, Environment Name, Table Name, Column Name, Sensitive Data Indicator (Y/N), Sensitive Data Indicator Classification, Logical Column Name, and Expanded Logical Name. The table contains five rows of data.

#	Sele	System Name	Environment Name	Table Name	Column Name	Sensitive Data Indicator (Y/N)	Sensitive Data Indicator Classification	Logical Column Name	Expanded Logical Name
1	<input checked="" type="checkbox"/>	SQL System	Northwind	dbo.Categories	<a href="#">CategoryID</a>	🔒	Confidential		
2	<input checked="" type="checkbox"/>	SQL System	Northwind	dbo.CustomerCustomerDemo	<a href="#">CustomerID</a>	🔒			
3	<input checked="" type="checkbox"/>	SQL System	SQL Env	dbo.AdventureWorksDWBuildVersion	<a href="#">DBVersion</a>	🔒	PHI		
4	<input type="checkbox"/>	SQL System	SQL Env	dbo.AdventureWorksDWBuildVersion	<a href="#">VersionDate</a>	🔒	PHI		
5	<input type="checkbox"/>	SQL System	SQL Env	dbo.DatabaseLog	<a href="#">DatabaseLogID</a>	🔒			

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.

The screenshot shows the 'Sensitive Data Classification - Lineage' window with the 'Selected Records' section active. The asset count cards now show: System (1), Environment (2), Tables (3), and Columns (3). The table below shows the same three rows as the previous screenshot, but only the first three rows are displayed, and they are all selected.

#	Sele	System Name	Environment Name	Table Name	Column Name	Sensitive Data Indicator (Y/N)	Sensitive Data Indicator Classification	Logical Column Name	Expanded Logical Name	Column Commer
1	<input checked="" type="checkbox"/>	SQL System	Northwind	dbo.Categories	<a href="#">CategoryID</a>	🔒	Confidential			
2	<input checked="" type="checkbox"/>	SQL System	Northwind	dbo.CustomerCustomerDemo	<a href="#">CustomerID</a>	🔒				
3	<input checked="" type="checkbox"/>	SQL System	SQL Env	dbo.AdventureWorksDWBuildV	<a href="#">DBVersion</a>	🔒	PHI			

4. Click **Next**.

The following page appears.



## Updating Sensitivity-Lineage

**Sensitive Data Classification - Lineage**

All Associated Assets

- 3 System
- 5 Environment
- 8 Tables
- 26 Columns

System:3

Previous Update Cancel

Sensitive Data Indicator(SDI)

Sensitive Data Indicator Description

**Auto Update Sensitivity For**

- Table
- Environment
- System

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

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

# Updating Sensitivity-Mind Map

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


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

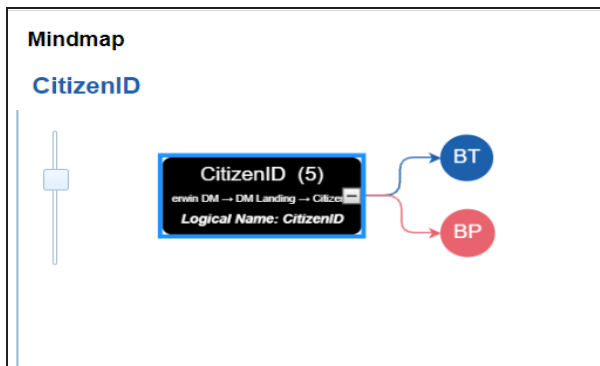
You can configure email notifications to be sent whenever sensitivity is updated in bulk. For more information on configuring email notifications, refer to the [Configuring Sensitivity Update Notifications](#) topic.

## Selected Asset

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

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

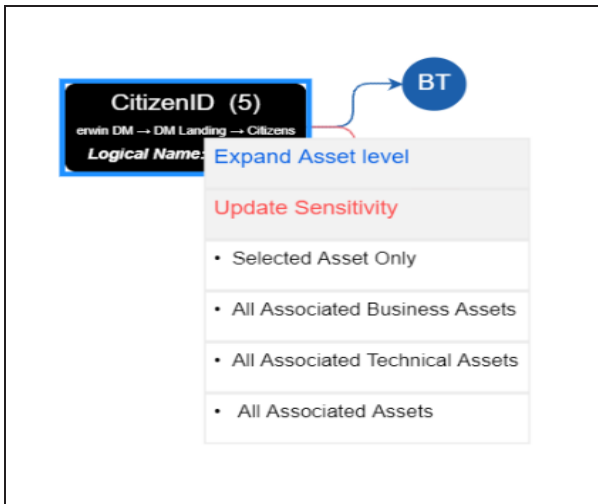
1. In the **Data Catalog** pane, click an environment.  
By default, the Data Dictionary tab opens.
2. On the **Data Dictionary** tab, click  for the required column.  
The Mind Map page appears.



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

## Updating Sensitivity-Mind Map

The options available for the asset appear.

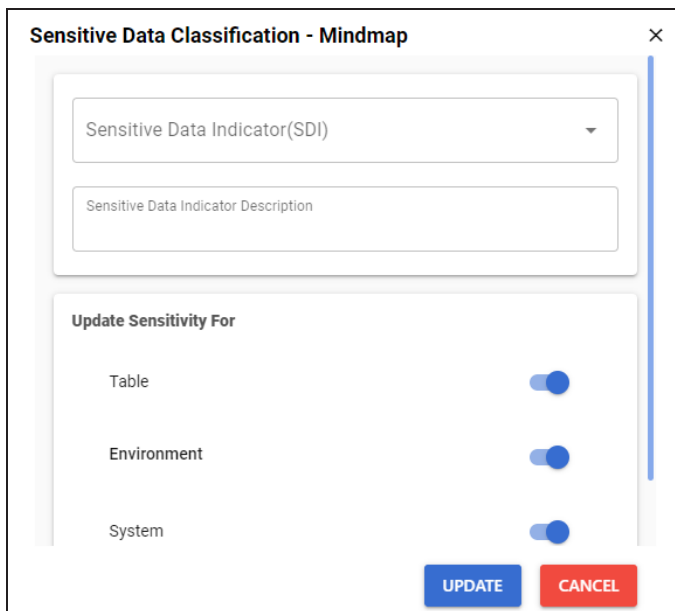


### 4. Click **Selected Asset Only**.

The Sensitive Data Classification - Mindmap page appears.



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

A screenshot of a dialog box titled 'Sensitive Data Classification - Mindmap'. The dialog box has a close button (X) in the top right corner. It contains a dropdown menu for 'Sensitive Data Indicator(SDI)' with a downward arrow. Below the dropdown is a text input field for 'Sensitive Data Indicator Description'. Underneath is a section titled 'Update Sensitivity For' with three toggle switches: 'Table', 'Environment', and 'System', all of which are currently turned on. At the bottom of the dialog box are two buttons: 'UPDATE' (blue) and 'CANCEL' (red).

## Updating Sensitivity-Mind Map

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

Field Name	Description
Sensitive Data Indicator (SDI)	Specifies the sensitivity data indicator (SDI) classification of the selected asset. Also, you can add multiple classifications to the selected asset. For example, PHI. For more information on configuring SDI classifications, refer to the <a href="#">Configuring Sensitivity Classifications</a> topic.
Sensitive Data Indicator Description	Specifies the description of the SDI classification. For example, This classification indicates that the data contains personal identifiable information. Use this for data such as, address or social security number.
Update Sensitivity For	Specifies whether sensitivity is applicable to: <ul style="list-style-type: none"><li>▪ System: Switch the <b>System</b> option on to apply sensitivity to all the systems containing the assets.</li><li>▪ Environment: Switch the <b>Environment</b> option on to apply sensitivity to all the environments containing the assets.</li><li>▪ Table: Switch the <b>Table</b> option on to apply sensitivity to the tables containing the assets.</li></ul>

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.

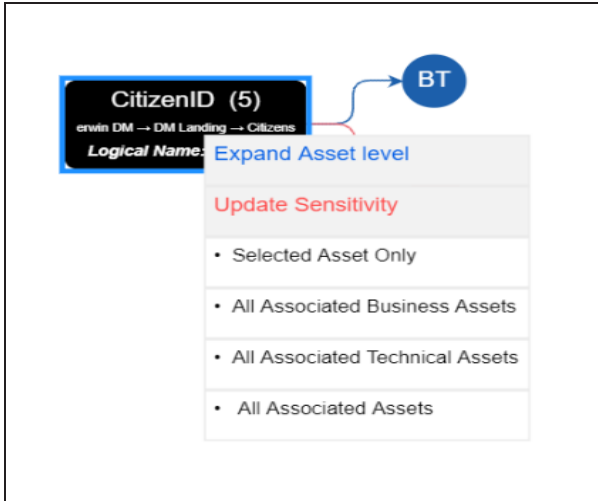
To update sensitivity of associated assets through mind maps, follow these steps:

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

The options available for the asset appear.

## Updating Sensitivity-Mind Map

---



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.

## Updating Sensitivity-Mind Map

The screenshot shows the 'Sensitive Data Classification - Mindmap' window. At the top, it says 'All Associated Business Assets (Displayed Sensitivity Enabled Assets only)' with a count of 32 Business Term assets. Below this is a table with columns: #, Select, Object Type, Object Path, Object Name, Sensitive Data Indicator (Y/N), Sensitive Data Indicator Classification, Sensitive Data Indicator Description, Logical Name, Expanded Logical Name, Business Comments, and Business Definition. The table lists five assets:

#	Select	Object Type	Object Path	Object Name	Sensitive Data Indicator (Y/N)	Sensitive Data Indicator Classification	Sensitive Data Indicator Description	Logical Name	Expanded Logical Name	Business Comments	Business Definition
1	<input type="checkbox"/>	Business Term	Customer Maste	<a href="#">CURRENCY</a>	🔒	PII	Personally Ident				
2	<input type="checkbox"/>	Business Term	Customer Maste	<a href="#">CUSTOMER</a>	🔒	Secret	Secret				
3	<input type="checkbox"/>	Business Term	TechPubs	<a href="#">Customer Addre</a>	🔒						
4	<input type="checkbox"/>	Business Term	TechPubs	<a href="#">Customer Email</a>	🔒						
5	<input type="checkbox"/>	Business Term	Customer Terms	<a href="#">Customer First N</a>	🔒						

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.

The screenshot shows the 'Sensitive Data Classification - Mindmap' window with the 'Selected Records' page. The count is now 3 Business Term assets. The table shows the same columns as the previous screenshot, but with the 'Select' column checked for the first three rows:

#	Select	Object Type	Object Path	Object Name	Sensitive Data Indicator (Y/N)	Sensitive Data Indicator Classification	Sensitive Data Indicator Description	Logical Name	Expanded Logical Name	Business Comments	Business Definition
1	<input checked="" type="checkbox"/>	Business Term	Customer Master Cat	<a href="#">CURRENCY</a>	🔒	PII	Personally Identifiable				
2	<input checked="" type="checkbox"/>	Business Term	Customer Master Cat	<a href="#">CUSTOMER</a>	🔒	Secret	Secret				
3	<input checked="" type="checkbox"/>	Business Term	TechPubs	<a href="#">Customer Address</a>	🔒						

4. Click **Next**.

The following page appears.

## Updating Sensitivity-Mind Map



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

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

Field Name	Description
Sensitive Data Indicator (SDI)	Specifies the sensitivity data indicator (SDI) classification of the selected asset. Also, you can add multiple classifications to the selected asset. For example, PHI. For more information on configuring SDI classifications, refer to the <a href="#">Configuring Sensitivity Classifications</a> topic.
Sensitive Data Indicator	Specifies the description of the SDI classification. For example, This classification indicates that the data contains per-

## Updating Sensitivity-Mind Map

Field Name	Description
Description	sonal identifiable information. Use this for data such as, address or social security number.
Metadata Update Options	Specifies whether sensitivity is updated for: <ul style="list-style-type: none"><li>▪ Non-Sensitive Only: Use this option on to update sensitivity only for currently non-sensitive assets.</li><li>▪ Sensitive Only: Use this option on to update sensitivity only for currently sensitive assets.</li><li>▪ Sensitive and Non-Sensitive: Use this option on to update sensitivity for both, currently sensitive and non-sensitive assets.</li></ul>

6. Click **Update**.

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

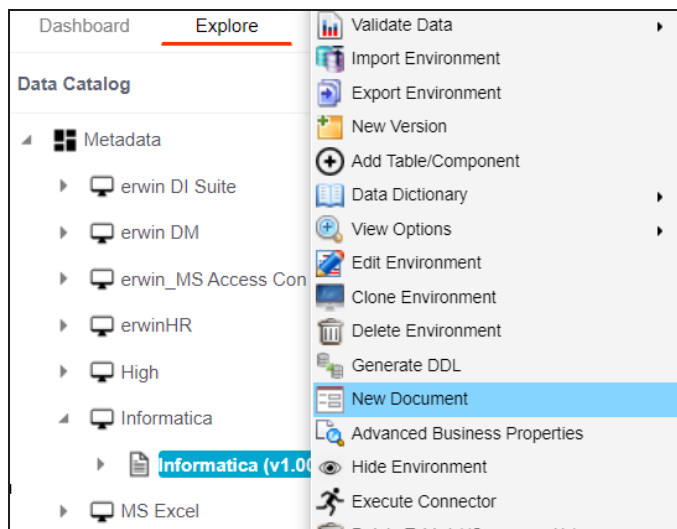


### Adding Documents

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

To add documents to environments, follow these steps:

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



3. Click **New document**.


The Environment Documents page appears.

## Adding Documents

The screenshot shows a web form titled "Environment Documents". It contains the following fields and elements:

- Document Name\***: A text input field with a red asterisk indicating it is mandatory.
- Document Owner**: A text input field.
- Document Object**: A section with the text "Drag-n-Drop files here or click to select files for upload." and a blue upload icon.
- Document Link**: A text input field.
- Description**: A rich text editor with a toolbar containing icons for bold, italic, underline, link, unlink, list, and other text formatting options.
- Approval Required Flag**: A checkbox at the bottom left.

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

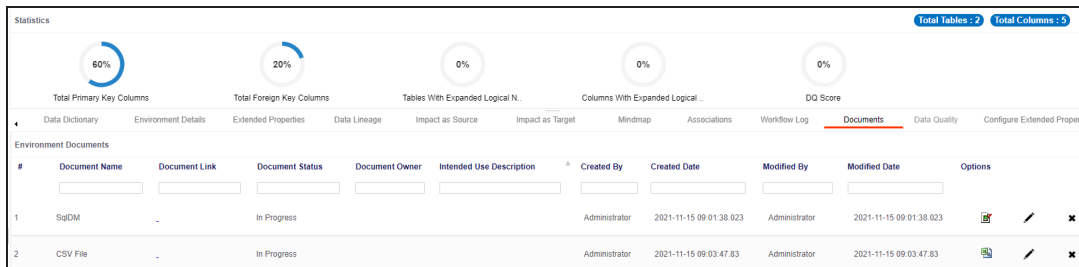
Field Name	Description
Document Name	Specifies the name of the physical document being attached to the environment. For example, Source Environment Details.
Document Object	Drag and drop document files or use  to select and upload document files.
Document Owner	Specifies the document owner's name. For example, John Doe.
Document Link	Specifies the URL of the document. For example, <a href="https://drive.google.com/file/d/2sC2_SZlyeFKI7OOn-b5YkMBq4ptA7jhg5/view">https://drive.google.com/file/d/2sC2_SZlyeFKI7OOn-b5YkMBq4ptA7jhg5/view</a>
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 <b>Approval Required Flag</b> check box to select the document status.







## Adding Documents

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

5. Click .

The document is saved in the Environment Documents grid.



#	Document Name	Document Link	Document Status	Document Owner	Intended Use Description	Created By	Created Date	Modified By	Modified Date	Options
1	SqlDM		In Progress			Administrator	2021-11-15 09:01:38.023	Administrator	2021-11-15 09:01:38.023	  
2	CSV File		In Progress			Administrator	2021-11-15 09:03:47.83	Administrator	2021-11-15 09:03:47.83	  

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

**Preview** (  )

Use this option to preview the document for your information.

**Edit** (  )

Use this option to update the document details.

**Delete** (  )

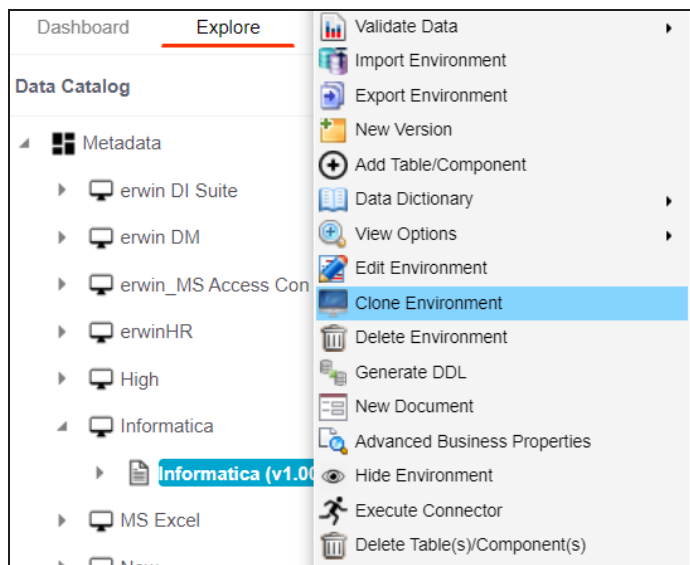
Use this option to delete the document that is not required.

# Cloning Environments

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

To clone environments, follow these steps:

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



3. Click **Clone Environment**.


The New Environment Cloning page appears.

## Cloning Environments

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 <a href="#">Best Practices</a> 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. For example, Windows.

## Cloning Environments

Field Name	Description
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 <a href="#">Configuring Version Display of the Environments</a> 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 <a href="#">Configuring Data Profiling and DQ Scores</a> 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.

- Click  to test the connection.

## Cloning Environments

---

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

6. Click .

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

Different database types have different prerequisites and connection parameters:

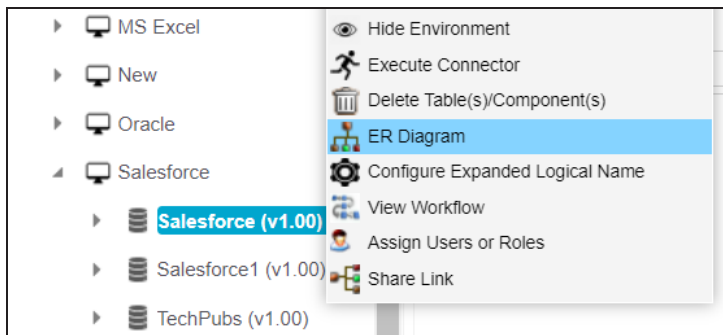
- [SQL Server - via SQL or Window authentication mode](#)
- [Oracle and Oracle RAC](#)
- [MySQL](#)
- [Snowflake](#)
- [MS Dynamics CRM](#)
- [SAP ECC R/3 and IS-U Metadata via JCO Driver](#)

### Viewing ER Diagram

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

To view entity relationship diagram, follow these steps:

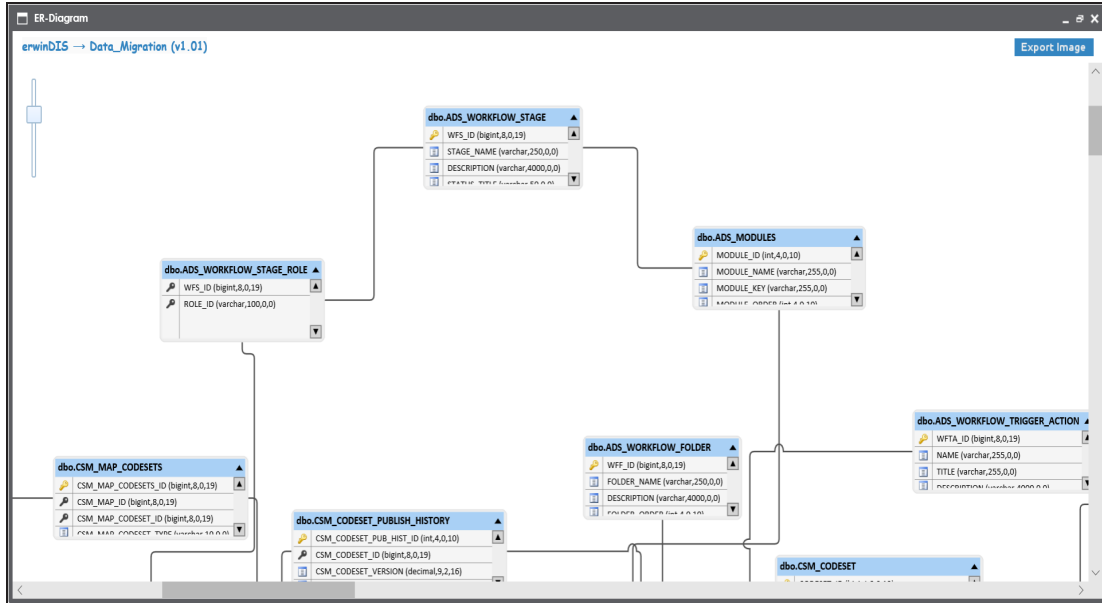
1. Go to **Application Menu > Data Catalog > Metadata Manager > Explore**.
2. In the **Data Catalog** pane, right-click an environment.



3. Click **ER Diagram**.



## Viewing ER Diagram



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

# Viewing Workflow Logs

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

To view workflow logs of environments, follow these steps:

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

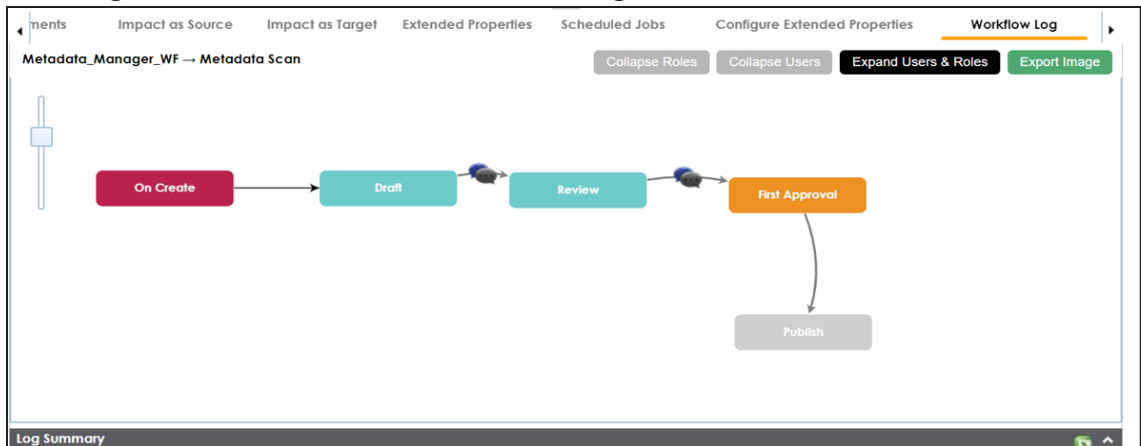
#	Options	Table Name	Column Name	Logical Column Name	Column Comments	Column Definition
1	<input type="checkbox"/>	dbo.RM_RESOURCE_New	RESOURCEID_New			
2	<input type="checkbox"/>	dbo.RM_RESOURCE_New	RESOURCENAME_New			

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

The workflow log of the environment appears. You can observe that the current work-

## Viewing Workflow Logs

flow stage of the environment blinks in the diagram.



Use the following options:

### User Comments

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

### Expand/Hide Users and Roles

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

### Collapse/Expand Roles

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

### Collapse/Expand Users

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

### Export Image

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

## Associating Environments

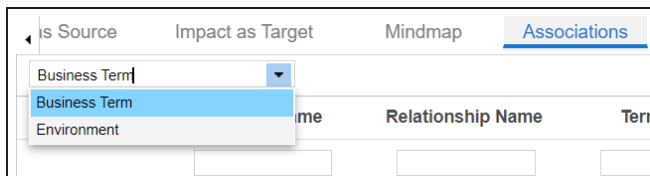
You can associate environments with business assets, systems, environments, tables, and columns. You can view these associations on mind maps and analyze associations.

Ensure that:

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

To associate environments with asset types, follow these steps:

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



5. Click **+**.

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

## Associating Environments

displays a list of available assets.

Relationship Associations

Current Context: **CDM\_Model\_CommonR**

Current Context Type: **Environment**

Relationship Name: **Golden Source for**

Search (partial matches):

<input type="checkbox"/>	Term Name	Description	Definition	Catalog Name	Catalog Hierarchy
<input type="checkbox"/>					
<input type="checkbox"/>	3 -Hydroxyl End	LEN(D3)	The hydroxyl group that is attached to the 3 carbon atom of the sugar (ribose or deoxyribose) of the terminal nucleotide of a nucleic acid molecule.	Macroeconomics	Monetary Terms → Macroeconomics
			3-A Sanitary Standards, Inc. (3-A SSI) is a non-profit association representing equipment manufacturers, processors, regulatory sanitarians and other		

Records from 1 to 200 of 10237

6. Select **Relationship Name**, and the asset type.

If you know the term name, use the Search (partial matches) field to look up for it.

7. Click **Save**.

The selected terms are associated with the environment and added to the list of associations.

You can define as many associations as required.

is Source Impact as Target Mindmap **Associations** Workflow Log Documents Data Quality Configure Extended Properties Scheduled Jobs

Business Term: **Golden Source for**

<input type="checkbox"/>	Actions	Qualifier Name	Relationship Name	Term Name	Description	Definition	Catalog Name	Catalog Hierarchy
<input type="checkbox"/>								
<input type="checkbox"/>	+ ✎ 🗑		Golden Source for	3 -Hydroxyl End	LEN(D3)	The hydroxyl group that is attached to the 3 carbon atom of the sugar (ribose or deoxyribose) of the terminal nucleotide of a nucleic acid molecule.	Macroeconomics	Monetary Terms → Macroeconomics
						3-A Sanitary Standards, Inc. (3-A SSI) is a non-profit association		

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

## Associating Environments

---

### Add Association (+)

Use this option to add associations using a qualifier.

### Edit Association (✎)

Use this option to edit the association.

### Delete Association (🗑)

Use this option to delete the association.

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

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

## Configuring Business Properties

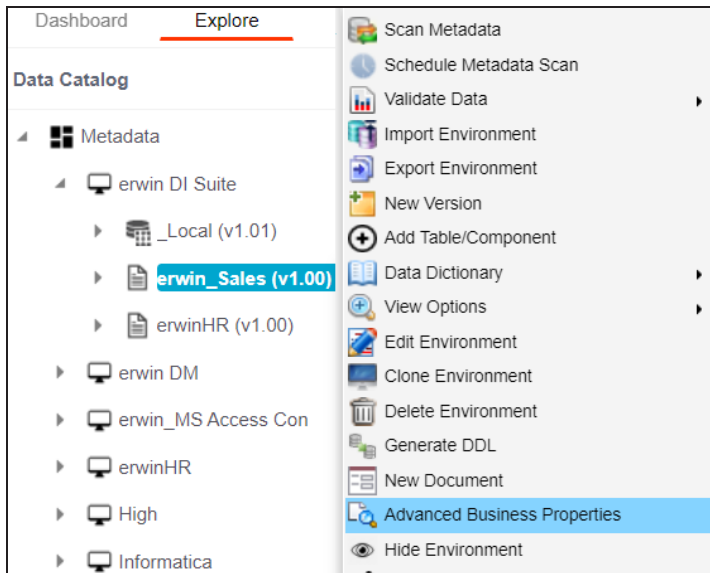
You can configure business properties of all the tables and columns under an environment. You can also configure business properties at table level and update business properties of a table and business properties of its columns.



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

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

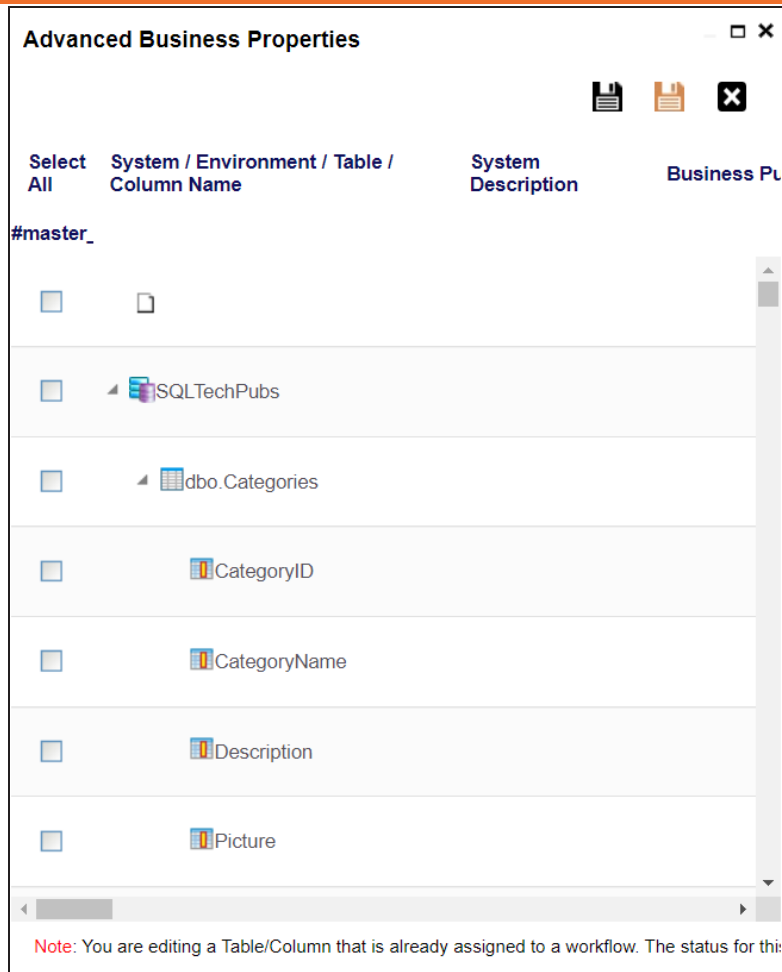
1. Go to **Application Menu > Data Catalog > Metadata Manager > Explore**.
2. In the **Data Catalog** pane, right-click an environment.





3. Click **Advanced Business Properties**.

The Advanced Business Properties page appears.

## Configuring Business Properties



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.

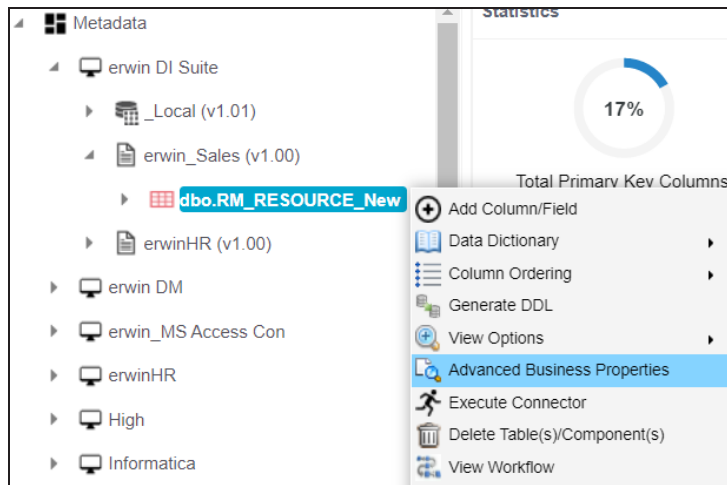
To configure business properties at table level, follow these steps:



## Configuring Business Properties

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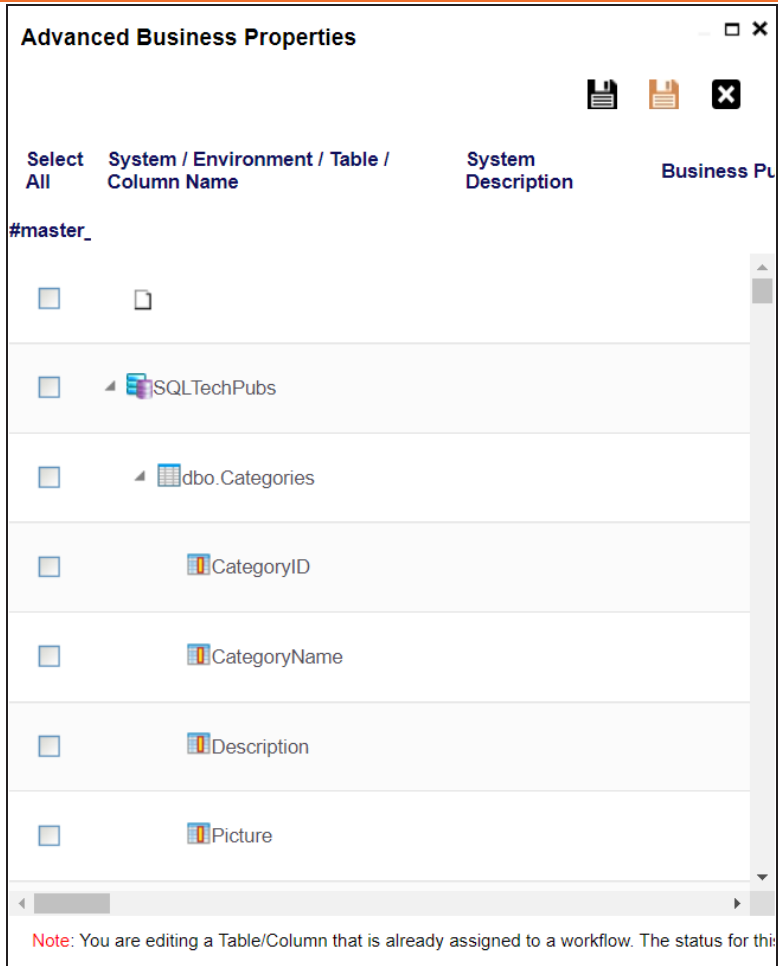
1. Under the **Data Catalog** pane, right-click a table.





2. Click **Advanced Business Properties**.

The Advanced Business Properties page appears.

## Configuring Business Properties



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

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

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

### Configuring 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: <ul style="list-style-type: none"> <li>▪ For the table, RM will be retained and Resource will be replaced with Sales Representative.</li> <li>▪ For the column, ID will be retained and Resource will be replaced with Sales Representative.</li> </ul>
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:

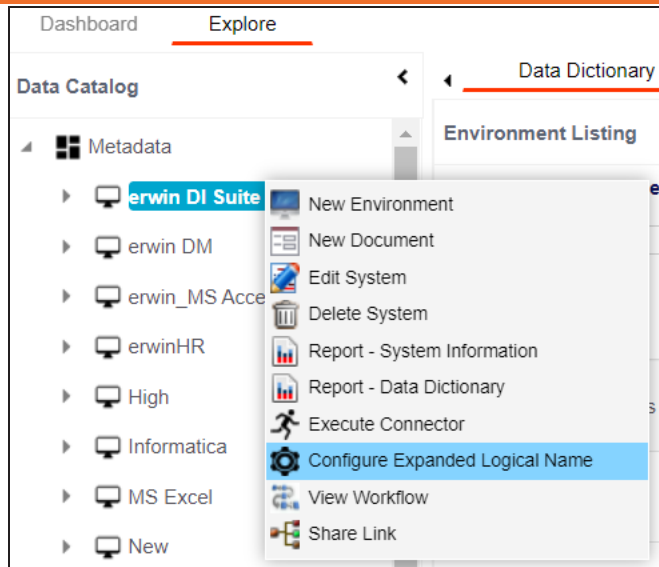
Entity	Expanded Logical Name	Comment
Table	RM Sales Representative	Here, RM retained from the table name and Sales Representative is added from business term definition.
Column	Sales Representative ID	Here, ID is retained from the column name and Sales Representative is added from business term definition.

To configure expanded logical name, follow these steps:

1. In the **Data Catalog** pane, right-click a system or environment.  
The available options appear.

## Configuring Expanded Logical Name

---



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

The Configure Expanded Logical Name page appears.

## Configuring Expanded Logical Name

**Configure Expanded Logical Name**

**Catalogs**

- Business Terms
  - Company Benefits (3)
  - Customer Master Catalog (4)
  - Customer Terms (8)
  - Glossary Catlog 1 (3)
  - Monetary Terms (2)
  - Operations (0)
  - Pharmaceuticals (10207)

**Splitter**

\_(underscore)

**ELN Scope**

Both

**Job Name\***

1622004865999

**Interval**

Once

**Schedule Job On\***  Local  Server

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.
ELN Scope	Select an appropriate scope of the job. <ul style="list-style-type: none"> <li>▪ <b>Columns:</b> Indicates that the expanded logical names of all the</li> </ul>

## Configuring Expanded Logical Name

Field Name	Description
	<p>columns in this system are configured</p> <ul style="list-style-type: none"> <li>▪ <b>Tables:</b> Indicates that the expanded logical name of all the tables in this system are configured</li> <li>▪ <b>Both:</b> Indicates that the expanded logical names of all the tables and columns in this system are configured</li> </ul>
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	<p>Select the machine whose clock decides the time of the scheduled scan.</p> <ul style="list-style-type: none"> <li>▪ <b>Local:</b> Refers to your local machine.</li> <li>▪ <b>Server:</b> Refers to the machine where erwinDIS has been deployed.</li> </ul>
Schedule Job On	Select date and time of the execution of the job.
Notify Me	Turn the <b>Notify Me</b> to <b>ON</b> 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 <a href="#">Configuring Email Settings</a> 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.

## Configuring Expanded Logical Name

Job Type	Environment Name	Scheduled Objects	Previous Fire Time	Next Fire Time	Job State	Created By	Created Date Time	Last Modified By	Last Modified Date Time	Edit
	N/A	All Environments		05-26-2021 05:14	NORMAL	Administrator	2021-05-26 05:11:43.345	Administrator	2021-05-26 05:11:43.345	

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.

Columns	Properties	Extended Properties	Data Lineage	Impact Analysis	Mindmap	Associations
Technical Properties						
Name	dbo.RM_RESOURCE_New			Environment Name	erwin_Sales	
System Name	erwin DI Suite			No of Rows	100	
Synonym Reference				FileType		
Entity Type	TABLE					
Workflow Status	Preliminary Draft					
Business Properties						
Data Steward				Logical Name	RESOURCE	
Definition	Organization resource			Expanded Logical Name	RM RESOURCE Representative	
Comments				JSON Physical Name		
Sensitive Data Indicator (SDI) Flag				Used In Gap Analysis	<input checked="" type="checkbox"/>	
Sensitive Data Indicator (SDI) Classification	Confidential			Sensitive Data Indicator (SDI) Description	Confidential	
Class	Table_Class			Alias		
DQ Score	High (7-8)					



## Configuring Expanded Logical Name

Properties	Extended Properties	Data Lineage	Impact Analysis	Mindmap	Associations	Workflow Log
Foreign Key Flag	<input type="checkbox"/>				Primary Key Flag	<input checked="" type="checkbox"/>
Foreign Key Column Name					Foreign Key Table Name	
Minimum Value					ETL Default Value	
File Starting Position					Maximum Value	
Attribute Type	ENTITY_ELEMENT					
Workflow Status	Preliminary Draft					
Business Properties						
Data Steward					Logical Name	Sales ID
Definition	Sales resource					
Comments					Expanded Logical Name	Sale Representative ID
					JSON Physical Column Name	
Sensitive Data Indicator (SDI) Flag	<input checked="" type="checkbox"/>				Used In Gap Analysis	<input checked="" type="checkbox"/>
Sensitive Data Indicator (SDI) Classification	Confidential					
Class	Column_Class					
DQ Score	Very High (9-10)					
					Sensitive Data Indicator (SDI) Description	Confidential
					Alias	
					Business Key Flag	<input type="checkbox"/>
User Defined Fields						



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

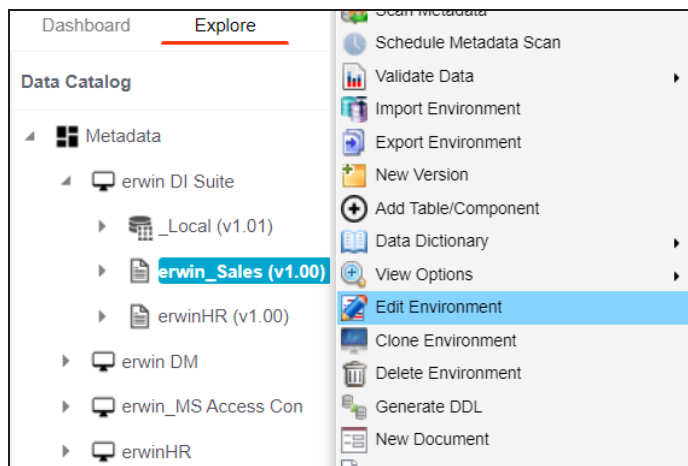
# Tagging Environments

Tagging environments enables asset grouping, and better reporting, data traceability, and data discovery. You can tag environments one at a time or "Tagging Tables and Columns" on page 162.

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

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

The available options appear.

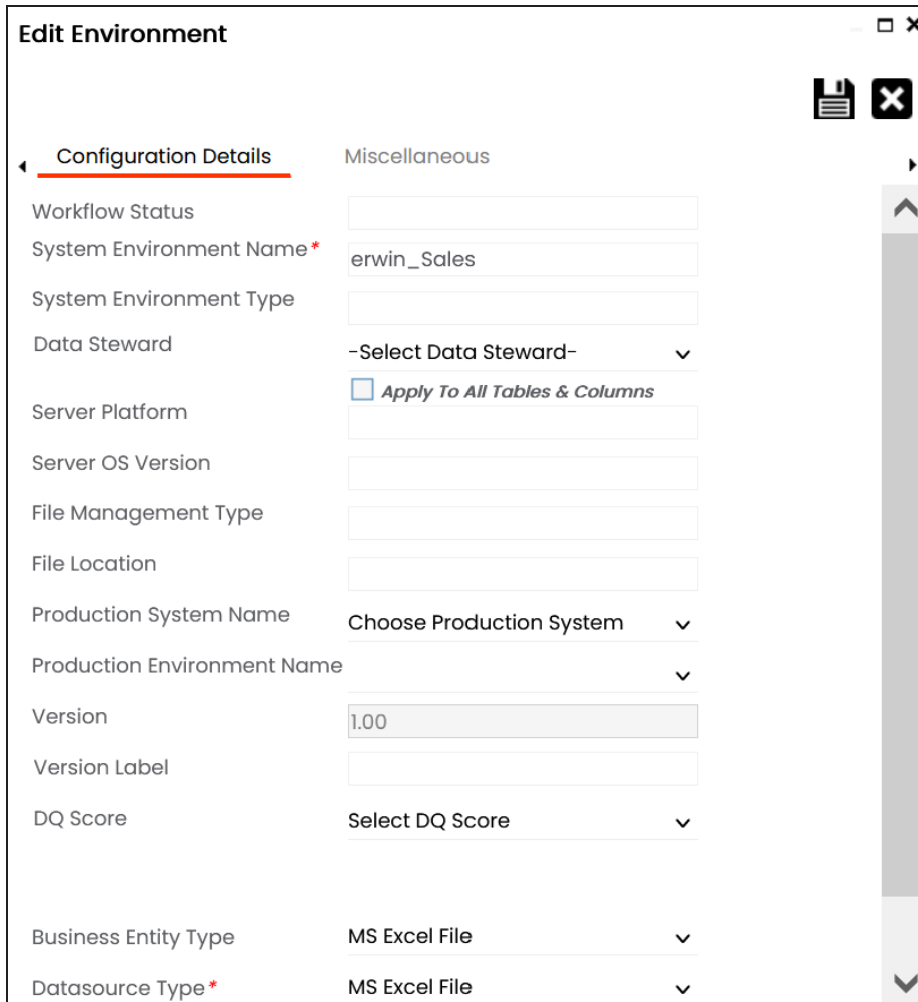


2. Click **Edit Environment**.

## Tagging Environments

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The Edit Environment page appears.



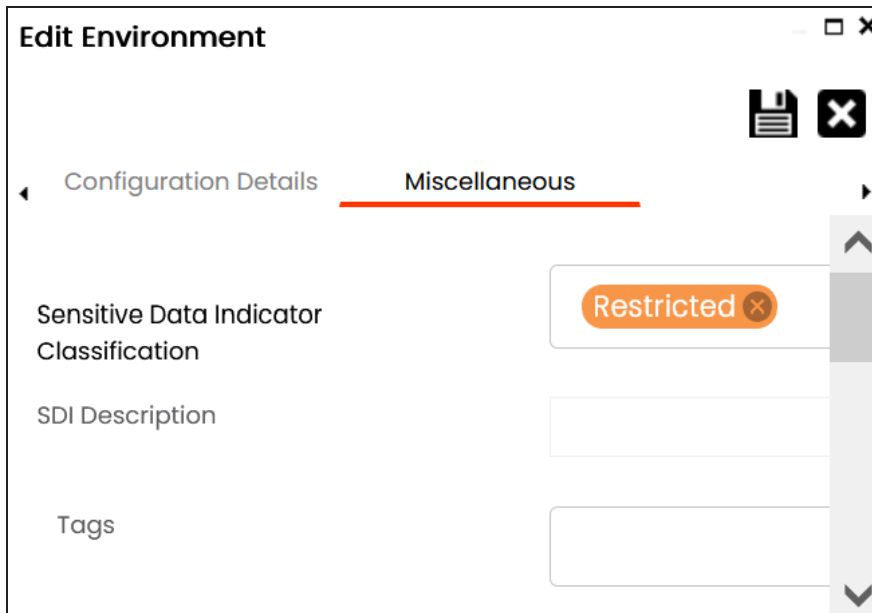
The screenshot shows the 'Edit Environment' page with the following configuration details:

Field	Value
Workflow Status	
System Environment Name*	erwin_Sales
System Environment Type	
Data Steward	-Select Data Steward-
Server Platform	<input type="checkbox"/> Apply To All Tables & Columns
Server OS Version	
File Management Type	
File Location	
Production System Name	Choose Production System
Production Environment Name	
Version	1.00
Version Label	
DQ Score	Select DQ Score
Business Entity Type	MS Excel File
Datasource Type*	MS Excel File

## Tagging Environments

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3. Click the **Miscellaneous** tab.

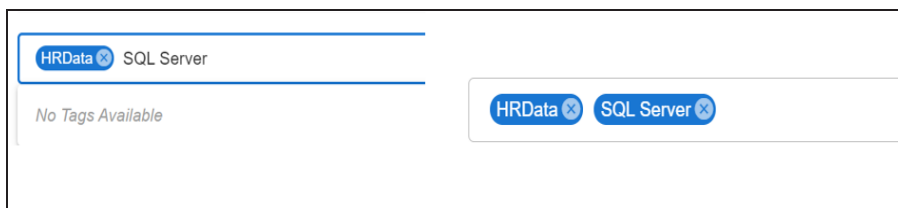


4. Click **Tags** and select a tag from the suggestions that appear. The list contains tags created in the Enterprise Tags module; based on the configured scope.



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

For example, in the following image, a tag, SQL Server, is created and assigned to an environment.



5. Click .

The selected environment is tagged.

## Tagging Environments

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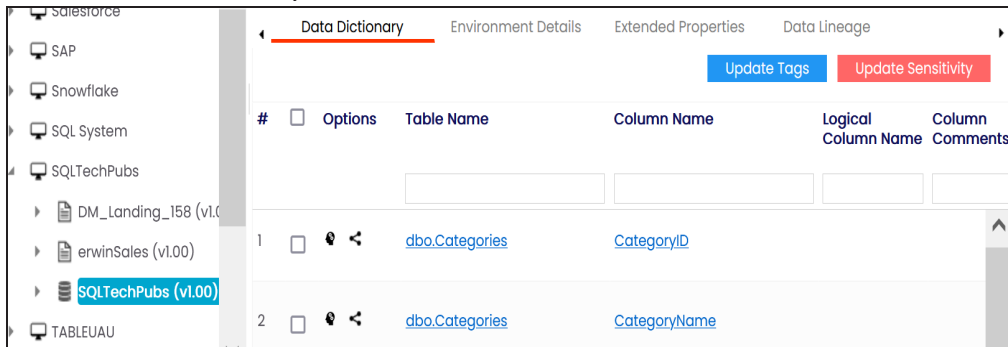
Once an environment is tagged, you can visualize its association with a tag on a mind map Enterprise Tags module.

## Tagging Tables and Columns

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

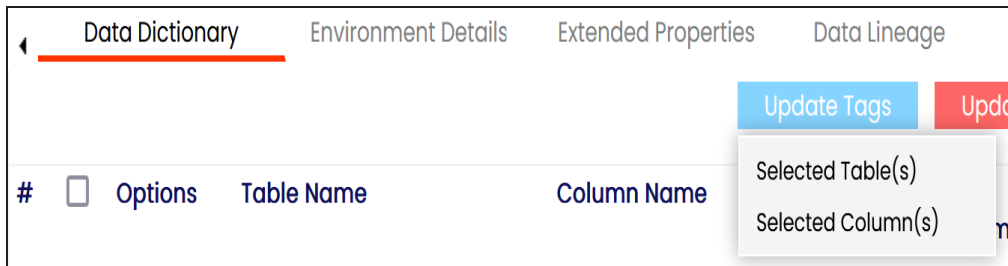
To tag tables or columns, follow these steps:

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



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

2. Hover over **Update Tags**.

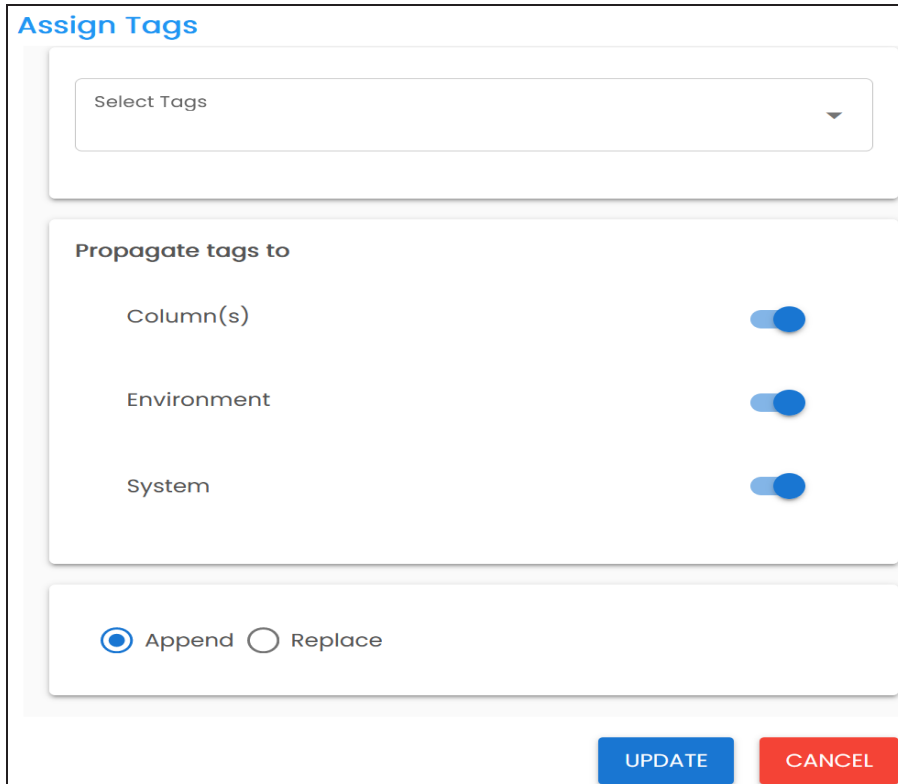


3. Click the required option.

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

## Tagging Tables and Columns

The Assign Tags page appears.



**Assign Tags**

Select Tags

**Propagate tags to**

Column(s)

Environment

System

Append  Replace

UPDATE CANCEL

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

Field Name	Description
Select Tags	Depending on the asset and tag scope, displays available tags. You can assign multiple tags to the selected assets. Click <b>Select Tags</b> and select a tag from the suggestions that appear.
Propagate tags to	Specifies whether tag is applicable to: <ul style="list-style-type: none"><li>▪ Table(s): Switch <b>Table(s)</b> to <b>Yes</b> to tag the tables containing the columns. This option is available only when you click Selected Column(s) in step 3.</li><li>▪ Column(s): Switch <b>Column(s)</b> to <b>Yes</b> to tag all columns in the selec-</li></ul>

## Tagging Tables and Columns

Field Name	Description
	<p>ted tables. This option is available only when you click Selected Table(s) in step 3.</p> <ul style="list-style-type: none"><li data-bbox="483 401 1360 485">▪ Environment: Switch <b>Environment</b> to <b>Yes</b> to tag the environment containing the tables or columns.</li><li data-bbox="483 499 1333 583">▪ System: Switch <b>System</b> to <b>Yes</b> to tag the system containing the tables or columns.</li></ul>

5. Use the following options:

### Append

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

### Replace

Use this option to replace existing tags.

6. Click **Update**.

The tables and columns are tagged.



# Scanning and Managing Metadata

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

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

Scanning and managing metadata involves:

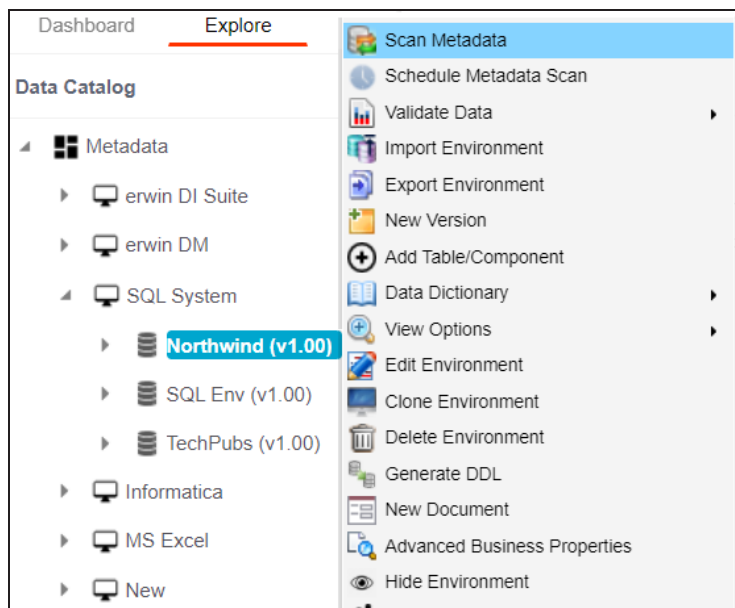
- [Scanning metadata from data sources](#)
- [Adding tables](#)
- [Adding Columns](#)
- [Deleting tables and columns](#)
- [Scheduling metadata scans](#)
- [Updating table properties](#)
- [Updating column properties](#)
- [Validating data](#)
- [Assigning codesets to columns](#)
- [Viewing workflow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

### Scanning Metadata

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

To scan source or target metadata, follow these steps:

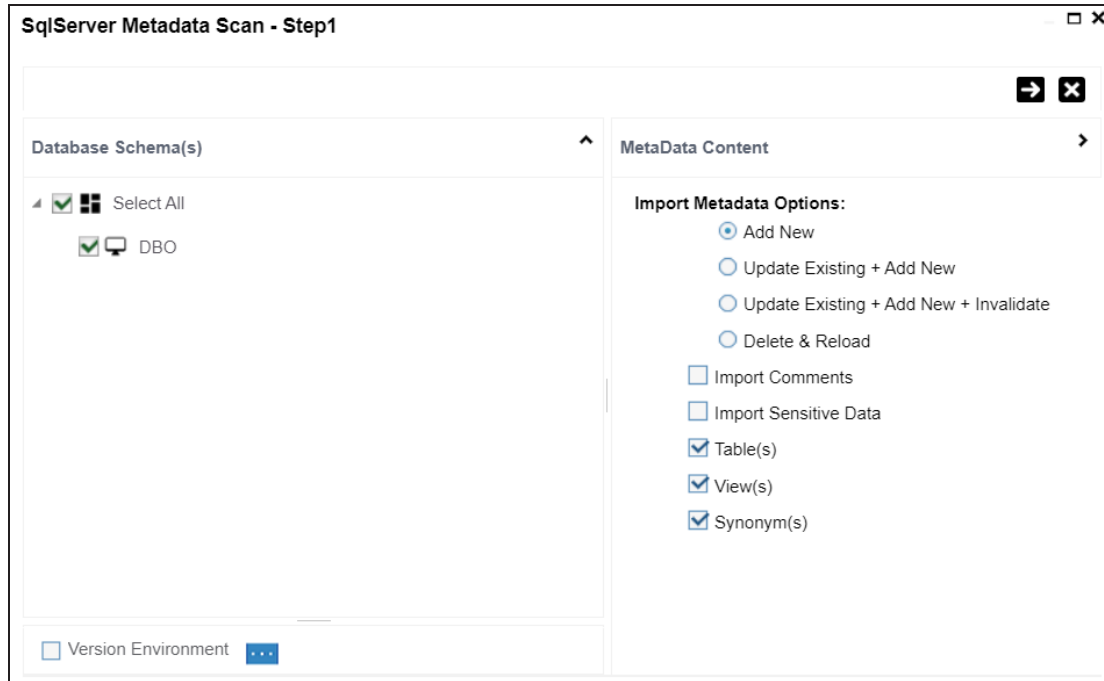
1. Go to **Application Menu > Data Catalog > Metadata Manager > Explore**.
2. In the **Data Catalog** pane, right-click the required environment.



3. Click **Scan Metadata**.

## Scanning 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.

<b>Import Metadata Options</b>	<b>Description</b>
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.

## Scanning Metadata

Import Metadata Options	Description
Import Comments	Select the check box to import comments.
Import Sensitive Data	Select the check box to import sensitivity classification of the metadata from the data source.   This option is available for SQL, Oracle, and Snowflake environments.
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 Environment	Select the check box to create a version of the environment.

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:

## Scanning Metadata

---

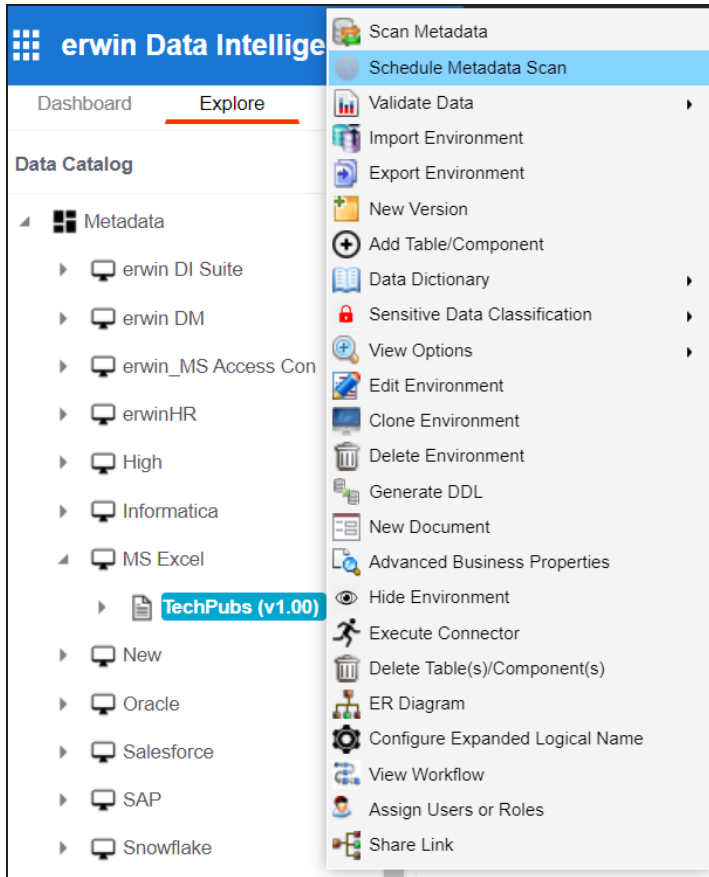
- [MS Excel File](#)
- [JSON](#)
- [CSV \(Flat File\)](#)
- [XMI](#)
- [MS Access File](#)
- [XSD](#)

## MS Excel

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

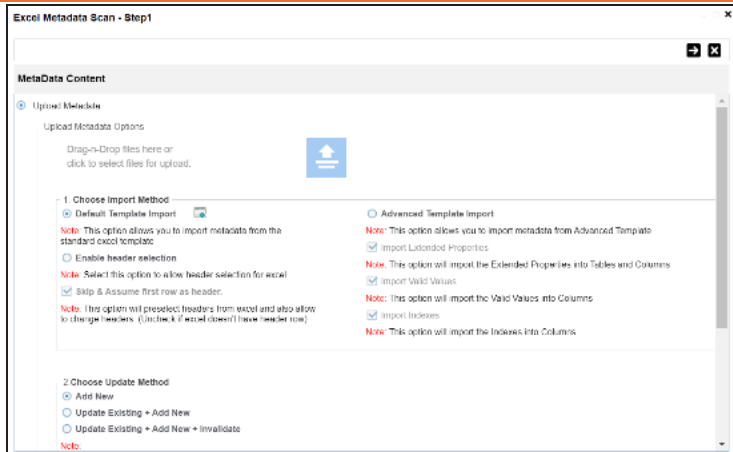
To import metadata from MS Excel files, follow these steps:


1. In the **Data Catalog** 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.

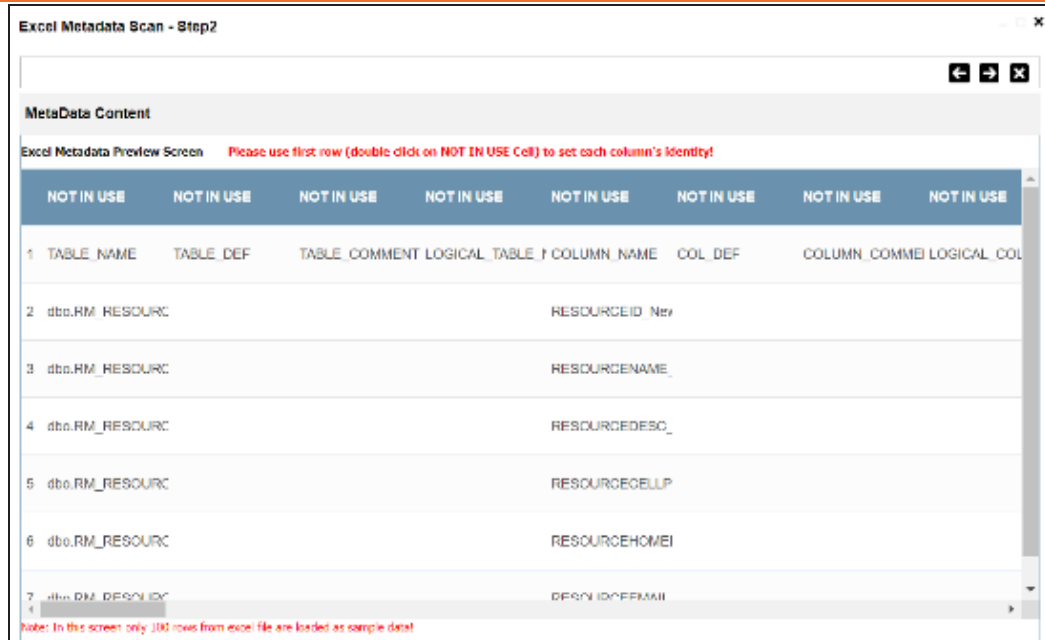
### Default Template Import

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.



Excel Metadata Scan - Step2

MetaData Content

Excel Metadata Preview Screen **Please use first row (double click on NOT IN USE Cell) to set each column's identity!**

	Table Name	Table Definition	Table Comments	Logical Table Name	Column Name	Column Definition	Column Comments	Logical Column Name
1	dbo.RM_RESOURCE				RESOURCEID	Not		
2	dbo.RM_RESOURCE				RESOURCENAME			
3	dbo.RM_RESOURCE				RESOURCEDESC			
4	dbo.RM_RESOURCE				RESOURCECELLP			
5	dbo.RM_RESOURCE				RESOURCEHOMEI			
6	dbo.RM_RESOURCE				RESOURCEEMWL			

Note: In this session only 100 rows from total file are loaded as sample data!

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**

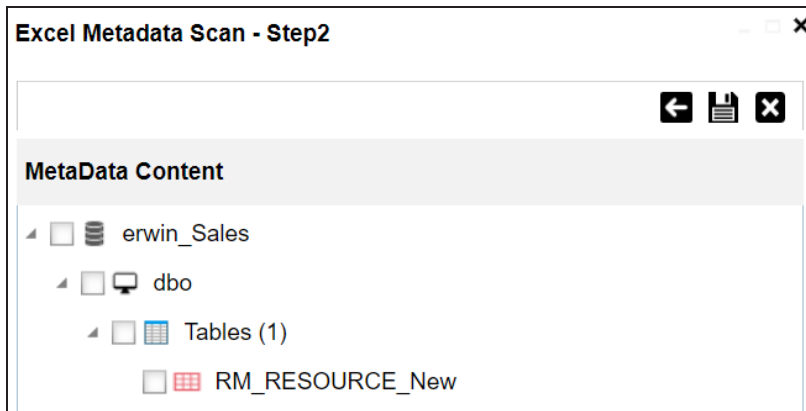
Use this option to update the existing metadata without deleting it.

### 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 .

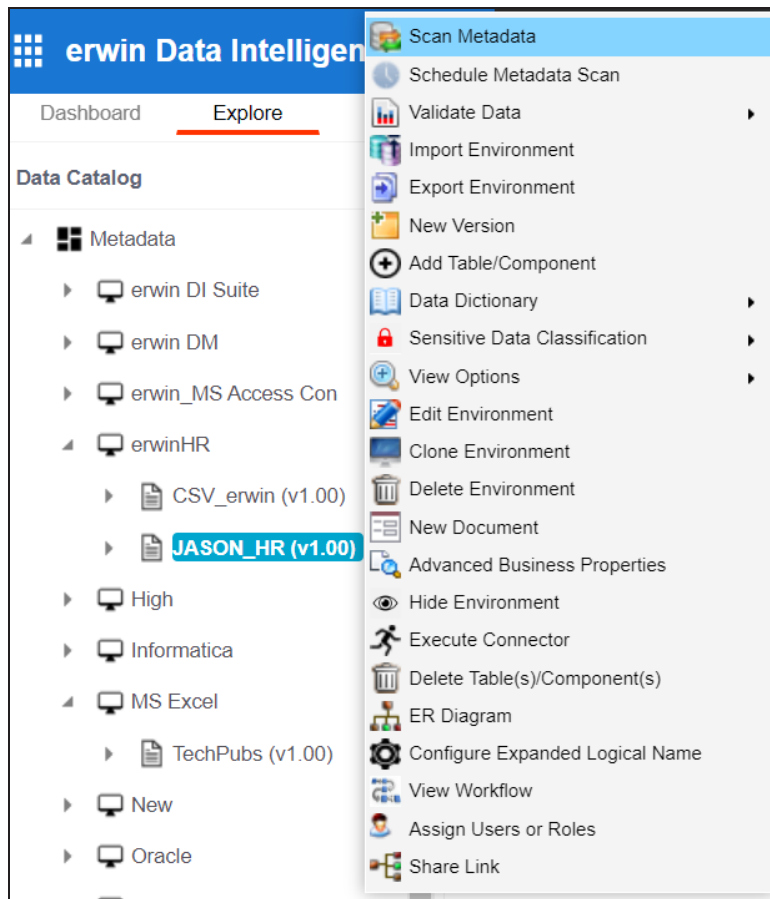
The metadata is imported and saved in the environment.

## JSON

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



To import metadata from JSON files, follow these steps:

1. In the **Data Catalog** 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**

## JSON

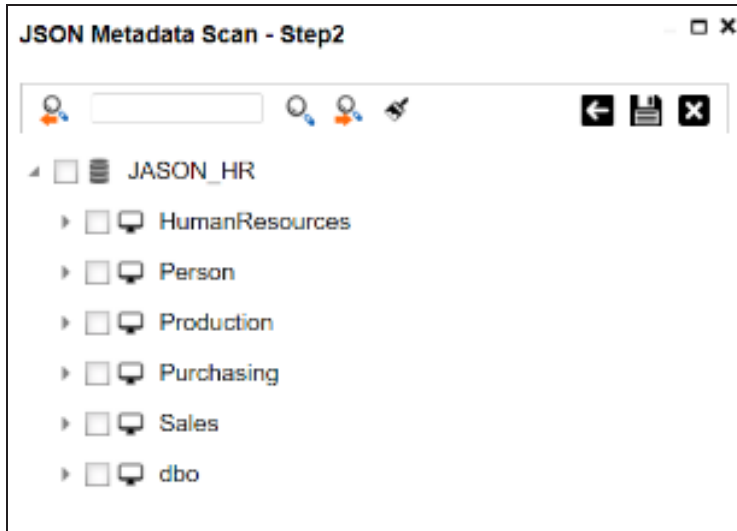
---

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 .

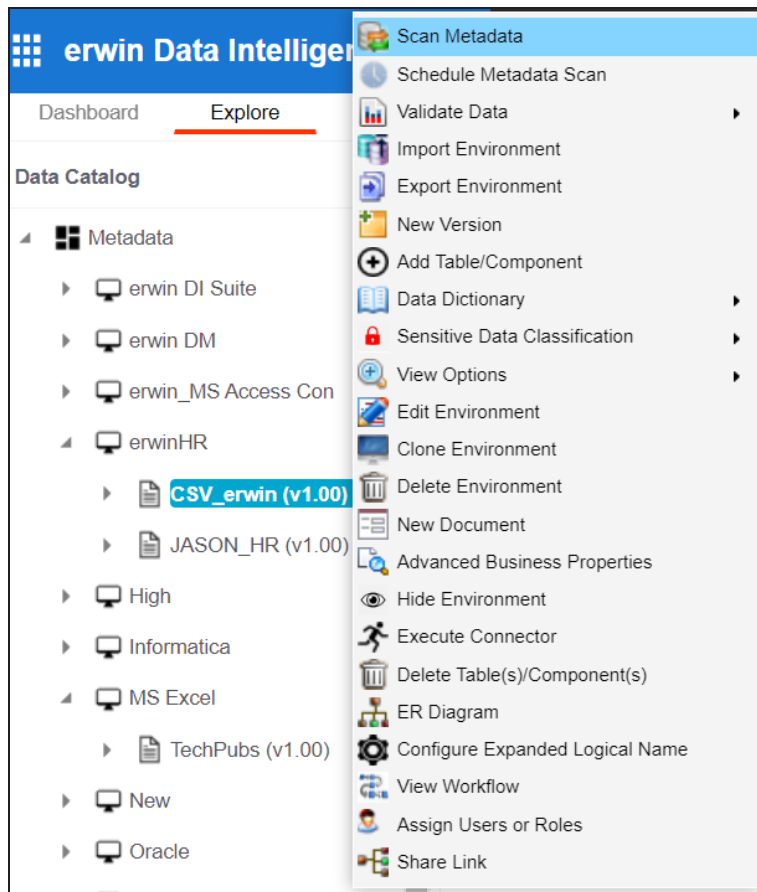
The metadata is imported and saved in the environment.

## CSV

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

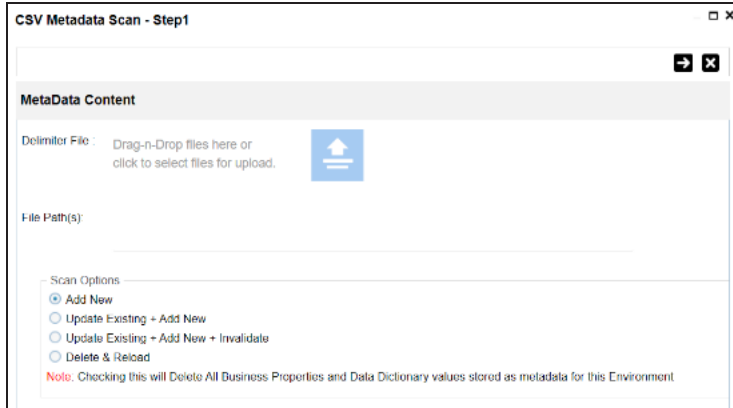
To import metadata from CSV files, follow these steps:


1. In the **Data Catalog** 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**

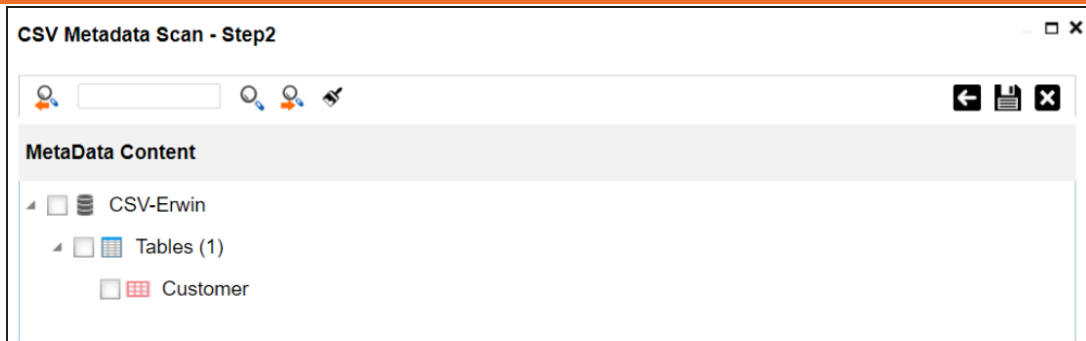
Use this option to update the existing metadata without deleting it.

**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.

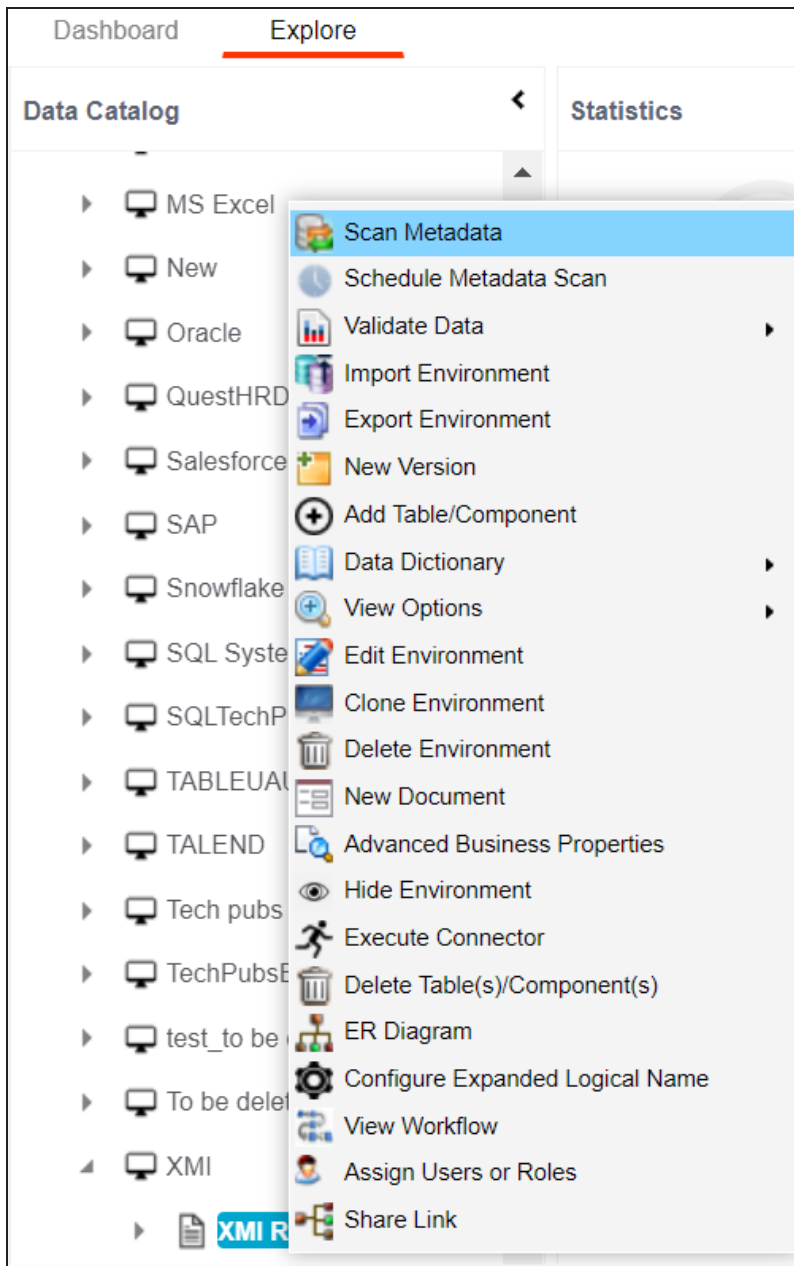


## XMI

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

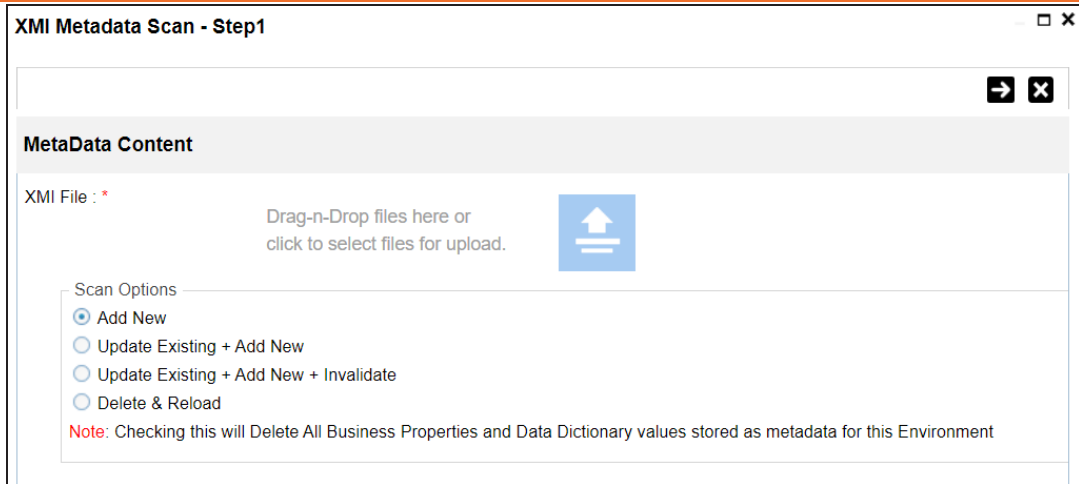
To import metadata from XMI files, follow these steps:


1. In the **Data Catalog** 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**

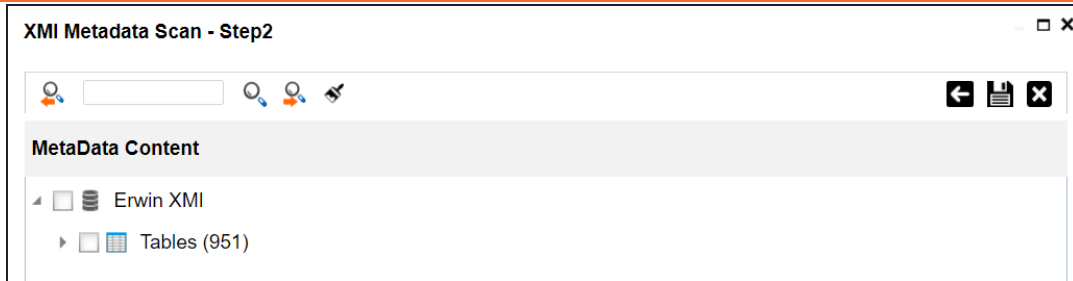
Use this option to update the existing metadata without deleting it.

#### **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 .

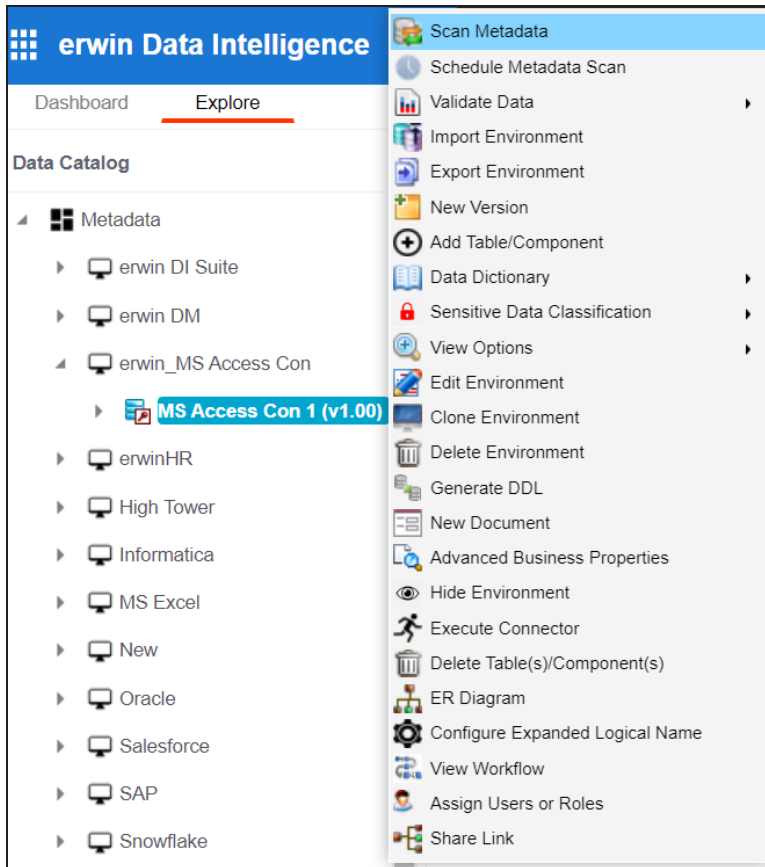
The metadata is imported and saved in the environment.

## MS Access File

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

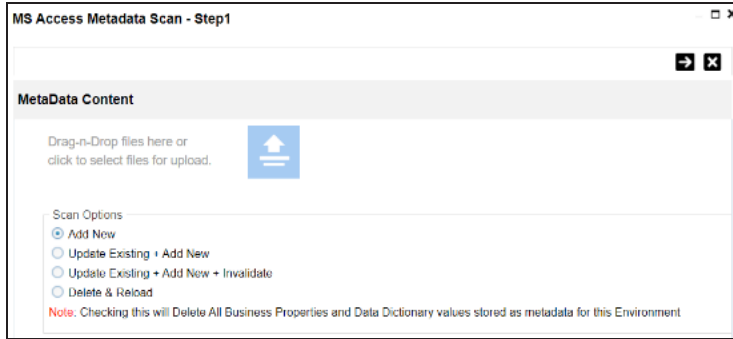
To import metadata from MS Access files, follow these steps:


1. In the **Data Catalog** 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**

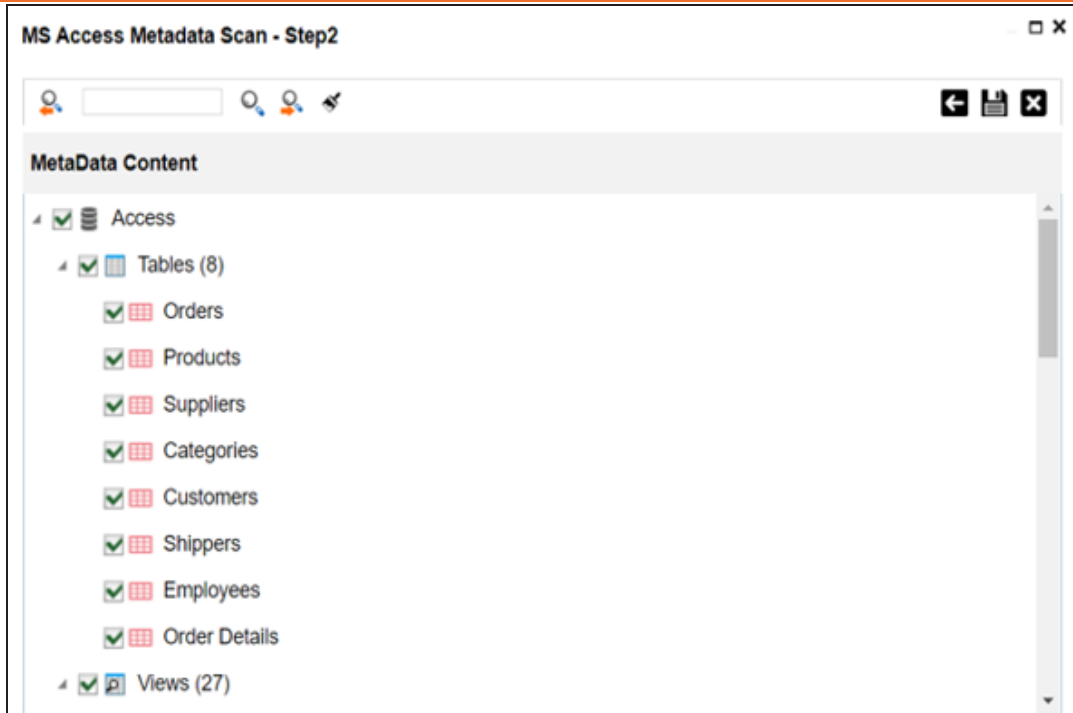
Use this option to update the existing metadata without deleting it.

### **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 .

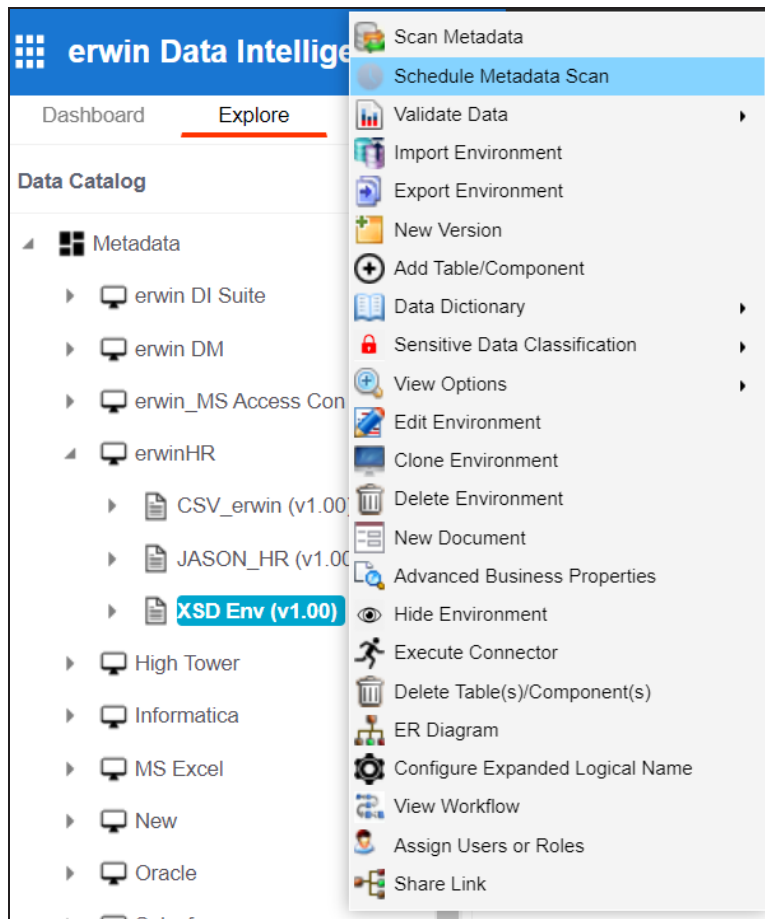
The metadata is imported and saved in the environment.

## XSD

You can import metadata from XSD files into XSD environments.

To import metadata from XSD files, follow these steps:

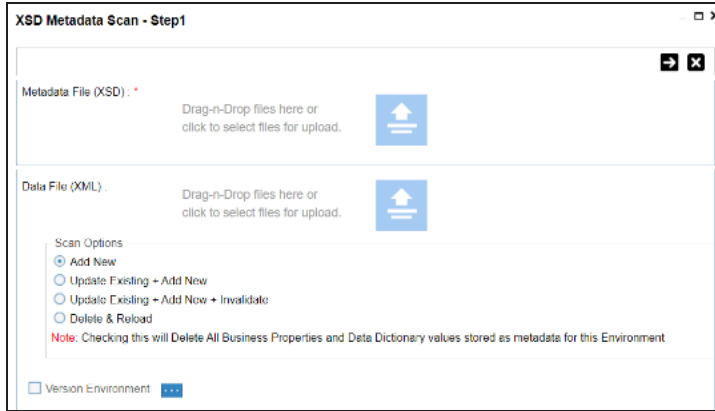
1. In the **Data Catalog** pane, right-click a XSD environment.





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**

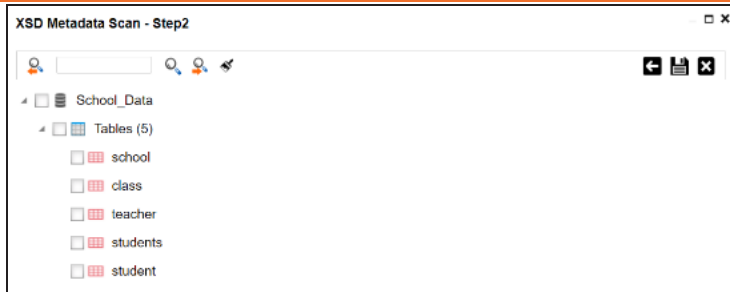
Use this option to update the existing metadata without deleting it.

**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 .

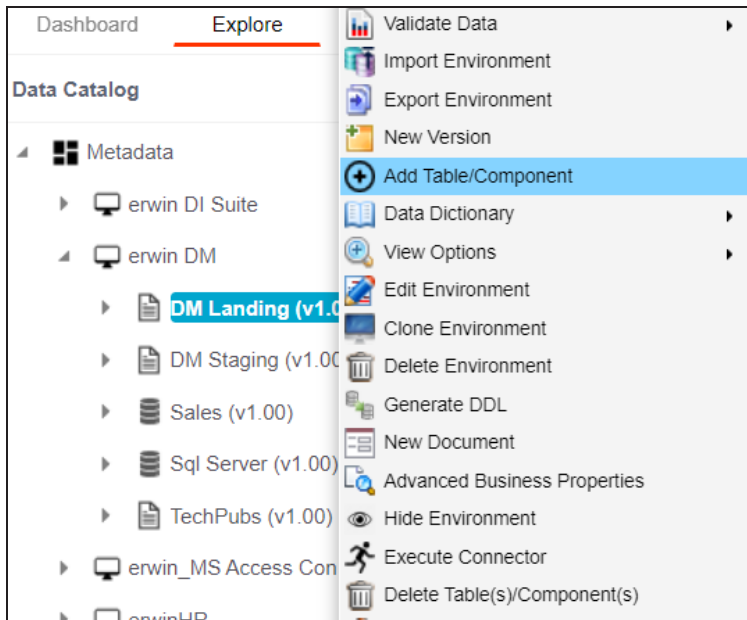
The metadata is imported and saved in the environment.

## 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 > Explore**.
2. In the **Data Catalog** pane, right-click an environment.



3. Click **Add Table/Component**.

The Add New Table page appears.

## Adding Tables

**Add New Table** 📄 ✕

Fully Qualified Name  Schema Name \*

---

**Technical Properties**

Name \*  Environment Name

System Name  No of Rows

Synonym Reference  FileType

Entity Type

---

**Business Properties**

Data Steward  Logical Name

Definition  Expanded Logical Name

Comments  JSON Physical Name

Sensitive Data Indicator (SDI) Flag  Used In Gap Analysis

Sensitive Data Indicator (SDI) Classification  Sensitive Data Indicator (SDI) Description

Class  Alias

DQ Score



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

Field Name	Sub-Field	Description
Schema Name		Specifies the schema name of the table. For example, dbo.
Technical Properties	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



## Adding Tables

Field Name	Sub-Field	Description
		cannot enter it manually.
	Entity Type	Specifies the entity type of the new component. It is auto-populated with <b>Table</b> .
	Environment Name	Specifies the physical name of the environment under which the table exists. For example, EDW-Test. You cannot edit this field.
	No of Rows	Specifies the total number of rows in the table. For example, 100.
	File Type	Specifies the file type of the table if the table is in a file-based environment.
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.
	Definition	Specifies the definition of the table. For example: The table contains five columns with emp ID column as the primary key.
	Comments	Specifies comments about the table. For example: The table contains details of the employees.
	Class	Specifies the table class property. For more information on configuring table class, refer to <a href="#">Configuring Table and Column Class</a> topic.
	DQ Score	Specifies the overall data quality score of the table. For example, High (7-8).

## Adding Tables

Field Name	Sub-Field	Description
		<p>For more information on configuring DQ scores, refer to the <a href="#">Configuring Data Profiling and DQ Scores</a> topic.</p> <div style="border: 1px solid #ccc; background-color: #f0f0f0; padding: 5px; margin-top: 10px;">  <p>This option is not available when the <b>Enable DQ Sync</b> option is switched on for an environment.</p> </div>
	Logical Table Name	<p>Specifies the logical name of the table.</p> <p>For example, if the physical name of a table is DIM_Customer, then the logical name of the table is Customer Dimension.</p>
	Expanded Logical Name	<p>Specifies the expanded logical name of the table.</p> <p>For example, if the physical name of a table is RM_Resource, then the expanded logical name of the table is RM Sales Representative.</p> <p>You can configure expanded logical name of tables in bulk at <a href="#">system</a> and <a href="#">environment</a> level.</p>
	JSON Physical Name	<p>Specifies the JSON physical name of the table if the table is in a JSON environment.</p> <p>For example, account.</p>
	Used in Gap Analysis	<p>Specifies whether the table is being used as part of a gap analysis to check table usage in mappings.</p> <p>Select the check box if the table is used in gap analysis.</p> <p>For more information on performing table gap analysis, refer to the <a href="#">Performing Table Gap Analysis</a> topic.</p>
	Sensitive Data Indicator (SDI) Flag	<p>Specifies whether the table is sensitive.</p> <p>Switch <b>Sensitive Data Indicator (SDI) Flag</b> to  to mark the table sensitive.</p>
	Sensitive Data Indic-	<p>Specifies the SDI classification of the table.</p> <p>For example, PHI.</p>

## Adding Tables

Field Name	Sub-Field	Description
	ator (SDI) Classification	This list is enabled when <b>Sensitive Data Indicator (SDI) Flag</b> is switched to  . For more information on configuring SDI classifications, refer to the <a href="#">Configuring Sensitive Data Indicator Classifications</a> topic.
	Sensitive Data Indicator (SDI) Description	Specifies the description of the SDI classification. For example: Protected Health Information. It is enabled when <b>Sensitive Data Indicator (SDI) Flag</b> is switched to  . The field autopopulates based on the SDI classification.
	Alias	Specifies the alias name of the table. For example, Sales_Representative_Table.

5. Click .

The table is added to the environment.

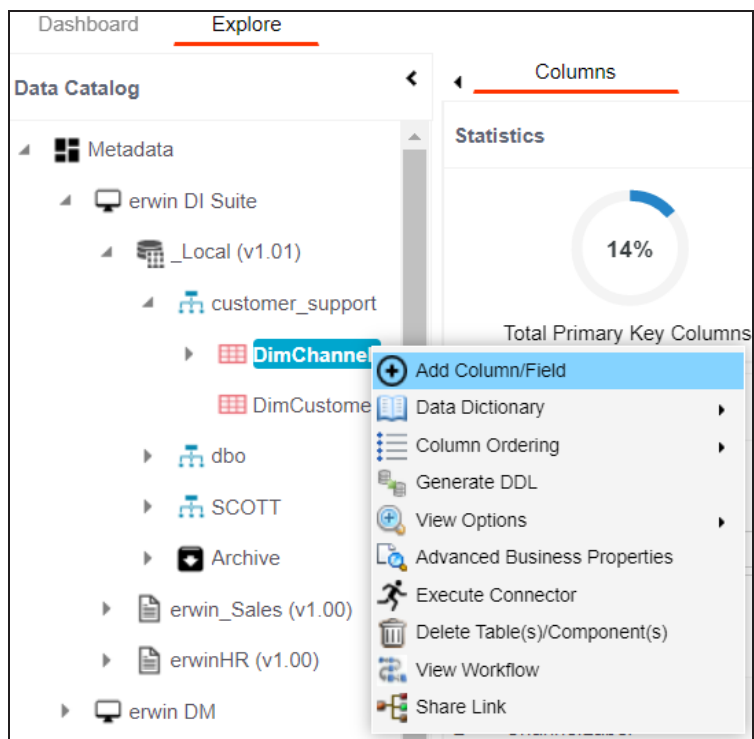
# Adding Columns

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 > Explore**.
2. In the **Data Catalog** pane, right-click a table.

The available options appear.



3. Click **Add Column/Field**.

The Add New Column page appears.



## Adding Columns

**Add New Column**

---

**Technical Properties**

Name *		Data Type	
Data Domain		Storage Type	
Precision		Length	
DB Default Value		Scale	
Nullable Flag	<input type="checkbox"/>	Identity Flag	<input type="checkbox"/>
Natural Key Flag	<input type="checkbox"/>	Percent Null Value	
Foreign Key Flag	<input type="checkbox"/>	Primary Key Flag	<input type="checkbox"/>
Foreign Key Column Name		Foreign Key Table Name	
Minimum Value		ETL Default Value	
File Starting Position		Maximum Value	
Attribute Type	COLUMN		

---

**Business Properties**

Data Steward	-Select Data Steward- ▼	Logical Name
--------------	-------------------------	--------------


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

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




## Adding Columns

Field Name	Sub-Field	Description
	Natural Key Flag	Specifies whether the column is a natural key. Select the check box if the column is a natural key.
	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.
	Attribute Type	Specifies the attribute type of the new component. It is auto-populated with <b>Column</b> .
	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.
	Percent Null Value	Specifies the percentage of null values in the column. For example, 10%.

## Adding Columns

Field Name	Sub-Field	Description
	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.
	Definition	Specifies the definition of the column. For example: The column is a primary key that allows 5 alpha-numeric characters.
	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 <b>Sensitive Data Indicator (SDI) Flag</b> to  to mark the column sensitive.
	Sensitive Data Indicator (SDI)	Specifies the SDI classification of the column. For example, PHI. This list is enabled when <b>Sensitive Data Indicator (SDI) Flag</b>

## Adding Columns

Field Name	Sub-Field	Description
	Classification	is switched to  . For more information on configuring SDI classifications, refer to the <a href="#">Configuring Sensitive Data Indicator Classifications</a> topic.
	Sensitive Data Indicator (SDI) Description	Specifies the description of the SDI classification. For example: Protected Health Information. It is enabled when <b>Sensitive Data Indicator (SDI) Flag</b> is switched to  . The field autopopulates based on the SDI classification.
	Class	Specifies the column class property. Select a column class. For more information on configuring column class, refer to the <a href="#">Configuring Table and Column Class</a> 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 <a href="#">Configuring Data Profiling and DQ Scores</a> topic.
		 This option is not available when the <b>Enable DQ Sync</b> option is switched on for an environment.
	Logical Name	Specifies the logical name of the column. For example, if the physical name of the table is CUST_ID_NUM, then the logical name of the table is Customer Identification Number.
	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 <a href="#">system</a> and <a href="#">environment</a> level.

## Adding Columns

Field Name	Sub-Field	Description
	JSON Physical Column Name	Specifies the JSON physical name of the column if the column is in a JSON environment. For example, objectID.
	Used in Gap Analysis	Specifies whether the column is being used in a gap analysis for usage in mappings. Select the check box if the column is used in the gap analysis. For more information on performing column gap analysis, refer to the <a href="#">Performing Column Gap Analysis</a> topic.
	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

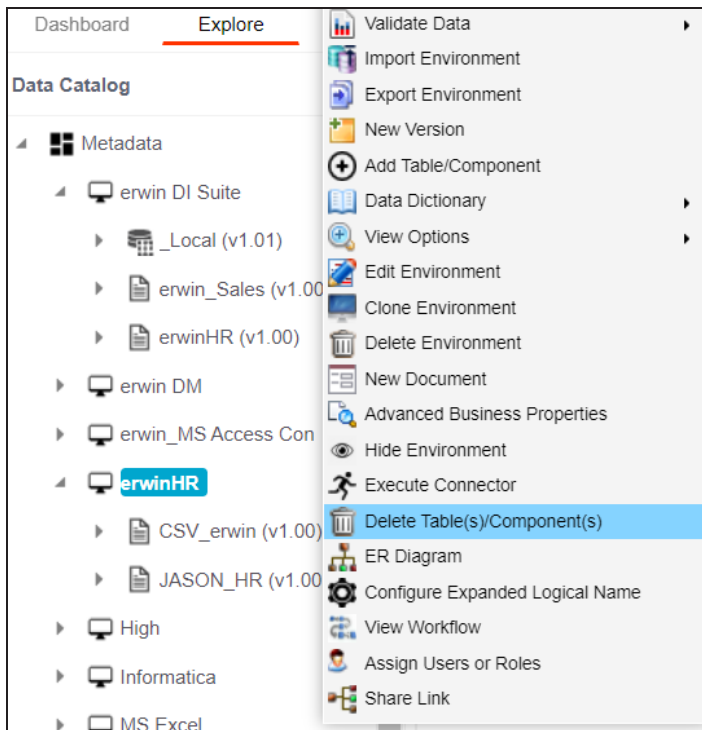
You can delete tables and columns that are not required.

### Tables

To delete tables from environments, follow these steps:

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

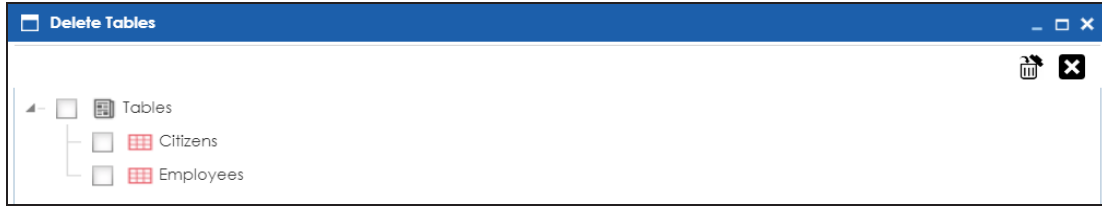
The available options appear.



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

The Delete Tables page appears.

## Deleting Tables and Columns



4. Select the required tables.

5. Click .

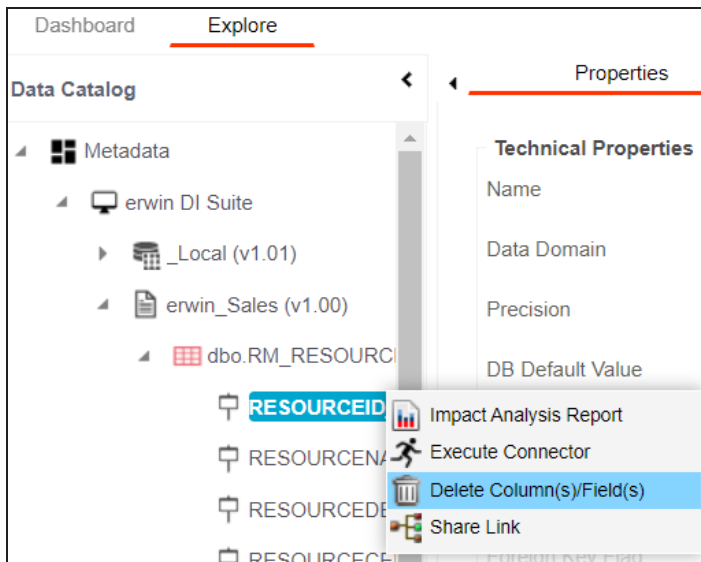
The selected tables are deleted from the environment.

## Columns

To delete columns from tables, follow these steps:

1. In the **Data Catalog**, right-click a column.

The available options appear.



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

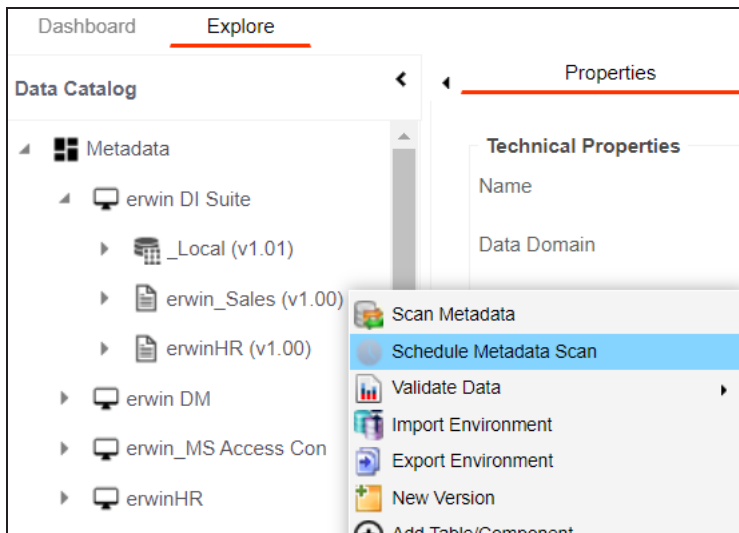
The column is deleted.

# 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 > Explore**.
2. In the **Data Catalog** pane, right-click an environment.



3. Click **Schedule Metadata Scan**.

The Job Scheduler page appears.



## Scheduling Metadata Scans

**Job Scheduler** \_ □ ×

Job Name\* : 1622132142674

Interval : Once ▼

Schedule Job On\* : 05-27-2021 16:15

Local
  Server

Import Metadata Options

Add New

Update Existing + Add New

Update Existing + Add New + Invalidate

Delete & Reload

Import Comments

Table(s)

View(s)

Synonym(s)

Version ...

Notify Me :  ON

Notification Email :


CC List :

Note\* : Please provide CC List with comma(,) separated values

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.
Interval	Specifies the frequency of the job. For example, Every Week.
Schedule Job On	Set the date and time of the job using <input type="button" value="Calendar"/> . For example, 03-24-2020 11:45.

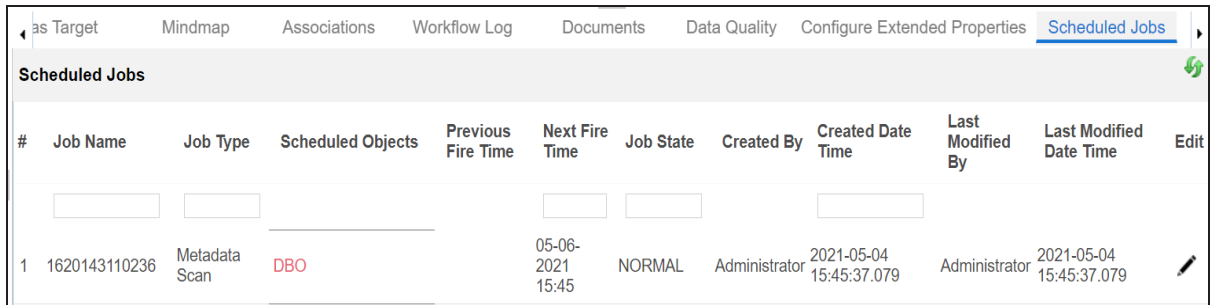
## Scheduling Metadata Scans


Field Name	Description
Local or Server	<p>Select whether the job uses local or server time.</p> <ul style="list-style-type: none"> <li>Local: Refers to your local machine.</li> <li>Server: Refers to the machine where your application is deployed.</li> </ul>
Import Metadata Options	<ul style="list-style-type: none"> <li><b>Add New:</b> This option adds new objects to the existing object list. Existing metadata is not updated.</li> <li><b>Update Existing + Add New:</b> This option adds new objects to the existing list and at the same time the existing metadata is also updated.</li> <li><b>Delete &amp; Reload:</b> This option deletes all the existing metadata and scans only the new objects that have been selected.</li> <li><b>Import Comments:</b> Select the check box to import comments.</li> <li><b>Table(s):</b> Select the check box to import Tables.</li> <li><b>View(s):</b> Select the check box to import Views.</li> <li><b>Synonym(s):</b> Select the check box to import Synonyms.</li> <li><b>Version:</b> Select the check box to create a new version of the environment. To enter version label and change description, click .</li> </ul>
Notify Me	<p>Switch <b>Notify Me</b> to <b>ON</b> to receive a job notification.</p> <p>For more information on configuring notifications, refer to the <a href="#">Configuring Notifications on Scanning Metadata</a> topic.</p>
Notification Email	<p>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 <a href="#">Configuring Email Settings</a> topic.</p>
CC List	<p>Enter a comma-separated list of email IDs that should receive email notifications about the scheduled job.</p> <p>For example, ab.dav@xyz.com, cal.kai@xyz.com</p>

5. Click **Schedule**.

## Scheduling Metadata Scans

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



#	Job Name	Job Type	Scheduled Objects	Previous Fire Time	Next Fire Time	Job State	Created By	Created Date Time	Last Modified By	Last Modified Date Time	Edit
1	1620143110236	Metadata Scan	DBO		05-06-2021 15:45	NORMAL	Administrator	2021-05-04 15:45:37.079	Administrator	2021-05-04 15:45:37.079	

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 > Explore**.
2. In the **Data Catalog** pane, click a table.

By default, the Columns tab opens.


The screenshot shows the 'Explore' view in the Data Catalog. The left pane shows a tree view with 'SQLTechPubs' selected, and 'dbo' expanded to show 'Categories'. The main area is titled 'Columns' and displays 'Statistics' with four gauges: Total Primary Key Columns (25%), Total Foreign Key Columns (0%), Columns With Expanded (0%), and DQ Score (0%). Below is a 'Data Dictionary' table with the following columns: #, Column Name, Logical Column Name, Column Comments, Column Definition, SDI Flag, Column Datatype, Length, Nullable Flag, and Primary Key Flag.

#	Column Name	Logical Column Name	Column Comments	Column Definition	SDI Flag	Column Datatype	Length	Nullable Flag	Primary Key Flag
1	CategoryID				🔒	int	4	N	Y
2	CategoryName				🔒	nvarchar	15	N	N
3	Description				🔒	ntext	16	Y	N
4	Picture				🔒	image	16	Y	N

3. Click the **Properties** tab.

## Updating Table Properties

The screenshot shows the 'Properties' tab of a metadata management tool. It is divided into two main sections: 'Technical Properties' and 'Business Properties'. The 'Technical Properties' section includes fields for Name (dbo.Categories), System Name (SQLTechPubs), Entity Type (TABLE), Environment Name (SQLTechPubs), No of Rows, FileType, File Location, and Workflow Status (Preliminary Draft). The 'Business Properties' section includes fields for Data Steward, Definition, Comments, Class, DQ Score, Business Entity Type (TABLE), Logical Name (TechPubs\_Categories), Expanded Logical Name (SQL\_TechPubs\_Categories), JSON Physical Name, Used In Gap Analysis (checked), Alias, Sensitive Data Indicator Classification (PII, Public), and Tags. A red asterisk is visible on the 'Name' field in the Technical Properties section.


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
Fully Qualified Table Name		Specifies the qualified table name. For example, dbo.Categories.
Schema Name		Specifies the schema name of the table. For example, dbo.
Technical Properties	Name	Specifies the physical name of the table. For example, Account or Currency.
	System	Specifies the physical name of the system under which the table exists.

## Updating Table Properties

Field Name	Sub-Field	Description
	Name	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. For example, EDW-Test. You cannot edit this field.
	No of Rows	Specifies the total number of rows in the table. For example, 100.
	File Type	Specifies the file type of the table if the table is in a file-based environment. For example, MS Excel.
	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 <a href="#">Assigning Workflows to Tables</a> 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.

## Updating Table Properties

Field Name	Sub-Field	Description
		To assign data steward, select a data steward from the drop down options.
	Definition	Specifies the definition of the table. For example: The table contains five columns with emp ID column as the primary key.
	Comments	Specifies comments about the table. For example: The table contains details of the employees.
	Class	Specifies the table class property. For more information on configuring table class, refer to <a href="#">Configuring Table and Column Class</a> topic.
	DQ Score	Specifies the overall data quality score of the table. For example, High (7-8). For more information on configuring DQ scores, refer to the <a href="#">Configuring Data Profiling and DQ Scores</a> topic.
		 This option is not available when the <b>Enable DQ Sync</b> option is switched on for an environment.
	Business Entity Type	
	Tags	Specifies tags of the table. For example, Data Integration 2021. Click <b>Tags</b> and select an existing tag or enter a tag name to create one on the fly.
	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,

## Updating Table Properties

Field Name	Sub-Field	Description
		then the expanded logical name of the table is RM Sales Representative. You can configure expanded logical name of tables in bulk at <a href="#">system</a> and <a href="#">environment</a> level.
	JSON Physical Name	Specifies the JSON physical name of the table if the table is in a JSON environment.
	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 <a href="#">Performing Table Gap Analysis</a> topic.
	Sensitive Data Indicator Classification	Specifies the sensitivity data indicator (SDI) classification of the table. Also, you can add multiple classifications to a table. For example, PHI, Confidential. For more information on configuring SDI classifications refer to the <a href="#">Configuring Sensitive Data Indicator Classifications</a> topic.
	Tags	
	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 > Explore**.
2. In the **Data Catalog** pane, click a column.

By default, the Properties tab opens.

Properties	Extended Properties	Data Lineage	Impact Analysis	Mindmap	Associations	Workflow Log	Valid Values
<b>Technical Properties</b>							
Name	RESOURCEID_New	Data Type	int				
Data Domain		Storage Type					
Precision	10	Length	4				
DB Default Value		Scale	0				
Nullable Flag	<input type="checkbox"/>	Identity Flag	<input checked="" type="checkbox"/>				
Natural Key Flag	<input type="checkbox"/>	Percent Null Value					
Foreign Key Flag	<input type="checkbox"/>	Primary Key Flag	<input checked="" type="checkbox"/>				
Foreign Key Column Name		Foreign Key Table Name					
Minimum Value		ETL Default Value					
File Starting Position		Maximum Value					
Attribute Type	ENTITY_ELEMENT						
Workflow Status	Preliminary Draft						
<b>Business Properties</b>							
Data Steward		Logical Name					

3. Click .

The Edit Column Properties page appears.

## Updating Column Properties

**Edit Column Properties**

**Technical Properties**

Name \* RESOURCEID\_New Data Type int

Data Domain Storage Type

Precision 10 Length 4

DB Default Value Scale 0

Nullable Flag  Identity Flag

Natural Key Flag  Percent Null Value

Foreign Key Flag  Primary Key Flag

Foreign Key Column Name Foreign Key Table Name

Minimum Value ETL Default Value

File Starting Position Maximum Value

Attribute Type ENTITY\_ELEMENT

Workflow Status Preliminary Draft

**Business Properties**

Data Steward -Select Data Steward- Logical Name

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	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.
	Foreign Key	Specifies whether the column is a foreign key.

## Updating Column Properties


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<b>Field Name</b>	<b>Sub-Field</b>	<b>Description</b>
	Flag	Select the check box if the column is a foreign key.




## Updating Column Properties

Field Name	Sub-Field	Description
	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.
	Attribute Type	Specifies the attribute type of the column. It is auto-populated with ENTITY_ELEMENT.
	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 <a href="#">Assigning Workflows to the Columns</a> 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.

## Updating Column Properties

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)	Specifies whether the column is sensitive. Switch <b>Sensitive Data Indicator (SDI) Flag</b> to  to mark the column sensitive.
	Sensitive Data Indic-	Specifies the SDI classification of the column. For example, PHI.

## Updating Column Properties

Field Name	Sub-Field	Description
	SDI Classification	This list is enabled when <b>Sensitive Data Indicator (SDI) Flag</b> is switched to  . For more information on configuring SDI classifications, refer to the <a href="#">Configuring Sensitive Data Indicator Classifications</a> topic.
	Sensitive Data Indicator (SDI) Description	Specifies the description of the SDI classification. For example: Protected Health Information. It is enabled when <b>Sensitive Data Indicator (SDI) Flag</b> 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 <a href="#">Configuring Table and Column Class</a> 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 <a href="#">Configuring Data Profiling and DQ Scores</a> topic.
		 This option is not available when the <b>Enable DQ Sync</b> option is switched on for an environment.
	Tags	Specifies tags of the column. For example, PII. Click <b>Tags</b> and select an existing tag or enter a tag name to create one on the fly.
	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	Specifies the expanded logical name of the column.

## Updating Column Properties

Field Name	Sub-Field	Description
	Logical Name	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 <a href="#">system</a> and <a href="#">environment</a> level.
	JSON Physical Column Name	Specifies the JSON physical name of the column if the column is in a JSON environment. For example, objectID.
	Used in Gap Analysis	Specifies whether the column is being used in a gap analysis for usage in mappings. Select the check box if the column is used in the gap analysis. For more information on performing column gap analysis, refer to the <a href="#">Performing Column Gap Analysis</a> 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.

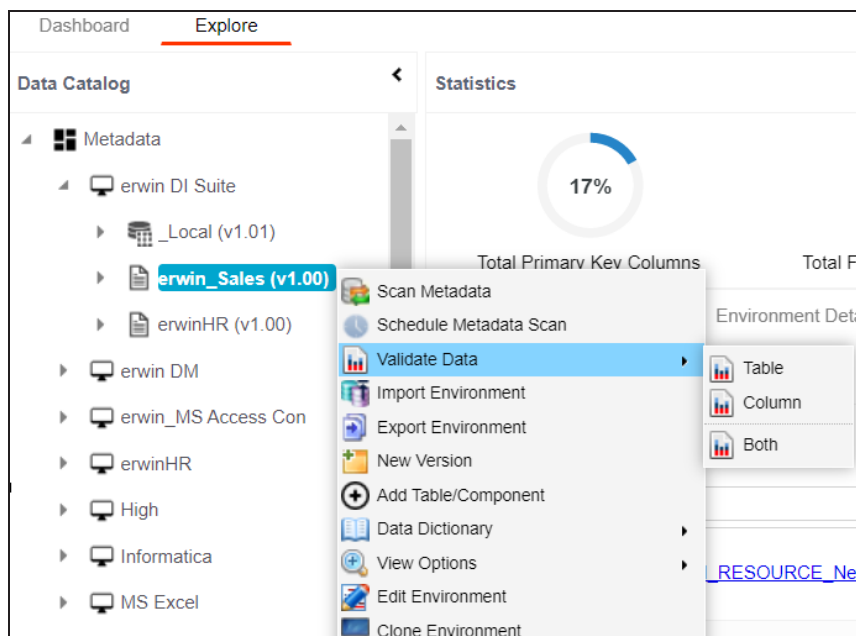
You can also hide user defined fields on the Column Properties tab. For more information on hiding user defined fields, refer to the [Displaying User Defined Fields](#) topic.

# 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 > Explore**.
2. In the **Data Catalog** 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



## Validating Data

---

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

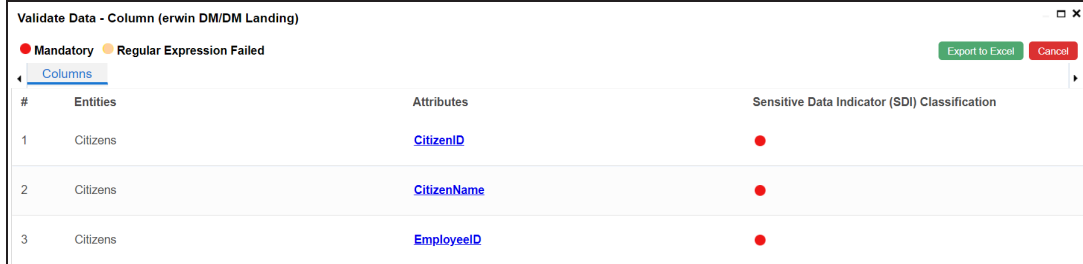
### Both

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.



Validate Data - Column (erwin DM/DM Landing)

● Mandatory ● Regular Expression Failed

Export to Excel Cancel

#	Entities	Attributes	Sensitive Data Indicator (SDI) Classification
1	Citizens	<a href="#">CitizenID</a>	●
2	Citizens	<a href="#">CitizenName</a>	●
3	Citizens	<a href="#">EmployeeID</a>	●

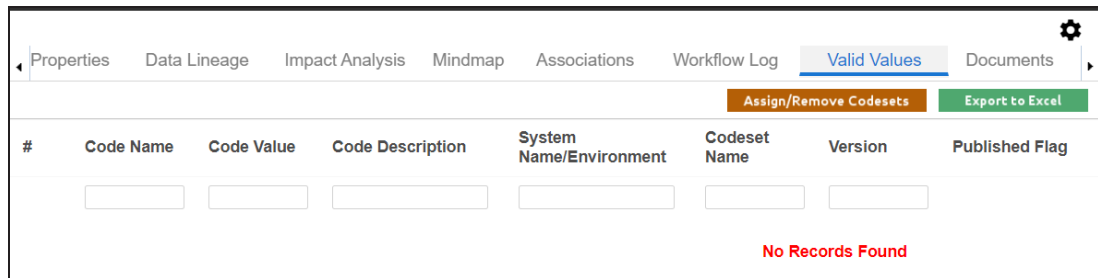
You can download the validation report in the XLSX format. To download the validation reports, click **Export to Excel**.

## Assigning Codesets to Columns

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

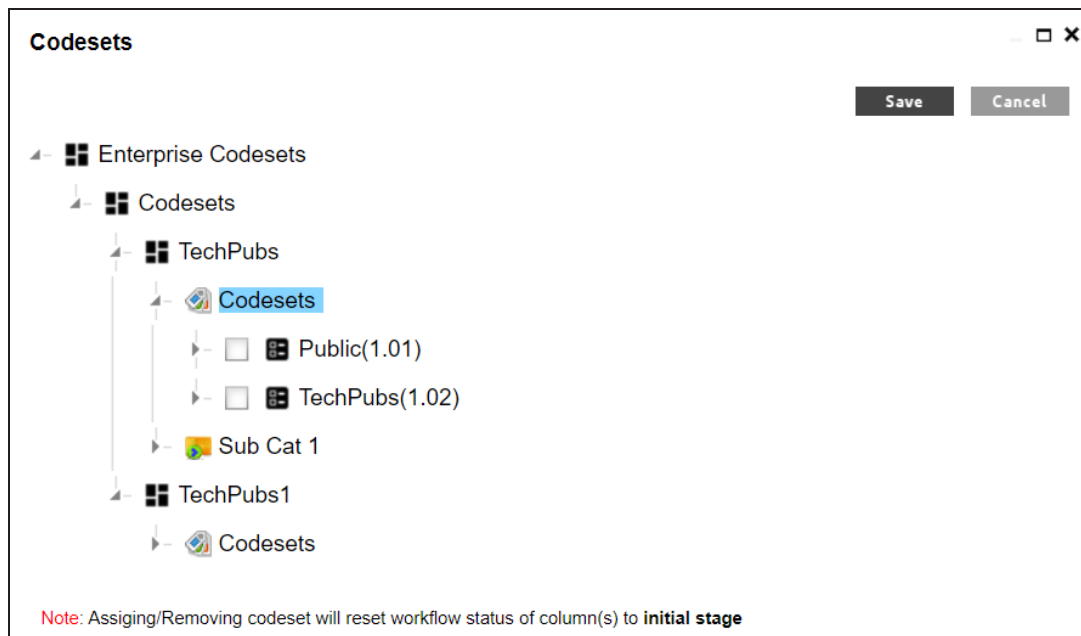
To assign codesets to columns, follow these steps:

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



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

The Codesets page appears.



## Assigning Codesets to Columns

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/Env	Codeset Name	Versior	Published Flag	Category Hierarchy	Created By	Created Date
1	Public	2	The code value for Public		Public	1.01	N	TechPubs	Administrator	2020-04-10 06:06: A
2	Admin	1	The code value for Admir		TechPubs	1.02	N	TechPubs	Administrator	2020-04-10 05:57: A

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

For more information on managing codesets, refer to the [Maintaining Enterprise Codesets](#) section.

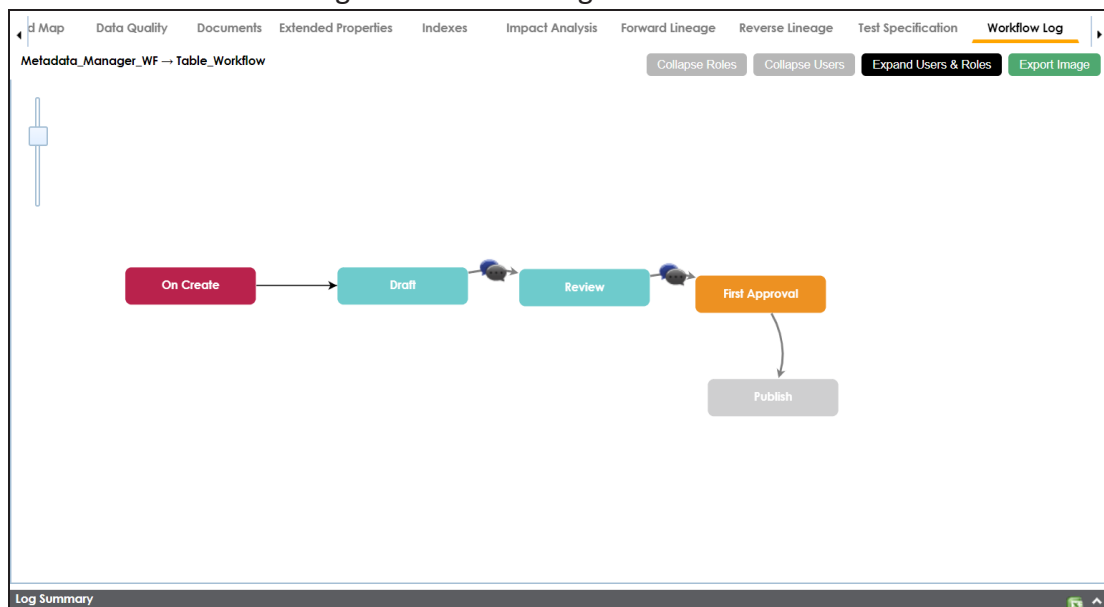
### Viewing Workflow Logs of Tables

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

To view workflow log of tables, follow these steps:

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



## Viewing Workflow Logs of Tables

---

### **Expand/Hide Users and Roles**

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

### **Collapse/Expand Roles**

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

### **Collapse/Expand Users**

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

### **Export Image**

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

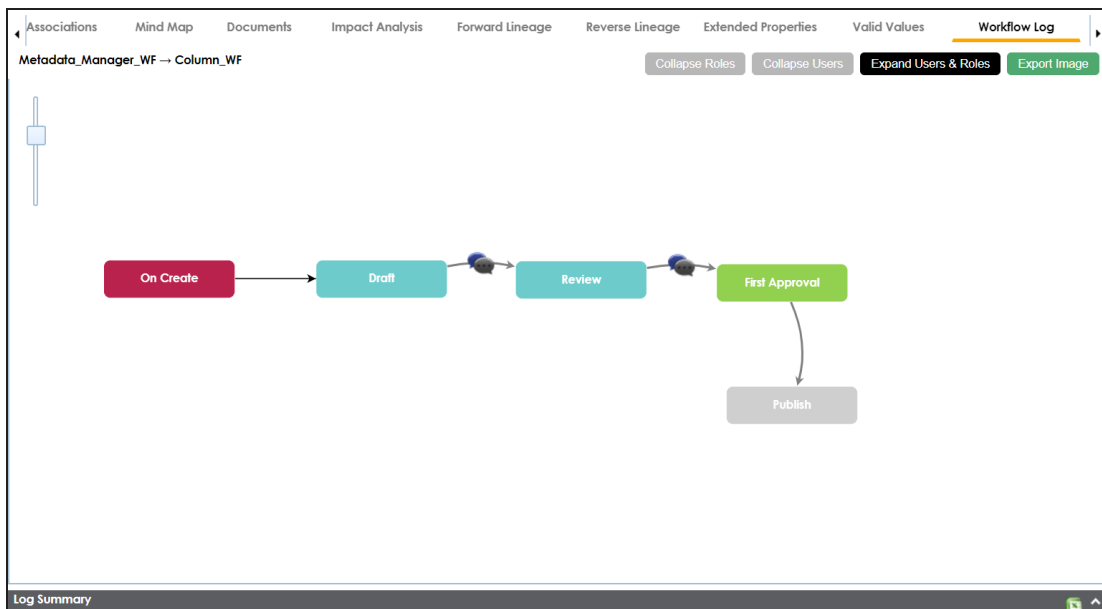
### Viewing Workflow Logs of Columns

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

To view workflow log of columns, follow these steps:

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



## Viewing Workflow Logs of Columns

---

### **Expand/Hide Users and Roles**

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

### **Collapse/Expand Roles**

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

### **Collapse/Expand Users**

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

### **Export Image**

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

# Associating Tables

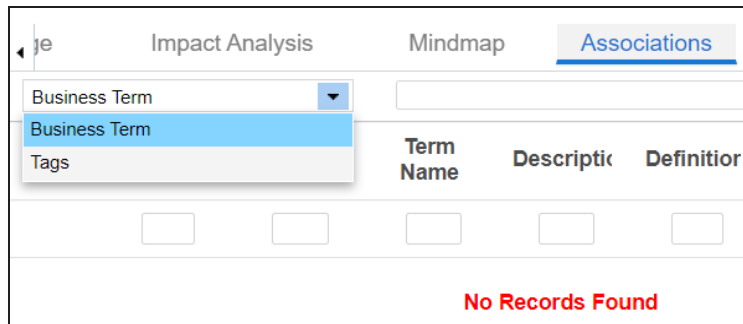
You can associate tables with business assets, systems, environments, tables, and columns. You can also view mind map and association statistics.

Ensure that:

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

To associate tables with asset types, follow these steps:

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



Term Name	Description	Definition

No Records Found

4. Click **+**.

The Relationship Associations page appears.



## Associating Tables

**Relationship Associations** □ ×

**Save** **Cancel**

---

Current Context: [Group.AddressCountryRegionGroupBLWI](#)

Current Context Type: [Table](#)

Relationship Name:

Search (partial matches):

---

<input type="checkbox"/>	Term Name	Description	Definition	Catalog Name	Catalog Hierarchy
<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<input type="checkbox"/>	3 -Hydroxyl End	LEN(D3)	The hydroxyl group that is attached to the 3 carbon atom of the sugar (ribose or deoxyribose) of the terminal nucleotide of a nucleic acid molecule.	Macroeconomics	Monetary Terms → Macroeconomics
<input type="checkbox"/>			3-A Sanitary Standards, Inc. (3-A SSI) is a non-profit association		

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

The asset is added to the table.

Impact Analysis Mindmap **Associations** Workflow Log Data Quality Documents Indexes Test Specification

Business Term

<input type="checkbox"/>	Actions	Qualifier Name	Relationship Name	Term Name	Description	Definition	Catalog Name	Catalog Hierarchy
<input type="checkbox"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
<input type="checkbox"/>	+ ✎ □		is associated with	3 -Hydroxyl End	LEN(D3)	The hydroxyl group that is attached to the 3 carbon atom of the sugar (ribose or deoxyribose) of the terminal nucleotide of a nucleic acid molecule.	Macroeconomics	Monetary Terms → Macroeconomics
<input type="checkbox"/>	+ ✎ □		is associated with	AAPM	LEN(D33)	American Association of Physicists in Medicine	International Society for Pharmaceutical Engineering - ISPE	Pharmaceuticals → International Society for Pharmaceutical Engineering - ISPE

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

**Add Association (+)**

## Associating Tables

---

Use this option to add associations using a qualifier.

### Edit Association

Use this option to edit the association.

### Delete Association

Use this option to delete the association.

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

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

# Associating Columns

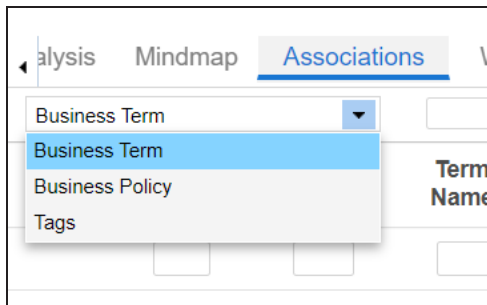
You can associate columns with business assets, systems, environments, tables, and columns. You can also view mind map and association statistics.

Ensure that:

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

To associate columns with asset types, follow these steps:

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



4. Click **+**.  
The Relationship Associations page appears.

## Associating Columns

□ ×

Save
Cancel

Current Context: CitizenID

Current Context Type: Column

Relationship Name: is Represented By ▼

Search (partial matches):

<input type="checkbox"/>	Term Name	Description	Definition	Catalog Name	Catalog Hierarchy
<input type="checkbox"/>	3 -Hydroxyl End	LEN(D3)	The hydroxyl group that is attached to the 3 carbon atom of the sugar (ribose or deoxyribose) of the terminal nucleotide of a nucleic acid molecule.	Macroeconomics	Monetary Terms → Macroeconomics
<input type="checkbox"/>			3-A Sanitary Standards, Inc. (3-A SSI) is a non-profit association representing		

1
2
3
4
5
→

Records from 1 to 200 of 10242

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

The asset is added to the column.

	Actions	Qualifier Name	Relationship Name	Term Name	Description	Definition	Catalog Name	Catalog Hierarchy
<input type="checkbox"/>	+ ✎ □		is Represented By	3 -Hydroxyl End	LEN(D3)	The hydroxyl group that is attached to the 3 carbon atom of the sugar (ribose or deoxyribose) of the terminal nucleotide of a nucleic acid molecule.	Macroeconomics	Monetary Terms → Macroeconomics
<input type="checkbox"/>	+ ✎ □		is Represented By	ACTIS	LEN(D141)	AIDS Clinical Trials Information Service	International Society for Pharmaceutical Engineering - ISPE	Pharmaceuticals → International Society for Pharmaceutical Engineering - ISPE
<input type="checkbox"/>	+ ✎ □		is Represented By	CURRENCY	COD Currency	COD Currency	Customer Master Catalog	Customer Master Catalog

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

### Add Association (+)

Use this option to add associations using a qualifier.

## Associating Columns

---

### Edit Association (✎)

Use this option to edit the association.

### Delete Association (🗑)

Use this option to delete the association.

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

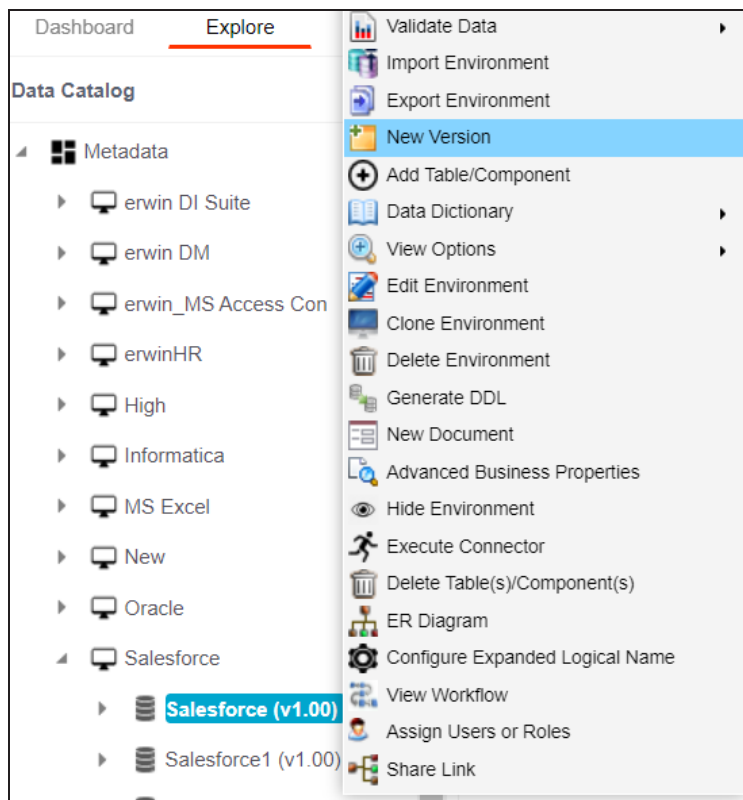
You can associate multiple assets with column and view the associations based on a qualifier view in the mind map. For more information, refer to the [Setting Up Associations Using Qualifiers](#) topic.

# Versioning Environments

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

To create new versions of environments, follow these steps:

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



3. Click **New Version**.

The New Version page appears.

## Versioning Environments

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 <a href="#">Configuring Version Display</a> 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](#).

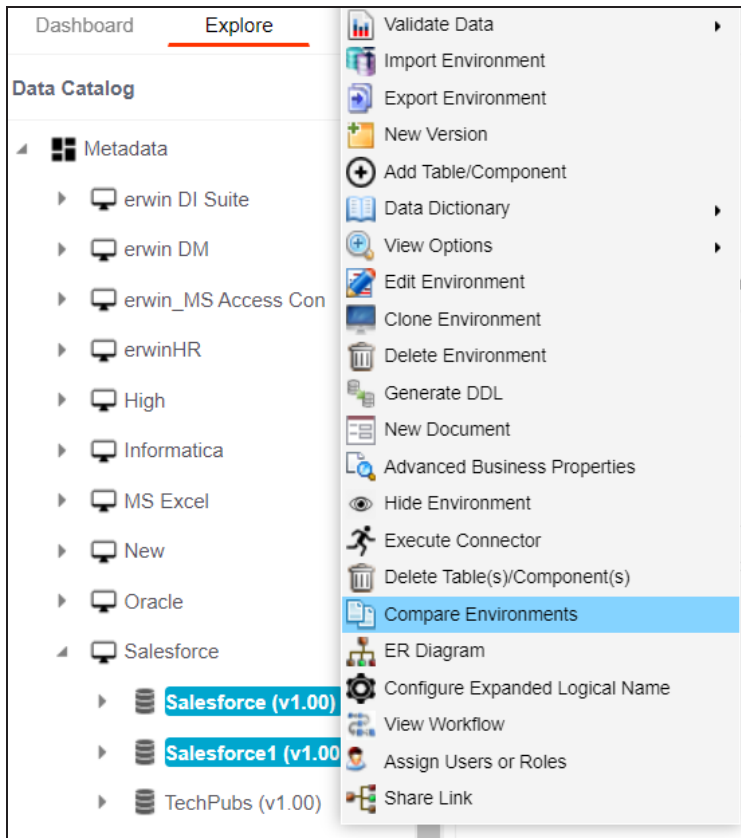
## Comparing Environments

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 **Data Catalog** pane, select any two environments.

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



2. Click **Compare Environments**.



## Comparing Environments

---

The Compare Environments page appears. By default, it opens the Table Level Changes tab.



The screenshot shows a web application window titled "Compare Environments". It has two tabs: "Table Level Changes" (selected) and "Column Level Changes". Below the tabs is a table with the following data:

#	Change Description	System Name	Environment	Table	Definition	Logical Name	Expanded Logical Name	Comments
1	Table Exists in one Environment and not the other	Salesforce	Salesforce(1.00)	SFORCE.ACCEPTEVENTF				

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

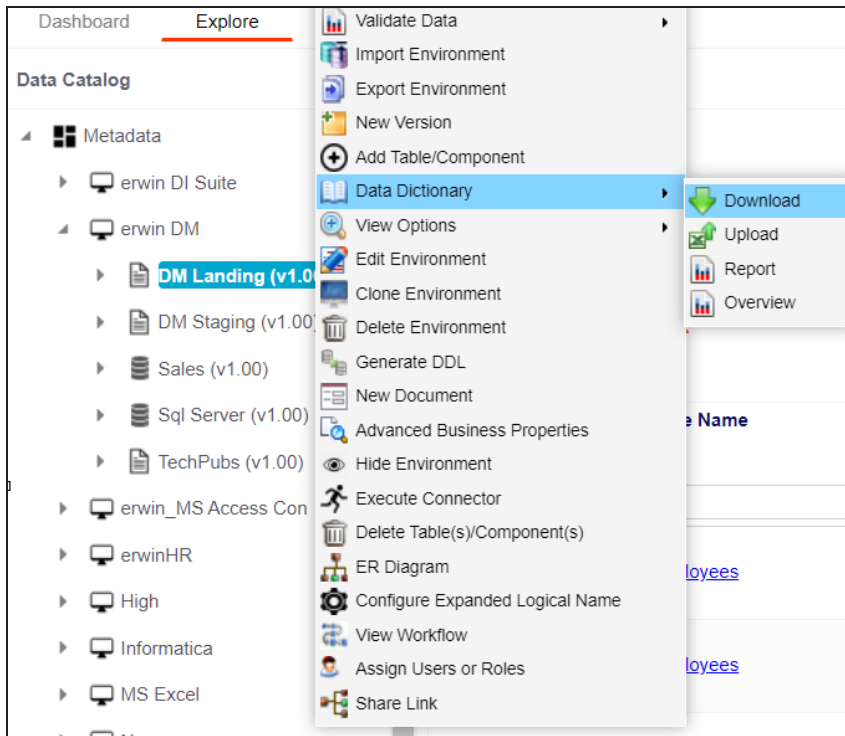
Once the metadata is scanned and stored in the repository, you can instantly view and export data dictionary at the environment and table levels.

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 > Explore**.
2. In the **Data Catalog** pane, right-click an environment.
3. Hover over **Data Dictionary**.



## Downloading Data Dictionaries

---

4. Click **Download**.

The Data Dictionary-Download Options page appears.

**Data Dictionary - Download Options**

Default Template Download

Advanced Template Download

<input checked="" type="checkbox"/> <b>Table</b>	<input checked="" type="checkbox"/> <b>Column</b>
<input checked="" type="checkbox"/> Technical Properties	<input checked="" type="checkbox"/> Technical Properties
<input checked="" type="checkbox"/> Business Properties	<input checked="" type="checkbox"/> Business Properties
<input type="checkbox"/> Indexes Summary	<input type="checkbox"/> Indexes
<input type="checkbox"/> Extended Properties	<input type="checkbox"/> Valid Values
	<input type="checkbox"/> Extended Properties

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.

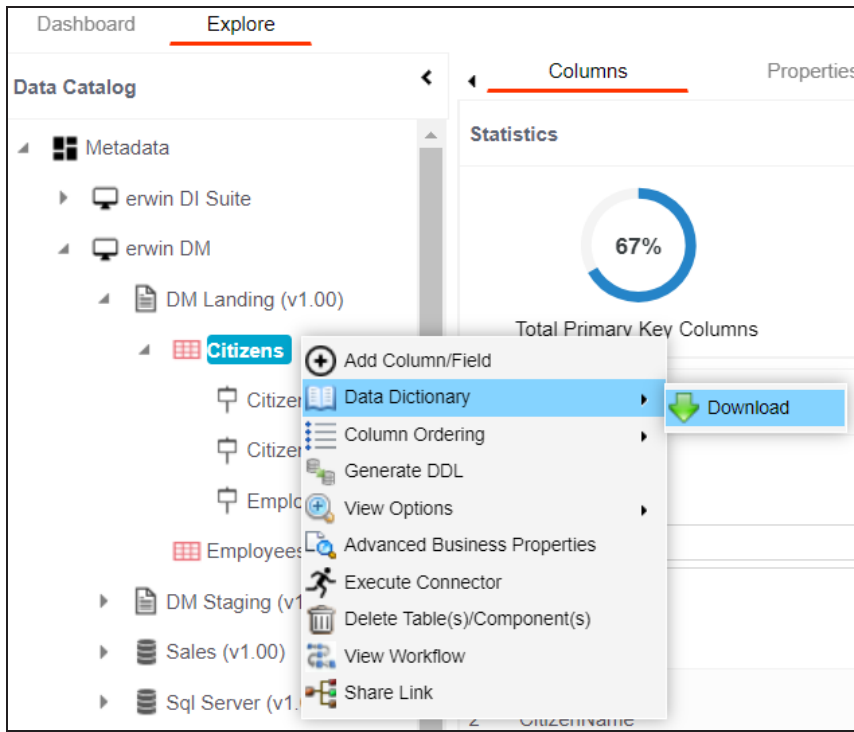
## Table Level

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

## Downloading Data Dictionaries

---

1. In the **Data Catalog** 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.

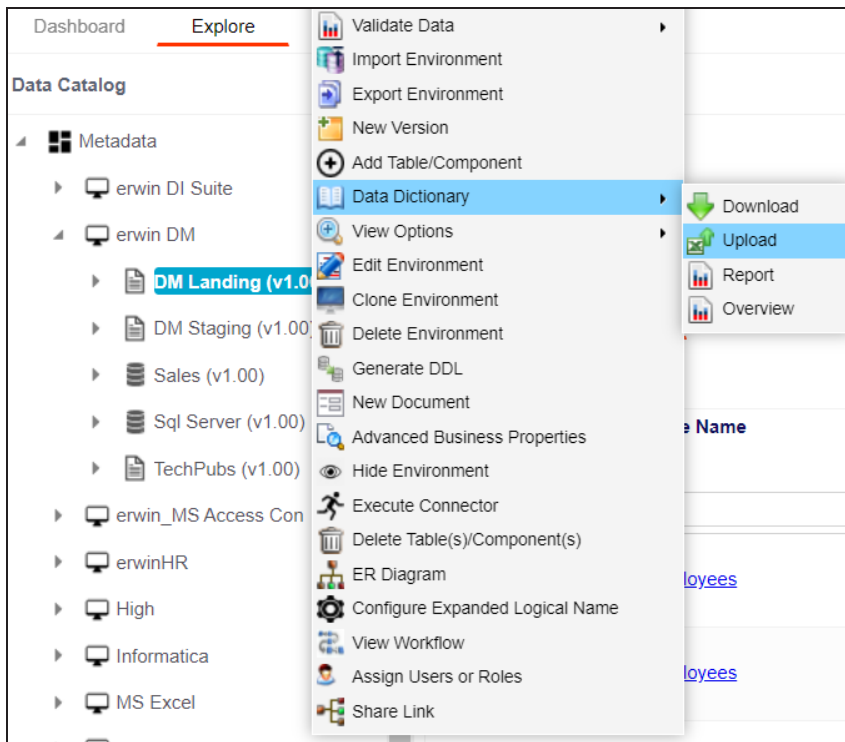
You can also [view data dictionary report](#) at system level and [update data dictionary](#) at environment level.

## 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:

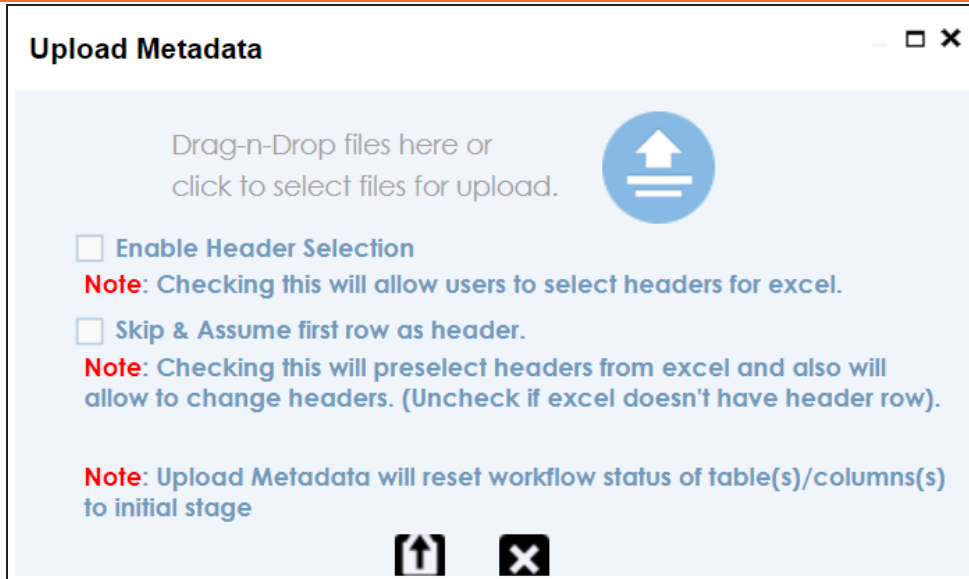
1. In the **Data Catalog** pane, right-click an environment.
2. Hover over **Data Dictionary**.




3. Click **Upload**.

The Upload Metadata page appears.


## Uploading Data Dictionary



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.

Excel Metadata Preview Screen <span style="color: red;">Please use first row (double click on NOT IN USE Cell) to set each column's identity!</span>								
	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_CLASSIFIC	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

## Uploading Data Dictionary

---

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.



Excel Metadata Preview Screen **Please use first row (double click on NOT IN USE Cell) to set each column's identity!**  

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

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

5. Click .

The data dictionary is updated at the environment level.

# Viewing Data Dictionary Report

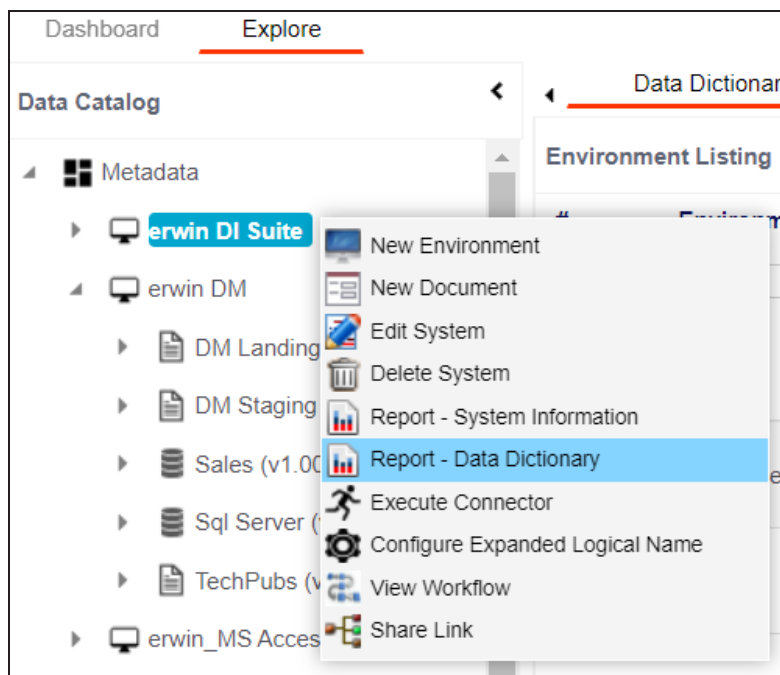
You can view a data dictionary report at the system level. The data dictionary report includes all the environments in the system and it can be exported in various formats, such as HTML, PDF, and MS Excel.



It is meaningful to view data dictionary report after scanning metadata into an environment.

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

1. In the **Data Catalog** pane, right-click a system.

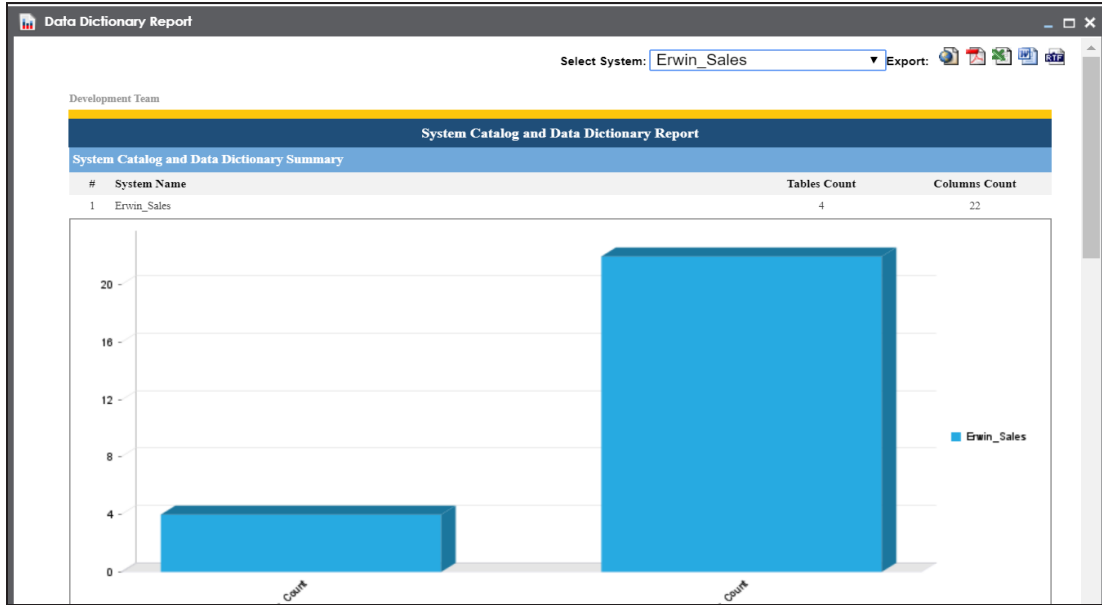


2. Click **Report - Data Dictionary**.

The Data Dictionary Report appears. You can use Select System to view the data dictionary reports of any system.



## Viewing Data Dictionary Report



Use the following options to export the data dictionary report:

**HTML** (🌐)

Use this option to export the report in the HTML format.

**PDF** (📄)

Use this option to export the report in the PDF format.

**MS Excel** (📊)

Use this option to export the report in the XLSX format.

**MS Word** (📄)

Use this option to export the report in the DOCX format.

**RTF** (📄)

Use this option to export the report in the RTF format.

## Exporting and Importing Sensitive Data Classification

You can export and import sensitive data indicator (SDI) classification at metadata and environment levels via an MS Excel template.

This topic walks you through the following:

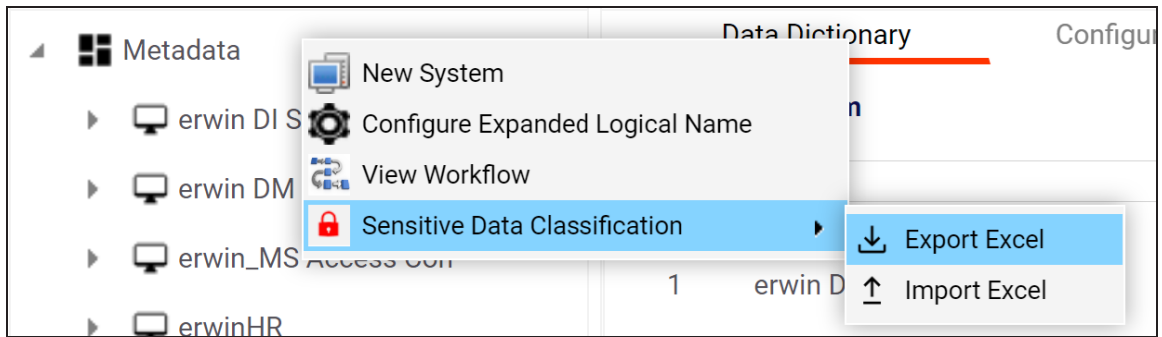
- [Exporting SDI at metadata level](#)
- [Exporting SDI at environment level](#)
- [Importing SDI](#)

### Exporting SDI at Metadata Level

To export SDI at metadata level, follow these steps:

1. Go to **Application Menu > Data Catalog > Metadata Manager**.
2. Right-click **Metadata** and hover over **Sensitive Data Classification**.

Options for sensitive data classification appear.



3. Click **Export Excel**.

The Export Sensitive Data Classification page appears.

## Exporting and Importing Sensitive Data Classification

### Export Sensitive Data Classification ✕

<b>System</b> <input checked="" type="checkbox"/>	<b>Environment</b> <input checked="" type="checkbox"/>
Sensitive Only <input checked="" type="radio"/>	Sensitive Only <input checked="" type="radio"/>
Non-Sensitive Only <input type="radio"/>	Non-Sensitive Only <input type="radio"/>
Sensitive & Non-Sensitive <input type="radio"/>	Sensitive & Non-Sensitive <input type="radio"/>

<b>Table</b> <input checked="" type="checkbox"/>	<b>Column</b> <input checked="" type="checkbox"/>
Sensitive Only <input checked="" type="radio"/>	Sensitive Only <input checked="" type="radio"/>

**Note:**  
This will export all classified and unclassified assets at the system and environment level and only classified assets at the table and column level.

**Export**

4. Use the following options to export SDI at based on assets:

### System

Switch this option **ON** to export SDI for systems.

Use one of the following options:

- **Sensitive Only:** Use this option to export sensitive systems.
- **Non-Sensitive Only:** Use this option to export non-sensitive systems.
- **Sensitive & Non-Sensitive:** Use this option to export both sensitive and non-sensitive systems.

### Environment

Switch this option **ON** to export SDI for environments.

Use one of the following options:

## Exporting and Importing Sensitive Data Classification

---

- **Sensitive Only:** Use this option to export sensitive environments.
- **Non-Sensitive Only:** Use this option to export non-sensitive environments.
- **Sensitive & Non-Sensitive:** Use this option to export both sensitive and non-sensitive environments.

### Table

Use this option to export SDI for tables. By default, a list of sensitive tables is exported.

### Column

Use this option to export SDI for columns. By default, a list of sensitive columns is exported.

5. Click **Export**.

SDI classification report is downloaded in the XLSX format.

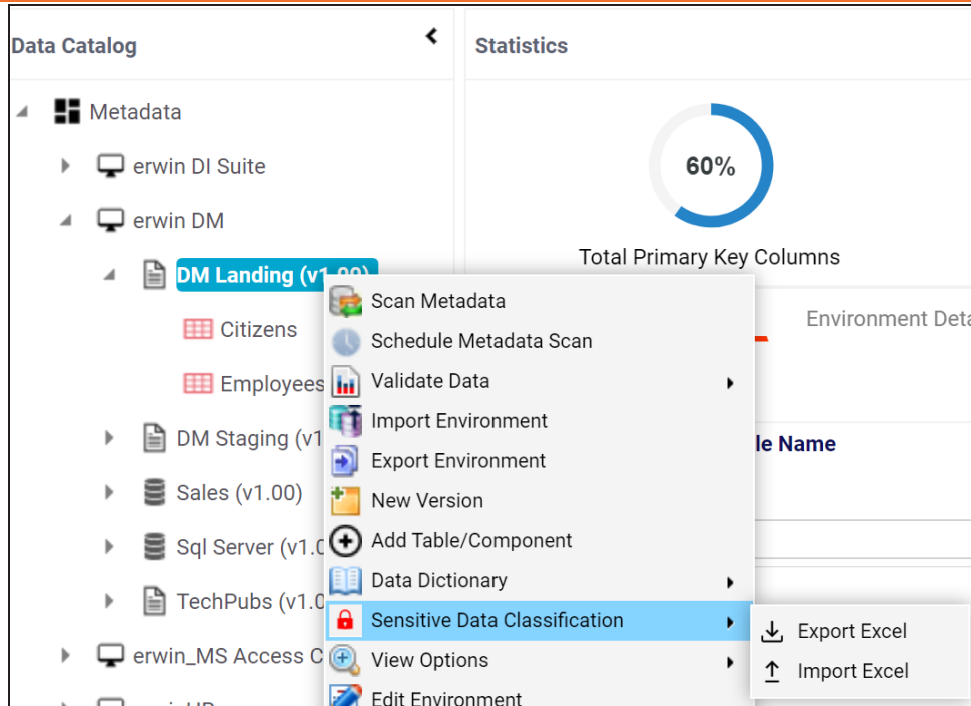
## Exporting SDI at Environment Level

Similarly, to export SDI at environment level, follow these steps:

1. Go to **Application Menu > Data Catalog > Metadata Manager**.
2. Right-click an environment and hover over **Sensitive Data Classification**.

Options for sensitive data classification appear.

## Exporting and Importing Sensitive Data Classification



3. Click **Export Excel**.

The Export Sensitive Data Classification page appears.

## Exporting and Importing Sensitive Data Classification

The screenshot shows a dialog box titled "Export Sensitive Data Classification" with a close button (X) in the top right corner. The dialog is divided into four sections: "System", "Environment", "Table", and "Column". Each section has a toggle switch and a list of radio button options. "System" and "Environment" have their toggle switches turned on (blue) and the "Sensitive & Non-Sensitive" option selected (orange). "Table" and "Column" have their toggle switches turned on (blue) and the "Sensitive Only" option selected (red). A green "Export" button is located at the bottom right of the dialog.

4. Use the following options to export SDI based on assets:

### System

Switch this option **ON** to export SDI for the associated system. By default, a list of both sensitive and non-sensitive system is exported.

### Environment

Switch this option **ON** to export SDI for the environment. By default, a list of both sensitive and non-sensitive environment is exported.

### Table

Switch this option **ON** to export SDI for tables in the environment.

Use one of the following options:

- **Sensitive Only:** Use this option to export sensitive tables.
- **Non-Sensitive Only:** Use this option to export non-sensitive tables.
- **Sensitive & Non-Sensitive:** Use this option to export both sensitive and non-sensitive tables.

### Column

## Exporting and Importing Sensitive Data Classification

---

Switch this option **ON** to export SDI for columns in the environment.  
Use one of the following options:

- **Sensitive Only:** Use this option to export sensitive columns.
- **Non-Sensitive Only:** Use this option to export non-sensitive columns.
- **Sensitive & Non-Sensitive:** Use this option to export both sensitive and non-sensitive columns.

5. Click **Export**.

System Data Classification is downloaded in the XLSX format.

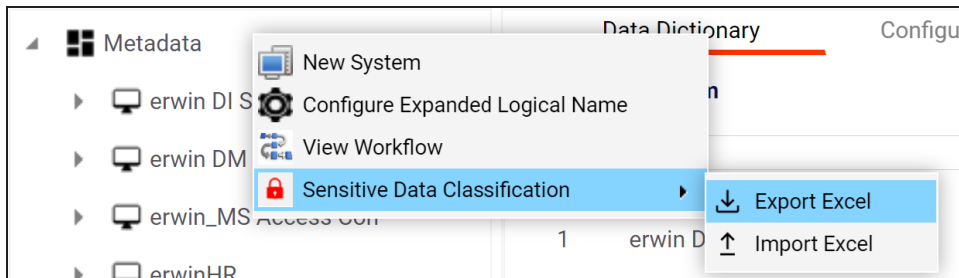
## Importing Sensitive Data Classification

You can import SDI from an MS Excel template at system and environment levels.

To import SDI, follow these steps:

1. In the Data Catalog pane, right-click **Metadata** and hover over **Sensitive Data Classification**.

Options for sensitive data classification appear.



2. Click **Import Excel**.

The Import Sensitive Data Classification page appears.

**Import Sensitive Data Classification**

**Import Excel**  
0.0B / 0.00%

Click the + button to browse or select the Excel file

Assets to Import

- System
- Environment
- Table
- Column


Import Options

- Add New**  
This option will add new classifications to the existing list of classifications.
- Replace**  
This option will replace the existing classifications with the new set of classifications.

**Import**

3. Use the following options:

### Import Excel

Use this section to import MS Excel file containing SDI classification for systems and environments. Click  to browse and select a file.

### Assets to Import

Use these options to select the asset types for which you want to import SDI classification.

### Import Options

- **Add New:** Use this option to add new classifications to an existing list.
- **Replace:** Use this option to replace existing classifications with new ones.

4. Click **Import**.

Sensitive data classification is imported.



### Running Impact Analysis

After mapping source metadata to target metadata, you can run impact analysis on technical assets. Impact analysis helps you understand upstream and downstream dependencies of technical assets and their impacts linked to business assets. It helps you assess the impact of transformations and source or target-level changes.

Apart from this you can also, view lineages based on selected assets and export its impact analysis.

You can run impact analysis at the following levels:

- [System](#)
- [Environment](#)
- [Table](#)
- [Column](#)

## Systems and Environments

You can perform impact analysis on environments and systems and analyze their impact as source and target.

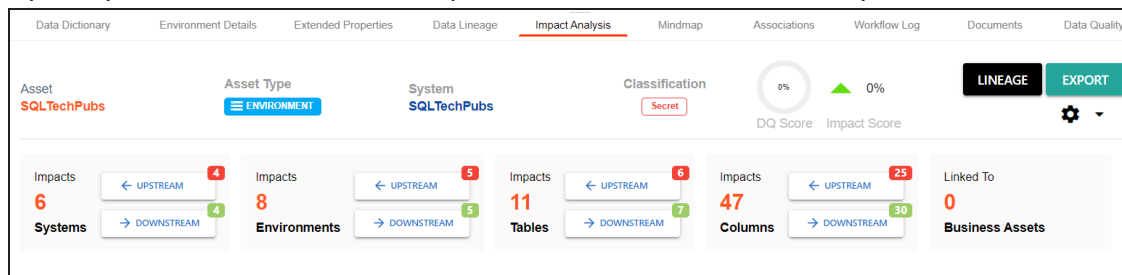
This topic walks you through the steps to view impact analysis of environments. Similarly, you can view impact of systems, [tables](#), and [columns](#).


To view impact analysis at system or environment levels, follow these steps:

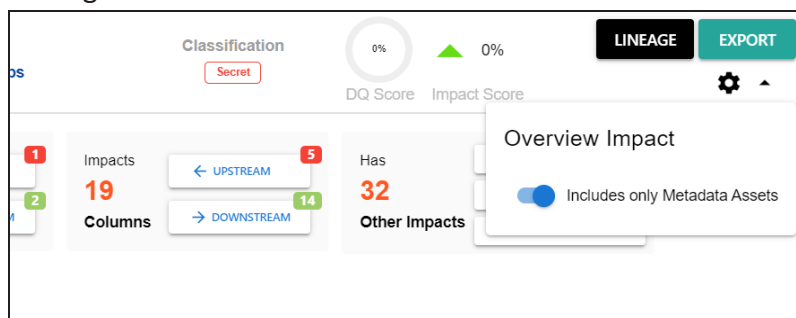
1. Go to **Application Menu > Data Catalog > Metadata Manager > Explore**.
2. In the **Data Catalog** pane, click an environment.
3. Click the **Impact Analysis** tab.

Impact analysis for the environment appears.

It displays the asset hierarchy, sensitivity data indicator (SDI) classification, data quality analysis, and environment's impact based on related assets in your metadata.



Alternatively, click  to switch the **Overview Impact** option **ON** to exclude non-existent systems and environments from the impact analysis. When this option is switched off, the view includes systems and environments that do not exist in the Metadata Manager.



## Systems and Environments

4. On the Environments card, click **Downstream**.

The downstream dependencies of the environment appear in a grid format.

The screenshot shows a dashboard with five cards: Systems (6 impacts), Environments (8 impacts), Tables (11 impacts), Columns (47 impacts), and Business Assets (0 impacts). The Environments card is selected, and the 'Downstream (5)' tab is active. Below the tabs is a table with the following data:

#	System Name	Environment Name	Project	Subject Area	Mapping
1	SQL System	TechPubs	Test		TestingBugs
2	Salesforce	TechPubs	Project		SalesforceIntegration
3	SQL System	Northwind	Lineage Demo		FlowTest
4	Oracle	TechPubs	erwinDIS		erwinSalesIntegration

Similarly, you can view upstream dependencies on the Upstream tab.

5. On the Upstream or Downstream tab, click an asset to view its lineage or impact analysis. For more information on running lineage analysis on assets, refer to the [Running Lineage Analysis](#) topic.

The screenshot shows the 'Upstream (5)' tab selected. The table below has the following data:

#	System Name	Environment Name	Project
1	SQL System	TechPubs	TestingBugs
2	SQLTechPubs	TechPubs	TestingBugs
3	SQL System	TechPubs	Flow Test
4	Oracle	TechPubs	erwinSalesIntegration

A context menu is open over the 'SQLTechPubs' row, showing two options: 'Lineage' and 'Impact Analysis'.

You can also view the upstream and downstream dependencies of other impacted assets from selected environment's perspective. For example, the image below displays upstream system dependencies from the environment's perspective.

## Systems and Environments

Summary bar:

- Systems: 6 (Impacts: 4 Upstream, 4 Downstream)
- Environments: 8 (Impacts: 5 Upstream, 5 Downstream)
- Tables: 11 (Impacts: 6 Upstream, 7 Downstream)
- Columns: 47 (Impacts: 25 Upstream, 30 Downstream)
- Business Assets: 0 (Linked To)

#	System Name	Project	Subject Area	Mapping
1	SQL System	erwinDIS		TechPubsBUGTrial
2	TABLEUAU	erwinDIS		Data Integration
3	SQLTechPubs	Test		TestingBugs
4	erwinDoc	erwinDIS		Data Integration

Additionally, you can use the following options:

### Lineage

Use this option to view lineage based on the asset type.

### Export

Use this option to export the impact analysis in the XLSX format.

## Tables and Columns

You can perform impact analysis on tables and columns, and analyze their impact as source and target.

This topic walks you through the steps to view impact analysis of tables. Similarly, you can view impact of [systems](#), [environments](#) and columns.

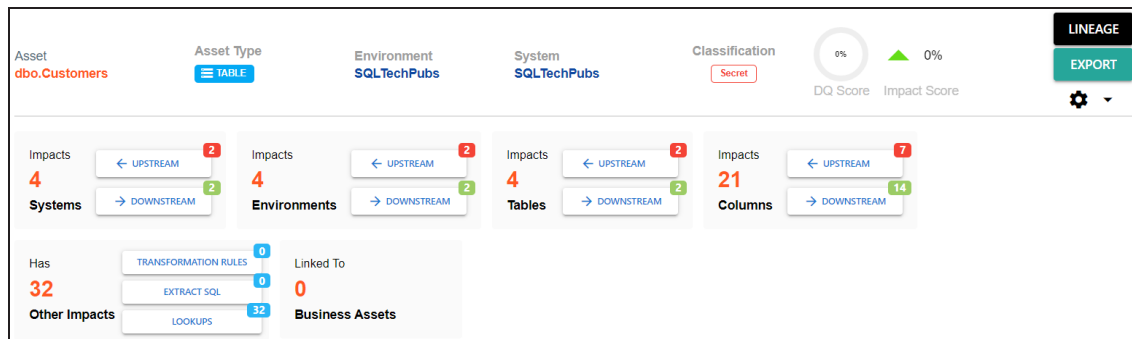
A table can be a source, target, or both in a mapping specification. It can also be used for transformations, such as business rules and lookups in a mapping project. Impact analysis helps you identify these impacts of the table on mapping projects.


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

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

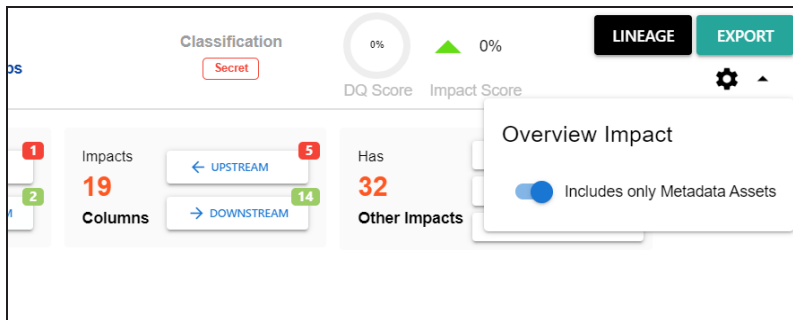
Impact analysis of the table appears.

It displays the asset hierarchy, sensitivity data indicator (SDI) classification, data quality analysis, and table's impact based on related assets in your metadata.



Alternatively, click  to switch the **Overview Impact** option **ON** to exclude non-existent systems and environments from the impact analysis. When this option is switched off, the view includes systems and environments that do not exist in the Metadata

## Tables and Columns Manager.



4. On the Tables card, click **Upstream**.

The upstream dependencies of the environment appear in a grid format.

#	System Name	Environment Name	Table Name	Project	Subject Area	Mapping
1	TABLEUAU	PRESENTATION LAYER	Account	Test		Data Integration
2	erwinDoc	erwinDOC	CustDetails	erwinDIS		Data Integration

Similarly, you can view downstream dependencies on the Downstream tab.

5. On the Upstream or Downstream tab, click an asset to view its lineage or impact analysis. For more information on running lineage analysis on assets, refer to the [Running](#)

## Tables and Columns

### Lineage Analysis topic.

#	System Name	Environment Name	Project
1	SQL System	TechPubs	TestingBugs
2	SQLTechPubs		TestingBugs
3	SQL System		Flow Test
4	Oracle	TechPubs	erwinSalesIntegration

Lineage

Impact Analysis

Use the Other Impacts tile, and click one of the following to view them:

- Business rules
- Source Extract SQL
- Lookups

For example, the image below displays the In Lookups tab with lookup conditions that impacts the asset type. Also, you can switch between In Source Extract SQL and In Business Rules tabs to view relevant impacts.

Impacts 4 Systems (UPSTREAM 2, DOWNSTREAM 2)

Impacts 4 Environments (UPSTREAM 2, DOWNSTREAM 2)

Impacts 4 Tables (UPSTREAM 2, DOWNSTREAM 2)

Impacts 21 Columns (UPSTREAM 7, DOWNSTREAM 14)

Has 32 Other Impacts (TRANSFORMATION RULES 0, EXTRACT SQL 0, LOOKUPS 32)

Linked To 0 Business Assets

In Transformation Rules (0) In Source Extract SQL (0) **In Lookups (32)**

Source Table	Source Column	Lookup Condition
dbo.Customers		SELECT CompanyName FROM dbo.Customers WHERE CompanyName = dbo.Customers.CompanyName
dbo.Customers		SELECT ContactName FROM dbo.Customers WHERE ContactName = dbo.Customers.ContactName
dbo.Customers		SELECT ContactTitle FROM dbo.Customers WHERE ContactTitle = dbo.Customers.ContactTitle
dbo.Customers		SELECT CustomerID FROM dbo.Customers WHERE CustomerID = dbo.Customers.CustomerID

## Tables and Columns

You can also view the upstream and downstream dependencies of other impacted assets from selected table's perspective. For example, the image below displays upstream column dependencies from the table's perspective.

The screenshot displays a metadata management interface. At the top, there are several navigation buttons for dependencies: 'Impacts' (4) with 'UPSTREAM' and 'DOWNSTREAM' arrows, 'Systems' (2), 'Environments' (4), 'Tables' (4), 'Columns' (21) with 'UPSTREAM' and 'DOWNSTREAM' arrows, and 'Has' (32) with 'TRANSFORMATION RULES' (0), 'EXTRACT SQL' (0), and 'LOOKUPS' (32). Below these is a 'Linked To' section for 'Business Assets' (0). The main content area shows 'Upstream (7)' and 'Downstream (14)' tabs. A table lists the upstream dependencies:

#	System Name	Environment Name	Table Name	Column Name	Project	Subject Area	Mapping
1	Salesforce	TechPubs	Account	Type	Project		SalesforceIntegration
2	Oracle	TechPubs	APPQOSSYS.WLM_CLASSIFIER_PLAN	CHKSUM	erwinDIS		erwinSalesIntegration
3	Oracle	TechPubs	APPQOSSYS.WLM_CLASSIFIER_PLAN	ACTIVE	erwinDIS		erwinSalesIntegration
4	Oracle	TechPubs	APPQOSSYS.WLM_CLASSIFIER_PLAN	TIMESTAMP	Project Tech Pubs		erwinSalesIntegration

Additionally, use the following options:

### Lineage

Use this option to view lineage based on the asset type.

### Export

Use this option to export the impact analysis in the XLSX format.



# Running Lineage Analysis

After mapping source metadata to target metadata, you can run the lineage analyzer in Metadata Manager. The generated lineage report helps you trace the data's origin, its transformations, and its destination after source to target mappings.

You can run the lineage at the following levels:

- [System](#)
- [Environment](#)
- [Table](#)
- [Column](#)

## System

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

This topic walks you through the following:

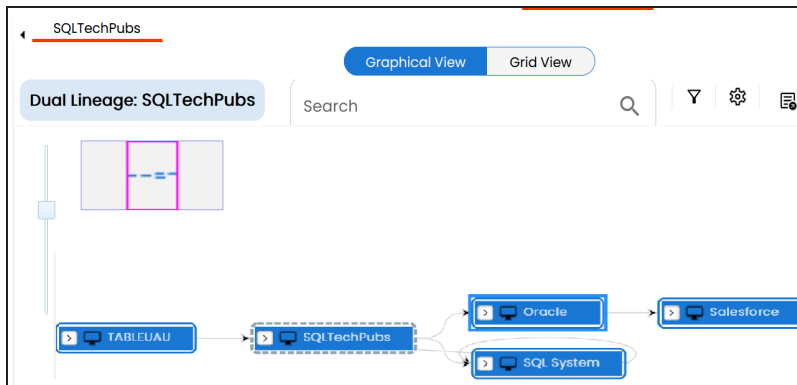
- [Viewing Lineage](#)
- [Working on Lineage](#)

## Viewing Lineage

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


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

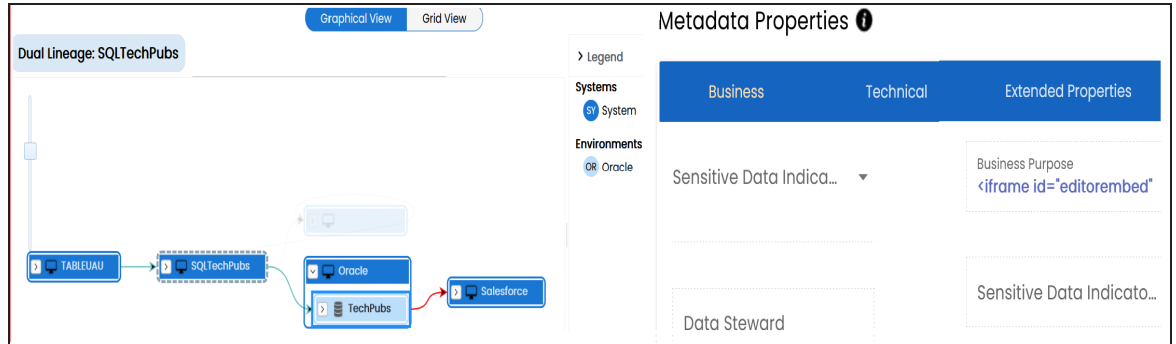
By default, the dual lineage of the system appears in Graphical View.



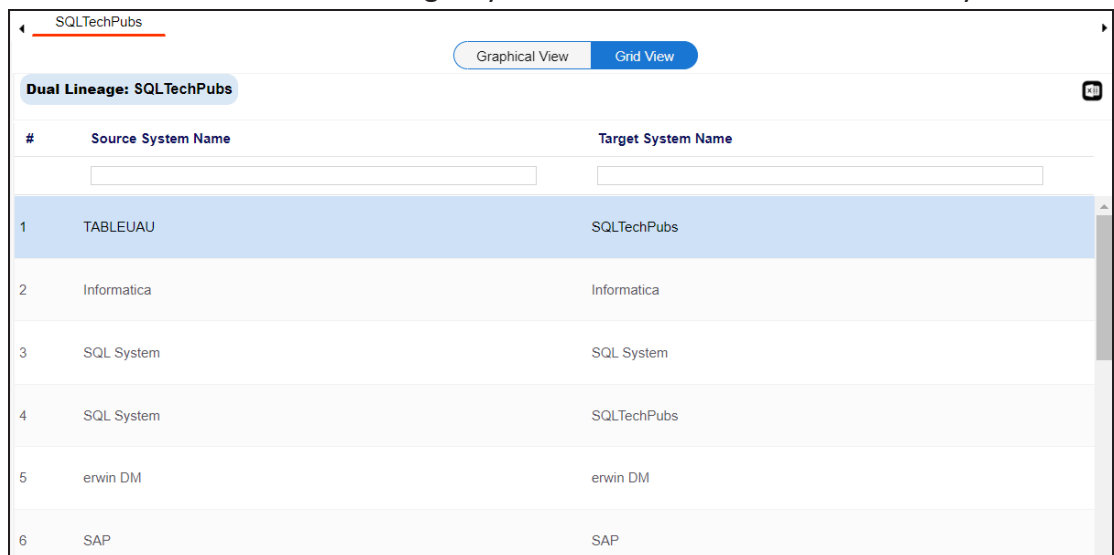
You can click **Graphical View** or **Grid View** to switch between them:

## System

- **Graphical View:** The graphical view displays the lineage of a system in a graphical format. Selecting a system on the graphical view displays its Legends. Hovering over a system displays an  icon. Clicking this icon opens the object's properties.



- **Grid View:** The grid view displays the lineage of a systems in a tabular format. You can view the source and target system associated with the selected system.



The screenshot shows the 'Grid View' of system lineage for 'SQLTechPubs'. The table displays the source and target system names for each lineage entry.

#	Source System Name	Target System Name
1	TABLEAU	SQLTechPubs
2	Informatica	Informatica
3	SQL System	SQL System
4	SQL System	SQLTechPubs
5	erwin DM	erwin DM
6	SAP	SAP

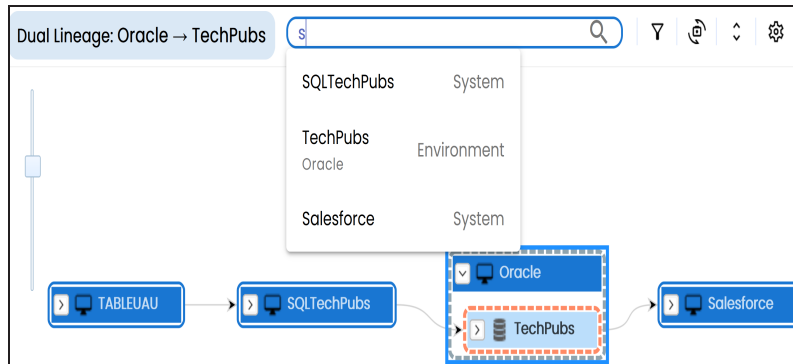
Use the following options to work on the lineage in graphical view:

### Search ( )

Use this option to search for systems that you want to see on the lineage.

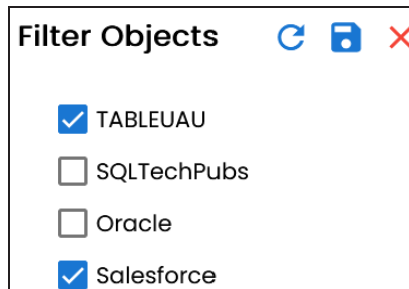
## System

Type in the search box to see a list of related systems that are available on the lineage.



## Filter Objects ( √ )

Use this option to filter and display required systems in the lineage view.

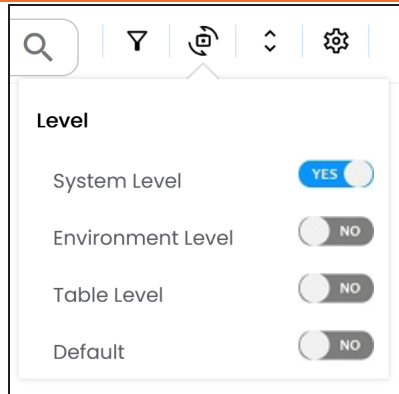


The unselected objects are replaced with black dots on the lineage diagram.



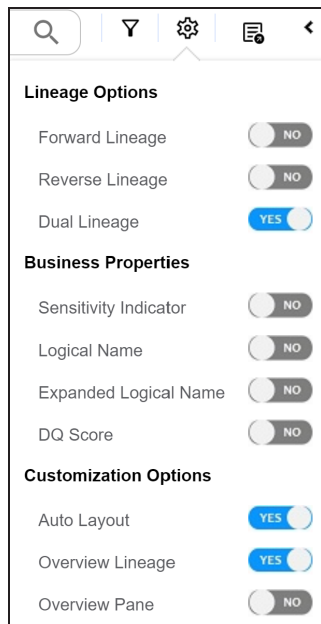
## Switch View ( @ )

Double-click an object to see Switch View option. Use this option to switch the level of objects displayed and see the system, environment, or table in which the object is located.




### Options (⚙️)

Use this option to view lineage types, business properties, and customizations options. For more information on lineage options, refer to the [Working on Lineage](#) section.



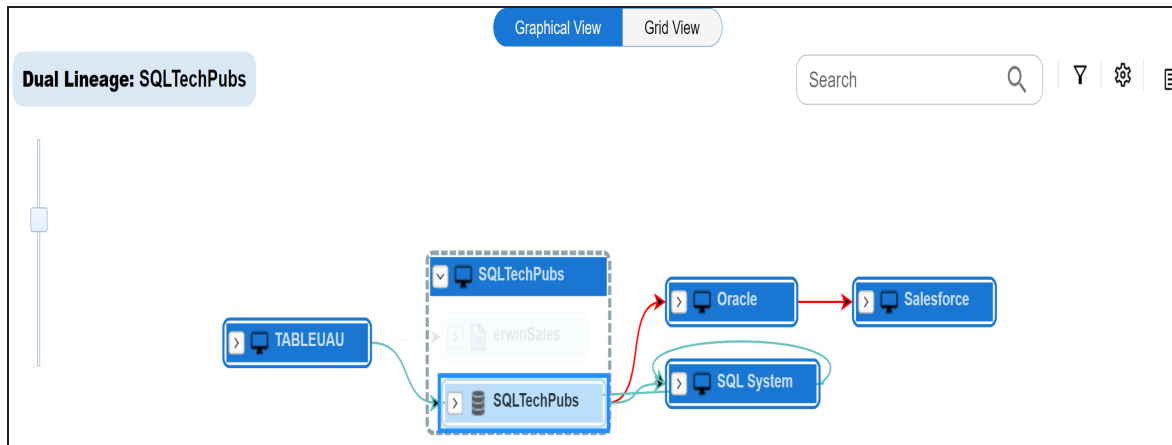
### Exports (📄)

Use this option to export the lineage. Click  and use the following options:

## System

- **Image** (🖨️): Use this option to download the lineage as an image, in the .JPG format. Ensure that you expand the required nodes in a lineage before downloading the lineage as image.
- **PDF** (📄): Use this option to download the lineage report in the .PDF format. Ensure that you expand the required nodes in a lineage before downloading the lineage report as PDF.
- **Excel** (📊): Use this option to download the lineage report in the .XLSX format. Ensure that you expand the required nodes in a lineage before downloading the report.

On the lineage, expand a system node and select an environment to view its lineage path. The environment is highlighted in orange color, its forward lineage path in red color, and its reverse lineage path in blue color. Systems that are not part of lineage path disappear.



Right-click a path around the selected object to highlight its path of the source or target in the lineage.

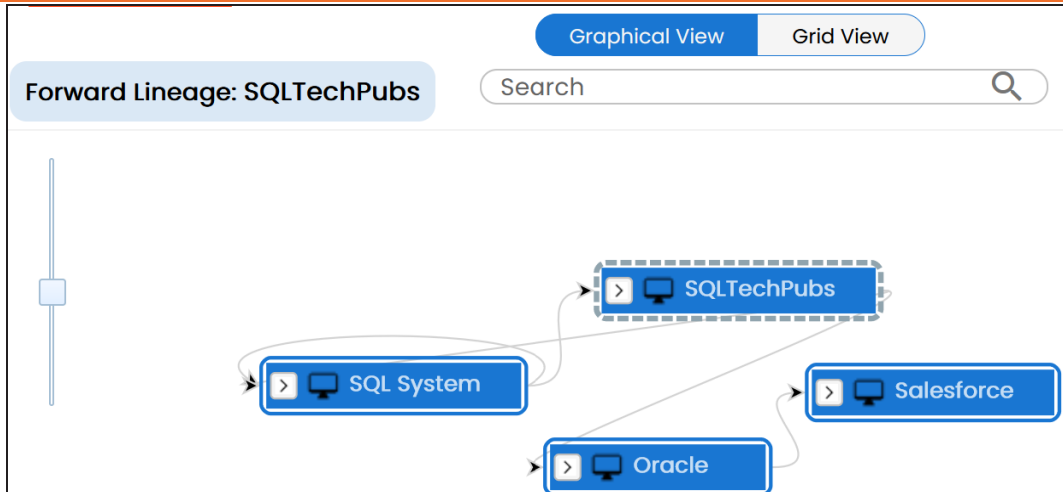
## Working on Lineage

Use the following options to work on lineage:

### Forward Lineage

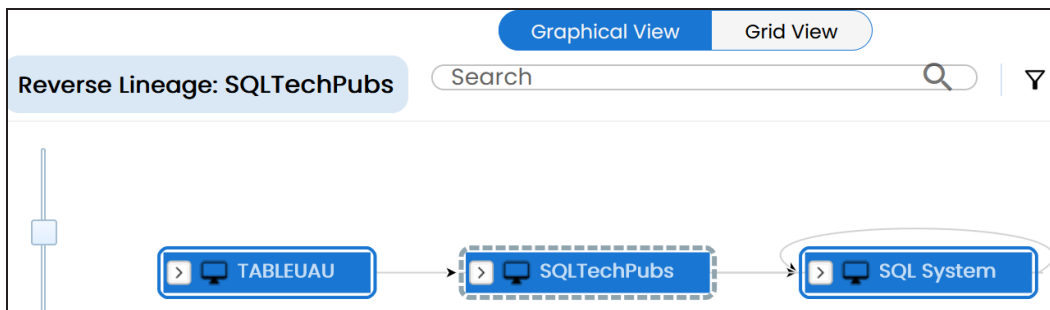
Use this option to view forward lineage of the system.

## System



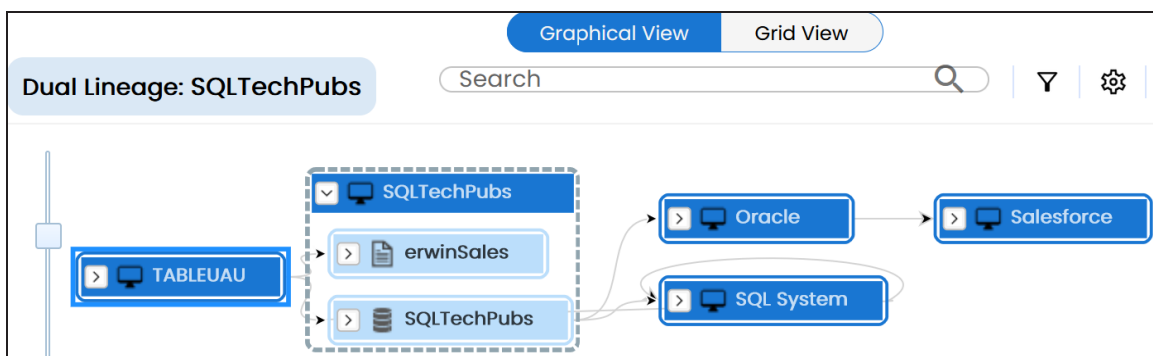
## Reverse Lineage

Use this option to view reverse lineage of the system.




## Dual Lineage

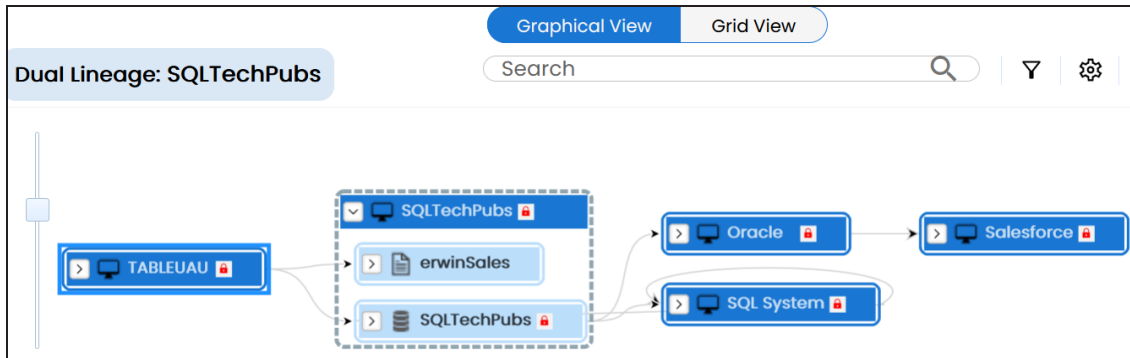
Use this option to view dual lineage, which includes both forward and reverse lineage of the system.



## System

### Sensitivity Indicator

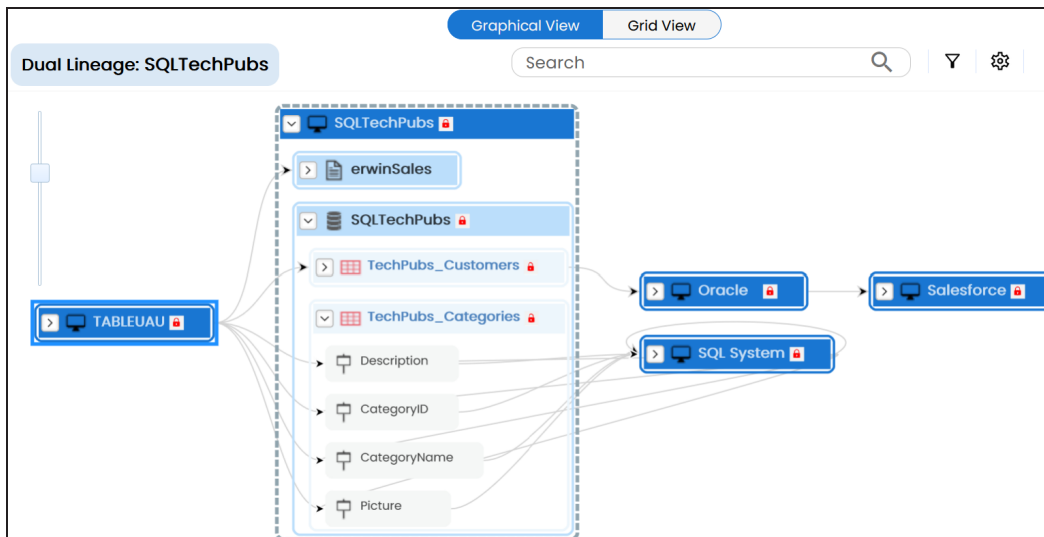
Use this option to view sensitivity of the environments in the lineage. You can expand a system node to view sensitive environments. The sensitive system and environments are indicated using .



### Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments and tables.

For example, the following image displays the table's logical name in the lineage.



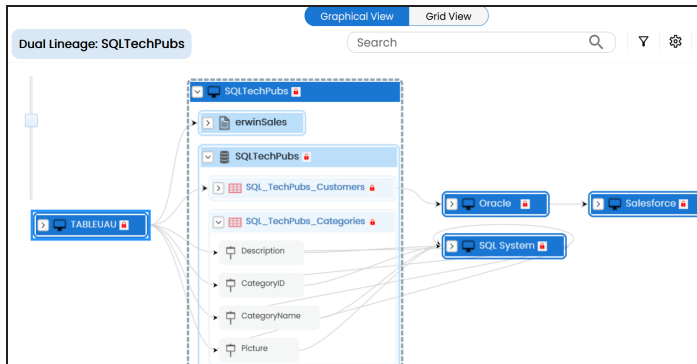


## System

### Expanded Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments, tables, and columns. For more information, on configuring expanded logical name of a system, refer to the [Configuring Expanded Logical Name](#) topic.

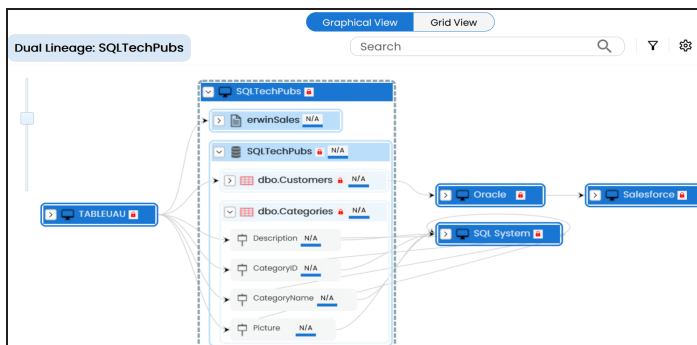
For example, the following image displays the table's expanded logical name in the lineage.



### DQ Tool Score

Use this option to view the data quality score of the environments, tables, and columns in the lineage. You can expand a system node to view data quality scores for environments, tables, and columns.

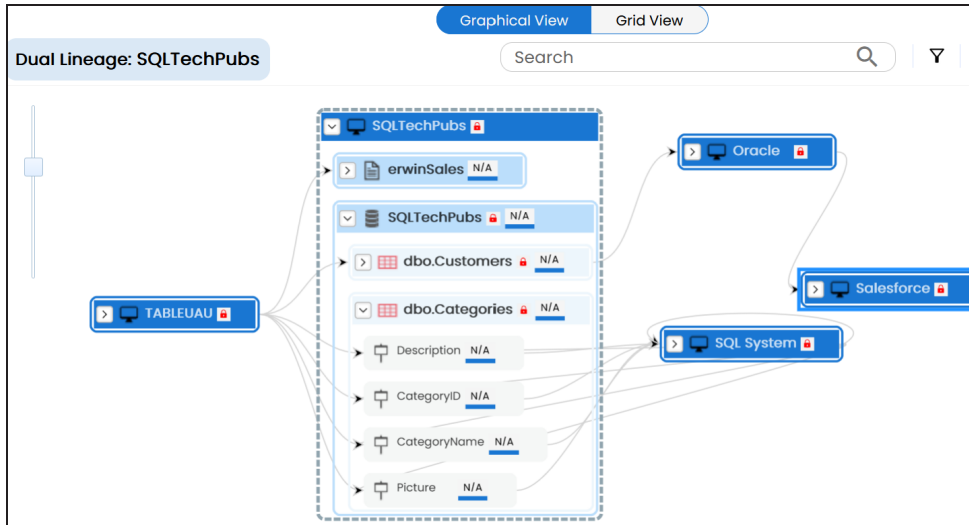
For example, the following image displays the data quality score in the lineage.



### Auto Layout

## System

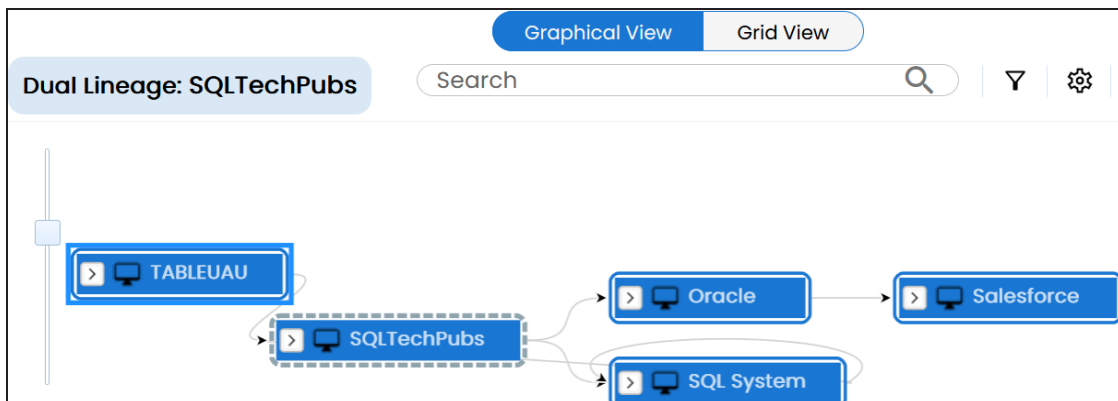
Use this option to rearrange the layout of the lineage automatically. For example, the following image displays the rearranged object layout with respect to the previous screenshot.



## Overview Lineage

Use this option to view the lineage excluding systems and environments that do not exist in the Metadata Manager. When this option is switched off, the views include systems and environments, that do not exist in the Metadata Manager.

For example, the following image displays lineage excluding assets that do not exist in Metadata Manager.



## System

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### Overview Pane

Use this option to remove the overview pane from the graphical view.

## Environment

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

This topic walks you through the following:

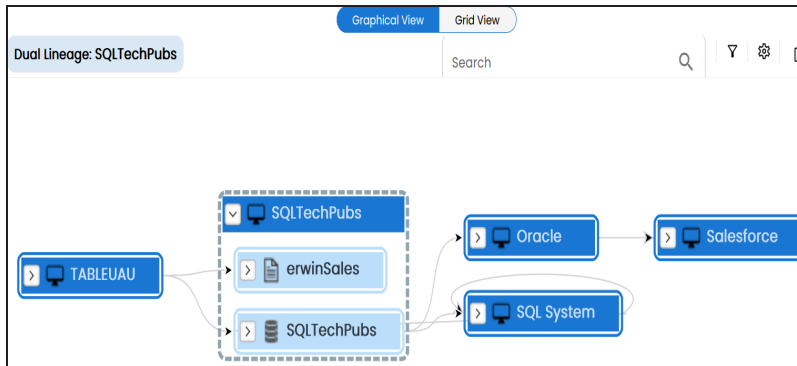
- [Viewing Lineage](#)
- [Working on Lineage](#)

## Viewing Lineage

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

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

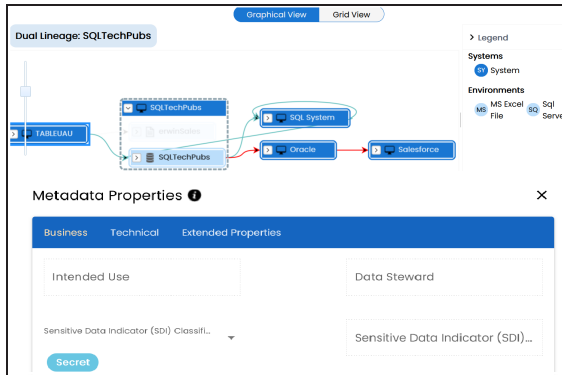
By default, dual lineage of the environment appears in Graphical View.



4. You can click **Graphical View** or **Grid View** to switch between them:
  - **Graphical View:** The graphical view displays the lineage of the environment in a graphical format. Selecting an environment on the graphical view displays its

## Environment

Legends. Hovering over an environment displays an **i** icon. Clicking this icon opens the object's properties.



- **Grid View:** The grid view displays the lineage of the environment in a tabular format. You can view the source and target system and environment associated with the selected environment.

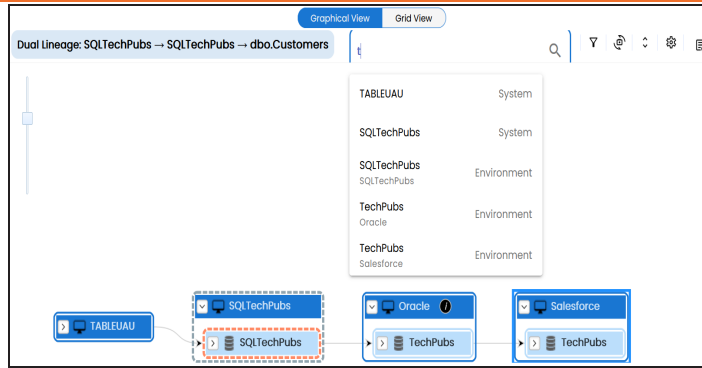
#	Source System Name	Source Environment Name	Target System Name	Target Environment Name
1	SQLTechPubs	SQLTechPubs	SQL System	TechPubs
2	SQL System	Northwind	SQL System	Northwind
3	SQL System	TechPubs	SQL System	Northwind
4	SQLTechPubs	SQLTechPubs	Oracle	
5	TABLEUAU		SQLTechPubs	SQLTechPubs

Use the following options to work on the lineage in graphical view:

### Search ( )

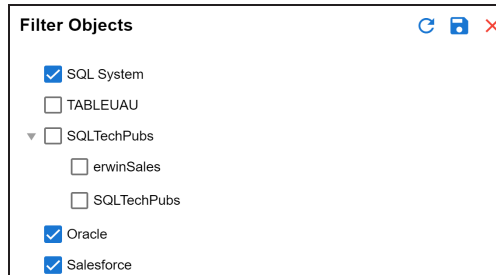
Use this option to search for environments that you want to see on the lineage. Type in the search box to see a list of related environments that are available on the lineage.

## Environment

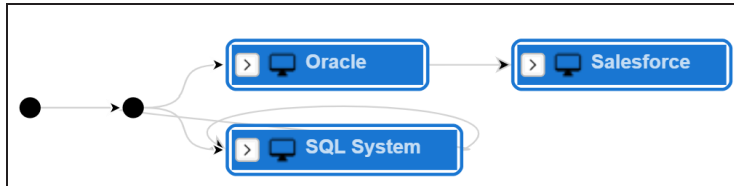


### Filter Objects ( )

Use this option to filter and display required environments in the lineage view.



The unselected objects are replaced with black dots on the lineage diagram.

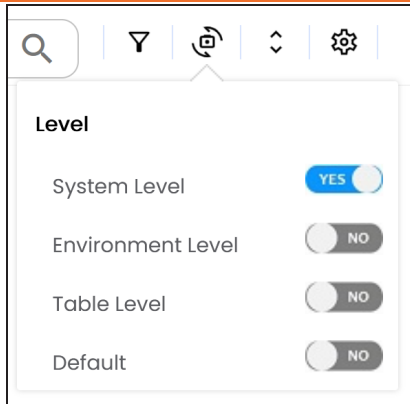


### Switch View ( )

Double-click an object to see Switch View option. Use this option to switch the level of objects displayed and see the system, environment, or table in which the object is located.

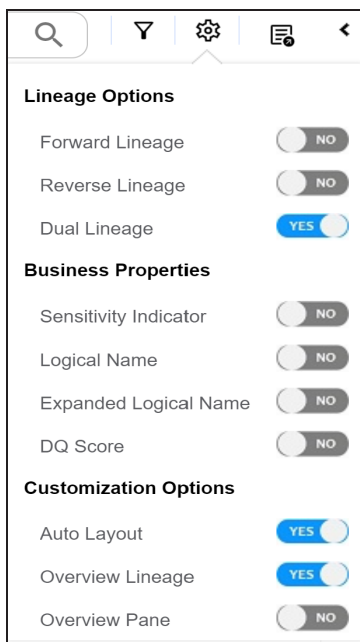
## Environment

---



### Options (⚙️)

Use this option to view lineage types, business properties and customizations options. For more information on lineage options, refer to the [Working on Lineage](#) section.



### Exports (📄)

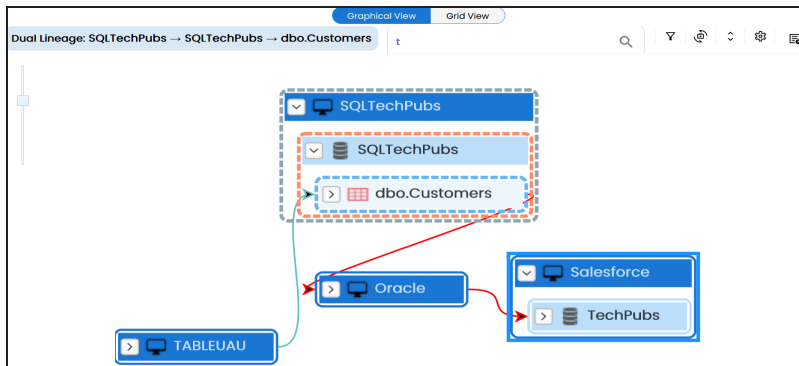
Use this option to export the lineage. Click 📄 and use the following options:

## Environment

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- **Image (🖼️):** Use this option to download the lineage as an image, in the .JPG format. Ensure that you expand the required nodes in a lineage before downloading the lineage as image.
- **PDF (📄):** Use this option to download the lineage report in the .PDF format. Ensure that you expand the required nodes in a lineage before downloading the lineage report as PDF.
- **Excel (📊):** Use this option to download the lineage report in the .XLSX format. Ensure that you expand the required nodes in a lineage before downloading the report.

On the lineage, expand a system node, and select a table to view its lineage path. The environment is highlighted in blue color, its forward lineage path appears in red, and its reverse lineage path appears in blue. Systems and environments that are not part of a lineage path disappear.



Right-click a path around the selected object to highlight its path of the source or target in the lineage.

## Working on Lineage

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

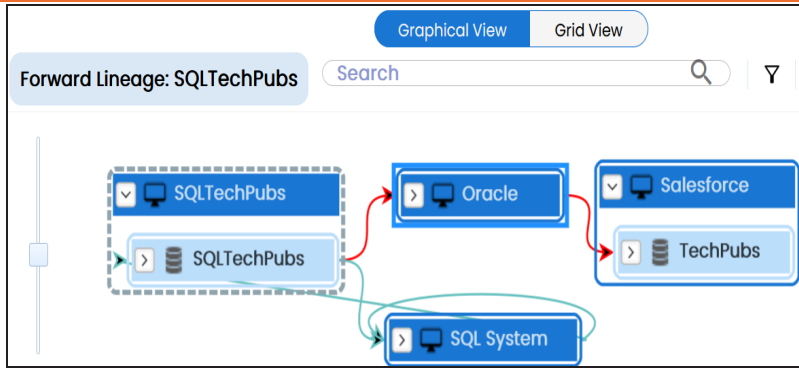
Use the following options to work on lineage:

### Forward Lineage

Use this option to view forward lineage of the environment.

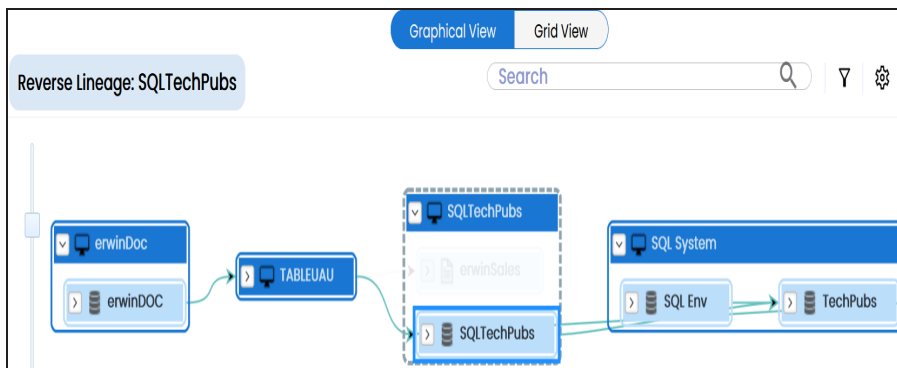


## Environment



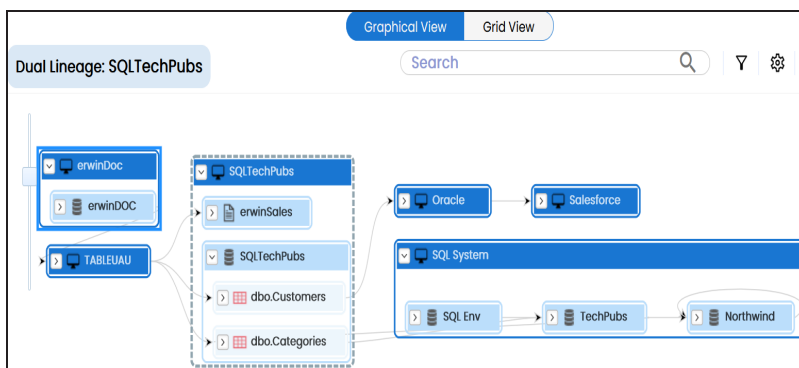
## Reverse Lineage

Use this option to view reverse lineage of the environment.




## Dual Lineage

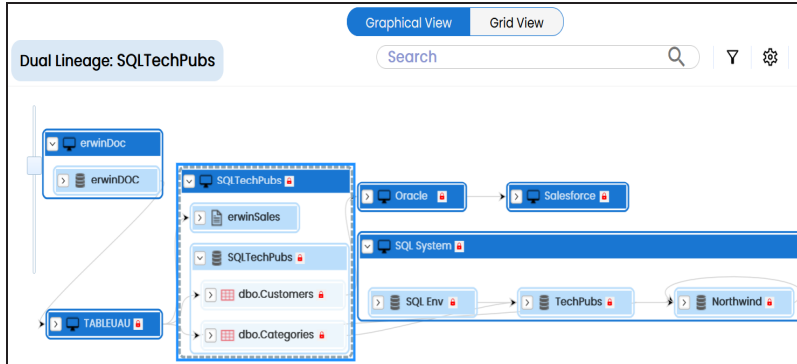
Use this option to view dual lineage, which includes both forward and reverse lineage of the environment.



## Environment

### Sensitivity Indicator

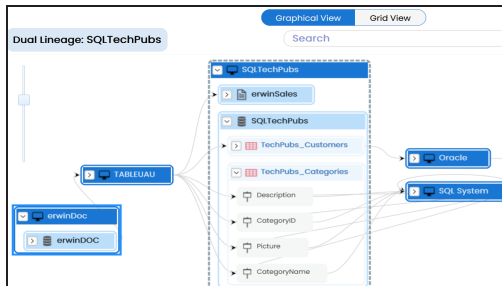
Use this option to view sensitivity of the environments in the lineage. You can expand the environment node to view sensitive tables. The sensitive assets are indicated using .



### Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments and tables.

For example, the following image displays the table's logical name in the lineage.

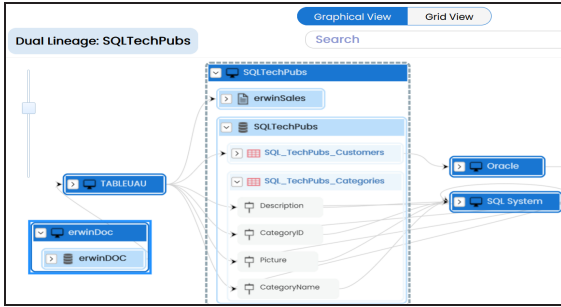


### Expanded Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments, tables, and columns.

For example, the following image displays the table's expanded logical name in the lineage.

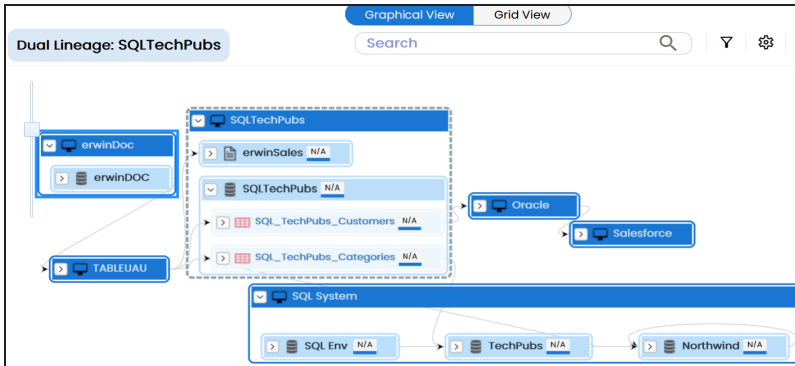
## Environment



## DQ Tool Score

Use this option to view the data quality score of the environments, tables, and columns in the lineage. You can expand a system node to view data quality scores for environments, tables, and columns.

For example, the following image displays the data quality score in the lineage.

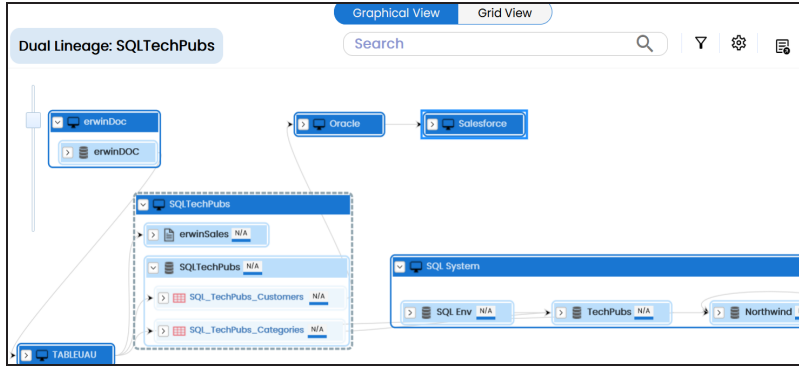


## Auto Layout

Use this option to rearrange the layout of the lineage automatically.

For example, the following image displays the rearranged object layout with respect to the previous screenshot.

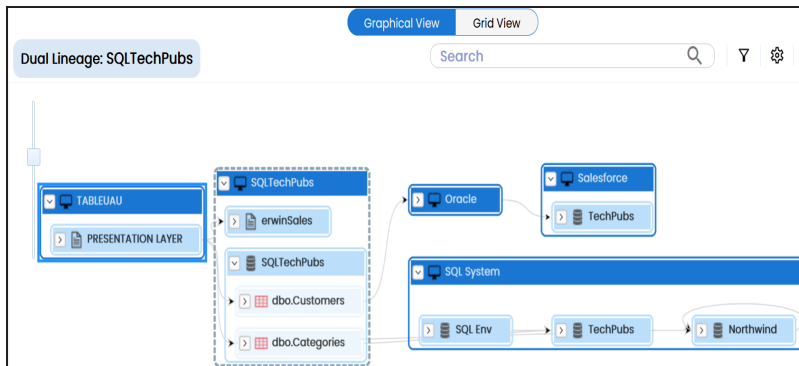
## Environment



### Overview Lineage

Use this option to view the lineage excluding systems and environments that do not exist in the Metadata Manager. When this option is switched off, the views include systems and environments, that do not exist in the Metadata Manager.

For example, the following image displays lineage excluding assets that do not exist in Metadata Manager.



### Overview Pane

Use this option to remove the overview pane from the graphical view.

## Table

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

This topic walks you through the following:

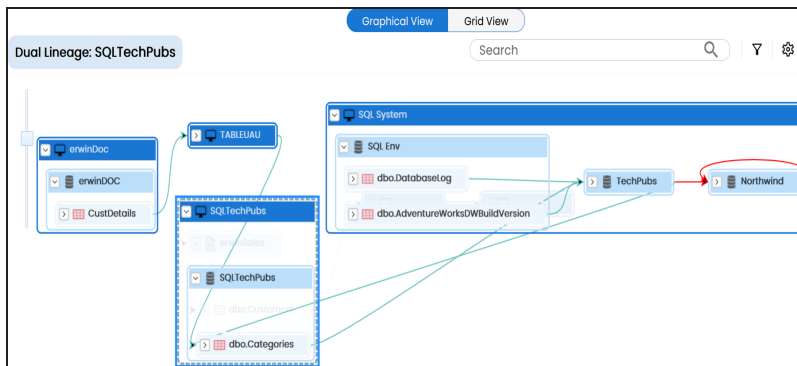
- [Viewing Lineage](#)
- [Working on Lineage](#)

## Viewing Lineage

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

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

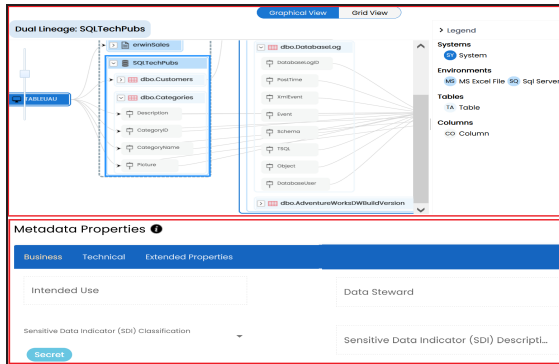
By default, dual lineage of the table appears.



4. You can click **Graphical View** or **Grid View** to switch between them:
  - **Graphical View:** The graphical view displays the lineage of the table in a graphical format. Selecting a table on the graphical view displays its Legends.

## Table

Hovering over a table displays an **i** icon. Clicking this icon opens the object's properties.



- **Grid View:** The grid view displays the lineage of the table in a tabular format. You can view the source and target system, environment, table, and column associated with the selected table.

#	Source System Name	Source Environment Name	Source Table Name	Source Column Name	Target System Name	Target Environment Name	Target Table Name
1	SQL System	Northwind			SQL System	Northwind	
2	SQL System	TechPubs			SQL System	Northwind	
3	SQL System	SQL Eriv	dbo.AdventureWorksDWBuildVersion		SQL System	TechPubs	
4	erwinDoc	erwinDOC	CustDetails		TABLELUAU		
5	SQL System	TechPubs			SQLTechPubs	SQLTechPubs	dbo.Categories
6	SQL System	TechPubs			SQLTechPubs	SQLTechPubs	dbo.Categories
7	SQLTechPubs	SQLTechPubs	dbo.Categories	Picture	SQL System	TechPubs	
8	SQL System	TechPubs			SQLTechPubs	SQLTechPubs	dbo.Categories

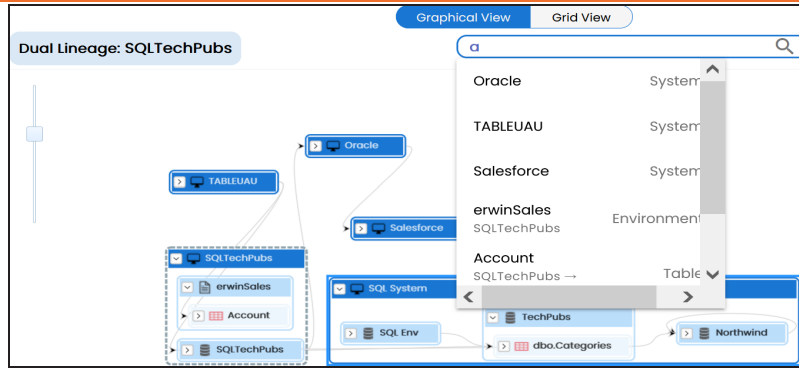
Use the following options to work on the lineage in graphical view:

### Search (🔍)

Use this option to search for tables that you want to see on the lineage.

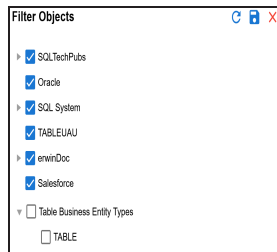
Type in the search box to see a list of related tables that are available on the lineage.

## Table

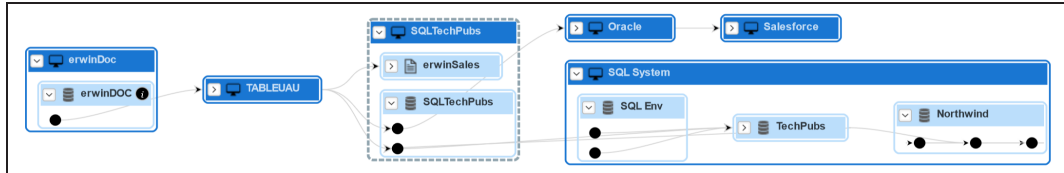


### Filter Objects ( )

Use this option to filter and display required tables in the lineage view.



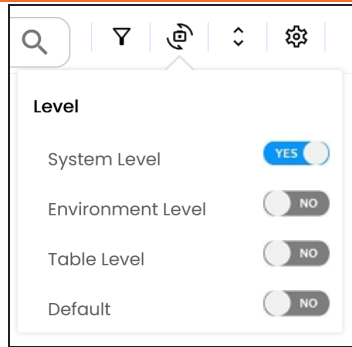
The unselected objects are replaced with black dots on the lineage diagram.



### Switch View ( )

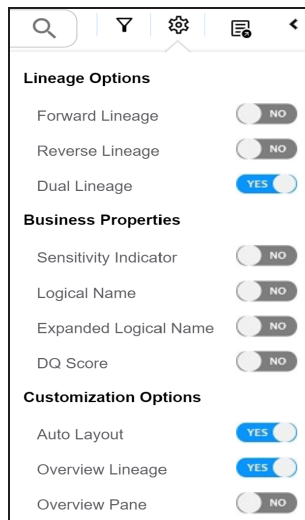
Double-click an object to see Switch View option. Use this option to switch the level of objects displayed and see the system, environment, or table in which the object is located.

## Table



## Options (⚙️)

Use this option to view lineage types, business properties and customizations options. For more information on lineage options, refer to the [Working on Lineage](#) section.



## Exports (📄)

Use this option to export the lineage. Click  and use the following options:

- **Image (🖼️):** Use this option to download the lineage as an image, in the .JPG format. Ensure that you expand the required nodes in a lineage

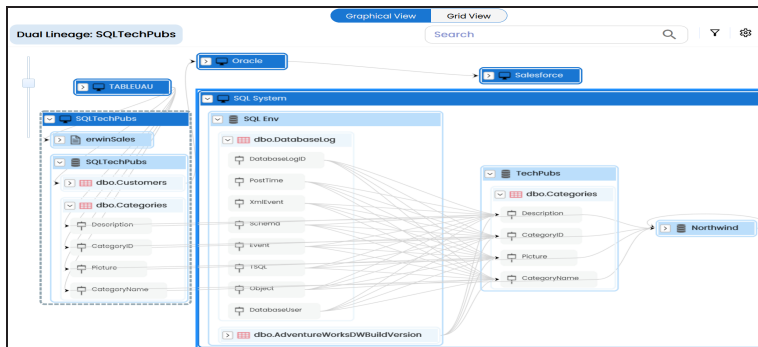


## Table

before downloading the lineage as image.



- **PDF** (📄): Use this option to download the lineage report in the .PDF format. Ensure that you expand the required nodes in a lineage before downloading the lineage report as PDF.
- **Excel** (📊): Use this option to download the lineage report in the .XLSX format. Ensure that you expand the required nodes in a lineage before downloading the report.

On the lineage, expand a table node, and select a column to view its lineage path. The column is highlighted in blue color, its forward lineage path appears in red, and its reverse lineage path appears in blue. The assets that are not part of a lineage path disappear.



Click a path around the selected object to highlight its path of the source or target in the lineage.

## Viewing Transformations

Transformations between columns are indicated using  in the lineage. Hover over  to view transformation rules for the columns on a pop-up. Or, click the path between the columns to highlight it to view detailed transformations between them in the Transformation Details pane.

## Table

The screenshot displays the 'Dual Lineage: SQLTechPubs' interface. On the left, a list of properties is shown, including Map ID (105), Project Name (Project Tech Pubs), Map Name (erwinSalesIntegration), and Map Spec Version (1.01). The main area shows a table definition for 'customerid' with source and target column names, data types (nvarchar and NUMBER), and a business rule (TRUNC). A transformation node is highlighted, and its details are shown on the right. The transformation details include Project Name (Project Tech Pubs), Map Name (erwinSalesIntegration), Map Spec Ver (1.01), JOB\_XREF, Source Extra, and Source Column (customerid).

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

## Working on Lineage

Lineage of a table shows how metadata moves through tables. It provides a summary of columns used as source and target. Also, it gives you information about the technical and business properties of columns involved in the lineage.

Use the following options to work on lineage:

### Forward Lineage

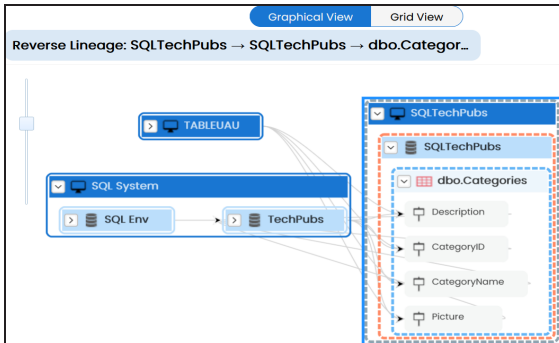
Use this option to view forward lineage of the table.

The screenshot displays the 'Forward Lineage: SQLTechPubs' interface. It shows a lineage diagram starting from an 'SQL System' node, which points to a table 'dbo.Categories' within the 'SQLTechPubs' database. The columns listed are Description, CategoryID, Picture, and CategoryName.

## Table

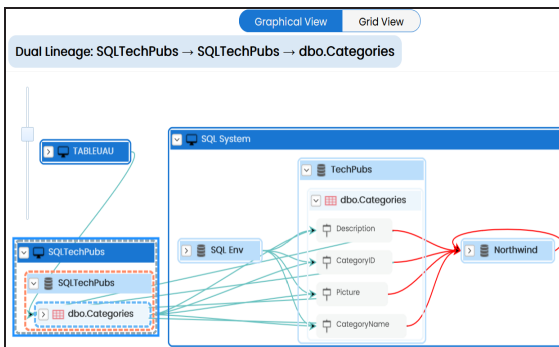
### Reverse Lineage

Use this option to view reverse lineage of the table.




### Dual Lineage

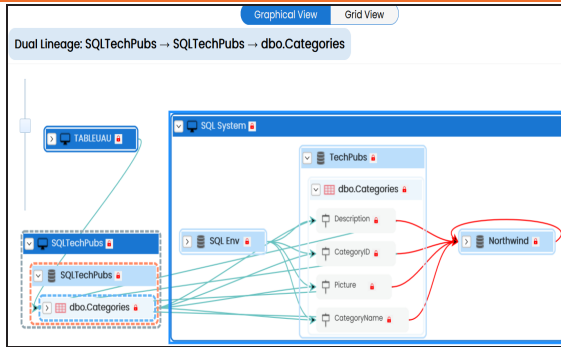
Use this option to view dual lineage, which includes both forward and reverse lineage of the table.



### Sensitivity Indicator

Use this option to view sensitivity of the table in the lineage. You can expand the table node to view sensitive columns. The sensitive assets are indicated using .

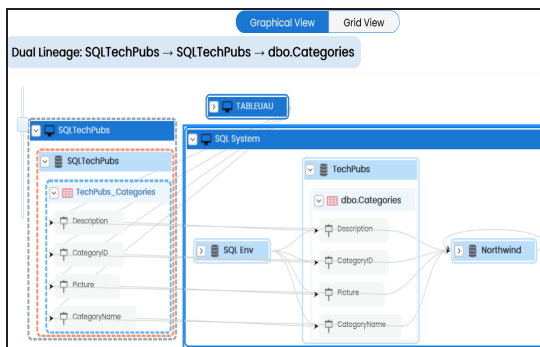
## Table



### Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments and tables.

For example, the following image displays the table's logical name in the lineage.

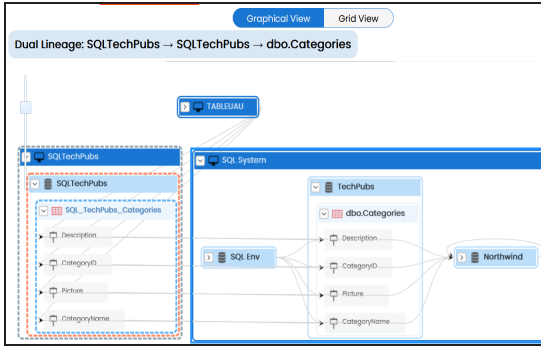


### Expanded Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments, tables, and columns.

For example, the following image displays the table's expanded logical name in the lineage.

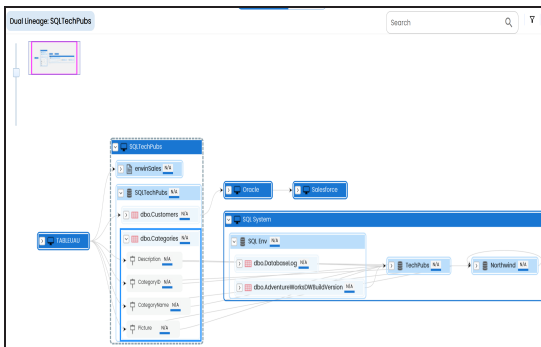
## Table



## DQ Tool Score

Use this option to view the data quality score of the environments, tables, and columns in the lineage. You can expand a system node to view data quality scores for environments, tables, and columns.

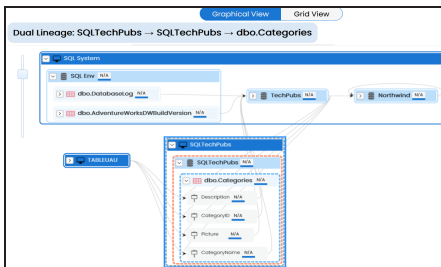
For example, the following image displays the data quality score in the lineage.



## Auto Layout

Use this option to rearrange the layout of the lineage automatically.

For example, the following image displays the rearranged object layout with respect to the previous screenshot.

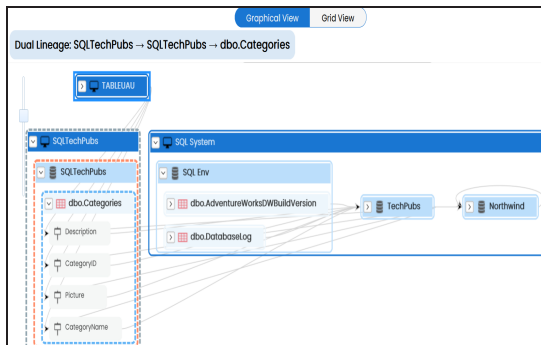


## Table

### Overview Lineage

Use this option to view the lineage excluding systems and environments that do not exist in the Metadata Manager. When this option is switched off, the views include systems and environments, that do not exist in the Metadata Manager.

For example, the following image displays lineage excluding assets that do not exist in Metadata Manager.



### Overview Pane

Use this option to remove the lineage overview pane from the graphical view.

## Column

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

This topic walks you through the following:

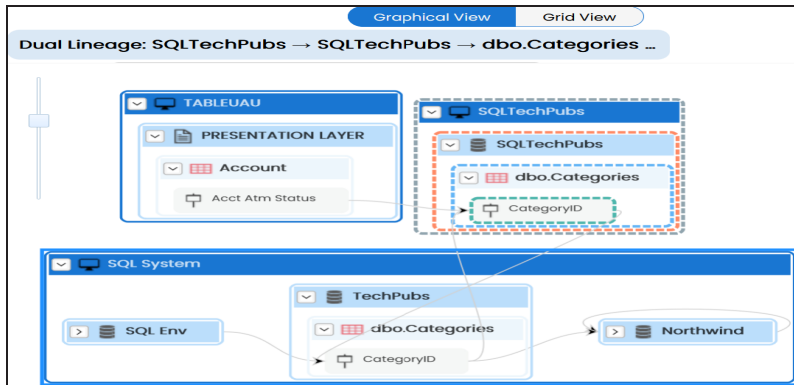
- [Viewing Lineage](#)
- [Working on Lineage](#)

## Viewing Lineage

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

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

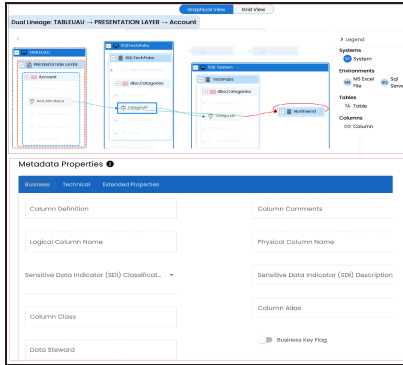
By default, dual lineage of the column appears.



4. You can click **Graphical View** or **Grid View** to switch between them:
  - **Graphical View:** The graphical view displays the lineage of the column in a graphical format. Selecting a column on the graphical view displays its Legends.

## Column

Hovering over a column displays an **i** icon. Clicking this icon opens the object's properties.



- **Grid View:** The grid view displays the lineage of the environment in a tabular format. You can view the source and target system, environment, table, and column associated with the selected column.

#	Info	Source System Name	Source Environment Name	Source Table Name	Source Column Name	Target System Name	Target Environment Name	Target Table Name	Target Column Name
1		SQL System	SQL Env	dbo.DatabaseLog	PostTime	SQL System	TechPubs		
2		SQL System	SQL Env	dbo.DatabaseLog	Event	SQL System	TechPubs		
3		SQL System	SQL Env	dbo.DatabaseLog	TSQL	SQL System	TechPubs		
4		SQLTechPubs	SQLTechPubs	dbo.Categories	CategoryID	SQL System	TechPubs		
5	<b>i</b>	TABLEUAU	PRESENTATION LAYER	Account	Acct Atm Status	SQLTechPubs	SQLTechPubs	dbo.Categories	CategoryID
6		SQL System	SQL Env	dbo.DatabaseLog	DatabaseLogID	SQL System	TechPubs		
7		SQL System	TechPubs			SQLTechPubs	SQLTechPubs	dbo.Categories	CategoryID

Use the following options to work on the lineage in graphical view:

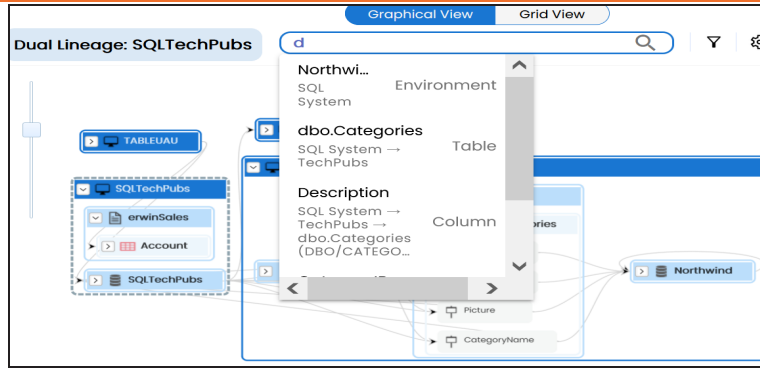
### Search (🔍)

Use this option to search for columns that you want to see on the lineage.

Type in the search box to see a list of related columns that are available on the lineage.

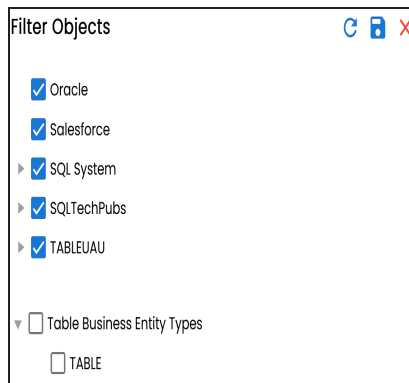


## Column

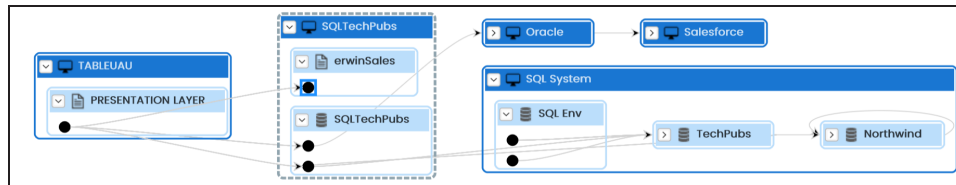


### Filter Objects ( )

Use this option to filter and display required columns in the lineage view.

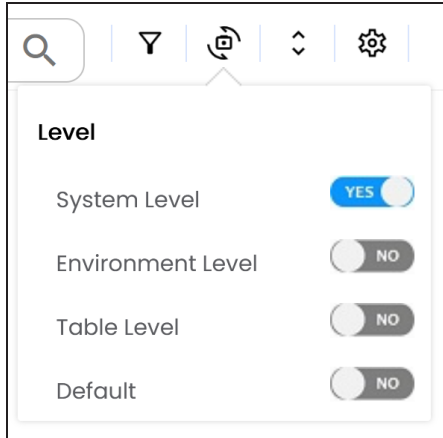


The unselected objects are replaced with black dots on the lineage diagram.



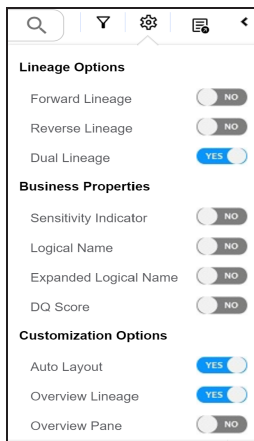
### Switch View ( )

Double-click an object to see Switch View option. Use this option to switch the level of objects displayed and see the system, environment, or table in which the object is located.




### Options (⚙️)

Use this option to view lineage types, business properties and customizations options. For more information on lineage options, refer to the [Working on Lineage](#) section.



### Exports (📄)

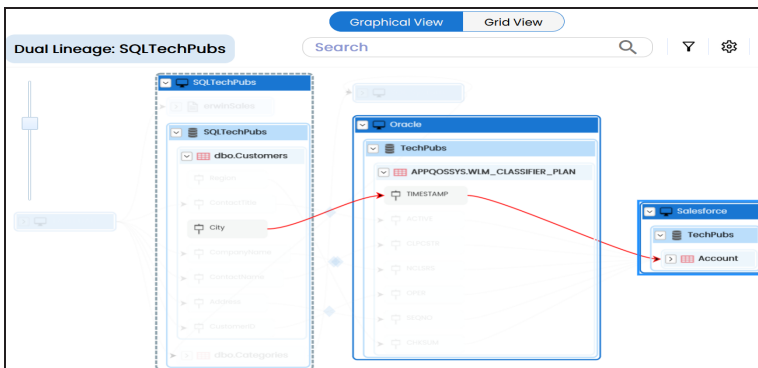
Use this option to export the lineage. Click  and use the following options:

- **Image** (): Use this option to download the lineage as an image, in the .JPG format. Ensure that you expand the required nodes in a lineage before downloading the lineage as image.

## Column

- **PDF (📄):** Use this option to download the lineage report in the .PDF format. Ensure that you expand the required nodes in a lineage before downloading the lineage report as PDF.
- **Excel (📄):** Use this option to download the lineage report in the .XLSX format. Ensure that you expand the required nodes in a lineage before downloading the report.

On the lineage, expand a system node, and select a table to view its lineage path. The environment is highlighted in blue color, its forward lineage path appears in red, and its reverse lineage path appears in blue. Systems and environments that are not part of a lineage path disappear.



Right-click a path around the selected object to highlight its path of the source or target in the lineage.

### Viewing Transformations

Transformations between columns are indicated using **T** in the lineage. Hover over **T** to view transformation rules for the columns on a pop-up. Or, click the path between the columns to highlight it to view detailed transformations between them in the Transformation Details pane.

## Column

Property	Value
Project Name	Project Tech Pubs
Map Name	erwinSalesIntegration
Map Spec Ver	1.01
JOB_XREF	
Source Extra	
Source Column	customerid

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

## Working on Lineage

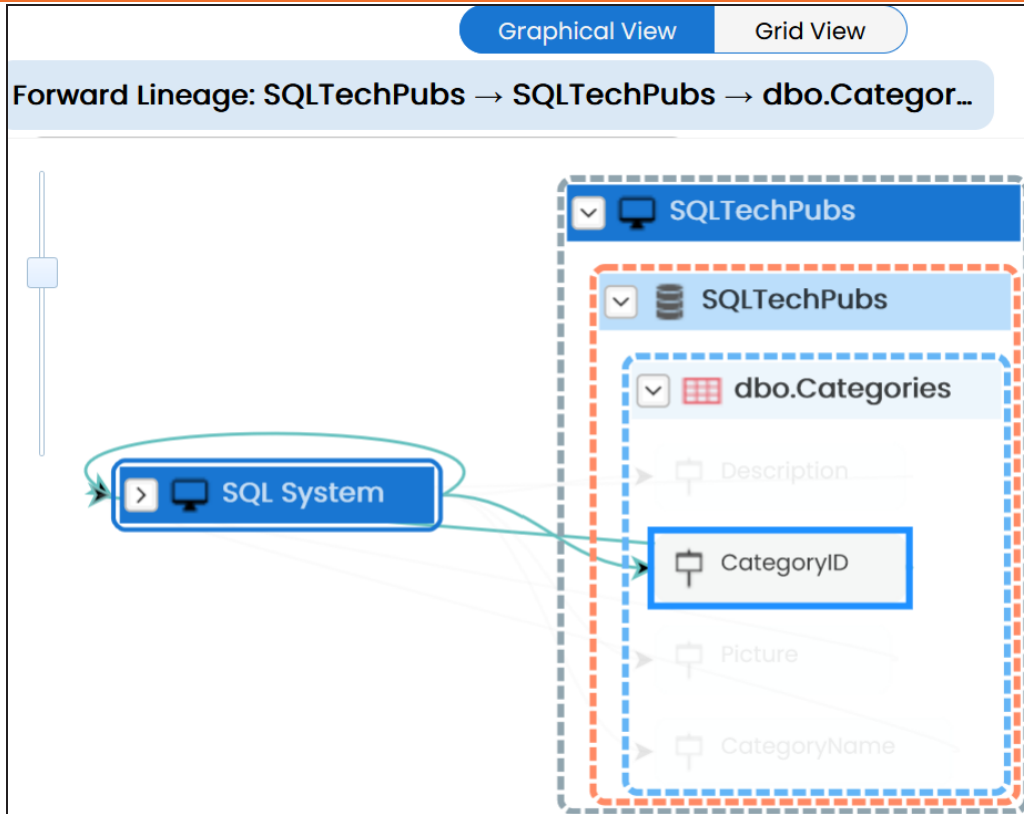
Lineage of a column shows how metadata moves through columns. It provides a summary of columns used as source and target. Also, it gives information about technical and business properties of columns involved in the lineage.

Use the following options to work on lineage:

### Forward Lineage

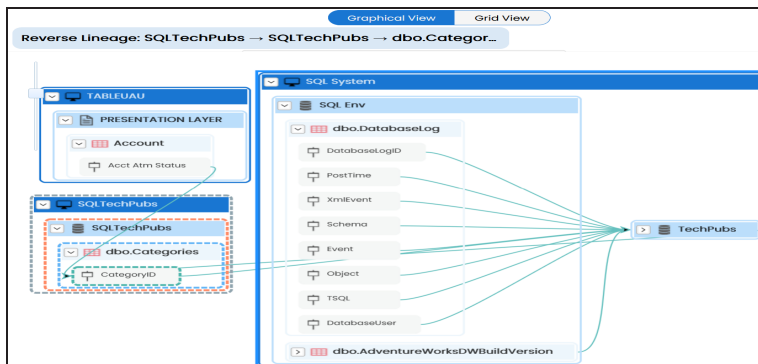
Use this option to view forward lineage of the column.

## Column



## Reverse Lineage

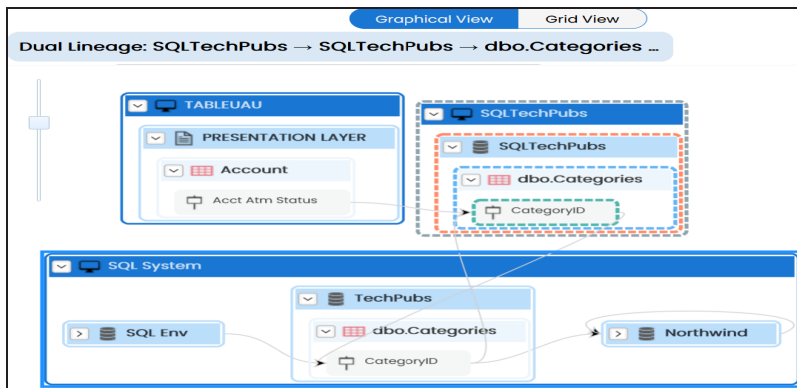
Use this option to view reverse lineage of the column.




## Dual Lineage

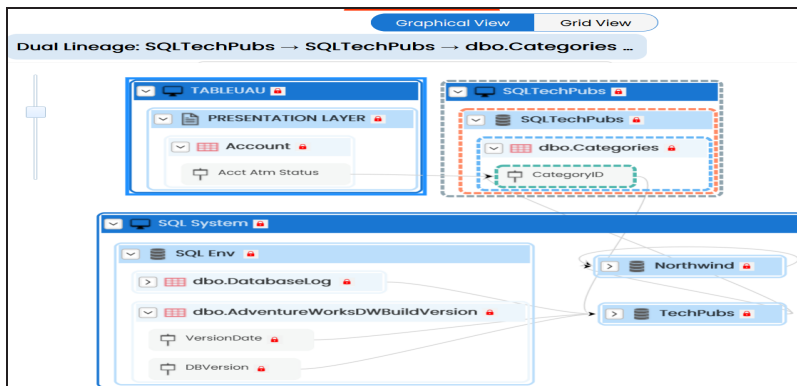
## Column

Use this option to view dual lineage, which includes both forward and reverse lineage of the column.



## Sensitivity Indicator

Use this option to view sensitivity of the columns in the lineage. You can expand the environment node to view sensitive columns. The sensitive assets are indicated using .

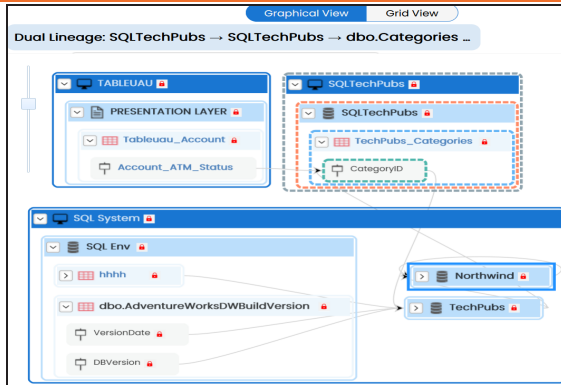


## Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments and tables.

For example, the following image displays the table's logical name in the lineage.

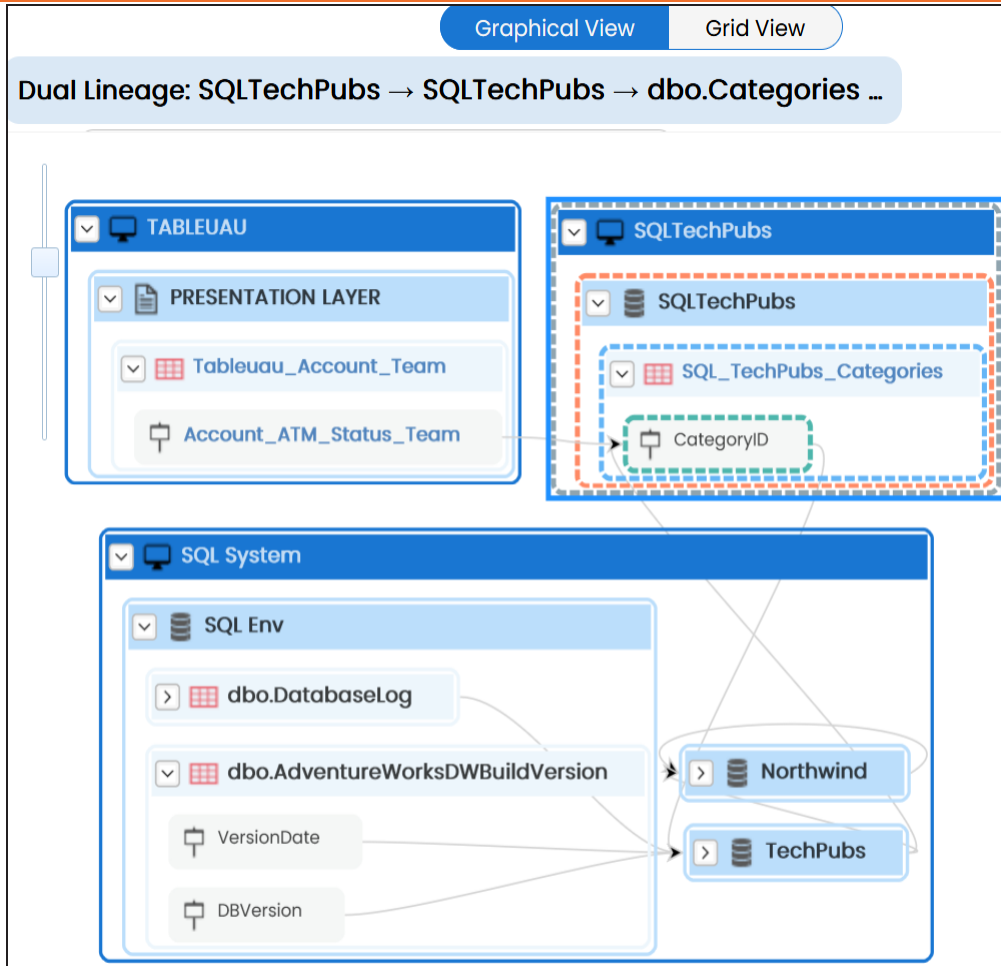
## Column



### Expanded Logical Name

Use this option to view expanded logical names of the tables and columns in an environment in the lineage. You can expand a system node to view environments, tables, and columns. or more information on configuring extended properties of columns, refer to the [Column](#) topic.

For example, the following image displays the table's expanded logical name in the lineage.

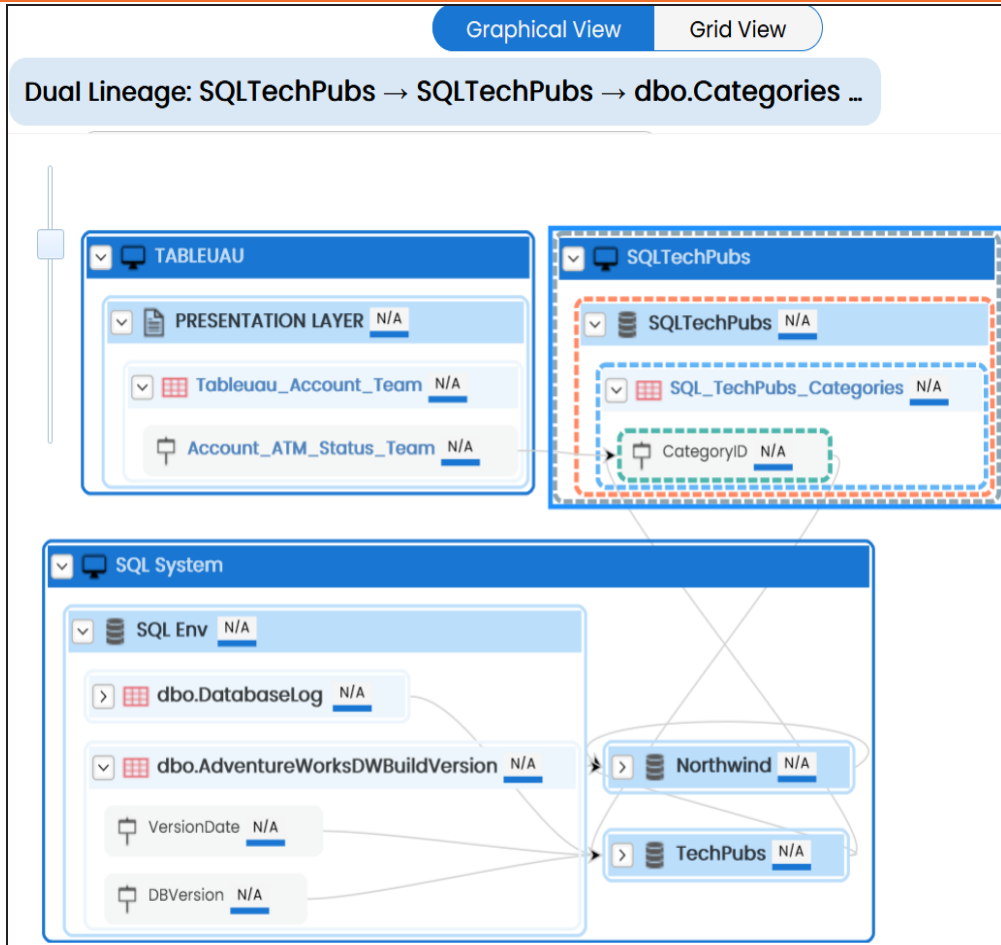


### DQ Tool Score

Use this option to view the data quality score of the environments, tables, and columns in the lineage. You can expand a system node to view data quality scores for environments, tables, and columns.

For example, the following image displays the data quality score in the lineage.

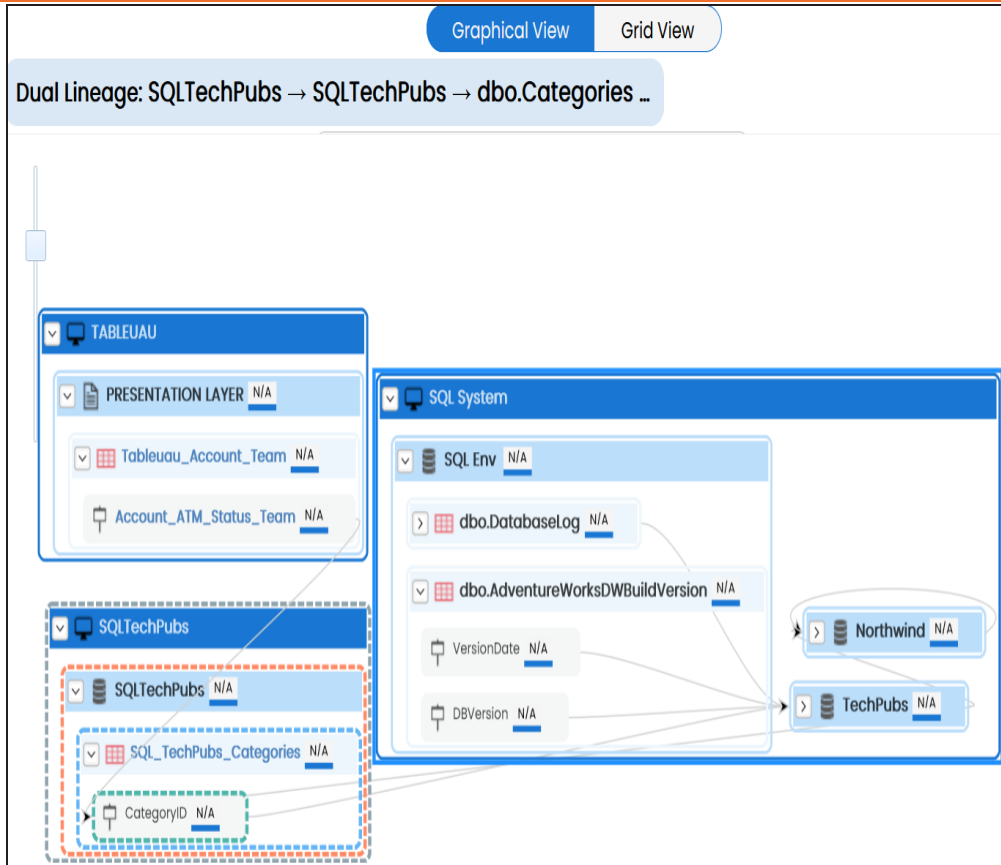




### Auto Layout

Use this option to rearrange the layout of the lineage automatically. For example, the following image displays the rearranged object layout with respect to the previous screenshot.

## Column

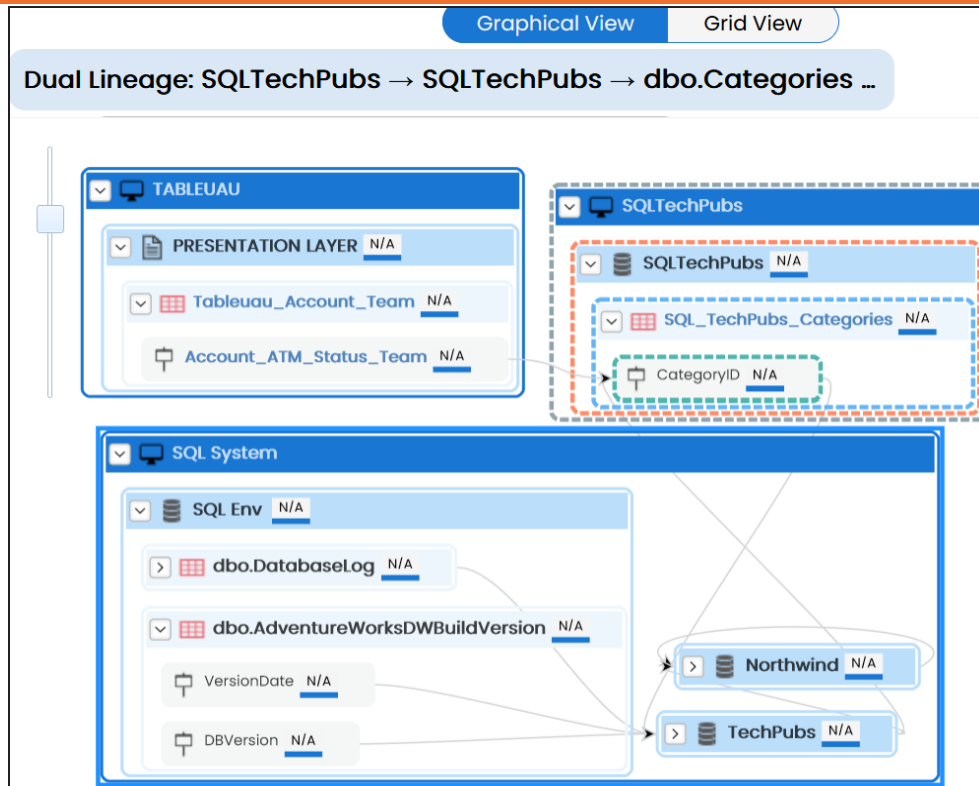


### Overview Lineage

Use this option to view the lineage excluding systems and environments that do not exist in the Metadata Manager. When this option is switched off, the views include systems and environments, that do not exist in the Metadata Manager.

For example, the following image displays lineage excluding assets that do not exist in Metadata Manager.

## Column



## Overview Pane

Use this option to remove the lineage overview pane from the graphical view.

## Previewing Data

You can preview data at table level using SQL queries. Data previewing capability at table level enables you to view data instantly and profile the data. You can also schedule a data profiling job and view data profiling summary report at the scheduled time.



Data Quality tab is not available if the Enable DQ Sync option is enabled for environments.

To preview table data, follow these steps:

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

By default, the Data Profiling tab opens.

#	Column Name	DQ Score	Column Datatype	Length	Locked?	Job State	Total Rows	Distinct Values	% Distinct Values	Repeated Values	Nulls	% Nulls	Min Value	Max	DQ Score
1	ChannelKey	—	Int		🔒		0	0	0%	0	0	0%			7 Total Columns
2	ChannelLabel	—	Nvarchar	100	🔒		0	0	0%	0	0	0%			0 Profiled Columns
3	ChannelName	—	Nvarchar	20	🔒		0	0	0%	0	0	0%			0 Total Rows
4	ChannelDescrip	—	Nvarchar	50	🔒		0	0	0%	0	0	0%			0 Unique Values
5	ETLLoadID	—	Int		🔒		0	0	0%	0	0	0%			0 Nulls
6	LoadDate	—	Datetime		🔒		0	0	0%	0	0	0%			
7	UpdateDate	—	Datetime		🔒		0	0	0%	0	0	0%			

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.

## Previewing Data

### User Credentials

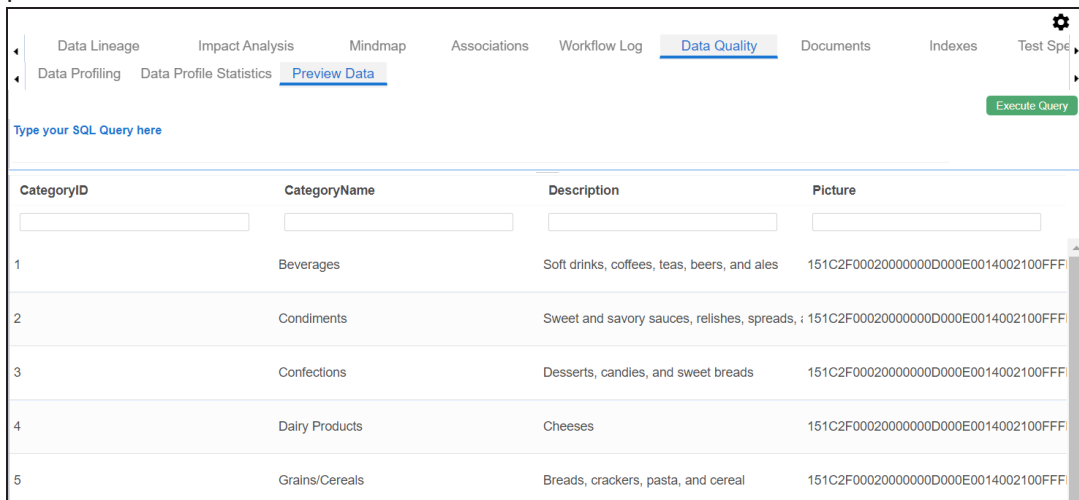
**Note:** Validate User credentials to proceed

User Name\* :

Password\* :

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.



The screenshot shows the 'Data Quality' section of a software interface. It includes a navigation menu with options like 'Data Lineage', 'Impact Analysis', 'Mindmap', 'Associations', 'Workflow Log', 'Data Quality', 'Documents', 'Indexes', and 'Test Spe'. Below the menu is a text input field for a SQL query and an 'Execute Query' button. The main area displays a table with the following data:

CategoryID	CategoryName	Description	Picture
1	Beverages	Soft drinks, coffees, teas, beers, and ales	151C2F0002000000D000E0014002100FFF
2	Condiments	Sweet and savory sauces, relishes, spreads, ;	151C2F0002000000D000E0014002100FFF
3	Confections	Desserts, candies, and sweet breads	151C2F0002000000D000E0014002100FFF
4	Dairy Products	Cheeses	151C2F0002000000D000E0014002100FFF
5	Grains/Cereals	Breads, crackers, pasta, and cereal	151C2F0002000000D000E0014002100FFF

You can also [profile data at table level](#) and provide data quality score.

# Profiling Data at Table Level

You can assess your data quality by profiling the data at table level. You need to schedule a data profiling job and provide the data quality score by assessing the data quality.



Data Quality tab is not available if the Enable DQ Sync option is enabled for environments.

To profile data at table level, follow these steps:

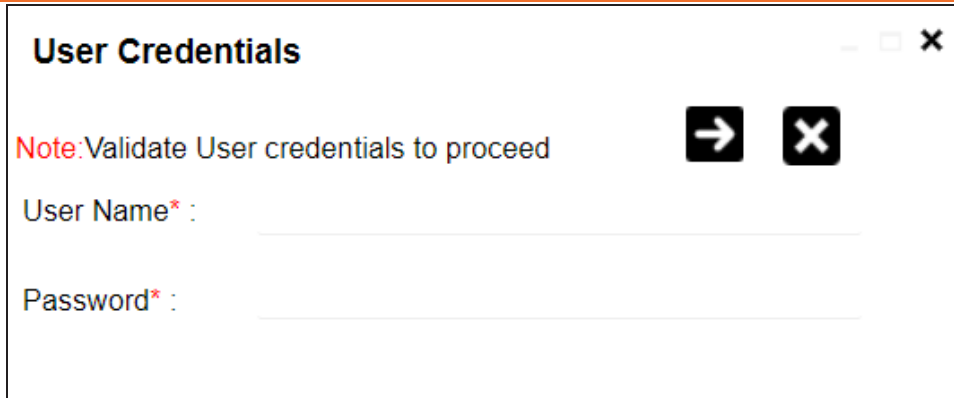
1. Go to **Application Menu > Data Catalog > Metadata Manager > Explore**.
2. In the **Data Catalog** pane, click a table.
3. Click **Data Quality**.

By default, the Data Profiling tab opens.



#	Column Name	DQ Score	Column Datatype	Length	Locked?	Job State	Total Rows	Distinct Values	% Distinct Values	Repeated Values	Nulls	% Nulls	Min Value	Max	DQ Score
1	ChannelKey	—	Int		🔒		0	0	0%	0	0	0%			7 Total Columns
2	ChannelLabel	—	Nvarchar	100	🔒		0	0	0%	0	0	0%			0 Profiled Columns
3	ChannelName	—	Nvarchar	20	🔒		0	0	0%	0	0	0%			0 Total Rows
4	ChannelDescr	—	Nvarchar	50	🔒		0	0	0%	0	0	0%			0 Unique Values
5	ETLLoadID	—	Int		🔒		0	0	0%	0	0	0%			0 Nulls
6	LoadDate	—	Datetime		🔒		0	0	0%	0	0	0%			
7	UpdateDate	—	Datetime		🔒		0	0	0%	0	0	0%			

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.



**User Credentials**

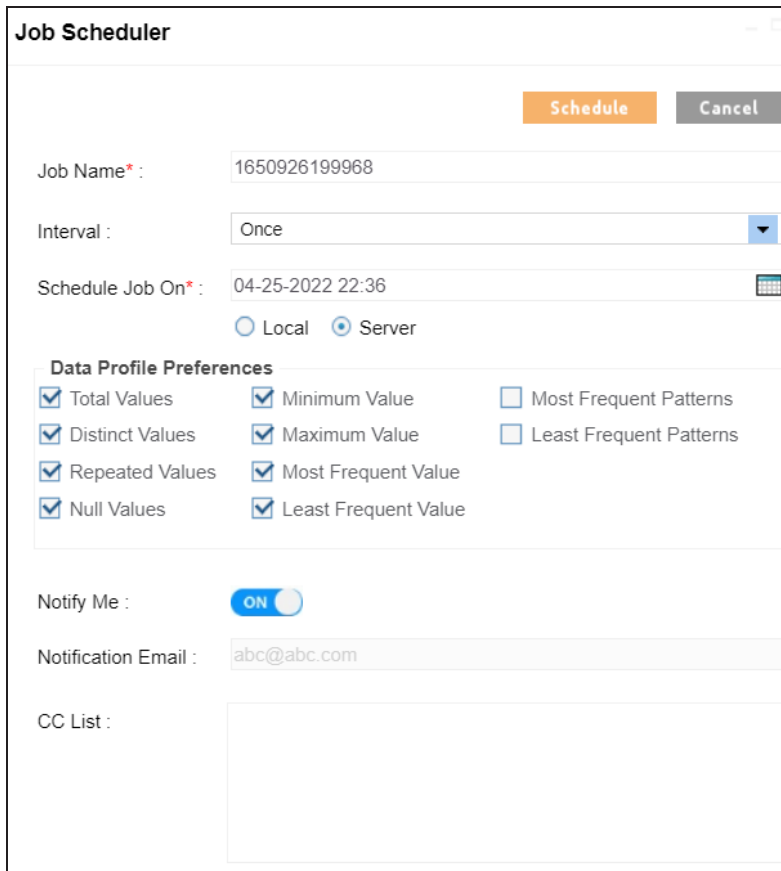
Note: Validate User credentials to proceed  

User Name\* : \_\_\_\_\_



Password\* : \_\_\_\_\_

6. Enter credentials to connect with the database.

The Job Scheduler page appears.



**Job Scheduler**

Job Name\* : 1650926199968

Interval : Once

Schedule Job On\* : 04-25-2022 22:36

Local  Server

**Data Profile Preferences**

<input checked="" type="checkbox"/> Total Values	<input checked="" type="checkbox"/> Minimum Value	<input type="checkbox"/> Most Frequent Patterns
<input checked="" type="checkbox"/> Distinct Values	<input checked="" type="checkbox"/> Maximum Value	<input type="checkbox"/> Least Frequent Patterns
<input checked="" type="checkbox"/> Repeated Values	<input checked="" type="checkbox"/> Most Frequent Value	
<input checked="" type="checkbox"/> Null Values	<input checked="" type="checkbox"/> Least Frequent Value	

Notify Me :


Notification Email : abc@abc.com

CC List : \_\_\_\_\_

## Profiling Data at Table Level

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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	<p>Specifies the job name.</p> <p>For example, Administrator1585030550001.</p> <p>This field autopopulates with a job name. You can edit it and enter a different job name.</p>
Interval	<p>Specifies the frequency of the job.</p> <p>For example, Every Week.</p>
Scheduled Job On	<p>Set the date and time of the job using .</p> <p>For example, 03-24-2020 11:45.</p>
Local or Server	<p>Select whether the job uses local or server time.</p> <ul style="list-style-type: none"><li>Local: Refers to your local machine.</li><li>Server: Refers to the machine where your application is deployed.</li></ul>
Data Profile Preferences	<p>Select the corresponding check boxes to give your data profile preferences in the profile grid report.</p> <ul style="list-style-type: none"><li><b>Total Values:</b> Select the check box to display the total number of rows in the selected columns.</li><li><b>Distinct Values:</b> Select the check box to display the number of distinct values in the selected columns.</li><li><b>Repeated Values:</b> Select the check box to display the number of repeated values in the selected columns.</li><li><b>Null Values:</b> Select the check box to display the number of null values in the selected columns.</li><li><b>Minimum Value:</b> 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 <a href="#">Configuring Data Profiling and DQ Scores</a> topic.</li><li><b>Maximum Value:</b> Select the check box to display the maximum</li></ul>



## Profiling Data at Table Level

Option	Description
	<p>value in the selected columns. For more information on this, refer to the <a href="#">Configuring Data Profiling and DQ Scores</a> topic.</p> <ul style="list-style-type: none"> <li>▪ <b>Most Frequent Value:</b> Select the check box to display the most frequent values in the selected columns.</li> <li>▪ <b>Least Frequent Value:</b> Select the check box to display the least frequent values in the selected columns.</li> <li>▪ <b>Most Frequent Patterns:</b> Select the check box to display the most frequent patterns in the selected columns. For more information on this, refer to the <a href="#">Configuring Data Profiling and DQ Scores</a> topic.</li> <li>▪ <b>Least Frequent Patterns:</b> Select the check box to display the least frequent patterns in the selected columns. For more information on this, refer to the <a href="#">Configuring Data Profiling and DQ Scores</a> topic.</li> </ul>
Notify Me	<p>Switch <b>Notify Me</b> to <b>ON</b> to receive email notification.</p> <p>For more information on email notification, refer to the <a href="#">Configuring Notification on Profiling Data</a> topic.</p>
Notification Email	<p>This field is autopopulated with your email ID.</p> <p>If you enable notifications in the <a href="#">Metadata Manager Settings</a>, you can receive email notifications from the <a href="#">administrator's email ID</a> about the scheduled job.</p>
CC list	<p>Enter a comma-separated list of email IDs that should receive email notifications about the scheduled job.</p> <p>For example, ab.dav@xyz.com, cal.kai@xyz.com</p>

### 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**.

## Profiling Data at Table Level

#	Column Name	DQ Score	Column Datatype	Length	Locked?	Job State	Total Rows	Distinct Values	% Distinct Values	Repeated Values	Nulls	% Nulls	Min Value
1	CategoryID	—	int	4	🔒	COMPLETED	8	8	100%	0	0	0%	1
2	CategoryName	—	nvarchar	15	🔒	COMPLETED	8	8	100%	0	0	0%	Beverages
3	Description	—	ntext	16	🔒		0	0	0%	0	0	0%	
4	Picture	—	image	16	🔒		0	0	0%	0	0	0%	
5	Pictu	—			🔒		0	0	0%	0	0	0%	
6	Rose	—			🔒		0	0	0%	0	0	0%	

9. Use the following options:

### Data Profiling Summary Report

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

Data Profiling Summary page appears.

Column Name	DQ Score	Column Type	Length	Total Rows	Distinct Values	% Distinct Values	Repeated Values	Nulls	% Nulls	Min Value	Max Value	Most Frequent	Least Frequent
CategoryID		int	4	8	8	100.0%	0	0	0.0%	1	8	1	1
CategoryName		nvarchar	15	8	8	100.0%	0	0	0.0%	Beverages	Seafood	Beverages	Beverages

### Data Profiling Pattern Summary

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

## Profiling Data at Table Level

The Data Profiling Pattern Summary page appears.

**Data Profiling Patterns Summary**

Export: [Icons]

**ID**

**Most Frequent Patterns**

Pattern	Count
NNN	39
NN	21

**Least Frequent Patterns**

Pattern	Count
NN	21
NNN	39

**SOURCE\_OBJECT\_ID**

**Most Frequent Patterns**

Pattern	Count
NNN	28
N	21
NNNN	8
NN	3

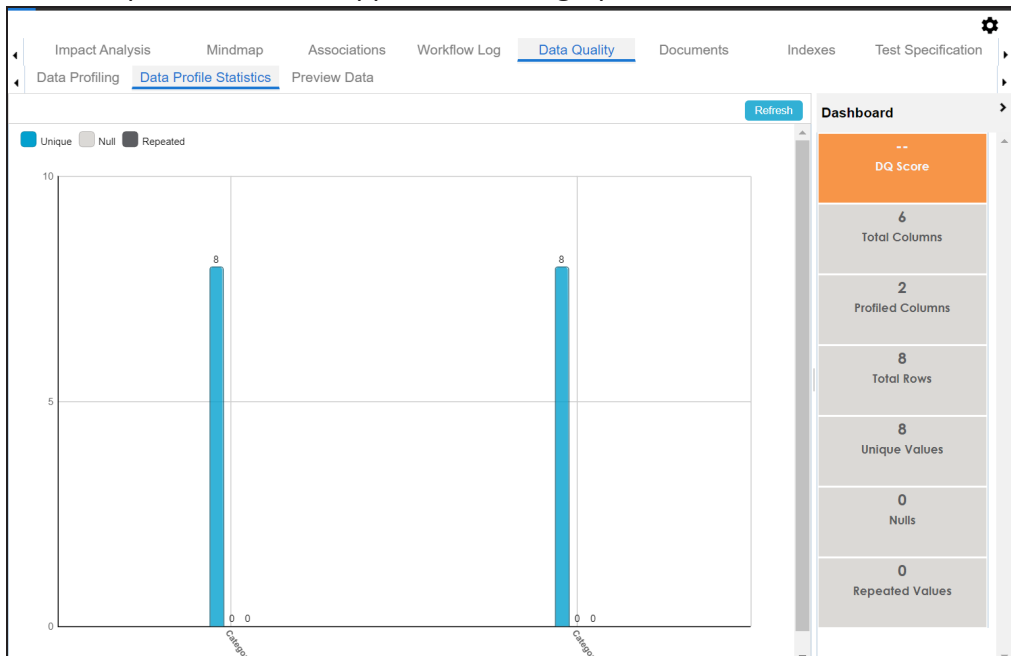
**Least Frequent Patterns**

Pattern	Count
NN	3
NNNN	8
N	21
NNN	28

## Data Profile Statistics

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

The data profile statistics appears in a bar graph.

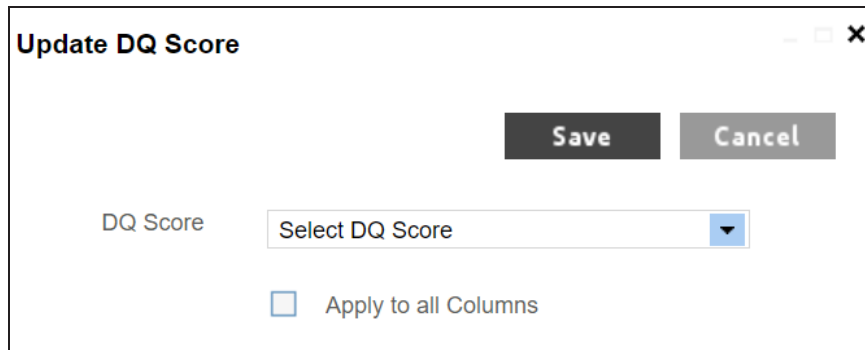


## Profiling Data at Table Level

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Click **DQ Score**.

The Update DQ Score page appears.



The screenshot shows a dialog box titled "Update DQ Score" with a close button (X) in the top right corner. Inside the dialog, there are two buttons: "Save" and "Cancel". Below the buttons, there is a label "DQ Score" followed by a dropdown menu with the text "Select DQ Score" and a downward arrow. At the bottom of the dialog, there is a checkbox labeled "Apply to all Columns".

Select **DQ Score** and click **Save**. The DQ Score is updated.

# Viewing Mind Maps

A mind map displays the pictorial representation of a technical asset and its association with other business and technical assets. Technical assets refer to systems, environments, tables, and columns. Business assets refer to business terms, business policies, business rules, and other business assets as defined in the Business Glossary Manager Settings.

You can view and analyze Mind Maps in following views:

- Logical View
- Conceptual View

You can select an asset on a mind map and view its properties, association statistics, and sensitivity under the Object Properties pane.

To view mind maps, follow these steps:

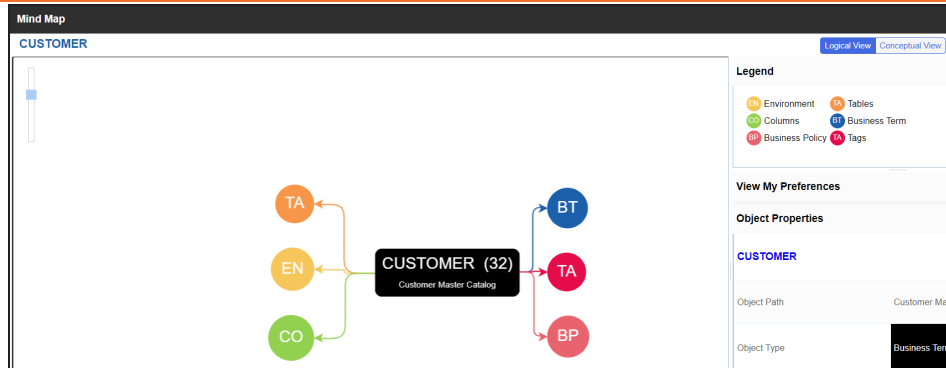
1. Go to **Application Menu > Data Catalog > Metadata Manager**.
2. In the **Data Catalog** pane, click a <Technical\_Asset>.
3. In the right pane, click the **Mind Map** tab.

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

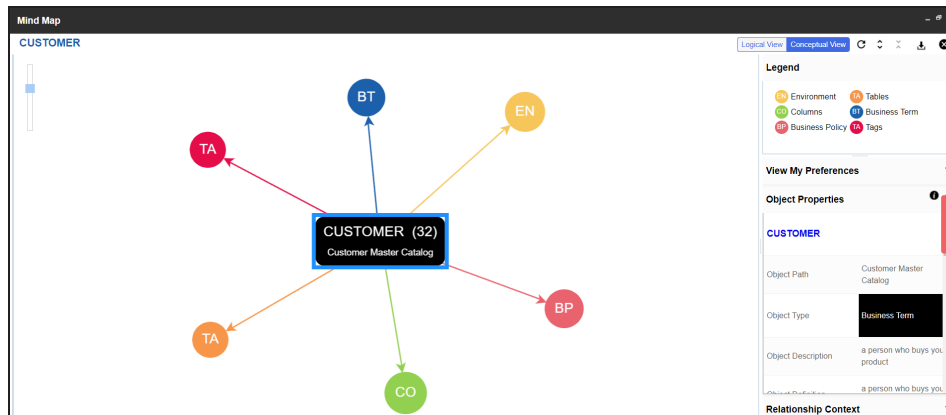
For example, if you click an environment in the Data Catalog pane and then click the Mind Map tab, the mind map of the environment appears.

4. On the Mind Map page, you can click **Logical View** or **Conceptual View** to switch between them:
  - **Logical View:** The logical view displays the associated technical assets on the left side and associated business assets on the right of the business asset. Selecting an asset on the mind map displays its properties in the Object Properties pane.

## Viewing Mind Maps



- **Conceptual View:** The logical view displays the associated technical assets in non-hierarchical representation. Selecting an asset on the mind map displays its properties in the Object Properties pane.



5. Use the following options to work on the mind map:

### Reload Diagram (🔄)

Use this option to reload the mind map.

### Expand Diagram (📏)

Use this option to expand the mind map to view the associated technical and business assets.

### Reset Diagram to Original View (🗑️)

Use this option to collapse the expanded nodes and restore the mind map to its original form.

## Viewing Mind Maps

---

### Export (↓)

Use this option to export the mind map. Hover over **Export** and use the following options:

**Mind Map - Excel Report:** Use this option to download the mind map in the .xlsx format. Ensure that you expand the mind map before downloading the report.

**Mind Map - Image:** Use this option to download the mind map as an image, in the .jpg format. Ensure that you expand the mind map before downloading the mind map image.

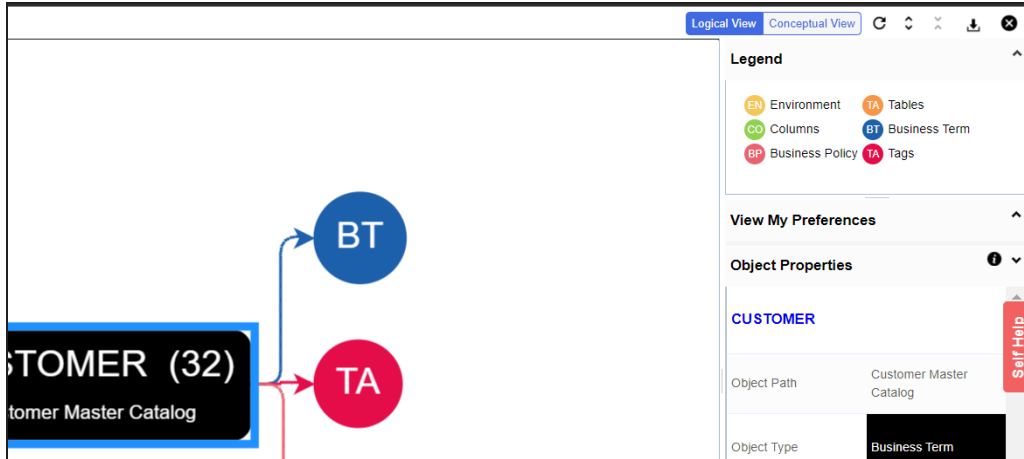
**Sensitivity Details - Excel Report:** Use this option to download the sensitivity report of all associated assets in the .xlsx format. This report includes sensitive data indicator (SDI), SDI classification, and SDI description of the associated assets.

You can use the following panes to view properties and configure preferences for the mind map:

- [Legend](#)
- [View My Preferences](#)
- [Object Properties](#)
- [Overview](#)

## Legends

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



## View My Preferences

You can set your preferences to view the mind map according to your requirements. The available settings differ based on the logical and conceptual view. Expand the **View My Preferences** pane and use the following options:

### Qualifier

Use the **Show Qualified View** option to display associated assets with other business and technical assets that are created using a unique qualifier. For more information about creating associations using a qualifier, refer to the [Setting Up Associations Using Qualifiers](#) topic.

### Asset Hierarchy

Use the following options to view asset hierarchy:

- **Gray Background:**  
Use this option to display gray colored background for the asset hierarchy nodes. For example, the following mind map displays nodes in the hierarchy with a gray-colored background.



This option is only available for Logical View.

- **Show Asset Hierarchy/Show Hierarchy:**  
Use this option to view hierarchy of all the assets in a mind map.



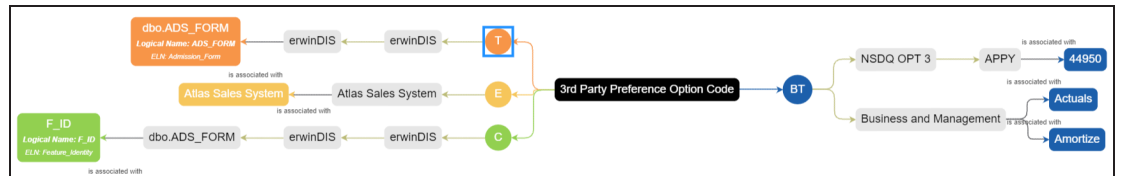
## Viewing Mind Maps

### 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:

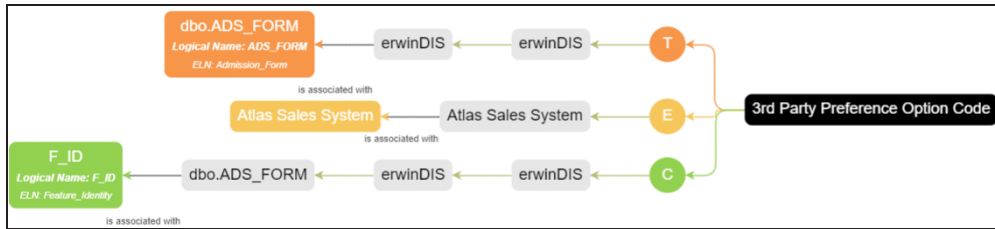
- **Logical Names:** Select the check box to view logical names of tables and columns on the mind map.
- **Expanded Logical Names:** Select the check box to view expanded logical names of tables and columns on the mind map.

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

## Viewing Mind Maps

logical names.



### View Sensitivity

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

#### Filters

Use the following filter options to select information availability on mind maps:

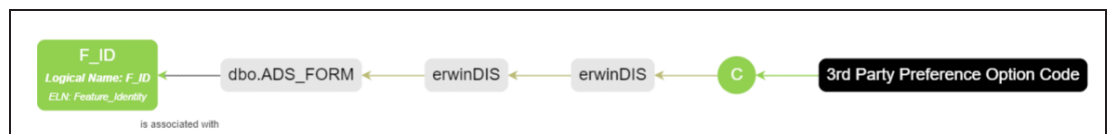
- **By Asset Type:** Use this option to filter and display asset types on the mind map.
- **By Relationship:** Use this option to filter and display assets on the mind map based on relationships.

For example, in the By Asset Type list, select Column and in the By Relationship list select is associated with. Doing this displays only those columns that have the is associated type of relationship with the asset.

- **Sensitivity Data Indicator(Y/N):** Select the check box to indicate whether an asset is classified as sensitive.
- **Sensitive Data Classification:** Select the check box to view the sensitivity classification of assets.

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

For more information on updating asset's sensitivity in mind maps, refer to the [Updating Sensitivity](#) topic.



## Object Properties

Expand the Object Properties pane to view the selected asset's information such as its path, type, association statistics, data governance responsibilities, and sensitivity classification of an asset.

## Overview

Expand this pane to open a panned view of the mind map. You can drag the purple box to move across the mind map and focus on specific areas.



## Setting Up Associations using Qualifiers

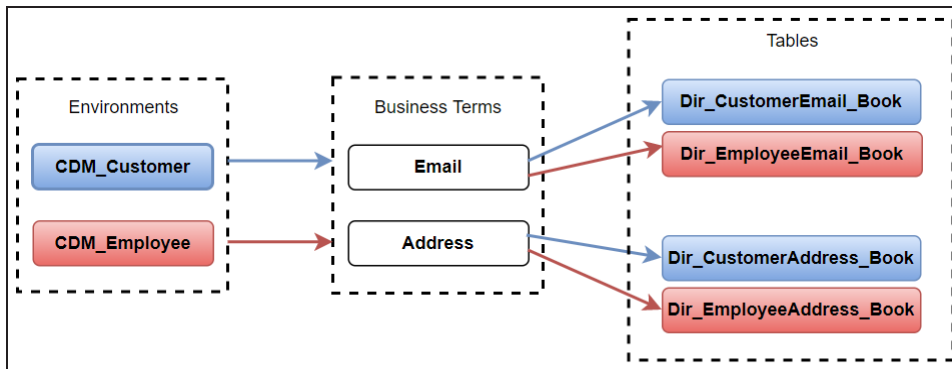
You can associate technical and business assets based on a unique qualifier. A qualifier displays associations that are uniquely identified by a business or technical asset in a mind map. You can also create multiple levels of associations that are unique for a technical or business asset.

This topic walks you through the steps to create associations between environments, business terms, and tables. Then, use the environment as a unique qualifier for association using an example.

The example creates association between technical and business assets in two parts:

- Environments, CDM\_Customer and CDM\_Employee are associated with respective assets, such as Email and Address.
- Business terms, Email and Address are associated with relevant assets using CDM\_Customer and CDM\_Employee environments as qualifier.

The following diagram shows how technical and business assets are associated.



In this diagram:

1. Customer information (customer's email and address) is associated with environment, CDM\_Customer, using it as a qualifier.
2. Employee information (employee's email and address) is associated with the environment, CDM\_Employee, using it as a qualifier.

## Setting Up Associations using Qualifiers

As a result, when you view mind map of either of the Environments (CDM\_Customer or CDM\_Employee) with the qualifier option enabled, only the associations related to CDM\_Customer or CDM\_Employee are displayed. For more information on mind map, refer to the [Viewing Mind Maps](#) topic.



For the qualifier option to function as intended, we recommend that you follow the example in this topic to set up associations.

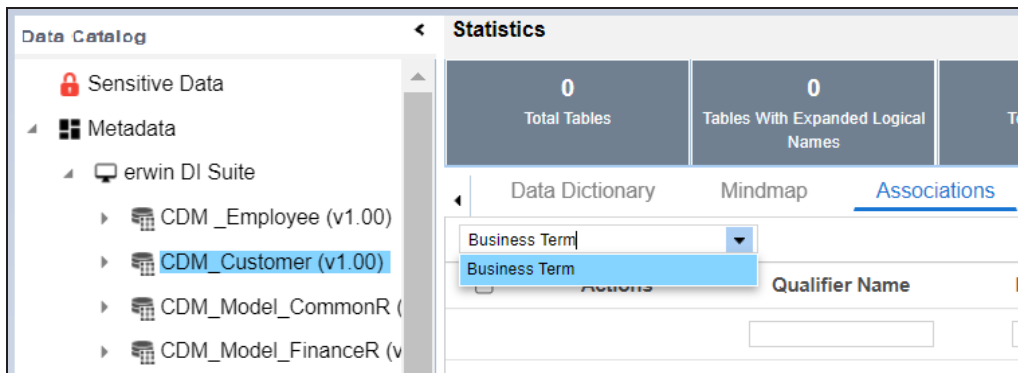
To set up associations for Environments (CDM\_Customer or CDM\_Employee) using a qualifier, go to **Application Menu > Data Catalog > Metadata Manager > Explore**. Then, set up associations as follows:

- [Associating CDM\\_Customer as a Unique Qualifier](#)
- [Associating CDM\\_Employee as a Unique Qualifier](#)

## Associating CDM\_Customer as a Unique Qualifier

To define associations for CDM\_Customer based on the diagram explained above, and use it as a unique qualifier for its associations, follow these steps:

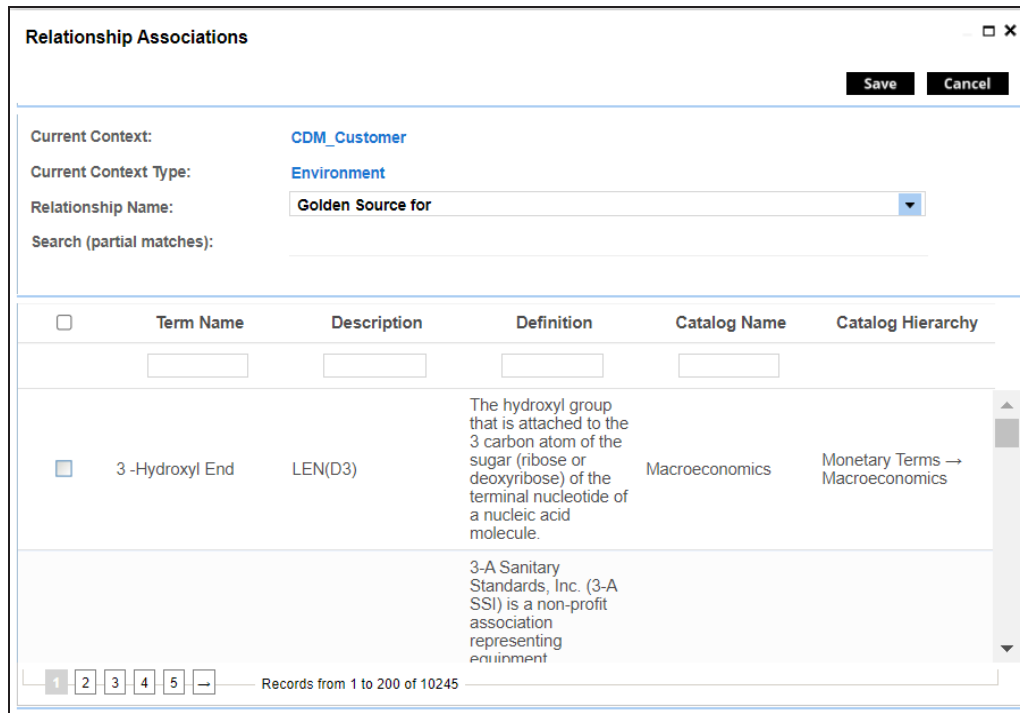
1. In the **Data Catalog** pane, click CDM\_Customer environment .
2. Click the **Associations** tab.
3. In the asset type (business policies, business terms, columns, environments, and tables) list, select Business Term to associate with the environment, CDM\_Customer.



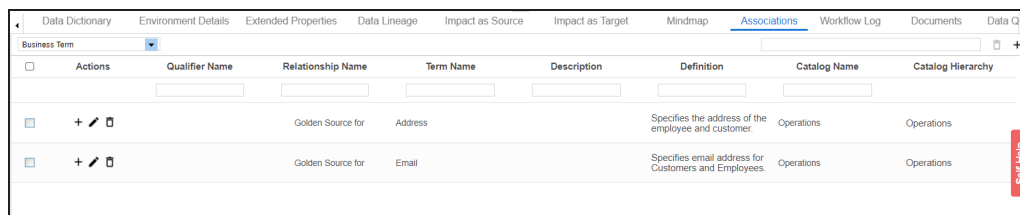
4. Click **+**.  
The Relationship Associations page appears. Based on the asset type that you select, it

## Setting Up Associations using Qualifiers

displays a list of available assets.



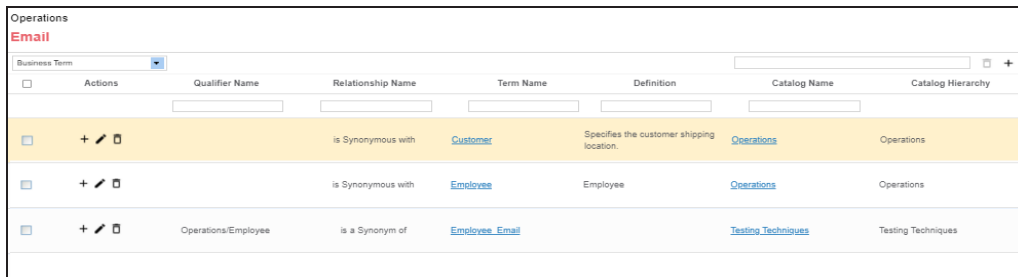
5. Select the assets, Email and Address to associate with CDM\_Customer. If you know the asset name, use the Search (partial matches) field to look up for it
6. Click **Save**.  
Email and Address are associated with the CDM\_Customer and added to its list of associations.



7. For Email, under the **Actions** column, click **+** to associate with other assets using CDM\_Customer as a qualifier.

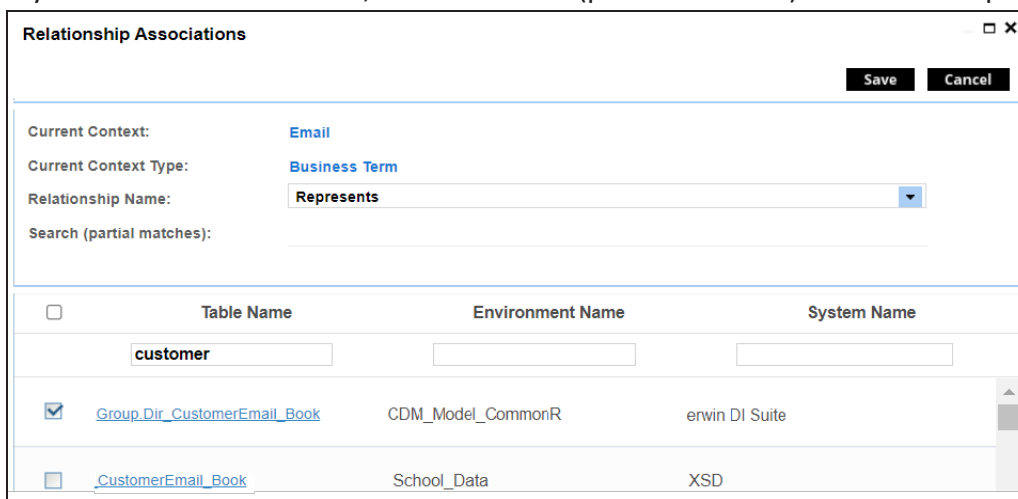
## Setting Up Associations using Qualifiers

The Operations page for Email appears and displays other associations.



Actions	Qualifier Name	Relationship Name	Term Name	Definition	Catalog Name	Catalog Hierarchy
<input type="checkbox"/> + ✎ 🗑		is Synonymous with	<a href="#">Customer</a>	Specifies the customer shipping location.	<a href="#">Operations</a>	Operations
<input type="checkbox"/> + ✎ 🗑		is Synonymous with	<a href="#">Employee</a>	Employee	<a href="#">Operations</a>	Operations
<input type="checkbox"/> + ✎ 🗑	Operations/Employee	is a Synonym of	<a href="#">Employee_Email</a>		<a href="#">Testing Techniques</a>	Testing Techniques

8. In the asset type (business policies, business terms, columns, environments, and tables) list, select **Table** to associate with the business term Email using CDM\_Customer as a qualifier.
9. Click **+** on the top-right corner.  
The Relationship Associations page appears.
10. Select Dir\_CustomerEmail.Book to associate with Email, using CDM\_Customer as a qualifier.  
If you know the asset name, use the Search (partial matches) field to look up for it.



**Relationship Associations** ✖

**Save** **Cancel**

Current Context: [Email](#)

Current Context Type: [Business Term](#)

Relationship Name: [Represents](#) ▼

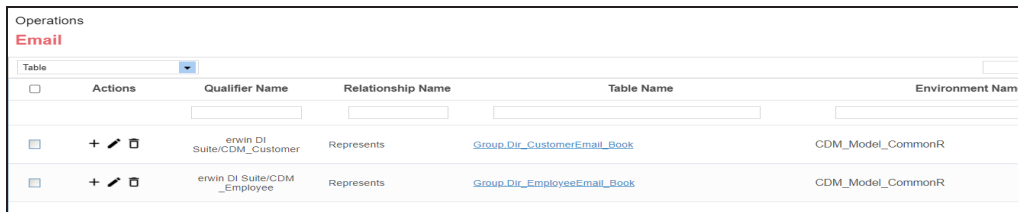
Search (partial matches):

<input type="checkbox"/>	Table Name	Environment Name	System Name
<input type="checkbox"/>	<input type="text" value="customer"/>	<input type="text"/>	<input type="text"/>
<input checked="" type="checkbox"/>	<a href="#">Group_Dir_CustomerEmail_Book</a>	CDM_Model_CommonR	erwin DI Suite
<input type="checkbox"/>	<a href="#">_CustomerEmail_Book</a>	School_Data	XSD

11. Click **Save**.  
Dir\_CustomerEmail\_Book is associated with Email using CDM\_Customer as a qualifier. Once the Dri\_CustomerEmail\_Book table is associated with Email, the **Qualifier Name**

## Setting Up Associations using Qualifiers

column displays Customer as a unique qualifier for the asset.



Actions	Qualifier Name	Relationship Name	Table Name	Environment Name
+ ✎ □	erwin DI Suite/CDM_Customer	Represents	<a href="#">Group.Dir_CustomerEmail_Book</a>	CDM_Model_CommonR
+ ✎ □	erwin DI Suite/CDM_Employee	Represents	<a href="#">Group.Dir_EmployeeEmail_Book</a>	CDM_Model_CommonR

- Repeat steps 7 to 11 to associate Dri\_Customer\_Address with Address using CDM\_Customer as a qualifier.

Once the Dir\_CustomerAddress\_Book table is associated with Address, the **Qualifier Name** column displays CDM\_Customer as a unique qualifier for the asset.

## Associating CDM\_Employee as a Unique Qualifier

Similarly, you can define associations for CDM\_Employee based on the diagram explained above, and use it as a unique qualifier for its associations. To create association based on the diagram, follow steps in [Association CDM\\_Customer as a Unique Qualifier](#) section.

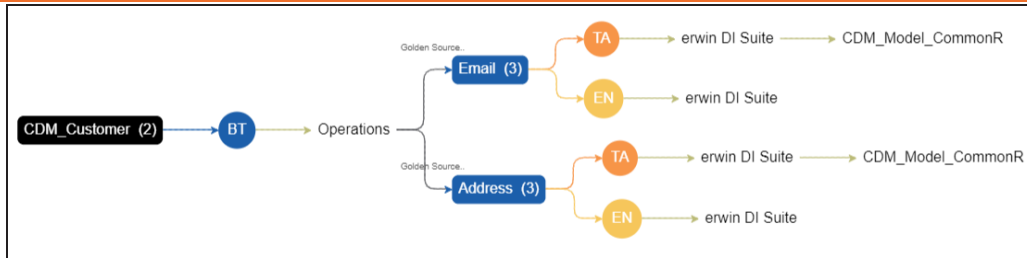
Once you have created associations, you can view them in [mind map](#). Use the **Show Qualified View** option in the mind map to view the association based on a qualifier. In this case, CDM\_Customer.

To view mind map, click **Mind Map** tab for the CDM\_Customer. Then, select the **Show Qualified View** option. Selecting this option displays only associations that are based on the unique qualifier, CDM\_Customer.

- **With Show Qualified View option:** View associations based on CDM\_Customer as a qualifier.

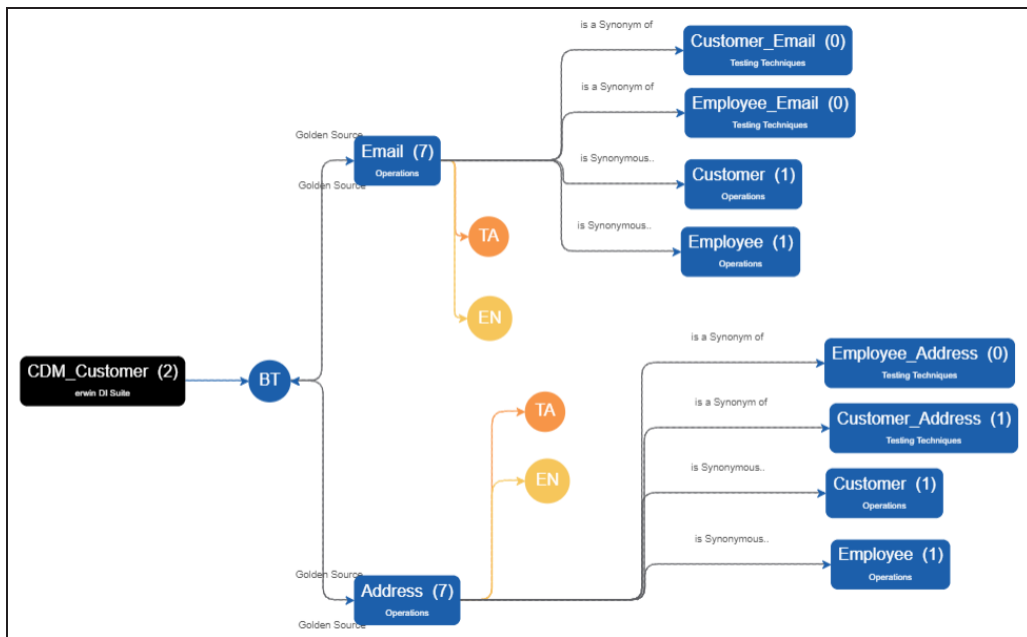


## Setting Up Associations using Qualifiers



Similarly, you can view associations in a mind map using CDM\_Employee as a qualifier.

- **Without Show Qualified View option:** View all associations without a qualifier.



Similarly, you can view associations in a mind map for the environment CDM\_employee.

## Configuring Extended Properties

You can configure user-defined properties for technical assets. First, you need to set up a form and then use it to configure user-defined extended properties.

You can configure extended properties of technical assets in the following ways:

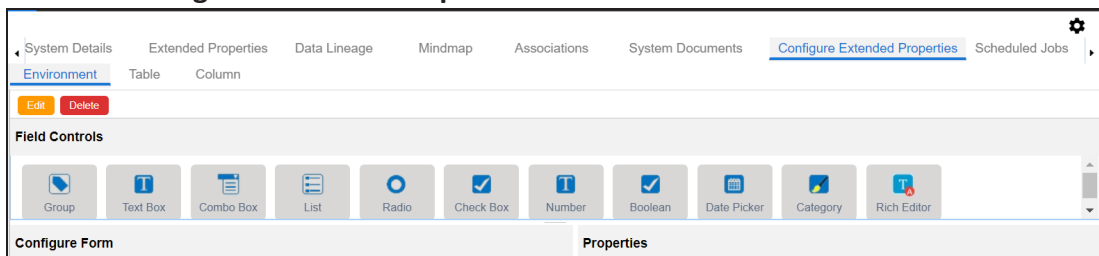
- [Configure extended properties globally](#)
- [Configure extended properties for individual assets](#)

## Configure Extended Properties Globally

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

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

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

## Configuring Extended Properties

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

4. Use the following tabs:

### Environment

Use this tab to configure extended properties for environments under the selected system.

### Table

Use this tab to configure extended properties for tables under the selected system.

### Column

Use this tab to configure extended properties for columns under the selected system.

5. On these tabs, click **Edit**.
6. Double-click or drag and drop the required UI elements from the **Field Controls** pane to the **Configure Form** pane.
7. Select UI elements, one at a time, and configure their properties in the **Properties** pane.

The screenshot displays the 'Configure Extended Properties' window with the 'Environment' tab selected. The interface is divided into several sections:

- Navigation:** System Details, Extended Properties, Data Lineage, Mindmap, Associations, System Documents, **Configure Extended Properties**, and Scheduled Jobs.
- Sub-tabs:** Environment (selected), Table, and Column.
- Buttons:** Save, Cancel, and Delete.
- Field Controls:** A row of icons for Group, Text Box, Combo Box, List, Radio, Check Box, Number, Boolean, Date Picker, Category, and Rich Editor.
- Configure Form:** A form with fields for Modules (a dropdown menu), Address, and Surrounded By (a text input field).
- Properties:** A table listing properties for the selected 'Surrounded By' field.

Property	Value
Published	<input checked="" type="checkbox"/>
Field	Surrounded By
Type	Text Box
Dependencies	Type or click here
Configure Values	<input type="button" value="Configure"/>

## Configuring Extended Properties



The available properties differ based on the type of UI element.

Refer to the following table for property descriptions:

Property	Description
Published	Switch <b>Published</b> to <b>ON</b> to publish the field.
Field	Specifies the field label. To change the field labels, double-click the corresponding <b>Value</b> cell.  For example, Metadata Scanned On.
Type	Specifies the type of the field. To select field types, double-click the corresponding <b>Value</b> 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 <b>Configure Values</b> . Use the following options: <ul style="list-style-type: none"><li>▪ <b>Default connector</b>: Use this option to enter option values manually or using an XLSX file.</li><li>▪ <b>Reference Data Manager</b>: Use this option to pull option values from reference tables in the Reference Data Manager.</li></ul>
Mandatory	Specifies whether the field is mandatory.
Description	Specifies the field description. To enter field descriptions, double-click the corresponding <b>Value</b> cell.
Visible in Extended Properties	Switch <b>Visible in Extended Properties</b> to <b>ON</b> to make the field visible on the Extended Properties tab.
Use in Discover Assets	Switch <b>Use in Discover Assets</b> to <b>ON</b> to use the field as a filter in the Discover Assets module.

## Configuring Extended Properties

Property	Description
	Ensure the following: <ul style="list-style-type: none"><li>▪ Filter feature supports field types such drop-down, list, checkbox, radio, and boolean.</li><li>▪ Switch the <b>Include Extended Properties</b> option <b>ON</b> on the <a href="#">Discover Asset Settings</a> page.</li><li>▪ Schedule a <a href="#">synchronization job or manually synchronize</a> the asset before you can filter assets on the Discover Assets module.</li></ul>
Order	Specifies the order of the field on the Extended Properties tab. To enter the order number, double-click the corresponding Value cell. You can also drag and move fields in the Configure Form pane to change their order.

8. Click **Save**.

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

Similarly, you can also configure the extended properties form at environment, table, and column levels. Once you configure the form, you can set up extended property values on the Extended Properties tab at system level or individual asset levels.

To use the form, at system level or other (environment, table, or column) levels, follow these steps:

1. In the **Data Catalog** pane, click the required object.
2. Click the **Extended Properties** tab.

## Configuring Extended Properties

Property	Value
Type	Combo Box
Configure Values	<button>Configure</button>
Mandatory	<input type="checkbox"/> OFF

3. Click **Edit** and set extended properties.

4. Click **Save**.

The extended properties are saved.

You can download extended properties in the XLSX format and use it as a template to [import extended properties](#). To download extended properties, click **Export To Excel**.

## Configure Extended Properties for Individual Assets

You can also configure the extended properties for any individual technical asset.

To configure the extended properties for an individual asset, select an asset from the Metadata Manager, and click the **Extended Properties** tab.

For example, the following image displays the Extended Properties tab for the selected environment. Similarly, you can configure the extended properties of individual assets such as systems, tables, and columns.

## Configuring Extended Properties

The screenshot displays the 'Data Catalog' interface in the 'Explore' view. On the left, a 'Data Catalog' sidebar shows a tree structure under 'Metadata' with 'erwin DI Suite' expanded to show a '\_Local (v1.01)' folder. The main area is titled 'Statistics' and contains four circular progress indicators: 'Total Primary Key Columns' at 7%, 'Total Foreign Key Columns' at 9%, 'Tables With Expanded Logical N..' at 0%, and 'Columns With Expanded Logical ..' at 0%. Below the statistics, the 'Extended Properties' tab is active, showing 'Configure', 'Edit', and 'Delete' buttons. The 'Form Values' section includes a 'Group' field, a 'Modules' dropdown menu (set to 'Select an option'), a 'Name' text box (containing 'Victor'), two 'Text Box' fields, and a 'Text Box1' field. At the bottom right, there is a list of options: 'Winter' and 'Cold', with 'Winter' selected.

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

## Default Connector

When you configure extended properties using UI elements, such as combo box, radio button, and list, you also need to configure their option values. You can use the default connector to import option values from an MS Excel file or enter them manually.

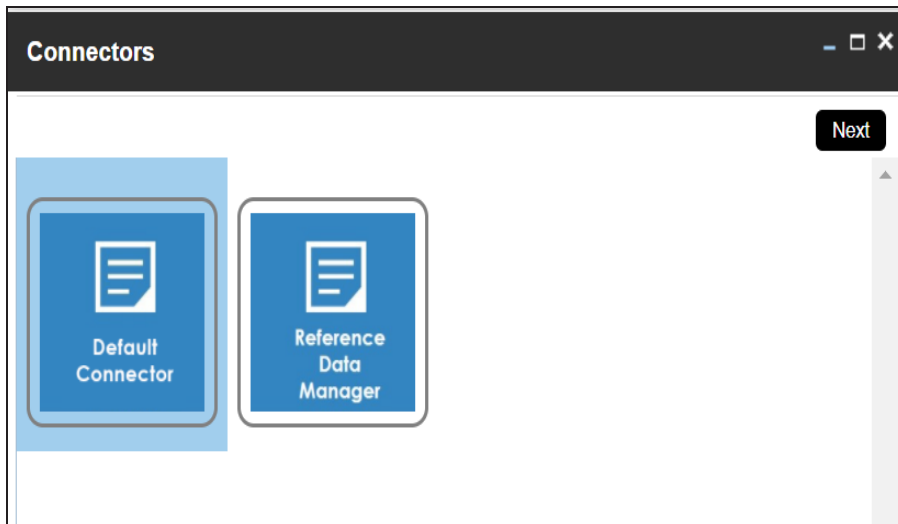
To configure option values using the default connector, follow these steps:

1. In the **Configure Form** section, click the required UI element.

Ensure that you are in edit mode.

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

The Connectors page appears.



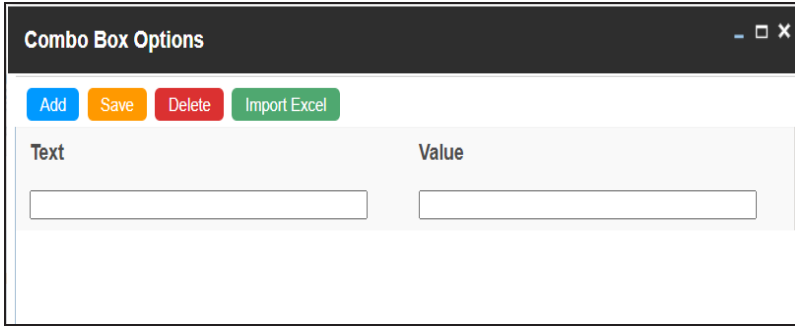
3. On the **Connectors** page, ensure that the Default Connector option is selected. Then, click **Next**.

The <UI\_Element> Options page appears. For example, if the UI element is Combo Box, the Combo Box Options page appears.



## Default Connector

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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.

## Default Connector

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Text	Value
<input type="text"/>	<input type="text"/>
Data Steward_GER	rcooper
Data Steward_ROM	vsmith
<input type="text"/>	

3. Click **Save**.

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

**Combo Box** Select an option ▼

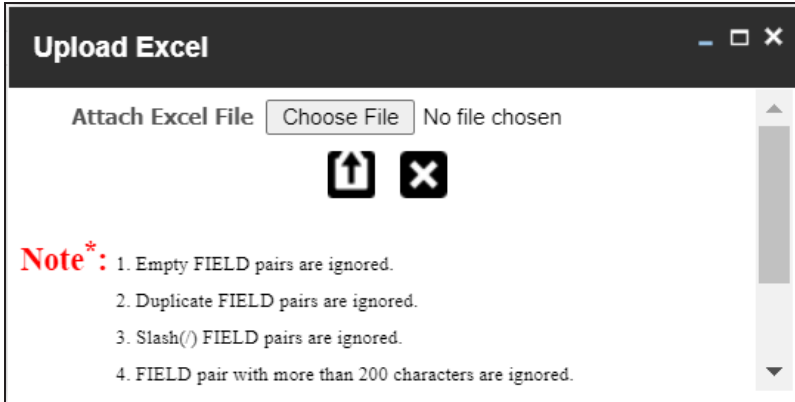
- Select an option
- Data Steward\_GER
- Data Steward\_ROM**

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

1. Click **Import Excel**.

The Upload Excel page appears.

## Default Connector



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.

#	GROUP NAME	ROLE NAME	USER ID
#	Select Column To Import	Select Column To Import	Select Column To Import
1	Data Stewards	Data Steward_GER	mmannigan
2	Data Stewards	Data Steward_GER	mmenza
3	Data Stewards	Data Steward_GER	mmannigan

3. Double-click the **Select Column To Import** cell in the required column.

The available options appear.

#	GROUP NAME	ROLE NAME	USER ID
#	Select Column To Import	Select Column To Import	Select Column To Import
1	Data Stewards	Data Steward_GER	mmannigan

## Default Connector

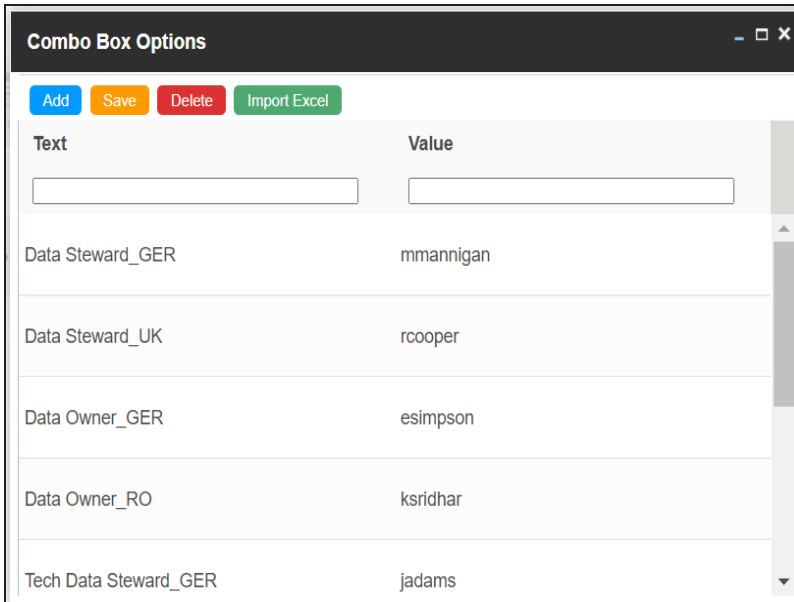
---

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 .

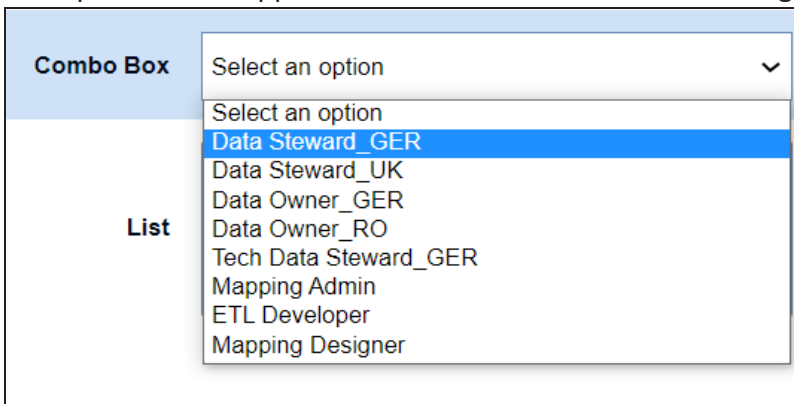
The <UI\_Element> Options page appears. It displays the imported columns. You can delete a row that is not required. To delete rows, click a row and then click **Delete**.



Text	Value
Data Steward_GER	mmanigan
Data Steward_UK	rcooper
Data Owner_GER	esimpson
Data Owner_RO	ksridhar
Tech Data Steward_GER	jadams

6. Click **Save**.

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



**Combo Box** Select an option ▼

Select an option

**List**

- Data Steward\_GER
- Data Steward\_UK
- Data Owner\_GER
- Data Owner\_RO
- Tech Data Steward\_GER
- Mapping Admin
- ETL Developer
- Mapping Designer

## 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.

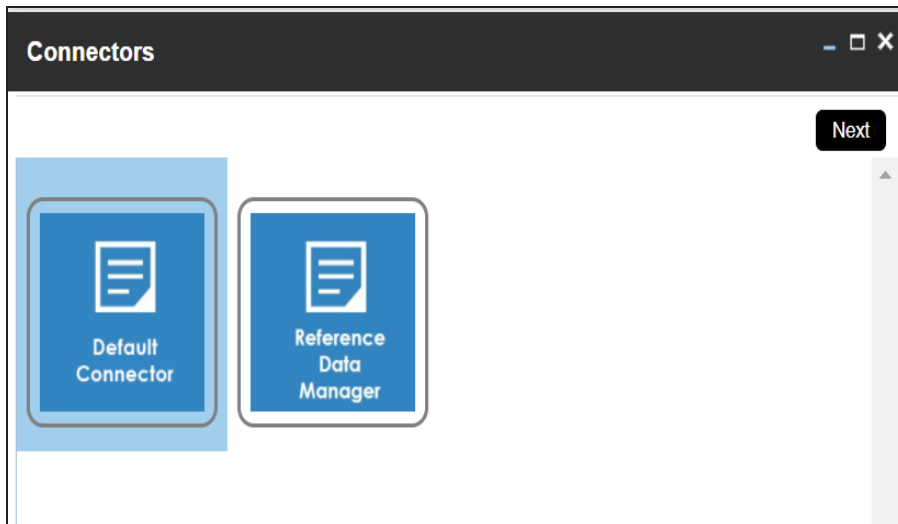
To configure option values using reference data manager connector, follow these steps:

1. In the **Configure Form** section, click the required UI element.

Ensure that you are in edit mode.

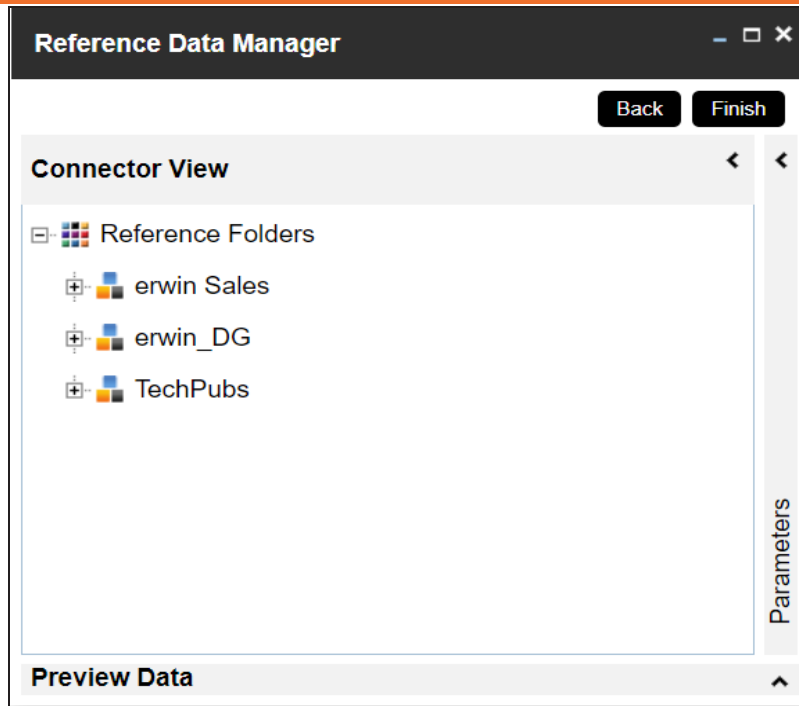
2. In the **Properties** section, click **Configure**.

The Connectors page appears.



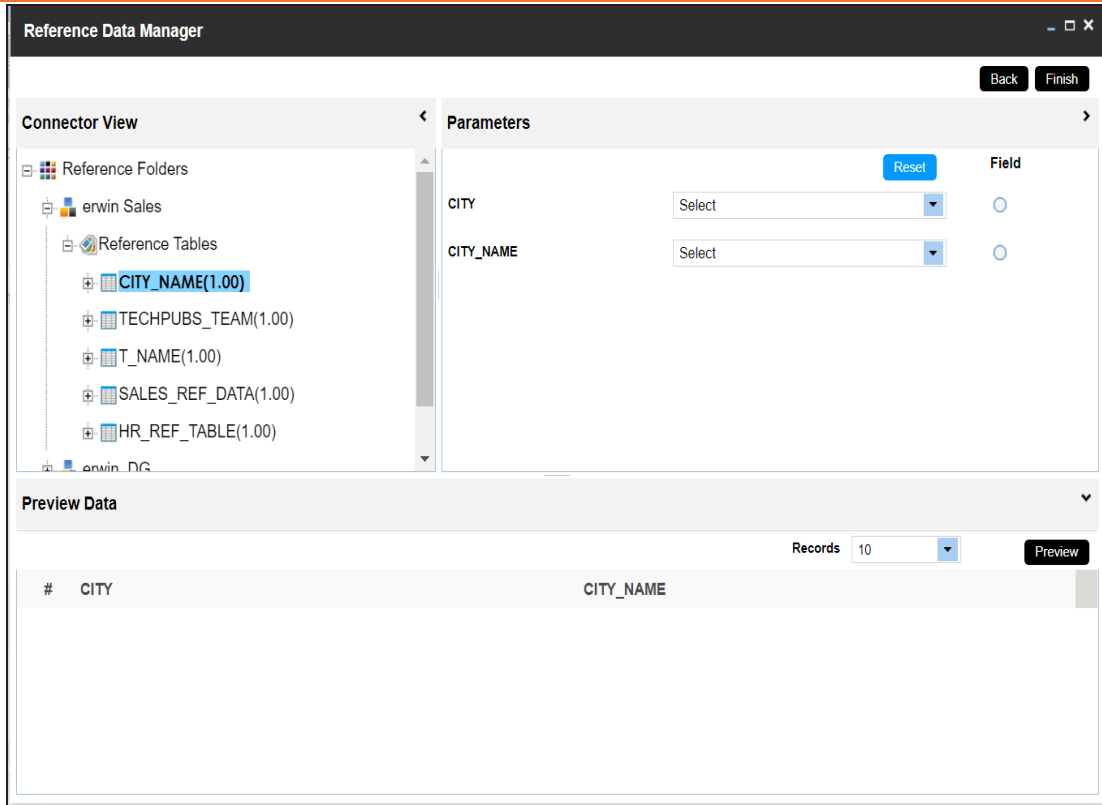
3. On the **Connectors** page, click **Reference Data Manager** and then click **Next**.

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.

## Reference Data Manager



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.

## Reference Data Manager

The screenshot shows the 'Extended Properties Configuration' window. At the top, there are 'Save', 'Cancel', and 'Delete' buttons. Below is the 'Field Controls' section with icons for Group, Text Box, Combo Box, List, Radio, Check Box, Number, Boolean, Date Picker, and Category. The 'Configure Form' section contains a 'Selected Roles Group' dropdown with 'Compliance Officer' selected, and a 'List of Cities' dropdown with 'Los Angeles' selected. A 'Radio' control is visible at the bottom. The 'Properties' section on the right has a table with the following data:

Property	Value
Description	
Load On Startup	<input type="checkbox"/>
Visible in Extended Properties	<input checked="" type="checkbox"/>

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.

The screenshot shows the 'Configure Form' with the following fields and values:

- Governance Responsibilities:** Compliance Officer
- Selected Roles Group:** Compliance Officer
- List of Cities:** Mumbai, Los Angeles, New Delhi
- Selected City:**  Los Angeles



# 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:

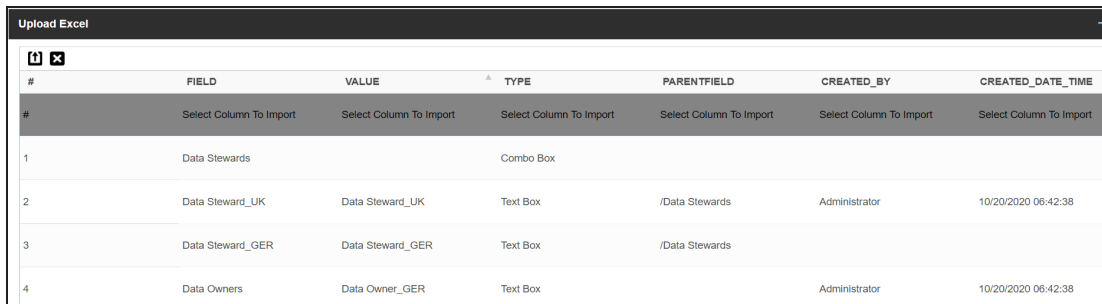
1. On the **Extended Properties** tab, click **Import From Excel**.

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.



The screenshot shows the "Upload Excel" window with a table of data. The table has columns for #, FIELD, VALUE, TYPE, PARENTFIELD, CREATED\_BY, and CREATED\_DATE\_TIME. The first row is a header, and the second row is a placeholder. The following rows contain data for various fields.

#	FIELD	VALUE	TYPE	PARENTFIELD	CREATED_BY	CREATED_DATE_TIME
#	Select Column To Import	Select Column To Import	Select Column To Import	Select Column To Import	Select Column To Import	Select Column To Import
1	Data Stewards		Combo Box			
2	Data Steward_UK	Data Steward_UK	Text Box	/Data Stewards	Administrator	10/20/2020 06:42:38
3	Data Steward_GER	Data Steward_GER	Text Box	/Data Stewards		
4	Data Owners	Data Owner_GER	Text Box		Administrator	10/20/2020 06:42:38

5. Double-click the **Select Column To Import** cell in the required column.

The available options appear.

## Importing from Excel

#	FIELD	VALUE	TYPE	PARENTFIELD
#	Select Column To Import	Select Column To Import	Select Column To Import	Select Column To Import
1			Combo Box	
2	Data Steward_UK	Data Steward_UK	Text Box	/Data Stewards
3	Data Steward_GER	Data Steward_GER	Text Box	/Data Stewards

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.

Configure Edit Delete Import From Excel Export To Excel

**Form Values**

Data Stewards

Data Owners

Technical Data Steward

Compliance Officer

Self Help

## Creating and Managing Test Cases for Tables

You can define test cases for a table in the Metadata Manager and determine the testing type, expected and actual results, SQL script, and more. You can also enrich a test case by adding validation steps and supporting documents to it.

The metadata-level test cases are stored in the Test Manager under a project. This project follows the <System\_Name>\_<Environment\_Name> nomenclature format.

Creating and managing test cases involves:

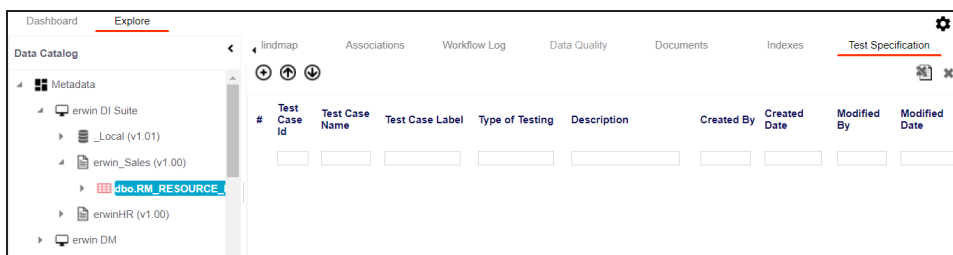
- [Creating test cases](#)
- [Adding validation steps](#)
- [Adding documents](#)
- [Managing test cases](#)

# Creating Test Cases

In the Metadata Manager, you can define test cases for tables. You can also add documents and multiple validation steps to the test cases.

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

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



4. Click .

The Add New Test Case page appears.

## Creating Test Cases

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

## Creating Test Cases

Field Name	Description
	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 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.
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

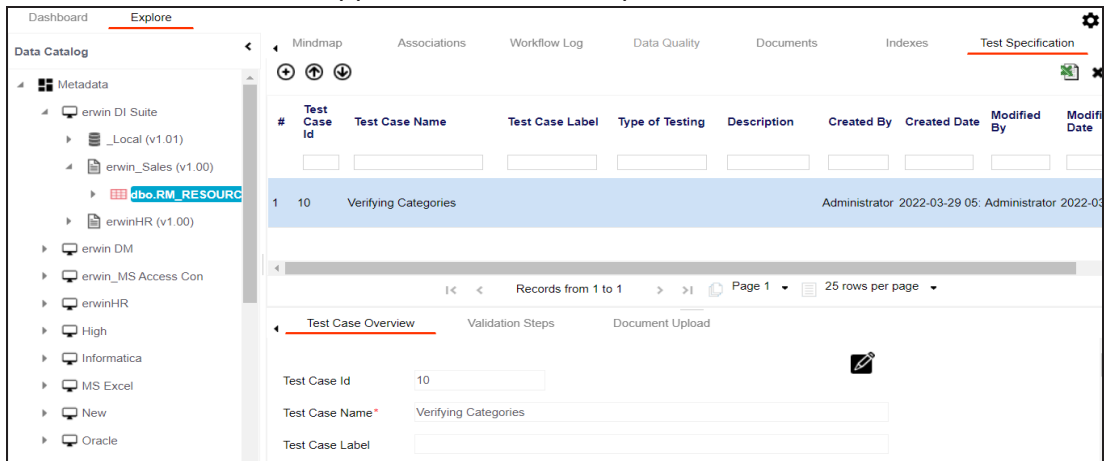
## Adding Validation Steps

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

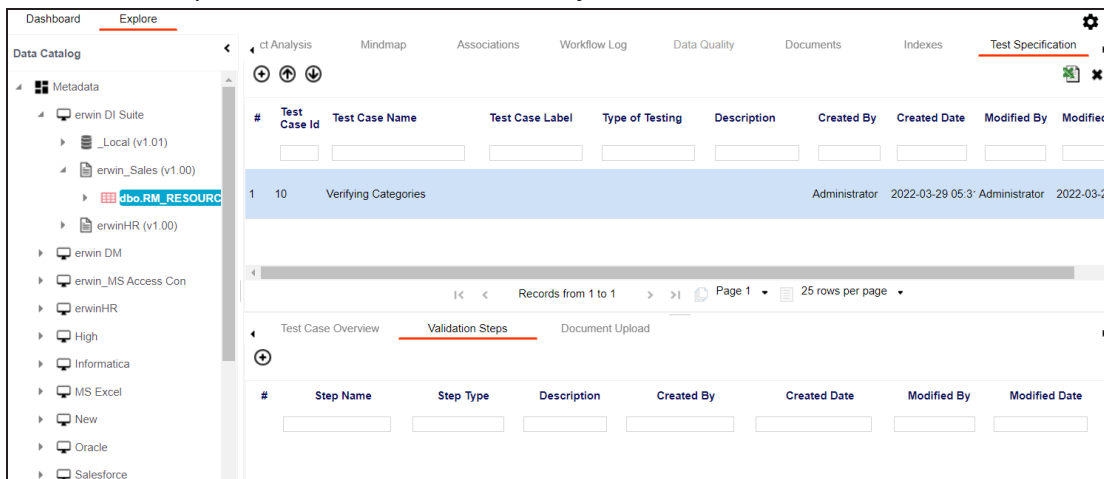
To add validation steps to table-level test cases, follow these steps:

1. In **Data Catalog**, click a table, and click the **Test Specification** tab.

The Test Case Overview appears in the bottom pane.



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



3. Click .

## Adding Validation Steps

The Add New Test Step page appears.

The screenshot shows a web form titled "Add New Test Step". At the top right, there are "Save" and "Cancel" buttons. The form contains the following fields:

- Step Name\***: A text input field with a red asterisk indicating it is mandatory.
- Validation Step Type**: A dropdown menu with "Select" as the current value.
- Description**: A rich text editor with a toolbar containing icons for undo, text color, text background color, bold, italic, underline, bulleted list, numbered list, indent, outdent, link, unlink, and a checkmark.
- Expected Result**: A rich text editor with the same toolbar as the Description field.
- Actual Result**: A rich text editor with the same toolbar as the Description field.

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 Com-	Enter relevant test step comments.



## Adding Validation Steps

---

Field Name	Description
ments	

5. Click **Save**.

The validation step is added to the test case.

# Adding Documents

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

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

1. In the **Data Catalog** pane, click a table, and click **Test Specification**.

The Test Case Overview appears.

The screenshot shows the 'Test Case Overview' pane in the Data Catalog. The left sidebar shows a tree view of metadata, with 'dbo.RM\_RESOURCE' selected. The main pane displays a table with columns: #, Test Case Id, Test Case Name, Test Case Label, Type of Testing, Description, Created By, Created Date, Modified By, and Modified Date. The first row is highlighted, showing Test Case Id 10 and Test Case Name 'Verifying Categories'. Below the table, there are tabs for 'Test Case Overview', 'Validation Steps', and 'Document Upload'. The 'Test Case Overview' tab is active, showing input fields for Test Case Id (10), Test Case Name\* (Verifying Categories), and Test Case Label.

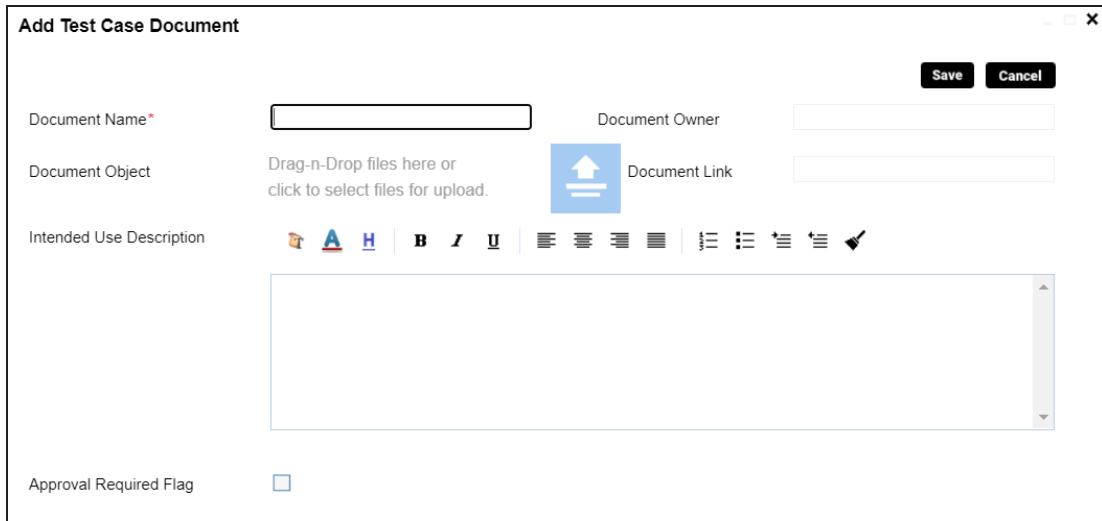
2. In the bottom pane, click **Document Upload**.

The screenshot shows the 'Document Upload' pane in the Data Catalog. The left sidebar shows a tree view of metadata, with 'Salesforce' selected. The main pane displays a table with columns: #, Document Name, Document Link, Document Status, and Intended Use Description. The table is currently empty. Below the table, there is a plus sign icon to add a new document.

## Adding Documents


3. Click .


The Add Test Case Document page appears.



**Add Test Case Document**

Document Name\*  Document Owner


Document Object  Drag-n-Drop files here or click to select files for upload.  Document Link

Intended Use Description 

Approval Required Flag

**Save** **Cancel**

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, <a href="https://drive.google.com/file/d/12sC2_SZlyeFKI70On-b5YkMBq4ptA7jhq5/view">https://drive.google.com/file/d/12sC2_SZlyeFKI70On-b5YkMBq4ptA7jhq5/view</a>
Intended Use Description	Specifies the intended use of the document. For example: The document has information about the resources of the application.
Approval	Specifies whether the document requires approval.

## Adding Documents

---

Field Name	Description
Required Flag	Select the <b>Approval Required Flag</b> 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 <b>Approval Required Flag</b> check box is selected.

5. Click **Save**.

The document is added to the test case.

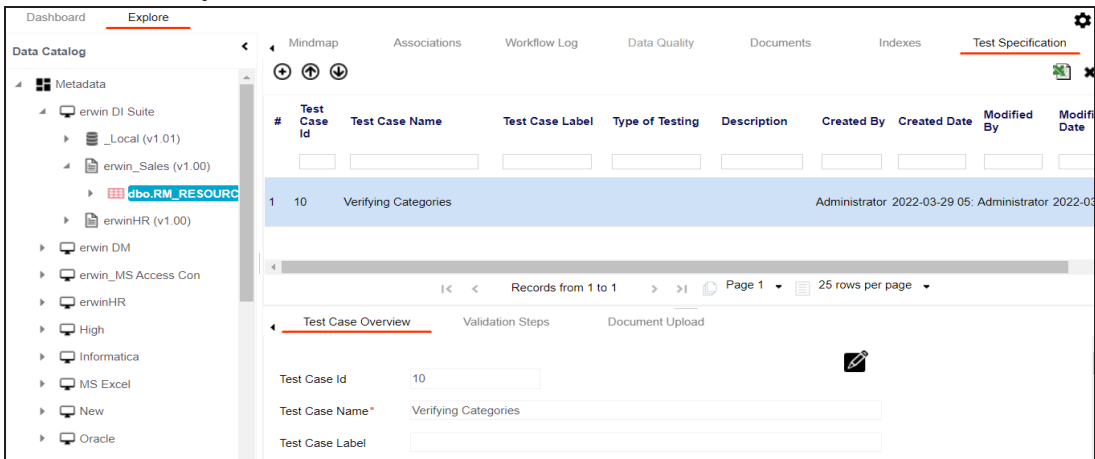
## Managing Test Cases

Managing table-level test cases involves:

- Updating test cases
- Exporting test cases
- Deleting test cases


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


1. Go to **Application Menu > Data Catalog > Metadata Manager**.
2. In the **Data Catalog** pane, click a table.
3. Click the **Test Specification** tab and double-click a test case.



4. In the **Test Case Overview** tab, click .

You can update the test case.

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

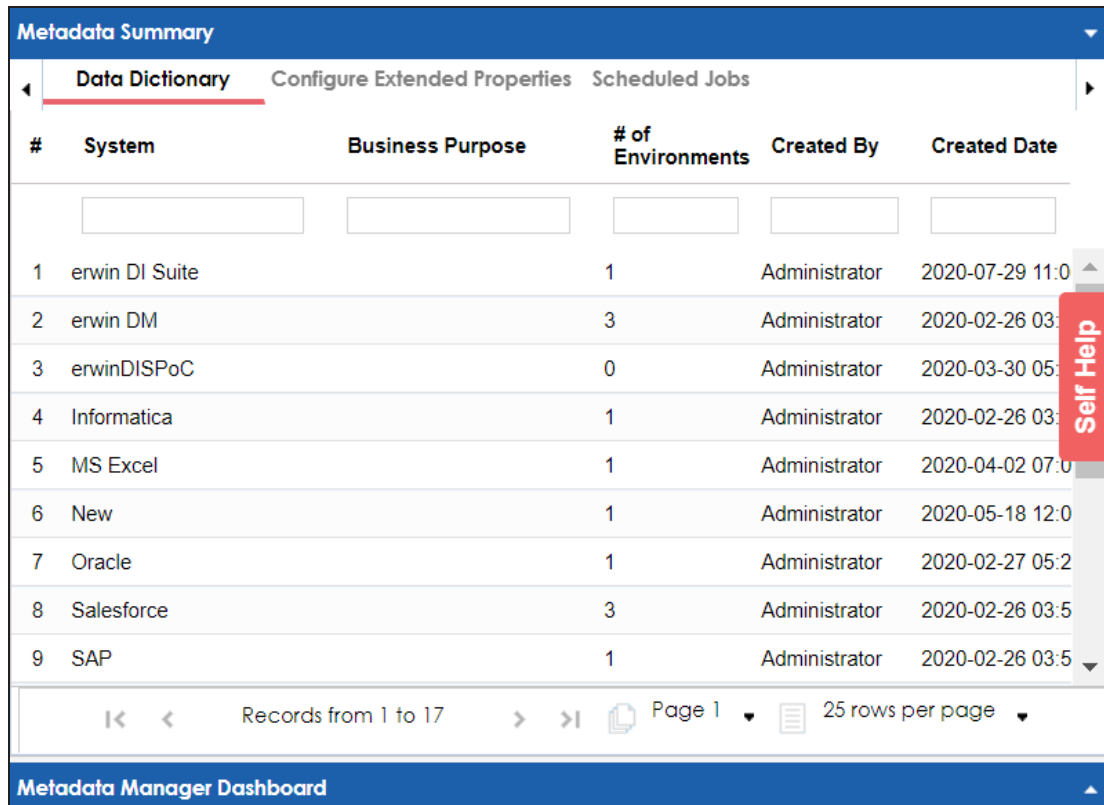
To delete a test case, click the test case in the **Test Case Summary** pane, and click .

# Viewing 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 > Explore.**



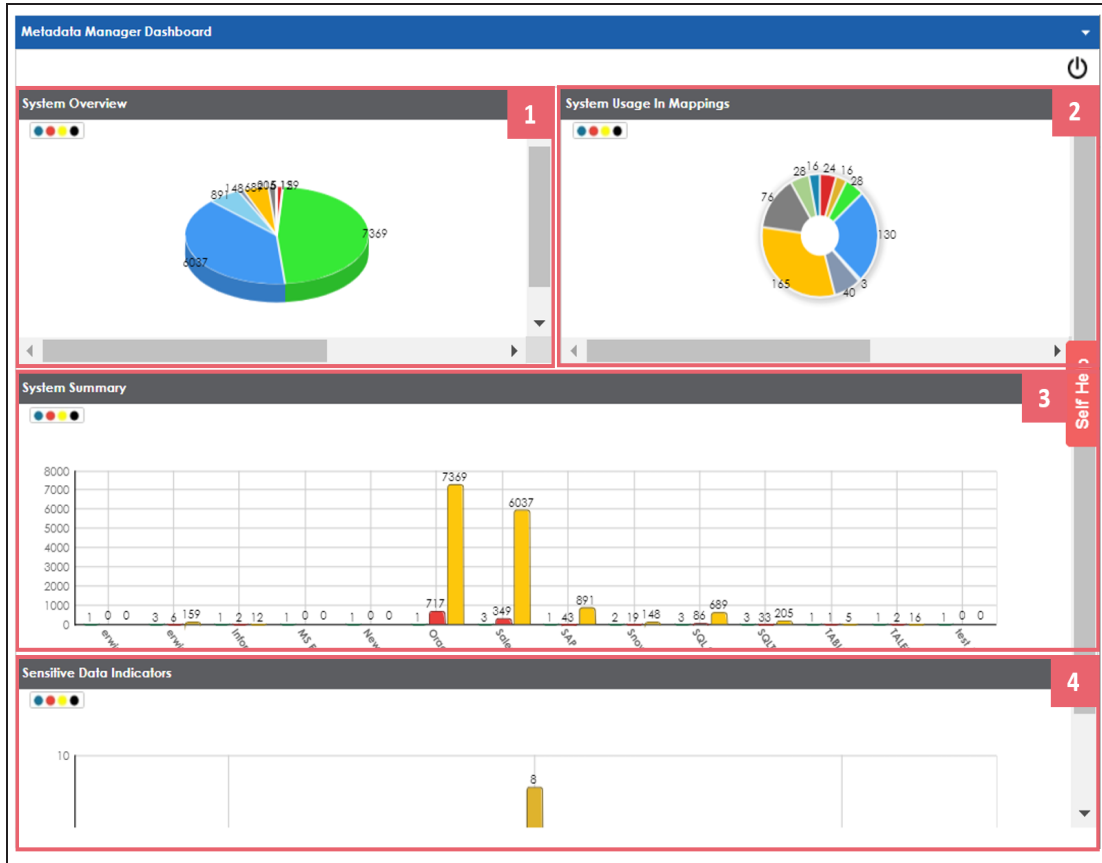
The screenshot displays the Metadata Manager Dashboard interface. At the top, there is a 'Metadata Summary' header with a dropdown arrow. Below this, there are three tabs: 'Data Dictionary' (which is selected and underlined in red), 'Configure Extended Properties', and 'Scheduled Jobs'. The main content area is a table with the following columns: '#', 'System', 'Business Purpose', '# of Environments', 'Created By', and 'Created Date'. The table contains 9 rows of data. At the bottom of the table, there is a pagination bar showing 'Records from 1 to 17', 'Page 1', and '25 rows per page'. A red 'Self Help' button is visible on the right side of the table. The footer of the dashboard is labeled 'Metadata Manager Dashboard'.

#	System	Business Purpose	# of Environments	Created By	Created Date
1	erwin DI Suite		1	Administrator	2020-07-29 11:0
2	erwin DM		3	Administrator	2020-02-26 03:
3	erwinDISPoC		0	Administrator	2020-03-30 05:
4	Informatica		1	Administrator	2020-02-26 03:
5	MS Excel		1	Administrator	2020-04-02 07:0
6	New		1	Administrator	2020-05-18 12:0
7	Oracle		1	Administrator	2020-02-27 05:2
8	Salesforce		3	Administrator	2020-02-26 03:5
9	SAP		1	Administrator	2020-02-26 03:5

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

## Viewing Metadata Manager Dashboard

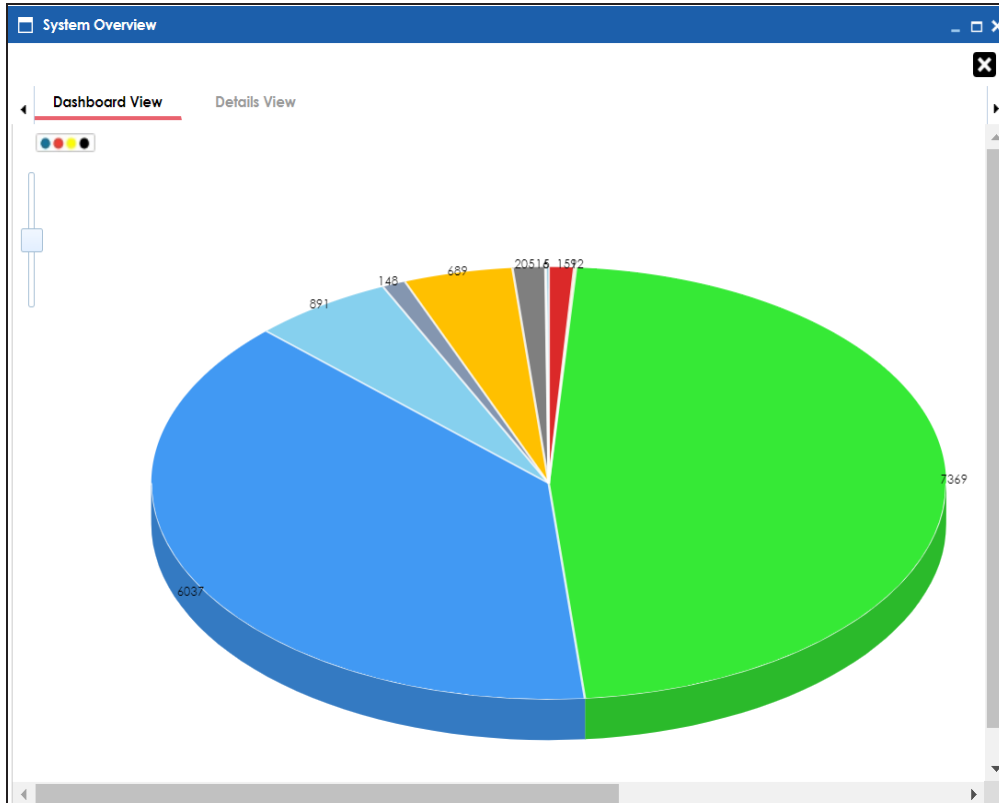
The Metadata Manager Dashboard pane appears.



UI Section	Function
1- <a href="#">System Overview</a>	It displays number of columns in each system.
2- <a href="#">System Usage in Mappings</a>	It displays usage of each system in mappings.
3- <a href="#">System Summary</a>	It displays number of environments, tables, and columns in each system.
4- <a href="#">Sensitive Data Indicators</a>	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, environment name, table name, and column name.



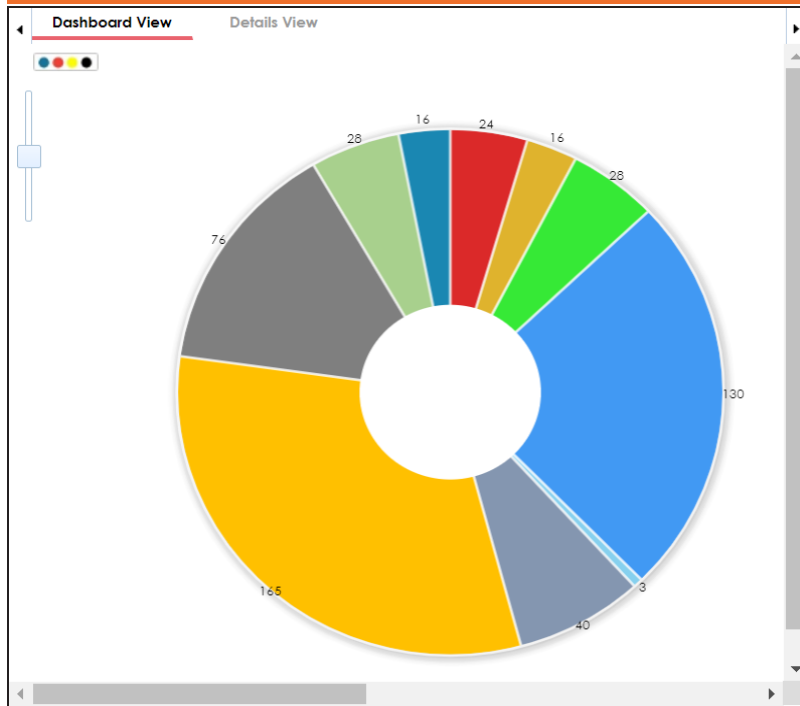
## Viewing Metadata Manager Dashboard

Dashboard View		Details View		
#	System Name	Environment Name	Table Name	Column Name
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
1	Oracle	TechPubs	APPQOSSYS.WLM_F STATS1	
2	Oracle	TechPubs	APPQOSSYS.WLM_F FEATURE_INFO	
3	Oracle	TechPubs	APPQOSSYS.WLM_F MEASUREONLY_CUM	
4	Oracle	TechPubs	APPQOSSYS.WLM_F MAXPC	
5	Oracle	TechPubs	APPQOSSYS.WLM_F MEASUREONLY	
6	Oracle	TechPubs	APPQOSSYS.WLM_F MODEBTIME	
7	Oracle	TechPubs	APPQOSSYS.WLM_F TIMESTAMP	
8	Oracle	TechPubs	APPQOSSYS.WLM_F STATS2	
9	Oracle	TechPubs	APPQOSSYS.WLM_F MONITOR	
10	Oracle	TechPubs	APPQOSSYS.WLM_F PREVMODE	
11	Oracle	TechPubs	APPQOSSYS.WLM_F MANAGED	
12	Oracle	TechPubs	APPQOSSYS.WLM_F CURMODE	
13	Oracle	TechPubs	APPQOSSYS.WLM_F MONITOR_CUMTIME	
14	Oracle	TechPubs	APPQOSSYS.WLM_F STATS3	
15	Oracle	TechPubs	APPQOSSYS.WLM_F CURNUMPC	

## 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.

## Viewing Metadata Manager Dashboard



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.

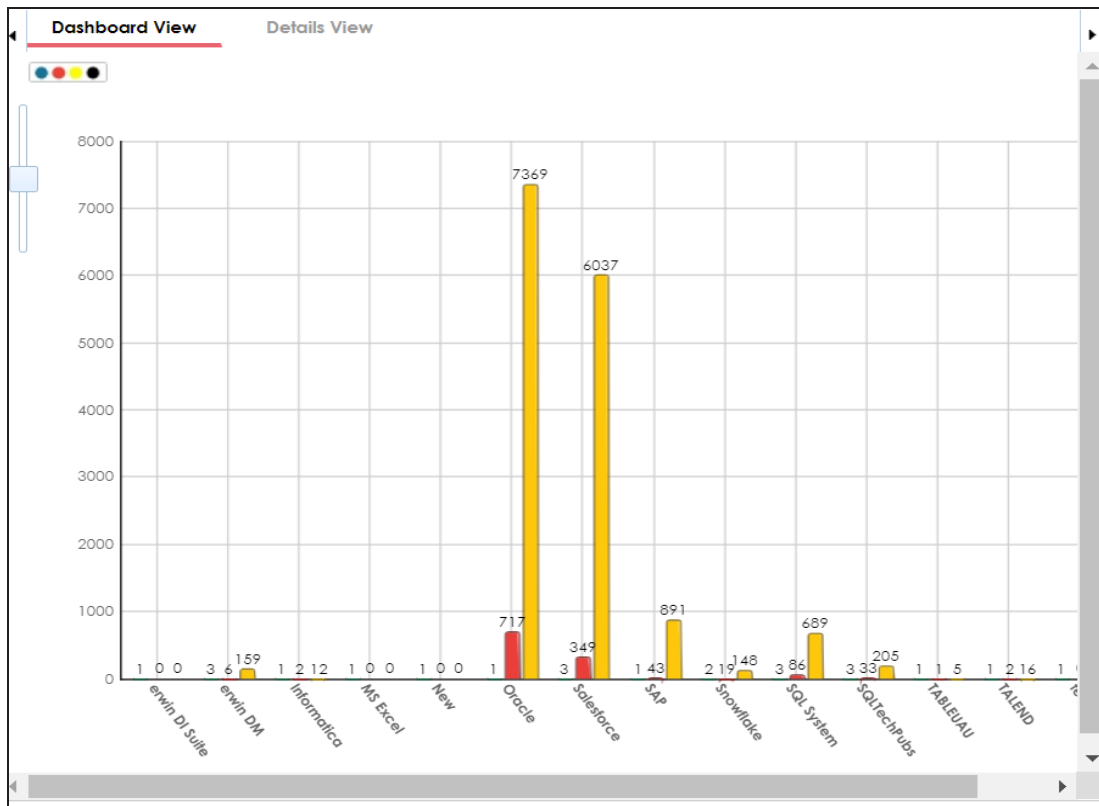
#	System Name	Project Name	Map Name	System Usage In Mappings
1	Oracle	erwinDIS	erwinSalesIntegration(1.01)	7
2	Oracle	erwinDIS	SalesforceIntegration(1.00)	7
3	Oracle	Project	SalesforceIntegration(1.00)	7
4	Oracle	Project Tech Pubs	erwinSalesIntegration(1.01)	7

## 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

## Viewing Metadata Manager Dashboard

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.

## Viewing Metadata Manager Dashboard

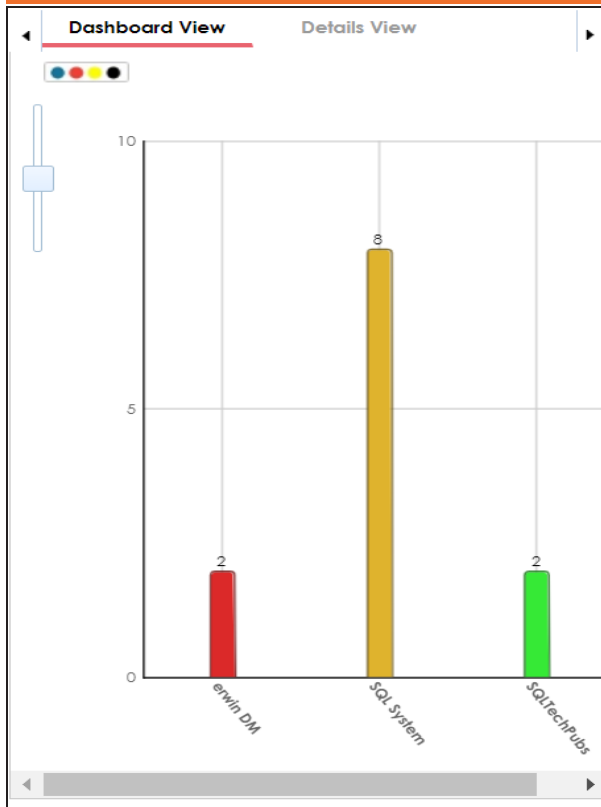
The screenshot shows the Metadata Manager Dashboard in 'Details View' and 'Tables' mode. The interface includes navigation tabs for 'Dashboard View', 'Details View', 'Environments', 'Tables', and 'Columns'. Below the navigation is a table with the following columns: '#', 'System Name', 'Environment Name', 'Table Name', 'Table Alias', 'Table Class', and 'Type'. The table lists 14 entries, all of which are 'TABLE' type. The first three entries have 'APPQOSSYS.' as the table name, while the remaining entries have 'AUDSYS.AUD', 'DBSFUSER', and 'DIS10\_GA65.' as table names. The 'System Name' for all entries is 'Oracle' and the 'Environment Name' is 'TechPubs'.

#	System Name	Environment 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	DBSFUSER			TABLE
8	Oracle	TechPubs	DBSFUSER			TABLE
9	Oracle	TechPubs	DBSFUSER			TABLE
10	Oracle	TechPubs	DIS10_GA65.			TABLE
11	Oracle	TechPubs	DIS10_GA65.			TABLE
12	Oracle	TechPubs	DIS10_GA65.			TABLE
13	Oracle	TechPubs	DIS10_GA65.			TABLE
14	Oracle	TechPubs	DIS10_GA65.			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.

## Viewing Metadata Manager Dashboard



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 Metadata Manager Dashboard

Dashboard View		Details View					
#	System Name	System Environment Name	Table Name	Column Name	SDI Flag	Created By	Created Time
1	SQL Syst	Northwind	dbo.Cate	Category	Y	Admir	02/26
2	SQL Syst	SQL Env	dbo.Adve	DBVersio	Y	Admir	02/26
3	SQL Syst	SQL Env	dbo.Adve	VersionD	Y	Admir	02/26
4	SQL Syst	SQL Env	dbo.DimA	Operator	Y	Admir	02/26
5	SQL Syst	SQL Env	dbo.DimA	CustomM	Y	Admir	02/26
6	SQL Syst	SQL Env	dbo.DimC	EmailAdd	Y	Admir	02/26
7	SQL Syst	SQL Env	dbo.DimC	YearlyInc	Y	Admir	02/26
8	SQL Syst	SQL Env	dbo.DimE	FirstNam	Y	Admir	02/26

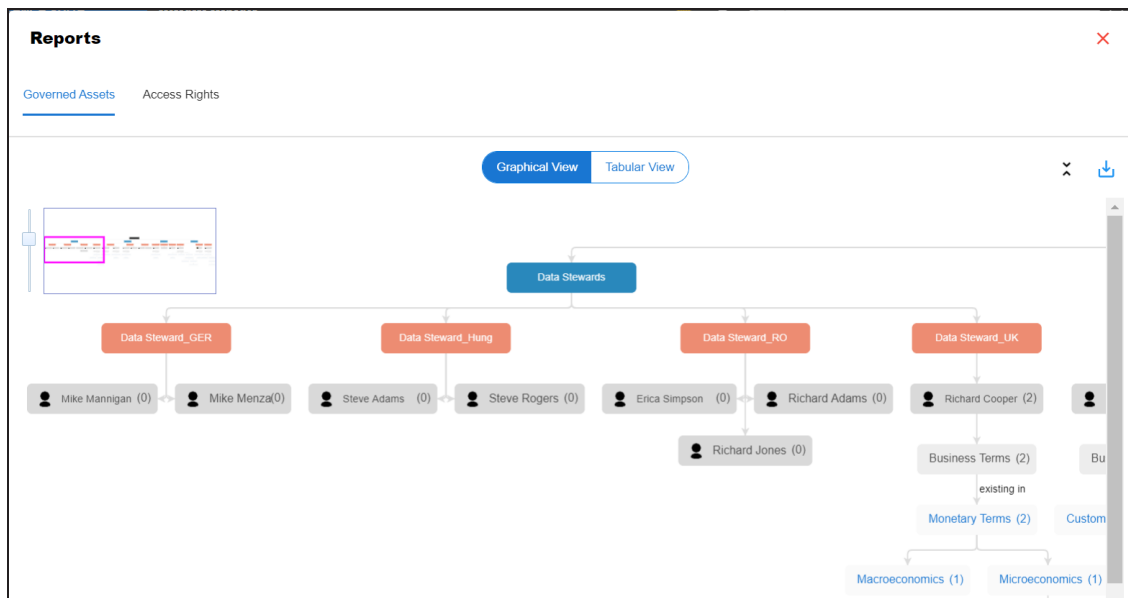
## Viewing Access Rights and Data Governance Reports

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.

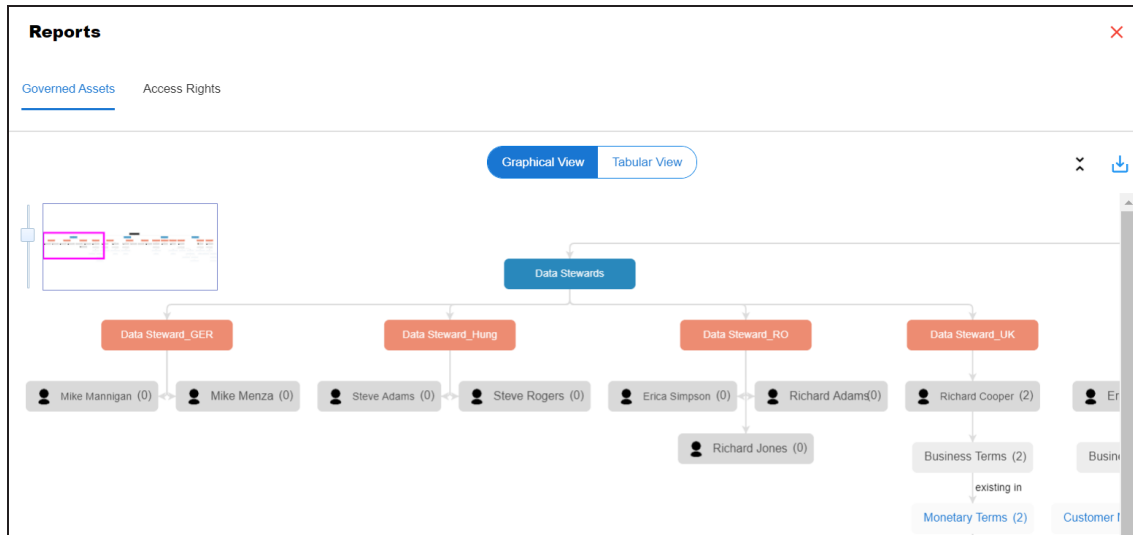


### Data Governance Report

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.

## Viewing Access Rights and Data Governance Reports

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.

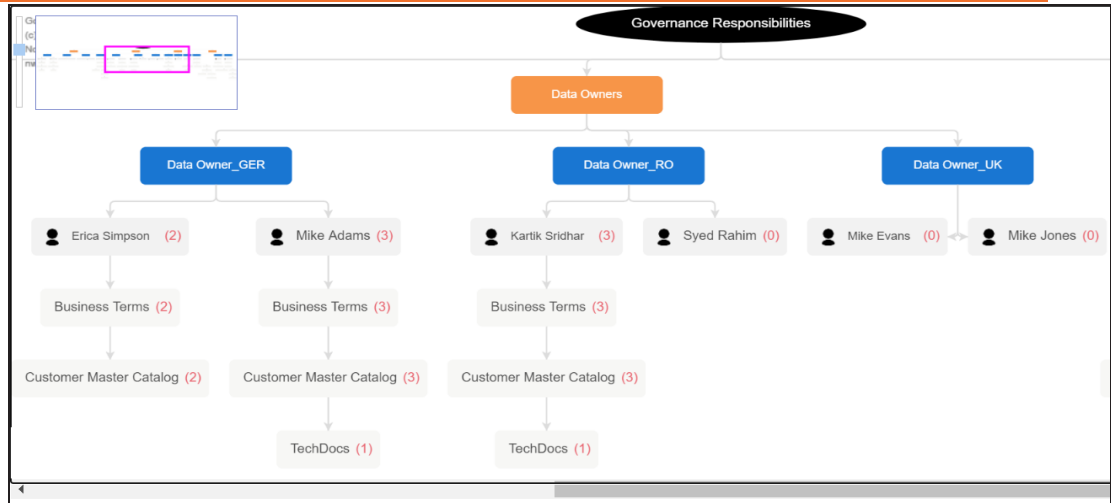
By default, the graphical view opens.

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.

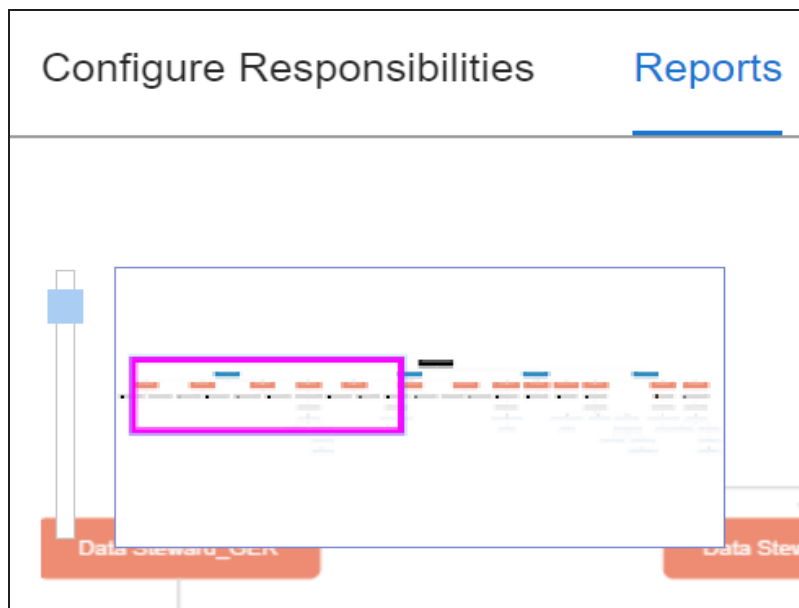


## Viewing Access Rights and Data Governance Reports



- **Pan View**

Use this option to focus on a part of the governance responsibilities tree.

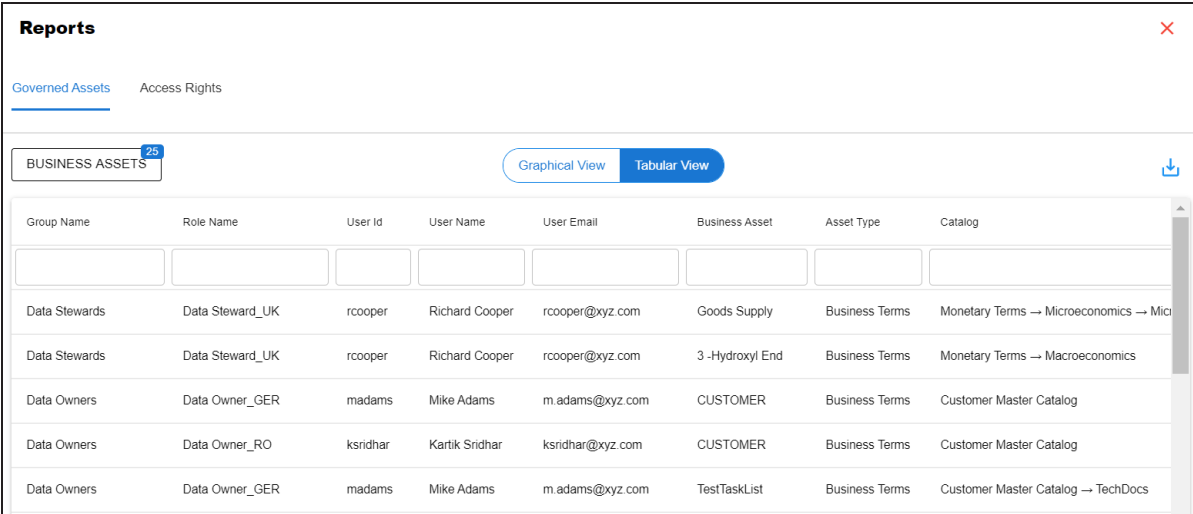


- **Export (↓)**

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.

## Viewing Access Rights and Data Governance Reports



Group Name	Role Name	User Id	User Name	User Email	Business Asset	Asset Type	Catalog
Data Stewards	Data Steward_UK	rcooper	Richard Cooper	rcooper@xyz.com	Goods Supply	Business Terms	Monetary Terms → Microeconomics → Micro
Data Stewards	Data Steward_UK	rcooper	Richard Cooper	rcooper@xyz.com	3-Hydroxyl End	Business Terms	Monetary Terms → Macroeconomics
Data Owners	Data Owner_GER	madams	Mike Adams	m.adams@xyz.com	CUSTOMER	Business Terms	Customer Master Catalog
Data Owners	Data Owner_RO	ksnidhar	Kartik Sridhar	ksnidhar@xyz.com	CUSTOMER	Business Terms	Customer Master Catalog
Data Owners	Data Owner_GER	madams	Mike Adams	m.adams@xyz.com	TestTaskList	Business Terms	Customer Master Catalog → TechDocs

To download the report in the XLSX format, click .

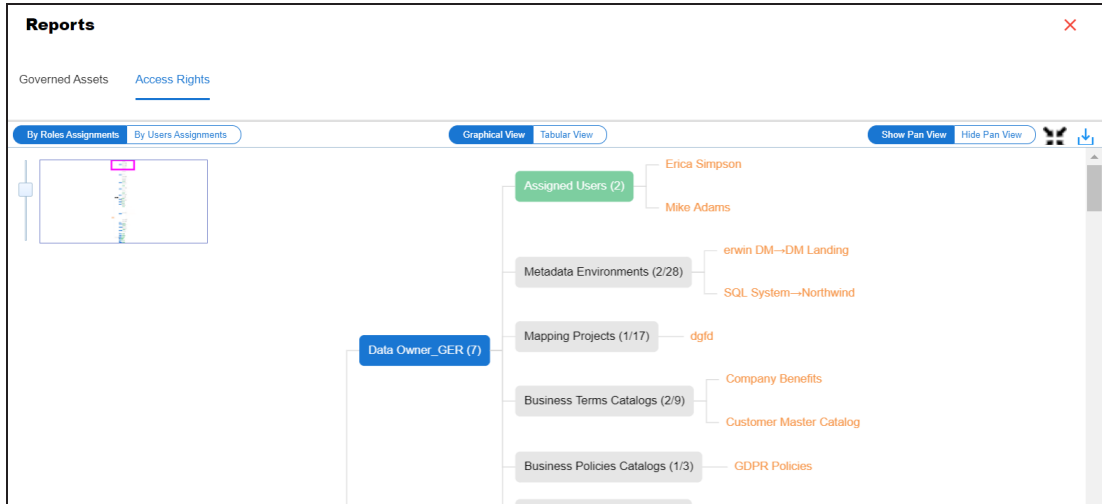
### Access Rights

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:

## Viewing Access Rights and Data Governance Reports

1. From the **Reports** page, click the **Access Rights** tab.



2. Use the following options:

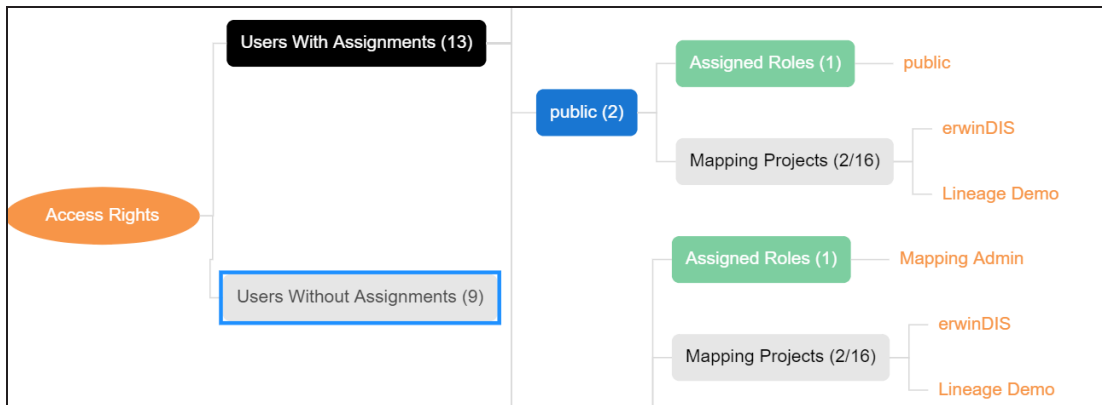
### By Roles Assignments/By Users Assignments

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**

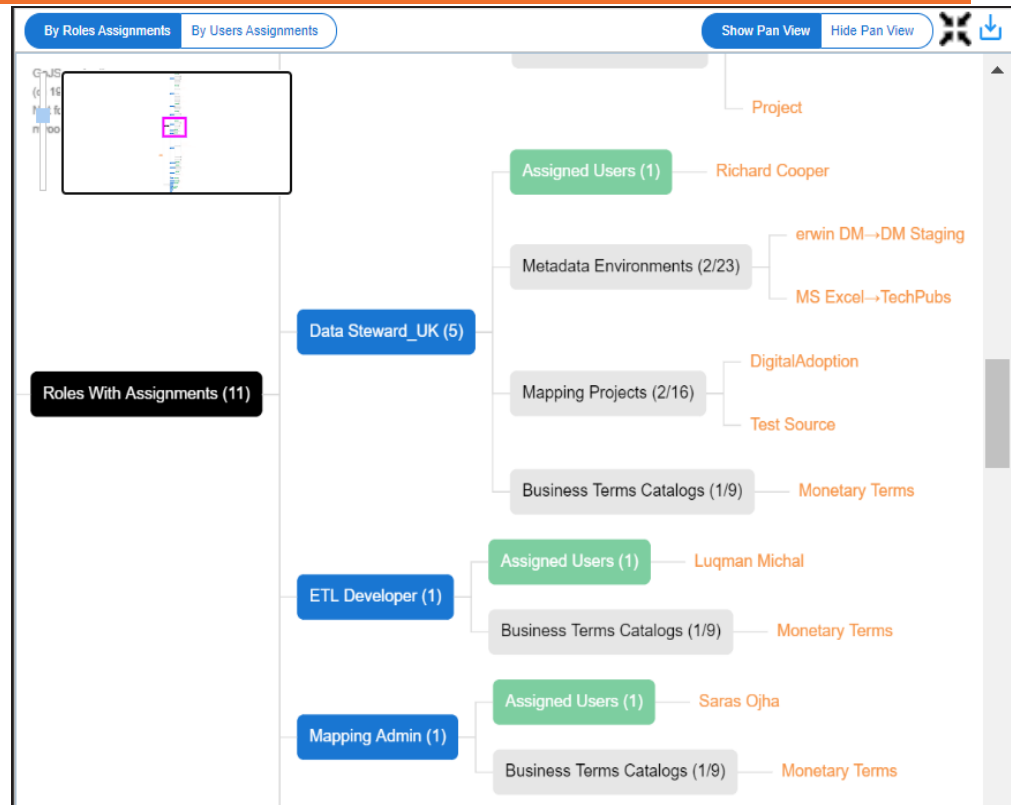
Use this option to show or hide the pan view. The pan view facilitates navigation across the expanded assignment tree. To navigate across the expanded, on the **Pan View**, move the purple box.



- **Expand/Collapse** (🔄)

Use this option to switch between the expanded or collapsed view. For example, the following assignment tree appears in the expanded view.

## Viewing Access Rights and Data Governance Reports



- **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.


## Viewing Access Rights and Data Governance Reports

**Reports** ✕

Governed Assets [Access Rights](#)

[By Roles Assignments](#) [By Users Assignments](#) [Graphical View](#) [Tabular View](#) ↓

#	Role Name	Asset Type	Asset Name
1	Data Owner_GER	Users	Erica Simpson, Mike Adams
2	Data Owner_GER	Environment	DM Landing(erwin DM)
3	Data Owner_GER	Environment	Northwind(SQL System)
4	Data Owner_GER	Project	dgfd
5	Data Owner_GER	Business Terms	Company Benefits
6	Data Owner_GER	Business Terms	Customer Master Catalog
7	Data Owner_GER	Business Policies	GDPR Policies

You can download the assignment details in the XLSX format. To download the assignments, on the **Tabular View**, click .