erwin Data Intelligence Suite

Reference Data Management Guide

Release v10.0

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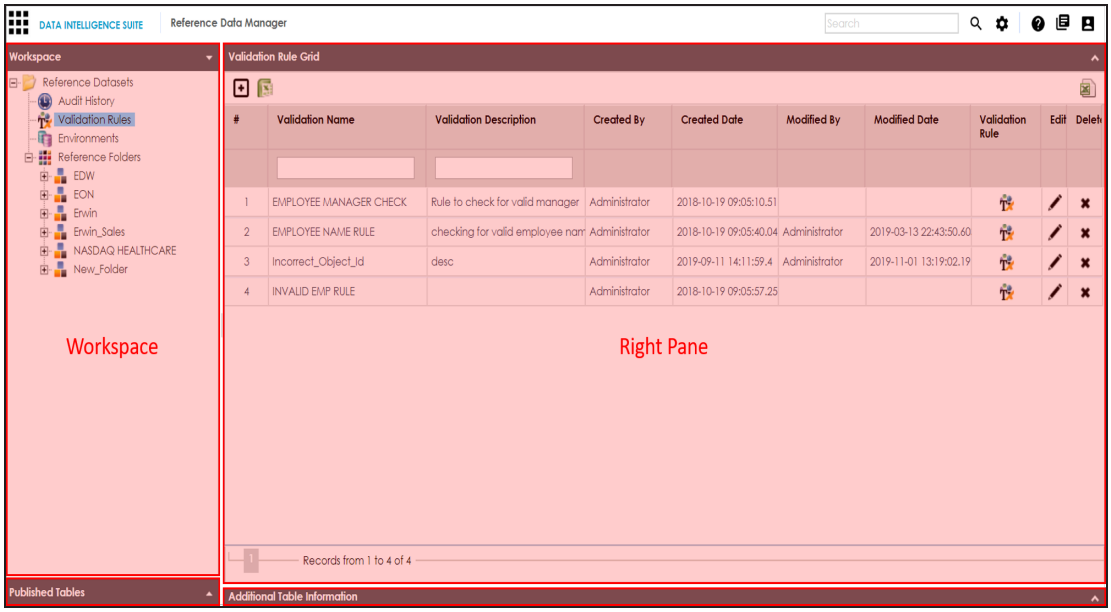
Managing Reference Data

This section walks you through reference data and codeset management.

- Reference data management is done via Reference Data Manager. It enables you to create database like structure to maintain all your reference data. You can add reference data in a reference table from a spreadsheet, manually or via a DB scan. These reference tables can be validated using SQL queries for data quality tests. You can also version, publish (to environments like production, development, test etc.), and link the reference tables to relevant mappings.
- Codeset management is done via Codeset Manager. The Codeset Manager enables you to create, manage, and map codesets. It has two sections **Enterprise Codesets** and **Codeset Mappings**.
    - The **Enterprise Codesets** section enables you to import legacy codesets through its upload and database scanning capabilities. In this section, you can categories codesets, define code values, version codesets, and publish codesets to various environments.
    - The **Codeset Mappings** section enables you to create and manage code crosswalks (mappings). You can categorize code mappings, define code crosswalks, version code crosswalks, and publish code crosswalks to various environments.

Using Reference Data Manager

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



UI Section	Function
Workspace	Use this pane to browse and work on validation rules, environments, reference folders, and reference tables.
Published Tables	Expand this pane and browse through it to view and export published reference tables.
Right Pane	Use this pane to work on the data based on your selection in the Workspace pane.
Additional Table Information	Expand this pane to view or work on additional information of a reference table selected under the Workspace pane.

Managing reference data involves the following:

- Adding reference data to reference tables
- Assigning users
- Validating reference tables
- Associating codesets with reference tables
- Creating publish environments

- Publishing and versioning reference tables
- Associating reference tables with mappings

Creating Reference Tables

Reference tables store reference data. You can create reference tables in new or existing reference folders. You can also create reference sub-folders and create reference tables under it.

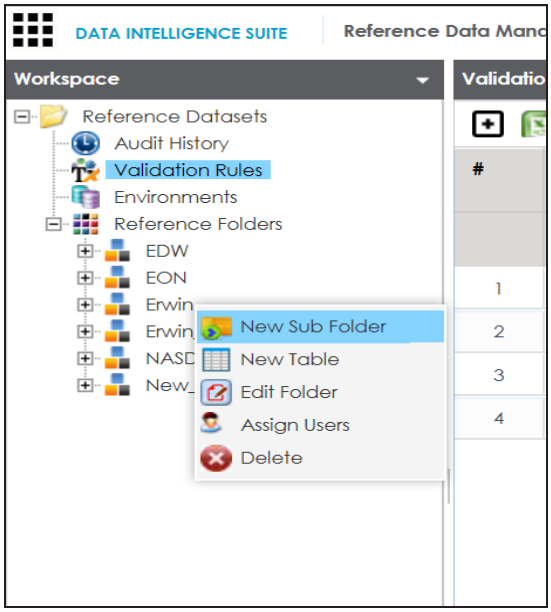
To create reference tables in a new reference folder, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Reference Data Manager**.
2. Under the **Workspace** pane, right-click the **Reference Folders** node and click **New Folder**.

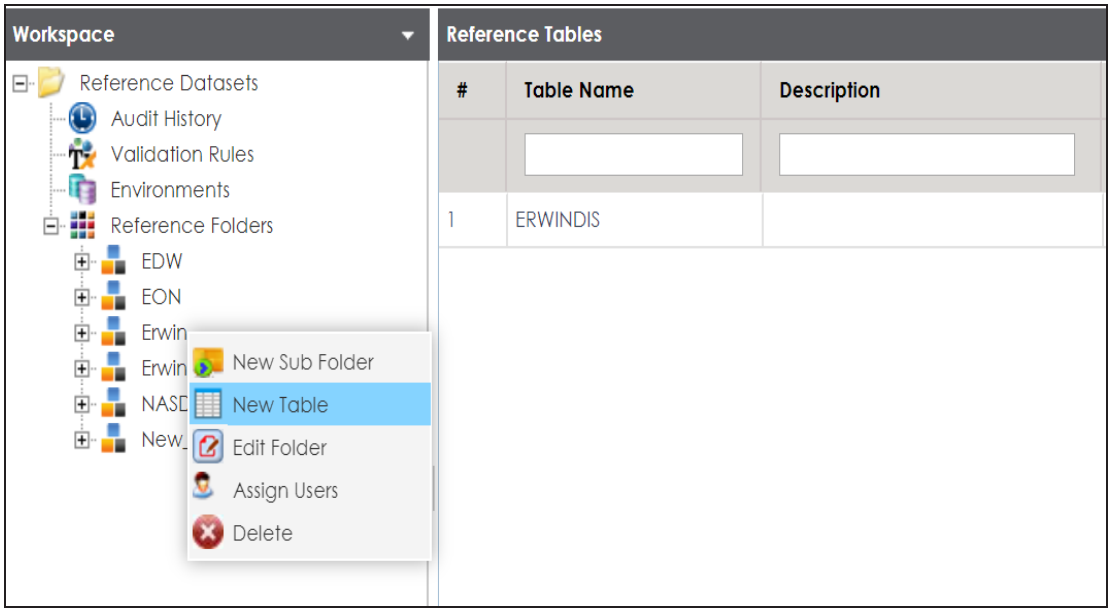
   The New Folder page appears.
3. Enter **Folder Name**, **Folder Description**, and click .

   The folder is created and saved in the Reference Folders tree.

   Note: You can create sub-folders under a reference folder to provide one more level of categorization to reference tables.

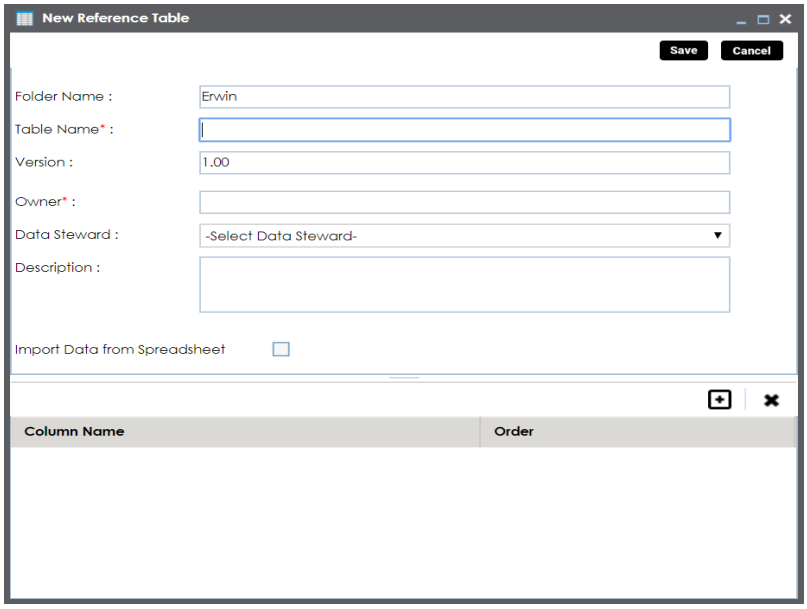


4. Right-click the reference folder.



5. Click **New Table**.

   The New Reference Table page appears.



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

Field Name	Description
Folder Name	Specifies the name of the reference folder. For example, NASDAQ Healthcare. It is autopopulated and cannot be edited.
Table Name	Specifies the name of the reference table. For example, Data_Classifications_Levels.
Version	Specifies the version of the reference table. For example, 1.00. It is autopopulated and cannot be edited.
Owner	Specifies the reference table owner's name. For example, Talon Smith.
Data Steward	Specifies the name of the data steward responsible for the reference table. For example, Jane Doe.

Field Name	Description
	For more information on configuring data stewards, refer to the Configuring Data Stewards topic.
Description	Specifies the description about the reference table. For example: This reference table serves as domain for the data classification column.

7. Click .

   A new reference table is created and saved in the Reference Tables tree.

Once a reference table is created and added to a reference folder, you can add data to it in one of the following ways:

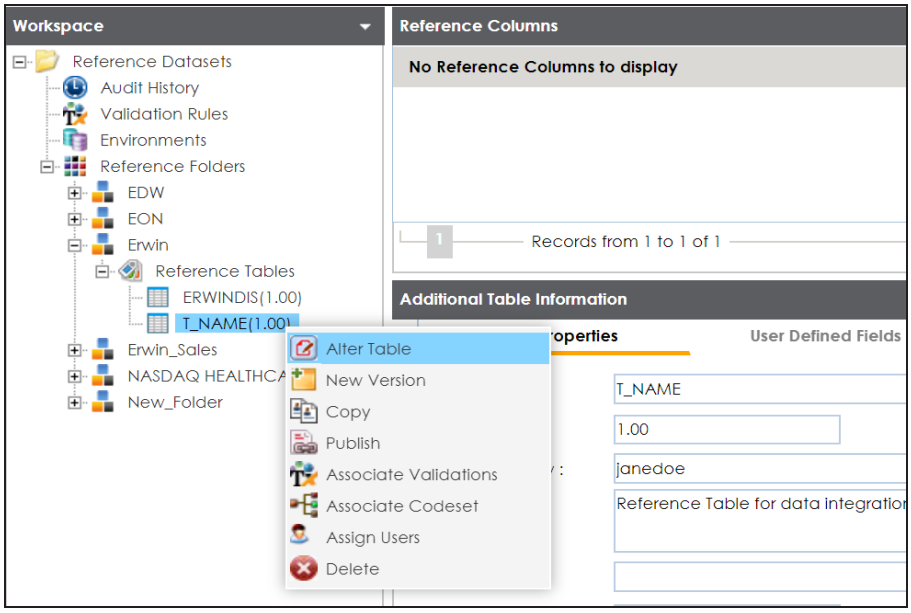
- Adding reference data manually
- Importing reference data from .xlsx files
- Importing reference data through a DB scan

Adding Reference Data Manually

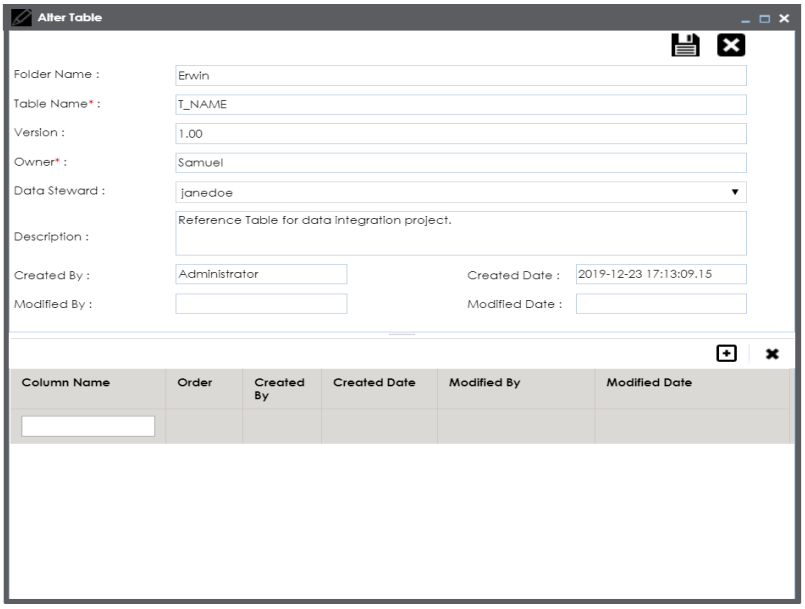
You can add data to a reference table manually. It involves adding reference columns to the reference table and then adding reference column values.

To add reference columns to reference tables, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Reference Data Manager**.
2. Under the **Workspace** pane, expand the desired reference folder.
3. Expand the **Reference Tables** node, right-click the desired table, and click **Alter Table**.



The **Alter Table** page appears.

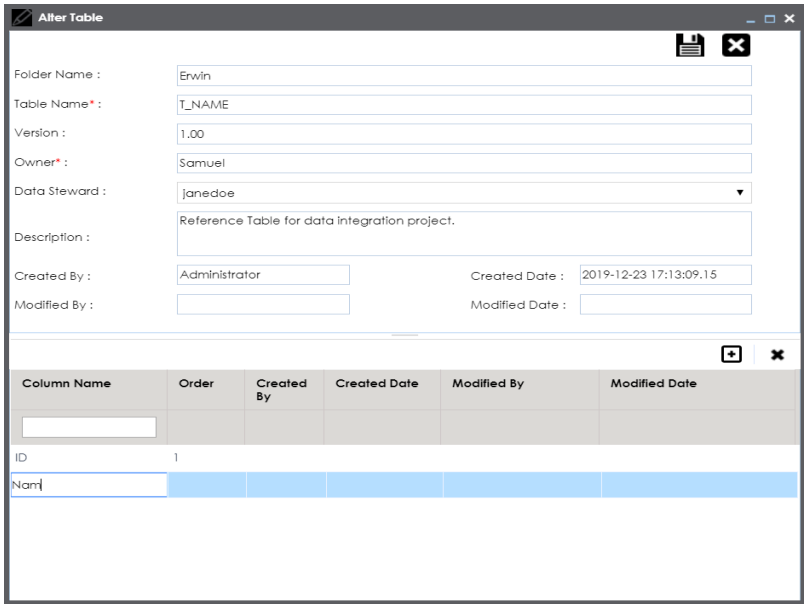


4. Click .

   A new row is added to the grid.

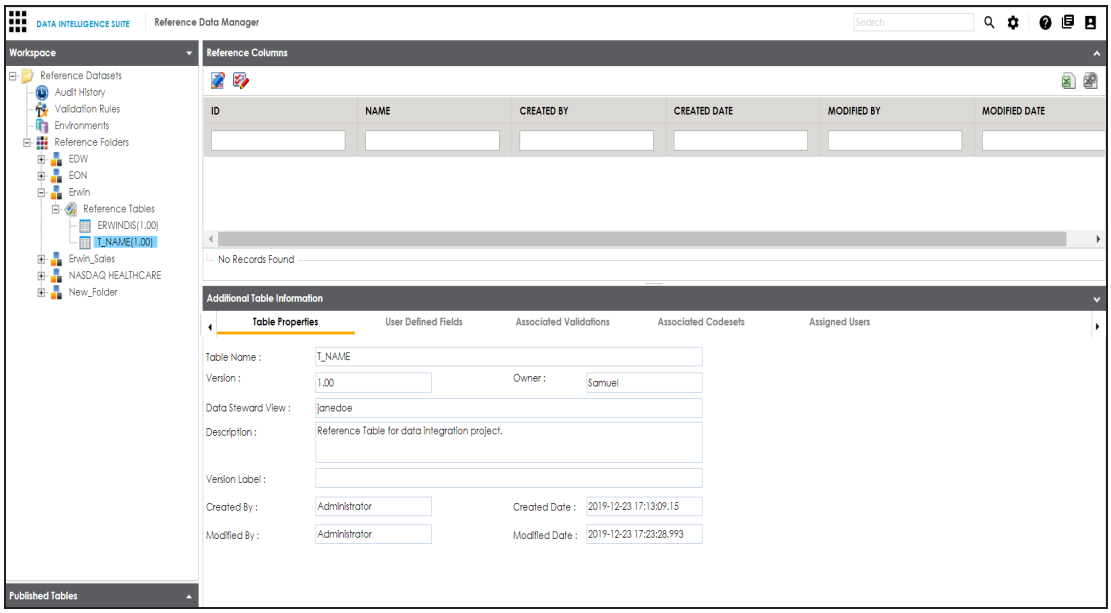
5. Double-click the cell under the **Column Name** and type the reference column name.

Note: You can add multiple reference columns.



6. click .

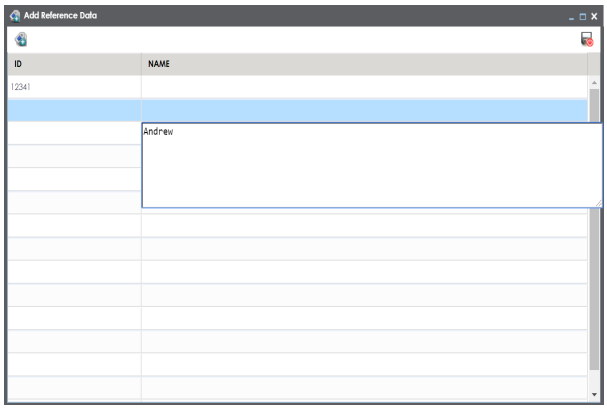
The reference columns are added to the reference table.



To add reference column values manually, follow these steps:

1. Click .
2. Click .

   The Add Reference Data page appears.
3. Double-click the cells under the reference columns and type the respective reference column values.



4. Click .

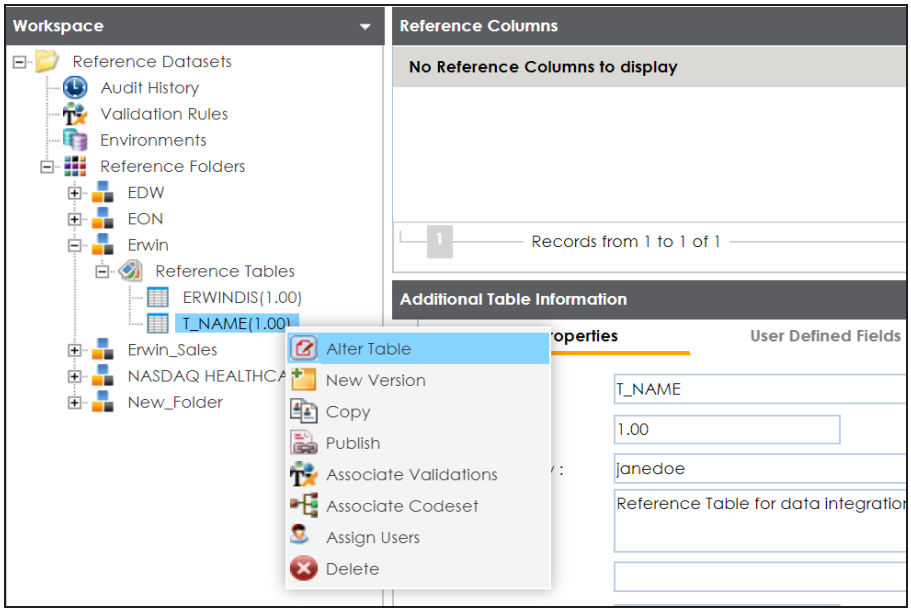
   The reference column values are added to the reference table.

Importing data from MS Excel Files

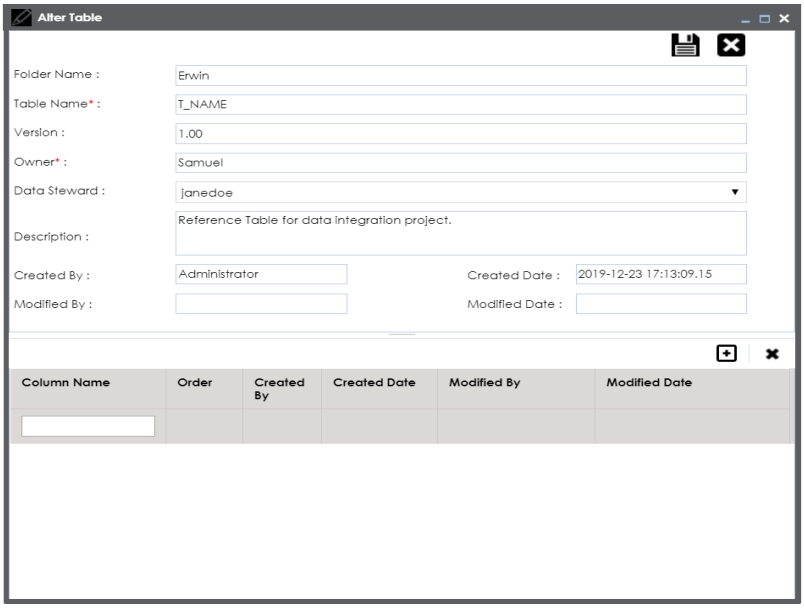
You can import reference data from MS Excel files into reference tables. First, you need to add columns to a reference table and then add reference data into these columns from an MS Excel file.

To add columns into reference tables, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Reference Data Manager**.
2. Under the **Workspace** pane, expand the desired reference folder.
3. Expand the **Reference Tables** node, right-click the desired table, and click **Alter Table**.

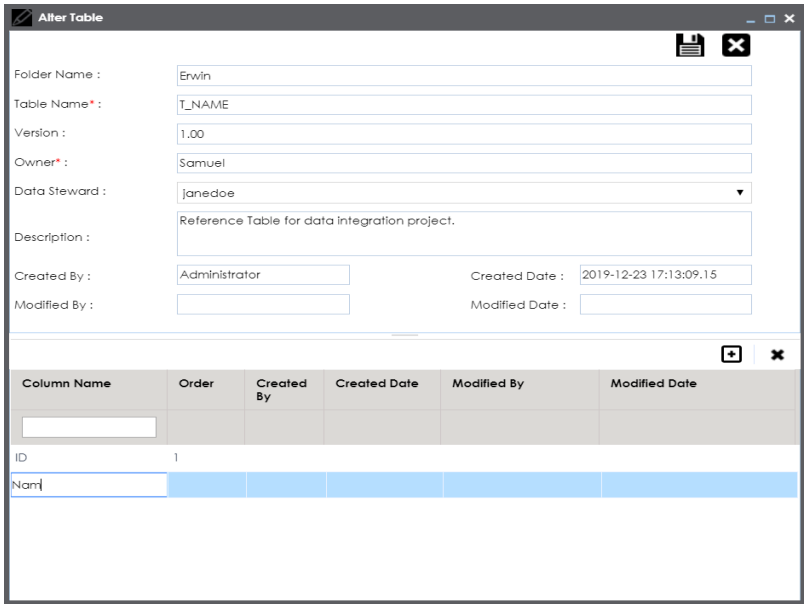


The **Alter Table** page appears.



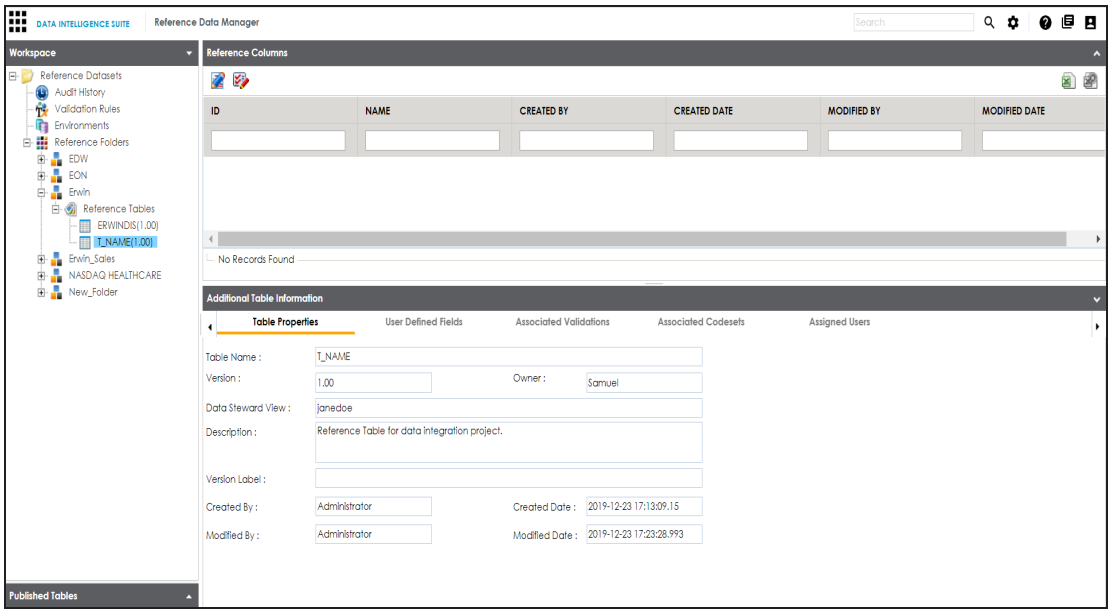
4. Click .
5. Double-click the cell under the **Column Name** and type a column name.

   Note: You can add as many column names as you want.



6. click .

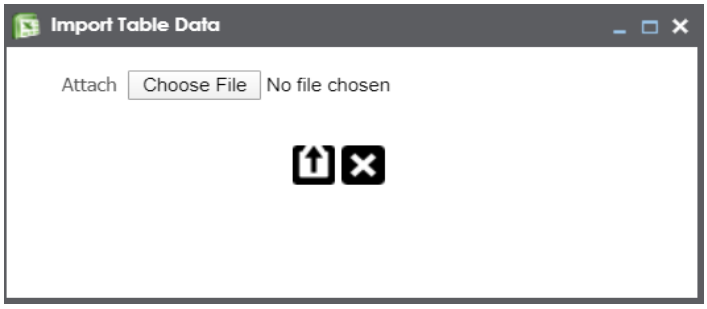
The columns are added to the reference table.



To upload reference data from an MS Excel file into the columns, follow these steps:

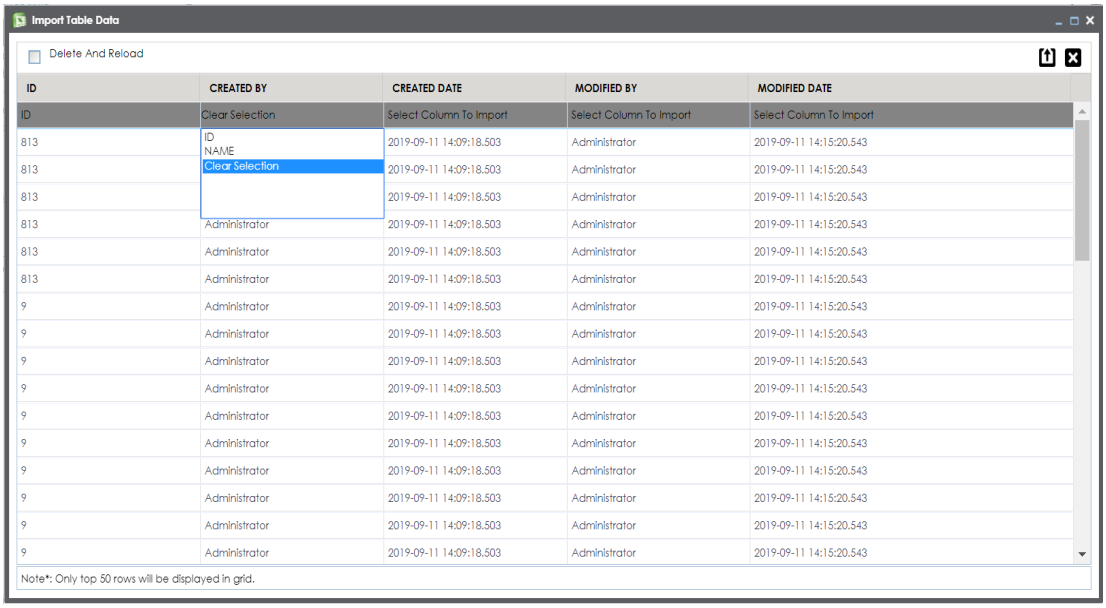
1. Click and then click .

   The Import Table Data page appears.



2. Click **Choose File** to browse the .xlsx file and then click .
3. Double-click the **Select Column to Import** cell of a desired column.

   Note: Column names added by you in the previous steps appear as options.



4. Select the appropriate <column name>.

   Note: You can select multiple columns.

5. Click .

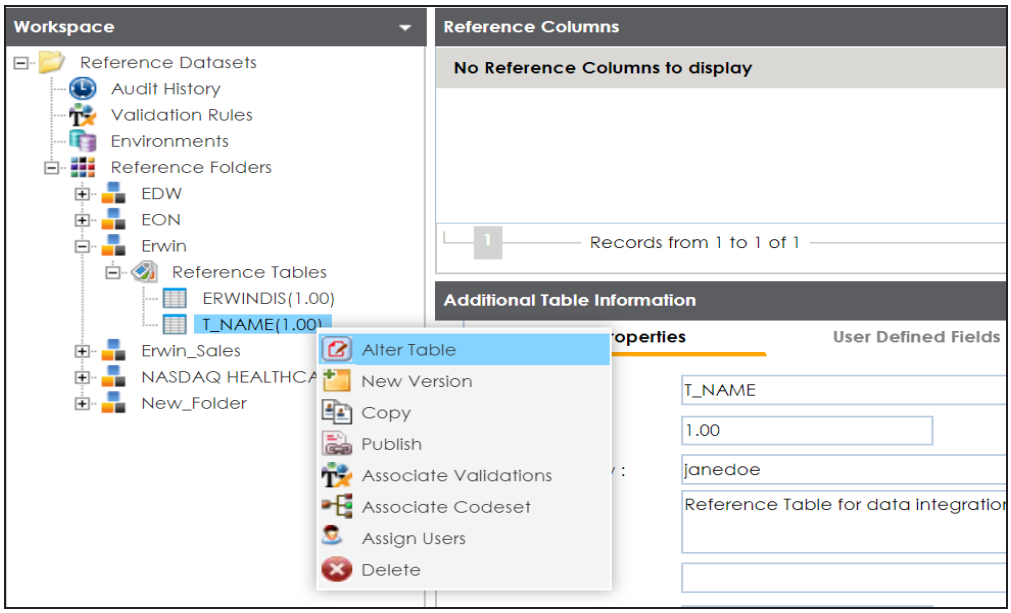
   The reference data is added to the reference table.

Importing Data Through DB Scans

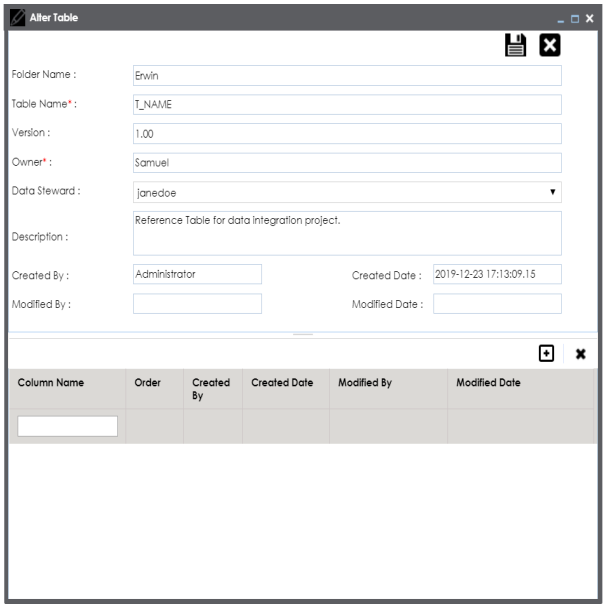
You can import reference data from a database by connecting the database to the application. It involves creating a reference table and adding reference columns to it. Reference column values can be imported from the desired columns in the database.

To add reference columns to reference tables, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Reference Data Manager**.
2. Under the **Workspace** pane, expand the desired reference folder.
3. Expand the **Reference Tables** node, right-click the desired table, and click **Alter Table**.



The Alter Table page appears.

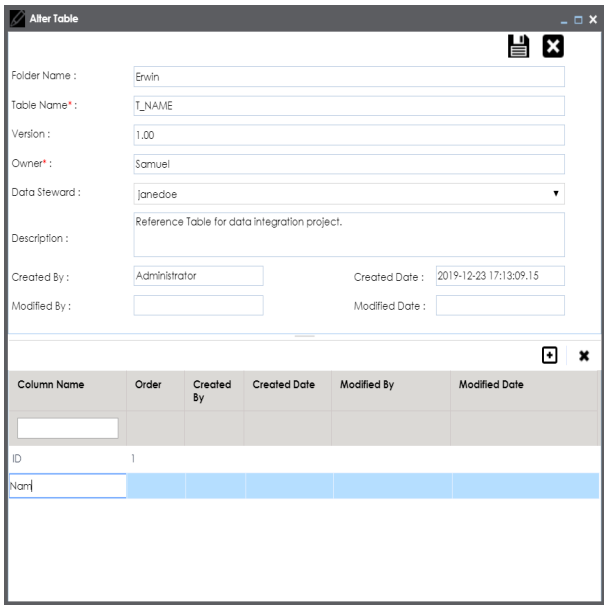


4. Click .

   A new row is added to the grid.

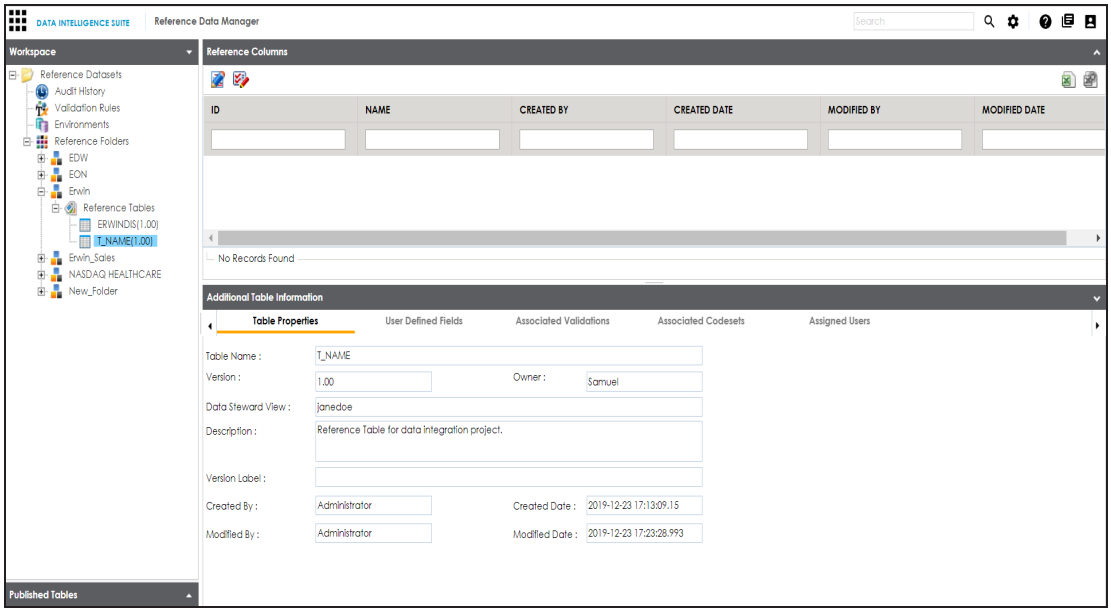
5. Double-click the cell under the **Column Name** and type the reference column name.

   Note: You can add multiple reference columns.



6. Click .

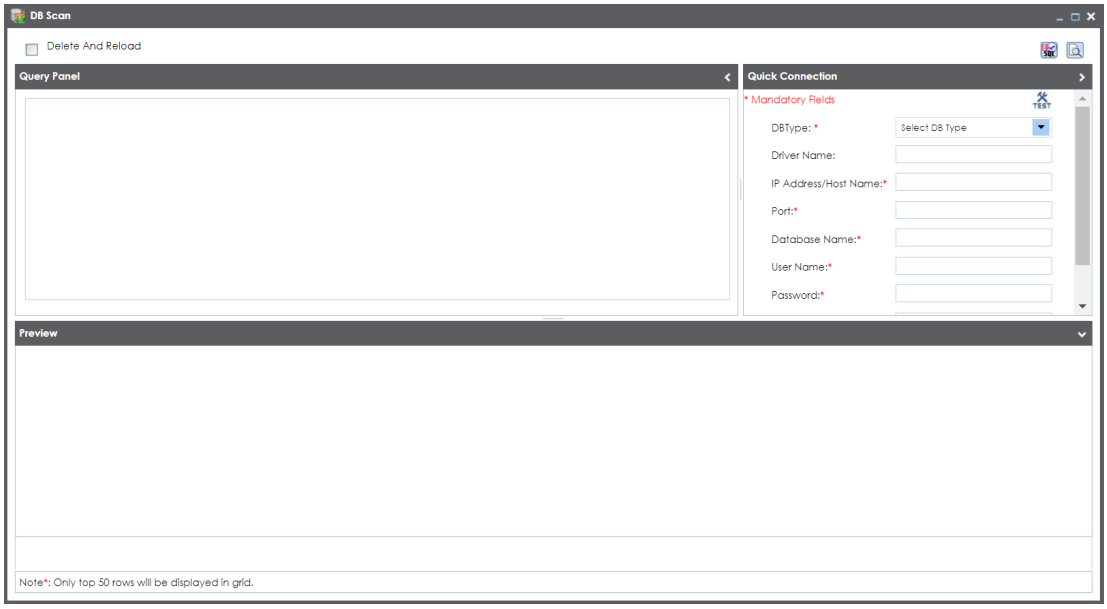
   The reference columns are added to the reference table.



To add reference column values to the reference columns through a DB scan, follow these steps:

1. Click .
2. Click .

   The DB Scan page appears.



3. Enter appropriate values in the fields in the **Quick Connection** tab to establish a connection with a database. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
DB Type	Specifies the database type. For example, Sql Server.
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.microsoft.sqlserver.jdbc.SQLServerDriver The field is autopopulated based on the DB Type.
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. For example: 1433 is the default port for a Sql Server database type.
Database Name	Specifies the database name being used to connect to the reference table. For example, ErwinDIS931.

Field Name	Description
User Name	Specifies the user name to connect with the database. For example, sa.
Password	Specifies the password to connect with the database. For example, goerwin@1.

4. Click to test the connection.

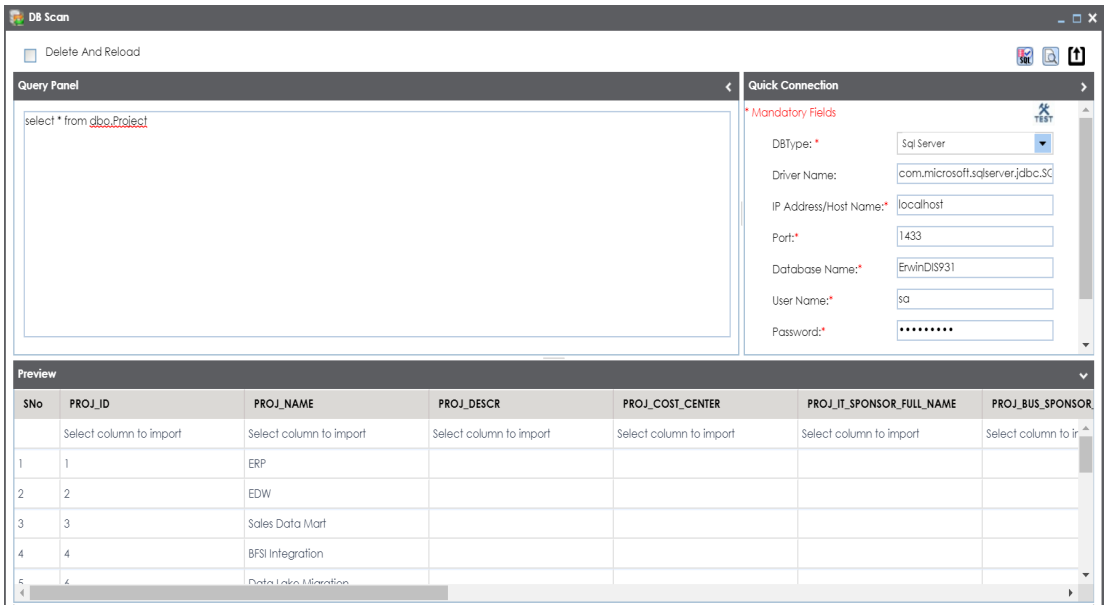
   If the connection is established, the success message appears.

5. Write a query in the **Query Panel** to pull the data from the database.

6. Click to validate the query.

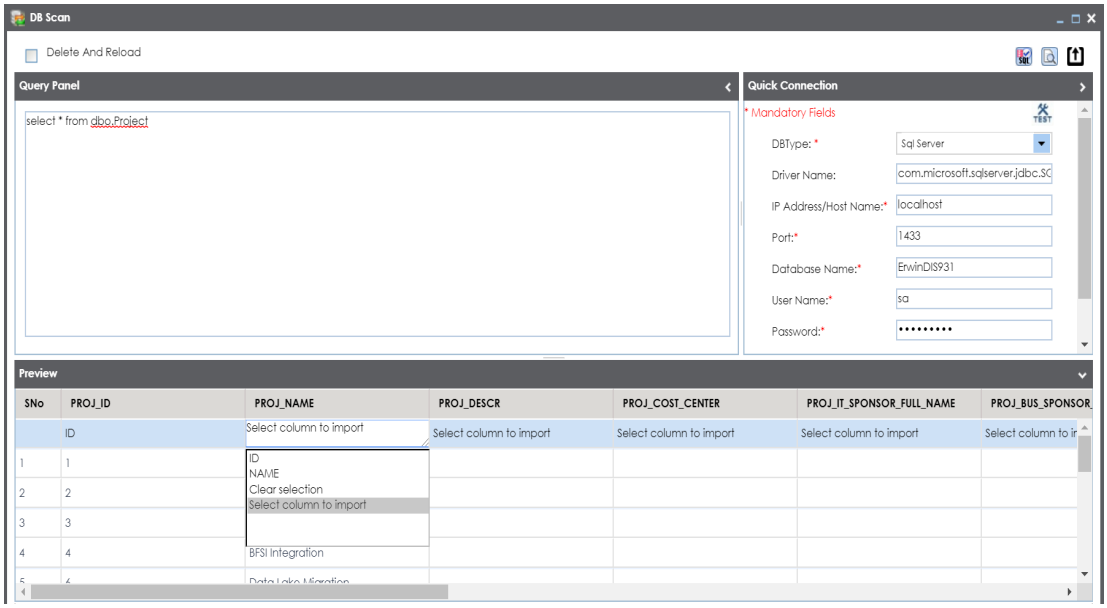
7. Click to preview the data.

   The data is previewed.



8. Double-click the **Select Column to Import** cell under the desired column.

   A drop-down option appears displaying the reference columns.



9. Choose an appropriate <Reference_Column_Name> from the drop-down.

   Note: You can import multiple columns from the database.

10. Click .

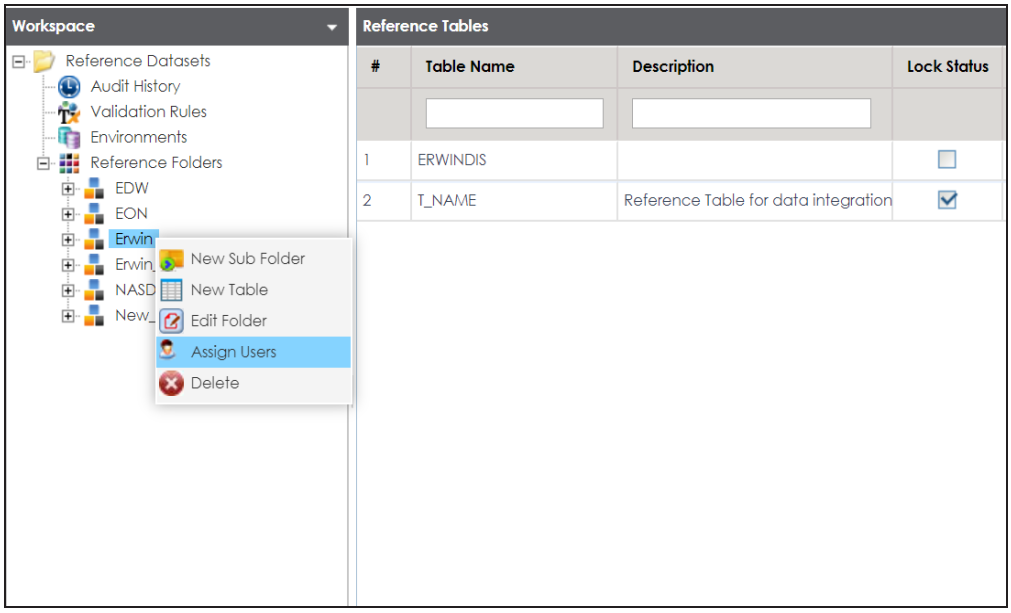
    The column values from the database are uploaded into the selected reference columns.

Assigning Users to Reference Folders

You need to assign users to a reference folder before assigning them to reference tables under it.

To assign users to reference folders, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Reference Data Manager**.
2. Under the **Workspace** pane, right-click the reference folder to be assigned.



3. Click **Assign Users**.

   The Assign Users page appears. For more information on creating users and assigning roles, refer to the creating users and assigning roles topic.

4. Use (or) to move users from **User ID** list-box to **Assigned Users** list-box and use (or) to move users from **Assigned Users** list-box to **User ID** list-box.

5. Click .

   Users are assigned to the reference folder.

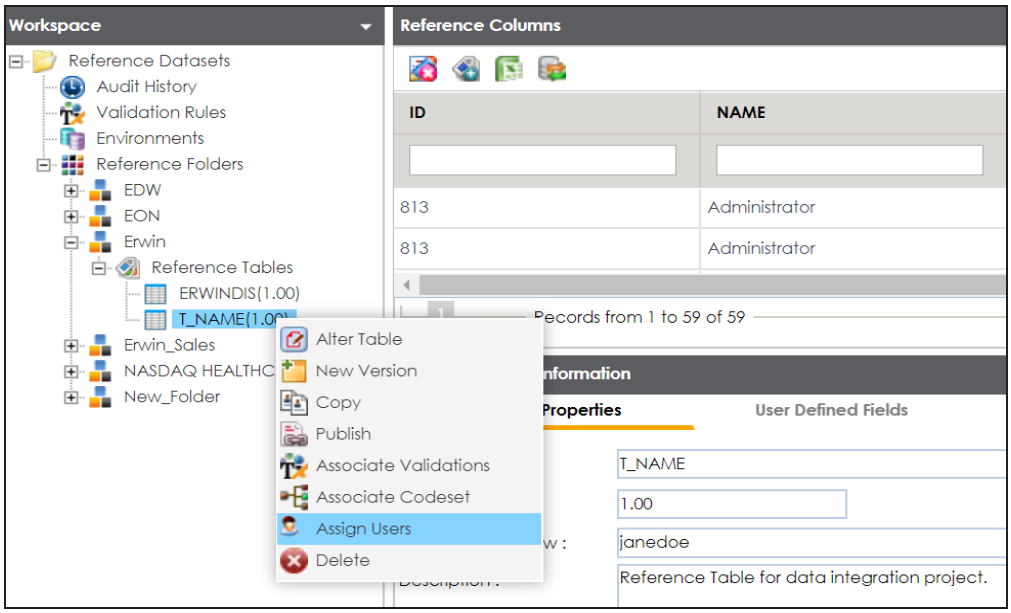
   Note: Assigning users to a reference folder enables you to assign them to the reference tables under it.

Assigning Users to Reference Tables

You can assign users to reference tables enabling them to access the tables. Before, you assign a user to a reference table, you must assign the user to the corresponding reference folder.

To assign users to reference tables, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Reference Data Manager**.
2. Under the **Workspace** pane, expand the desired reference folder.
3. Expand the **Reference Tables** node, right-click the desired table, and click **Assign Users**.



The Assign Users page appears.

4. Use (or) to move users from **User ID** list-box to **Assigned Users** list-box and use (or) to move users from **Assigned Users** list-box to **User ID** list-box.

   Note: User ID list-box displays the user ID of only those users who are assigned to the corresponding Reference Folder. For more information, on assigning users to

5. Click .

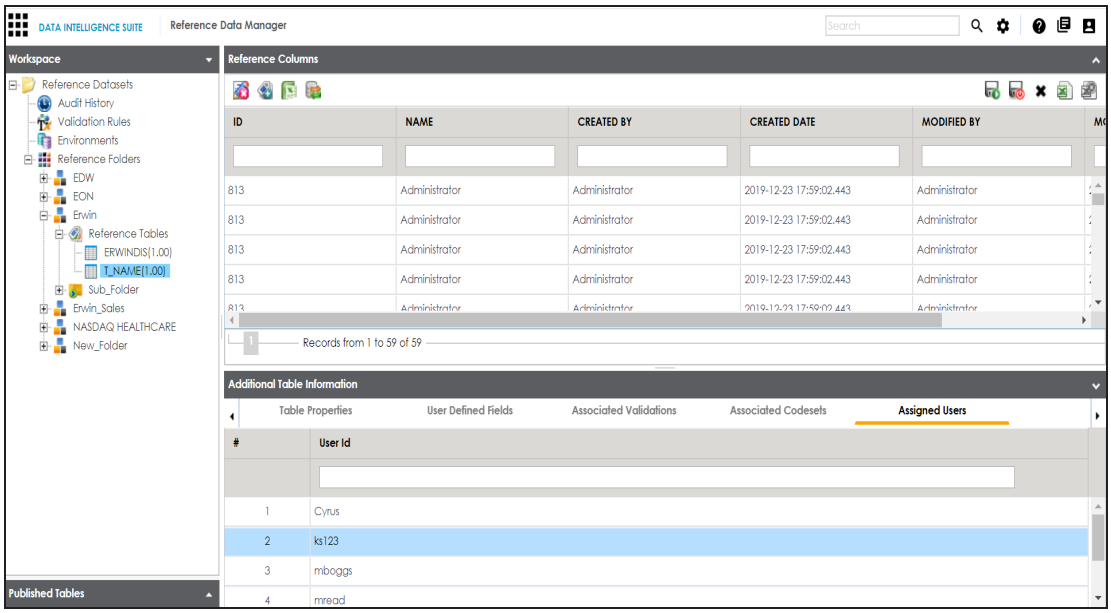
   Users are assigned to the reference table.

   Note: Assigning users to a reference table provides them read and write access to the reference table.

To view the list of the assigned users, follow these steps:

1. Click the reference table.
2. Expand the **Additional Table Information** page and click **Assigned Users**.

   The assigned users to the selected reference table are displayed.

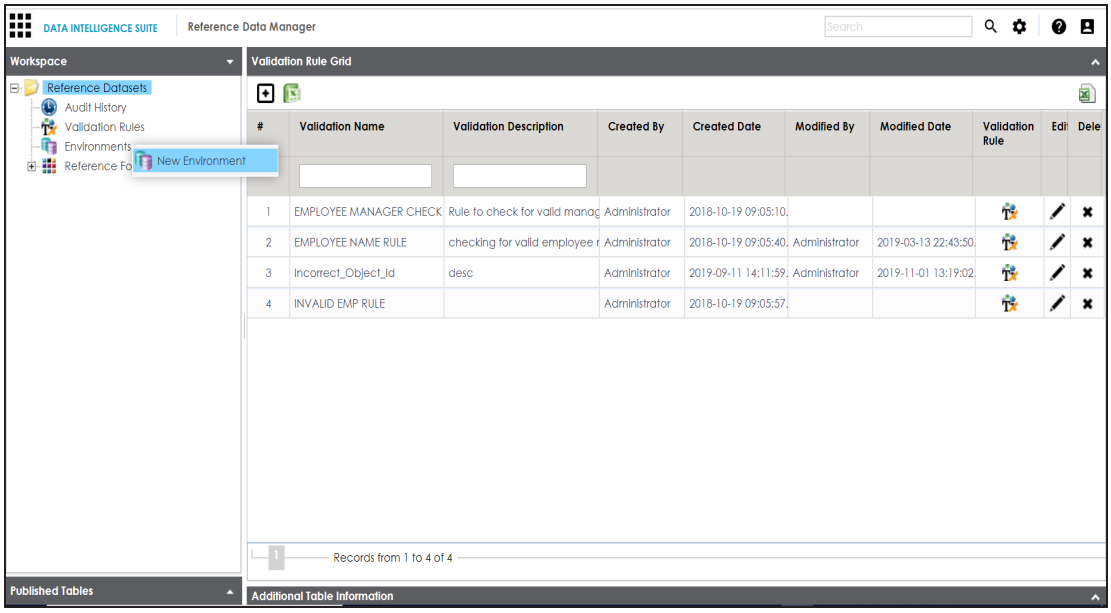


Creating Publish Environments

Reference tables can be published to various environments like development, production, test etc. You can also specify the schema of the environment, for example, DBO.

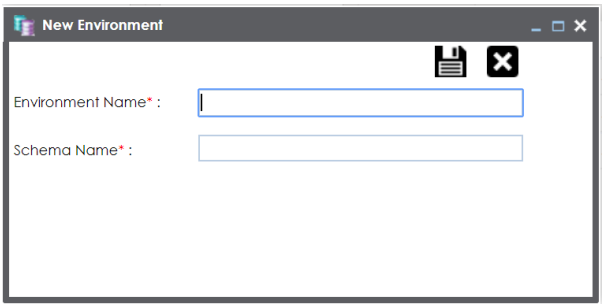
To create publish environments, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Reference Data Manager**.
2. Under the **Workspace** pane, right-click **Environments**.



3. Click **New Environment**.

   The New Environment page appears.



4. Enter **Environment Name** and **Schema Name**.

For example:

- Environment Name - Production
- Schema Name - DBO

5. Click .

   The publish environment is created and saved in Publish Environments page.

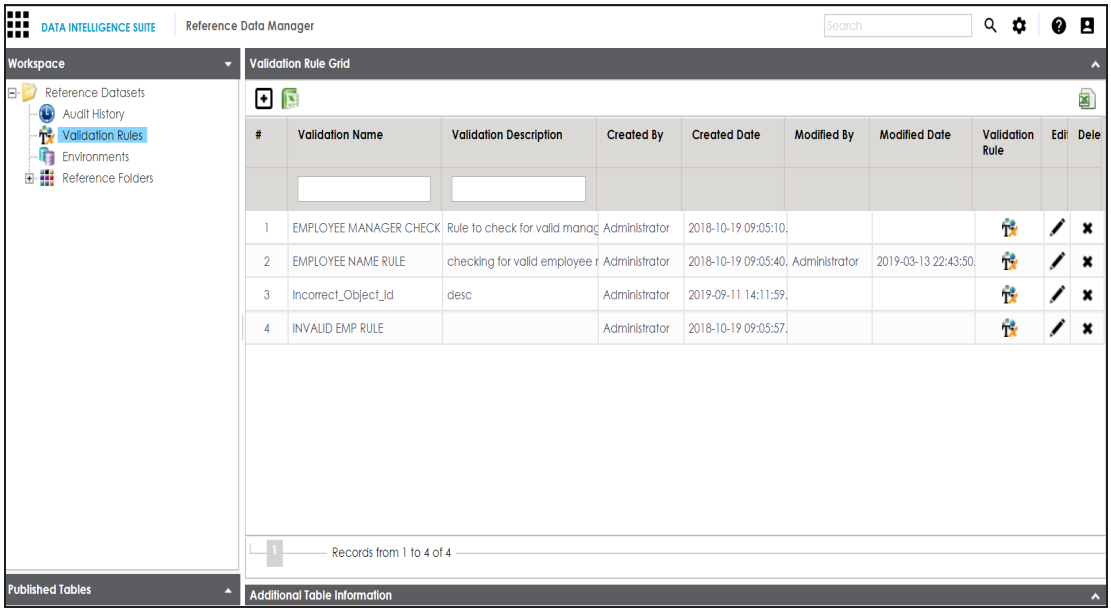
Adding Validation Rules

You can define a validation rule and validate a reference table using it.

To add validation rules, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Reference Data Manager**.
2. Under the **Workspace** pane, click the **Validation Rules** node.

   The Validation Rule grid appears.



3. Click .

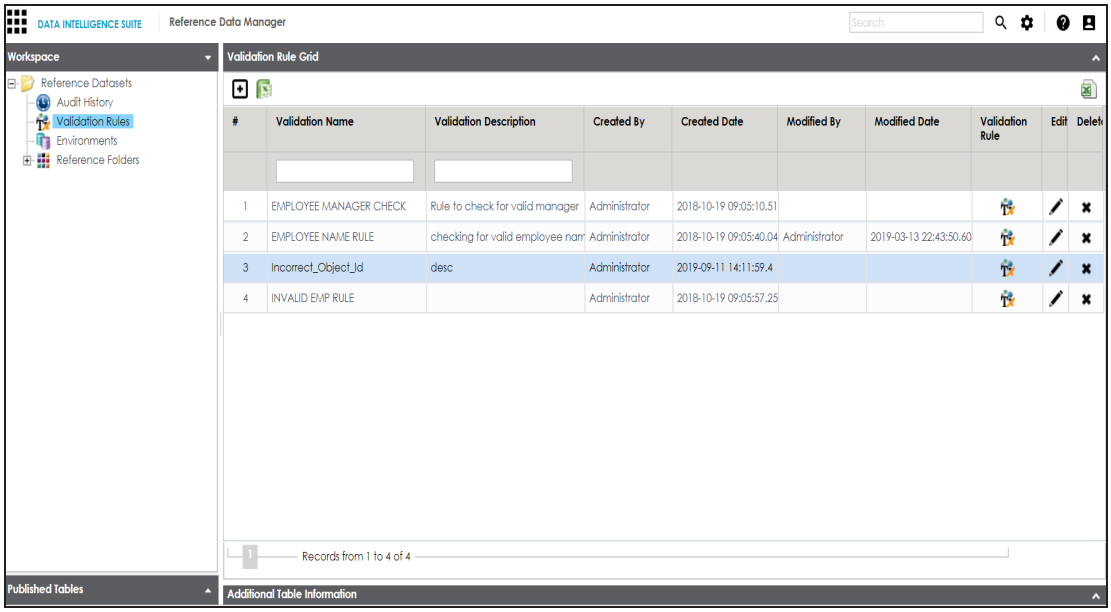
   The New Validation Rule page appears.

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
Validation Name	Specifies the name of the validation rule. For example, Incorrect_Object_ID.
Validation Description	Specifies the description about the validation rule. For example: This validation rule validates the ERWIN_SALES reference table.
Validation Rule	Specifies the SQL query of the validation rule. For example: select * from ERWIN_SALES where ID = 1000000.

5. Click .

   The validation rule is created and saved in the Validation Rule Grid.



6. Use the following options:

Validation Rule ( )

To view validation rule queries, click .

Edit ( )

To edit validation rules, click .

Delete ( )

To delete validation rules, click .

Associating Validation Rules with Reference Tables

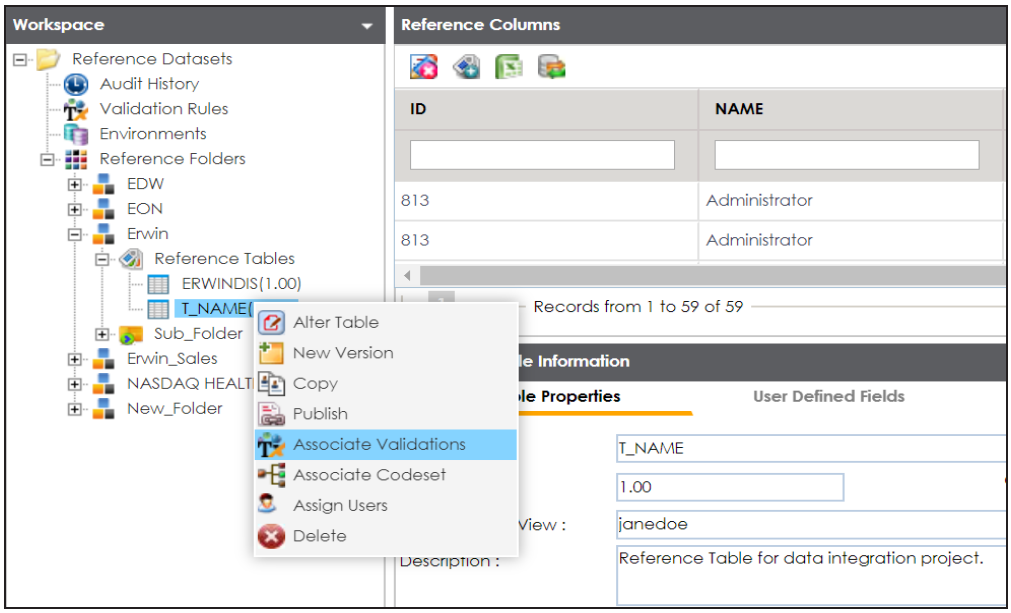
After creating a validation rule, you need to associate the validation rule with a reference table.

This allows you to execute the validation rule to validate data in the reference table.

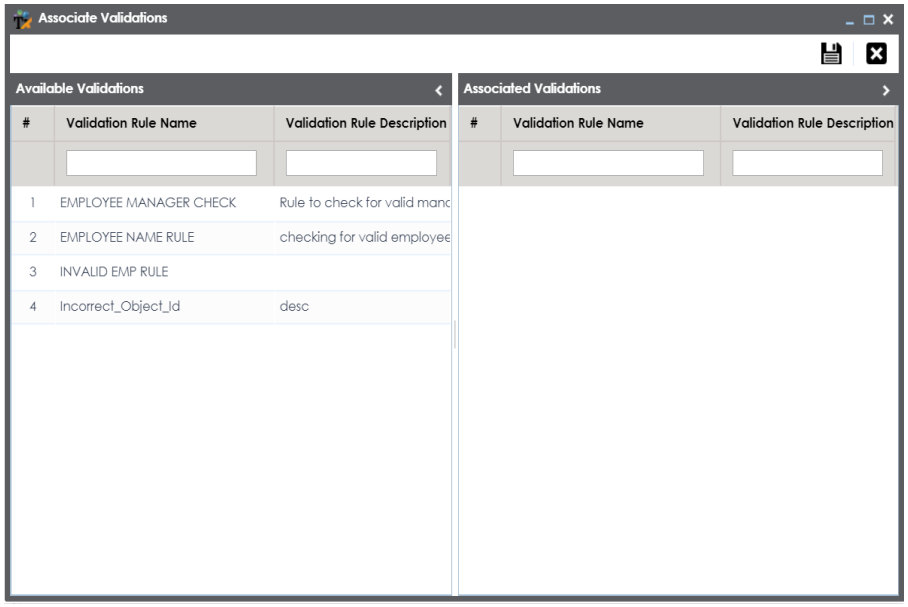
To associate validation rules with reference tables, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Reference Data Manager**.
2. Under the **Workspace** pane, expand the desired reference folder.

3. Expand the **Reference Tables** node, right-click the desired table, and click **Associate Validations**.

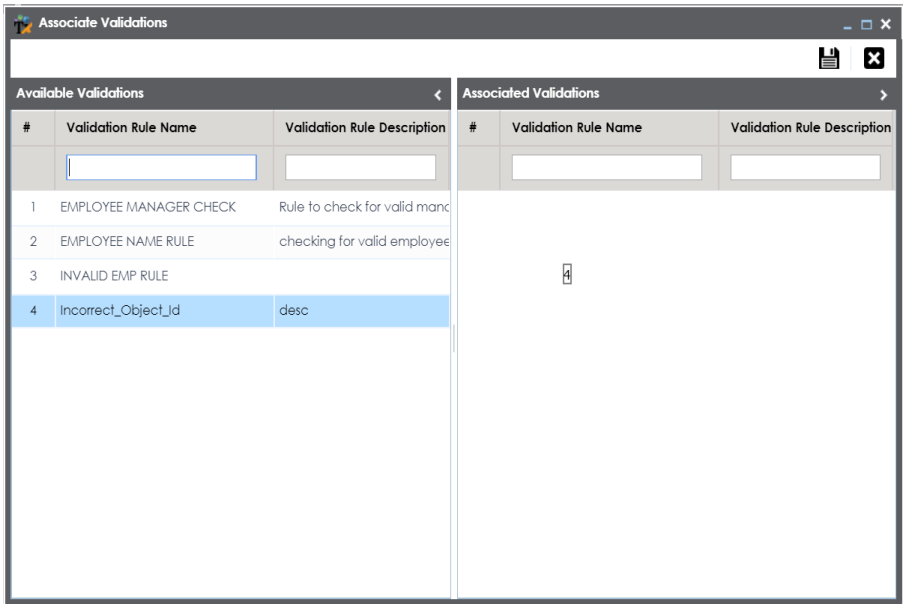


The Associate Validation page appears.



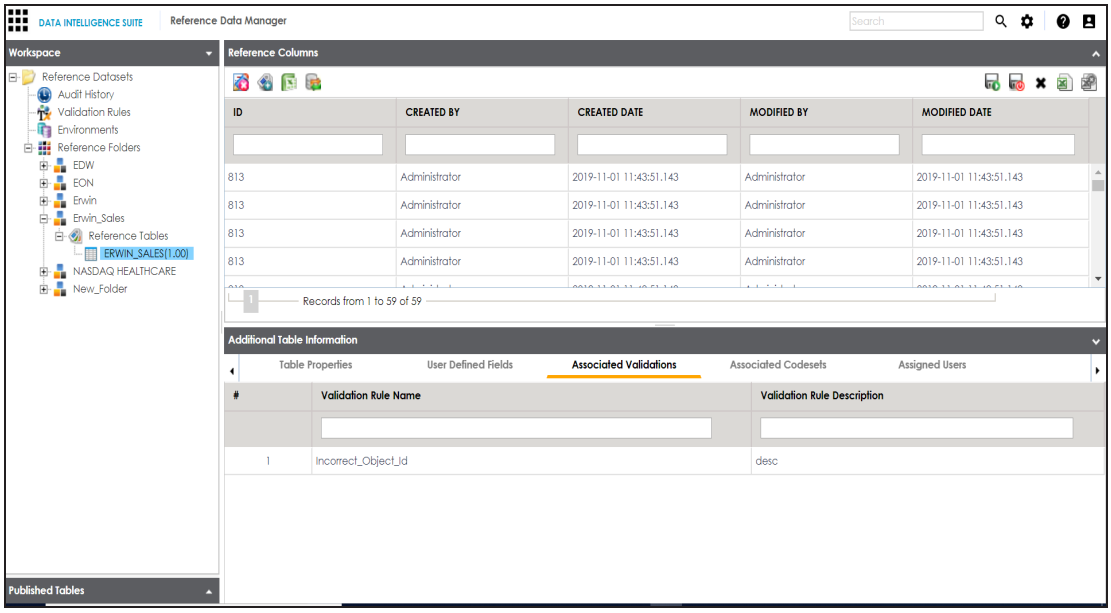
4. Drag and drop the validation rule from **Available Validation** tab to **Associated Validation** tab.

For more information on adding validation rules, refer to the Adding Validation Rules topic.



5. Click .

The associated validation rules appear under the Associated Validations tab.



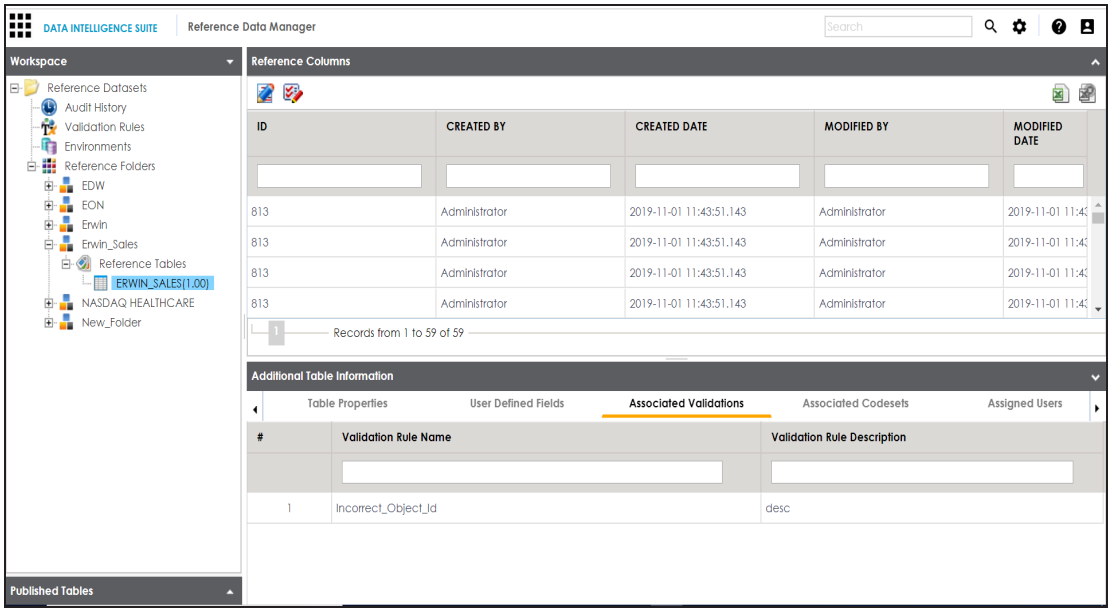
Running Validations Against Reference Tables

You can run a validation rule query against a reference table after associating the table with the validation rule. Executing validation rule validates the data in the reference table.

To run validation rules against reference tables, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Reference Data Manager**.
2. Under the **Workspaces** pane, expand the **Reference Folders** node.
3. Expand the **Reference Tables** node and click the reference table to be validated.

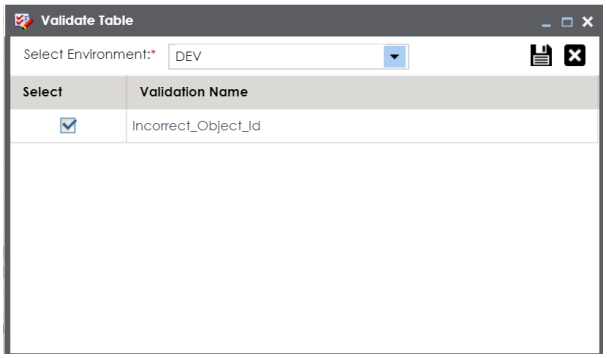
   The following page appears.



   Note: Ensure that you are not in edit mode. If you are in edit mode, click to cancel edit.

4. To validate the reference table, click .

   The Validate Table page appears.



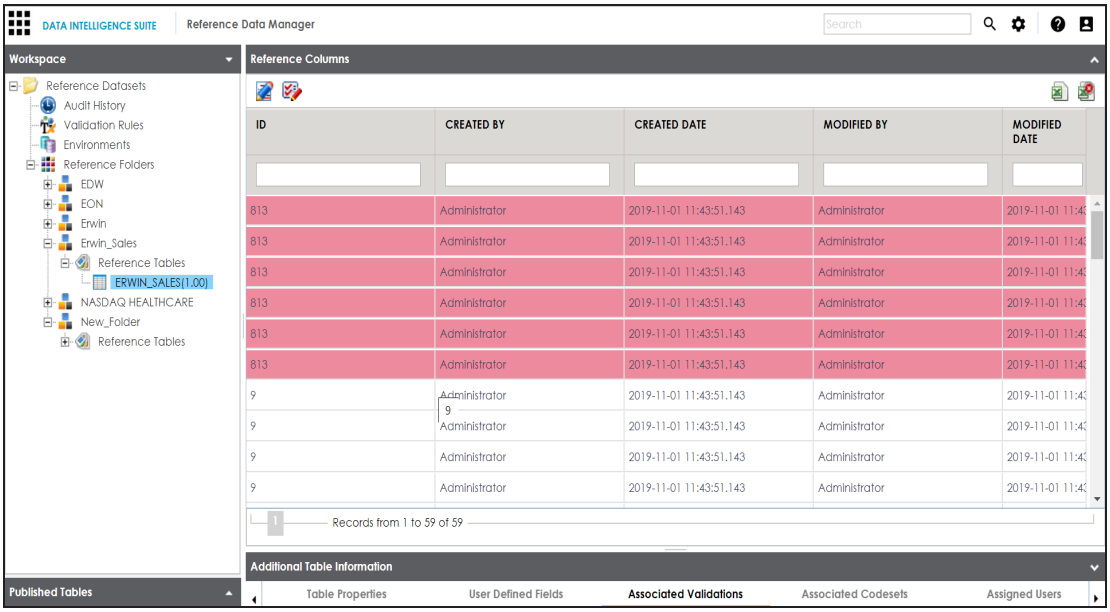
5. Select an Environment and a Validation rule.

   For more information on creating environments, refer to the Creating Publish Environments topic.

6. Click .

   Validation is successfully executed.

   Note: The error rows returned by executing the validations are highlighted in red color.

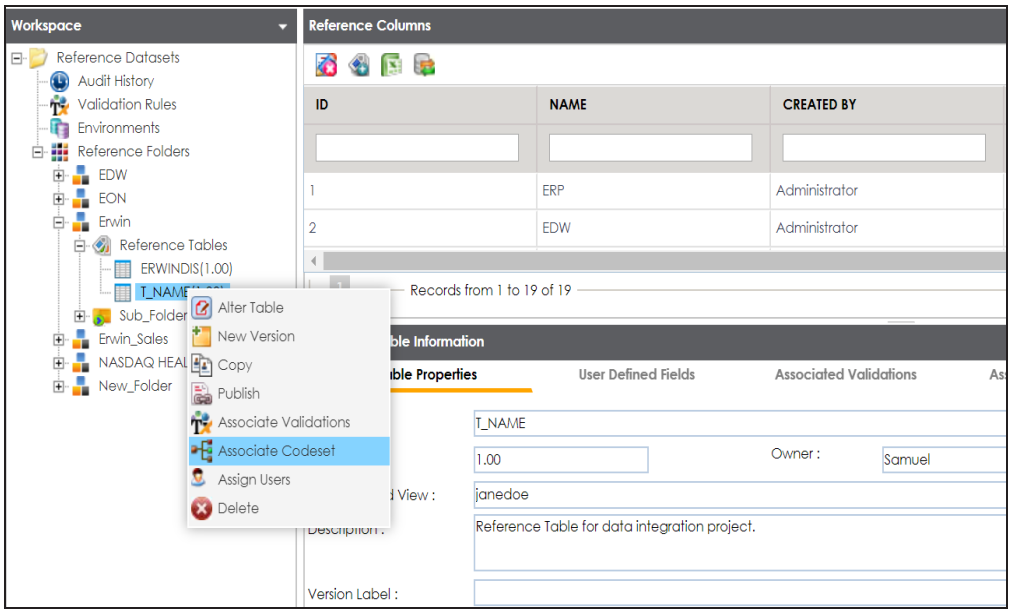


Associating Codesets With Reference Tables

You can associate codesets with columns of a reference table. Codesets can be used as configurable pick lists so that data can be selected from the drop-down.

To associate codesets with columns of reference tables, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Reference Data Manager**.
2. Under the **Workspace** pane, expand the desired reference folder.
3. Expand the Reference Tables node and right-click the reference table to be associated.

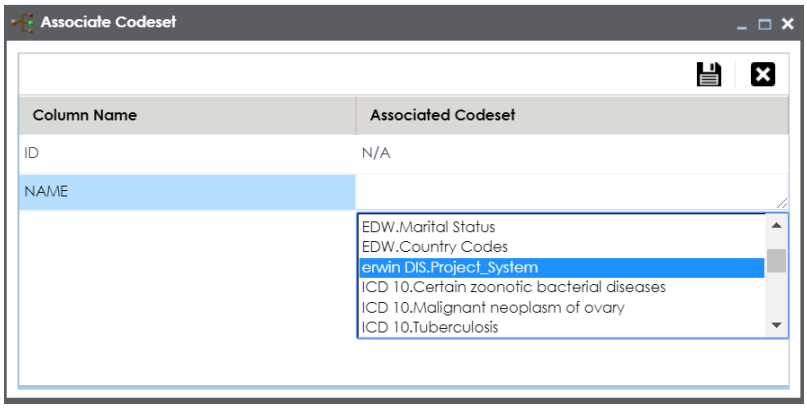


4. Click **Associate Codesets**.

   The Associate Codeset page appears.

5. Double-click the cell against the column to be associated and select the appropriate codeset.

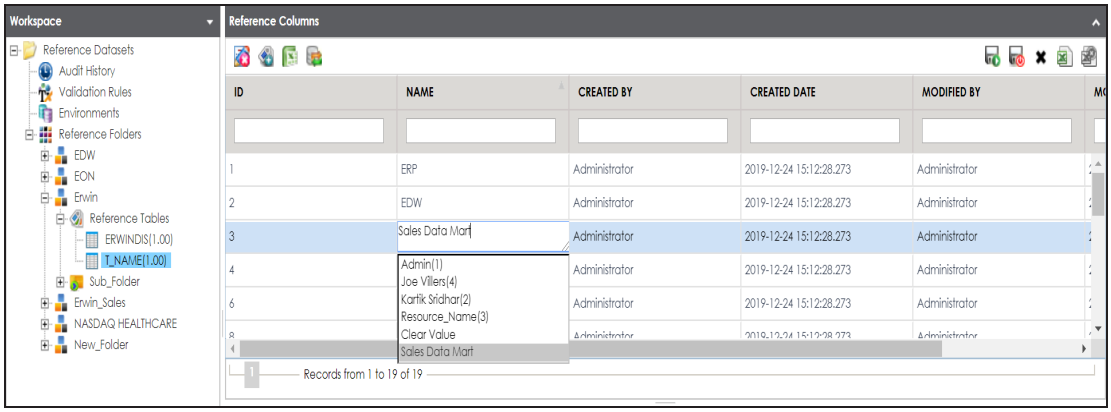
   For more information on codesets, refer to the Maintaining Enterprise Codesets section.



6. Click .

   The codeset is associated with the column of the reference table.

   The corresponding column in the reference table is now configured as a drop-down and populated with values from the selected codeset.



Note: Ensure that you are in edit mode.

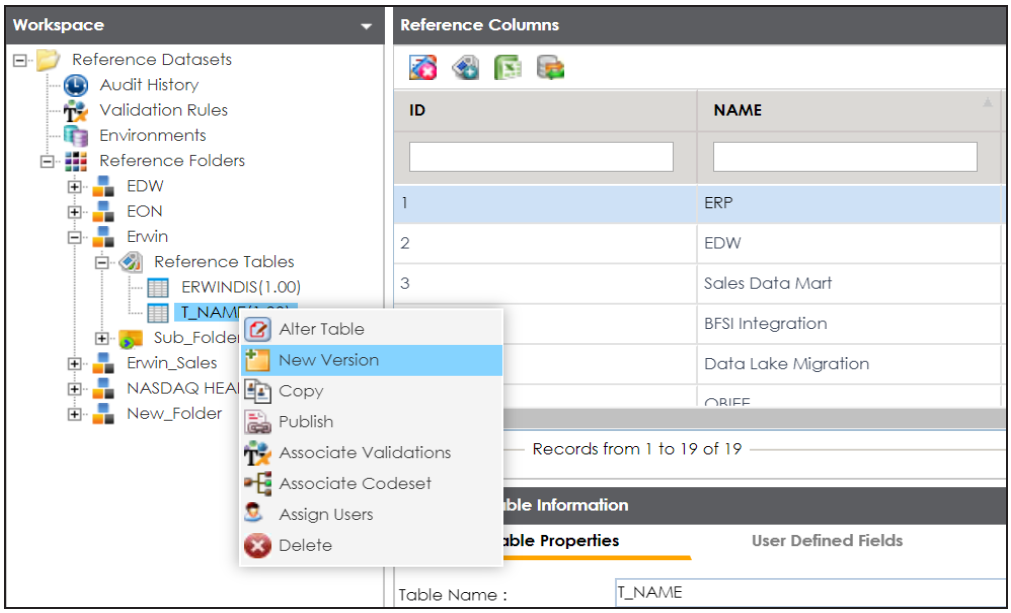
Versioning Reference Tables

You can create versions of reference tables and track the legacy of reference tables. The old version is archived and new version is added to the Reference Table tree in the Workspace pane.

To create versions of the reference tables, follow these steps:

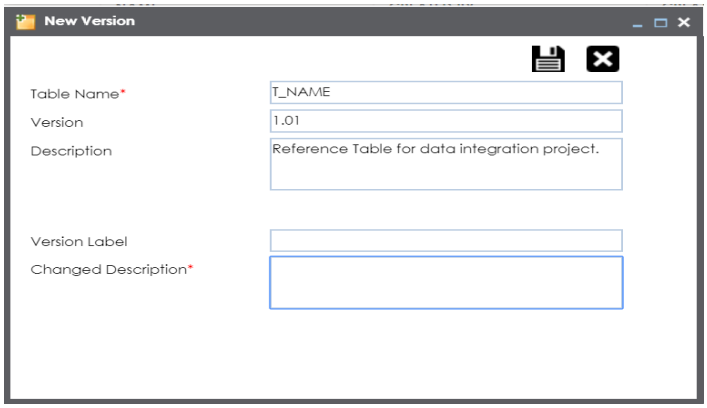
1. Go to **Application Menu** > **Data Catalog** > **Reference Data Manager**.
2. Under the **Workspace** pane, right-click a reference table.

   Note: Ensure that the reference table is not in edit mode (locked condition). If it is in edit mode, click to cancel edit.



3. Click **New Version**.

   The New Version page appears.



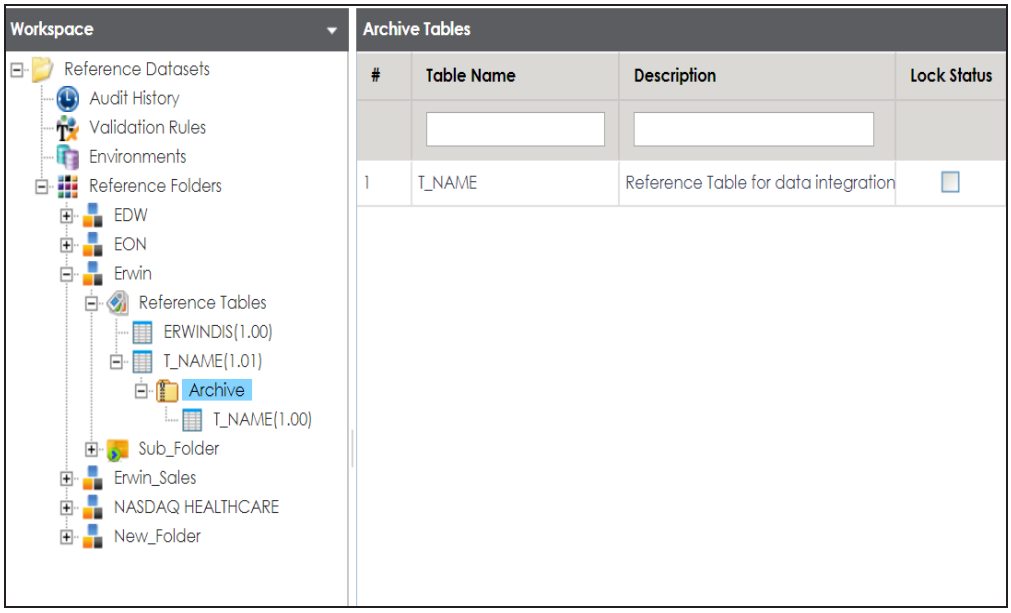
4. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Table Name	Specifies the name of the reference table. For example, Data_Classifications_Levels.
Version	Specifies the new version of the reference table. For example, 1.02.
Description	Specifies the description about the reference table. For example: This reference table serves as domain for the data classification column.
Version Label	Specifies the version label of the reference table. For example, Beta.
Changed Description	Specifies the description of the changes made in the reference table. For example: A new column, Object_ID was added in the reference table.

5. Click .

The new version of the reference table is created and saved under the Reference Table tree.

The previous version of the reference table is archived.

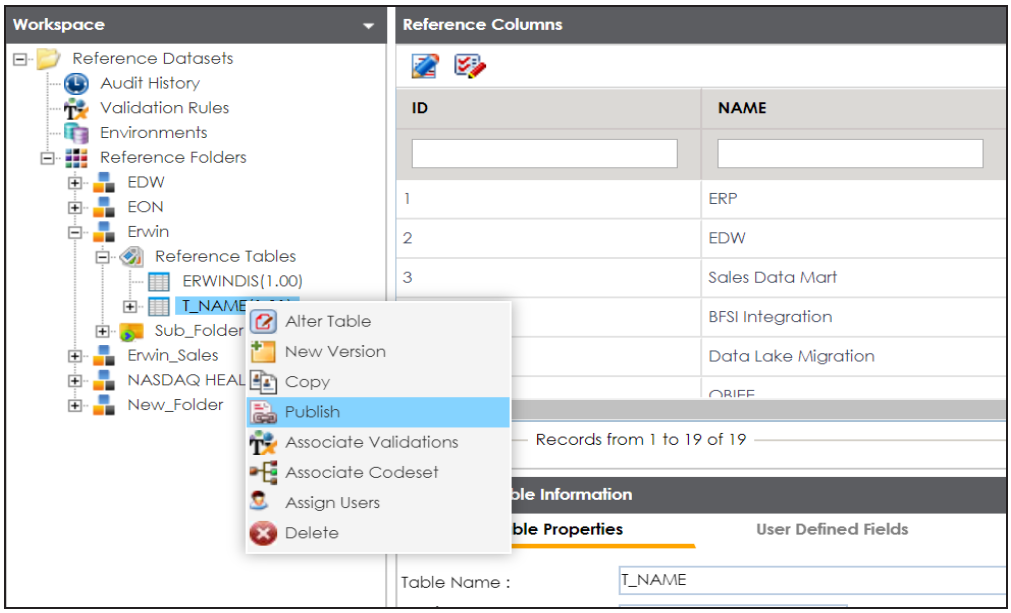


Publishing Reference Tables

You can publish a reference table to a publish environment. Before publishing a reference table, you must ensure that the table has passed all validations successfully.

To publish reference tables, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Reference Data Manager**.
2. Under the **Workspace** pane, expand the required reference folder.
3. Expand the **Reference Tables** node and right-click the required reference table.

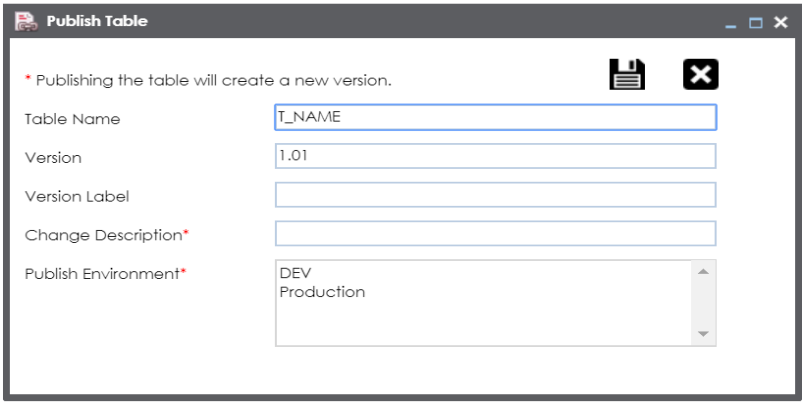


4. Click **Publish**.

   A warning message appears.

5. Click **Yes**.

   The Publish Table page appears.

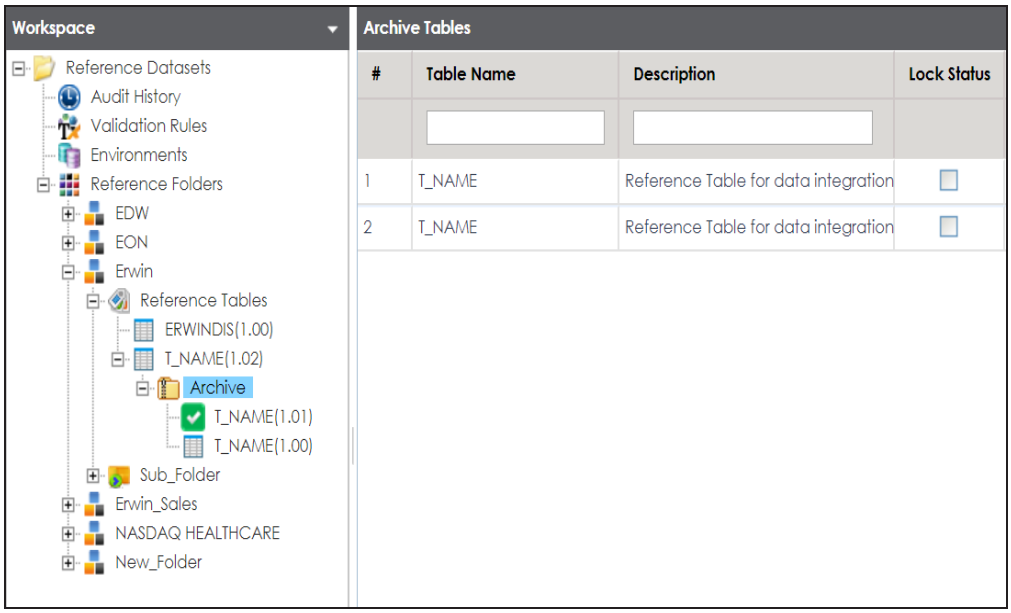


6. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field descriptions.

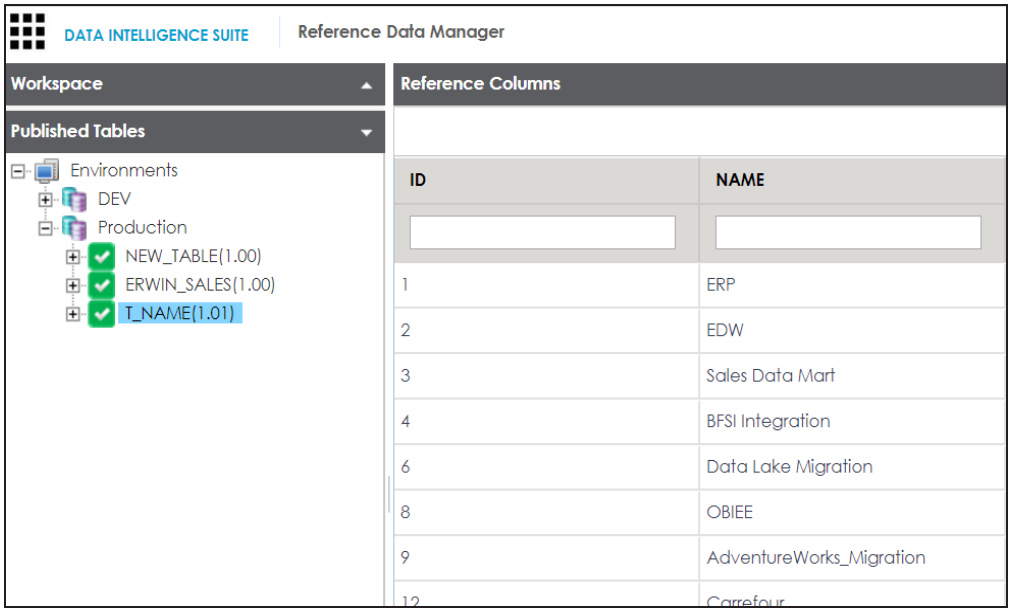
Field Name	Description
Table Name	Specifies the name of the reference table. For example, Data_Classifications_Levels. It is autopopulated and cannot be edited.
Version	Specifies the current version of the reference table. For example, 1.00. It is autopopulated and cannot be edited.
Version Label	Specifies the version label of the reference table. For example, Beta.
Change Description	Specifies the description about the changes made in the reference table. For example: A new column, Object_ID was added in the reference table.
Publish Environment	Specifies the environment to which the reference table would be published. For example, Production. For more information on creating publish environment, refer to the Creating Publish Environments topic.

7. Click .

The reference table is published and the published version is archived. A new version of the reference table is also created.



The published version is also saved under the Published Tables tab.



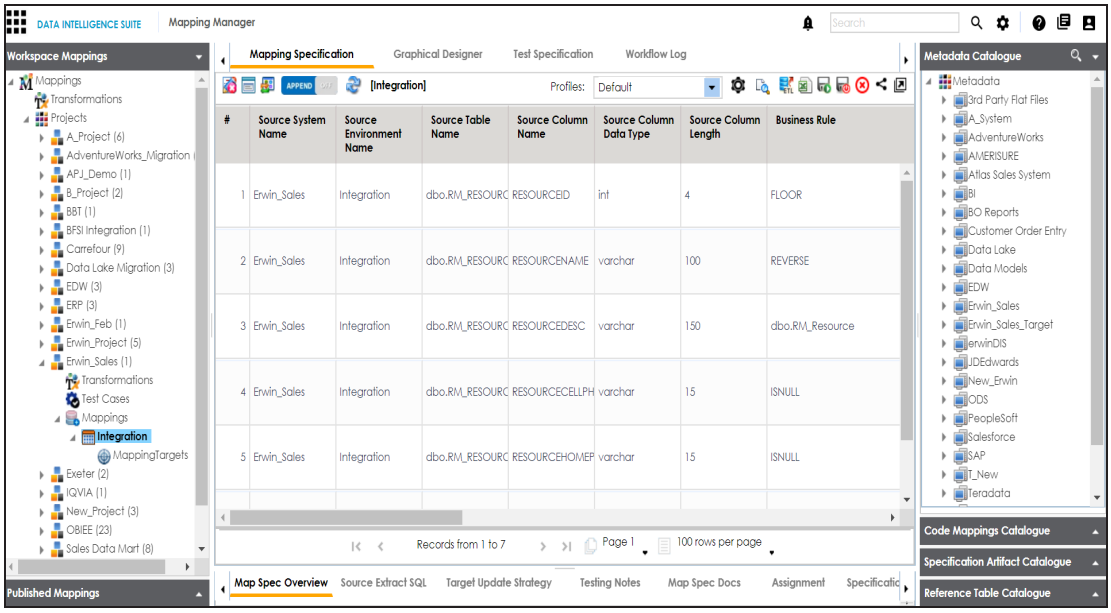
Associating Reference Tables with Mappings

The reference table must be published before you plan to link it with mappings.

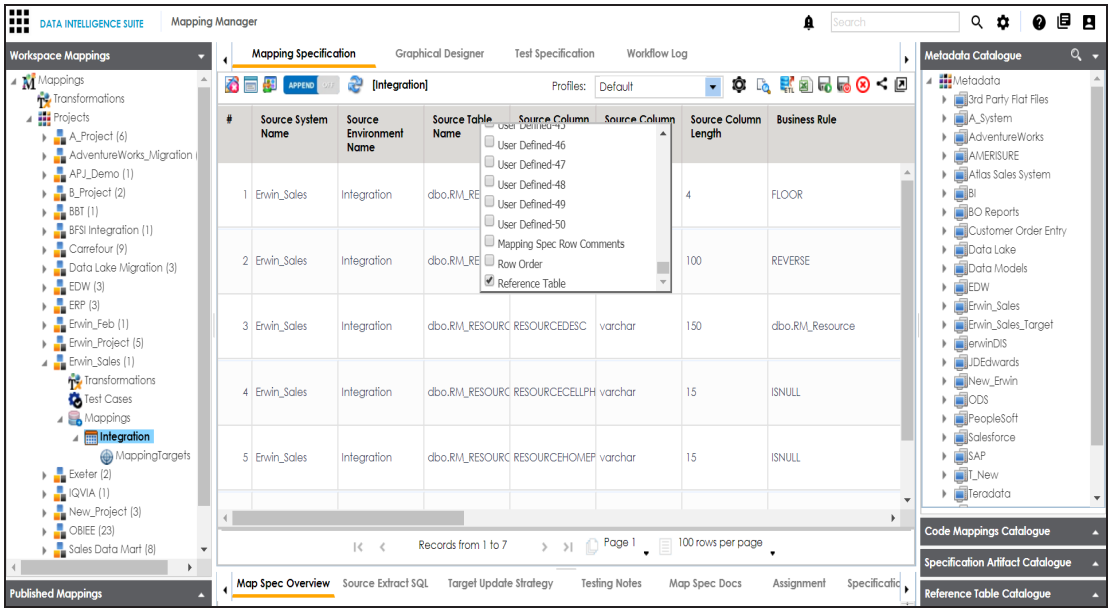
To associate reference tables with Mappings, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Mapping Manager**.
2. Under the **Workspace Mappings** pane, the desired project.
3. Expand the **Mappings** node and click the desired mappings.

   The Mapping Specification grid appears.



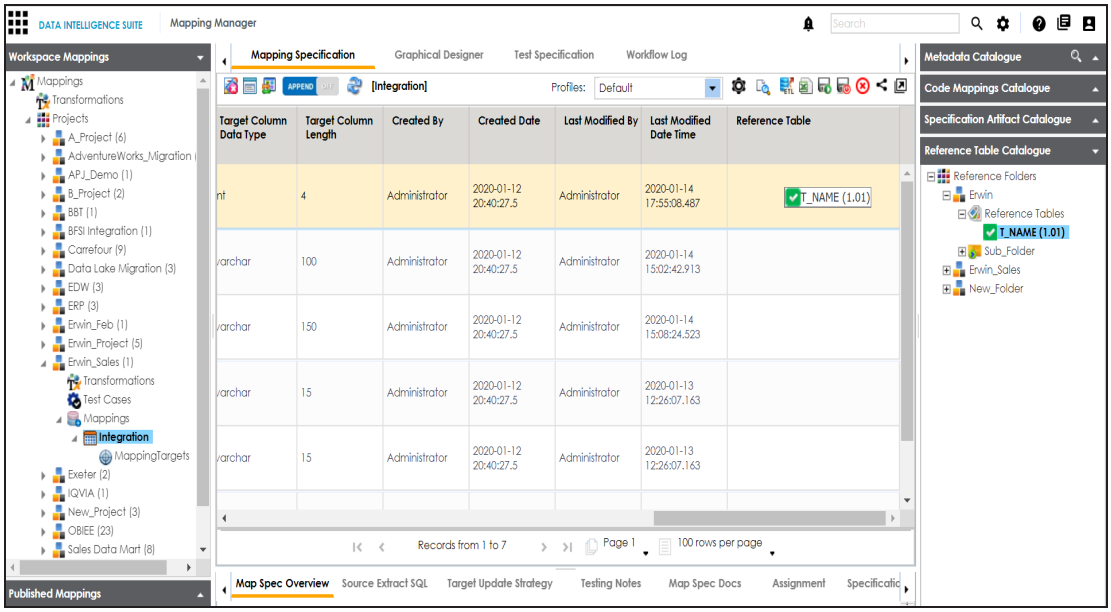
4. Click .
5. Right-click the **Header Menu** and select the **Reference Table** check box.



The **Reference Table** column becomes visible in **Mapping Specification** grid.

6. Drag and drop the reference table from **Reference Table Catalogue** to the required row under the **Reference Table** column.

Note: You can associate multiple source columns with the reference tables.

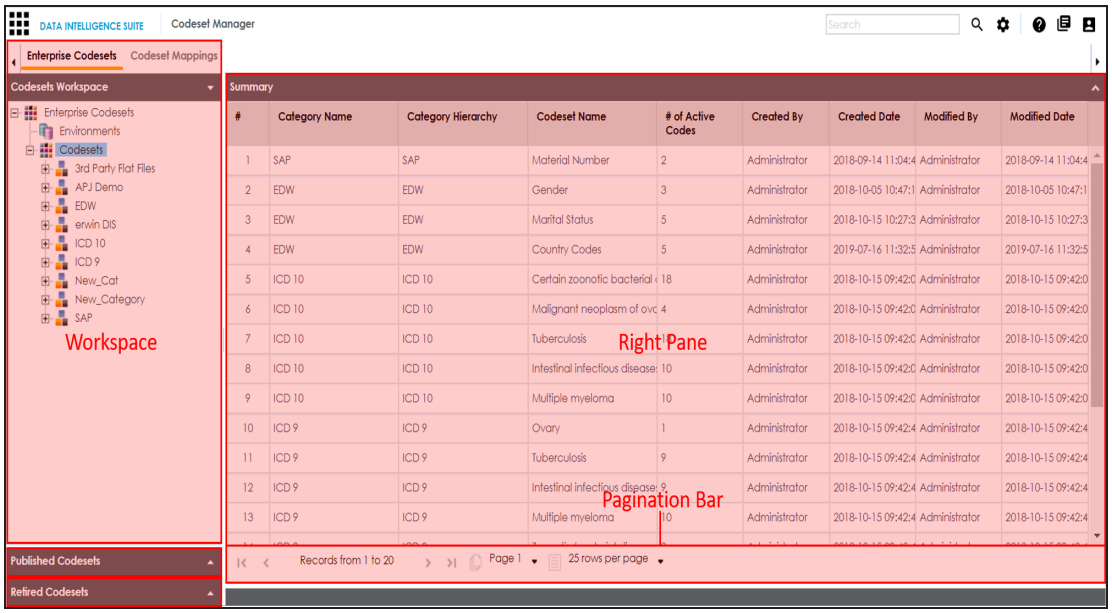


7. Click .

   The Mapping Specification is saved and the reference table is associated with the mappings.

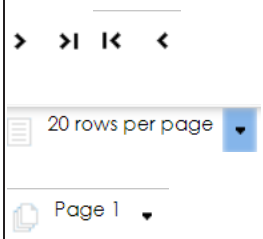
Using Codeset Manager

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



UI Section	Icon	Function
Workspace		Use this pane to browse through Codesets Workspace and Code Mappings Workspace panes.

UI Section	Icon	Function
		Codesets Workspace enables you to create and categorize codesets. Code Mappings Workspace enables you to create and categorize code mappings.
Published Codesets		Expand this pane and browse through it to view and export published codesets.
Right Pane		Use this pane to work on the data based on your selection in the Workspace

UI Section	Icon	Function
		pane.
Pagination Bar		Use this bar to navigate through the codesets data displayed on the Right Pane.

Managing codesets involves the following:

- Maintaining enterprise codesets
- Maintaining code mappings

Maintaining Enterprise Codesets

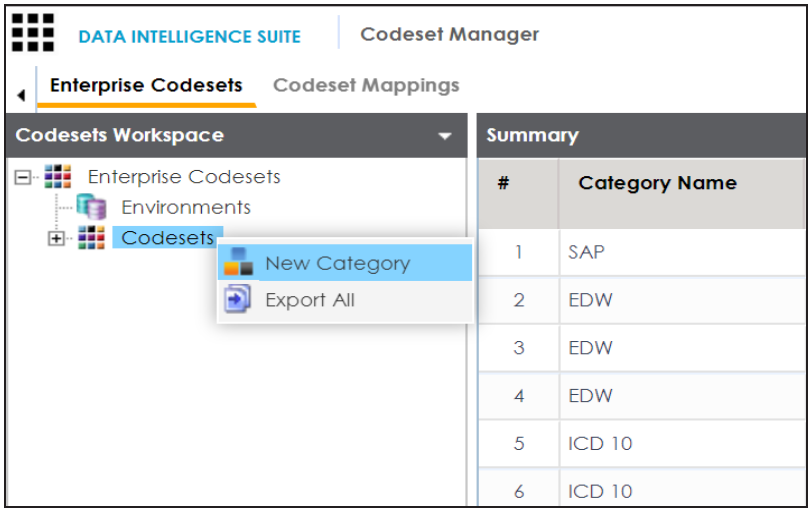
The Enterprise section of the Codeset Manager allows you to create and maintain codesets from various source / systems / environments. You can create codesets, add code name and code value pairs, and version them. You can also publish the codesets to various environments such as development, test, or production and can be used to create code crosswalks (mappings).

Creating Categories

Codes are stored in an hierarchical manner, Categories > Codesets > Codes . You can add codesets to an existing or a new category. You can also create sub-categories under a category to provide one more level of categorization to codesets.

To create a new category, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager**.
2. Under the **Codesets Workspace** pane, right-click the **Codesets** node.



3. Click **New Category**.

   The New Category page appears.

4. Enter **Category Name** and **Category Description**.

   For example:

   - Category Name - EDW
   - Category Description - This category contains three codesets, Country Codes, Gender, and Marital Status.

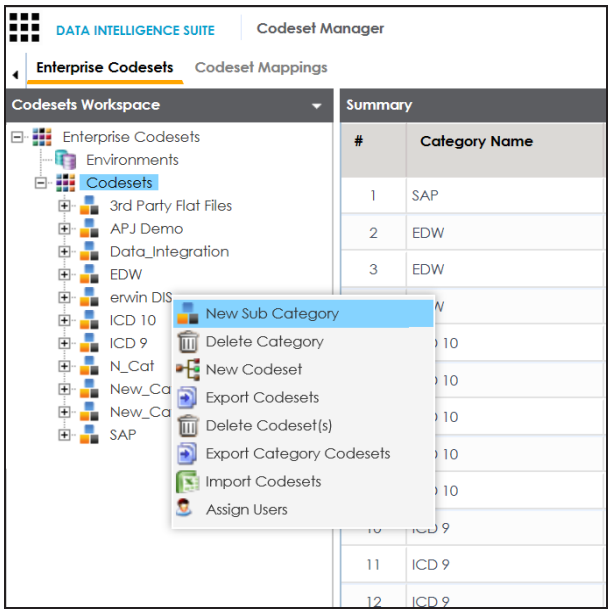
5. Click .

   A new category is created and saved in the category tree.

You can create sub-categories under a category.

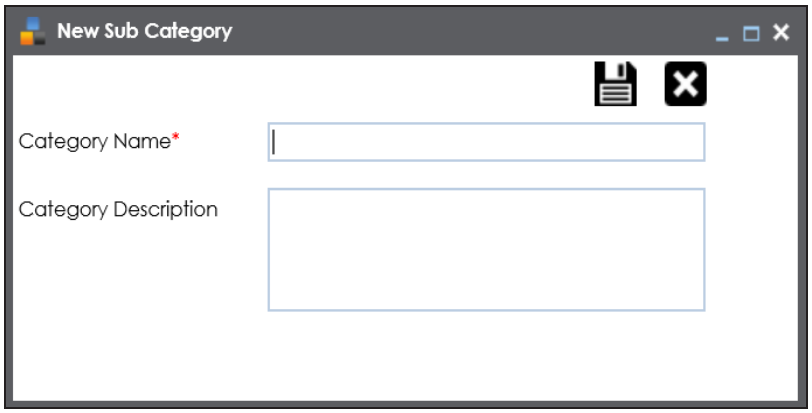
To create sub-categories under categories, follow these steps:

1. Under the **Codesets Workspace** pane, right-click the required category.



2. Click **New Sub Category**.

   The New Sub Category page appears.



3. Enter **Category Name** and **Category Description**.

   For example:

   - Category Name - EDW-HR
   - Category Description - This is a sub-category under EDW.

4. Click .

   A sub-category is created and saved in the sub-category tree.

Once a category is created, you can:

- Assign users to the category
- Add codesets to the category

You can manage categories by updating or deleting it.

Managing Categories

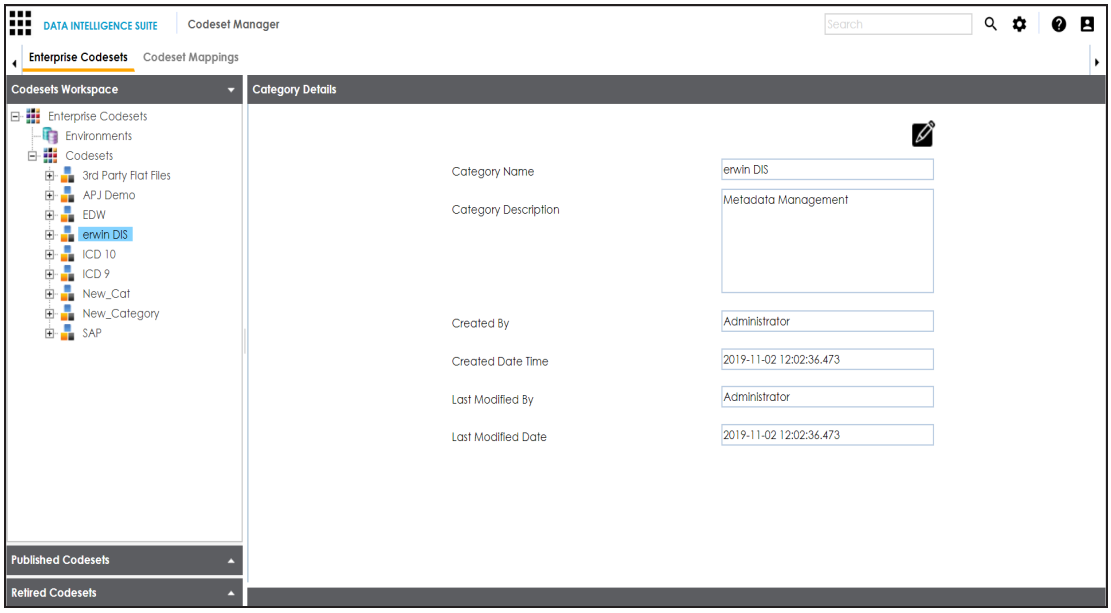
Managing categories involves:

- Updating categories
- Deleting categories

To update categories, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager**.
2. Under the **Codesets Workspace** pane, click the category to be updated.

   The Category Details page appears.

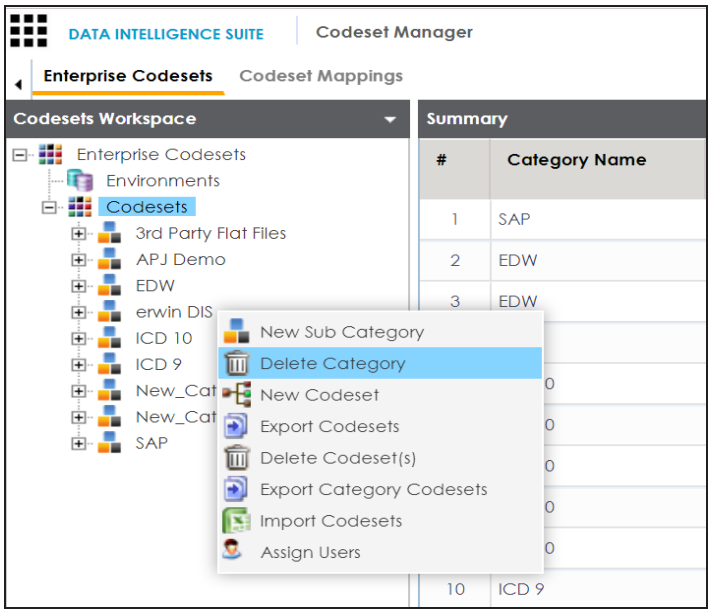


3. Click .
4. Edit the category details.
5. Click .

   The category is updated.

To delete categories, follow these steps:

1. Right-click the category to be deleted.



2. Click **Delete Category**.

   A warning message appears.

3. Click **Yes**.

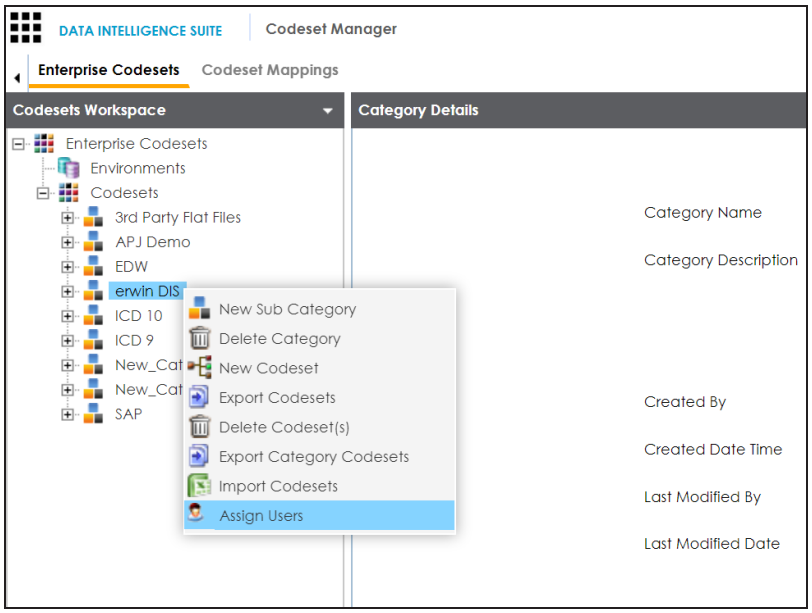
   The category is deleted.

Assigning Users to Categories

You can assign users to a category and assigning users to the category will give them write access to all sub-folders and codesets within the category.

To assign users to categories, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager**.
2. Under the **Codesets Workspace** pane, right-click the category to be assigned.



3. Click **Assign Users**.

4. Use (or) to move users from **User ID** box to **Assigned Users** box and use (or) to move users from **Assigned Users** box to **User ID** box.
5. Click .

   The users are assigned to the category.

   Note: Follow the same procedure to add/remove users to/from the category.

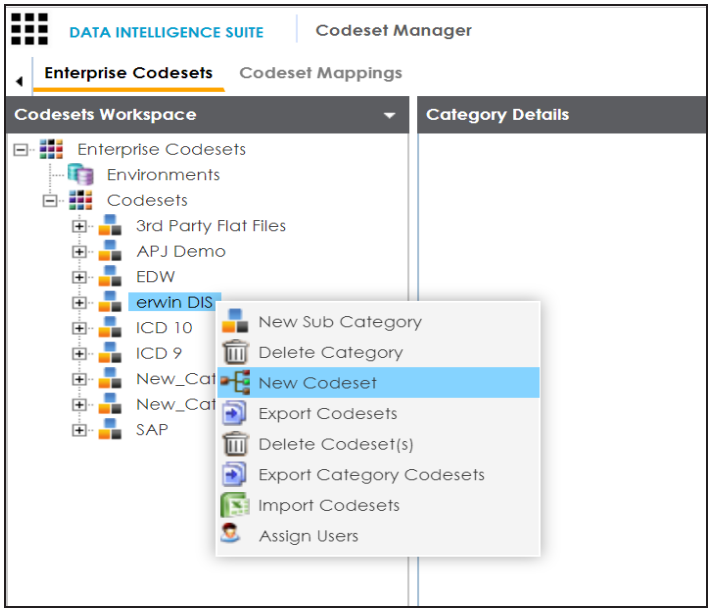
Adding New Codesets

After creating a category, you can add codesets to enter codes.

Codesets store codes in a code value grid.

To add new codesets, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager**.
2. Under the **Codesets Workspace** pane, right-click the desired category.



3. Click **New Codeset**.

   The New Codeset page appears.

4. Enter **Codeset Name** and **Codeset Description**.

For example:

- Codeset Name - Country Codes
- Codeset Description - This codeset has code names and code values for four countries.

5. Click .

   A new codeset is created and saved under the Codesets tree.

Once a codeset is created you can add codes to the code value grid in the following ways:

- Entering codes manually
- Importing codes from a MS Excel file
- Importing codes through a DB scan

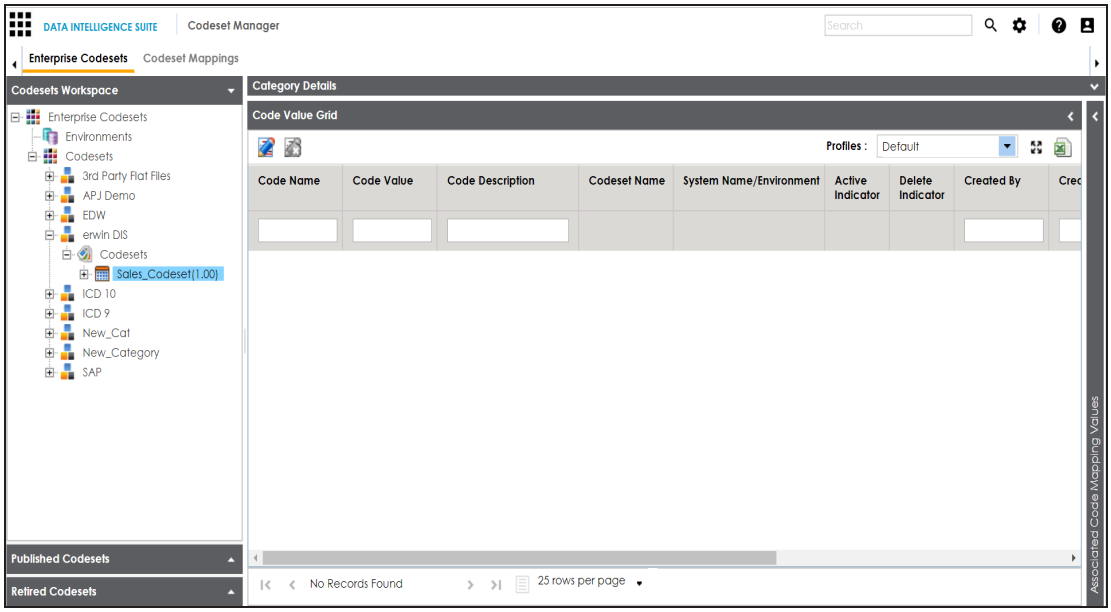
Entering Codes Manually

After creating codesets, you can add codes manually in the code value grid.

To enter codes into code value grid manually, follow these steps:

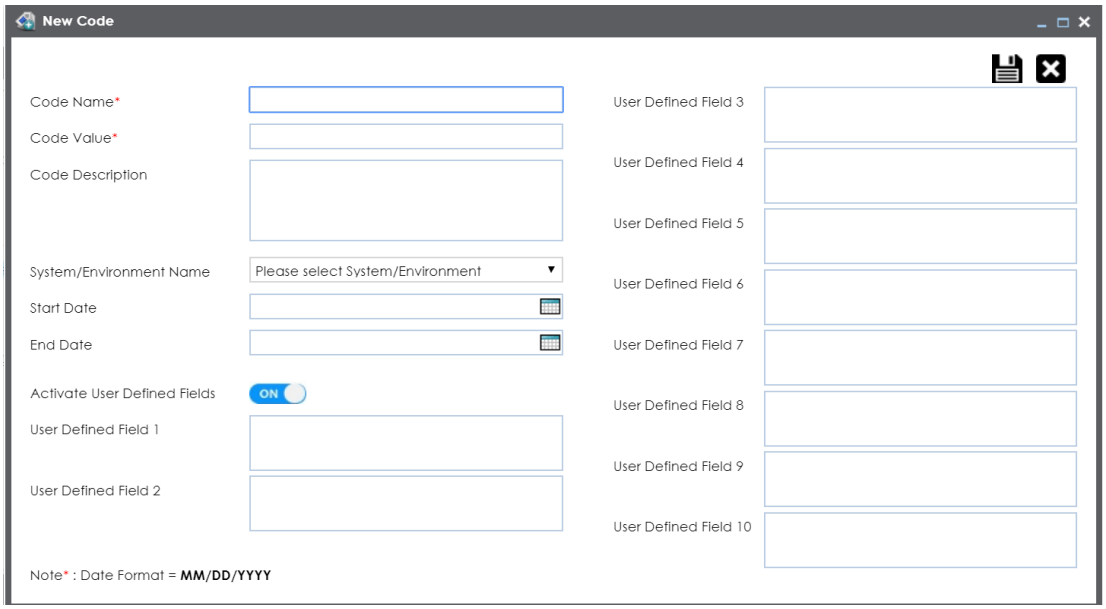
1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager**.
2. Under the **Codesets Workspace** pane, click the required codesets.

   The Code Value Grid appears.



3. Click .
4. Click .

   The New Code page appears.

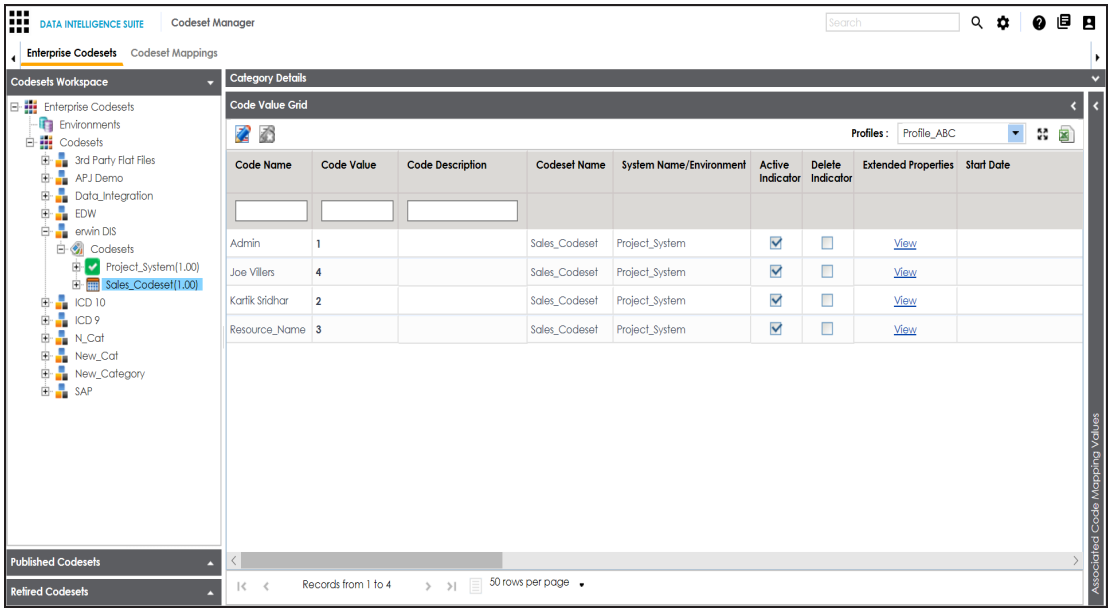


5. Enter appropriate values in the fields. Fields marked a with red asterisk are mandatory. Refer to the following table for field descriptions.

Field Name	Description
Code Name	Specifies the code name. For example, Admin.
Code Value	Specifies the code value of the code name. For example, 1.
Code Description	Specifies the description about the code. For example: The code value for Admin is 1.
System/ Environment Name	Specifies the system and environment related with the code. For example, EDW.EDW-DEV. Select the System/Environment name.
Start Date	Specifies the start date of the code validity. For example, 02/24/2020. Enter the start date using .
End Date	Specifies the end date of the code validity. For example, 03/22/2021. Enter the end date using .
Activate User Defined Fields	Turn **Activate User Defined Fields** to **ON** to use the user defined fields in the Code Value Grid.
User Defined Field 1-10	You can use your own UI labels for user defined fields. For more information on using UI labels for user defined fields, refer to the Configuring Language Settings topic.

6. Click .

   The codes are entered into the Code Value Grid.



7. Use the following options:

   Maximize

   To maximise the Code Value Grid view, click .

   Export to Excel

   To download the codeset, click .

Managing codesets involves the following:

- Editing Codesets
- Copying Codesets
- Editing Code Value Grid
- Retiring Codesets

Importing Codes using MS Excel Files

You can import codes into Code Value Grid using .xlsx files. The .xlsx file template must be compatible with the Code Value Grid. Hence, you should download the template file, enter

the codes into it and then upload it into the Code Value Grid.

To import codes into Code Value Grid using MS Excel Files, follow these steps:

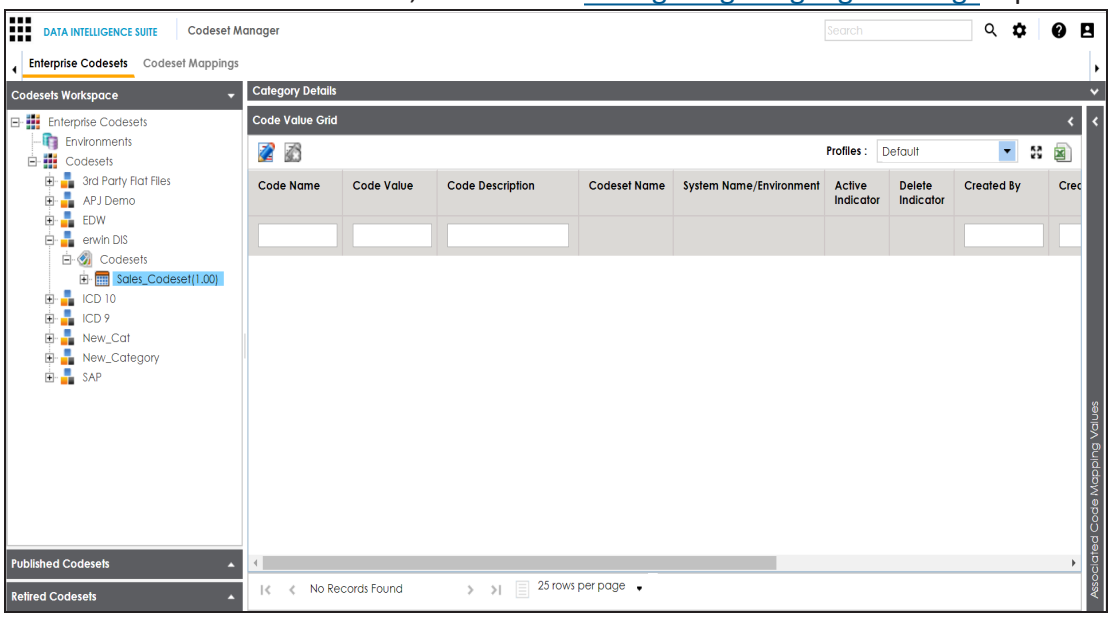
1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager**.
2. Under the **Codesets Workspace** pane, click the required codeset.

   The Code Value Grid appears.
3. Click to download the template file.

   The template in .xlsx format is downloaded.
4. Enter the data in the template.

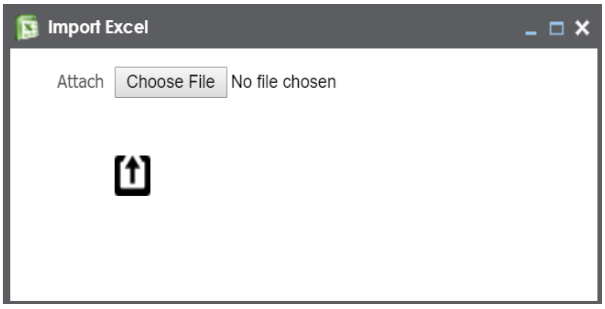
   Note: Set the ACTIVE_FLAG column values to Y, and set the DELETE_FLAG column values to N.

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



5. Click .
6. Click .

   The Import Excel page appears.



7. Browse the updated .xlsx file using **Choose File**.
8. Click .

   The codes are uploaded into the Code Value Grid.

Once you upload the codes in the Code Value Grid, you can manage codesets and managing codesets involves the following:

- Editing Codesets
- Copying Codesets
- Editing Code Value Grid
- Retiring Codesets

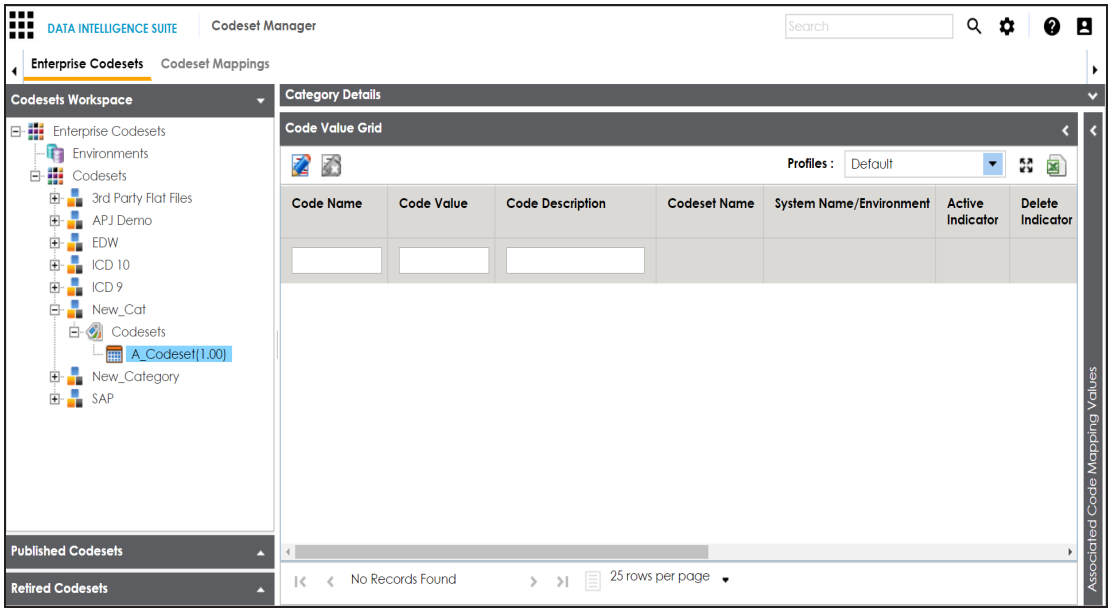
Importing Codes into Code Value Grid using DB Scan

You can import codes into Code Value Grid by scanning a database. You need to enter connection parameters and establish a connection between the database and erwin DI Suite. Once the connection is established, write an SQL query to preview the desired data. You can select the desired columns and import them as codes into the Code Value Grid.

To import codes into Code Value Grid using DB scan, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager**.
2. Under the **Codesets Workspace** pane, click the required codeset.

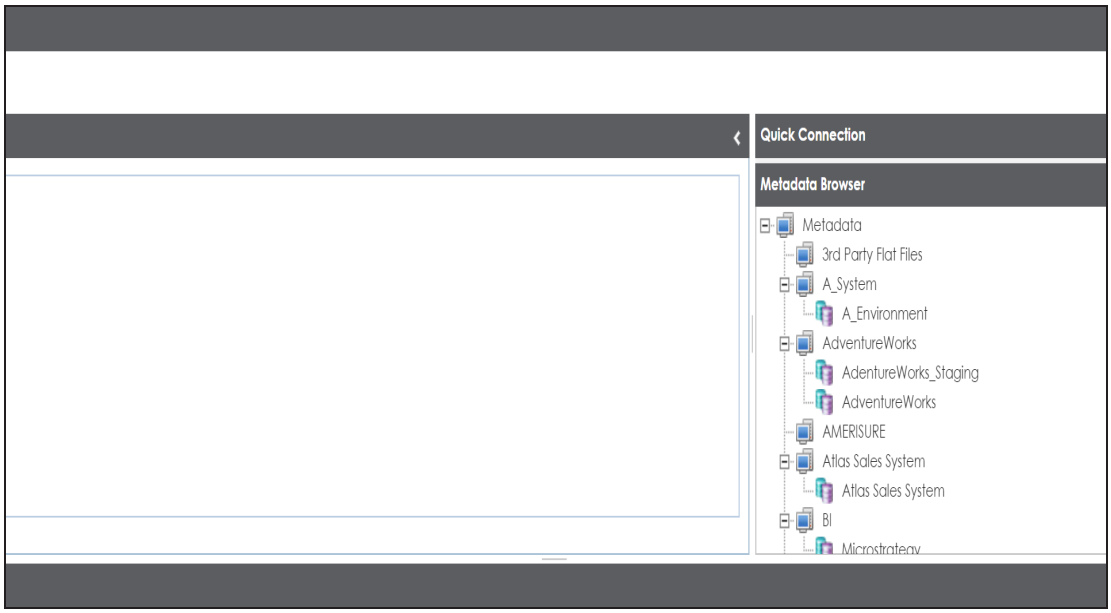
   The Code Value Grid page appears.



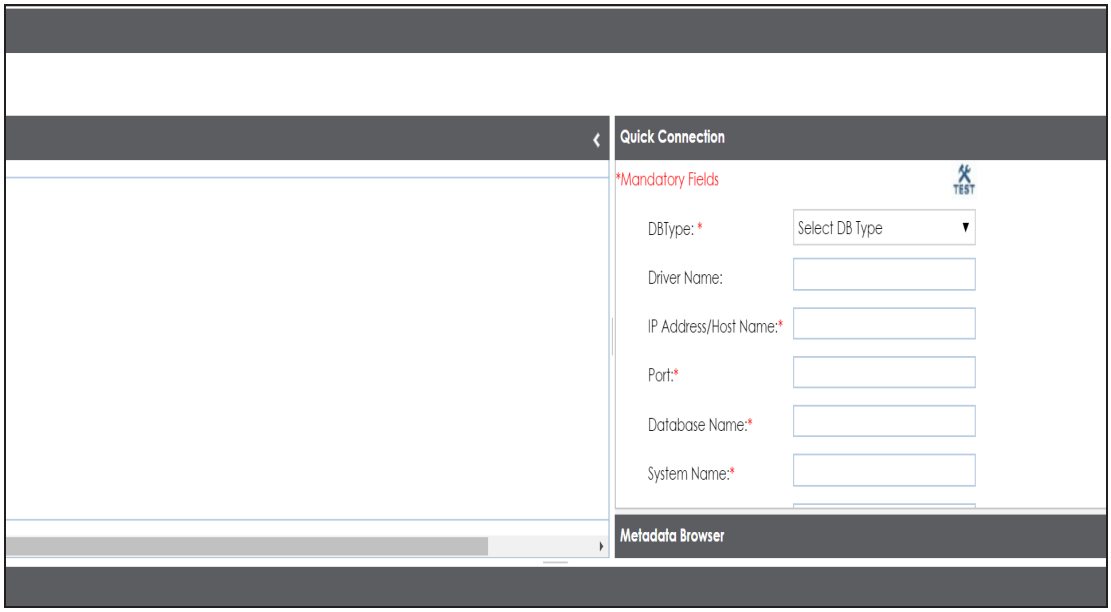
3. Click .

4. Click .

   The Following page appears.



5. Expand the **Quick Connection** pane.



6. Enter appropriate values in the fields (connecting parameters). Fields marked with a red asterisk are mandatory. Refer to the following table for field description.

Field Name	Description
DBType	Specifies the database type. For example, Sql Server. Select the database type from which you wish to scan codes.
Driver Name	Specifies the JDBC driver name for connecting to the database. For example, com.-microsoft.sqlserver.jdbc.SQLServerDriver It is autopopulated depending on the DB type. You can also update the driver name.
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.

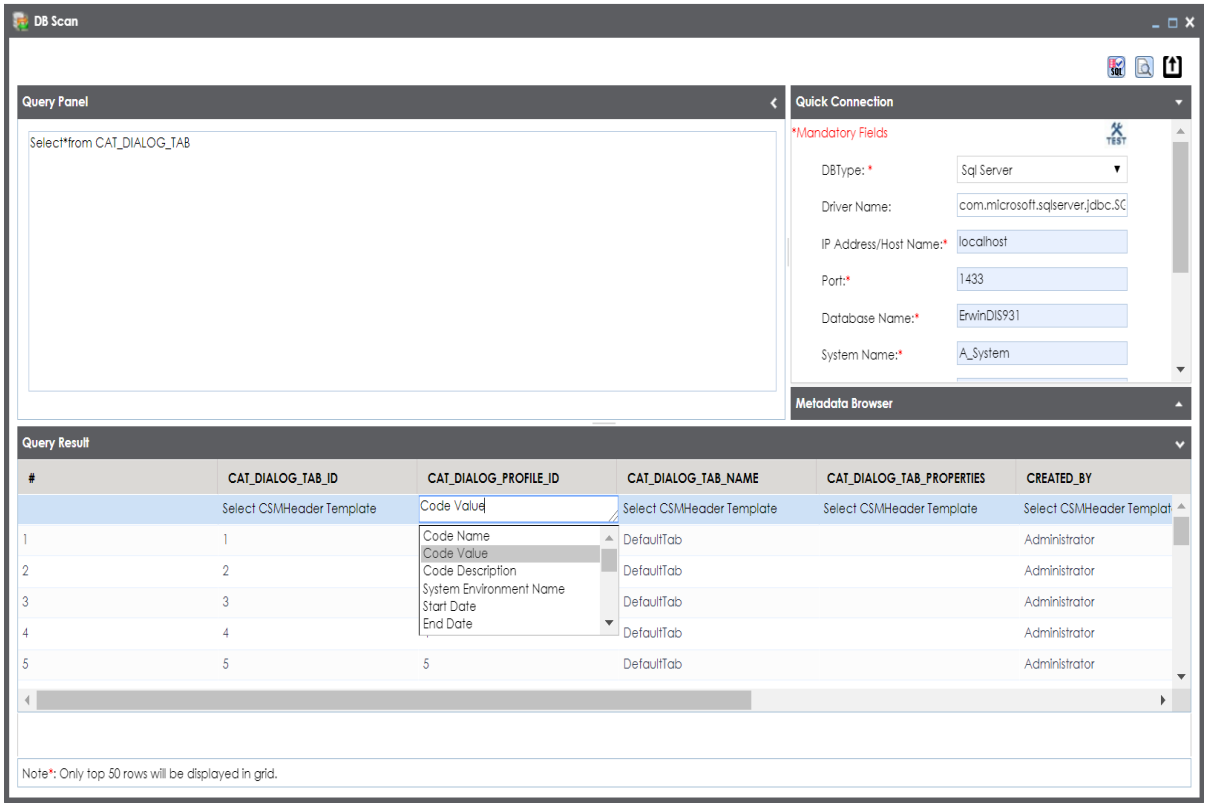
Field Name	Description
	For example: 1433 is the default port for a Sql Server database type.
Database Name	Specifies the database name being used to connect to the codeset. For example, ErwinDIS931.
System Name	Specifies the name of the system related with the codeset. For example, EDW. The name of the system should be same as provided in Metadata Manager.
System Environment Name	Specifies the name of the environment related with the codeset. For example, EDW-DEV. The name of the environment should be same as provided in Metadata Manager.
User Name	Specifies the user name to connect with database. For example, sa.
Password	Specifies the password to connect with database. For example, goerwin@1.
URL	Specifies the full JDBC URL that is used to establish a connection with the database. For example, **jdbc:sqlserver://SERVER_NAME:PORT#;databaseName=DatabaseName** It is autopopulated based on the other parameters.

7. Click to test the connection.

   If connection is established then a success message pops up.

8. Write an SQL query in the **Query Panel** to fetch the required data from the database.
9. Click to validate the query.
10. Click to preview the data.
11. Double-click the **Select CSMHeader Template** cell of the desired column.

    The columns of the Code Value Grid appears as an option list.



12. Select the desired Code Value Grid column.

    Note: You can select multiple columns from the database.
13. Click to import the selected columns into the **Code Value Grid**.

    The selected columns are imported in the **Code Value Grid**.

Once you import the codes in the Code Value Grid, you can manage codesets and managing codesets involves the following:

- Editing Codesets
- Copying Codesets
- Editing Code Value Grid
- Retiring Codesets

Managing Codesets

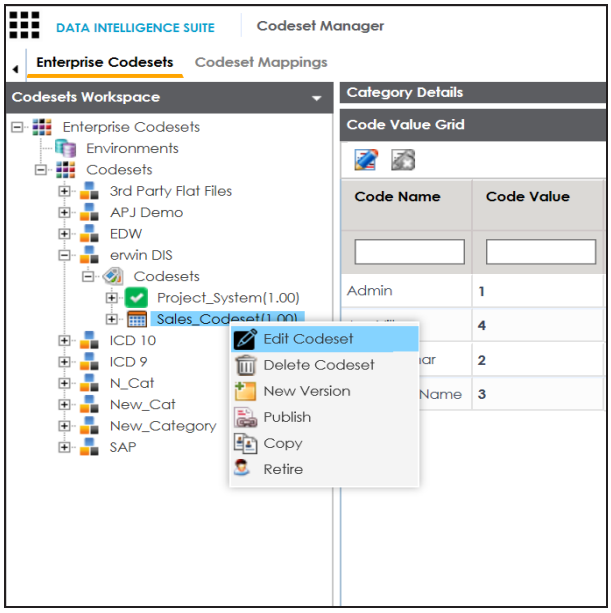
Managing Codesets involves the following:

- Editing Codesets
- Copying Codesets
- Editing Code Value Grid
- Retiring Codesets

You can edit a codeset and update its name and description.

To edit codesets, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager**.
2. Under the **Codesets Workspace** pane, expand the required category.
3. Expand the **Codesets** node.
4. Right-click the desired codeset.



5. Click **Edit Codeset**.

   The Edit Codeset page appears.

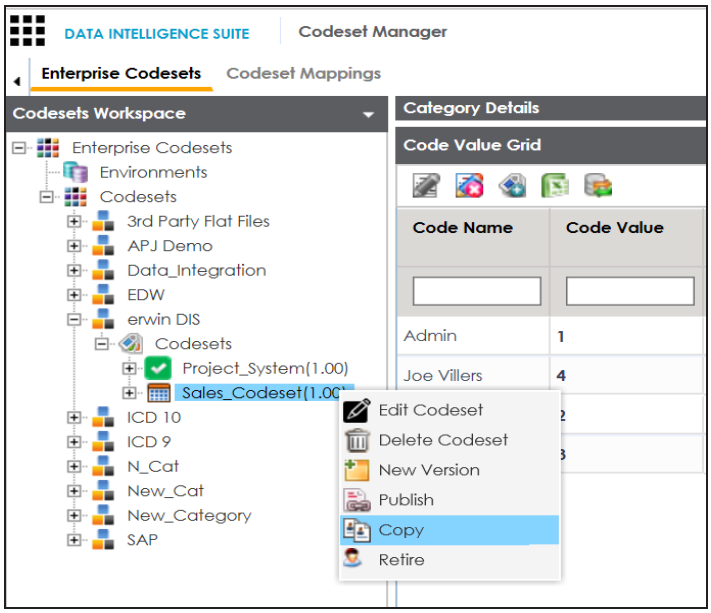
6. Edit the fields.
7. Click .

   The codeset is edited.

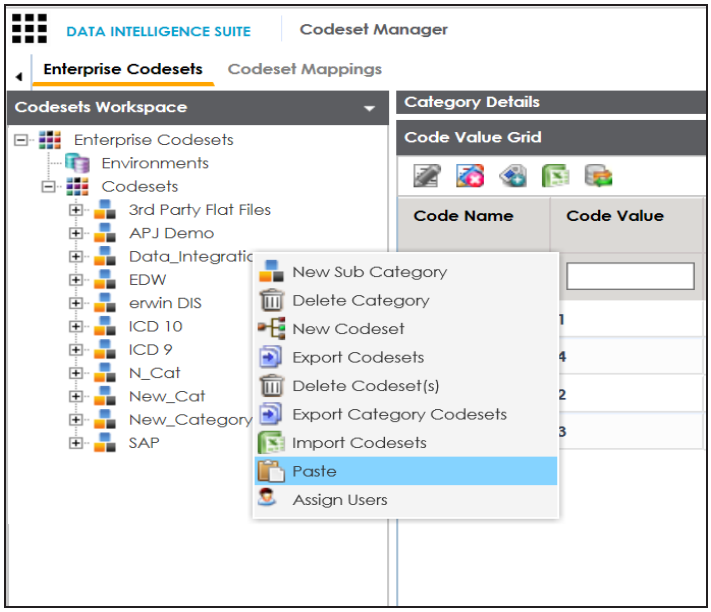
You can copy a codeset and paste it in another category.

To copy codesets and paste it in another category, follow these steps:

1. Right-click the desired codeset and click **Copy**.



2. Right-click the another category and click **Paste**.

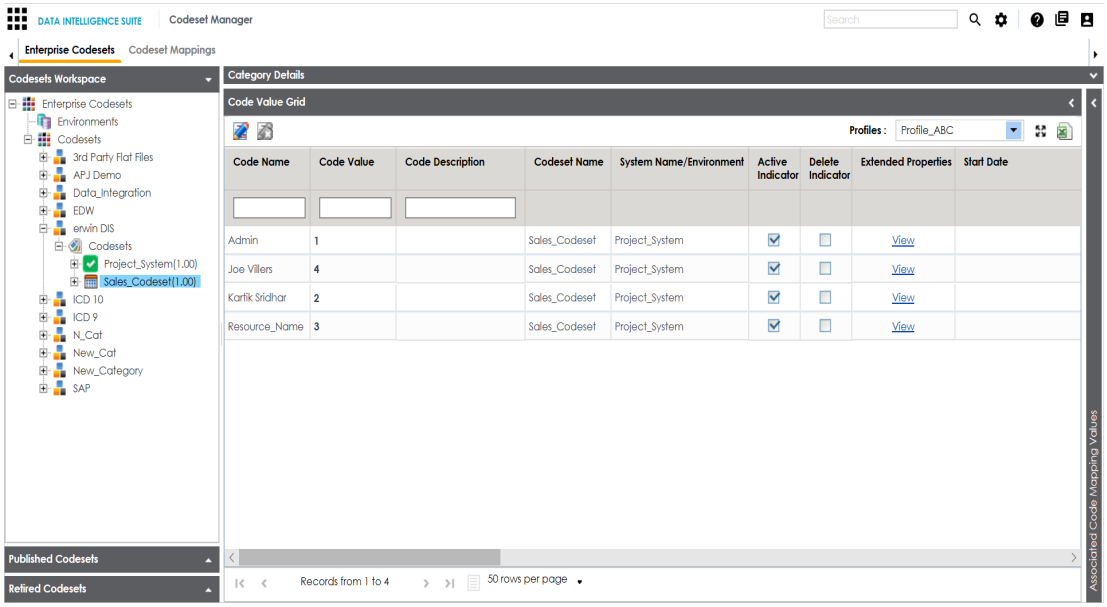


The codeset is copied in the category.

You can edit codes in the Code Value Grid.

To edit codes in the Code Value Grid, follow these steps:

1. Click the desired codeset.
2. The Code Value Grid appears.



3. Click .

   The codeset is locked.

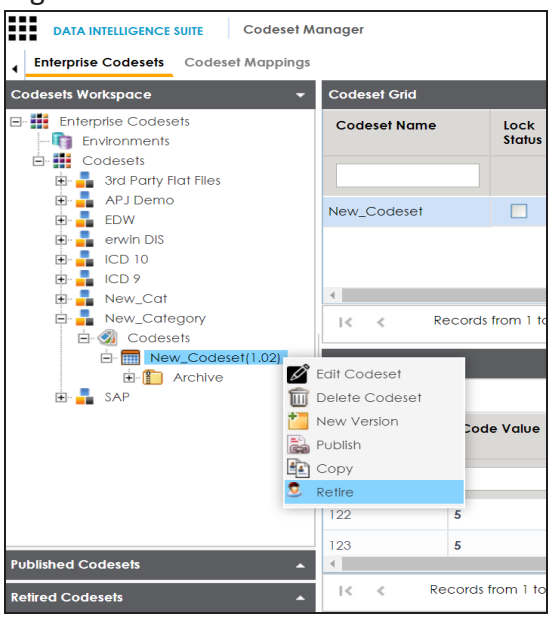
4. Double-click a cell in the Code Value Grid to edit the codes.

   Note: When a user is editing the code value grid, it cannot be edited by other users.

You can also retire codesets which you do not need anymore. A retired codeset moves into the Retired Codesets pane and cannot be rolled back into Codesets Workspace.

To retire a codeset, follow these steps:

1. Right-click the desired codeset.

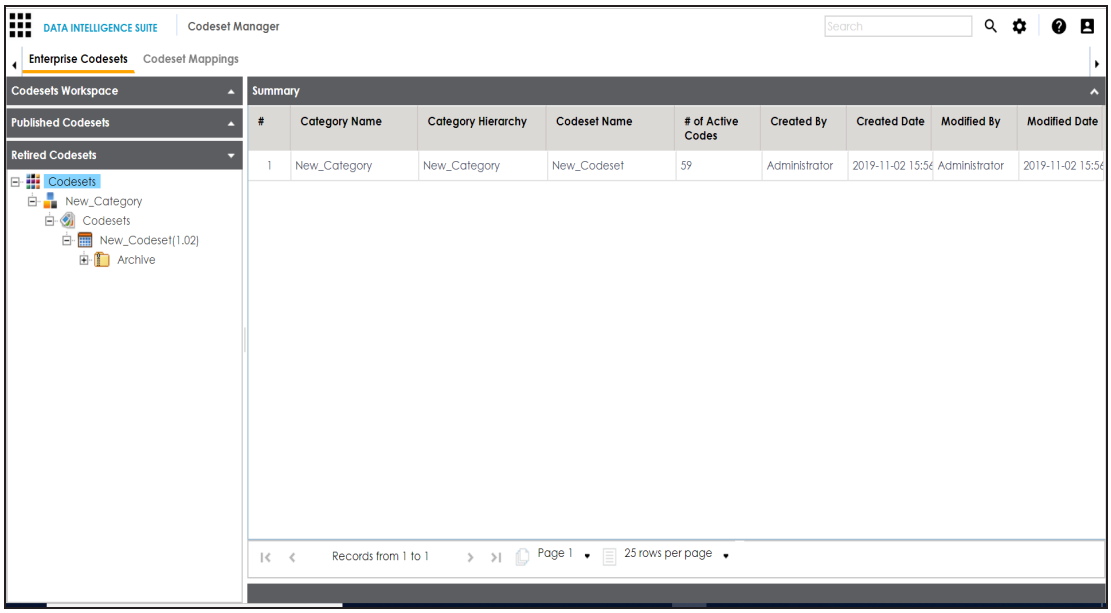


2. Click **Retire**.

   A warning message appears.

3. Click **Yes**.

   The codeset is retired and moves into the **Retired Codesets** pane.



You can also publish codesets or create a new version of the codesets.

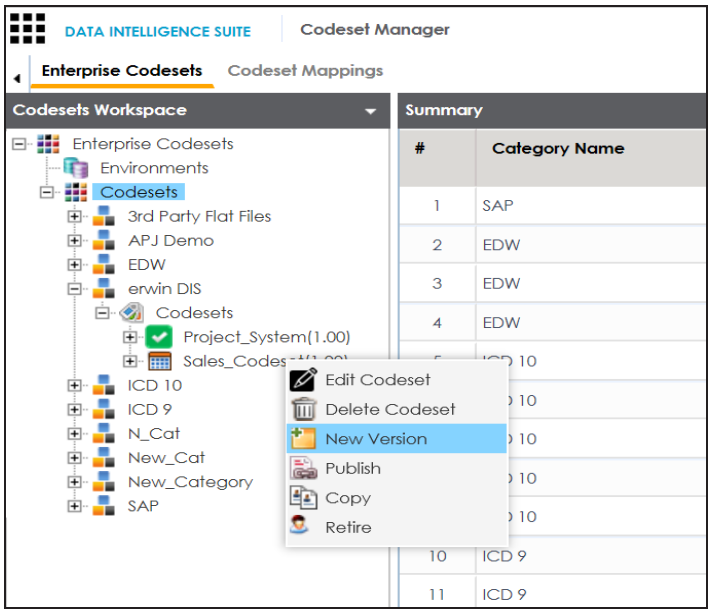
Versioning Codesets

You can version codesets and maintain legacy of codesets with a record of codeset changed description.

To create new versions of codesets, follow these steps:

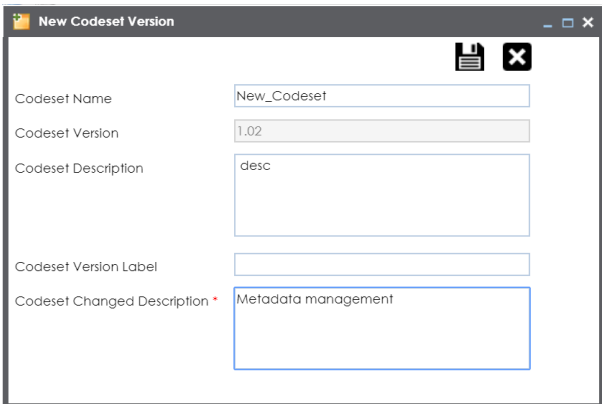
1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager**.
2. Under the **Codesets Workspace** pane, right-click the required codeset.

   Note: Ensure that the codeset is not in a locked state. A locked state means the codeset is in edit mode. Click to cancel edit mode.



3. Click **New Version**.

   The New Codeset Version page appears.



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

Field Name	Description
Codeset Name	Specifies the name of the codeset whose version is being created. For example, Country Codes. It is autopopulated with the codeset name and cannot be edited.
Codeset Version	Specifies the new version of the codeset. For example, 1.03.
Codeset Description	Specifies the description about the codeset. For example: This codeset has code names and code values for four countries. It is autopopulated with the codeset description and cannot be edited.
Codeset Version Label	Specifies the version label of the codeset. For example, Beta.
Codeset Changed Description	Specifies the description about the changes in the codeset. For example: Code Value for CANADA was changed to CAN.

5. Click .

   The new version is created and the older version is archived.

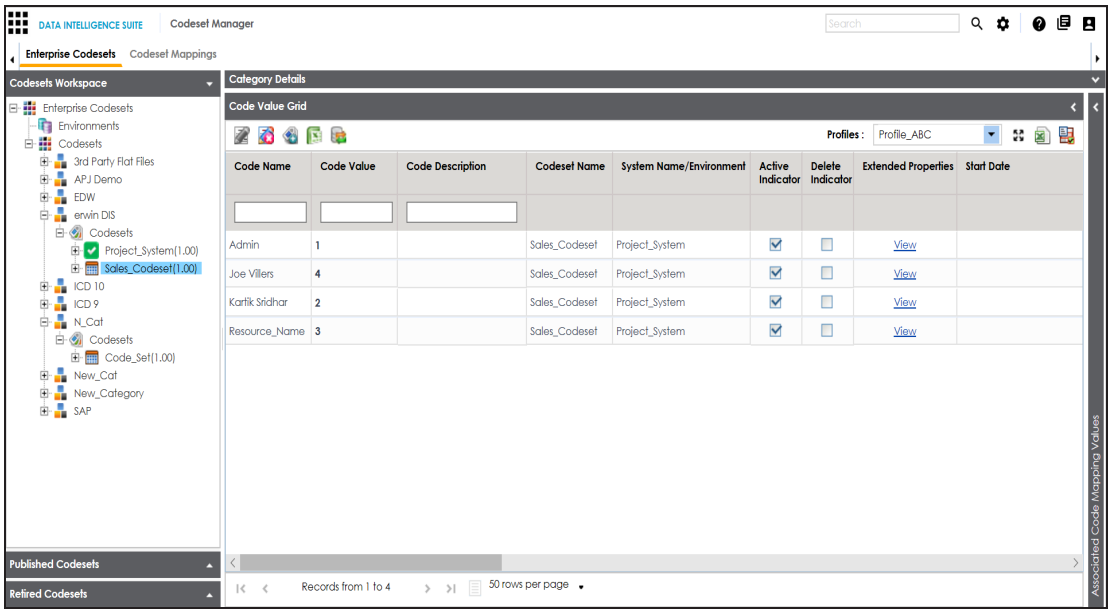
Deleting Codes and Codesets

You can logically delete codes and restore them back. You can also permanently delete codesets.

To logically delete codesets, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager**.
2. Under the **Codesets Workspace** pane, expand the required category.
3. Expand the **Codesets** node.
4. Click the codeset to be soft deleted.

   The Code Value Grid appears



5. Select the **Delete Indicator** check box of a code to be logically deleted.

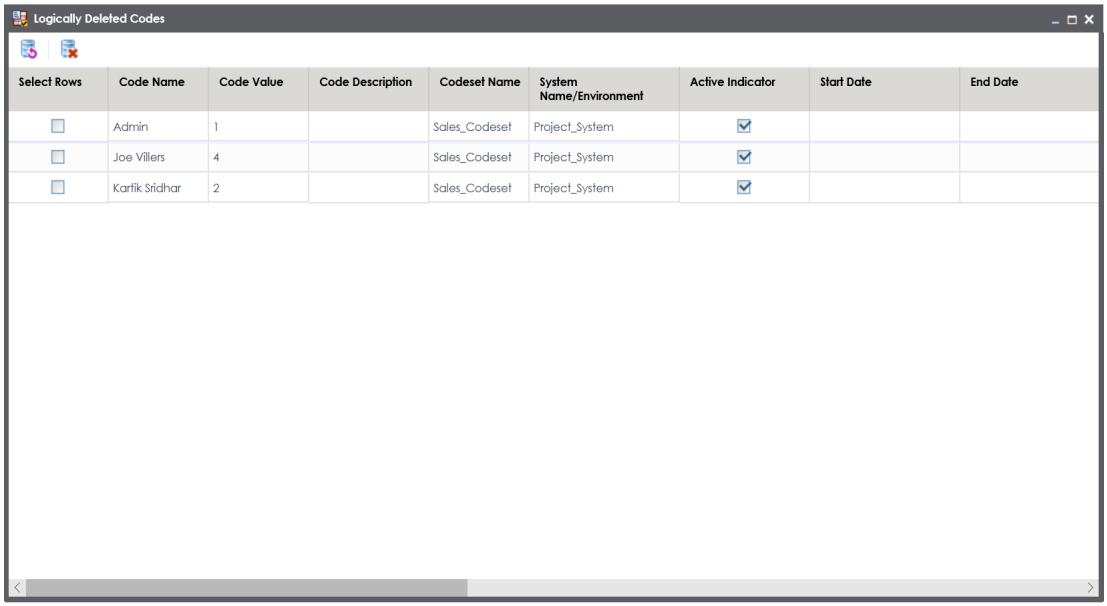
   A warning message appears.

6. Click **Yes**.

   The code is logically deleted and can be restored or purged.

To restore or purge logically deleted codes, follow these steps:

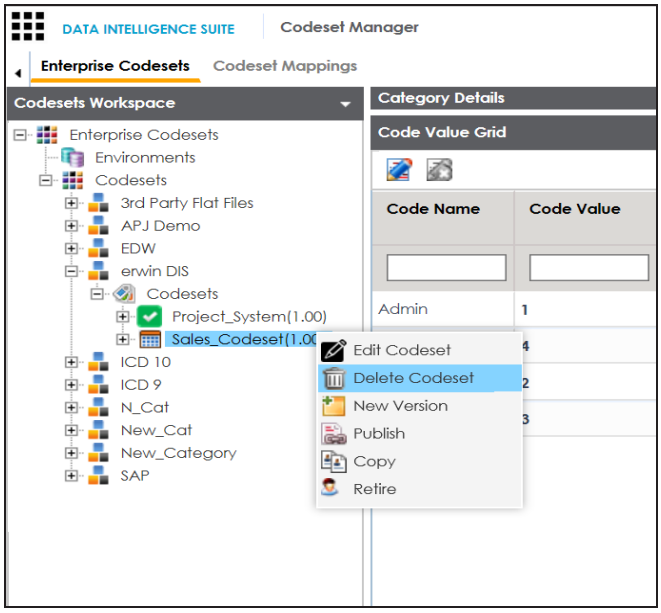
1. Click .
2. The Logically Deleted Codes page appears.



3. Select the rows.
4. To delete the selected rows, click .
5. To restore the selected rows, click .

To permanently delete codesets, follow these steps:

1. Right-click the codeset to be deleted.



Note: You cannot delete a codeset which is in lock status. Lock status refers to a codeset which is in edit mode. To cancel edit, click .

2. Click **Delete Codesets**.

   A warning message appears.

3. Click **Yes**.

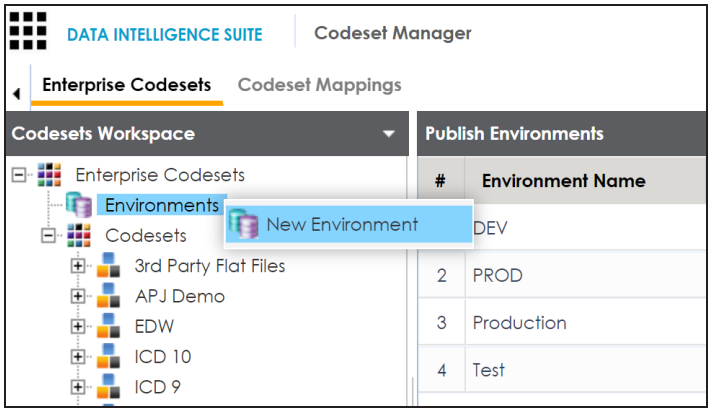
   The codeset is deleted.

Publishing Codesets

You can publish your codesets to an environment, hence it is important that you create the required publishing environments such as test, development, or production.

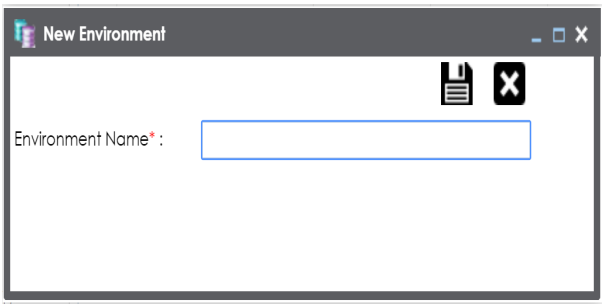
To create publish environments, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager**.
2. Under the **Codesets Workspace** pane, right-click the **Environments** node.



3. Click **New Environment**.

   The New Environment page appears.

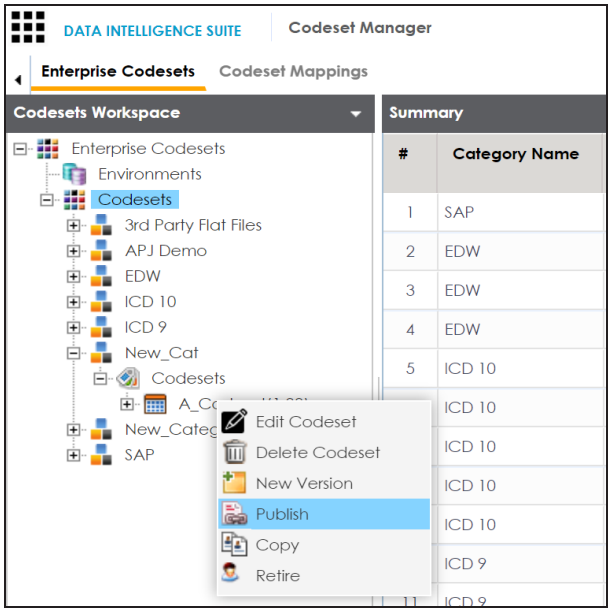


4. Enter **Environment Name**.
5. Click .

   A new publish environment is created and saved in the Publish Environments pane.

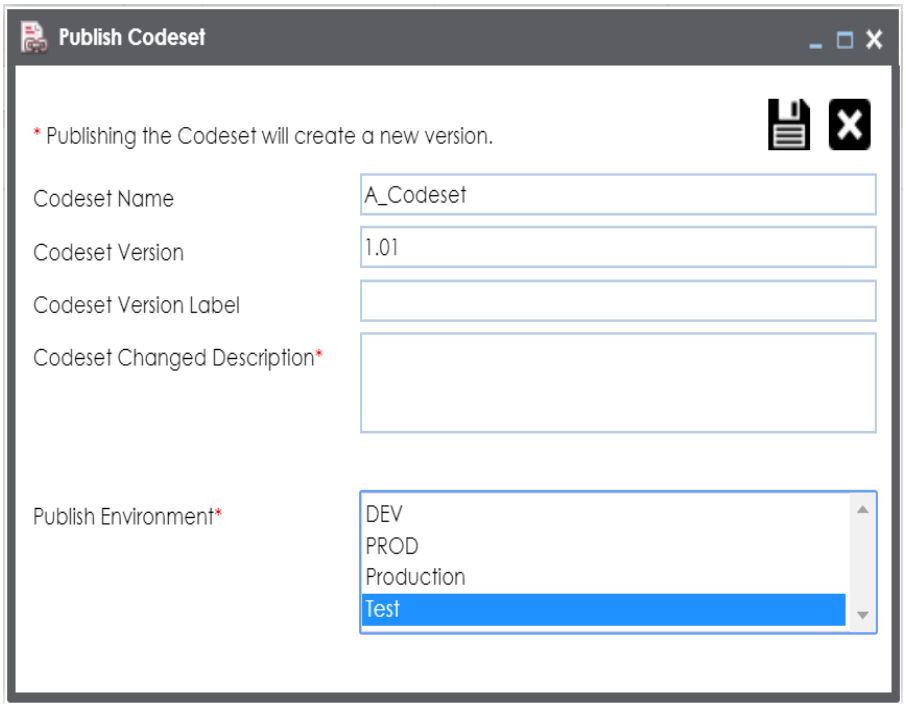
To publish codesets, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager**>.
2. Under the **Codesets Workspace** pane, right-click the required codeset.



3. Click **Publish**.

   The Publish Codesets page appears.

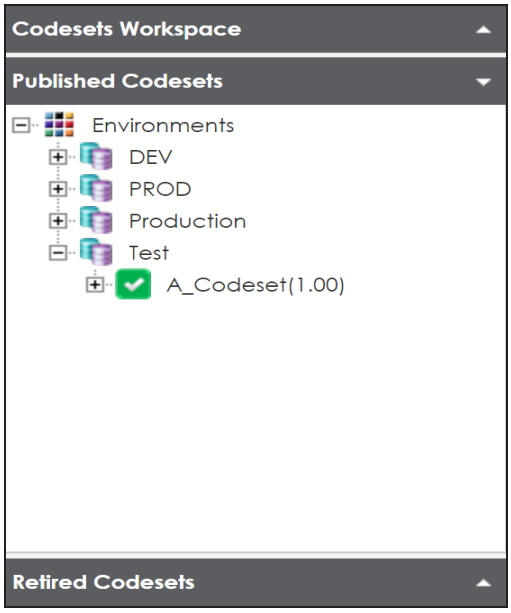


4. Enter appropriate values in the fields. Fields marked with a red asterisk are mandatory. Refer to the following table for field description.

Field Name	Description
Codeset Name	Specifies the name of the codeset which is being published. For example, Country Codes. It autopopulates with the codeset name and cannot be edited.
Codeset Version	Specifies the new version of the codeset. For example, 1.03. It autopopulates with the new version and cannot be edited.
Codeset Version Label	Specifies the version label of the codeset. For example, Beta.
Codeset Changed Description	Specifies the description about the changes in the codeset. For example: Code Value for CANADA was changed to CAN.
Publish Environment	Specifies the publish environment to which the codeset is being published. For example, Production.

5. Click .

   The codeset is published successfully and the published codesets move under Published Codesets pane.



Once the source and target codesets are published, you can create code mappings.

Note: You can create code mappings without publishing source or target codesets, but it is recommended that you create code mappings after publishing the codesets.

Maintaining Code Mappings

The Codeset Mappings section in Codeset Manager allows you to define and categorize code mappings. The process is standardized with ability to version and publish code mappings to various environments. Further, these published code mappings can be associated with data item mappings in the Mapping Manager.

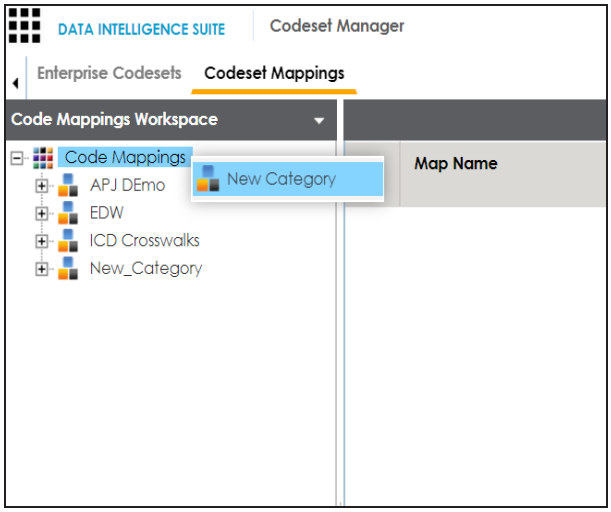
Creating Code Crosswalks (Mappings)

You can create code crosswalks (mappings) of the source and target codesets in Codeset Manager. The codesets can have same or different code values. Auto-Map functionality enables you to map codesets having same code values. Codesets having different code values can be mapped using drag and drop method.

A category can hold multiple code maps. Code maps are stored in a hierarchical manner, Category > Mappings. You can also create sub-categories under a category to provide one more level of categorization to mappings.

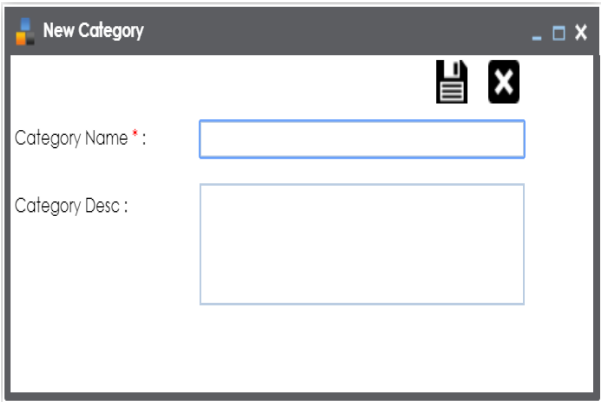
To create a category, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager** > **Codeset Mappings**.
2. Under the **Code Mappings Workspace** pane, right-click the **Code Mappings** node.



3. Click **New Category**.

   The New Category page appears.



4. Enter Category Name and Category Description.

   For example:

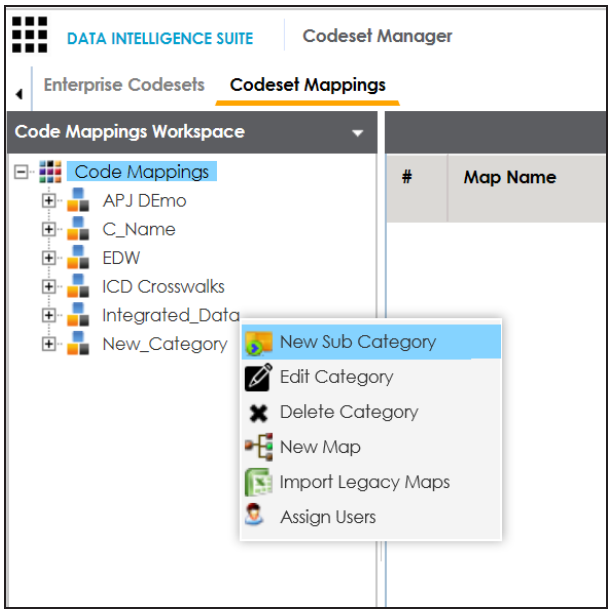
- Category Name - EDW
- Category Description - This category contains two code mappings, Gender Cross-walk and Marital Status Crosswalk.

5. Click .

   A new category is created and saved under the category tree.

To create sub-categories under a category, follow these steps:

1. Under the **Code Mappings Workspace** pane, right-click the required category.



2. Click **New Sub Category**.

   The New Category page appears.

3. Enter Category Name and Category Description.

   For example:

   - Category Name - EDW-Finance
   - Category Description - This sub-category contains two code mappings, Gender Crosswalk and Marital Status Crosswalk.

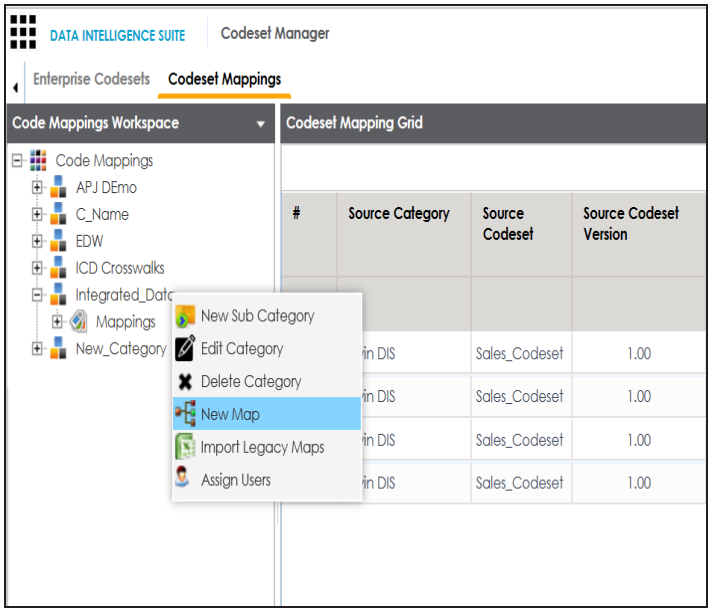
4. Click .

   A new sub-category is created and saved under the sub-category tree.

You can use Auto-Map functionality to map source and target codesets having same code values.

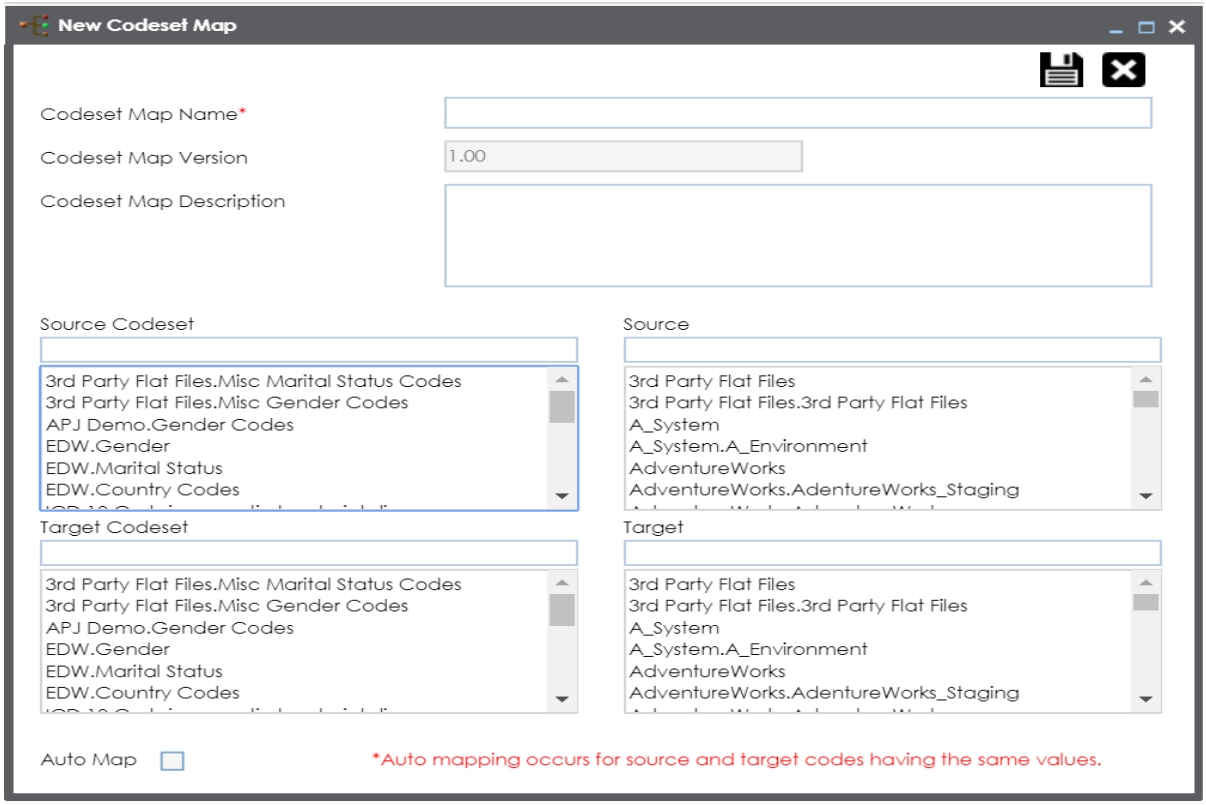
To create code mappings when source and target codesets have same code values, follow these steps:

1. Right-click the desired category.



2. Click **New Map**.

   The **New Codeset** Map page appears.



3. Enter Codeset Map Name and Codeset Map Description.

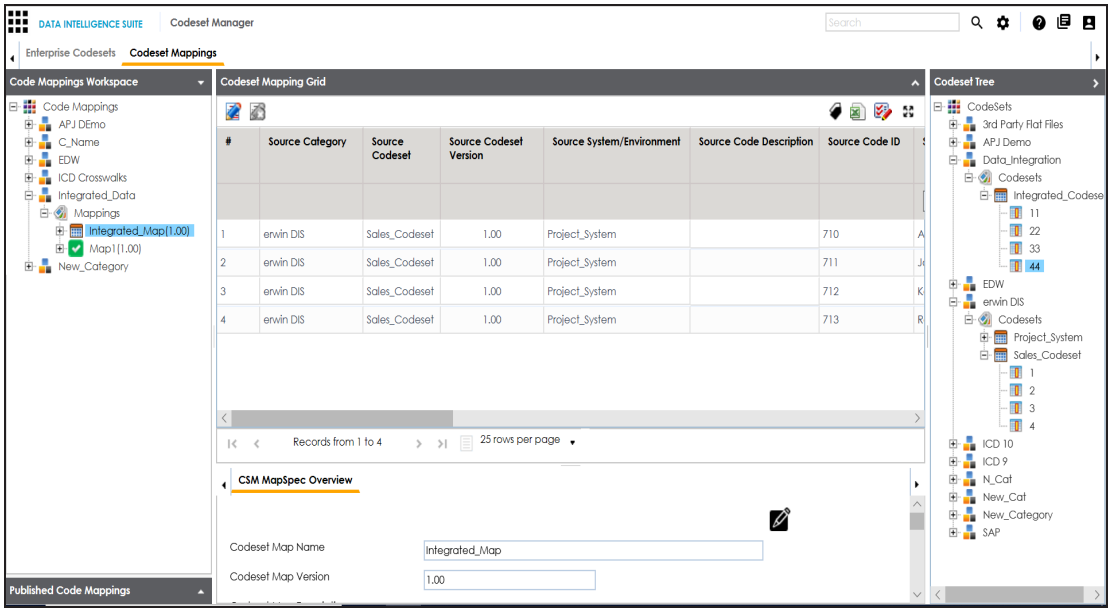
   For example:

   - Codeset Map Name - Gender Crosswalk
   - Codeset Map Description - The codeset map is the code mappings between the two codesets, Misc Gender Codes and Gender.

4. Select the Source Codeset/System and Target Codeset/System.

5. Select the Auto Map check box and click .

   A new code mapping is created and source and target codesets are mapped in the Codeset Mapping Grid.

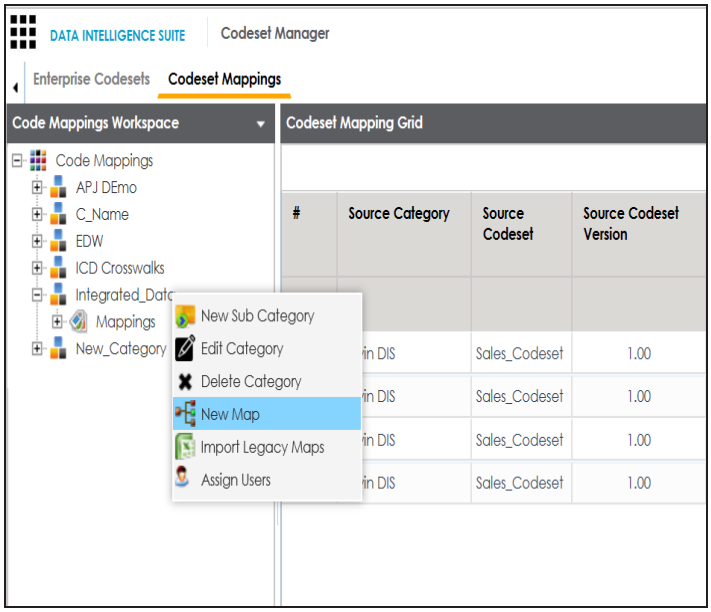


6. Click to validate the code mapping.

You need to use drag and drop method to map codesets having different code values.

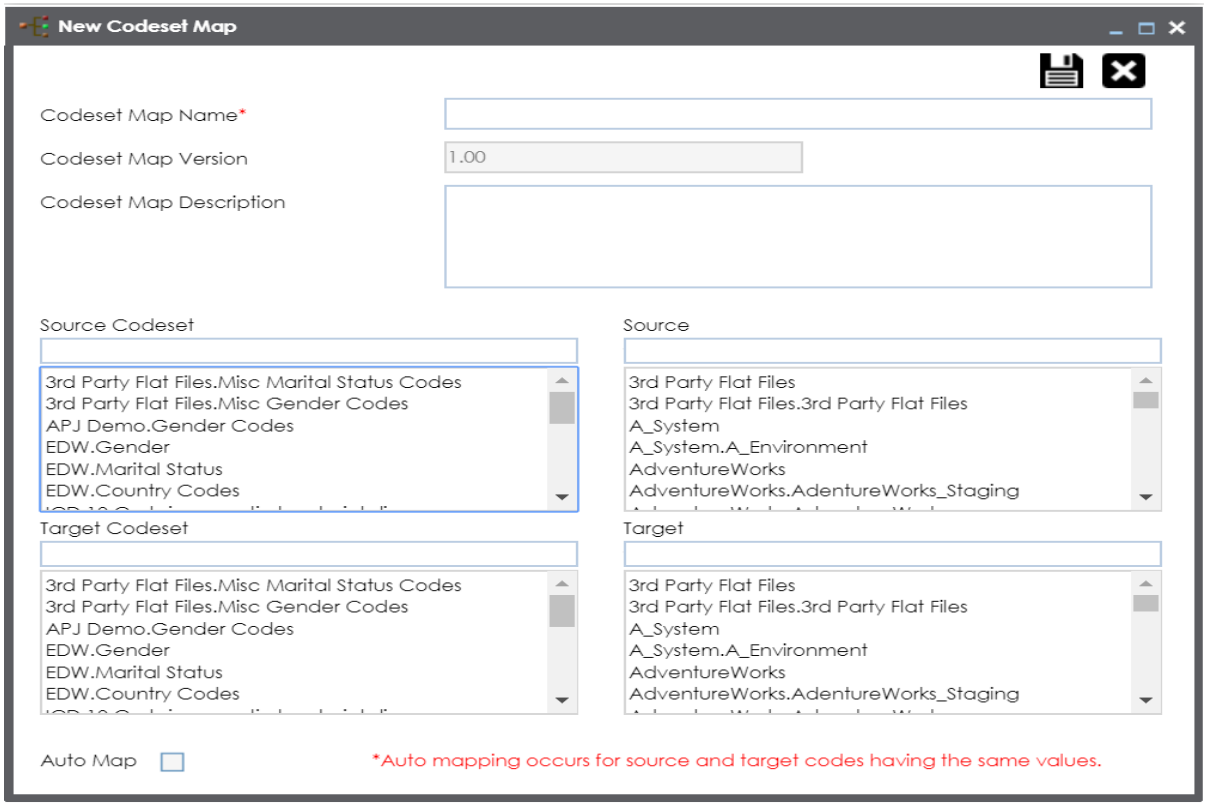
To create code mappings when source codesets and target codesets have different code values, follow these steps:

1. Right-click the category.



2. Click **New Map**.

   The **New Codeset** Map page appears.



3. Enter Codeset Map Name and Codeset Map Description.

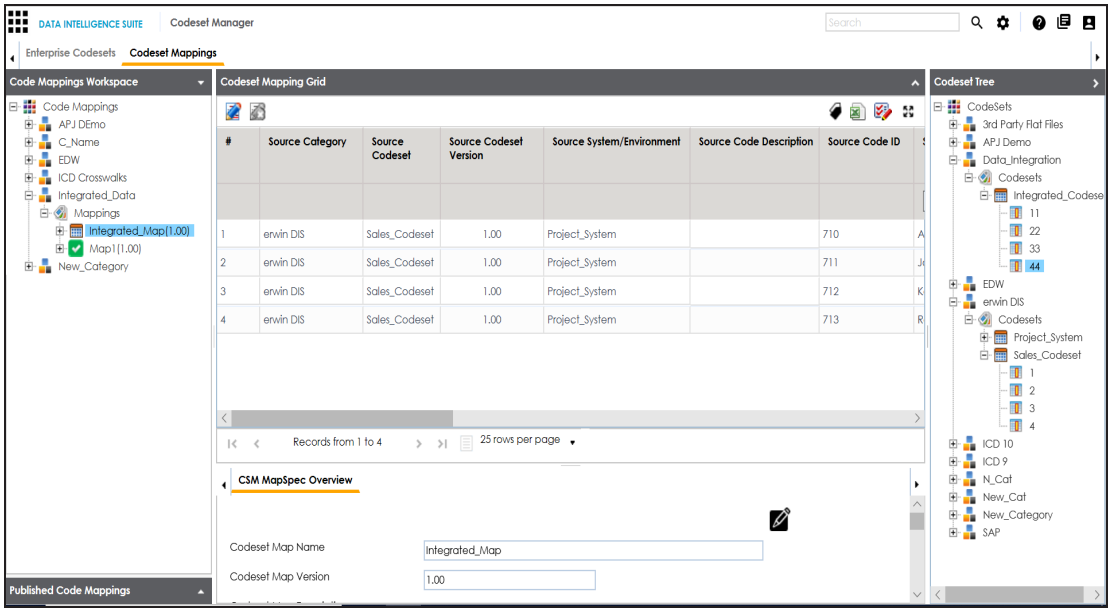
   For example:

   - Codeset Map Name - Gender Crosswalk
   - Codeset Map Description - The codeset map is the code mappings between the two codesets, Misc Gender Codes and Gender.

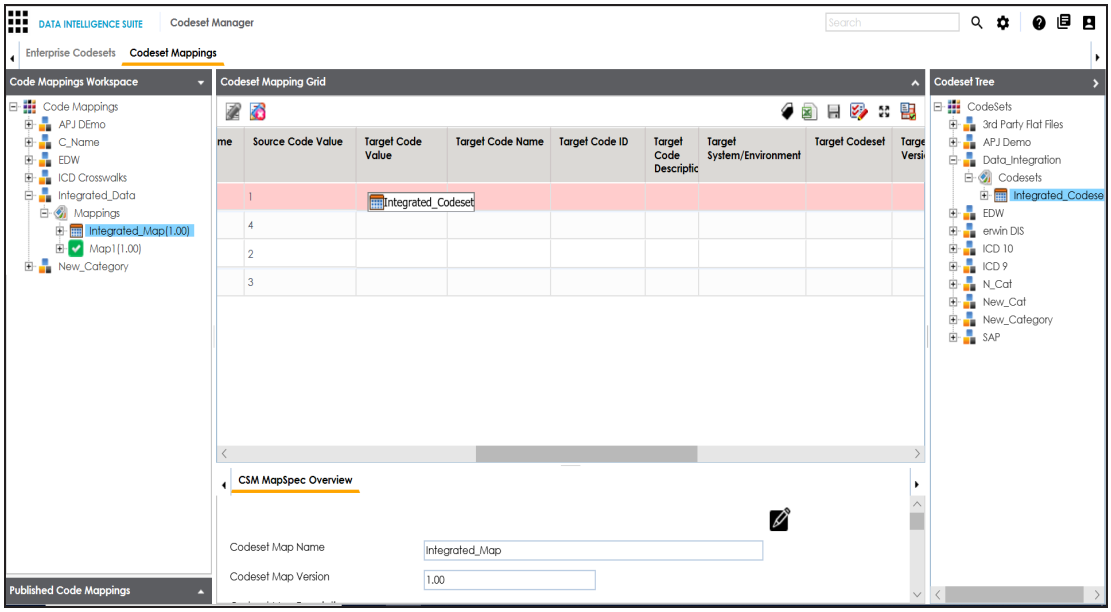
4. Select the Source Codeset/System.

5. Click .

   The source codesets details are updated in the Codeset Mapping Grid.



6. Click .
7. Scroll to right of the Codeset Mapping Grid to see the Target Code Value column.
8. In the Codeset Tree, expand the target category and the Codesets node.
9. Drag and drop the target codeset into the Code Set Mapping Grid under the Target Code Value column.



10. Click .

    The code mappings are successfully saved.

11. Click to validate the code mapping.

    The code map is validated. Ensure that all the desired codes are mapped.

    Use the following options:

    Export

    To download the code map details in .xlsx format, click .

    Extend Mapping Grid

    To extend the Codeset Mapping Grid, click .

Once the code map is created, you can:

- Edit Code Mappings
- Create new version of the code map
- Publish and associate the code map with data item mappings

Managing Categories

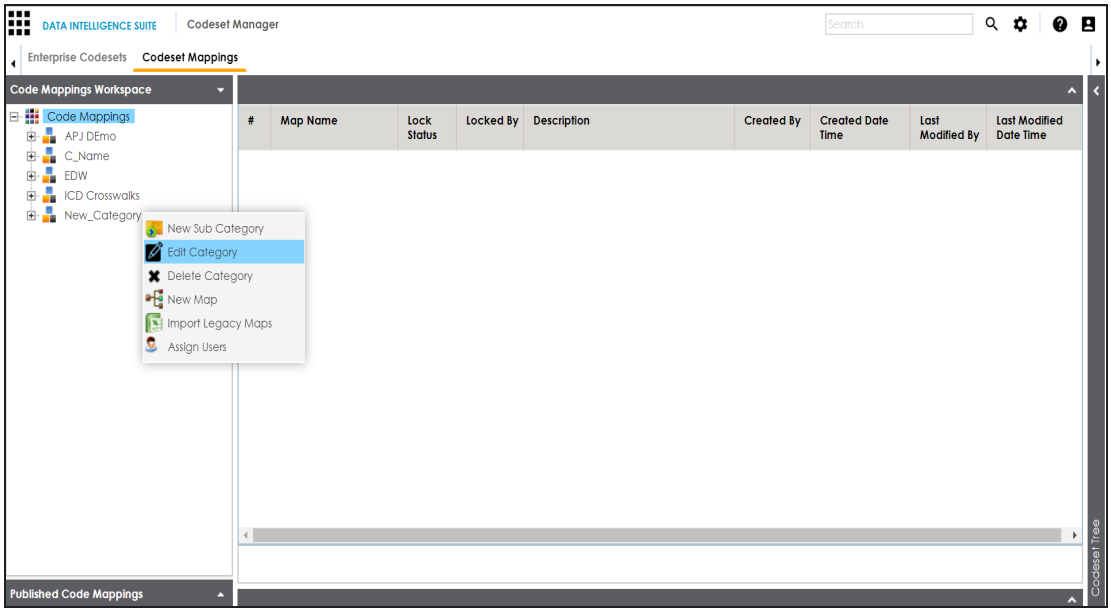
Managing categories involves:

- Updating categories
- Deleting categories

You can update category name and its description as per your requirements.

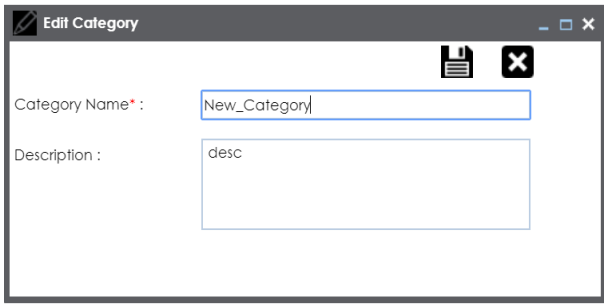
To update categories, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager** > **Codeset Mappings**.
2. Under the **Code Mappings Workspace** pane, right-click the desired category.



3. Click **Edit Category**.

   The Edit Category page appears.

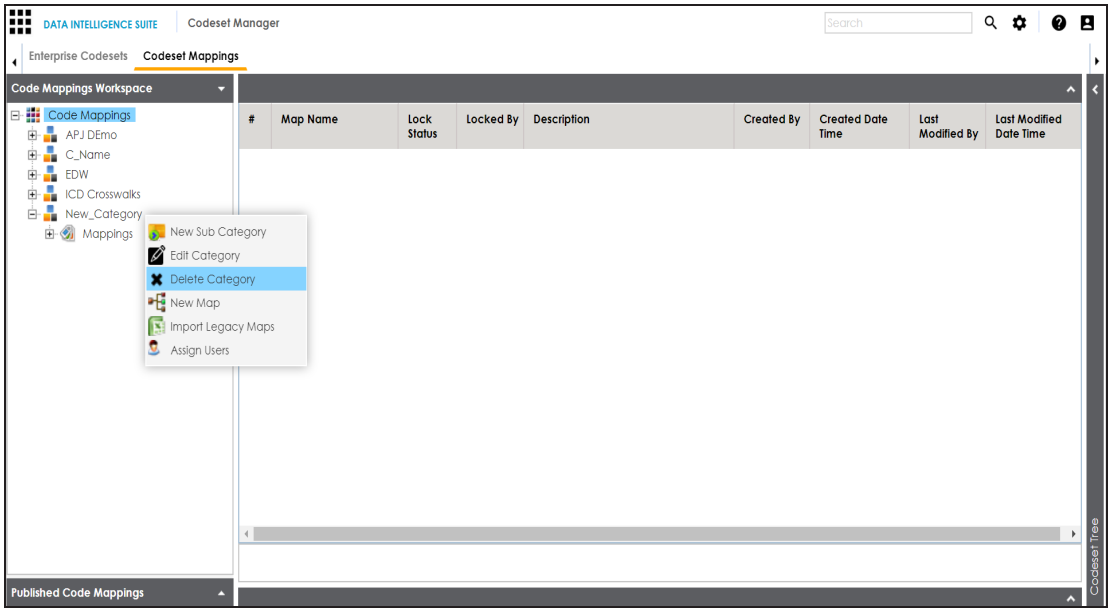


4. Edit the fields.
5. Click .

   The category is updated.

To delete categories, follow these steps:

1. Right-click the category to be deleted.



2. Click **Delete Category**.

   A warning message appears.

3. Click **Yes**.

   The category is deleted.

   Note: You cannot delete a category if it contains Code Maps or Sub-Categories.

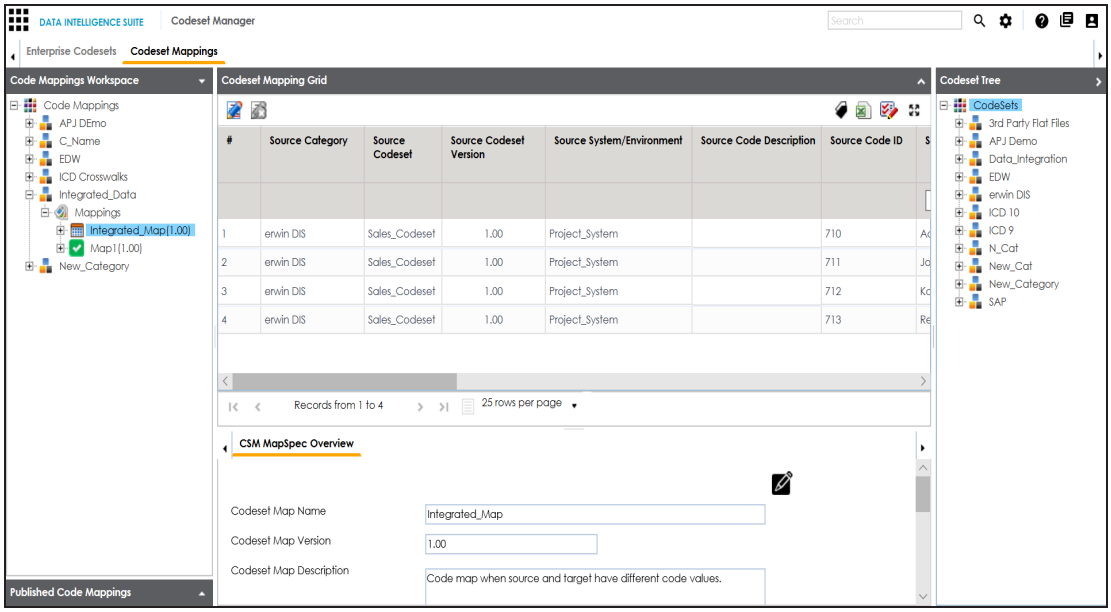
Editing Code Mappings

You can update source codesets and target codesets in the Codeset Mapping Grid.

To update source codesets in the Codeset Mapping Grid, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager** > **Codeset Mappings**.
2. Under the **Code Mappings Workspace** pane, expand the desired category.
3. Expand the **Mappings** node.
4. Click the desired code map.

   The Codeset Mapping Grid and CSMMapSpec Overview pane appears.

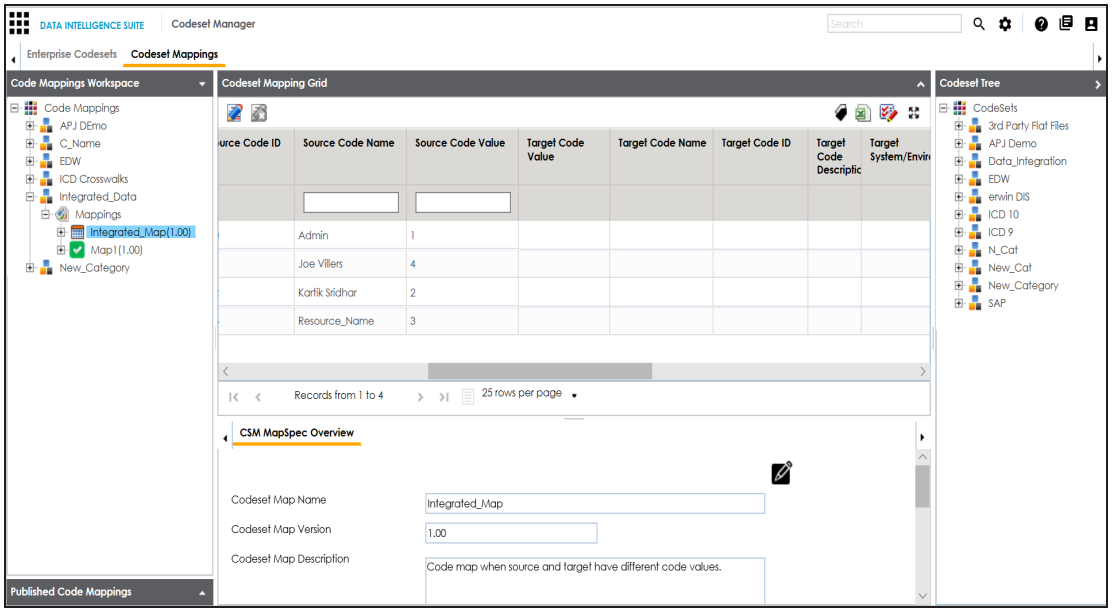


5. In **CSM Mapping Overview**, click .

   You can update Codeset Map Name and Codeset Map Description.

   Note: You cannot edit Codeset Map Version.
6. Select the new Source Codeset and Source System/Environment.
7. Select the Target Codeset and Target System/Environment.
8. Click .

The Codeset Mapping Grid is updated with the new source codeset. But, the target codeset doesn't update in the Codeset Mapping Grid. You need to drag and drop target codeset from the Codeset Tree to Codeset Mapping Grid.



To update target codeset in the Codeset Mapping Grid, follow these steps:

1. In the Codeset Mapping Grid, click .

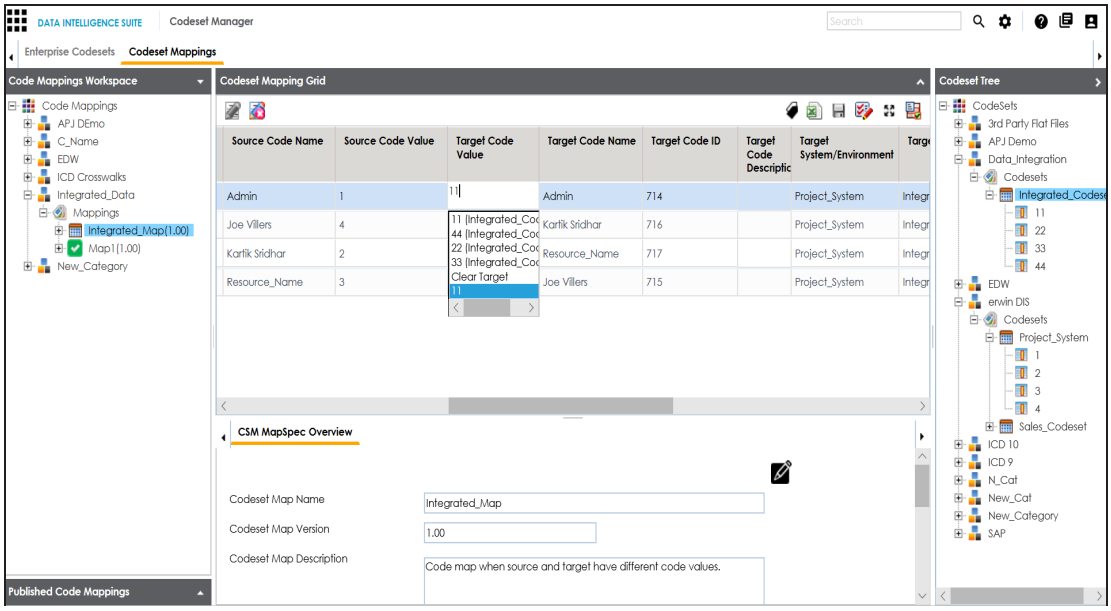
   Note: The Codeset is locked and other users cannot make changes.

2. In the Codeset Tree, expand the target category and the **Codesets** node.
3. Drag and drop the target codeset into the Code Set Mapping Grid under the Target Code Value column.
4. Click .

The target codeset is updated in the Codeset Mapping Grid.

To update target code values in the Codeset Mapping Grid, follow these steps:

1. In the Codeset Mapping Grid, click .
2. Double-click a cell under the Target Code Value column and update it with the one of the options available.



3. Click .

   The target code values are updated.

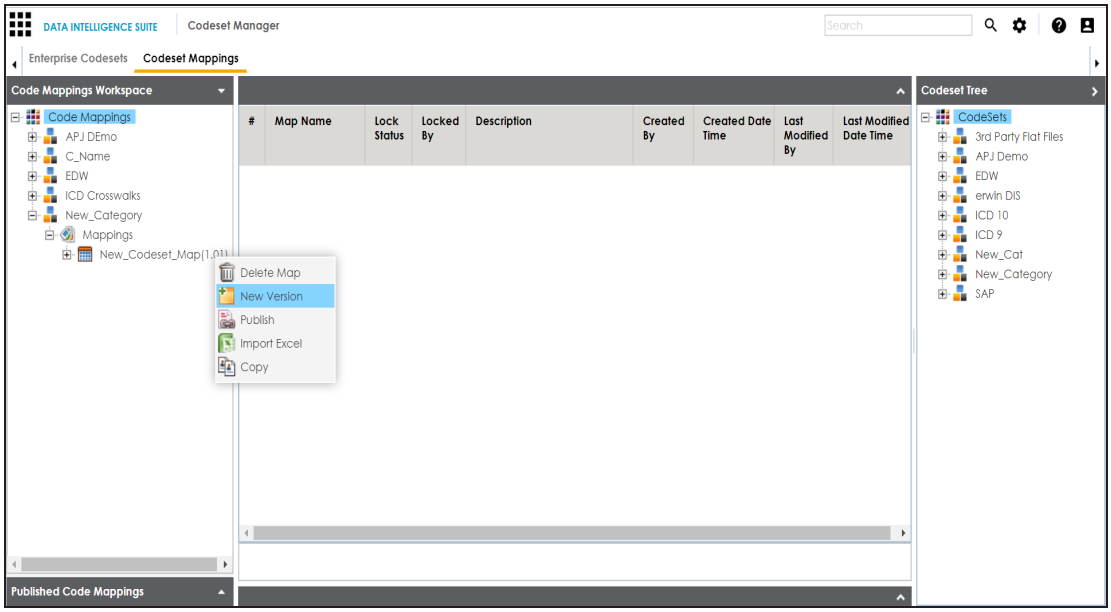
Versioning Code Mappings

You can create versions of code mappings and track legacy of a code map.

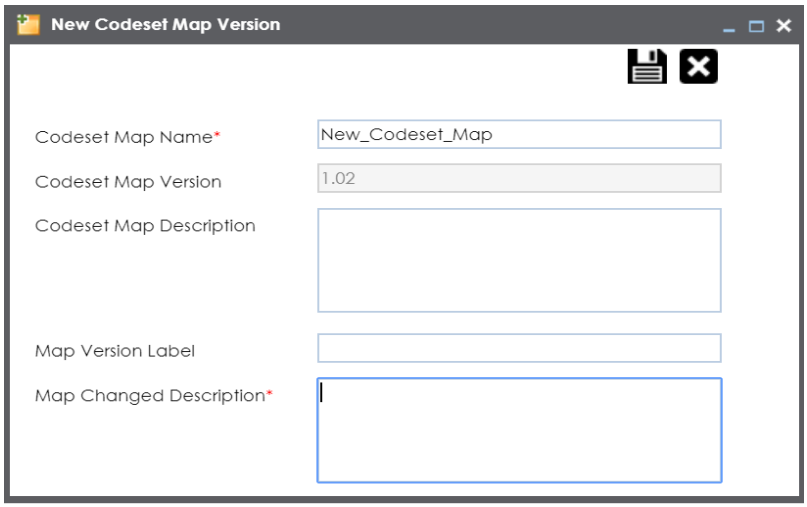
The new version is available in the Code Mappings Workspace under the Mappings tree.

To create new versions of code mappings, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager** > **Codeset Mappings**.
2. Under the **Code Mappings Workspace** pane, right-click the required codeset map.



3. Click **New Version**.
4. The New Codeset Map Version page appears.



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

Field Name	Description
Codeset Map Name	Specifies the name of the codeset map.

Field Name	Description
	For example, Gender Crosswalk.
Codeset Map Version	Specifies the new version of the codeset map. For example, 1.02.
Codeset Map Description	Specifies the description about the codeset map. For example: The codeset map is the code mappings between the two codesets, Misc Gender Codes and Gender.
Map Version Label	Specifies the version label of the codeset map. For example, Beta.

6. Click .

   The new version is created and saved in the Mappings tree while the older version is archived.

Associating Code Maps with Data Item Mappings

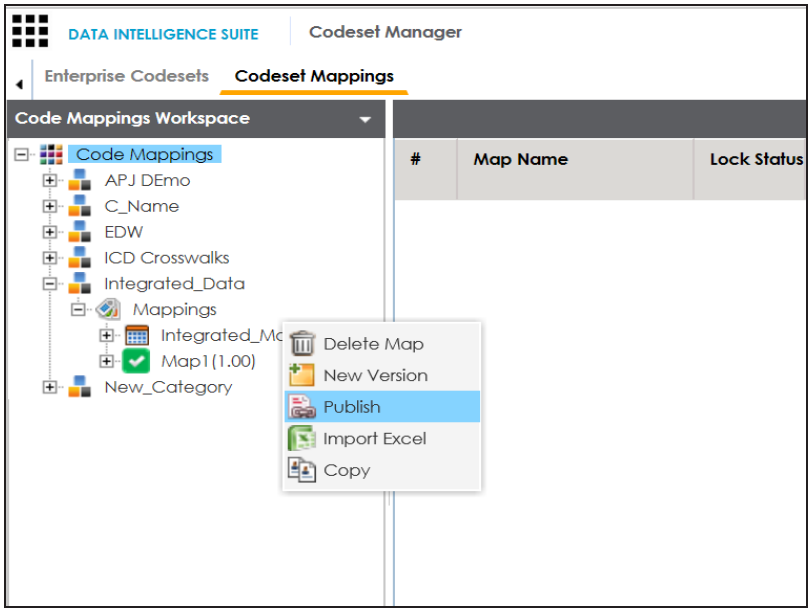
Before associating a code mapping with a data item mapping, you need to publish the code map.

Associating code mappings with data item mappings involves:

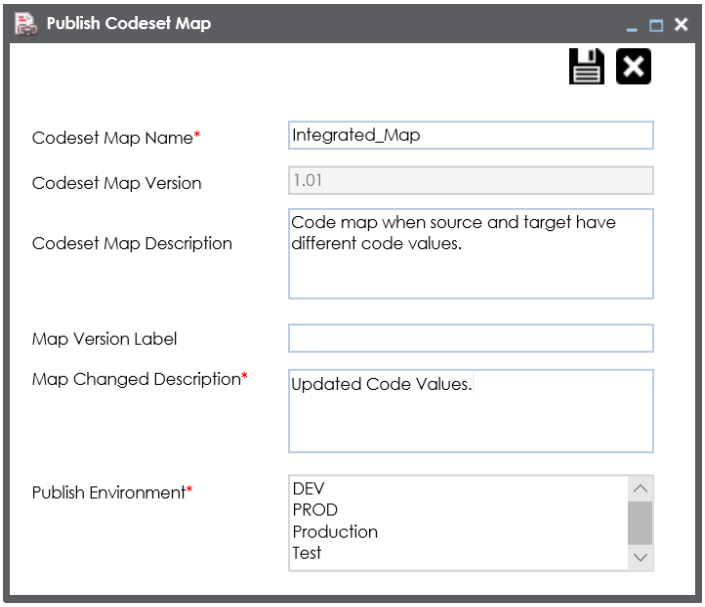
- Publishing code maps in the Codeset Manager
- Associating code maps with data item mappings in the Mapping Manager

To publish code maps, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Codeset Manager** > **Codeset Mappings**.
2. Under the **Code Mappings Workspace** pane, right-click the required map.



The Publish Codeset Map page appears.



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

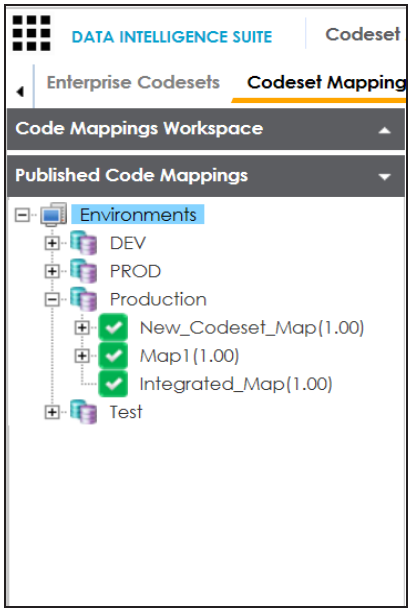
Field Name	Description
Codeset	Specifies the name of the code map.

Field Name	Description
Map Name	For example, Gender Crosswalk.
Codeset Map Version	Specifies the new version of the code map. For example, 1.02.
Codeset Map Description	Specifies the description about the code map. For example: The codeset map is the code mappings between the two codesets, Misc Gender Codes and Gender.
Map Version Label	Specifies the version label of the code map. For example, Beta.
Map Changed Description	Specifies the description about the changes made in the code map. For example: Code values were updated.
Publish Environment	Specifies the environment where the code map is being published. For example, test. You can create publish environments in Enterprise Codesets. For more information on creating publish environments, refer to the Publishing Codesets topic.

4. Click .

   The codeset map is published and it can be found in the Published Code Mappings pane under the selected Publish Environment.

   A new version of the codeset map is created under the Mappings tree.

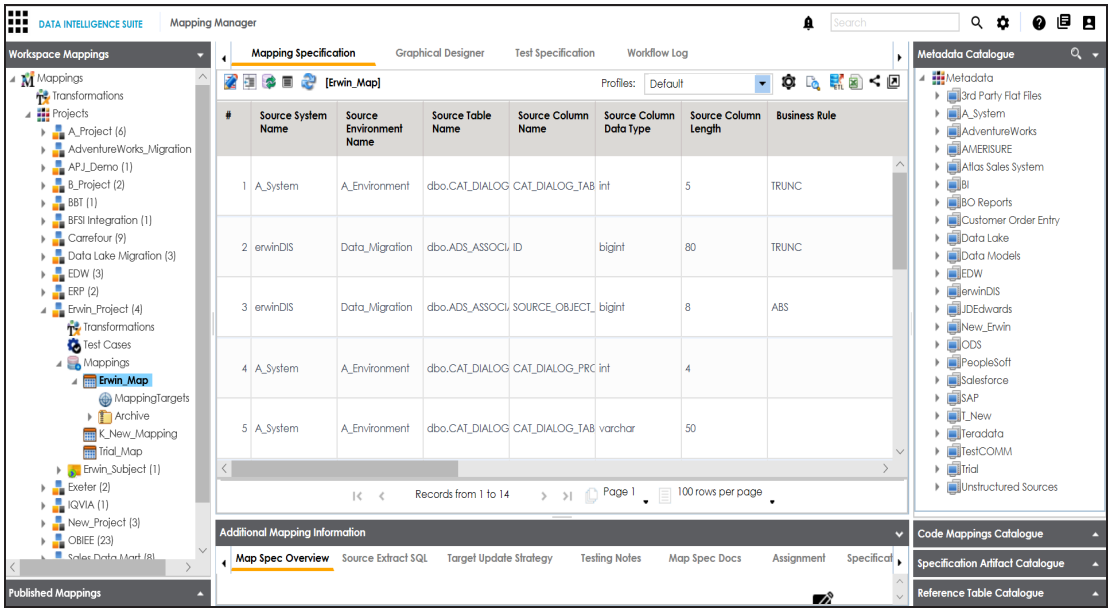


A published code map can be associated with a mapping in the Mapping Manager. The published code map is available under the Code Mappings Catalogue.

To associate published code maps with data item mappings, follow these steps:

1. Go to **Application Menu** > **Data Catalog** > **Mapping Manager**.
2. Under the **Workspace Mappings** pane, click the required map.

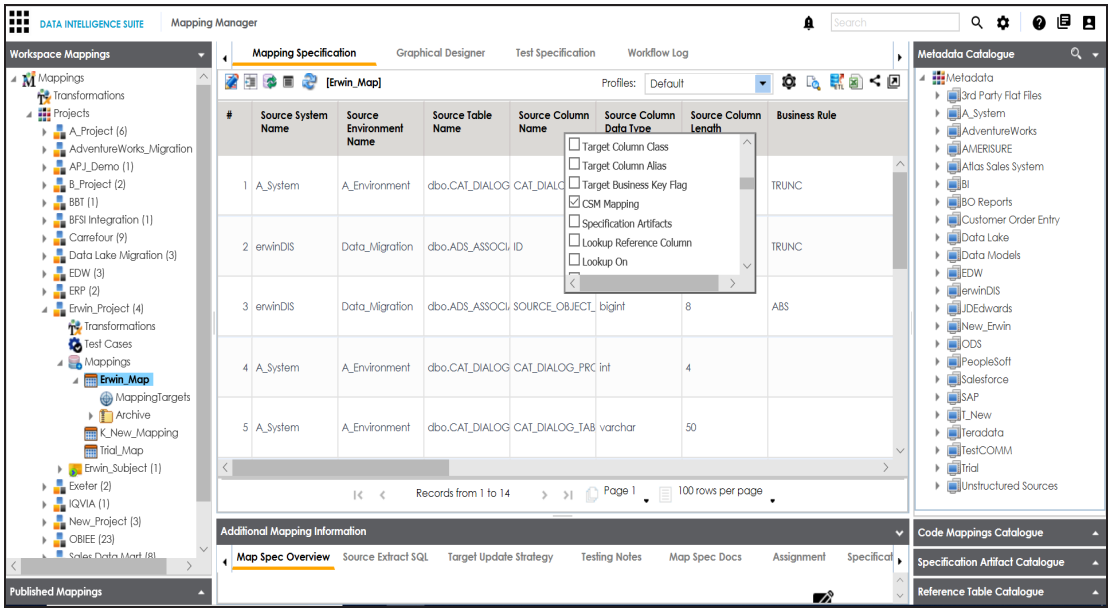
   The center pane shows the mapping specification.



3. In **Mapping Specification**, click .

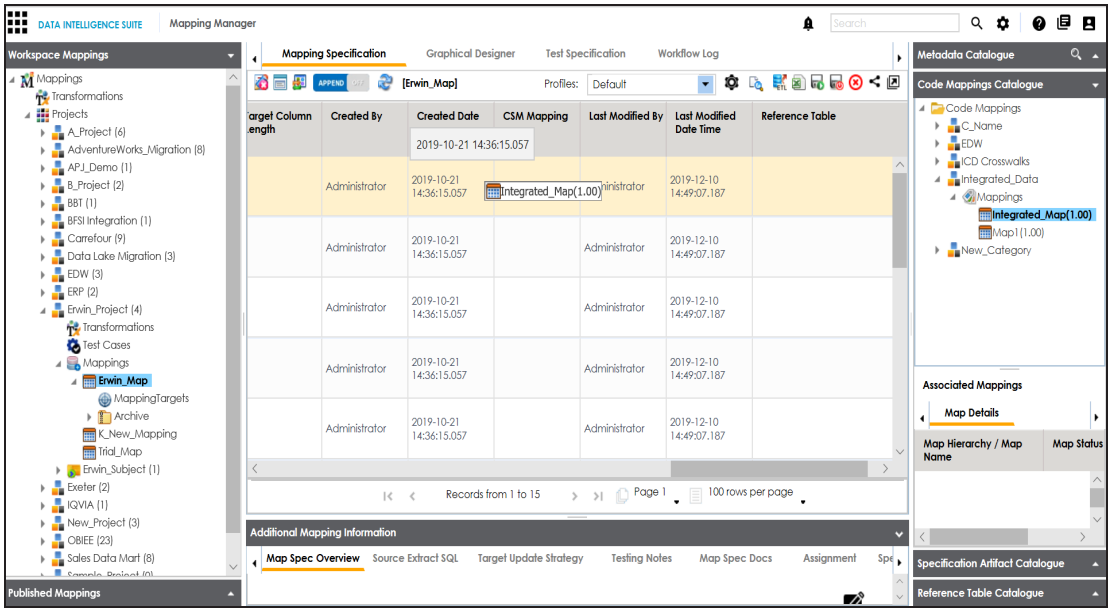
4. Right-click **Header Menu** and select the **CSM Mapping** check box.

   The CSM Mapping Column appears in the Mapping Specification.



5. On right pane, expand **Code Mapping Catalogue**.

6. Expand the required category, which contains the code crosswalks to be associated with the data item mapping.
7. Drag the code map into **Mapping Specification** and drop it under the **CSM Mapping** column in the required row.



8. In **Mapping Specification**, Click .

   The code map is associated with the data item mappings.