



Informatica® Test Data Management
10.4.0

Test Data Management Self-Service Portal Guide

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Preface

See the Informatica *Test Data Management Self-Service Portal Guide* describes how to manage test data in the Test Data Management Self-Service Portal. Understand how to create and manage test data that you require for specific test cases.

Informatica Resources

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CHAPTER 1

Introduction to the Test Data Management Self-Service Portal

This chapter includes the following topics:

- [Test Data Management Self-Service Portal Overview, 8](#)
- [Self-Service Portal Process, 9](#)
- [Self-Service Portal Interface, 9](#)
- [Logging in to the Self-Service Portal, 11](#)

Test Data Management Self-Service Portal Overview

You can access test data that you create and store in the test data warehouse from the Test Data Management Self-Service Portal. The self-service portal provides simplified access to TDM users who access and use test data but do not use TDM to create the data.

You can access, analyze, and edit test data from the self-service portal. You can then reset the required test data to a test environment. Create a copy or a subset of the test data to use in different test cases.

For example, a test team uses TDM to create and manage its test data in the test data warehouse. Users who use the test data but do not create or manage the data can use the self-service portal to access, analyze, and use the data as required.

Test data is stored as data packs that you can access from the self-service portal.

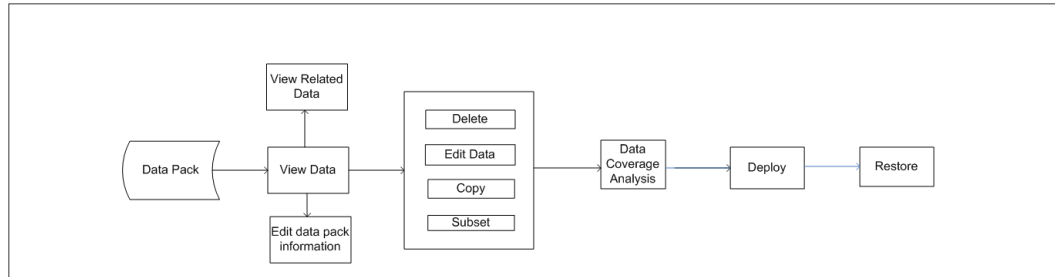
You can view and edit the data as required before you use the data. You can run a job to view related data based on specific criteria.

You can monitor jobs and view logs for jobs that you run in the self-service portal.

Self-Service Portal Process

View and manage test data from the self-service portal.

The following image shows the tasks that you can perform on data packs from the self-service portal:



You can perform the following tasks from the self-service portal:

View and edit data pack information

You can view and edit data pack properties and details such as tags.

View data

You can view the data in a data pack.

View related data

You can run a job to view data based on specific criteria in a data pack.

Edit data

You can edit the data in a data pack.

Create a copy of a data pack

You can create a copy of a data pack.

Create a subset data pack

You can create a subset of a data pack based on required subset criteria.

Analyze the data for test data coverage

You can analyze the data in a data pack based on data requirements for test cases and then edit the data for better test case coverage.

Reset

You can reset a data pack to a target system to return the test data on the system to a specific state. Before you can reset a data pack, you must deploy the data pack.

Delete

You can delete a data pack from the self-service portal.

Self-Service Portal Interface

The self-service portal contains different views from which you can perform and monitor tasks.

You can use the following views and pages in the self-service portal:

Overview view

The landing page of the self-service portal. Lists the data packs that you own and data packs that you share with other users.

Monitor view

View and monitor the logs and status of tasks that you run from the self-service portal.

Data pack page

View the data in a data pack in a separate page. You can view the general properties of a data pack in this page. You can view and edit the data in the data pack and perform tasks on the data pack from the data pack page.

You can open a data pack in a new page from the **Overview** view.

Overview View

The self-service portal opens on the **Overview** view.

You can view a list of data packs from the **Overview** view.

The **Overview** view contains the following sections:

Search field

Use the search field to search for data packs. You can perform a search based on data pack tags. Enter the first few characters of a tag and then select from the list and click **Apply** to filter and perform a search. You can also directly select from the list. Select all and then click **Clear** to clear the search results.

My Data Packs

Contains a list of data packs that you create or own. You can load more data packs and sort based on name or last modified date to search for data packs.

Shared Data Packs

Contains a list of data packs that you share with other users. Includes data packs created by other users that you have access to. You can load more data packs and sort based on name or last modified date to search for data packs.

Monitor View

You can review the status of jobs such as copy, subset, deploy, reset, data coverage analysis, and jobs to view related data.

Use the job logs to understand problems that you might encounter when you run a job. Filter and search for required jobs.

You can unschedule jobs from the **Monitor** view.

Data Pack Page

View the general properties and the data in a data pack from the data pack page. Edit and update the data and perform data coverage analysis from a data pack page.

The data pack page contains the following tabs:

Overview

Lists the general properties of the data pack and tags associated with the data pack.

Tables

Lists the tables in the data pack. You can view and edit the data from the **View Data** section.

View Related Data

Create jobs to view all related data based on tag criteria that you select. You can run a job to view the computation of a subset or a reset task that includes reset criteria filters before you run the task.

Data Coverage

You can analyze test data for specific test case requirements and update the data from the **Data Coverage** tab.

Logging in to the Self-Service Portal

To access the self-service portal, enter the host name and port number of the TDM Server in a web browser.

To log in, enter a user name and password defined in Informatica Administrator.

1. In the address bar of a web browser, enter the Test Data Manager URL.

- Use the following format if Transport Layer Security is enabled:

`https://hostname:portnumber/tdm/`

- Use the following format if Transport Layer Security is not enabled:

`http://hostname:portnumber/tdm/`

Where:

- *hostname* is the host name or IP address of the machine where you installed the TDM Server.
- *portnumber* is the port number. The default is 6643 if Transport Layer Security is enabled. The default is 6605 if Transport Layer Security is not enabled.

For example, you might enter the following URL:

`http://TXW1779:6643/tdm/`

The **Login** dialog box of Test Data Manager appears.

2. Enter the user name and password.

Select the security domain. If the Informatica domain is configured to use LDAP authentication, select the default security domain **Native**.

3. Click **Login**.

Test Data Manager opens. Click the Self-Service Portal tab to open the self-service portal.

To log out of the self-service portal, click **Log Out**.

CHAPTER 2

Working with Test Data in the Self-Service Portal

This chapter includes the following topics:

- [Data Packs Overview, 12](#)
- [View and Manage Data in a Data Pack, 13](#)
- [View Related Data, 16](#)
- [Export Table Data, 17](#)

Data Packs Overview

You can store test data that you create in TDM in the test data warehouse. Access the test data from the self-service portal. Data is stored as data packs.

A data pack is a collection of data from tables from one or more data sources. A data pack that you create generally corresponds to test data that you require to run sets of test cases.

You can filter, view, and edit the data in a data pack. You can analyze the data to create test data that meets specific test case requirements. Create copies or related subsets of a data pack.

Reset a data pack to a test environment to return the test environment to a specific state. You can export table data in CSV file format.

To make it easier to search for and share data packs, you can add tags to a data pack.

Data Pack Tags

You can add tags to a data pack to classify and identify the data pack.

You can also add row-level tags to a data pack. Use a comma to separate the tags.

A data pack contains test data that you require to run specific test cases. You can add the name of the test case, an identification number, or any relevant information as a tag to identify the data pack. You can perform a keyword search for data packs based on tags. When multiple test teams create data packs, the teams can add tags to identify the data packs.

Share tag information to help users search for a data pack that you want to share.

Use tags to filter and search for data packs in the search field in the **Overview** view.

Use row-level tags to identify data when you edit data in a data pack. Use row-level tags as filter criteria to view related data and to create a data pack subset. You can also use row-level tags as filters in a reset task.

View and Manage Data in a Data Pack

You can view the data in a data pack from the data pack page. Based on user privileges and the level of permissions that you have on a data pack you can edit the data in the data pack.

Edit the data pack to add or remove rows from a table or to update the data. Use the **SQL Query** field to edit data or directly edit the data in the grid. You can perform data manipulation language (DML) operations to edit the data. You cannot perform data definition language (DDL) operations.

You can add row-level tags to the data to track the changes. You can filter and search for data in a data pack based on row-level tags that you add.

You can reset a data pack with the edited data to a test environment to return the data to a required state.

You can run a job to view related data in the data pack.

Rules and Guidelines for Viewing and Managing Data

You can view and edit data in a data pack from the **Tables** tab in a data pack page.

Consider the following rules and guidelines when you view or edit data in a data pack:

- The default SQL query is `SELECT * FROM`.
- You can use the `WHERE` clause with `SELECT` queries.
- You cannot run a `SELECT` query with aggregate functions such as `COUNT`, `MIN`, `MAX`.
- You cannot run a `SELECT` query with a `GROUP BY` clause.
- You cannot run a `SELECT` query with Joins.
- If a table or column name contains spaces or special characters, you must enter the name in double quotes (") when you use it in a query.
- To run a query that uses the `WHERE` clause with the date data type, you must enter `TO_DATE` in the `SELECT` statement.

For example:

```
SELECT * from INVOICES where INVOICE_DATE=TO_DATE('01/06/2003 00:00:00','mm/dd/yyyy  
hh24:mi:ss').
```

- You cannot run an SQL query with a table alias.
- You cannot run an SQL query that contains the table name with the owner name.
- You cannot insert numeric data with data values outside the range of -9223372036854775807 to 9223372036854775807.
- You cannot use a comma (",") in a tag as the comma is a tag delimiter. Use commas to separate tags.
- You cannot view or edit data in tables that contain the special character "." in the table name or column name.
- You cannot view and edit data from an Oracle database that is of `BLOB` and `RAW` data type.
- You cannot view or edit data from a data type of a database that is mapped to Oracle `BLOB` and `RAW` data types.

Viewing Data in a Data Pack

You can view data in tables in a data pack from the data pack page.

1. Open the required data pack.
2. Click the **Tables** tab.
3. Select the table for which you want to view the data.
The table data appears in a grid on the **View Data** tab.
4. Optional. To view specific data, run an SQL query to select data based on required criteria.
Data that matches the criteria appears in the grid.
5. Optional. If the data contains row-level tags, you can enter the tag name in the **Filter Tags** field and search for and view data based on tags. You can also select the required option from the **View By** list to view all tagged or untagged data.
If you first run an SQL query to select data, the filters search for and return matching data from the results of the SQL query.

Using the SQL Query Field to View and Manage Data

You can run an SQL query to edit the data in a data pack.

1. Open the required data pack.
2. Click the **Tables** tab.
3. Select the table that you want to update.
The table data appears in a grid in the **View Data** tab in the panel below the list of tables.
4. Optional. To view specific data, run an SQL query to select data based on required criteria.
Data that matches the criteria appears in the grid.
5. Enter the SQL query to insert, delete, or update the data in the **SQL Query** field and click **Run**.
The following image shows the **SQL Query** field on the **View Data** tab in the data pack page:



You can view the updated data in the grid.

SQL Queries to View and Edit Data

You can run SQL queries to view and edit data in a data pack.

The following table lists the queries that you can run along with sample syntax:

Query	Sample Syntax
SELECT *	SELECT * FROM <table_name>;
SELECT	SELECT <column_name>,<column_name> FROM <table_name>;
SELECT	SELECT <column_name> AS <alias_name> FROM <table_name>;

Query	Sample Syntax
INSERT INTO	<pre>INSERT INTO <table_name> (column1,column2,column3) VALUES (value1,value2,value3);</pre> <p>You must enter the column names. You cannot run the query without the column names.</p>
UPDATE	<pre>UPDATE <table_name> SET column1=value1,column2=value2</pre>
DELETE FROM	<pre>DELETE FROM table_name WHERE <column_name>=<value>;</pre>
DELETE FROM	<pre>DELETE FROM table_name;</pre> <p>Deletes all data in the table.</p>

Updating Data in the Grid

You can update the data in required cells directly in the grid.

1. Open the required data pack.
2. Click the **Tables** tab.
3. Select the table for which you want to update the data.
The table data appears in a grid in the **View Data** tab in the panel below the list of tables.
4. Optional. To view specific data, run an SQL query to select data based on required criteria.
Data that matches the criteria appears in the grid.
5. Click to select the row that you want to edit.
The fields in the row become editable.
6. Click the required field and edit the data as required.
7. Click the **Save** button to save the changes.
The updated data appears in the grid.

Adding Rows to a Data Pack Table

You can add rows to a table in a data pack.

1. Open the required data pack.
2. Click the **Tables** tab.
3. Select the table that you want to update.
The table data appears in a grid in the **View Data** tab in the panel below the list of tables.
4. Click the **Add Row** button in the right-hand corner of the panel.
A new row appears in the grid.
5. Enter the data in the required data fields.
You cannot add a blank row. Enter data in at least one column.
6. Click the **Save** button to save the row to the table.
The data is added to the table and appears in the grid.

Deleting Rows in a Data Pack Table

You can delete rows from a table in a data pack.

1. Open the required data pack.
2. Click the **Tables** tab.
3. Select the table that you want to update.
The table data appears in a grid in the **View Data** tab in the panel below the list of tables.
4. Click the check box to select the rows that you want to delete.
5. Click the **Delete Row** button in the right-hand corner of the panel.
6. Click **OK** to confirm the delete.
The rows are deleted from the table.

Managing Row-level Tags in a Data Pack Table

You can add, delete, and update row-level tags to data in a data pack.

To delete a tag that you enter in the **Filter Tags** field or the **Update Tags** dialog box, click the **X** icon that appears with the tag. To use the keyboard to delete a tag, press **Tab** or **Shift+Tab** to select the tag and then press **Delete** from the keyboard.

1. Open the required data pack.
2. Click the **Tables** tab.
3. Select the table for which you want to update the data.
The table data appears in a grid in the **View Data** tab in the panel below the list of tables.
4. Optional. To view specific data, run an SQL query to select data based on required criteria.
Data that matches the criteria appears in the grid.
5. Optional. Use the **Filter Tags** field to view data with specific tags, or use the **Filter By** option to view all tagged or untagged data.
Data that matches the criteria appears in the grid.
6. To select the rows in which you want to add, delete, or update tags, click the required check boxes.
7. Click the **Update Tags** button in the right-hand corner of the panel.
The **Update Tags** window opens.
8. Add, delete, or update tags and then click **OK**.
Use a comma to separate tags. The tags are added, deleted, or updated in the selected rows in the table.

View Related Data

You can view the related data in a data pack.

View related data to compute the results of a task that includes filters.

View related data to compute the results of a subset before you run a task to create a subset. Based on the results of the computation, you can update the criteria or the data to create a subset data pack that meets requirements. You can also compute the results of a reset job that you plan to run using reset criteria.

Run a job to view related data based on specific criteria. Use row-level tags to specify the criteria.

For example, a data pack contains all test data required to run a set of test cases. You need to run a single test case that requires some of the test data. You can create a subset data pack that contains the required data. Before you create the subset, you can view a computation of the subset to verify that it contains the required data. Add row-level tags in the data pack and use the required tags in the job to view related data.

Before you reset data based on specific reset criteria, run a job to view the related data. To ensure that the data that you reset meets requirements, verify that the reset criteria returns the required data and edit the criteria if required.

You can run a job to view related data from the **View Related Data** tab or the **Tables** tab in a data pack.

Viewing Related Data

Run a job to view related data to compute the results of a subset task or a reset task that contains reset criteria.

The data must contain row-level tags to use as criteria in the job.

1. In the **Overview** view, search for and open the required data pack.
The data pack opens on the **Overview** tab.
2. Click **View Related Data**.
The **View Related Data** tab opens.
3. Click **Actions > Create Job**.
You can also click the **Create Job** button on the **View Data** section of the **Tables** tab.
4. Enter the row-level tags based on which you want to view related data and click **OK**.
Use a comma to separate tags.
5. You can monitor the workflow from the **Monitor** view.
6. When the workflow completes successfully, refresh the **View Related Data** page to view the job results.
7. Select a table from the **Tables** tab to view the data that the workflow includes based on criteria.
8. Optional. You can run the job again if you update the data in the data pack and want to view updated results. Click **Actions > Resubmit Job** to run the job with the same criteria.

Export Table Data

You can export all the data in a data pack. An export task exports all tables in a data pack.

1. Open the required data pack.
2. Click the **Tables** tab.
3. Click **Actions > Export Table Data**.
4. Choose a location to save the exported data and click **Save**.
The ZIP file uses the data pack name by default. You can edit the name.
5. Extract the ZIP file to view the data.
The export creates individual CSV files for each table in the data pack.

CHAPTER 3

Analyzing Test Data with Data Coverage

This chapter includes the following topics:

- [Data Coverage Analysis Overview, 18](#)
- [Data Coverage Process, 19](#)
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- [Data Coverage Task Columns, 20](#)
- [Data Coverage Analysis Page, 24](#)
- [Editing a Data Coverage Task, 25](#)
- [Marking a Cell as Invalid, 25](#)
- [Updating Data Across Cells, 26](#)
- [User Input in Fill Cell Jobs, 26](#)
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Data Coverage Analysis Overview

You can analyze the data in a data pack to check whether you have a minimum amount of data for specific test cases.

Create a data coverage task to perform pairwise data analysis and to create a visual representation of the data coverage in a data pack. You can assess the quality of test data by analyzing combinations of values in any two columns. You can change the combinations to ensure that you cover all valid combinations of values. You can improve the quality of the data and move data across categories to meet the minimum data threshold that you require.

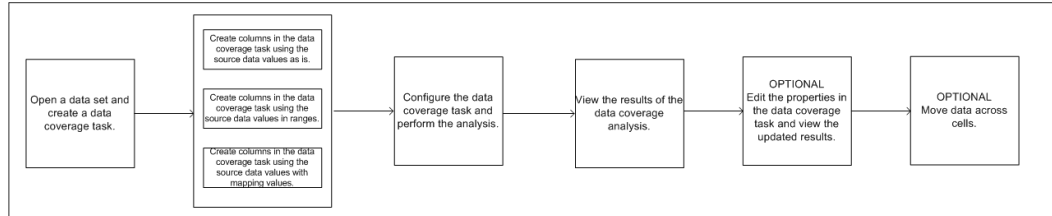
For example, you need to test a banking application that offers credit cards to customers. You create a data pack with tables that contain data related to the credit card types and the criteria for each. The data could include location and the minimum balance required for each type of card. The data pack also contains tables with customer information. To understand whether you have sufficient data for the different test cases, you need to analyze the amount of data that you have in different categories. For example, you need to know if you have sufficient data for each type of card in each location.

When you analyze the data, you also see if there is more data than what you require for some locations. You can then update the data records across columns or data ranges to ensure that you have sufficient data density for test cases.

Data Coverage Process

Create a data coverage task to analyze the data in a data pack. You can edit the parameters used in the analysis. Based on the results, you can choose to move data values across ranges or groups.

The following image shows the tasks that you perform to create a data coverage task and the tasks that you can perform in the task:



You can perform the following tasks in a data coverage task that you run:

Create columns to use in the data coverage analysis

Create columns that map to source data columns to use in the analysis. You can create columns that use source data as is or in ranges of data values. You can also create columns that map data values across specific groups of values.

Run the data coverage task and view the results of the analysis on the data coverage page

You can run the data coverage task and view the results in the data coverage page. You can edit the results view to select and view specific cells in the results.

Edit the parameters used in the analysis

You can edit the parameters including the columns and filters applied and view updated analysis results in the data coverage page.

Update data values in the source data

You can update data values across cells that you analyze. For example, based on the data coverage analysis results, a cell contains data values below the minimum threshold that you set. You can update data in other cells to create the minimum required data values in the cell.

Creating a Data Coverage Task

Create a data coverage task to analyze the data coverage across combinations of data values, ranges, or groups.

1. Open the data pack that contains the data that you want to analyze.
2. Click the **Data Coverage** tab.
3. Click **Actions > New**.
The **New Data Coverage Task** window appears.
4. Enter a name and optional description for the data coverage task.
5. Enter the minimum threshold value.

The minimum threshold represents the minimum number of values you require to consider the data density adequate.

6. Click **Next**.
7. Select the master table for the data coverage task and click **OK**.

The related tables appear in the **Related Tables** list. You can remove tables that you do not want to include in the analysis.
8. Optional. Click the **Add Tables** button of a related table to add tables related to the table.

You can enter an alias name if you want to use a different name to identify the table in the task. Alias names must be unique within a task. If you use a single table multiple times, use a different alias each time.
9. Click **Finish** to create the task.

The data coverage page opens.
10. Configure the data coverage task. Create the columns that you want to use in the analysis.
11. From the **Columns** pane, select a column that you want to add to the X axis on the graph and click **Move to X**. You can also click the required column name from the list of columns and drag the column into the **X Axis** field.

The column values are plotted along the X axis.
12. Select and add a column to the Y axis.

The column values are plotted along the Y axis.
13. Optional. Edit the data count threshold.
14. Optional. Add a filter column to filter results based on column criteria.

You can add two filters.
15. Click **Analyze**.

The data coverage analysis results appear on the graph. Data coverage is represented based on the minimum and maximum data count values that you set. The color of the cell indicates the density of data. White indicates no data, light blue indicates data below the minimum threshold, and dark blue indicates a higher data density than the minimum threshold that you set.
16. Optional. Click the **X Axis** field or the **Y Axis** field and select specific cells from the list to view specific results.

Data Coverage Task Columns

Create a column in a data coverage task to analyze combinations of data values in a data pack for density of data coverage. You can also create columns to use as filters in the data coverage analysis.

You can analyze and plot the data coverage in different ways based on the kind of data in the data pack. You can use individual column values in the analysis or assign the data to ranges that you create. You can create mapping values and map the data values to mapping values.

You cannot use source columns with binary data type in a data coverage task.

You can create columns to use the data in the following ways:

Use as is

Use individual data values in the analysis to plot the data coverage of distinct values. Individual values are plotted in the graph in the data coverage task. Use data as is when you have a small number of distinct values in the column and you want to view data coverage for individual values. For example, low cardinality columns.

Range

Create ranges of values and analyze the data based on these ranges. For example, a table on employee information includes a Salary column. You want to analyze the data coverage for different salary values across different locations. You can create ranges for the salary values. The data coverage analysis indicates the data density for different salary ranges across locations.

You can use ranges for numeric and date data types

Mapping

Create mapping values to analyze data in groups. Map each of the data values to a mapping value. You can then use the mapping value in the analysis to plot data density across groups of values. For example, a test case requires data in a few regions. You therefore want to analyze the distribution of data across regions. The data contains a States column. You can create mapping values such as East, West, North, South, and assign states to a mapping value. You can then analyze the data distribution across regions.

You can map data values to a single mapping value. You can map multiple data values to the same mapping value.

Data Type Exceptions

You cannot create data coverage columns with source data columns that contain certain data types.

The following table lists the data types that you cannot use to create data coverage columns:

Data Coverage Column Type	Data Type
Use As Is	You cannot use the following data types to create data coverage columns that use data as is: <ul style="list-style-type: none">- Date- Real- Double- Precision- Decimal- Decimal (p,s)- Float- Binary_float- Binary_double
Range	String
Mapping	You cannot use the following data types to create data coverage columns that use mappings: <ul style="list-style-type: none">- Date- Real- Double- Precision- Decimal- Decimal (p,s)- Float- Binary_float- Binary_double

You cannot include the following data types in data coverage tasks:

- Dburitype

- Xdburitype
- Httpuritype
- Timestamp with local time zone
- Timestamp with time zone
- Urowid
- Day to second
- Year to month
- Nclob
- Longvarchar

Creating a Data Coverage Column Using Data As Is

Create a column using data values as is to analyze the data coverage for individual data values.

Review the list of data type exceptions before you create a data coverage column.

1. Open the data coverage page.
2. To add a column that you want to plot on the graph, click the **Add** button on the **Columns** pane.
The **Add Column** window opens.
3. From the list of tables, select the table that contains the column.
4. From the list of columns, select the source data column to which this column refers.
The column data appears in the **Data Preview** pane.
5. Enter an alias name for the column.
Column aliases must be unique within a task.
6. Select the **Use as is** type.
The data from the preview tab is added to the **Value** tab.
7. Optional. You can edit the data in the **Value** tab. Click the **Reset** button to replace the edited data with data from the preview pane. Click the **Add** or **Remove** button to add or delete individual values.
8. Click **OK**.

Creating a Data Coverage Column Using Data Ranges

Create a column using ranges to analyze the data coverage of data values across specific ranges. You can use ranges to analyze data that is in numeric or date data type.

Review the list of data type exceptions before you create a data coverage column.

1. Open the data coverage page.
2. To add a column that you want to plot on the graph, click the **Add** button on the **Columns** pane.
The **Add Column** window opens.
3. From the list of tables, select the table that contains the column.
4. From the list of columns, select the source data column to which this column refers.
The column data appears in the **Data Preview** pane.
5. Enter an alias name for the column.
Column aliases must be unique within a task.

6. Select the **Range** type.
7. To create a range, enter the start value of the range in the **Start** field and the end value of the range in the **End** field.
The start value must be less than the end value. There must be no overlap of values in different ranges.
8. Enter a label for the range in the **Label** field.
9. Click the **Add** button to add another range.
10. Repeat steps 7 to 9 to create the required number of ranges.

Creating a Data Coverage Column Using Mappings

Create a column using mappings to analyze the data coverage of data values across specific groups of data values.

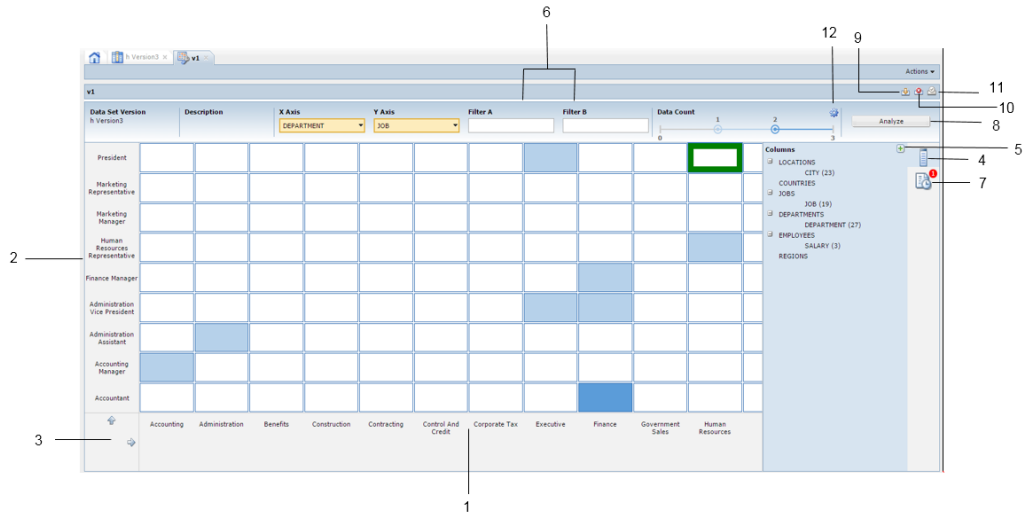
Review the list of data type exceptions before you create a data coverage column.

1. Open the data coverage page.
2. To add a column that you want to plot on the graph, click the **Add** button on the **Columns** pane.
The **Add Column** window opens.
3. From the list of tables, select the table that contains the column.
4. From the list of columns, select the source data column to which this column refers.
The column data appears in the **Data Preview** pane.
5. Enter an alias name for the column.
Column aliases must be unique within a task.
6. Select the **Mapping** type.
The data from the preview tab is added to the **Value** tab on the left.
7. Optional. You can edit the data in the **Value** tab on the left. Click the **Edit** button to edit the values. Click the **Reset** button to replace the edited data with data from the preview pane.
8. To create a mapping value, click the **Edit** button in the mapping values panel on the right.
9. In the **Value** field, enter a mapping value name and click the **Add** button to create another value field.
10. Repeat step 9 to create the required number of mapping values.
11. Click **OK**.
12. In the **Add Column** window, select a data value in the data panel on the left.
13. From the mapping values panel on the right, select the mapping value to which you want to map the data.
14. To link the data value to the mapping value, click the **Link** button.
An arrow appears to indicate the mapping value that the data value is linked to. You can use the **Unlink** button to remove a link.
15. Repeat steps 12 to 14 to link each data value to a mapping value.
16. Click **OK**.

Data Coverage Analysis Page

A data coverage analysis page plots the data in pairs of columns in a graph. The results display the data coverage for combinations of values.

The following image shows a data coverage analysis page:



The following list describes the properties and options on a data analysis page:

1. X axis. The X axis plots one of the columns that you use in the analysis. In the image, values in the DEPARTMENT column are plotted along the X axis.
2. Y axis. The Y axis plots the second column that you use in the analysis. In the image, values in the JOB column are plotted along the Y axis.
3. Scroll buttons for the X and Y axes. The scroll button is visible when the values that you plot exceed the space available on the page.
4. Slider. Click the slider button to expand or collapse the list of data coverage task columns.
5. Add columns. Click the Add Columns button to create a data coverage task column.
6. Filter columns. Data coverage task columns that you can use as filters to further configure the analysis. You can add up to two filter columns.
7. Jobs pending. Click the Jobs Pending button to display a list of jobs that require user input to complete.
8. Analyze. Click the Analyze button to perform the analysis based on columns that you add to the X and Y axes.
9. Fill cell. Select a cell on the graph and click the Fill Cell button to update the data count in the cell. You can then select the cells from which you want to edit the data count.
10. Mark as invalid. Select a cell and click the Mark as Invalid button to exclude a cell from the analysis. The cell becomes unavailable in the graph. Use this option for cells that represent combinations of data that might not be valid for the analysis.
11. Mark as valid. Select a cell that you marked as invalid and click the Mark as Valid button to include the cell in the analysis.
12. Data count settings. Click the Data Count settings button to edit the minimum and maximum data count values for the analysis. You can also drag the markers along the data count bar.

Editing a Data Coverage Task

Edit a data coverage task to update the metadata or edit the data included in the task. You can edit a data coverage task to continue analysis or update the data coverage analysis. If you edit a data coverage task, the previous analysis information is replaced with the updates.

1. Open the data pack that contains the data coverage task that you want to edit.
2. Click the **Data Coverage** tab.
3. Click the data coverage task that you want to edit.
The data coverage page opens. The graph displays the results of the last analysis that you performed.
4. Optional. Click **Actions > Edit** to edit the name or description. Click **OK**.
5. Optional. Click **Actions > Edit > Tables** to edit the master table or the related tables in the task. Click **OK**.
6. Optional. Edit the column information as required. You can create and delete columns.
7. Edit the data coverage task. From the **Columns** pane, select a column that you want to add to the X axis on the graph and click **Move to X**. You can also click the required column name from the list of columns and drag the column into the **X Axis** field.
The column values are plotted along the X axis.
8. Select and add a column to the Y axis.
The column values are plotted along the Y axis.
9. Optional. Edit the data count threshold.
10. Optional. Add or edit a filter column to filter results based on column criteria.
You can add two filters.
11. Click **Analyze**.
The data coverage analysis results appear on the graph. Data coverage is represented based on the minimum and maximum data count values that you set.

Marking a Cell as Invalid

Some cells on a data analysis visualization might not be applicable for the analysis. You might not require the data that the cell represents. You can mark a cell that you do not want to consider in the analysis as invalid. You can change this if you want to include the cell in the analysis.

1. Open the data pack that contains the data coverage task that you want to edit.
2. Click the **Data Coverage** tab.
3. Click the data coverage task that you want to edit.
The data coverage page opens. The graph displays the results of the last analysis that you performed.
4. Select the cell on the graph that you want to mark as invalid. The cell is highlighted with a green border.
5. Right-click the selected cell and click **Mark as Invalid**.
The cell greys out to indicate that it is invalid. This does not affect the results in other cells.
6. Optional. To mark the cell as valid, right-click the selected cell and click **Mark as Valid**.

Updating Data Across Cells

Based on the requirement and data coverage, you can update data across cells to add data where you need it or remove excess data. The data is updated in the data pack when you edit data across cells in the data coverage task.

Note: Based on the schema, a move operation might fail in some cases. You cannot update data in a cell that contains data of the Blob data type.

1. Open the data pack that contains the data coverage task that you want to edit.
2. Click the **Data Coverage** tab.
3. Click the data coverage task that you want to edit.

The data coverage page opens. The graph displays the results of the last analysis that you performed.

4. Select the cell on the graph to which you want to add data. The cell is highlighted with a green border.
5. Right-click the selected cell and click **Fill**.

The **Fill Cell** dialog box opens.

6. Select the source cell from which you want to move data on the graph. You can select multiple source cells.

The **Fill Cell** dialog box lists the source cells that you select and suggests the number of rows to move. You can enter a different number.

7. Enter the number of rows that you want to move from each source cell.
8. Click **Fill**.

A separate job runs to fill data from each of the source cells.

9. If the data contains fields that need input, a dialog box opens with fields to enter the data. Enter the data and click **OK**.

The data from the source cells is edited to fill the selected cell. If you close the task before the user input dialog box appears, the job pauses. When you open the task, you must click the **User Input** button to view and enter the required data.

You can verify that the data is updated correctly after the task completes. Click the **Analyze** button without making any changes to the task. The results plotted on the graph must not change.

User Input in Fill Cell Jobs

You can update data across cells in a data coverage task to create data where needed. You might need to enter data in some situations where data is missing.

You can compare combinations of data from a single table or combinations of data from different tables. The X and Y axis can therefore represent columns from the same table or from different tables.

When you compare columns from the same table, a fill operation from one cell to another cell moves data that exists in a single table. The data is available to move and the fill operation runs without the need for input.

When you compare columns from different tables, some records in intermediate tables might not exist in the database. These records might be required for the combination corresponding to the target cell.

When there is no data available to fill a cell, you must enter the data values manually. The job pauses when input is required. If the data coverage task is open, a dialog box appears with fields to enter data values.

Enter data values that match the column data type. A move operation fails if the data that you enter does not match the column data type.

User Input Example

You want to analyze the data for employees in an organization. You want to analyze data for the different paygrades across regions. You create a data pack that contains information on employee paygrades and organization branch and regions.

Example Data

Consider the following data pack tables:

Table 1. REGION_DATA

REGION_ID	REGION_NAME
1	East
2	West
3	North
4	South

Table 2. BRANCH_DATA

BRANCH_ID	BRANCH_NAME	REGION_ID	IFSC	FACILITY
102	Jaipur	3	1545	Large
105	Bangalore	4	6765	Small
103	Calcutta	1	1421	Medium

Table 3. EMP_INFO

EMP_ID	PAYGRADE	BRANCH_ID
1	Low	105
2	Medium	102
3	Medium	105
4	Medium	103
5	Low	105

Data Coverage Analysis

You create a data coverage task and plot the regions on the X axis and the paygrade column on the Y axis.

The data that you plot creates the following data on the graph:

Region/Paygrade	Low	Medium	High
East	0	1	0
West	0	0	0
North	0	1	0
South	2	1	0

There is more than one record in the cell that represents low paygrade in the south. The test cases that you run do not require data for low paygrades. You want to move data to the cells that represent high paygrade in the west and medium paygrade in the east.

You run a Fill Cell job to fill data in the cell that represents medium paygrade in the east. Choose to move one record from the cell that represents low paygrades in the south.

The Move operation updates the EMP_INFO table. One record that has a Branch ID that represents the south and a low paygrade is edited. The move updates the paygrade to Medium and the BRANCH_ID to 103. No user input is needed as all the other data required is available.

You run a Fill Cell job to fill data in the cell that represents high paygrade in the west. Choose to move one record from the cell that represents low paygrades in the south.

To perform the Move operation, the EMP_INFO table must be updated. The operation must add a record that contains a branch ID for the west. The branch ID in the EMP_INFO table is a foreign key that points to the BRANCH_DATA table. The BRANCH_DATA table does not contain a record for the west region. A record for the west region must be added to the BRANCH_DATA table. The operation adds a record to the BRANCH_DATA table and populates the region ID as 2 for West. The BRANCH_ID information and other information cannot be populated and must be manually entered.

A user input dialog box appears with fields to enter values for the following columns:

- BRANCH_ID
- BRANCH_NAME
- IFSC
- FACILITY

Therefore the Move operation updates two tables. A row is added to the BRANCH_INFO table. Data is modified in the EMP_INFO table.

Data Coverage Analysis Example

You work with a QA team that tests an ERP software product.

The team uses TDM to create data packs to store and manage the test data. Before you begin testing the next version of the product, you want to know if a data pack contains data required to run specific test cases.

To run test cases, you need sufficient salary data for specific locations. You also need data in specific departments in each location. You need at least 50 records in each department across locations.

Tables in the Data Pack

You create a data pack ERP_CL1_2.0.

The data pack contains the following tables:

EMP_DETAILS

The table contains the following columns:

- EMP_NAME
- EMP_ID
- EMP_DEP
- DEP_ID
- EMP_DOB
- EMP_ADDRESS

EMP_SAL_INFO

The table contains the following columns:

- EMP_NAME
- EMP_ID
- EMP_DEP
- EMP_SAL

ORG_INFO

The table contains the following columns:

- DEP_NAME
- DEP_LOC
- DEP_ID
- DEP_MGR

ORG_REV_INFO

The table contains the following columns:

- LOC
- DEP_NAME
- DEP_REV

Analysis for Data Coverage

Create a test data coverage task to analyze the data coverage in the data pack.

Perform the following high-level steps to configure the data coverage task and view the results:

1. Create a column COL1 that refers to the EMP_SAL column in the EMP_SAL_INFO table. Use the Range type to plot the data.

2. Create a column COL2 that refers to the LOC column in the ORG_REV_INFO table. Use the Use as is type to plot the data.
3. Create a column FILTERCOL1 that refers to the DEP_NAME column in the ORG_REV_INFO table. Use the Use as is type to plot the data.
4. Plot COL1 along the X axis and COL2 along the Y axis.
5. Configure the minimum and maximum data values as 50 and 75.
6. Click Analyze to view the data coverage plotted across the graph. The results depict the data coverage for the salary ranges across locations.
7. To view the data coverage information for specific departments, add the column FILTERCOL1 to the Filter A field and click Analyze to refresh the results.
8. Select the required departments from the filter list to view results for individual departments.

Consider the following example:

The data coverage results indicate that there is no data for some departments for the salary range 5,000 - 10,000 for the location UK. However, there is data well above the maximum threshold for the salary range 15,000 - 20,000 in the location US. There is some data in the salary range 20,000 - 25,000 in the location AUS. This data is slightly above the minimum threshold value. You want to update some data from these cells to the 5,000 - 10,000 in UK cell.

Perform the following high-level steps to configure the data coverage task and view the results:

1. Select the cell that represents the data for the location UK and salary range 5,000 - 10,000.
2. Right-click and select Fill.
3. Select the cell that represents the US location and salary range 5,000 - 20,000.
4. Select the cell that represents the salary range 20,000 - 25,000 in the location AUS.
5. The Fill Cell dialog box adds these fields and suggests the number of rows that you might add from each cell.
6. You can edit the number in the field to move the required number of rows. You cannot move more rows than what exists in a cell.
7. Click Fill. If user input is required, a dialog box appears with fields to enter data values. For example, you might need to update parent records in some tables.

For example, when you update the data from the US and AUS locations to the UK location, the UK location might not contain any department information. In this situation you enter data values for the department rows.

You can configure the data coverage task to analyze the data based on your requirement. You can then update the data to create data in rows where you need the data.

CHAPTER 4

Data Pack Tasks in the Self-Service Portal

This chapter includes the following topics:

- [Data Pack Tasks Overview, 31](#)
- [Data Pack Subsets, 32](#)
- [Reset, 32](#)
- [Editing Data Pack Details, 33](#)
- [Deploying a Data Pack, 34](#)
- [Reset a Data Pack, 34](#)
- [Creating a Copy of a Data Pack, 35](#)
- [Creating a Subset Data Pack, 35](#)
- [Deleting a Data Pack, 35](#)

Data Pack Tasks Overview

You can edit data packs to store, edit, and manage your test data in the test data warehouse.

You can create copies of a data pack to save data that other users cannot edit. Create subsets of a data pack or a copy of a data pack to create test data that meets specific test requirements.

Reset a data pack to a target system to copy required test data to a test environment.

You can also edit tags and descriptions that you add to a data pack. Edit data pack details to update information that users might require when accessing test data.

You can create a copy, subset, and reset data packs from the self-service portal.

You cannot perform tasks that require a staging connection if a table in the data pack contains columns with a precision of 4,000 or greater. Edit the precision to 3,999 or less.

Subset and Reset Criteria

You can add criteria to a subset or reset task if you want to include specific rows of data in the task instead of the entire data.

Subset criteria is required in a subset task. Reset criteria is optional in a reset task.

In a subset task, the workflow creates a subset that includes rows that meet the subset criteria. The subset also includes all rows related to the rows that meet the subset criteria.

In a reset task that includes reset criteria, the workflow considers the criteria in addition to other configuration properties in the task. The result of a reset task differs based on how you configure the task. You can add reset criteria to further drill down and reset the required data to a target.

Use row-level tags in a data pack as subset and reset criteria.

RELATED TOPICS:

- [“Managing Row-level Tags in a Data Pack Table” on page 16](#)

Data Pack Subsets

You can create a subset of a data pack.

A data pack subset includes a part of the data in the original data pack. The subset is referentially intact and maintains primary and foreign key relationships. The criteria that you use depends on the data that you want in the subset.

For example, a CUST_DATA data pack contains customer data for customers in all global locations. Your test case requires data for customers in specific locations with a certain number of loyalty points. You can create a PRIV_CUST data pack that contains the required data from CUST_DATA.

Use row-level tags to tag the rows that you require in the data pack. You use row-level tags as criteria when you create the data pack subset.

The data pack that you create includes the data that you tag and its related data.

You can run a job to view the subset computation before you create a subset. View the subset computation to ensure that the subset criteria that you use returns the required data.

RELATED TOPICS:

- [“View Related Data” on page 16](#)

Reset

You can reset a data pack to a target connection to return a test environment to a required state.

A reset task moves data in a data pack to a target connection. You can configure settings in a reset task based on the data required in the test environment.

For example, a test environment contains test data related to specific test cases. After you run a few test cases, the data gets corrupted. You might want to replace the corrupt test data entirely. You might want to work on specific test cases that require some of the data. You might want to run a different set of test cases that requires different test data. You can configure the reset task to replace the corrupt test data with a copy of the same test data. You can use row-level tags as criteria to choose and replace select records from the data pack. You can choose to delete the data in the target and copy the data pack to the target.

Based on how you configure the reset task, TDM performs one of the following tasks during a reset:

- Upsert. Updates all records that exist in both the data pack and the target. Inserts all records that exist in the data pack and not in the target.
- Upsert for filtered records from the data pack. Updates filtered records that exist in both the data pack and the target. Inserts filtered records that exist in the data pack and not in the target. You enter reset criteria to filter records.
- Reset with truncate tables. Deletes all data in the target and copies the data pack to the target. TDM disables constraints and indexes during this task.
- Reset with truncate tables for filtered records from the data pack. Deletes all records in the target and copies the filtered records from the data pack to the target. TDM disables constraints and indexes during this task. You enter reset criteria to filter records.

If you use filters to reset specific data that you require, you can run a job to view related data before you run the reset task. Use the row-level tags that you want to use as reset criteria. The job computes the data that matches the criteria. You can view the data that the workflow includes for a specific criteria. You can then edit the criteria if needed to reset data that meets test data requirements.

RELATED TOPICS:

- [“View Related Data” on page 16](#)

Deploy

Before you can reset a data pack you must deploy the data pack.

A deploy job creates the workflows required to run a reset task. When you deploy a data pack, Test Data Manager creates two workflows. Based on the settings you configure in the reset, the reset task uses the required workflow to reset the data to a test environment. The reset option is not available before you deploy the data pack.

A deploy task creates the following workflows:

- A workflow to reset a data pack based on specific details that you configure.
- A workflow to delete data in the target and reset the data pack to the target.

You can monitor the status of workflow creation from the **Monitor** view.

The deploy task ends when the workflows are created successfully. You can then reset the data pack to a test environment.

Editing Data Pack Details

You can edit the description and tags that you add to a data pack.

1. In the **Overview** view, search for and open the required data pack.
The data pack opens on the **Overview** tab.
2. Click **Edit** on the **General** tab..
The **Edit Data Pack** dialog box opens.
3. Edit the description or tags as required.
Use a comma to separate tags.

4. Click **Save**.

Deploying a Data Pack

Deploy a data pack to create the workflows required to run a reset task.

1. In the **Overview** view, search for the required data pack.
2. Click the **Deploy** button.

The deploy job creates two workflows required to perform a reset task. When the deploy job completes, a message appears that indicates that the workflows are created.

Reset a Data Pack

Reset a data pack to copy required test data and return a test environment to a required state.

Before you perform a reset, you must deploy a data pack to create the workflows required for reset.

You can run a task to view related data before you run a reset task to compute the results of a task that includes reset criteria.

Note: If the target is a PWX for NRDB Batch connection, you must manually delete the files in the target before you run the reset task. The reset copies the data in the data pack but does not delete the target data before it copies the data.

1. In the **Overview** view, search for the required data pack.
2. Click the **Reset** button.
The **Reset** dialog box opens.
3. Select the target connection from the list of connections.
Select the connection where you want to replace the data as the target connection.
4. If the target is a PWX for NRDB Batch connection, enter the target file name. For single-record sequential files, enter the target schema name.
5. Optional. Configure additional settings for the reset operation:
 - **Truncate Tables.** Select this option if you want to completely replace the data in the target connection with data from the data pack. TDM deletes all data in the target and copies the data in the data pack to the target. TDM disables constraints and indexes when it performs this operation. You cannot choose to truncate tables if the target is a PWX for NRDB Batch connection.
 - **Reset Criteria.** Enter reset criteria if you want to reset specific data from a data pack. Enter row-level tags as reset criteria.
6. Select the PowerCenter Integration Service to use for the reset operation. You must select the service that you configured in the Test Data Manager Service.
7. Choose to run the operation or schedule it to run later.
8. Click **OK**.

RELATED TOPICS:

- [“Viewing Related Data” on page 17](#)

Creating a Copy of a Data Pack

Create a copy of a data pack if you want to save a copy of the data that other users cannot edit. You cannot add users or user groups on the copy of the data pack.

1. In the **Overview** view, search for the required data pack.
2. Click the **Copy/Subset** button.
The **Copy or Subset Data Pack** window opens.
3. Enter a name for the data pack.
4. Optional. Edit or update the data pack tags.
Do not enter subset criteria to create a copy of a data pack. Add subset criteria when you want to create a subset of a data pack.
5. Click **OK**.

Creating a Subset Data Pack

Create a subset data pack to create a data pack that contains a subset of the data that is referentially intact.

The data must contain row-level tags based on data that you want to include in the subset. You can run a job to view the subset computation before you create a subset.

1. In the **Overview** view, search for the required data pack.
2. Click the **Copy/Subset** button.
The **Copy or Subset Data Pack** window opens.
3. Enter a name for the data pack.
4. Enter the row-level tags that you want to use as criteria for the subset.
5. Optional. Edit or update the data pack tags.
6. Click **OK**.

RELATED TOPICS:

- [“Viewing Related Data” on page 17](#)

Deleting a Data Pack

You can delete a data pack that you do not require.

1. In the **Overview** view, search for the required data pack.

2. Click the **Delete** button.
3. Click **Yes** to confirm the delete.

CHAPTER 5

Monitor

This chapter includes the following topics:

- [Monitor Overview, 37](#)
- [Jobs, 37](#)
- [Monitor Tasks, 39](#)
- [Logs, 39](#)
- [Sessions, 40](#)

Monitor Overview

In the **Monitor** view, you can monitor the status of jobs that you start in the self-service portal. You can stop jobs from running and view job and session logs.

You can sort, filter, and perform tasks on jobs in the **Monitor** view. Select a job in the **Monitor** view to view the job details in the **Workflows** or **Logs** tabs. You can also view the session information for workflows that run sessions.

Jobs

Check the status of a job and view the job details in the **Monitor** view.

You can view the following types of jobs in the **Monitor** view:

Copy Data Pack

Creates a copy of a data pack.

Subset Data Pack

Creates a subset of a data pack.

Deploy Data Pack

Creates the workflows required to perform a reset task.

Reset Data Pack

Resets target data with data in a data pack.

View Related Data

Computes the results of a subset job or a reset job that includes reset criteria.

Data Coverage Analysis

Performs analysis in a data coverage task.

Fill Cell

Moves data from one cell to another cell in a data coverage task.

Session

Performs a task within the workflow. A workflow might have multiple sessions. Click on a workflow job ID to view the session details in another tab in the **Session** pane.

Job Details

You can sort and filter jobs by job details.

The **Monitor** view contains the following job details:

Test Data Manager Service

The name of the Test Data Manager service that runs the job.

Job Type

The type of job run. Includes workflow generation and execution.

Description

A description of the job. Includes a description of the job and the name of the data pack.

Job ID

The job ID number. TDM creates consecutive job ID numbers for each job. When you click on an Execute Workflow job, the workflow details open in a separate tab.

Status

The status of the job. A job can have the following statuses:

- Error. The job did not run successfully. Click **Workflows** or **Logs** to view the job log file.
- In Queue. The job is in the queue to run.
- Running. The job is running.
- Success. The job ran successfully.
- Terminated. The job was terminated.

Start Time

The date and time the job started.

End Time

The date and time the job ended.

User

The user that ran the job.

Monitor Tasks

You can perform tasks in the Monitor view based on the job that you view.

You can perform the following tasks in the Monitor view:

Auto Refresh

Refreshes the view every ten seconds. If you disable the auto refresh, click **Actions > Refresh** to manually refresh.

Unschedule

Removes a job that you scheduled to run at a later time. To permanently remove a job from a schedule, click **Actions > Unschedule**.

Logs

You can view logs to troubleshoot jobs. To view the logs, select a job and click the **Logs** tab. You can view the session, workflow, and console logs.

When you run a job from the self-service portal, the TDM server generates logs. The PowerCenter Integration Service generates the session and workflow logs. For Hadoop operations, the Data Integration Service generates the session and workflow logs. When a job fails, you can view the logs to debug problems.

When a job is triggered, TDM generates console logs. If the job logs are not available, you can view the console logs to check the messages.

When you click a job ID, you can view the following log details:

Date/ Time

The date and time the job ended.

Severity

The severity level of the log messages.

Description

The detailed description of the error message, the cause of the problem, and the solution.

Severity Levels

You can view the severity level of a log message and get a clear understanding of the problem level.

The log messages include the following severity levels:

Error

Indicates that the TDM server failed to perform an operation or respond to a request from a client application.

Warning

Indicates that the TDM server is performing an operation that might cause an error.

Info

Indicates that the TDM server is performing an operation that does not cause errors or problems.

Debug

Indicates TDM Server operations at a detailed level. The debug messages generally record the success or failure of server operations.

Trace

Indicates TDM Server operations at a more specific level than the debug logs. Trace messages are generally trace code paths.

Viewing the Log Messages

View the log messages to troubleshoot the problems when a job fails. You can search and filter the log messages based on the dates, severity levels, and keywords in the error description.

1. Click **Monitor**.
2. Select a job ID and click the **Logs** tab.
A list of log messages appears.
3. Search and filter the logs from the list of log messages.
4. Select the log message and download the log file.
5. To download the log file, click **Download**.
6. To view console logs for each job, select a job ID and click **Actions > View Console Logs**.

Sessions

You can view the session logs after you run a workflow that creates sessions. Subset and reset jobs create sessions.

When you select a job ID from the list of jobs in the **Monitor** page, you can view the workflow details in the **Workflows** tab. Expand the workflow to view sessions in a workflow.

The **Sessions** tab contains the following fields:

Session ID

The session number that identifies the session. If you click **Session ID**, you can view the processed tables, affected and rejected rows of the tables, error messages, and session logs.

Name

The name of the session that ran in the workflow.

Status

The current status of the session. The session can have the following statuses:

- In Queue. The PowerCenter Integration Service is waiting for resources before it starts the workflow.
- Running. The workflow is running.
- Success. The workflow completed successfully.
- Error. The workflow did not complete due to errors.

Source Rows Succeeded

The number of valid source rows read during the session.

Source Rows Failed

The number of source rows that failed due to errors.

Target Rows Succeeded

The number of rows written to the target.

Target Rows Failed

The number of rows that were not written to the target.

Start Date/Time

The date and time that the session started.

End Date/Time

The date and time that the session ended.

User

The name of the user that started the workflow.

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