Use PowerCenter Mapplets to Mask Data in Test Data Management
Abstract

In Test Data Management (TDM), you can use PowerCenter mapplets to mask data. A mapplet contains the logic to mask the input columns and return the output to the target columns.

This article describes how to create a mapplet rule, assign the rule to target columns, create a plan, and generate and run a workflow to mask the sensitive data.

Supported Versions

- Test Data Management 9.5.1 to 9.7.1 HotFix 1

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Overview

You can create rules from a mapplet in Test Data Manager. The mapplet contains the logic to mask the input columns and return data to the target columns.

After you create a mapplet rule, you must assign the mapplet rule to a column in the source and map the mapplet column names to source input and output columns.

A mapplet can contain multiple input and multiple output columns. You must configure one input column and one output column as mandatory columns. The mandatory columns must have source and target assignments when you assign the rule to a column in the data source.

Import a PowerCenter mapplet from an XML file that you exported from the PowerCenter repository. The TDM repository stores the mapplet logic when you import the mapplet. You cannot change the mapplet in Test Data Manager.

Scenario

You work for an organization in the software testing department. You need to test a new software application that maintains employee compensation details, such as salary and bonus. To test this application, you need test data and you must ensure that the sensitive columns are masked in the test data. Create a mapplet rule and use the mapplet rule to mask the sensitive data.
The following image shows a sample mapplet of numeric data type with two input columns and one output column:

To mask the source data, perform the following tasks:

1. Create a mapplet rule.
2. Add the mapplet rule to the project.
3. Assign the mapplet rule to source columns.
4. Create a data masking plan.
5. Manage the workflow.

**Prerequisites**

Perform the following prerequisites tasks:

1. Create an Oracle database connection in Test Data Manager.
2. Create a project and import source metadata from the Oracle database connection.
3. Create a PowerCenter mapplet with two input columns and one output column with numeric data types.
4. Export the mapplet to an XML file from the PowerCenter repository.

**Step 1. Create a Mapplet Rule**

You can create a data masking rule from a mapplet. The mapplet contains the logic to mask the source fields.

1. In Test Data Manager, click **Policies**.
2. Click **Actions > New > Masking Rule**.
   
   The **New Masking Rule** wizard appears.
3. Enter a name and optional description for the rule.
4. Select the **Mapplet** masking type.
5. Browse for the XML file that contains the PowerCenter mapplet that you want to import.
6. Click **Next**.
7. Select the column and click the mandatory column to change the value from **No** to **Yes**. Select at least one input column and one output column as mandatory columns.
Step 2. Add the Mapplet Rule to Project

To use a masking rule in a project, you must add the rule to the project.

1. Click Projects.
   You can see a list of projects.
2. Open the project in which you want to use the rule.
   The project window opens in another tab.
3. Click Overview > Policies.
4. Click Actions > Add Additional Rules.
   The Add Additional Rules dialog box appears.
5. Select the mapplet rule that you created.
6. Click OK.
   The mapplet rule appears under the Additional Rules list.

Step 3. Assign the Mapplet Rule to Source Columns

You can assign the mapplet rule to source columns to mask sensitive data.

1. Click Define > Data Masking.
2. Select the mapplet rule that you created.
   The Rule Assignment dialog box appears with the list of columns in the table.

3. Select a source input column in the left panel and a rule input port in the right panel.
   When you select a source input column, the rule ports with the same data type become available for mapping.

4. To create a mapping, click the Link icon.
   An arrow appears that links the source port to the rule port.
   The following image shows the mapping between source input columns and mapplet input columns:

5. After you map the rule input ports, click Next.

6. Select a rule output port in the left panel and a source column in the right panel. Click the Link icon to create a mapping.
The following image shows the mapping between the mapplet output column and the source column:

![Image of mapping between output and source columns]

7. Click Save.

**Step 4. Create a Data Masking Plan**

When you create a plan, add components to it to define its operations. Add data masking rules to the plan to perform data masking operations.

1. Click Execute.
2. Click Actions > New.
3. In the New Plan dialog box, enter a name and optional description for the plan.
4. To add a data masking operation to the plan, click Add Masking Components.
5. Select the mapplet rule that you want to add to the plan.
6. Click Next.
7. Configure the required source, target, and dictionary lookup connections.
The following image shows the plan properties that you can configure to mask data:

![Plan Properties](image)

8. Click **Finish**.

   The plan appears in the project.

**Step 5. Manage the Workflow**

After you create the plan, you must run a workflow to mask data in the target table. You can monitor the progress of the workflow job. When the workflow job succeeds, TDM masks data in the target table.

1. To access the plan in the project, click **Execute**.
2. Select the data masking plan that you created.
3. Click **Actions > Generate and Execute**.
   
   The **Generate and Execute Plan** dialog box appears.
4. Select the PowerCenter Integration Service.
5. Select **Schedule Now**.
6. Click **Execute Workflow**.
7. To view the status of the workflow job, click **Monitor**.
8. To refresh the view, click **Auto Refresh On**.
9. To view the job details, select the job ID and click the **Properties**, **Sessions**, and **Logs** tabs.

The following image shows the status of a sample workflow job:

![Sample Output](image)

**Sample Output**

After the data masking plan succeeds, you can view the masked data in the target.
The following images show a sample Employee target file with masked salary and bonus details:

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Acknowledgements

The author would like to acknowledge Ramesh Manchala, QA Engineer, for his technical assistance.