



TIBCO® MDM

User Guide

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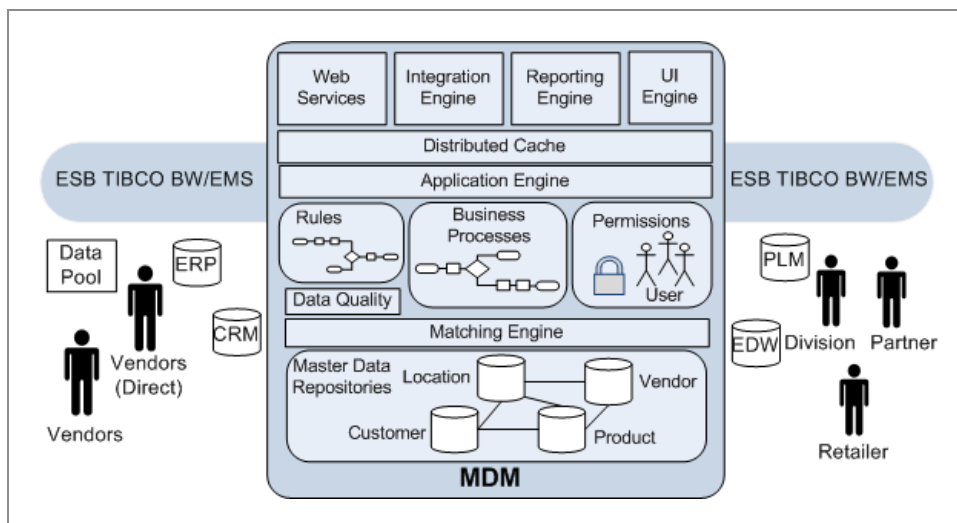
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Introduction to TIBCO MDM

TIBCO® MDM (formerly ibi™ MDM) is a master data management enterprise application using which you can ensure your master data to be consistent, complete, and accurate throughout your organization, enterprise systems, and partners. It provides a comprehensive approach to manage and synchronize master data within your organization.

TIBCO MDM is based on a flexible business process automation framework that employs workflow and user-configurable business rules to streamline processes required by the enterprise, such as record modification, security, synchronization and publication, and new record introduction. It works in conjunction with multiple, heterogeneous systems that affect or use master data information. It also automates global data synchronization with external trading partners through industry standard data pools, such as 1SYNC.

TIBCO MDM Overview



You can enter data into the application through the user interface, databases, text files, XML messages, or any other format used within your organization. Data is managed in repositories. A repository defines syntax and semantics of data and provides secure access to data. You can define business processes and rules to manage information, including publishing information to other systems or trading partners.

Key Features:

- Extensible Data Model
- Validation Rules
- Industry Templates
- Audit and Governance Trail for Reporting
- Synchronization
- Service Oriented Architecture

Software Editions

The application is available as a core edition with additional plug-ins providing further capabilities.

Software Editions

Plug-in	Description
MDM (Default)	This is the core software edition. It provides the core data modeling, business process, and workflow frameworks.
GDSN	The GDSN plug-in provides additional templates, workflows, and validation rules for supported standard data pools. This plug-in is for global data synchronization network users, primarily focused on product information management. Most of the user interface of the plug-in uses GDSN-specific terminology.

Note: The two software editions differ slightly in terms of terminology, look and feel, and some minor features. Both software editions are, however, built based on a common underlying architecture and infrastructure.

Accessing TIBCO MDM

Complete the following tasks to access TIBCO MDM.

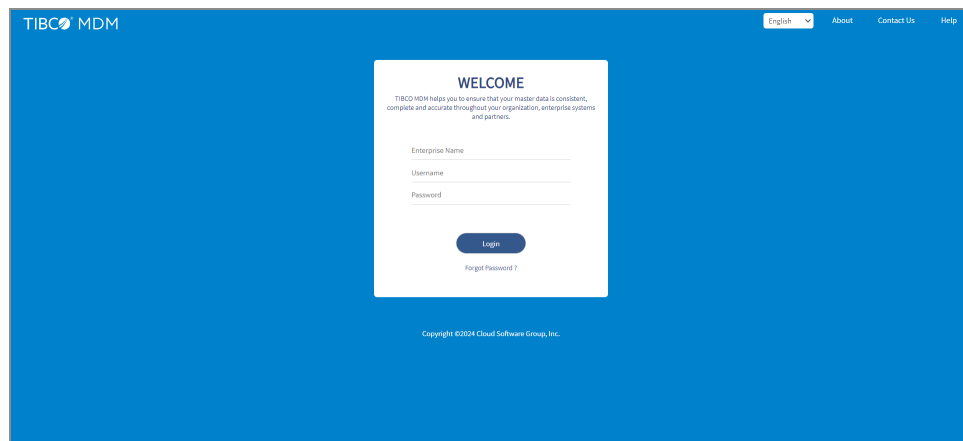
Procedure

1. Type the TIBCO MDM URL into your browser. The URL is *protocol://host:port/eml/Login*.

where:

- *protocol* is the communications protocol being used by TIBCO MDM, either http or https. You can configure it using SSL during installation.
- *host* is the DNS name or IP address of the server hosting the TIBCO MDM.
- *port* is the port being used by TIBCO MDM. The default value is 8080.

After the browser connects, the following default Login page is displayed:



Note: You can customize the Login page to suit your company's needs. For more information about customizing the Login page, see the *TIBCO MDM Customization Guide*.

2. By default, TIBCO MDM is available in American English and British English. If TIBCO MDM has been configured to use different languages, you can select a different language when you log in, see [Logging in to TIBCO MDM](#).

Logging in to TIBCO MDM

You can get the login company name, username, and password from your administrator.

Procedure

1. In the Company Name field, type your *company name*. The company name is not

case sensitive. The Company name can be defaulted by your administrator.

2. In the User Name field, type your *username*. The case-sensitivity of the username depends on configuration. You can try different combinations or contact your System Administrator about case-sensitivity.
3. If you want TIBCO MDM to use a different language from the default (American English or British English, depending on the default language of your browser), click the **Language** link in the upper-right corner of the Login page. A list of configured languages is displayed.
4. Select the language that you want to use.
5. In the Password field, type your *password*. The password is case-sensitive. For information, see [Characteristics of Strong Password](#) and [Password Restrictions](#).
6. Click **Login**.

If your company has configured a single sign-on, you may not see the Login page because the sign-on happens automatically. If the login verification is configured to work with your company's LDAP, enter your LDAP credentials as username and password. With single sign-on and LDAP, you cannot change the password using the **My Account Profile** page. To access the **My Account Profile** page, expand the **username - company name** icon on the upper-right corner of the main UI and then select **Profile**.

 **Note:** If you are logging in to TIBCO MDM for the first time, then after clicking **Login**, the Reset Password page is displayed. You must change the password provided by your administrator. For information, see [Changing or Resetting Forgotten Passwords](#).

Account Locked

Your account is locked after three invalid login attempts. After you are locked out of the application, you cannot log in again until the account is unlocked. To unlock the account, contact the system administrator or click **Reset Password**.

After an administrator unlocks the account and after you enter the correct password in the Password field, then you are redirected to the Reset Password page. For information, see [Changing or Resetting Forgotten Passwords](#).

Characteristics of Strong Password

The strong password contains the following characteristics:

- At least 8 alphanumeric characters
- A mixture of both uppercase and lowercase letters
- A mixture of letters and numbers
- Inclusion of at least one special character. The default value is (?=.*[@#\$%!]).



Warning: You cannot use one of your last six passwords. An error is displayed if you repeat previous passwords.

Password Restrictions

The following restrictions apply to passwords:

- A password must not contain user details such as first name, middlename, last name, and so on.
- A password must not contain repetitive numbers or characters. For example, 111 and aaa.
- A password must not contain keywords specified in the `ReservedKeywords.txt` file.
- A password must not be repeated when you change the password on the Reset Password page. The number is specified in the `Check password repetition` configuration property.
- A password login attempts must not exceed three wrong password limits when logging in to TIBCO MDM, else your account is locked. The limit for entering the wrong password is specified in the `Password Attempts Exceed` configuration property.

For information about password configuration properties, see *TIBCO MDM System Administration*.

Logging Troubleshooting Tips

If you face any issues while logging into TIBCO MDM, use the following tips:

Logging Troubleshooting Tips

Issue	Tip
If you use a shortcut or link to access the application, and if the link refers to a specific page, the application attempts to display the correct page after login. However, if the URL is incorrect or does not have enough information to display on the page, the following error message is displayed: Specified URL is not valid. This might happen when either an invalid or incomplete URL is provided or when the session has expired.	Click Back on the error page, you are redirected to the Inbox page.
When login is attempted, if the "Application is not available right now. It may have failed to start correctly. Contact system administrator." error message is displayed, it indicates that the startup routine failed to start correctly.	Contact the system administrator to resolve the error.
In all the UI screens, pressing the Shift+Tab keys might not take you to the previous edit box, if you have toolbars installed in your browser.	Remove toolbars from the browser.
For best results, do not use the buttons on the browser. Using the Back, Forward, or Refresh buttons might work sometimes but it is likely to result in a conflict with the session data of the browser or the cache maintained by the application, causing inconsistent UI behavior and errors.	Use the menu to switch between different sections of the application.

Changing or Resetting Forgotten Passwords

Depending on how a system administrator configured the system, you can reset the password. When you forget your password, you can reset it. Additionally, if you are logging in to TIBCO MDM for the first time, then after clicking **Login**, the Reset Password page is displayed. You must change the password provided by your administrator.

Procedure

1. Log in to TIBCO MDM.

If you are logging in to TIBCO MDM for the first time, then after clicking **Login**, the following Reset Password page is displayed:

Note: Read the procedure about filling this page at [In the New Password field, type your new password. Ensure that the new password meets the strong password criteria. For information, see Characteristics of Strong Password and Password Restrictions.](#) .

2. If you have forgotten your password, click the **Forgot Password** link. The following Reset Password page is displayed.

3. In the **Company Name** field, type the name of your company.
4. In the **User Name** field, type your username.
5. Click **Next**.
 - If the email is not configured, the Reset Password page is displayed with the New Password and Confirm Password fields.
 - If the email is configured by the system administrator, a message is displayed stating that an email has been sent to your email address to reset your password. Check the email received in your inbox and click the URL provided in

the email. The Reset Password page is displayed with the New Password field and the Confirm Password field.

**Warning:**

- If you use the URL after the specified expiration time, the URL expiry message is displayed. You have to resend the request for the new reset password email.
 - If concurrent users are logged in at a time and the Reset Password URL is opened in the browser, the session of the already logged-in user is terminated.
- If security questions are configured, security questions are asked. Enter your answers, click **Submit**. The Reset Password page is displayed with the New Password and Confirm Password fields.
6. In the **New Password** field, type your new password.
Ensure that the new password meets the strong password criteria. For information, see [Characteristics of Strong Password](#) and [Password Restrictions](#).
 7. In the **Confirm Password** field, retype the new password.
 8. Click **Reset**.
The Password changed successfully message is displayed.
 9. Click **Ok**.
The login page is displayed. Log in to TIBCO MDM using the new password.

Limitation for Reset Password

The reset password feature does not work for the users managed by an external system in the case of a single sign-on, for example, LDAP.

Logging out of TIBCO MDM

Complete the following steps to log out of TIBCO MDM.

Procedure

1. Close any currently open work items.

- Expand User Profile  on the upper-right corner of the main UI and then select **Logout**.

A confirmation message is displayed.

- Click **Yes** if you want to log out of the application.

When you are successfully logged out, the **Login** window is displayed.

If a single sign-on is configured, the Logout page may be different. Logout may also affect the configured single sign-on. Contact your administrator for details.

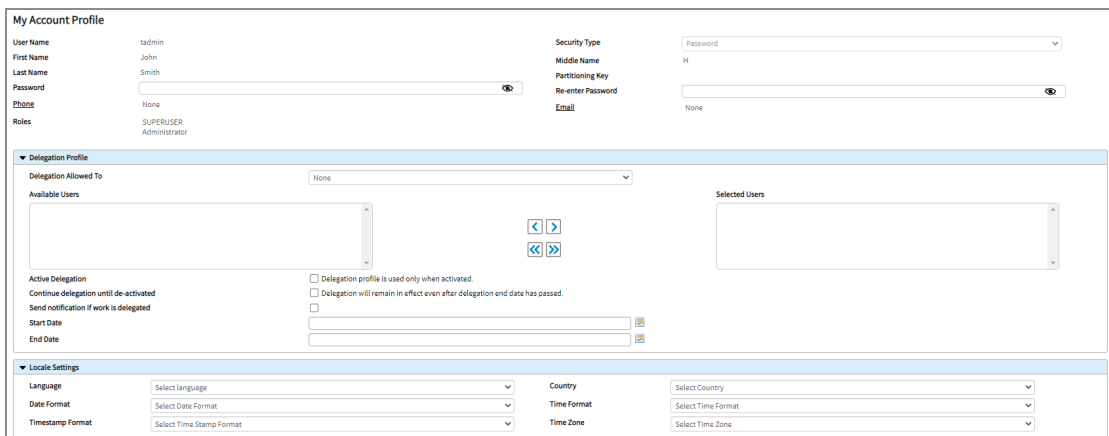
Managing Your Profile

Use the My Account Profile page on the menu to manage your basic account information.

Procedure

- Log in to TIBCO MDM.
- Click the  icon on the upper-right corner and then click **Profile**.

The **My Account Profile** page is displayed.



- Enter the details in the fields. The My Account Profile page is divided into the following sections:

My Account Profile Fields

Field Name	Description
My Account Profile	Displays your name, contact details, and role. You can change your password from here. Password policies may be configured by your administrator. If a single sign-on is set up, you cannot see or modify the password. You can add new phone numbers and emails here. Notes: • Changes to your profile can be done here. However, if you have privileges to maintain user accounts, you can update your profile from the User Accounts page as well. • Changes made to the account profile are effective only when you log in again. • The email address provided is used for work item notification if a work item is assigned to you, and also to send an email notification for the reset password. ◦ If you specify multiple email addresses, an email notification is sent to the first email address.
Delegation Profile	• You can choose to enable your delegation profile and specify how delegation should work. • Delegation is a part of customization and does not appear automatically to all users.
Locale Settings	• You can use this section to set a locale of your choice. You can select the Language and the Country from the respective drop-down lists available in this group. However, setting the locale settings overrides your browser's default locale settings. You can select from the available languages. • Depending on the Language selected, the Country drop-down list is populated. Note: Changes made to locale settings are effective only when you log in again.

Field Name	Description
Security Questions	See Creating a User .
User Defined Fields	This value controls whether the repository attribute Help should be shown when you are editing records. You can enter Y or N . If Y is specified and the cursor is moved on an attribute while editing records, a Help icon is displayed.
Show Record Attribute Help?	

4. Click **Save**.

Profile Delegation

As an administrator or a user with appropriate privileges, you can delegate work items to users within a specific role. The list of users to whom you can delegate work items depends on their roles. After you have defined the roles you wish to delegate work items to, activate delegation for a set of users holding the role.

For example, as an administrator, you might have defined a role delegation to anybody who is a Channel Manager. If U1, U2, U3, and U4 are playing the role of Channel Manager, you can now activate delegation for either U1 and U4, or for all of them. Use the Delegation Profile section to activate delegations to set the period of time you want the delegation to be active, and reassign work items to selected users playing a specific role.

The following are the fields in the Delegation Profile:

Delegating Profile Fields

Field Name	Description
Activate Delegation	Select this option to activate delegation to selected users. Once delegation is activated, any work item assigned to you is automatically delegated to selected users.
Continue delegation	Select this option to bypass the start and end date of a delegation. If you select this option, the delegation continues to be in effect until you clear the

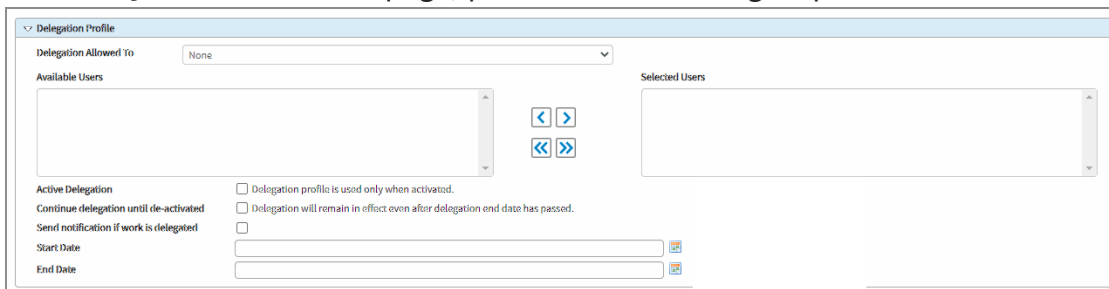
Field Name	Description
until de-activated	Activate Delegation option.
Send notification if work is delegated	Select this option to notify users that they have work items delegated to them. Once the work item is delegated to another user in the system, an alert message is displayed when the user logs in to the company.
Start Date	The date on which delegation is activated.
End Date	The date on which the delegation is deactivated.
Delegated Roles	Lists the roles that you can delegate work items to. If you want to add more roles in this list, see Role Delegation. Under Delegated Roles, the following lists is displayed: • Available Users: A list of users available for the selected Delegated Role. • Selected Users: The selected users for whom you wish to activate delegation.

Activating Delegation of Work Item for a User

Complete the following steps to activate delegation of a work item for a user.

Procedure

1. In TIBCO MDM, click  on the upper-right corner and then select **Profile**.
2. On the **My Account Profile** page, perform the following steps:



- a. To assign a single user, select one from the **Available Users** list and click ">" to move it to the **Selected Users** list.
 - b. To assign multiple users, press Ctrl and click users from the **Available Users** list and click '>' to move the selected multiple users to the **Selected Users** list.
 - c. To assign all users, click ">>". All users are moved to the **Selected Users** list.
3. Under the Delegation Profile section, select the **Activate Delegation** check box.
4. Select **Send notification if work is delegated** check box. If selected, an email is sent to you indicating that the work item has been delegated.
5. Click **Start Date** and select a start date.
6. Click **End Date** and select an end date.
7. In the **Delegated Roles** drop-down list, select a role. The **Available Users** list is populated with the set of users who play the selected role.
8. Click **Save**.

Deactivating Delegation of Work Item for a User

Complete the following steps to deactivate delegation of a work item for a user.

Procedure

1. Log in to TIBCO MDM.
2. In TIBCO MDM, click  on the upper-right corner and then select **Profile**.

The **My Account Profile** page is displayed.

Under Delegated Roles, the populated list of selected users is displayed. If you remove the delegation of work items for a specific role, then revoke delegations for all users playing the role.

3. Perform the following steps:
 - a. To revoke delegation for the selected user, select one from the **Selected Users** list and click ">" to move it to the **Available Users** list.
 - b. To re-assign multiple users, press Ctrl and click users from the **Selected Users** list and click '>' to revoke delegation for the selected users.

- c. To revoke delegation for all users, click ">>". All users are moved to the **Available Users** list.
4. Clear the **Activate Delegation** check box.
5. Click **Save**.

Types of Inboxes

After you log in to TIBCO MDM, the **Inbox** page is displayed. The inbox contains multiple work items. You need to review and approve the data. As roles define access privileges within the application, the contents of your inbox are determined by the roles assigned to you.

To access the relevant work items, you can select one of the following four types of inbox pages from the **username > Settings** option to be displayed on the Inbox UI:

- [Classic Inbox](#)
- [Simplified Inbox](#)
- [Extended Inbox](#)
- [Custom Inbox](#)

Note:

- You can customize the simplified and extended Inbox by using the UI Builder as per your requirement.
- For the simplified, extended, and custom inbox types, sorting is supported only on the Date column.
- For the simplified and extended inbox types, the sticky configuration only supports the work item type, user, repository ID, and status filter options.
- The **User** filter option is available for both the simplified and extended inboxes only when multiple users are involved with the [Permissions by Resource Type](#).

Classic Inbox

By default, the Classic Inbox page is displayed.

You can perform the following actions from the Classic Inbox page:

- Take action on work items such as assigning or reassigning work items, searching work items. See [Work Item List](#).
- Create a summary of work items. See [Work Item Summary](#).
- Configure columns displayed on the Inbox UI. See [Configuring Columns Displayed in Various Tables](#)

Classic Inbox

Work Item	Event	Repository	Activity Name	Date	Description	Age (D:H:M:S)
36159	36158	REPO1	InternalApprovalWorkItem	2019-07-30 16:57:03.0	Record C575-Pext575 in repository REPO1 is being added. Approval required.	
36163	36162	REPO1	InternalApprovalWorkItemModify	2019-07-30 17:02:21.0	Record 111-111 in repository REPO1 is modified. Approval required.	
36173	36172	REPO1	InternalApprovalWorkItem	2019-07-30 17:34:23.0	Record C754-Pext754 in repository REPO1 is being added. Approval required.	
36183	36182	MOD1	InternalApprovalWorkItem	2019-07-30 17:59:16.0	Record P671-Pext671 in repository MOD1 is being added. Approval required.	
36401	36400	MOD1	InternalApprovalWorkItem	2019-07-31 10:08:28.0	Record P751-Pext751 in repository MOD1 is being added. Approval required.	7 Days, 4 Hrs
36403	36402	MOD1	InternalApprovalWorkItem	2019-07-31 10:08:53.0	Record C757-Pext757 in repository MOD1 is being added. Approval required.	7 Days, 4 Hrs
36434	36433	MOD1	InternalApprovalWorkItem	2019-07-31 11:39:33.0	Record C49-Pext49 in repository MOD1 is being added. Approval required.	7 Days, 3 Hrs
36436	36435	MOD1	InternalApprovalWorkItem	2019-07-31 11:39:39.0	Record C579-Pext579 in repository MOD1 is being added. Approval required.	7 Days, 3 Hrs
36438	36437	MOD1	InternalApprovalWorkItem	2019-07-31 11:39:44.0	Record C758-Pext758 in repository MOD1 is being added. Approval required.	7 Days, 3 Hrs

Simplified Inbox

The Simplified Inbox page has limited functionality. You can select a single or multiple work items and perform the following actions:

Simplified Inbox

The screenshot shows the 'Inbox (2)' interface. At the top, there are buttons for 'Approve', 'Reassign', and 'Close'. Below these is a table with two work items. The first item has a description 'Record parent-6 in repository ALLTypeA is being added. Approval required.' and a date of '2019-08-07 11:47:46.0'. The second item has a description 'Record test-67 in repository ALLTypeA is being added. Approval required.' and a date of '2019-08-07 11:44:05.0'. Both items have a status of 'Open' and a 'Details' link. Below the table is a pagination bar showing 'Page 1 of 1' and a search icon. Below the table is a 'Work Item Preview' section with the following details:

Work Item ID	66019	User Name	a
Description	Record parent-6 in repository ALLTypeA is being added. Approval required.	Status	Open
Event ID	66018	Intent	Approval
Record ID	parent	Record ID Ext	6
Version	1	State	UNCONFIRMED

- **Approve:** Confirm the work items quickly. For information, see [Quick Approve Work Items](#).
- **Reassign:** Reassign a single work item or multiple work items to the selected users playing a specific role.

Note: By default, the **Reassign** option is disabled. You can delegate work items by using the [Role Delegation](#) option. Additionally, you can define resource security to view, reassign, and close work items.

- **Close:** Close work items.

Note: By default, the Close option is disabled. You can delegate work items by using the [Role Delegation](#) option. Additionally, you can define resource security to view, reassign, and close work items. See [Defining Resource Security](#).

- **Search:** Search for work items. You can filter your search based on the following options: date, state, user, work item type, document type, action, event ID, closed by, backend system, repository, intent, result, and activity name.
- **Work Item Details:** For information about the work item details, see [Work Item Details View](#).

In the Simplified Inbox, the **Details** link is displayed in the last column for each work item. Click the link to view the work item details. The work item details are displayed in a two-column table, including a work item and its value.

 **Important:** If you click the **Details** link for [Supported and Unsupported Work Items for Simplified and Extended Inbox Pages](#), the Classic Inbox page is displayed instead of the **Work Item Details** page.

- **Work Item Preview:** Click the work item row (except the first check box and the **Details** column) to preview the work item. The work item preview is displayed at the bottom of the page. You can expand or collapse the work item preview. In the left corner of the **Work Item Preview** section, click the minus sign (-) to collapse the work item preview and the plus sign (+) to expand the work item preview.

The preview includes work item ID, description, event ID, closed by, username, status, closed on, intent, record ID, record ID extension, version, and state options. The closed by and closed on options are displayed only if the work item is closed.

Click the record ID link to view the record details. The Work Item Details page is displayed. For information about the work item details, see [Work Item Details View](#).

 **Restriction:** The record ID link is displayed only for the record operation type of work items (that is, record add, record modify, record delete, or record rejection).

Extended Inbox

The UI for the Extended Inbox is redesigned. You can select a single or multiple work items and approve, reassign, and close work items.

Extended Inbox

Inbox (20)					Filter
☐ Approve ☐ Reassign ☐ Close					
Page 1 of 2 10 View 1 - 10 of 20					
☐	Status	Description	Date	Owner	
☐	Open	Record parent-6 in repository ALLTypeA is being added. Approval required.	2019-08-07 11:47:46.0	a	Preview
☐	Open	Record test-67 in repository ALLTypeA is being added. Approval required.	2019-08-07 11:44:05.0	a	Preview
☐	Closed	Record sada-21313 in repository MDM-11351 is being added. Approval required.	2019-08-02 16:14:02.0	a	Preview
☐	Timed out	Record P617-Pext617 in repository MDM-11351 is being added. Approval required.	2019-08-02 16:13:23.0	a	Preview
☐	Closed	Record 787-90334 in repository REPO1 is being added. Approval required.	2019-08-02 16:13:18.0	a	Preview
☐	Timed out	Record C58-Pext58 in repository MOD1 is being added. Approval required.	2019-07-31 11:40:26.0	a	Preview

- **Preview:** Click the **Preview** link to view the work item details. You can expand or collapse the **Preview** link. The preview includes work item ID, description, event ID, username, status, intent, record ID, record ID and extension, version, and record state. The closed by and closed on options are displayed only if the work item is closed.

Attention: For [Supported and Unsupported Work Items for Simplified and Extended Inbox Pages](#), the **View Details** link is displayed instead of **Preview**. After you click **View Details**, the Classic Inbox page is displayed.

- **Full Details:** To view the entire details of the work item, click the **Full Details** link. The page is divided into four sections: Item details, Primary Record, Associated Records, and Process Comment History.
 - The **Item Details** section includes work time type/topic, event ID, intent, and work status.
 - In the **Primary Record** section, you can review, view, modify and compare work items. In case of rejections or errors, alerts are displayed.

Note: The **Primary Record** section is available only for the record operation type of work items (that is, record add, record modify, record delete, or record rejection).

- In the **Associated Records** section, you can view the 1st level of relationship records. Click the relationship to show and hide the relationship table.

Attention: The **Associated Records** section is displayed only when the records with relationship records are added or modified.

Warning: Different work items may have different detail view sections. For example, for the Synchronization Approval work item, the **Synchronization Details** section is displayed instead of the Primary Record and for the Import work item, the **Import Details** section is displayed.

- In the **Process Comment History** section, you can add appropriate comments for the selected work item.
- **Filter:** The search filter includes the following search options: state, time, work item type, document type, user, repository, event ID, and closed by.

Custom Inbox

The fields on the Custom Inbox page are displayed based on the configuration done using UI Builder. You can view the Custom Inbox page from the **Custom Pages** menu or by selecting the **Custom Inbox** option from the Profile Settings window. For information, see [Selecting Profile Settings](#).

Configuring Columns Displayed in Various Tables

Many screens provide the **Configure** icon  that allows you to add, remove, and reorder the columns displayed in the table. You can also revert to the default columns.

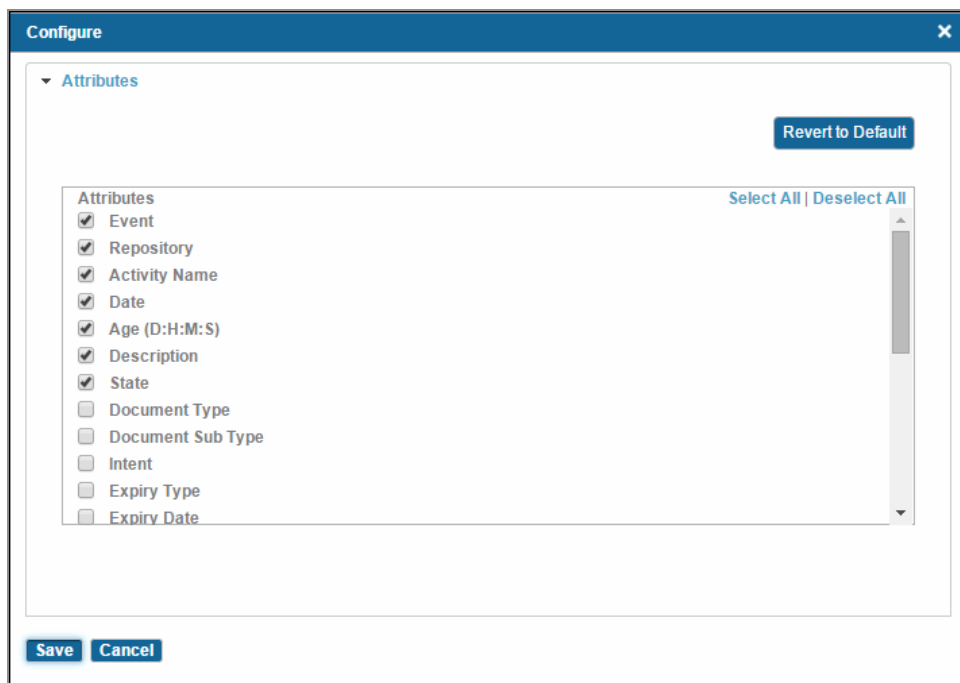
Note: On those screens where the table consists of columns displaying data from a repository, only those attributes marked as **Display in record list** are listed in the configuration dialog.

By default, 5 attributes are selected for display in any of the record lists. If more than 5 attributes are marked as **Display in record list**, these 5 attributes are selected based on a specified attribute position and sorted in ascending order.

For example, the Inbox page displays the **Configure** icon .

Procedure

1. Click the **Configure** icon. The Configure page is displayed:



Note: The attributes with an asterisk are repository-specific attributes and they are displayed if you have selected a repository in the Filter by Repository drop-down list.

2. Click **Select All** to select all attributes or **Deselect All** to deselect all attributes.
3. Click **Revert to Defaults** to revert to the default columns displayed in the table.
4. Click **Save**. Attributes selected in the Selected Attributes list are displayed in the

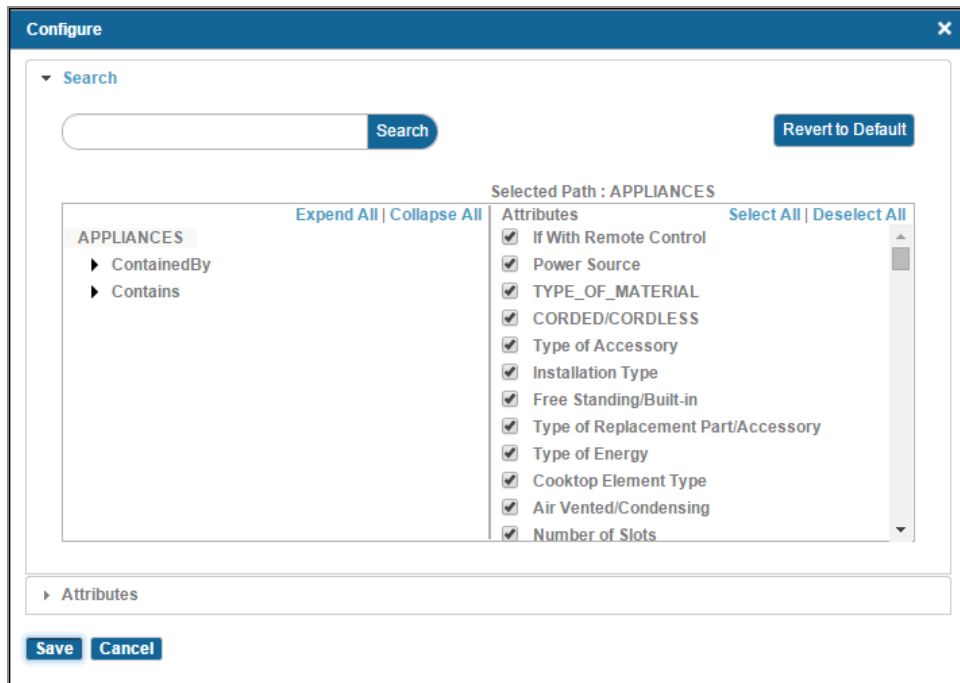
table.

Configuring Search Attributes

Complete the following steps to configure search attributes.

Procedure

1. Click **Browse and Search**.
2. Select the repository.
3. Click the **Configure** icon  to configure the search criteria. An additional Search section is displayed in the Configure window.



Note: On this page:

- The attribute names displayed are the display names and not the actual (internally used) attribute names.
- Repository attributes are displayed first, followed by pseudo attributes.

4. Type a repository or relationship name and click **Search**. If the entered repository or relationship is available in the list, it is displayed in the left column.
5. Click **Expand All** to expand all repositories or relationships or click **Collapse All** to collapse all repositories or relationships.
6. If you want to expand or collapse an individual repository or relationship, click the right arrow.
7. Select the repository or relationship name in the left column. Its related attributes are displayed in the right column.

The following attributes are available for selection:

- Searchable attributes of the selected repository
 - Pseudo attributes of the selected repository
 - Relationship attributes of all relationships of the selected repository
 - Pseudo attributes for the relationships
 - Searchable attributes of related repositories
8. Click **Select All** to select all attributes or **Deselect All** to deselect all attributes.
 9. Click **Revert to Defaults** to revert to the default columns displayed in the table.
 10. Click **Save**. Attributes selected in the Selected Attributes list are displayed in the table.

Configuring Search Attributes for Mass Update

Complete the following steps to configure search attributes for a mass update.

Procedure

1. Click **Master Data > Mass Update**.
2. Select the repository.
3. Click the **Configure** icon  to configure the search criteria. An additional Search section is displayed in the Configure window.

The following attributes are shown on the mass update UI, as well as the Configure window:

- If any attribute is marked for display (up to five attributes only, including the Record ID), it is shown by default.
- If no attribute is marked for display, the Record ID attribute is shown by default.
- For mass update, attributes of the following types are not shown:
 - FILE type attributes
 - Attributes declared as MultivalueOther steps are similar to the steps mentioned in the [Configuring Search Attributes](#) section.

Sorting in Tables

Many screens allow you to sort tabular information based on specific columns. These specific columns are identified by the  icon in the header column.

The following sorting preferences are saved:

- The attribute (column) on which kind of sort was performed.
- The sort order: ascending, descending, or default.

Calendar Overview

Using the calendar, you can select the date and time. In TIBCO MDM, you can use the following two types of calendar:

- **Date Calendar:** To display date on the calendar, you must select the Date data type while creating an attribute.
- **Time Calendar:** To display time on the calendar, you must select the Timestamp data type while creating an attribute.

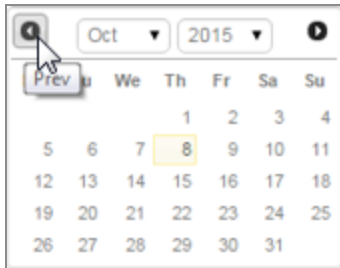
For information about attributes, see [Attributes](#).

Setting up Date

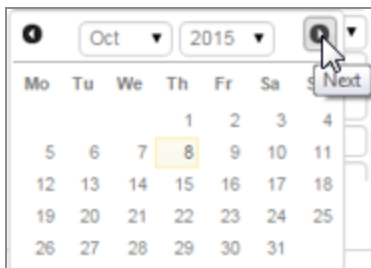
Complete the following steps to set up the date.

Procedure

1. Click in the date column to change a date. The selected date is displayed in the field.
2. Click the  icon to go back to the previous month to change a month. The previous month is displayed.



3. Click the  icon to go to next month. The next month is displayed.



Note:

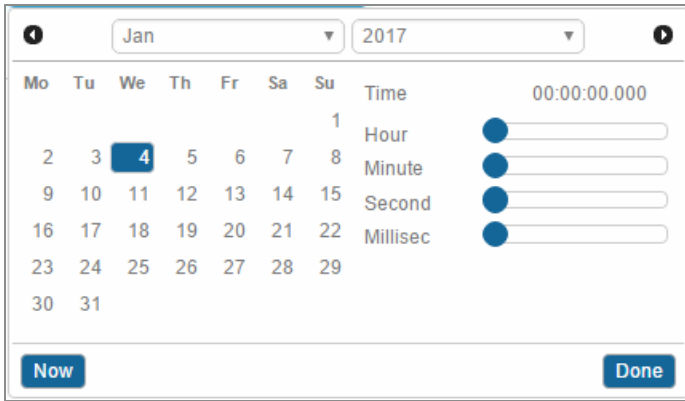
- Click the month list to select the previous or next month.
- Click the year list to select the previous or next year.
- To go back to the previous year, click the  icon until you get the year that you want.
- To go to the next year, click the  icon until you get the year that you want.

Setting up Time

After you have created an attribute using the Timestamp data type, the  icon is displayed next to the attribute name field.

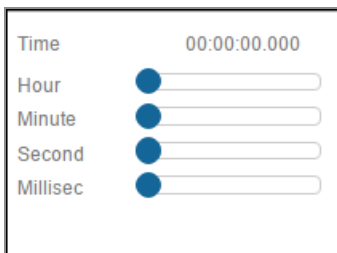
Procedure

1. Click the  icon to select the date and time. The following Calendar is displayed:



Note: The time is displayed as per the Timestamp format selected during user profile creation.

2. To display the current time, click **Now** on the calendar. The current time is displayed on the calendar and in the selected field.



3. Click **Done** to exit the calendar.
4. To change the time, you can either type in the field or click the  icon on the Hour, Minute, and Second bars.
5. To reduce time, click the  icon to the left side of Hour, Minute, Second, and Millisec sliders.
6. To increase time, click the  icon to the right side of Hour, Minute, Second, and Millisec sliders.

The selected hour, minute, second, and milliseconds are displayed on the calendar

and in the selected field.

If you have selected the Time Zone format during user profile creation, the Time Zone drop-down list is displayed. By default, the time zone is displayed that you have selected during user profile creation.

7. To change the default value, select the time zone in the **Time Zone** list.
8. Click **Done**.

The selected time zone value is displayed in the attribute value field.

Header

The following icons are displayed on the upper-right corner of the TIBCO MDM UI:

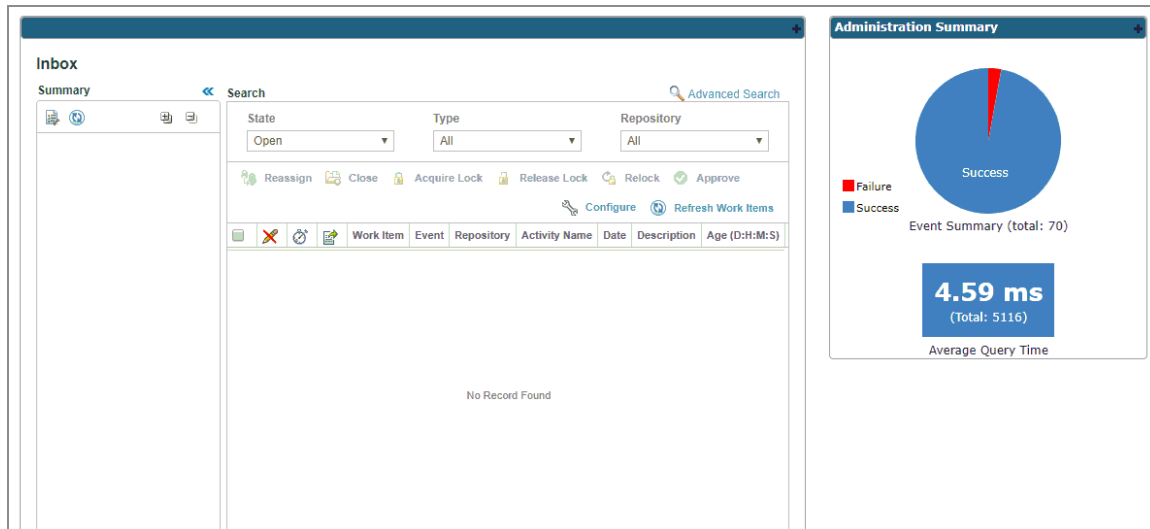
- **Home**  : click to view the home page. For information about home page, see [Home Page](#).
- **Notification**  : click to open the inbox and view open work items. For more information, see [Open Work Item Notifications](#).
- **Help**  : click to view the online Help of TIBCO MDM documentation.
- **Search**  : click to view the Browse and Search page. For information about searching, see [Searching Records](#).
- **User Profile**  : expand to view the following list of options:
 - **Profile**: click to manage your account profile. For information, see [Managing Your Profile](#).
 - **Settings**: click to change home page, menu bar, and inbox page settings. For information, see [Selecting Profile Settings](#).
 - **About**: click to view the version of TIBCO MDM.
 - **Logout**: log out of TIBCO MDM. For information, see [Logging out of TIBCO MDM](#).

Home Page

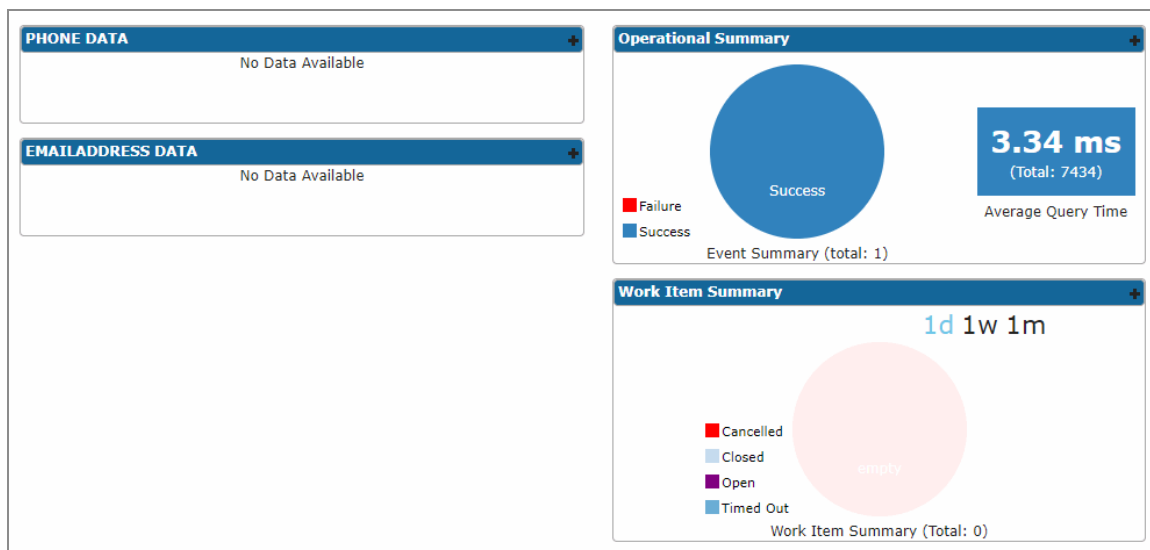
Click **Home Page**  on the upper-right corner of the main UI, the home page is displayed.

By default, the home page is displayed for the administrator and data steward roles. Other users can define the home page by using user profile icon . Using the UI Builder, you can create three types of widgets: chart, summary control, and statistics. To know about these widgets, see [Attribute Quality](#).

Home page for the administrator role



Home page for the data steward role



Selecting Profile Settings

From the Profile Settings window, you can change home page, menu bar, and inbox page settings.

Procedure

1. Log in to TIBCO MDM.
2. Expand the user profile icon  on the upper-right corner of the main UI and then select **Settings**.

The Profile Settings window is displayed.

3. Perform the following operations on the Profile Settings window:

Option	Description
Home Page	By default, the home page is workflow inbox. To change the default home page, enter the custom home page name. The format of the home page name is <code>CusomForm?componentName=homepagename</code>. If your home page name is <code>newHomePage</code>, enter the value as <code>CustomForm?componentName=newHomePage</code>. Additionally, you can also change the default home page by using the Configurator. Change the value of the Change home page property to true in the Configurator. The home page is changed to the repository list.
Menu Orientation	Select one of the following navigation menu bars that are displayed on the TIBCO MDM UI: • Vertical: A flexible left menu bar. For the first time when you log in, the vertical left menu bar is displayed. You can show or hide this menu bar. To hide the vertical menu bar, click Menu  displayed on the right next to the product title on the UI header. By hiding the vertical menu, you get more space for content. • Horizontal: A static top menu bar, which provides convenience. After you select the horizontal menu setting, you cannot hide it. By default, the Vertical menu bar is displayed. To permanently set the

Option	Description
	Horizontal menu bar, add the following property in the Configurator in the Miscellaneous section of Cluster node: • Configuration value name: MDM UI Menu orientation • Internal name: com.tibco.mdm.ui.menu.orientation • Version: 9.1.0 • Description: Change display of MDM UI menu vertically or horizontally. • Current Value: Horizontal • Default Value: Vertical • Visibility: Advanced • Category: Miscellaneous
Save Classic Inbox Search	Select Yes to display the Save Search Filters check box (for Advanced Search) on the Classic Inbox page. After you save the searched filters, the Saved Search Filters pane is displayed in the lower left corner of the Classic Inbox. Note: If you select Yes as the Save Classic Inbox Search option, you must select the Classic Inbox option from the Inbox Page drop-down list.
Inbox Page	Select one of the following options: • Classic Inbox • Simplified Inbox • Extended Inbox • Custom Inbox For the Custom Inbox option, the Custom Inbox URL field is displayed where you can enter the valid custom page URL. The format of the URL is

Option	Description
	CustomForm?componentName=<i>custompagename</i>&pageName=<i>custompagename</i>. The <i>custompagename</i> is the name that you have specified when designing a custom page in UI Builder. For designing and deploying a custom UI page from UI Builder, see <i>TIBCO® MDM Studio UI Builder User Guide</i>. Tip: It is a good practice to use the custom inbox by using the valid custom page URL rather than using the custom pages as an inbox displayed on the Custom Pages tab. For information about these inbox pages, see Types of Inboxes.

4. Click **Apply** to apply the changes.
A confirmation message is displayed.
5. Click **OK**.

What to do next

Perform the following steps as per your requirement.

1. To view the selected menu bar, log out and re-login to TIBCO MDM.
2. To view the saved classic inbox search filters, click **Inbox** from the menu bar.
3. To view the selected inbox page, click **Inbox** from the menu bar.

Work Items

Work items are displayed on the **Inbox** page. You can access your Inbox to check the list of tasks (also called work items) assigned to you and to complete the work items.

The Inbox view is displayed according to the selection of the inbox page in the Profile Settings window. For information, see [Types of Inboxes](#). The Inbox page shows a table with some of the following columns:

Inbox Page Type	Columns
Classic Inbox	• Work Item: It consists of a unique number for each work item. A Timed Out work item is identified with the Time Out icon  appearing next to the ID. A check box appears next to the IDs to allow selection of multiple work items for closure. Note: The check box is disabled for closed or canceled work items and enabled for other work items. • Event: The event ID. • Repository: The name of the repository associated with the work item. • Date: Date when the work item was created or reassigned. The date format is displayed as per the format that you have specified in the Add User page. For example, if you have selected the YYYY-MM-DD hh:mm:ss.S timestamp format, the date is displayed as 2012-06-19 10:46:29.0. • Description: Brief description of the work item with the action taken. The descriptions can be customized by your administrator and may differ from default descriptions. The description may include a link to a record or repository. Click the link to open the View Record or View Repository page.
Simplified Inbox	• Owner: Name of the user who has created the work item. • Description: Details of the different types of work item created for

Inbox Page Type	Columns
Extended Inbox	which approval is required. The record ID link is displayed only for the record operation type of work items (that is, record add, record modify, record delete, or record rejection). • Date: Date when the work item was created or reassigned. The date format is displayed as per the format that you have specified in the Add User page. For example, if you have selected the YYYY-MM-DD hh:mm:ss.S timestamp format, the date is displayed as 2012-06-19 10:46:29.0. • Status: The status of a work item. Valid options are All, Open, Closed, Cancelled, or Timed Out. • Details: Work item details page is displayed. See Work Item Details View. For the extended inbox, the following links are displayed based on supported and unsupported work items: ◦ Preview: This link is displayed for Supported and Unsupported Work Items for Simplified and Extended Inbox Pages. ◦ View Details: This link is displayed for Supported and Unsupported Work Items for Simplified and Extended Inbox Pages. The link redirects to the classic inbox page.
Custom Inbox	You can configure the following columns by using the UI builder while designing custom Inbox: ID, Owner, Description, Date, Status, docSubType, docType, docTypeCode, docSubTypeCode, activity, and isActionable.

Supported and Unsupported Work Items for Simplified and Extended Inbox Pages

The following table lists supported and unsupported work items displayed on the Simplified and Extended inbox pages:

Types	Simplified Inbox Page	Extended Inbox page
Supported Work Items	On the Simplified Inbox page, the Details link is displayed in the last column for each work item. Click the link to view the work item details. The work item details are displayed in a two-column table. Following work items are supported on the Simplified and Extended inbox pages: • Record Add • Record Edit • Record Delete • Import Approval • Synchronization Approval • Synchronization Validation	On Extended Inbox page, the Preview link is displayed. Click the Preview link to view the work item details. To view the entire details of the work item, click the Full Details link.
Unsupported Work Items	On the Simplified Inbox page, the Details link is displayed. However, when you click the Details link the classic inbox page is displayed instead of Work Item Details page. Following work items are not supported on the Simplified and Extended inbox pages: • Mass Update • Conflict Resolution • Match and Merge	On the Extended Inbox page, the View Details link is displayed instead of Preview that redirects to the classic inbox page.

Types	Simplified Inbox Page	Extended Inbox page
	• Target Rejection • Hierarchy Management • Notification	

Work Item List

The Inbox includes a list of assigned and delegated tasks referred to as *work items*. Work items are assigned based on the business process rule configured for an organization. You may also receive work items delegated to you by others as a result of reassignment of work items.

Work Item	Event	Repository	Activity Name	Date	Description	Age (D:H:M:S)
36159	36158	REPO1	InternalApprovalWorkItem	2019-07-30 16:57:03.0	Record C575-Pext575 in repository REPO1 is being added. Approval required.	
36163	36162	REPO1	InternalApprovalWorkItemModify	2019-07-30 17:02:21.0	Record 111-111 in repository REPO1 is modified. Approval required.	
36173	36172	REPO1	InternalApprovalWorkItem	2019-07-30 17:34:23.0	Record C754-Pext754 in repository REPO1 is being added. Approval required.	
36183	36182	MOD1	InternalApprovalWorkItem	2019-07-30 17:59:16.0	Record P671-Pext671 in repository MOD1 is being added. Approval required.	
36401	36400	MOD1	InternalApprovalWorkItem	2019-07-31 10:08:28.0	Record P751-Pext751 in repository MOD1 is being added. Approval required.	7 Days, 4 Hours
36403	36402	MOD1	InternalApprovalWorkItem	2019-07-31 10:08:53.0	Record C757-Pext757 in repository MOD1 is being added. Approval required.	7 Days, 4 Hours
36434	36433	MOD1	InternalApprovalWorkItem	2019-07-31 11:39:33.0	Record C49-Pext49 in repository MOD1 is being added. Approval required.	7 Days, 3 Hours
36436	36435	MOD1	InternalApprovalWorkItem	2019-07-31 11:39:39.0	Record C579-Pext579 in repository MOD1 is being added. Approval required.	7 Days, 3 Hours
36438	36437	MOD1	InternalApprovalWorkItem	2019-07-31 11:39:44.0	Record C758-Pext758 in repository MOD1 is being added. Approval required.	7 Days, 3 Hours

Work items are of two types:

- **Notifications:** These work items are for information only, and notify you of an event. To close a work item, either submit the work item or check the appropriate check box and click **Close**. You can select all the work items on a single page by checking

the check box in the header. Checking the header check box applies to only open work items.

- **Action Items:** These work items require some action, such as an approval. Open each work item and take action. Once you have completed the task, submit the work item. These work items cannot be selected for closing.

The **Show Action Items First** search check box is deprecated instead a new sortable and configurable Work Item Type column is added. You can sort the work items in this column based on the work item type whether it is an action item or a notification. To include the Work Item Type column in the Inbox UI, click **Configure** and select the **Work Item Type** attribute. For more information, see [Configuring Columns Displayed in Various Tables](#). For more information about Future Dated Records, see [Effective Date Records](#).

You can change the default number of work items displayed per page. For more details, see *TIBCO MDM Customization*.

Work Items Search

By using the Inbox page, you can search work items based on the following two types of search criteria:

- Basic Search
- Advanced Search

Besides these options, use this page to filter work items based on the following links and other options:

- **Items per page:** You can set the number of work items displayed per page.

i Note: The selected filters in the **Search** criteria and the selected number of work items in the Items per page drop-down list remain constant on the **Inbox** page even after you relog in to the application.

- **Refresh Work Items:** Allows you to refresh a list of work items.
- **Reassign:** You can reassign work items to another user. Select the work items to be reassigned and click **Reassign** to reassign them to the selected users. Select the role and the user to whom the work item needs to be reassigned. These work items do not appear in the list of work items assigned to you.

- Reassignment is allowed only if you have permissions to do so. Also, the users to whom you can reassign is determined by Role Delegation. See [Role Delegation](#) for more information.

Basic Search Options

The Basic Search Options table lists and describes the basic search options you can use to filter work items.

Basic Search Options

Basic Search Options	Description
State	Filter work items based on the selected work item's status. You can select All , Open , Closed , Cancelled , or Timed Out work item states. Timed Out work items are identified by the Time Out icon  beside them.
Type	Filter work items based on the selected work item's type. You can select the following work item types: All, Action Items, and Notifications.
Repository	Filter work items based on the selected repository. A list of created repositories is displayed in the Filter by Repository drop-down list. Select a repository from the list, and the work items included in the selected repository are displayed.
User	Filter work items based on the selected user. A list of work items created by the selected user is displayed. Note: The User drop-down list is displayed only for the Administrator role.

Advanced Search Options

Using the **Advanced Search** link, you can set the criteria based on which you can filter work items. Click the **Configure** icon to display the following fields in the Search criterion.

Advanced Search Options

Advanced Search Options	Description
State	Filter work items by their current state: All, Open, Closed, Cancelled, or Timed Out.
Type	Filter work items by type: All, Action Items, and Notifications.
Document Type	Filter work items by Document Type, such as Mass Update, Record Edit, and Upload/Import.
Action	Filter work items by the Action performed, such as Import Records, Import Sub-Workflow, MassUpdateAdvanced, MassUpdateBasic, Record Add, Record Delete, Record Modify, and Record Restore.
Event ID	Filter work items by entering the exact event ID.
Repository	Filter work items by repository. It displays the list of repositories to which you have access (at least LIST access). Work items can be searched for a specific repository.
Datapool (GDSN Only)	Filter work items by data pool.
Keyword	Filter work items based on keywords. To search on the basis of keyword, you must add the Keyword# parameter in the required workflow under the CreateWorkItem activity. For more information, see the "CreateWorkItem Parameters" table in <i>TIBCO MDM Workflow Reference</i>.
Backend System	Filter work items by the backend system. The backend system is used for synchronization.
Record Attribute	Filter work items based on the values of record attributes. For example, to search SecurityID - 00049822430355, you can either enter the entire SecurityID, or enter its partial value (00049822) to get the work items.

Advanced Search Options	Description
	Attention: Earlier, to search work items based on the record attributes, you would specify the record attributes in the RecordAttributeName parameter in the CreateWorkItem activity. However, now if you select Searchable and Display in Record List options when creating attributes, the record attributes are associated with work items and available for search. Select the record attribute from the drop-down list.
Custom Attribute	Filter work items based on custom attributes, that is, user-defined attributes.
Sort by Record Attribute	Sorts the work items based on the record attribute. Important: Earlier, to sort work items based on the record attributes, you would specify the record attributes in the RecordAttributeName parameter in the CreateWorkItem activity. However, now if you select Searchable and Display in Record List options while creating attributes, the record attributes are associated with work items and available for sort. Select the record attribute from the drop-down list. Tip: If you want to sort the list in the descending order of the record attribute, check the Descending check box.
Intent	Filter work items based on the intent that is added during work item activity such as Edit, Approval, Correction, or Conflict Resolution.
Closed By	Filter closed work items based on the selected user. A list of work items closed by the selected user is displayed.
Result	Filter work items based on the approval result. For example: Accept or Reject.
Activity Name	Filter work items based on the workflow activity name.

Advanced Search Options	Description
User	Filter work items based on the selected user. A list of work items created by the selected user is displayed. Note: The User option is available only for the Administrator role.
From Date / To Date	Filter work items created within a certain period of time. It is not mandatory to specify both the start and end dates of a period that you are tracking. You can specify either one of them.
Save Search Filters	Select the check box if you want to save the entered search filters. However, only the drop-down list values are saved. The saved search filters are displayed in the Saved Search Filters pane of the Classic Inbox. Note: The Save Search Filters check box is displayed only if you have selected the Save Classic Inbox Search and Classic Inbox options from the Profile Settings window.
Search	Click Search after you enter your search criteria to generate a list of work items matching your criteria. If you want to change the search criteria, click Clear to reset the criteria.
Clear	Clears the search.
Close	Click Close to go back to the Inbox UI page.
View All	Displays all the work items according to the search criteria specified.
Close All Notifications	Closes all notifications from all pages in the specified search criteria. This option appears only when Notification type work items in the "open" state are found. By default, a maximum of 200 notifications can be closed. The maximum number of notifications to be closed can be configured by changing the value of the Maximum Number of Notifications to be Closed at once property in the Configurator (InitialConfig > UI Settings).

Work Item Details View

Depending upon the Inbox Page selection from the Profile Settings window, the Work Item Details page is displayed. Also, depending on the task, different work item detail pages are displayed. For example: the Record Introduction page, Record Modify page, and so on.

Work Item Details View from Classic Inbox

From the classic inbox page, click the *workitemnumber* link in the Work Item column, the **Record Introduction page** is displayed. This page contains the Work Item Details section.

Record Introduction

Following new record is being introduced. Approval required. Review record information and click Submit.

Work Item Details

Type/Topic	Record Introduction/Add				
Work Item ID	35008	Event ID	35007	Status	Open
Receipt Date	2023-02-08 11:19:39.593	Age (D:H:M:S)	5 Seconds	Intent	Approve Changes
Timeout Method	Relative	Max Timeouts	N/A	Number Of Timeouts	0
Next Timeout on	2023-02-09 11:19:39.593				
Locked By	admin,admin	Locked On	2023-02-08 11:19:44.574	Lock Expiry Date	No expiration date

Primary Record

View
Modify
Review
Compare
Graphical Editor

Repository Name	BANK				
ID	BAN-52943	Version Number	1		
Record ID Extension		State	Unconfirmed		
*Name	test	Description			
Bank Type		*Bank Code	01		
Note		External ID			

Alerts
None

Comments

Submit
Cancel

Work Item Details View from Simplified Inbox

From the simplified inbox page, click the **Details** link in the last column of the work item list. The Work Item Details page is displayed. The columns on the Work Item Details page can be sorted. If any associated records are present in the work item, those records are also displayed in a tabular form within the Details column.

Work Item Details ✕

Detail Item	Item Value						
Workitemid	66019						
Activity Name	InternalApprovalWorkitem						
Date	2019-08-07 11:47:46.817						
Document Type	Record Edit						
DocumentSubType	Record Add						
Event ID	66018						
LockInformation							
LockedBy	a,a						
LockExpiryDate	No expiry date						
LockedOn	2019-08-07 11:47:53.823						
LockMessage	Work item locked by user 'a'. No expiry configured.						
Owner							
OwnerName	a,a						
User Name	a						
Organization	manali						
Workitem Type	Action Items						
Intent	Approval						
Status	OPEN						
Max Timeouts	N/A						
Timeout Method	Relative						
Number of Timeouts	0						
Next Timeout On	2019-08-08 11:47:46.810						
Age	3 Hours,53 Minutes,31 Seconds						
Approval Status	None						
InternalApprovalWorkitem							
ValidateUsingRuleBase	true						
CompareKeyword	PREVIOUS_CONFIRMED_VERSION						
MASTERCATALOGNAME	ALLTYPEA						
MASTERCATALOGID	64379						
MASTERCATALOGVERSION	1						
Records							
Record ID	parent						
Record ID Extension	6						
Version Number	1						
Record State	UNCONFIRMED						
Repository Name	ALLTYPEA						
RELATIONSHIPS							
AAToAB							
Record ID	Record ID Extension	Version Number	Record State	Repository Name	Alerts	Quick Viewable Attril	Change Informati
ATA_URL1						ATA_BOOLEAN1:	
ATA_DECIMAL1							
ATA_LONG1		7879999					
ATA_AMOUNT1							
Changeinformation							

Page 1 of 1 100 View 1 - 52 of 52

Click the record ID link in the **Work Item Preview** section to view the record details.

Record Introduction

Following new record is being introduced. Approval required. Review record information and click Submit.

Work Item Details

Type/Topic

Record Introduction/Add

Work Item ID

35010

Receipt Date

2023-02-08 11:23:33.113

Timeout Method

Relative

Next Timeout on

2023-02-09 11:23:33.113

Locked By

admin,admin

Event ID

35009

Age (D:H:M:S)

16 Seconds

Max Timeouts

N/A

Status

Open

Intent

Approve Changes

Number Of Timeouts

0

Locked On

2023-02-08 11:23:49.513

Lock Expiry Date

No expiration date

Primary Record

Repository Name

BANK

ID

BAN-53852

Record ID Extension

*Name

bank1

Bank Type

Note

Alerts

None

Version Number

1

State

Unconfirmed

Description

*Bank Code

01

External ID

View

Modify

Review

Compare

Graphical Editor

Associated Records

BANK > ContactEmail > EMAIL

View

Modify

Review

Compare

Graphical Editor

Record ID	Record ID Extension	Type	Email	Is Primary	Delivery Content Type Code	Is Default	Is Valid	Email Bounced Date	Email Bounced Reason	Source System Code	Alerts
☐	EMAIL-53852		dem...	No		No	No			No	N/A

Comments

Submit

Cancel

Work Item Details View from Extended Inbox

From the extended inbox page, click the **Preview** link in the last column of the work item list. The work item preview is displayed under the selected work item. Click the **Full Details** link in the work item preview section.

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< **Work Item#66019** OPEN | Received 2019-08-07 11:47:46.817 | Owner a,a Cancel Submit

Item Details

Document Type	Record Edit	Event ID	66018
Intent	Approval	Work Status	Work item locked by user 'a'. No expiry configured.

Primary Record

Review ⋮

Repository Name	ALLTYPEA	Record ID	parent
Record State	UNCONFIRMED	Version Number	1
Alerts	...	ATA_BOOLEAN1	
Record ID	parent	ATA_STRING1	wqegee
ATA_DATE1		ATA_INTEGER1	
ATA_FILE1		ATA_CUSDECIMAL1	
ATA_URL1		ATA_DECIMAL1	
ATA_LONG1	7879999	ATA_AMOUNT1	

Associated Records

ALLTYPEA > AATGAB > ALLTYPEB

Record ID	Record ID Extensio	Version Number	Record State	Repository Name	Relationships	Alerts	Quick Viewable At	Change Informati
child	565	1	UNCONFIRMED	ALLTYPEB	..	This record has Record ID: chi ..		

Page 1 of 1 View 1 - 1 of 1

Process Comment History

Add your comment here...

The Work Item Details page or section typically displays the following information:

Section Title	Description
Work Item Details	Type of action being performed (new record being introduced or modified). This section includes the following data: - Workflow data: Work Item ID, Event ID, Status, Receipt Date, Age, and Intent. - Timeout details: Number of times, maximum number of timeouts, method, and next timeout. - Locking details: Locked by, Locked On, and Lock Expiry Date. - Closing details: Closed by, Closed On, and approval status.

Section Title	Description
Primary Record	This section displays the repository name, record ID, Extension, Version, State, and Alerts. Attributes marked as quick viewable are also displayed. The red asterisk (*) sign is shown for the attributes marked as required attributes. For information about the required attributes, see Mandatory Fields. Important: The Primary Record section is available only for the record operation type of work items (that is, record add, record modify, record delete, or record rejection). In addition to quick viewable attributes, you can also display customized attributes on this page. For more information, see <i>TIBCO MDM Customization Guide</i>. Depending on the resource security and rulebase security for this page, you can click the following links: • View: View primary record. • Modify: Modify primary record. • Review: Review primary record. Note: The Review link is displayed only if you have set the Record Edit Approval business process rule. • Compare: Compare primary record versions. • Correction: Update the existing version of a record instead of creating a new version. Note: Based on the Permissions by Resource Type for the Correct permission, the Correction link is enabled. You can perform the correction operation at record level. • Graphical Editor: Modify primary record from the Graphical Editor. See Graphical Editor. Note: The Graphical Editor link is displayed only if you have set the Record Edit Approval business process rule.

Section Title	Description
Associated Records	This section displays details of any records associated with the current record, such as record ID, Extension, and Alerts. Attributes marked as quick viewable are also displayed. Attention: The Associated Records section is displayed only when the records with relationship records are added or modified. The associated records are grouped in tables based on the relationship name. The table heading includes a repository name and its relationship name. Each record in the associated table has a check box for selecting the record. You can select only one record at a time. As you check the check box for a single record, the remaining check boxes are disabled. Alerts are displayed in the last column. For each relationship, you can perform the following actions using the links or icons: • View • Modify • Review Note: The Review icon is displayed only if you have set the Record Edit Approval business process rule. • Compare • Correction Note: Based on the Permissions by Resource Type for the Correct permission, the Correction icon is displayed. You can perform the correction action at record level for the child repository. • Graphical Editor
Restriction: A number of quick viewable attributes to be displayed on the simplified inbox and extended inbox pages are limited. On the simplified inbox page, first 4 and on the extended inbox page, first 2 quick viewable attributes are displayed in the Primary Record and Associated Records sections.	

Limitation

The Work Item Details View is not displayed for the [Supported and Unsupported Work Items for Simplified and Extended Inbox Pages](#) on the simplified and extended inbox pages.

Reviewing Work Item Details

Procedure

1. Click **Review** in the Work Item Details section. The Record Review and Rejection page is displayed.

Record Review and Rejection

Repository Name: REPO1
Repository Description: REPO1

View: ☐ Changes ☐ Rejections
Compare: ☒ Last Confirmed ☐ Previous

Expand All Collapse All

Attribute Group / Attribute	Old Value	Value	Reject	Reason for rejection
UNASSIGNED			☐	
Record ID	111	111	☐	
Record ID Extension	111	111	☐	
PFile	Perspective soapUI...	Perspecti...	☐	
PMultiFile	Perspective soapUI...	Perspecti...	☐	

System
AttributeGroup1
Relationships

Save Cancel

2. Check the **Rejections** check box to view only the rejected attributes, or click the **Changes** check box to view only changed attributes. By default, all attributes are shown.
3. Select the **Last Confirmed** or **Previous** radio button to select the version to be compared. A list of the old and new values are displayed in the table in the Old Value and Value columns respectively. You can also compare relationship attributes on this page.
 - Mark attributes for rejection by checking the **Reject** check box for the

appropriate attribute, and by providing a reason for the rejection in the Reason for the Rejection field.

4. Click **Save** after all the changes are made.

Based on resource and rulebase security, you can also perform the following actions from this page:

- **Modify**
 - **Compare**
 - **History**
 - **Show Usage**
5. If you have rejected any attributes, a **Send for correction** check box appears in the Record Introduction page. Check this check box to send the record for corrections.
 6. Click **Submit** to submit the work item for approval.

If a Data Custodian Business Process is set, a work item is created for the data custodian for corrections.

Lock Work Items

When a shared work item is created for you, you can lock or unlock the work item to prevent others from opening it. A shared work item is created when a workflow assigns work items to more than one user in a single work item step.

By locking the work item, you can indicate that you have started working on it, and others should wait for you to complete or unlock the work item. This applies to scenarios when work items are assigned to a pool of users, all of whom cannot work on the task in parallel. When a work item is locked, a visual indicator  is displayed to the other users in their Inboxes. They are prevented from opening or submitting the work item.

If a work item is locked, other users can see the work item in the Inbox but cannot open it. An administrator, however, can lock, unlock, and relock the work item for any user. An administrator can see the work item in the Inbox, open it, and make changes to records within the work item even if it is locked by another user. However, such work items cannot be submitted.

Work item locking only applies to actionable work items, and has no impact on notification work items.

By default, work item locking is enabled. If the work item locking is enabled, the following options are displayed in the Inbox:

- **Acquire Lock:** Allows you to lock a work item.
- **Release Lock:** Allows you to release the lock on a work item.
- **Relock:** Allows you to renew an already existing lock. Lock expiration related data is renewed. Relock is displayed only if the lock expiration method is relative.

This feature is highly configurable and you may see different actions depending on the configuration for your installation. If you do not enable this feature, the following actions are performed in the Inbox:

- Work item locks are released automatically when work items time out.
- Work item locks are acquired automatically when a work item is opened.
- Users other than an administrator can lock or unlock the work items assigned to other users (applies to web services only).
- Locks are released automatically after a preconfigured time interval.

This documentation describes the work item locking features as experienced using the UI. For using web services for locking and unlocking the work items, see *TIBCO MDM Customization*.

Acquiring Locks on Work Item

Procedure

1. Select the work item on the Inbox page.
2. Click the **Acquire Lock** icon  to lock a shared work item.

When a work item is locked by another user, an  icon is displayed beside the work item in the Inbox. The hyperlink to access the work item, or records within the work item is disabled.

When a work item is assigned to a user, a work item notification email is sent. This email contains the URL for the work item. If you access the work item using this URL, and if the work item has been locked by another user, the work item page is displayed with the following error message:

Work item is locked by <Parameter name='USER'> user. Expiration date is not configured.

The **Submit** button is not available.

- If automatic locking is set, when the work item is opened, it is locked. No explicit lock action is needed.
- If the lock was already held, and the locking method is relative, when the work item is opened, the lock is renewed. The lock is not released when the user exits the work item using Cancel.

If the Default Work Item Lock Expiry Method property is set as Relative in the Configurator, to locate who has locked the work item, when it was locked, and when the lock expires, move the mouse cursor over the lock icon.

Locked work items can be reassigned. Reassignment of work items releases the lock on that work item.

Releasing Locks on a Work Item

Complete the following steps to release locks on a work item.

Procedure

1. Select the work item on the Inbox page.
2. Click the **Release Lock** button  to release the lock on a work item. The work item is unlocked and other users of the shared work item are given access to it.
3. You can release a work item lock under the following conditions:
 - When a work item expires or times out, it can be automatically unlocked. This can be configured by the Enable Release of Work Item Lock on Timeout property in the Configurator.
 - When you close a work item, it is automatically unlocked and closed.
 - When a locked work item is reassigned.

Relocking a Work Item

Complete the following steps to relock a work item.

Procedure

1. Select the work item on the Inbox page.
2. Click the **Relock** button  to renew an already existing lock. Expiry parameters, such as interval, are renewed based on the defaults specified in the Configurator.

If the Default Work Item Lock Expiry Method property is set to **None** in the Configurator, the Relock option is not displayed.

Work Item Lock Permissions for Administrator

The following are the work item lock permissions for administrators.

- An Administrator can lock the work item assigned to any user. The lock is held for the Administrator, even if the Administrator does not own the work item.
- An Administrator can unlock a work item even if it is locked by another user. An Administrator can view any work item and make changes to records within the work item even if it is locked by another user. However, the Administrator cannot submit the work item without first unlocking it.
- If an Administrator reassigns a work item, the lock is automatically removed if the lock was held by the Administrator. If the lock is owned by another user, reassignment can still be done, but the lock is not released.
- If automatic locking is set, when a work item is opened, it is locked. If the lock was already held by the Administrator, it is renewed if the locking method is set to relative. The lock is not released when the user exits the work item using Cancel. For an Administrator, the lock is obtained only if the work item is not already locked by another user.

Quick Approve Work Items

Use the quick approve feature to quickly approve or submit low impact work items, which do not require review or correction.

Consider the following work items: related to record add, record modify, record delete, or import records operation. These types of work items do not require internal record review, therefore they can be quickly approved. However, the review type of work items, such as

mass update or conflict resolution cannot be approved by the **Approve** option unless the internal record review is completed.

The work items that are created by some rules, which do not need much of user intervention can be quickly approved. For example, an approver's role is to focus only on one or small set of attributes for verification. You can configure these attributes to be visible in the Inbox column, and make them available for search and sort. The work items can be sorted by values of these attributes. For information about configuration of record attributes for search and sort, see [Advanced Search Options](#). Such work items can be classified, searched, and filtered. After verification, you can approve multiple work items.

Approving Work Items

You can select a single or multiple work items and confirm them quickly by using the **Approve** icon.

Procedure

1. Select the work items on the Inbox page.
2. Click the  **Approve** icon to approve a work item.

A confirmation message is displayed whether or not you want to submit the selected work item for processing.

3. Click **Yes** to proceed.

The selected work item is approved and submitted.

Work Item Summary

Using the Work Item Summary feature, you can create a summary of work items. The Work Item Summary view is displayed on the left pane of Inbox. Using this view, you can complete the following tasks:

- Create, modify, and delete work item summary preferences
- View and browse the work item summary hierarchically

The summary is created for all work items. It is not computed for specified search criteria. The Work Item Summary contains a hierarchical tree structure that includes a set of preferences and its various levels.

- **Summary Preference:** A preference defines how work items are to be summarized. You can define multiple preferences. Each preference is a set of levels on which work items are summarized. Creating too many summary preferences may slow down the UI.

The preference list is updated whenever preferences are created, changed, or loaded. Preferences are user-specific. Every preference created by the user is only for that user and cannot be viewed by anyone else. The summary is updated when a work item's status is changed or new work items are created.

The **For All users** check box on the Configure Summary Preferences dialog allows you to view Inbox items of other users if the preference includes other users as criteria. For more details, see [Creating Work Item Summary](#).

- **Level:** A level is one of the predefined work item attributes on which work items are summarized. You can summarize and obtain the count of work items based on preferences. You can summarize the work items on the following levels:
 - **Work Item Type:** Type of work item. For example: Action Items or Notifications.
 - **Activity Name:** Name of the work item activity as defined in the workflow. For example: InternalEditWorkItem. If the activity name is the same for activities defined in the different workflows, they are considered the same. For example, if two workflows with the name "Send to Backend" are defined in different workflows, the workflow may perform different actions. However, because the name is the same, they are collated together.
 - **Document Sub Type:** Document subtype as defined in the workflow request document. For example: Record Add.
 - **Document Type:** Document type as defined in the workflow request document. For example: Record Edit.
 - **Intent:** Work item intent as defined in the workflow. For example: Edit, Approval, Correction, or Conflict Resolution.
 - **Repository:** Indicates repository name.
 - **Result:** Indicates approval result. (Valid for closed work items only.)
 - **State:** Indicates work item state, such as Open, Closed, or Timed Out.

- **Task Type:** Task type tagged during work item creation. This value is defined in workflow.
- **User:** Indicates owner of the work item.
- **Closed By:** Indicates owner who closed the work item. (Valid for closed work items only.)

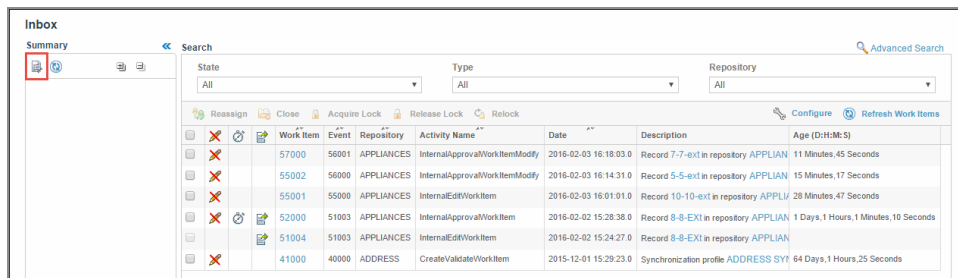
Note: All level values displayed in the summary hierarchy are translated to the user's language except for the workflow activity.

Creating Work Item Summary

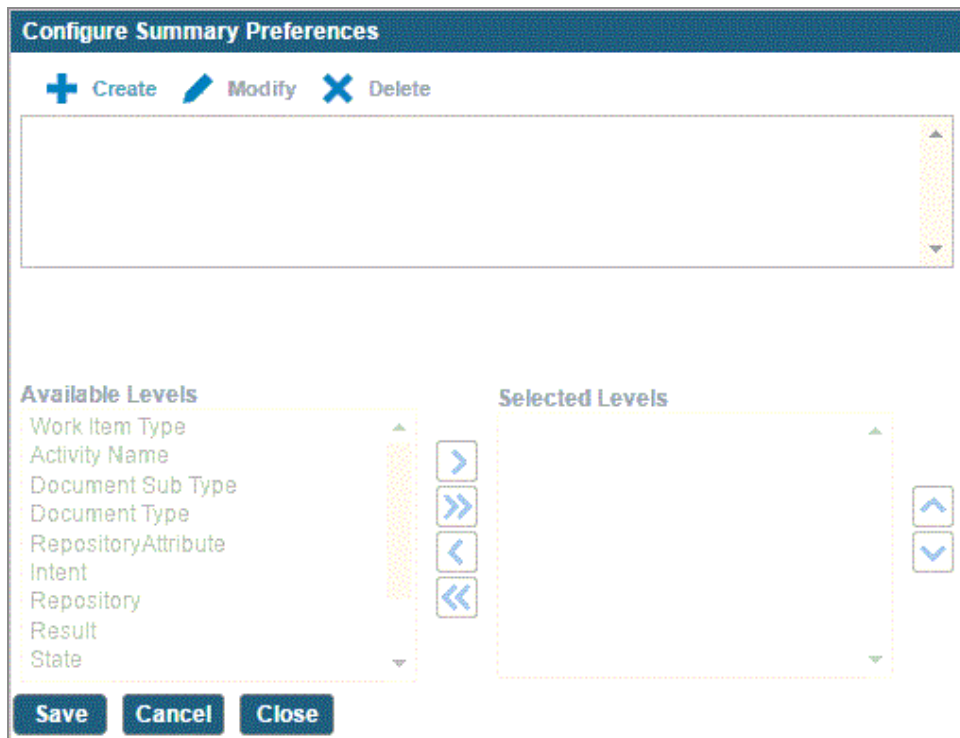
Complete the following steps to create a work item summary.

Procedure

1. Click the **Edit Summary Preferences** icon in the Summary section on the left pane of the Inbox.

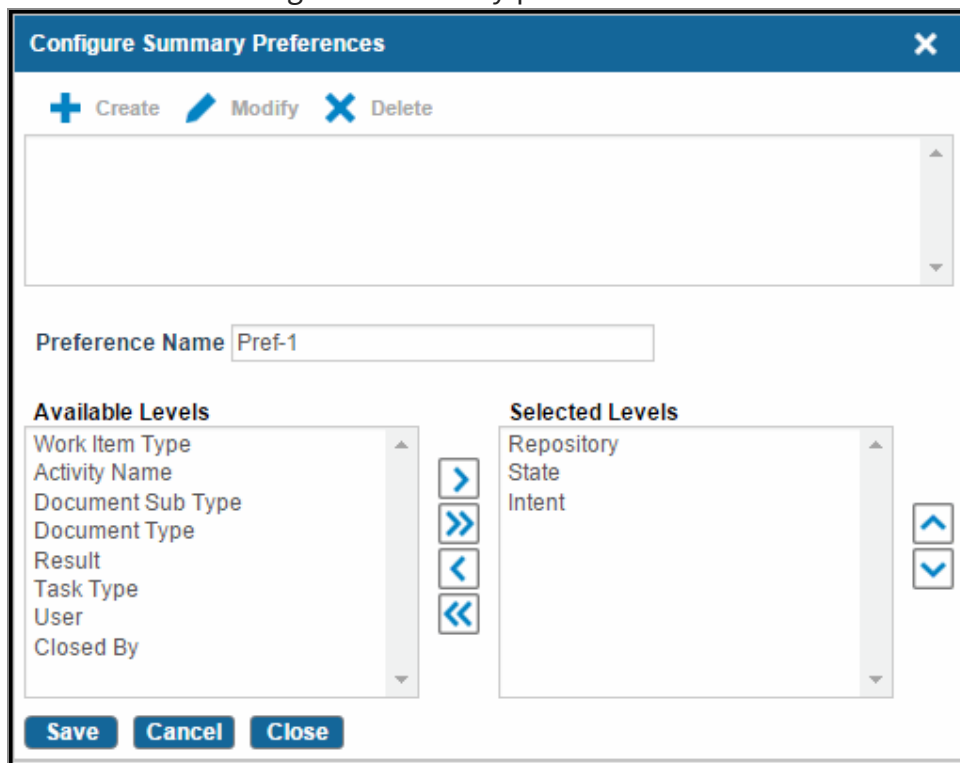


The Configure Summary Preferences window is displayed.



The dialog box is titled "Configure Summary Preferences". At the top, there are three buttons: a plus icon for "Create", a pencil icon for "Modify", and an "X" icon for "Delete". Below these is a large empty rectangular box. Further down, there are two columns of levels. The "Available Levels" column on the left contains: Work Item Type, Activity Name, Document Sub Type, Document Type, RepositoryAttribute, Intent, Repository, Result, and State. The "Selected Levels" column on the right is currently empty. Between the columns are four arrow buttons: a single right arrow, a double right arrow, a single left arrow, and a double left arrow. To the right of the "Selected Levels" column are two more arrow buttons: a single up arrow and a single down arrow. At the bottom of the dialog are three buttons: "Save", "Cancel", and "Close".

2. Click **Create** to configure a summary preference for work items.



This dialog box is similar to the one above but includes an additional field. It is titled "Configure Summary Preferences" and has a close button (X) in the top right corner. It features the same "Create", "Modify", and "Delete" buttons at the top. Below the large empty box, there is a "Preference Name" label followed by a text input field containing "Pref-1". The "Available Levels" column on the left now contains: Work Item Type, Activity Name, Document Sub Type, Document Type, Result, Task Type, User, and Closed By. The "Selected Levels" column on the right now contains: Repository, State, and Intent. The same set of arrow buttons is present between and to the right of the level columns. At the bottom are "Save", "Cancel", and "Close" buttons.

The Configure Summary Preferences window displays Available Levels and Selected Levels columns.

3. Type the preference name in the Preference Name field. For example: **Pref-1**.
4. Use the navigation arrows (>, >>, <, and <<) to move levels between the lists so that the required levels are displayed under **Selected Levels**. A set of selected levels is called a preference.
5. Use the Page Up and Page Down navigation arrows to reorder the levels in the Selected Levels list.

Besides creating preferences, you can perform the following functions on the Configure Summary Preferences window:

- Click **Modify** to modify the existing preferences.
- Click **Delete** to delete a preference.
- Check the **For All Users** check box to indicate the preference must sum all users.



Note: By default, the **For All Users** check box does not appear for all roles unless specific permission is granted to that role. The **For All Users** check box appears for any role in any of the following cases:

- When full permission is provided for work items
- When permissions are provided for view, reassign, and close work items

6. Click **Save**.

The created preference name is displayed and the Available Levels column is disabled.

7. Click **Close** to complete the procedure.

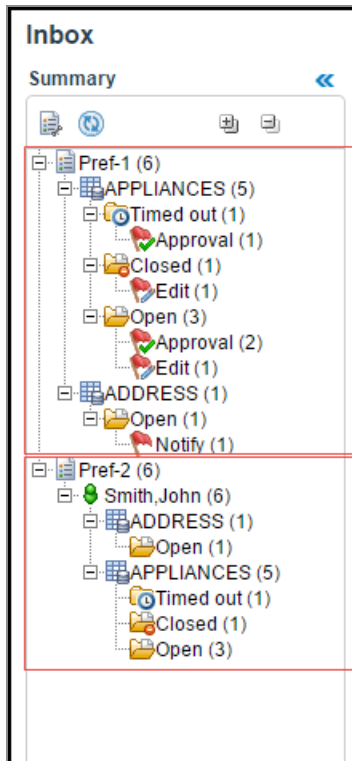
The configured summary preference is displayed in the Summary section.

Work Item Summary View

The following work item summary image displays preferences with two sets of levels:

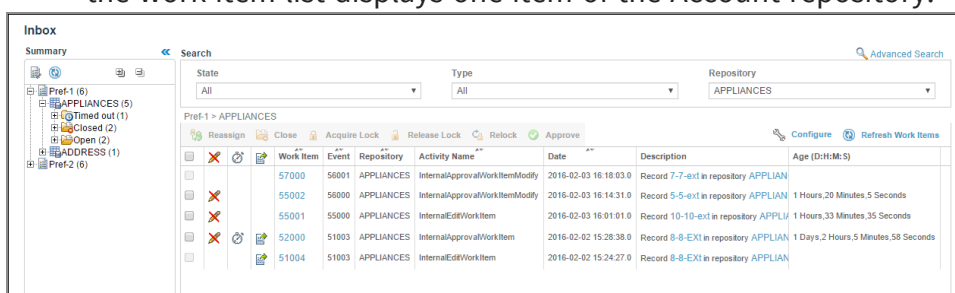
- Repository, State, and Intent

- User, Repository, and State



Click plus and minus signs to expand and collapse the Summary tree. A plus sign next to each preference and its levels indicates that it can be expanded to show more levels; a minus sign indicates that it can be collapsed.

- Preference Level — Each preference level contains the repository nodes. For example, the Pref-1 (3) level contains the ACCOUNT, PERSON, and EMAIL repository nodes. Each repository node shows the work item count in parenthesis after the repository name, such as PERSON (1), EMAIL (1), and ACCOUNT(1).
- Repository Node — As you click the repository node in the Summary tree, the associated work item list on the right pane displays the work items of the selected repository node. For example, if you click the ACCOUNT (1) node in the Pref-1 level, the work item list displays one item of the Account repository.



Work Item Summary Based on Record Attribute

You can categorize work items in the Summary section of the Inbox page based on the record attribute data. For example, if the record attribute named "color" is selected at the record attribute level, the work item having the same color is grouped under the same node.

To group work items based on the record attribute, you need to define and create attribute levels grouping preference in the Configure Summary Preference window. Accordingly, the Summary section shows the levels of hierarchy based on the sequence of attributes.

Creating JSON File

To view the work item summary based on the record attribute data, configure the repository and its attributes in the `repositoryattributes-config.json` file.

Before you begin

Create a directory named `workitemsummary` in the `commdir` "Enterprise" directory. For example, if the enterprise name is "acme", the directory is `/commdir/acme/workitemsummary`.

Procedure

1. Create the `repositoryattributes-config.json` file in the `workitemsummary` directory.
2. Enter the repository and its attribute name in an uppercase. The format of the `.json` file is as follows:

 **Note:** Ensure that the `.json` file is well-formed.

Refer to the following example:

```
{
  "PERSON": [
    "FIRSTNAME",
    "MIDDLENAME",
    "LASTNAME"
  ]
}
```

```
,
"ADDRESS": [
  "STREET",
  "CITY",
  "COUNTRY"
]
```

3. Save the repositoryattributes-config.json file.

Updating Workflow File

Update the workflow file with the attributes used for the record attribute levels grouping.

Before you begin

While defining the record attributes in the workflow file, ensure that the same attributes names are updated in the .json file.

Procedure

1. Locate the "workflow" folder under the commondir "Enterprise" directory. For example, if the enterprise name is "acme", the directory is /commdir/acme/workflow.
2. Open the workflow file where CreateWorkItem activity is defined. For example, the wfin26productaddapprovalv3.xml file.
3. Enter the record attributes.

```
<Activity Name="InternalEditWorkItem">

<Action>CreateWorkItem</Action>

<Description lang="en">Create workitem for edit of the new record</Description>

<Execution>SYNCHR</Execution>
```

```
<Parameter  
direction="in" eval="constant" type="string" name="Intent">Edit</Parameter>
```

```
<Parameter  
name  
="RecordAttributeName"  
direction="in" type="string" eval="constant">FIRSTNAME</Parameter>
```

```
<Parameter  
name  
="RecordAttributeName1"  
direction="in" type="string" eval="constant">MIDDLENAME</Parameter>
```

```
<Parameter  
name  
="RecordAttributeName2"  
direction="in" type="string" eval="constant">LASTNAME</Parameter>
```

```
<Parameter  
name  
="RecordAttributeName3"  
direction="in" type="string" eval="constant">STREET</Parameter>
```

```
<Parameter  
name  
="RecordAttributeName4" direction="in" type="string" eval="constant">CITY</Parameter>
```

```
<Parameter  
name  
="RecordAttributeName5"  
direction="in" type="string" eval="constant">COUNTRY</Parameter>
```

```
<Parameter  
direction  
="in" eval="constant" type="boolean" name="ValidateUsingRuleBase">false</Parameter>
```

```
<Parameter  
direction="in" name="ReferenceStepID" eval="variable" type="long">pl</Parameter>
```



```
<Parameter direction="in" eval="rule" source="New Record Introduction
Edit" type="long" name="ParticipantID">workDoc</Parameter>
```

```
<Parameter direction="in" eval="rule" source="New Record Introduction
Edit" type="string" name="ParticipantType">workDoc</Parameter>
```

```
<Parameter
direction
="in"

eval
="constant"

type
="string"

name
="FormPresentation"
>com.tibco.mdm.ui.workflow.engine.workitem.templates.ProductAddEdit</Parameter>
```

```
<Parameter
direction
="in" eval="constant" type="string" name="TaskType">CATALOGMESSAGE</Parameter>
```

```
<Parameter
direction="in" eval="variable" type="document" name="InDocument">workDoc</Parameter>
```

```
<Parameter
direction="out" eval="variable" type="document" name="OutDocument">wiDoc</Parameter>
```

```
<Parameter
direction
="out" eval="variable" type="boolean" name="WorkItemCreated">editFlag</Parameter>
```

```
<Parameter
direction
="out" eval="variable" type="boolean" name="MergedDocument">workDoc</Parameter>
```

```
<Parameter
direction="in" eval="constant" type="string" name="ExpiryType">RELATIVE</Parameter>
```

```
<Parameter  
  direction="in" eval="constant" type="string" name="ExpiryDate">1:0:0:0</Parameter>  
  
</Activity>
```

4. Save the workflow file.

Creating Work Item Summary with Record-Attribute Level Grouping

Before you begin

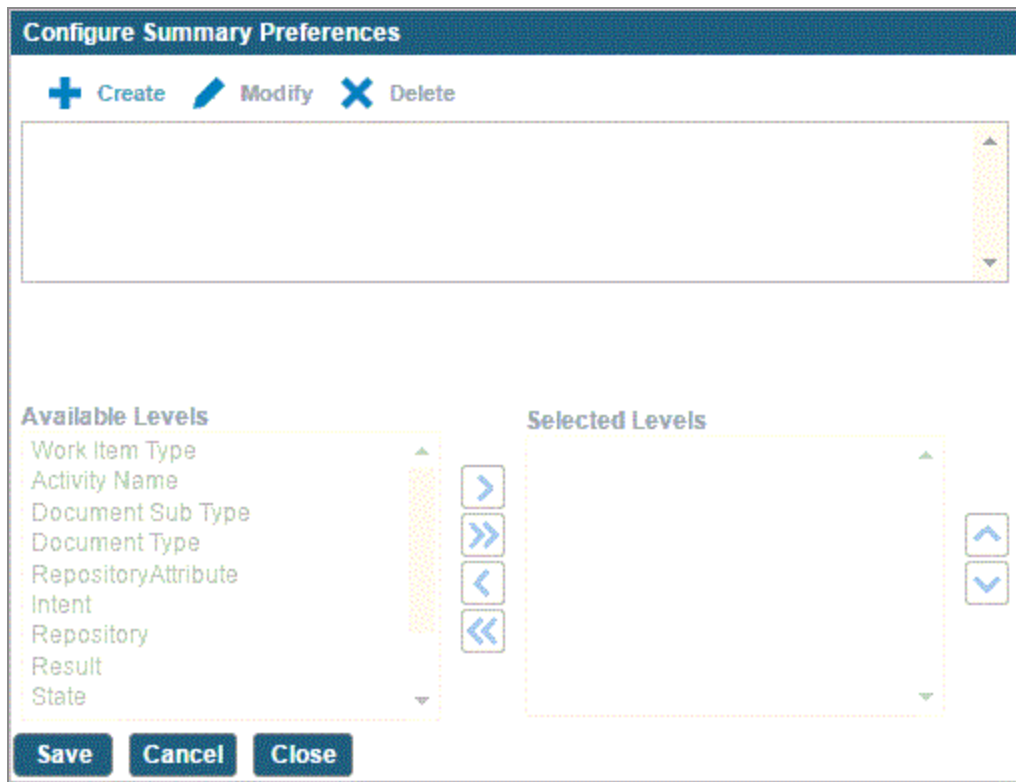
Before creating work item summary with record-attribute level grouping, perform the following actions:

1. Create the .json file. For information, see [Creating JSON File](#).
2. Update the workflow file. For information, see [Updating Workflow File](#).
3. Restart the application server.

Procedure

1. Click the **Edit Summary Preferences** icon in the Summary section on the left pane of the Inbox.

The Configure Summary Preferences window is displayed.



The dialog box is titled "Configure Summary Preferences". It features a header bar with three action buttons: a plus icon for "Create", a pencil icon for "Modify", and an X icon for "Delete". Below the header is a large, empty rectangular field. The main area is divided into two columns. The left column, titled "Available Levels", contains a list of items: "Work Item Type", "Activity Name", "Document Sub Type", "Document Type", "RepositoryAttribute", "Intent", "Repository", "Result", and "State". The right column, titled "Selected Levels", is currently empty. Between the two columns are four arrow buttons: a single right arrow, a double right arrow, a single left arrow, and a double left arrow. At the bottom of the dialog are three buttons: "Save", "Cancel", and "Close".

2. Click **Create** to configure a summary preference for work items.

The Preference Name field, the Available Levels and Selected Levels columns are enabled.

Configure Summary Preferences

+ Create Modify X Delete

Preference Name

Available Levels

- Work Item Type
- Activity Name
- Document Sub Type
- Document Type
- Intent
- Result
- State
- Task Type
- User

Selected Levels

- Repository
- RepositoryAttribute

Save Cancel Close

3. Type the preference name.
 4. From the Available Levels column, select the **Repository** option and move it to the Selected Levels column.
 5. From the Available Levels column, select the **RepositoryAttribute** option and move it to the Selected Levels column.
 6. Select the **RepositoryAttribute** option from the Selected Levels column.
- The **Repositories** drop-down list and the Repositories Attributes column are displayed.

Configure Summary Preferences

+ Create Modify X Delete

Preference Name: Pref-1

Available Levels

- Work Item Type
- Activity Name
- Document Sub Type
- Document Type
- Intent
- Result
- State
- Task Type
- User

Selected Levels

- Repository
- RepositoryAttribute

Repositories

PERSON

Repositories Attributes

- FIRSTNAME
- MIDDLENAME
- LASTNAME

Selected Levels

Save Cancel Close

Note: If you have not defined the repository attributes in the JSON file and a workflow file, an error message is displayed.

- From the **Repositories** drop-down list, select the repository.
The selected repositories' attributes are displayed in the Repositories Attributes column.
- From the Repositories Attributes column, select the attributes.

9. Move the selected attributes to the Selected Levels column.

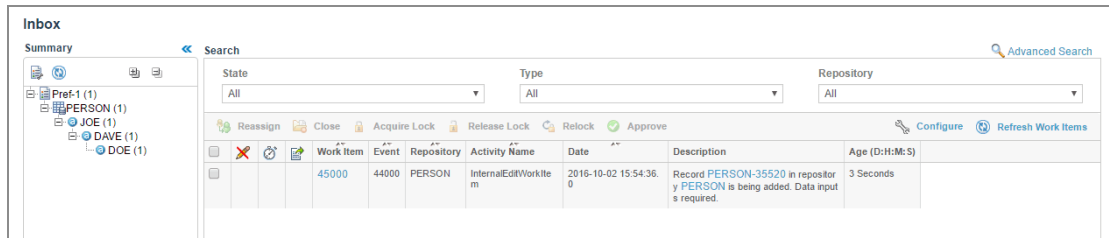
For information about using navigation arrows, see [Creating Work Item Summary](#).

10. Click **Save**.

The created preference name is displayed in the text box.

11. Click **Close** to complete the procedure.

The configured summary preference is displayed in the Summary section with work item categorized based on the record attribute values.



Open Work Item Notifications

You can view notifications of open work items, including timed out work items. The notification icon is displayed on the upper-right corner of the TIBCO MDM UI. A red circle on the notification icon indicates the open and timed out work item notifications.

Click the notification icon to view the count of **Open** and **Timed Out** work items. If the number of open work items is greater than 9, the count is displayed as 9+. By default, the notification count is refreshed every 10 seconds. An administrator can change the refresh interval by specifying the Work item Notifications Check Interval configuration property. For information, see the "Open Work Item Notification Properties" section in *TIBCO MDM System Administration*.

After clicking the **Open** or **Timed Out** option, the selected work items are displayed on the Inbox page. If open work items do not exist for the logged-in user, the notification icon is disabled.

Turn notifications on or off

By default, open work item notifications are turned on. However, an administrator can turn them off by using the Configurator. For information, see "Open Work Item Notification Properties" in *TIBCO MDM System Administration*.

Repositories

A repository is a repository of master and reference data. You can store different types of records in one repository or create more than one repository. A repository allows you to manage records, establish relationships between records, search data, and integrate data with other enterprise systems.

A repository defines the structure of your master data. It is often referred to as metadata. The structure of the repository is defined by your company and is very specific to your business requirements. It consists of:

- Attribute definitions and the arrangement of attributes in groups.

Attributes define the structure of a repository or a synchronization format. For more information about attributes, see [Attributes](#).

Attributes can also be arranged in groups. For more information about attribute groups, see [Attribute Groups](#).

- Classification schemes for records.

When browsing the repository, classification schemes allow you to view data hierarchically and to drill-down to a specific classification. You can define custom classification schemes as well, once the repository is created. See [Classification Schemes](#) for details. The classification description can be loaded using FileWatcher. See *TIBCO MDM Customization Guide* for details.

Predefined classification schemes are used to categorize records based on schemes already used within your company.

- For the MDM edition, no predefined classification schemes are supplied.
- For the GDSN edition, the predefined classification schemes are UDEX and GPC. Predefined classification schemes are defined by standards bodies, such as GS1 with GPC.

For more information about classification schemes, see [Classification Schemes](#).

- Input maps to import data from external sources.

Input Maps are used to import a large amount of data from external sources. They use data sources as primary input and allow you to map the data source attributes to repository attributes. You can combine more than one data source to map all or only

some of the repository attributes. You can define an expression while mapping to transform the data.

For more information about input maps, see [Input Maps](#).

- Output maps to extract data to synchronize data with other systems or partners.

Predefined output maps define a set of attributes required to publish data using the output map. When one or more such maps are selected, all attributes required to publish data using the map are automatically selected and added to the repository. If two or more output maps are selected, a union of all attributes required for all selected output maps is added. Custom output maps can be defined only after a repository is created.



Note: No predefined maps are supplied for the MDM edition.

For more information about output maps, see [Output Maps](#).

- Rules for validating access control and the cleansing of data.

Accessing Repositories

Complete the following steps to access the repositories.

Procedure

1. Log in to TIBCO MDM.
2. Click **Master Data > Repositories**.

The Repositories page is displayed.

Repositories			
Delete Copy Manage Input Maps Get Record Count Create Named Version Export Records Show Usage			
Repository Name	Display Name	ID	Description
☒ ACCOUNT	ACCOUNT	36078	Account for party
☐ ADDRESS	ADDRESS	35975	Generic address definition
☐ ASSET	ASSET	36108	Assets held by party
☐ BANK	BANK	35892	Bank
☐ BANKACCOUNT	BANKACCOUNT	36093	Account for party
☐ BANKBRANCH	BANKBRANCH	35960	Branch of the bank
☐ CONTACT	CONTACT	36136	Generic Contact
☐ DELIVERY	DELIVERY	35996	Sub object of Address
☐ EMAIL	EMAIL	35518	Email Object
☐ HOUSEHOLD	HOUSEHOLD	36065	Household Object
☐ PARTY	PARTY	36009	Default Party definition

Note: To create and modify repositories, use TIBCO MDM Studio. For information, see *TIBCO MDM Studio Repository Designer User's Guide*. After you deploy the created repositories in TIBCO MDM, repositories are displayed on the Repositories page.

Actions on a Repository

On the Repositories page, you can perform various actions on a repository.

Note: Many actions available on repositories are restricted by the access control list. See [Defining Resource Security](#) for a list of all access permissions that can be restricted. Some of the actions described may not be available to you, depending on the resource security defined.

You can perform the following actions on a repository:

Repository Actions

Action	Description
Delete	Delete an existing repository, see Deleting a Repository
Copy	Copy a repository with another name, see Copying a Repository
Manage Input Maps	Manage input maps, see Input Maps

Action	Description
Get Record Count	Select the repository, and then click the Get Record Count icon. The Record Count page is displayed with a number of confirmed records in the repository. There may be additional records in the repository that have not been confirmed.
Create Named Version	Create named version of the repository, see Creating a Named Version
Export Records	1. Select the repository, and then click the Export Records icon. 2. On the Export Records Event Status page, click the Check Progress link to check the status of a workflow, which generates the text file. All the records from the repository are exported into a text file. You can download the text file.
Show Usage	Select the repository, and then click the Show Usage icon. The Repository Usage page is displayed with the usage details, such as used by, name, description, comment, and restrictions.
View Repository	View repository details, see Viewing a Repository

Deleting a Repository

Before you begin

- If a business process rule is referring to the repository, it must be referred to other repositories prior to deletion.
- If any references of the repository are defined in the Rulebase, all such references must be referred to valid repositories prior to deletion.
- If any open work items for records of the repository are available, delete is not allowed. The already closed work items are not affected.

Procedure

1. In TIBCO MDM, click **Master Data > Repositories**.
2. On the Repositories page, select the repository, and then click the **Delete** icon. A confirmation message is displayed.
3. Read and confirm the following deletion of objects:
 - Deletes all associated input maps
 - Deletes all subset rules based on the repository
 - Makes all synchronization profiles based on the repository unusable
 - Makes all data stored in the repository unusable
 - Changes the definition of perspectives
4. Click **OK** to delete a repository or **Cancel** to cancel the deletion process.

After deleting a repository, the history of all records, though not deleted, is not accessible. If records are added again, the previous history still applies.



Note: If you delete the Source Definition, Attribute Quality Definitions, and Precedence Definitions repositories, you need to import them back when using precedence. See [Deploying Precedence Data Model](#).

Copying a Repository

The Copy Repository page enables you to copy the latest version of a selected repository. The entire metadata of the existing repository gets copied. However, it does not copy records of one repository to another.

Procedure

1. Log in to TIBCO MDM.
2. Click **Master Data > Repositories**.
The Repositories page is displayed.
3. Select the repository, and then click the **Copy** icon.
The copy is a snapshot of the repository metadata at the time of copy. The name and description of the original repository that you want to make a copy of is displayed.

Copy Repository

Repository Name

ACCOUNT

Repository Description

Account for party

Repository Display Name

ACCOUNT

Enter Copy Details

Enter New Name

Enter New Description

Enter New Display Name

Save

4. Enter a new name and description for the copy of the repository, then click **Save**.

When a repository is copied, the following objects are copied:

- Input maps
- Custom output maps
- Custom classifications
- Attributes, attribute groups, and relationships
- Access permissions
- Relationships (Relationships are copied and renamed. The application creates a unique name for the copied relationship.)

The following objects are not copied:

- Associated subsets
- Synchronization profiles
- Table name

**Note:**

- When a repository is created, you can specify the table name and a column name for the attributes. However, when a repository is copied, you cannot specify the table name. Instead, the application automatically generates the table name.
- For a cross-repository relationship, names (both reverse and forward) are created using the following pattern to avoid the duplication of names: `relname_Newrepositoryid_COPY`

Creating a Named Version

Procedure

1. Log in to TIBCO MDM.
2. Click **Master Data > Repositories**.
The Repositories page is displayed.
3. Select the repository, and then click the **Create Named Version** icon.

Create Named Version ×

Repository Name	ADDRESS
Repository Description	Generic address definition
Named Version	
DateTime	2021-10-05 15:48:15.950
Name	
Description	

Cancel
Save

The Create Named Version page is displayed with a named version details.

4. Enter a logical name and its description to the snapshot of records of the repository

In the Name field.

5. Click **Save**.

Named Version is a token assigned to a timestamp, and all records with that timestamp become a part of this version of the repository. You can use the named versions to export or browse the records. All records until the timestamp for which the named version was created are included.

Viewing a Repository

The View Repository page shows the content of a selected repository.

Procedure

1. Log in to TIBCO MDM.
2. Click **Master Data > Repositories**.

The Repositories page is displayed.

3. Click the repository name.

The View Repository page is displayed. From this page, you can:

- a. Manage the repository.
- b. View or create custom output maps, view or copy selected predefined output maps, view or create custom classification schemes, view or copy selected predefined classification schemes, and view attributes.
- c. Click **Modify** to modify repository details. To view the repository usage details, click Show Usage, and to mass update the repository, click Mass Update. If you click any output map name link, it shows the mappings of the repository attribute to the synchronization format. For more details about permissions, see [Resource Security](#).

Sections on the View Repository Page

Sections on the View Repository Screen

Section	Description
Repository Details	The repository name, its description, last modified date, name of the person who modified the repository last, and the History log file. Click Download to download the History log file. The history log shows all actions related to changes in metadata.
Attributes	The Attributes section displays a list of custom and predefined attributes. The attributes listed here can be filtered by using the Display Attributes for Format drop-down list. You can also choose to show user-defined (custom) attributes only by checking the Show User Defined Attributes Only check box. In this case, if no user-defined attributes exist, the attribute list is empty. The following attributes are displayed: Name, Display Name, Description, Type, Length, and Unique status.
Relationships	This section allows you to view existing relationship definitions. Details such as relationship name, description, reverse relationship name, reverse relationship description, cross-repository relationship, and target repository can be viewed.
Custom Output Maps	This section shows custom output maps already defined. You can define new custom output maps or maintain existing maps. Output maps associate repository attributes with corresponding attributes in various outbound synchronization formats, such as EAN.UCC, Agentrics, and 1SYNC. If no custom output maps have been defined, click Create to define them.
Selected Predefined Output Maps	Output maps that come with the application by default are referred to as predefined output maps and are listed here. The maps you see here are those selected at the time of creating the repository. Click the Output Map name to view the details. This takes you to the Output Map view page. Click Copy to create a copy of an Output map. You can add or remove any associated predefined output maps when you modify the repository metadata.
Custom Classification	You can define any number of classifications, and maintain existing custom classifications here. Classification Schemes are used to categorize products

Section	Description
Schemes	to enable Trading Partners to have a consistent method of viewing products across multiple suppliers. A Classification Scheme groups records with similar characteristics to enable Trading Partners to search and transact business using consistent standards and naming conventions. These conventions are adopted by industry standardization agencies. In addition to using the industry standard schemes, suppliers can use custom schemes for the internal management of their records. If no custom classification schemes have been defined, click Create to create the schemes. For more details about creating and working with classification schemes, see Classification Schemes.
Selected Predefined Classification Schemes (GDSN Only)	Classification schemes that come with the application by default are referred to as predefined classification schemes, and are listed here. The schemes you see here are those selected at the time of creating the repository. You can click the Classification Scheme name to view the details. This takes you to the Classification Scheme Modify page. From this page, click Show Usage to view the Classification Scheme Usage.

Attributes

Attributes define the structure of a repository or a synchronization format.

To create, modify, and delete attributes, use TIBCO MDM Studio. For information, see *TIBCO MDM Studio Repository Designer User's Guide*. After you deploy the created attributes in TIBCO MDM, attributes are displayed on the **Attributes** tab of the View Repositories page.

View Repository

Repository Name	ADDRESS	Table Name	MCT_34435
Last Modified	2021-08-11 10:56:17.113	Last Modified By	jsmith,jsmith
Repository Description	Generic address definition	Display Name	ADDRESS
Attribute History	No	Precedence Management	No

Attributes Relationships Output Maps Classification Schemes

Expand All Collapse All

▼ Basic

	Position	Name	Display Name	Type	Length	Display in Record L	Include in Quick Vi	Searchable
☐	1	PRODUCTID	Record ID	STRING	255	true	true	true
☐	2	TYPE	Address Type	STRING	20	true	true	true
☐	5	STREET	Street	STRING	256	true	true	true
☐	10	STREETSUFFIX	Street Suffix or Stre	STRING	20	false	false	true
☐	15	DIRECTIONAL	Directionals	STRING	20	false	false	false
☐	20	CITY	City	STRING	40	true	true	true
☐	25	STATENAME	State/Province	STRING	80	true	true	true
☐	26	STATECODE	State/Province Cod	STRING	20	true	true	true
☐	30	COUNTRY	Country	STRING	80	true	true	true
☐	31	COUNTRYCODE	Country ISO Code	STRING	10	true	true	true

Page 1 of 3

OK

When a repository is created, the following objects are automatically generated:

- Two attribute groups: "Unassigned" and "System".
- An empty input map with the name DEFAULT.

i Note: After a repository is created, you may have to ask your database administrator to create indexes on the attributes defined as "Searchable".

Attribute Groups

Each attribute is assigned to an attribute group. A default group named UNASSIGNED holds all attributes that do not belong to a specific group. This attribute group can neither be removed nor renamed.

i Note: To create, modify, and delete the Attribute Group, use TIBCO MDM Studio. For information, see the section, "Define Attribute Groups" in *TIBCO MDM Studio Repository Designer User's Guide*.

Attribute groups are displayed in the order specified in TIBCO MDM Studio. All attributes within a group are placed in an ascending order. Some of the attribute groups may be shown expanded.

Attributes for Repository

The Attributes section of the View Repository page displays a list of custom and predefined attributes. Attributes are shown in groups (see [Attribute Groups](#) for more details).

You can filter the attributes displayed as follows:

- Click **Expand All** to view the predefined and custom attributes. Additionally, system attributes (namely, Last Modified On, Last Modified By, Active, Created On, Owner ID, Last Confirmed Version, Version, Status, CheckSum, Parent Version, Owner Type, processlogID, batchid, lastimporttime, catalogversion number, and productkeyid) are also added to maintain version and audit information.
- Click **Collapse All** to display only the group name, without the list of attributes within the group.

You can also expand or collapse each attribute group to individually view its attributes.

Limitations for Attributes of Repository

The following are the limitations for repository attributes.

- You cannot create an attribute with the same name as any out-of-the-box attribute. For example, you cannot create an attribute with the name PRODUCTID, PRODUCTIDEXT, GTIN, as they are system-defined attributes.
- You cannot see the predefined system attributes when you expand the System Attribute Group. However, if you have defined custom system attributes, you can see them when you expand the System Attribute group.
- You cannot delete a list of attributes from the predefined input maps for a repository.

Attributes for Synchronization Formats

Output Map and Input Map attributes are derived from synchronization formats. You can use custom attributes to create a repository, or add predefined attributes to an existing repository. Newly added attributes apply to all records in the repository. You can:

- Mark an attribute for display in the record list.
- Mark an attribute for display in the search criteria.
- Set custom help or tips for an attribute.
- Ensure that the Display Name of each attribute be changed.

Viewing Attributes

Complete the following steps for viewing attributes.

Procedure

1. Log in to TIBCO MDM.
2. Click **Master Data > Repositories**.
The Repositories page is displayed.
3. Click the repository name.
The View Repository page is displayed.
4. Click the attribute name link in the Name column to view details of an attribute.

The image shows a dialog box titled "Attribute Details" with a close button (X) in the top right corner. The dialog is divided into two columns of settings. The left column includes fields for Name (CITY), Position (20), Length (40), Display In Record List (checked), Multi-value (unchecked), Use Common Table (unchecked), Group (Basic), Column Name (CITY), Quality Mode (NONE), and Quality Categorization. The right column includes Display Name (City), Data Type (STRING), Searchable (checked), Include In Quick View (checked), Category Specific (unchecked), Multi-value Table Name, Partitioning Key (unchecked), and Quality Goal. At the bottom, there are text input fields for Description (containing "City in address") and Help, each with a diagonal line icon in the bottom right corner. An "OK" button is located in the bottom right corner of the dialog.

Attribute Details	
Name	CITY
Position	20
Length	40
Display In Record List	☒
Multi-value	☐
Use Common Table	☐
Group	Basic
Column Name	CITY
Quality Mode	NONE
Quality Categorization	
Description	City in address
Help	
Display Name	City
Data Type	STRING
Searchable	☒
Include In Quick View	☒
Category Specific	☐
Multi-value Table Name	
Partitioning Key	☐
Quality Goal	

The Attribute Details dialog box is displayed with the following fields:

- **Name:** displays a unique name for the attribute. The name can be a maximum of 30 characters. Valid characters are a-z, A-Z, 0-9, and "_".
- **Display Name:** displays a display name. This name is shown in most screens instead of the attributes name and has less restrictive naming conventions. The name can be a maximum of 80 characters, and must be in the ASCII format.
- **Position:** indicates the order in which the attributes must be displayed in the record list, if the **Display In Record List** check box is selected. This field is unique and accepts only integers. This field also indicates the order of an attribute within an attribute group. The system-generated integer for this field starts from four because there are three other predefined attributes already defined for a repository. This is populated automatically. It is recommended that you do not change this number.
- **Data Type:** displays the data type of an attribute. See, [Data Type for Attributes](#).
- **Length:** the Length for an attribute type defines the maximum number of characters allowed.
- **Searchable:** if the check box is selected, the defined attributes are displayed in search results. The Search page takes into account the type of attribute. For example, a Date type attribute allows you to capture the From and To range automatically.
- **Display In Record List:** if the option is selected, the attributes are displayed in the Record list. By default, the first five attributes' columns are displayed in a Record list. You can configure the number of attributes to be displayed using the  **Configure** link on the Browse and Search page.



Note: An attribute can have a drop-down list next to it if the rulebase for the repository allows one.

You can also use settings in the rulebase to hide or show an attribute. You can also define attributes to be read-only using the rulebase. For more information about the impact of a rulebase on Attributes and Attribute Groups, see *TIBCO MDM Studio Rulebase Designer User's Guide*.

- **Include In Quick View:** indicates quick viewable attributes. While viewing the

record information on the Work Item Details page, the quick viewable attributes are displayed along with Record ID and Extension.

- **Multivalue:** attributes can be marked as multivalue, that is, the attribute can store multiple values. This option cannot be changed after the attribute is created. When modifying a repository, the multivalue is read-only.

There are some limitations while creating multivalue attributes. Refer to [Limitations of Multivalue Attributes](#). For more information about these limitations.

- **Category Specific:** this check box is selected to mark an attribute as category specific. For more details about category specific attributes, see [Category Specific Attributes](#).



Note: After an attribute is selected as Category Specific, it cannot be changed to regular attribute unless it is deleted.

- **Use Common Table:** this option is selected if you want multivalue data to be stored in a common table.



Note:

- When you export metadata that uses common table for multivalue data, the `<CommonTableIndicator>Y</CommonTableIndicator>` property is also exported.
- When you import metadata that uses a common table to indicate multivalue data indicated as true, the Multivalue Table Name is ignored and replaced by the system determined common table name.
- You cannot enter data in the Length, Column Name, and Multivalue Table Name fields. However, the Length field is enabled for the **String** data type.

- **Multivalue Table Name:** name of the multivalue table. The default table name is MVT_<AttributeID>. Automatically displayed based on the selected data type. If you change the data type, the multivalue table name is also changed. See,

Data Types and Shared Multivalue Table Name.

- **Group:** the group name for the attribute from this drop-down list. System and Unassigned are the default groups. The group name is a maximum of 80 characters and does not contain special characters as a part of the name: "*", ".", "-", "@", "/", and "\".
- **Column Name:** displays a unique database column name for the attribute. The application allows an external data model to be defined and synchronized. While creating repositories, you can specify the table and column names as defined in other data models.
- **Quality Mode:** displays the selected quality mode. The available options are:
 - **NONE:** indicates that the quality mode is not selected.
 - **Defined:** indicates that the attribute has a value. That means, the value must not be empty.
 - **Validated:** indicates that a rulebase constraint has been associated with the validation of the attribute.
 - **Verified:** indicates the verification of an attribute, that is, external validation. For example, address verification and email verification.



Important:

- You must write a rulebase constraint by enabling the **Execute On Data Verification** property in the constraints **Properties** pane of TIBCO MDM Rulebase Designer. In this constraint, custom rulebase can be executed or user defined verification can be done.
 - The rulebase constraint which is used for the validation or verification of the validated or verified quality mode attributes, must contain attributes in the <usefor> tag. If, <usefor> tag does not contain the attribute name, it is assumed that no rule is applied on that attribute.
- **Quality Goal:** indicates the quality value of an attribute, which is displayed on a graph.
 - **Quality Categorization:** attribute name in which quality attribute is

categorized.

- **Description:** displays a description for the attribute. Descriptions can be a maximum of 4000 characters.
- **Help:** custom help or tips for any repository attribute. A dialog box automatically opens when you point to an attribute listing while browsing a repository. The dialog box contains a description of the attribute, its function, and help tips. The text in this field can be a maximum of 4000 characters.



Note: The Help display can be suppressed using a user profile, and by properties configured for your installation.

5. Click **OK** after you are done with viewing the details of an attribute.

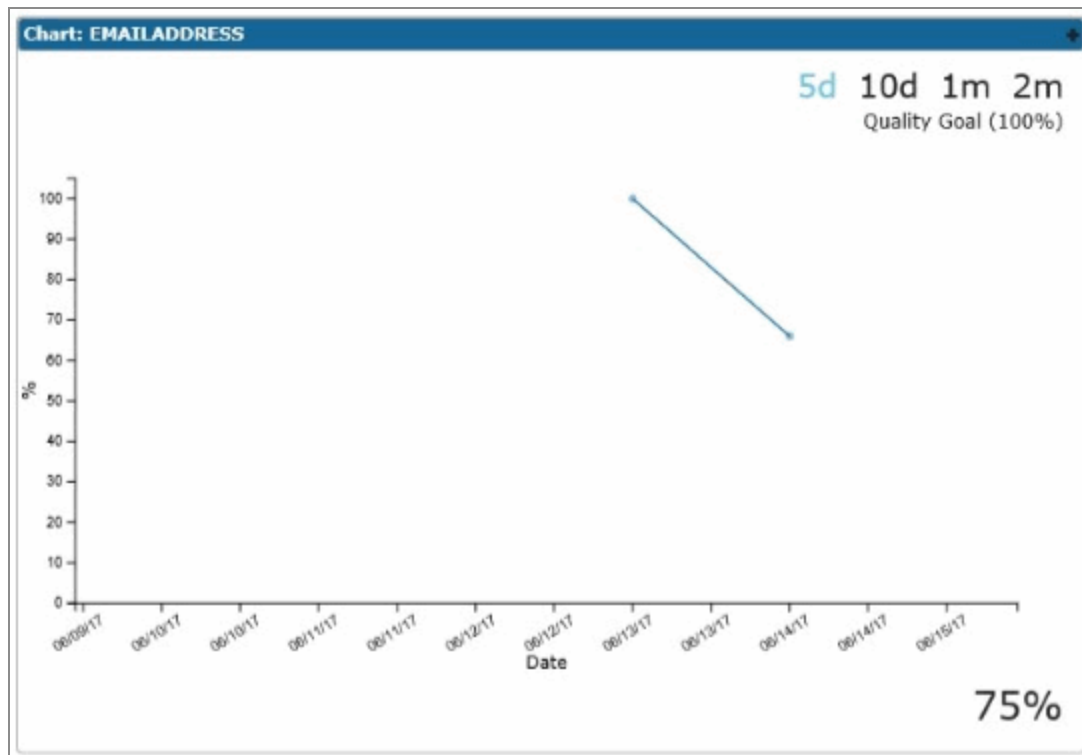
Attribute Quality

After you deploy the custom UI page for the attribute quality, the quality attribute score data is displayed on the graph.

The data quality is displayed on the chart, summary control, or statistics widget.

- Chart widget: a graphical representation of data. Displays the following options:
 - A line chart of attribute data quality. It plots the date on the x-axis and the attribute score on the y-axis.
 - The time filters are displayed on the upper right corner of the chart. The expected quality goal for the attribute is displayed under the time filter if it is defined from TIBCO MDM Studio UI Builder. You can filter the data by using the time filter to draw the line chart within a certain time period and category filter to display the line chart of the attribute within its categorized attribute.
 - The value of the attribute in which quality attribute is categorized is displayed only if it is defined. The value of the attribute is displayed as a drop-down list on the upper left corner of the chart.
 - Current data percentage is displayed at the lower right corner of the chart.

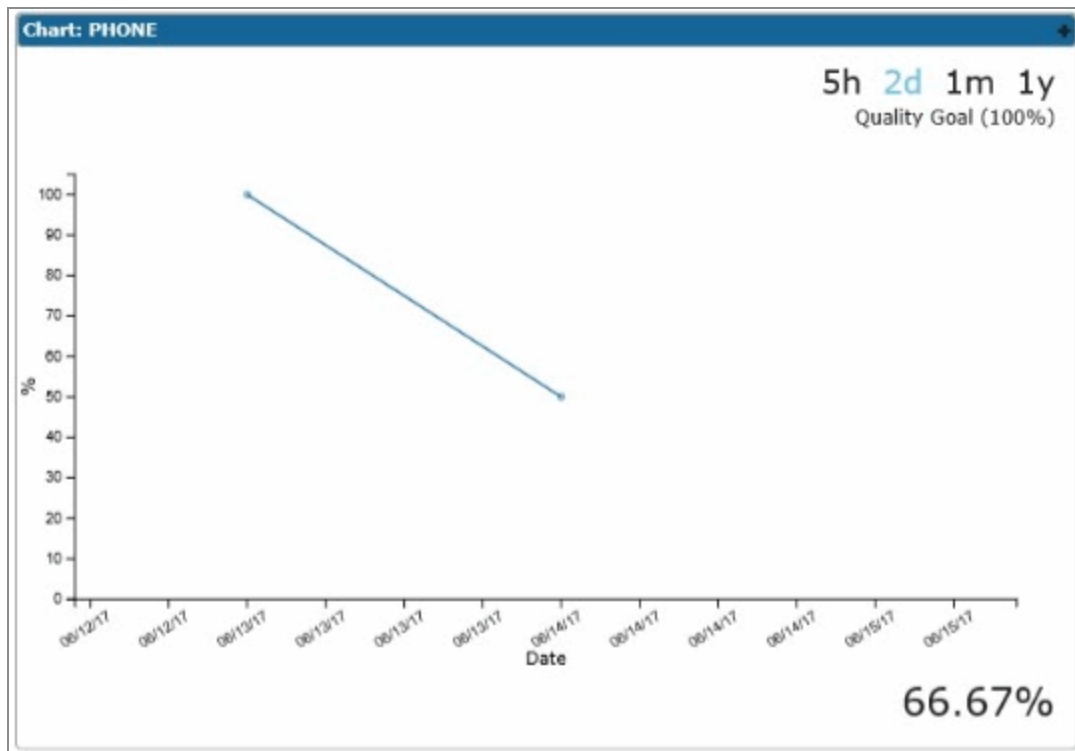
Attribute Quality Chart Showing Quality of EMAILADDRESS Attribute



Attribute Quality Chart Showing Quality of Categorized Attribute

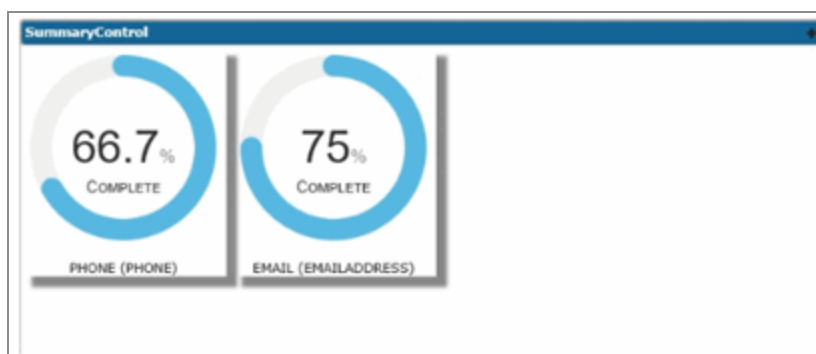


Attribute Quality Chart showing quality of PHONE Attribute



- Summary control widget: draws a radial progress chart of attribute data quality. It displays the average data score of the attribute. The repository name and attribute name is displayed under the chart. The following figure shows the average summary for the PHONE and EMAIL ADDRESS repositories:

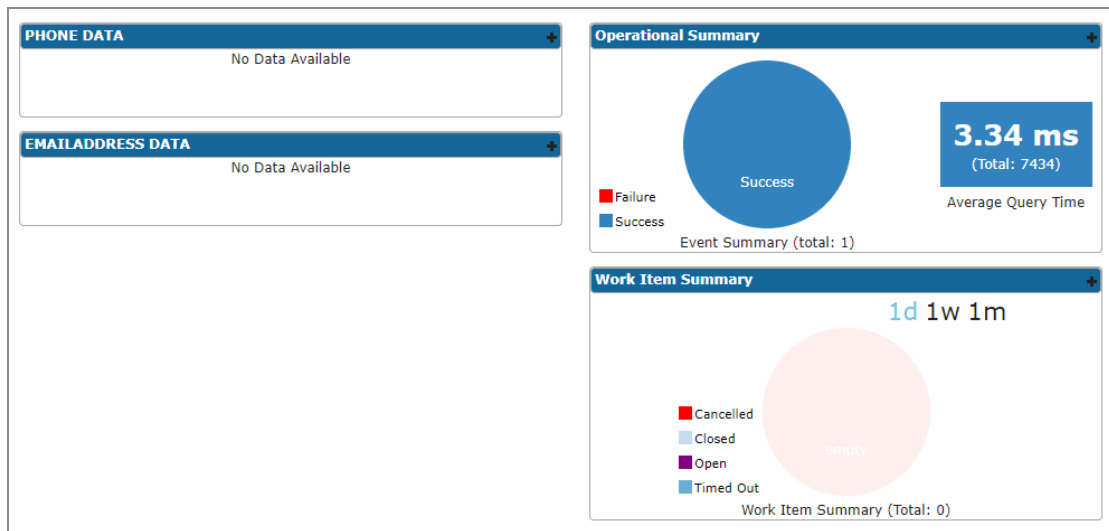
Attribute Quality Average Summary Chart



- Statistics widget: draws a pie chart to monitor event summary and work item summary; and number display of query summary.
 - The event summary pie chart displays the number of success events and failure events.

- The query summary displays the total number of queries executed and average execution time in specified minutes.
- The work item summary pie chart displays the number of canceled, closed, open and timeout events.

Statistics Widget



- For creating widgets, see the following sections in *TIBCO MDM Studio UI Builder User Guide*:
 - Widget Palettes
 - Chart
 - MDM Statistics
 - Summary Control
 - Sample Widget
- For attribute quality modes, goal, and categorization, see [Viewing Attributes](#).
- For configuration properties of attribute quality, see the section, "Configuration Properties of Attribute Quality" in *TIBCO MDM System Administration*.

Data Type for Attributes

The Data Types for Attributes table lists the data types used for attributes.

Data Types for Attributes

Data Type	Description
Date	Can be in any of the supported Date formats. The attribute data type cannot be changed from Date to String.
Timestamp	Timestamp format allows you to select the date, time, and time zone together. You can add the Timestamp data type for a single value, multivalue, and relationship attributes. TIBCO MDM supports the following Timestamp formats: <pre>YYYY-MM-DD hh:mm:ss.S YYYY-MM-DD hh:mm:ss.S AM/PM YYYY-MM-DD hh:mm:ss.S zYYYY-MM-DD hh:mm:ss.S z AM/PM</pre> For more information about these formats and their usage, see Creating a User. You can also use the Timestamp data type in a rulebase. The date is converted to timestamp with 00 time before performing the operations. - You can assign a timestamp to a date variable or an attribute, it results in truncation of the time portion. - Similarly, you can assign a timestamp variable or attribute to a date variable, the date is converted to timestamp with 00 time. For more information, see <i>TIBCO MDM Studio Rulebase Designer User Guide</i>.
Integer	Can have a maximum scale of 10 and value must be less than 2147483648.
Decimal	The number can be represented as (p,s) where p is the precision and s is the scale and then describe everything with respect to precision and scale. Can have a maximum scale of 7 and a maximum precision of 30. The non-fractional part can be 23. The decimal value defined for the decimal type attribute for a repository gets rounded up. For example, when you create a record with a decimal attribute value as 60001111444466668888999.7832521.
String	The default length of a string attribute is determined by configuration, and

Data Type	Description
	unless changed, it is 256 characters (minimum). If zero is specified, default is assumed. The maximum characters limit is based on the database type that you have configured. For more information, see the "Configuration for String Data Type" section in TIBCO MDM <i>Installation and Configuration Guide</i>.
File	The default length of a File attribute is determined by configuration, and unless changed, it is 256 characters.
Amount	This can have a maximum scale of 7 and a maximum precision of 30.
Boolean	The boolean attribute can take True and False values. The values can be in a mixed case. For example, true, TRUE, or True and false, FALSE, or False. It can have a maximum length of five characters.
Custom Decimal	The number can be represented as (p,s) where p is the precision and s is the scale and then describe everything with respect to precision and scale. Use Custom Decimal if you need to store decimals that have more than eight digits in the fractional part. Can have a maximum scale of 29 and a maximum precision of 30. The non-fractional part of the number can have a maximum of 29 digits. However, this works only if your database supports the fractional part of a decimal to be over eight decimal places. The default values are: scale(12) + decimal point (1) + integer part (18) = 31 (maximum length)
Long	Long is a primitive data type that maps to Java Long. The behavior is similar to the Integer data type. The maximum length is 19.
URL	URL is a derived data type based on the String data type. The behavior is similar to the String data type, except for the following: • Length: The default length is 256 and the maximum length is based on the database type that you have configured. The Length cannot be zero (0) or more than the maximum length. • UI Representation: The URL view is a hyperlink. If you click the link, the

Data Type	Description
	URL opens in another tab.
For information about customizing the data types, see <i>TIBCO® MDM Customization Guide</i> .	

Data Types and Shared Multivalue Table Name

The following table lists the data types and their shared multivalue table names:

Data Types and their Shared Multivalue Table Names

Data Type	Multivalue Table Name
String and File	MV_SHARED_STRING_TABLE
Integer	MV_SHARED_INTEGER_TABLE
Decimal, Custom Decimal, and Amount	MV_SHARED_DECIMAL_TABLE
Note: While creating a new multivalue attribute of Custom Decimal type in SQL Server; if you change the default precision (18+12), the Multivalue Shared Table option for storage does not work. Hence, in this case do not select the Use Common Table check box. Use a separate table for storage.	
Date and Timestamp	MV_SHARED_DATE_TABLE

Limitations of Multivalue Attributes

The following are the limitations of multivalue attributes

- Custom classification schemes cannot be created based on multivalue attributes.
- When a multivalue attribute is mapped to an Integer, Date, Decimal, or Amount data

type, only the first value of the attribute is exported.

- Multicolumn drop-down lists are not supported for any data type.
- Predefined attributes cannot be marked as multivalued.

Limitations of Relationship Attributes

The following are limitations of relationship attributes.

- Text search does not work with relationship attributes.
- Relationship attributes cannot be defined as category specific attributes.

Relationship and Multivalue Attributes versus Regular Attributes

This section compares the capabilities of relationship attribute and multivalued attributes with regular repository attributes.

In most cases, the behavior of all the attributes is the same, but there are some subtle differences. When a relationship is defined, one or more attributes can be defined for the relationship. Attribute definitions are similar to repository attributes.

Multivalue attributes have more than one value for the same record.

The following table shows a comparison of relationship and multivalue attributes compared with regular repository attributes.

Comparison of Relationship, Multivalue, and Regular Attributes

Description	Additional Information	Relationship Attribute	Multivalue Attribute	Regular Attribute
Terminology	Metadata terminology	- Relationship Repository - Relationship Attributes	Multivalue Attribute	- Repository - Repository Attributes
	Record terminology	Relationship record	Record	Record
Name, description, help, data type, position, display name, and column name can be specified.		Yes	Yes	Yes
Attribute can be designated as "partition key".		No	No	Yes
Attributes can be multivalue.		No		Yes
Attributes can be grouped by specifying group name.		No	Yes	Yes
Data type change is allowed.		No	No	No
Attribute names, display name, and column name uniqueness.		Yes Uniqueness is only required within the relationship definition.	Yes Uniqueness is only required within the repository attributes definition.	Yes Uniqueness is only required within the repository attributes definition.
Attributes add, modify, and delete		Yes	Yes	Yes

Description	Additional Information	Relationship Attribute	Multivalue Attribute	Regular Attribute
supported.				
Attribute can be marked as "include in record list".		Yes	Yes	Yes
Attribute can be marked as "searchable".		Yes	Yes	Yes
Attribute can be marked as "include in quick view".		No (Always included by default)	Yes	Yes
User-specified table name in which attributes are stored.		Yes	Yes	Yes
Default table name		RCT_XXX (XXX = ID of internal relationship repository)	MVT_XXX (XXX = ID of internal multivalue repository)	MCT_XXX (XXX = ID of repository)
Attribute definitions exported or imported with other metadata.		Yes	Yes	Yes
Input map support for importing of data.		Yes	Yes	Yes
Exporting of data		Yes (With limitations: Explicit mapping is not required. Attributes are exported in a relationship-specific file.)	Yes (With limitations: multivalues are separated by a delimiter in a file. Data truncation may occur. When a multivalue attribute is mapped to an Integer, Date, Decimal, or Amount data type, only the first value of the attribute is exported.)	Yes
Repository copy - Attributes are copied.		Yes	Yes	Yes
Record copy - Attributes are copied.		Yes	Yes	Yes
Records compare		Yes	Yes (Ordered before compare)	Yes
Subset Search by "List"		No	Yes	Yes
Subset Search by "Expression"		No	Yes	Yes

Description	Additional Information	Relationship Attribute	Multivalue Attribute	Regular Attribute
Subset Search by "Search"		Yes	Yes	Yes
Rulebase support	assign	Yes	Yes	Yes
	connect	Yes	NA	NA
	check	Yes	Yes	Yes
	softlink	Yes	Yes	Yes
	select (drop-down list)	Yes	Yes (with limitation: no value attribute not supported)	Yes
	access	Yes	Yes	Yes
	SQL expressions	No	Yes (with limitation: only supported in where clause. Supported operators: in, eq, like)	Yes
	changed	No	Yes	Yes
	defined, undefined	Yes	Yes	Yes
	eq, neq	Yes	Yes	Yes
	gt, lt, geq, leq	Yes	No	Yes

Description	Additional Information	Relationship Attribute	Multivalue Attribute	Regular Attribute
Workflow activities	RecordCompare	No	Yes	Yes
	GetRecord	Yes	Yes	Yes
	EvaluateRulebase	Yes	Yes	Yes
	SaveRecord	Yes (with limitation: Not supported in INPUT mode)	Yes	Yes
	MergeRecord	No	Yes	Yes
	MatchRecord	No	No	Yes
	CreateWorkitem	No	No	Yes
	VerifyRecordStatus	No	No	Yes
	ImportCatalogRecords	Yes	Yes	Yes
	UpdateRecordState (conflict/merge support)	No	Yes	Yes
	CreateOutputFile	Yes (Attributes can be mapped to output files via Relationship Attributes Output Map and are also exported in a relationship-specific file.)	Yes (With limitations: Multivalues are separated by a delimiter in a file. Data truncation may occur.)	Yes
	ConvertRecordToOutput	Yes	Yes	Yes
Versioning		New relationship record on change.	Versioned as record version.	Versioned as record version.
Mass Update support		No	No	Yes
One click sort on record lists.		Yes	No	Yes

Classification Schemes

Using Classification schemes, you can organize records based on their attributes. For example, vendor records can be organized by a country-state-city hierarchy. You can define an unlimited number of classifications, each with unlimited levels of hierarchy.

Whenever record data is changed, records are automatically classified for all classification schemes defined for repositories, provided the record has classification details.

i Note: To create and modify a custom classification scheme, use TIBCO MDM Studio. For information, see the section, "Working with Classification Scheme Editor" in *TIBCO MDM Studio Repository Designer User's Guide*.

You can restrict the browse access to any classification scheme using Resource Security. Note that the View Repository page shows a list of all classifications defined for the repository, even if some of these classifications are private, that is, restricted to one or more users. If you have repository metadata access, then you can modify or delete such classifications. For information about private classification schemes, see [Private Classification Scheme](#).

Creating a Classification Scheme

You can create the following types of classification schemes:

- **Repository attributes (simple):** A simple classification scheme. The first attribute mapped is the first level and so on. The taxonomy is a concatenation of all the mapped attributes.
- **Rulebase (complex):** The rulebase is used to get the classification scheme codes. The rulebase must be uploaded when creating the classification scheme. With the rulebase-based classification scheme you can classify records under more than one classification code.

i Note: The type of classification scheme (attribute-based or rulebase-based) cannot be changed once it is created. A composite classification scheme, involving both attribute-based and rulebase-based expressions, is not supported.

i Note: When a new classification scheme is created, all the records in the repository are classified. This process takes some time to complete. During this period, if you browse the classification scheme, all the classification codes and records might not be displayed until the process is complete.

When a classification scheme is created, a log file is created in the `$MQ_COMMON_DIR/Temp` directory. The log file has a `sext_` prefix and a `.log` extension.

Any errors that occur during the schema extraction are logged to the `$MQ_HOME/log/elink.log` file.

The following sections talk about creating a classification scheme based on repository attributes and rulebase, respectively:

- [Creating an Attribute-based Classification Scheme](#)
- [Creating a Rulebase-based Classification Scheme](#)

Creating an Attribute-based Classification Scheme

Complete the following steps to create an attribute-based classification scheme.

Procedure

1. Navigate to **Browse and Search > Create Classification Scheme**.
2. Enter a name and description for the classification scheme.

Create Classification Scheme

Repository Name

LONG_URL

Classification Scheme Name

New Classification Scheme

Classification Scheme Description

New classification

Classification Extraction Method

Automatic

Use Rulebase For Mapping

☐

Create

Delete

	Hierarchy Position	Repository Attribute
☒	1	Record ID Extension
☒	2	Stringtype
☒	3	Record ID

Save

Cancel

3. (Optional) from the **Data Source** dropdown list, select the datasource from which the classification codes are to be uploaded.

Note: The Data Source dropdown list is not visible if a datasource is not defined or uploaded.

Note: If you have already created the classification scheme, you can still upload the classification codes from the **View Repository** page.

Select a data source that is defined according to the requirements. A datasource has the following format:

First-Level Code ID	First-Level Code Description	Second-Level Code ID	Second-Level Code Description	...	...	nth Level Code ID	nth Level Code Description
—	—	—	—	—	—	—	—

If the data source file is not in the format mentioned above, convert the file to match this format. Also, if you have data in the XML format, create an XML data source and use XSL to convert the data into a simple tabular (flat) format.

i Note: The data source filename must include only ASCII characters. If the filename includes non-ASCII characters, such as Japanese, the file is uploaded to the server correctly but the SQL loader cannot read the file.

4. By default, a blank row for the first level in the hierarchy is already displayed. Select attributes from the **Repository Attribute** dropdown list.
5. To create more levels in the hierarchy, click **Create**.
6. Repeat until complete. The first attribute mapped is the first level, and so on.
7. To delete an attribute, select the checkbox next to the attribute and click **Delete**.
8. To save the custom classification scheme, click **Save**.

i Note: When a new classification scheme is created, all the records in the repository are classified. This process takes some time to complete. During this period, if you browse the classification scheme, it is possible that not all the classification codes and records are displayed until the process is complete.

Creating a Rulebase-based Classification Scheme

Complete the following steps to create a rulebase-based classification scheme.

Procedure

1. Navigate to **Browse and Search > Create Classification Scheme**.
2. Enter a name and description for the classification scheme.

3. (Optional) from the **Data Source** dropdown list, select the datasource from which the classification codes are to be uploaded.

Note: The Data Source dropdown list is not visible if a datasource is not defined or uploaded.

Note: If you have already created the classification scheme, you can still upload the classification codes from the **View Repository** page.

Note: As a best practice, use only ASCII characters for the filenames. If the filenames contain non-ASCII characters and you attempt to copy the files between Windows, UNIX or Linux systems, there is a risk of the files getting corrupted.

4. Select the **Use Rulebase For Mapping** checkbox.
5. To upload a rulebase file from your computer, click **Choose File** and then select the rulebase file.
6. Click **Save**.
7. If you have selected a datasource in (Optional) from the Data Source dropdown list, select the datasource from which the classification codes are to be uploaded., you are prompted to check whether you want to upload the classification codes while creating the classification scheme. To save the classification scheme and upload the codes, click **OK**.

Or, to save the classification scheme without uploading the codes, click **Cancel**.

The rulebase file is uploaded to the \$MQ_COMMON_

DIR/enterprise/catalog/master/<repositoryid> directory.

i Note: To prevent overwriting files with identical names in the specified location, avoid naming the rulebase file as `catalogvalidation.xml` or `newrecord.xml`.

Guidelines for Building the Rulebase

Follow these guidelines to build the rulebase that defines the classification scheme:

- Rulebase has access to all the repository attributes.
- Rulebase can return multiple taxonomies.
- The input to the rulebase is a record and the output is a list of arrays. The output variables must be named in the following format:
`classificationcodelevel1`, `classificationcodelevel2`,
`classificationcodelevel3`, and so on.
- Each array represents one level in the classification code hierarchy.
- To create multiple classifications for each level, add more than one entry to the array.
- If more than one entry is specified, the following rules apply:
 - A level can have one element, which means this element applies to all possible parent or child nodes.
 - A level can have N nodes, in which case, this must be the same number as other arrays (if those arrays have more than one element).
 - Any extra entry in the array is ignored.
 - An array can be NULL, which means no classification. In this case, the taxonomy stops at the previous level. If this was the top level, the record is unclassified.

Examples of Classification Levels

These are the examples of classification levels in a rulebase:

Example 1

- Classification levels in the rulebase:
Level1 = Food, FMCG
Level2 = Perishable, Seasonal
Level3 = Dairy

Level1 = Address
Level2 = Billing Address, Dispatch Address
Level3 = Customer
- Resultant taxonomy:
Food > Perishable > Dairy
FMCG > Seasonal > Dairy
- Reasoning: One entry in Level3 applies to all. However, the first position in Level1 applies only to the first position in Level2. There is a single entry in Level3, which applies to all entries in Level2.

Example 2

- Classification levels in the rulebase:
Level1 = Food, FMCG
Level2 = Perishable, Seasonal
Level3 = Dairy, Milk
- Resultant taxonomy:
Food > Perishable > Dairy
FMCG > Seasonal > Milk
- Reasoning: One entry in Level1 applies to all. However, the first position in Level2 applies to the first position in Level3 only.

The following rulebase defines the rulebase for Example 2. BRANDNAME, TYPE_A, and TYPE_B are the repository attributes.

```

<?xml version="1.0" encoding="UTF-8"?>
  <rulebase xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
metaversion="0.1">
    <name>rbClassificationCodeRulebase</name>
    <description>Rule base to get classification codes</description>
    <declare usage="output">
      <var>CLASSIFICATIONCODELEVEL1</var>
    </declare>
    <declare usage="output">
      <var>CLASSIFICATIONCODELEVEL2</var>
    </declare>
    <declare usage="output">
      <var>CLASSIFICATIONCODELEVEL3</var>
    </declare>
    <constraint>
      <name>AssignCode level1</name>
      <description>CLASSIFICATIONCODELEVEL1.</description>
      <condition>
        <eq>
          <var>BRANDNAME</var>
          <const type="string">Brand-A</const>
        </eq>
      </condition>
      <action>
        <assign>
          <var>CLASSIFICATIONCODELEVEL1</var>
          <const type="string">FMCG</const>
          <const type="string">FOOD</const>
        </assign>
      </action>
    </constraint>
    <constraint>
      <name>AssignCode level2</name>
      <description>CLASSIFICATIONCODELEVEL2.</description>
      <condition>
        <eq>
          <var>TYPE_A</var>
          <const type="string">CODE-A</const>
        </eq>
      </condition>
      <action>
        <assign>
          <var>CLASSIFICATIONCODELEVEL2</var>
          <const type="string">Perishable</const>
          <const type="string">Seasonal</const>
        </assign>
      </action>
    </constraint>
  </rulebase>

```

```
<constraint>
<name>AssignCode level3</name>
<description>CLASSIFICATIONCODELEVEL3.</description>
<condition>
<eq>
<var>TYPE_B</var>
<const type="string">CODE-B</const>
</eq>
</condition>
<action>
<assign>
<var>CLASSIFICATIONCODELEVEL3</var>
<const type="string">Dairy</const>
<const type="string">Milk</const>
</assign>
</action>
</constraint>
</rulebase>
```

Viewing Classification Scheme Details and Usage

To view or delete private and custom classification schemes, go to the View Repository page. The permission to delete classification schemes is based on the user's role.

Procedure

1. Click **Master Data > Repositories**.
2. Select the repository. The View Repository page is displayed.

View Repository

Repository Name	ADDRESS	Table Name	MCT_34435
Last Modified	2021-08-11 10:56:17.113	Last Modified By	jsmith,jsmith
Repository Description	Generic address definition	Display Name	ADDRESS
Attribute History	No	Precedence Management	No

Attributes Relationships Output Maps **Classification Schemes**

Classification Scheme Name	Description	Scheme Type	User Defined?
☐ ADDRESSTYPE	Based on Address type	ATTRIBUTE_BASED_MAPPING	true

Page 1 of 1 View 1 - 1 of 1

- Click a Classification Scheme name on the **Classification Schemes** tab to view the classification scheme details. The Classification Scheme is displayed.

View Classification Scheme

Repository Name	ADDRESS
Classification Scheme Name	ADDRESSTYPE
Classification Scheme Description	Based on Address type
Classification Scheme Type	ATTRIBUTE_BASED_MAPPING
Classification Extraction Method	Automatic

Hierarchy Position	Attribute Name
1	Country ISO Code

Page 1 of 1 View 1 - 1 of 1

Details such as the scheme name, scheme description, scheme type, and extraction method are displayed.

4. Click **Show Usage** to see the usage of the classification scheme. The Classification Scheme Usage page is displayed. This displays repositories using the specific custom-defined classification scheme.

Deleting Classification Scheme

Procedure

1. Log in to TIBCO MDM.
2. Click **Master Data > Repositories** from the menu.
3. Click the repository name.
The View Repository page is displayed.
4. Click the **Classifications Schemes** tab.
5. Select the classification scheme and click **Delete**.

Result

An alert prompts you to confirm deletion. You can delete a classification scheme even if it is in use. This does not impact other objects.

Uploading Classification Codes to an Existing Classification Scheme

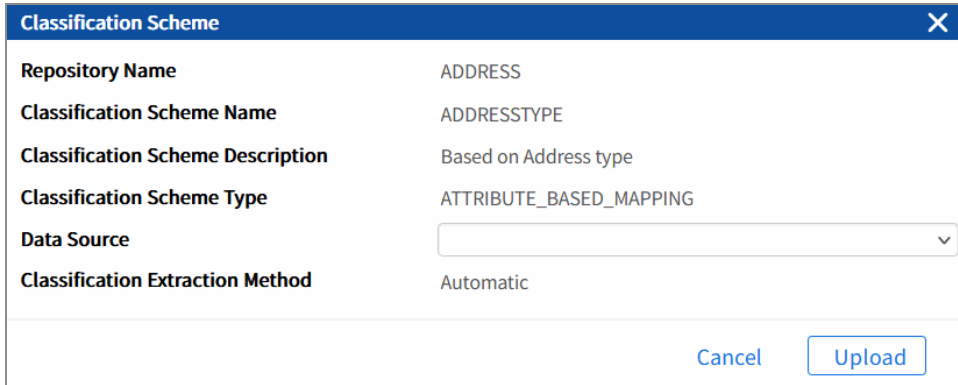
Complete the following steps to upload classification codes to an existing classification scheme.

Procedure

1. Log in to TIBCO MDM.
2. Click **Master Data > Repositories** from the menu.
3. Click the repository name.

The View Repository page is displayed.

4. Click the **Classifications Schemes** tab.
5. Select the classification scheme and click **Upload** to access the Upload Classification Codes page.

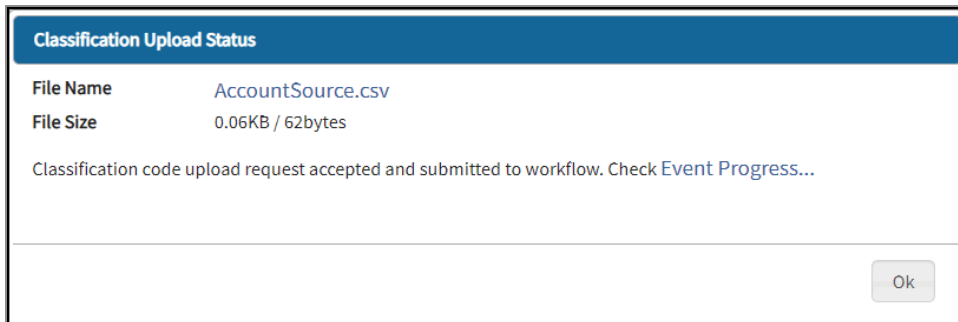


A dialog box titled "Classification Scheme" with a close button (X) in the top right corner. It contains the following fields:

Repository Name	ADDRESS
Classification Scheme Name	ADDRESSTYPE
Classification Scheme Description	Based on Address type
Classification Scheme Type	ATTRIBUTE_BASED_MAPPING
Data Source	
Classification Extraction Method	Automatic

At the bottom right, there are two buttons: "Cancel" and "Upload".

6. Select the datasource from the Data Source drop-down list and click **Upload**. The classification schemes can be uploaded only from a predefined datasource. It displays the following page:



A dialog box titled "Classification Upload Status" with an "Ok" button in the bottom right corner. It displays the following information:

File Name	AccountSource.csv
File Size	0.06KB / 62bytes

Below the table, it says: "Classification code upload request accepted and submitted to workflow. Check [Event Progress...](#)"

7. Click **Event Progress** to monitor the progress. It shows the Event Log page with the details.

i Note: When a workflow is run as in-memory, no event is generated. As a result, you cannot check event details for operations triggered by an in-memory workflow. In this case, click the check progress link that redirects you to a page. The page displays an in-memory operation message instead of displaying the progress.

Mass Update

You can mass update the records either by editing multiple records through the user interface or by using a rule.

To access the Mass Update page, click **Master Data > Mass Update**

Note: The **Mass Update** option is displayed only for those users who have been assigned the Repository Editor role.

Mass update can be done in two modes:

- Basic mode: Mass update is done through a spreadsheet-like user interface. This is the default mode.
- Advanced mode: Mass update is done through a rulebase.

Basic Mode

When you click **Master Data > Mass Update**, the Basic mode is displayed by default.

Mass Update Advanced Mode

Repository: ADDRESS
Repository Description: Generic address definition
Search [Configure](#)

▼ Search

▼ ADDRESS

Record ID:	Equals		☐ Case-sensitive
Address Type:	Equals		☐ Case-sensitive
Street:	Equals		☐ Case-sensitive
Street Suffix or Street Type:	Equals		☐ Case-sensitive
City:	Equals		☐ Case-sensitive
State/Province:	Equals		☐ Case-sensitive
State/Province Code:	Equals		☐ Case-sensitive

For subsequent invocations, the last selected mode (either basic or advanced) is displayed. From the advanced mode of the Mass Update page, click **Basic Mode** to reach the basic mode.

Searching for Records Using Mass Update

When the Mass Update page is invoked for the first time, a drop-down list of available repositories is displayed based on the security settings applied to the repositories.

You can retrieve records n number of times in one edit session. Every time you perform a new search, all newly searched records are shown, along with the previously searched records, in default sort order.

Procedure

1. Log in to TIBCO MDM.
2. Click **Master Data > Mass Update**.
3. Select a repository from the drop-down list. By default, the first repository in the list is selected.

For all subsequent invocations of the page, the default is the previously selected repository. If the previously selected repository has been removed, the default is the first repository in the drop-down list.

The search criteria is initially populated with the following:

- Empty values of the selected repository's searchable attributes. Select the search operator and type in the value to search records. For information about search operators, see the following sections:
 - [Search Operators and Data Types](#)
 - [Searching for Records Using in or not in Operator](#)
 - [Searching Records Using Other Operators](#)
- Modified by and Modified on attributes



Note: Searchable attributes are populated based on the saved configuration of the selected repository.

If a new repository is selected, you are prompted to refresh the page without any changes.

- Click **Configure** to configure the columns displayed. For more information, see [Configuring Columns Displayed in Various Tables](#).
- Click **Search** to get the records based on the search criteria.

After the records are retrieved, you can edit the records as described in the following section.

Editing Retrieved Records

After records are searched and retrieved, the following page is displayed:

The screenshot shows the 'Mass Update' interface. At the top, there's a 'Repository' dropdown set to 'ADDRESS' and a 'Repository Description' of 'Generic address definition'. A 'Search' button is on the right. Below this, a message states: 'To update multiple records with the same value in a column, select the records, enter the value in the top row, and click Apply.' There are 'Apply' and 'Revert' buttons. The main part is a table with columns: Record ID, Address Type, Street, and City. The table contains 7 rows. The first row has a checkbox, 'Record ID', 'Address Type', 'Street', and 'City'. The next three rows are highlighted in yellow and have checkboxes checked: 'ADDRES-34998' (Rochester), 'ADDRES-34999' (Harrisburg), and 'ADDRES-35000' (Tampa). The last three rows are not highlighted and have checkboxes unchecked: 'ADDRES-35001' (Charlotte), 'ADDRES-35002' (Salem), and 'ADDRES-35003' (Mobile). At the bottom, there are 'Cancel' and 'Next' buttons, and a pagination bar showing 'Page 1' of 50.

The Results table allows cell-level editing, as well as mass editing.

Procedure

- To update more than one record with the same value in a column, select the records,

enter the value in the topmost row, and click **Apply**.

You can select individual rows by checking the corresponding check boxes. You can also select all the rows on the page or page by checking the check box on the table header.

2. Click **Next** when all the changes have been made on all the records. An asterisk (*) indicates a row change. Also, values on the mass edit row are re-initialized to the blank.

 **Note:** Only non-empty values can be applied using the mass edit row.

If the field value in the mass edit field row is empty, it is ignored. To apply an empty value, individually enter the corresponding record field. All the selected records are added to the master list.

Modifying a record field value without selecting the record automatically selects the record and adds it to the master list.

3. Click **Revert** to revert the selected records where they were before being added into the search session.
4. Click **Cancel** if you want to go to a new session of the Mass Update page.

Confirming Edited Records

When you click **Next**, all the records edited are shown in the Changed Records List page.

Mass Update Advanced Mode

Repository Name: ADDRESS Repository Description: Generic address definition

Comments:

Changed Records List

☒	★	ADDRES-34998	Palo Alto
☐	★	ADDRES-34999	Palo Alto
☐	★	ADDRES-35000	Palo Alto

Page 1 of 50

All the changes are displayed in a read-only view in the table. This page displays the repository name, repository description, and comments if any.

Procedure

1. Click **View** to view a complete single changed record.
2. Click **Compare** to compare the changes done on a record with the record version which was selected for mass update.
3. Click **Remove** to remove the selected records from the master bucket. The *master bucket* is the master list that contains all edited records.
4. After making changes to the record, perform any of the following actions:
 - a. Click **Validate** to validate the mass update of all records. This validation uses the same `catalogvalidation.xml` that is used at the time of record validation.
 - If the errors are not found, a confirmation message is displayed. Click **OK**.
 - After the validation is done, a new Errors column appears in the table. This column indicates any errors that occurred during validation.
 - If the validation fails, the **Show Error Records Only** check box is displayed. You can modify the column value in the Error Records list page. If a record has an error, all records cannot be saved until the record with the error is either corrected or removed from the list. However, a work

supervisor can save records with errors.

- b. Click **Save and Process**. A confirmation message is displayed to process the mass update. Click **OK**. A success message is displayed with an **Event Progress** link.
 - Click the **Event Progress** link to view the corresponding event details or click **Ok** to return to the Basic mode of the Mass Update search page.
- c. Click **Back**. The records from the last session are displayed in an editable view.
- d. Click **Cancel**. A confirmation message is displayed. If you agree to the cancellation, all changes in all records are discarded, and you are navigated to the Mass Update page in Basic Mode with a fresh session.

Mass Updating Records in Advanced Mode

Procedure

1. Click **Master Data > Mass Update**.
The Basic mode is displayed by default.
2. Click **Advanced Mode** on the upper right corner.
The Mass Update page is displayed.

Mass Update Basic Mode

Repository Name: ADDRESS

Repository Description:

Rulebase: None

Subset Rule: None (all records)

Record State: ☐ Latest ☒ Confirmed

Comments:

[Upload](#) [Clear](#) [Create](#) [Modify](#) [Browse](#)

Start

Note: When you switch between the two mass update modes, no information is saved and the following warning is displayed: All changes made until now are lost, is it ok to switch the mode?

3. Select a rulebase from the Rulebase drop-down list. The drop-down list shows a list of rulebases only those uploaded from the Mass Update page. You can select a rulebase from the drop-down list or upload a new rulebase.
4. To upload a new rulebase, click **Upload**. If the selected rulebase has input variables declarations, you can enter values for the rulebase input parameters on the Advanced Mass Update page.

 Note:

- While declaring variables in a rulebase, make sure the variable declared as input has a name that differs from the repository attribute name.
- This rulebase file must specify which record attribute values of a specific repository need to be replaced with new values. Files that are not available in this directory, but have an entry in the ConfigurationDefinition table, are not shown in the drop-down list.
- Files without an XML extension are not shown in the rulebase drop-down list.

When a rulebase is selected, the Rulebase Parameters pane is populated. The variable names are derived from the selected rulebase name. In the rulebase file, if no variable is defined as `usage = input`, no parameters are displayed on the user interface.

5. Optionally, you can specify a subset of records in the Subset Rule drop-down list. If a subset is specified, the specific record versions belonging to that snapshot get the required data. If no subset is specified, all records of the repository are updated.

You can:

- Click **Create** to create a new subset. Any subset created this way is a private subset, and is only visible to the user who created it.
 - Click **Browse** to browse an existing subset.
 - Click **Modify** to modify an existing subset.
6. By default, the last confirmed record version is selected. However, you can also select unconfirmed versions by selecting the Latest Version option.
 7. You can add any process-related comments in the Comments field.

8. Click **Start**.

A confirmation message is displayed to process the mass update. Click **OK**. The mass update process starts and a mass update workflow is fired. A success message is displayed with an **Event Progress** link.

Note: If no repository exists in a company, or if you have insufficient permissions for mass update on all repositories, the drop-down lists for repository, subset, and rulebase are disabled.

9. Click the **Event Progress** link to view the corresponding event details.

Mass Update Work Item

You can receive a work item for mass update by creating a Record Edit Approval business process rule for mass update.

Mass Update Approval
Mass update results are shown below. Review changes and correct errors, if any. Approve or reject changes to each record before submitting the work item

Work Item ID	52008	Event ID	52007
Repository Name	ADDRESS	Repository Description	Generic address definition
Mass Update Mode	Basic	Initiated By	jsmith/jsmith/jsmith
Modification Date and Time	2020-10-01 10:52:54.443		

Comments

Total Records: 1 Total Records Pending: 1 Total Records Approved: 0 Total Records Rejected: 0 [Configure](#)

View: Pending Records

	Record ID	Record ID Extension	Address Type	Street	City	State/Province	Remarks
☐	ADDRESS-35001				Salem		

Page 1 of 1 Items per page: 50

[Process History](#)

[Submit](#) [Cancel](#)

- The number of Total Records, Total Records Pending, and Total Records Approved are displayed.
- **Record ID**—Opens the View Record page.
- **Status**—Displays the current status of each record.
- **Reviewed By**—Displays who changed the status.

- **Reviewed On**—Displays when the status was changed.
- **Approve**—Allows you to approve selected records. It approves the modifications done on selected records. Records with errors are not approved, unless you have the required permission to do so.
- **Reject** —Allows you to reject selected records. Records with errors can also be rejected, if you have appropriate permissions.
- **Select All**—To select all records displayed in the table, check the check box on the header.
- **Error**—This link is shown in the Errors column only if there is an error in any of the validations. Click **Error** to display a consolidated list of errors for the record.

It is assumed that the validation that a rulebase passes is either a subset, or the same as the standard catalog validation used at the time of record edit or mass update.

The **Error** link is generated based on the output of the EvaluateRulebase and CreateWorkItem activities. When a work item is viewed, and Error link is clicked, it may show a different set of errors. The configuration must be corrected.

- **Configure**—Click to configure the columns to be displayed in the table. By default, all attributes marked as Display in Record List are shown. For more information, see [Configuring Columns Displayed in Various Tables](#).

Click the **Submit** button. The approved and rejected records are submitted for further processing. If there are any pending records, the **Submit** button is disabled.

More than one work item can be generated and assigned to different people. When a decision is made, if the underlying data has changed, a warning is displayed and the change is ignored. You must reenter the work item.

You can filter the records using the View drop-down list to be shown on a page based on the following criteria: **All Records**, **Pending Records**, **Approved Records**, **Rejected Records**, and **Error Records**.

A single record can be viewed and edited using the View and Edit options.

View All Records on Mass Update Work Item

The View all Records option can also be used to view all records in the repository. It displays records that are both classified and not classified under any particular classification schemes. When you click the classification schemes, you can see all records

pertaining to the selected classification scheme. To see the unclassified records, click **View
Unclassified Records**.

Records in Repositories

You can perform various actions on a record of Repositories using the Browse and Search page. You can add, modify, copy, view, export, and delete records. You can also compare and search records.

Actions on Record

You can perform the following actions on a record:

Actions on Record

Action	Description
Create Record	Create a new record, see Creating Records
Modify	Modify the existing record, see Modifying Records
Copy	Copy the selected record, see Copying Records
Compare	Compare records or versions of a record, see Comparing Records
Merge	Merge records, see Manually Selecting and Merging Records

Action	Description
Show History	View the record history, see Viewing Record History
Quick Export	Export records to a file in the delimited format, see Quick Export
Delete Record	Delete the selected record, see Deleting Records
Graphical Editor	View the visual tree representation of a record hierarchy, see Graphical Editor
Record View	View all records as well as a single record, see Viewing Records
Record Search	Search records, see Searching Records
Text Search	Search for human recognizable terms or search based on attributes, see Text Search
Configure	Configure search attributes, see Configuring Search Attributes
	Configure attributes that are displayed in the record table, see Configuring Columns Displayed in Various Tables

Mandatory Fields

If a repository contains any required attributes, the red asterisk (*) sign is shown for those attributes.

The required attributes are configured on the record UI, if the following functions are performed:

- while creating attributes in TIBCO MDM Studio (in the **Advanced** tab), if the Required property is set to true
- if the Check action is specified for the required attributes in the rulebase.
- the configuration property Required indicator for attributes in record UI is

set to true in the Configurator

The red asterisk (*) is shown for the CRUD (Create, Retrieve, Update, and Delete) operations on the record UI page and the work item page.



Caution: The red asterisk is not shown on the Browse and Search page even though the field is a required field.

If you want to disable the configuration, change the value of the property `Required indicator for attributes in record UI` to false. Additionally, you can change the style and color of the asterisk (*) sign using the CSS file.

For information, see the section [Customizing Mandatory Indicator](#) in *TIBCO MDM Customization Guide*.

Limitation

The red asterisk (*) for the required attributes that are configured through rulebase is shown only on the Add Record page.

Creating Records

Procedure

1. Click **Browse and Search**.
2. In the Repository Name drop-down list, select the repository in which you want to add records.
3. Click **Create Record**. The Add Record page is displayed.

Add Record

Perspective: None

Repository Name: ACCOUNT
Repository Description: Account for party
AccountID: ACC-35460

Basic | Details | System

AccountID: ACC-35460 | Name: John
Description: | Account Type: Savings account
Swift code: | BIC Code: |
Open Date: 12/21/2015 | Is Closed Account: No
Close Date: | Closing Reason: |
Is Inactive Account: No | Inactivation Reason: |
mul_file: C:_virginia_1.jpg |
att_file2: |
UploadFileLatest_1.docx

Validate | Save | Save and Process | Cancel

4. Enter values in the Record ID and Record ID Extension fields. The values are displayed in tree header at the left side.
5. Enter values in other fields. The field names are displayed based on the attributes created for each repository.
6. For the File Type or Multivalue File Type attribute, upload a file by clicking the Browse icon or by dragging and dropping.

Add Record

Perspective: None

Repository Name: ACCOUNT
Repository Description: Account for party
AccountID: ACC-35460

Basic | Details | System

AccountID: ACC-35460 | Name: John
Description: | Account Type: Savings account
Swift code: | BIC Code: |
Open Date: 12/21/2015 | Is Closed Account: No
Close Date: | Closing Reason: |
Is Inactive Account: No | Inactivation Reason: |
mul_file: C:_virginia_1.jpg |
att_file2: |
UploadFileLatest_1.docx

Validate | Save | Save and Process | Cancel

- For uploading a file, the maximum file size limit is 10 MB. If you want to upload a file greater than 10MB, change the value of the Upload File Size Limit property in the Configurator.
- For JBoss Wildfly Application Server: Add or update the maxPostSize parameter

in the `standalone.xml` file

For more information, see [WildFly Full 20 Model Reference](#).

- For Tomcat: Add or update the `maxPostSize` parameter in the `$TOMCAT_HOME/conf/server.xml` file.

For more information, see the following:

- [Apache Tomcat 8 Configuration Reference](#)
- Configuring MDM for JBoss WildFly Application Server section of the *TIBCO® MDM Installation and Configuration Guide*
- Configuring and Deploying MDM On the Tomcat Server section of the *TIBCO® MDM Installation and Configuration Guide*
- The supported file extensions are jpg, gif, png, doc, docx, pdf, csv, xml, zip, and txt. If you want to upload a file other than the supported file extensions, add the required file extension (for example, JAR) in the value of the `Allowed Upload file extensions` property in the Configurator.



Note: For the Multivalue File Type attribute, you can perform the following actions on the multivalue editor:

- upload multiple files
- download or preview a file based on the file selection type
- preview a file by clicking the Preview icon after the successful upload. The Preview icon is available only for the image type file.
- delete a file using the Delete icon

The file drag and drop functionality is also applicable for records on the work item page. For information work items, see [Work Items](#).

7. The attributes are validated for errors as shown in the following figure:

Note:

- For Timestamp data type attribute, if you enter the format other than user profile, an error message is displayed.
- Selection of the Time zone value displayed on the Calendar is optional. If you do not enter it, the value which is selected in the user profile is considered.

8. Click **Save and Process**. The record is saved in the repository.



Note: The rulebase 'refresh' property applies to the text field attributes of the Record UI. For example, if you have set the 'refresh' property in the constraint (condition or action) to true and change the attribute value on the **Record Add** or **Record Modify** page, the page is automatically refreshed and dependent attribute values are re-computed.

Validating Records

All records that are added or modified are first validated against a rulebase before getting stored in the repository. The Validation feature checks for errors in every attribute. When errors are found, they are displayed next to the respective attribute field. There are two types of errors:

- **Fatal errors:** Fatal errors are critical errors such as duplicate ID or EXT, or missing values in mandatory fields that have to be resolved before saving the record. The **Save with errors** permission governs whether you can save with these errors.

- **Rulebase errors:** Rulebase errors are about validating attributes against a rulebase. For example, you can have a rulebase constraint that can only accept a range of 20 to 60 in the Age attribute. Rulebase errors are based on a severity flag set in the rulebase. For more information about the severity flag, see the *TIBCO MDM Studio Rulebase Designer User's Guide*. The Save with errors permission governs whether you can save with these errors.

Procedure

1. Perform the steps provided in [Creating Records](#).
2. Before saving the record, Click **Validate**. The record is validated against a rulebase. If an error is found, it is displayed next to the respective attribute field as shown in the following figure. A warning icon is displayed on the relevant tab and on the *Record ID - Record ID Extension* tree header.

The screenshot shows the 'Add Record' window. On the left, a tree view shows a hierarchy with 'ACC-35442' selected. The main panel displays the following information:

Repository Name	ACCOUNT
Repository Description	Account for party
AccountID	ACC-35442

Below this table, a red message states: "No errors or warnings found for current record." There are links for "Reason for Change" and "Show All Errors". At the bottom, there are buttons: "Validate", "Save", "Save and Process", and "Cancel".

3. To get a consolidated list of all the errors in the root record, click the **Show All Errors** link. All the errors are displayed on a separate page.
4. Resolve all the errors, and then save the record.

Note:

- When an Administrator adds or edits a record, the Administrator can confirm the record directly, without using a workflow.
- If you do not have Administrator privileges, and if you add or modify a record and click **Save**, the record is in an unconfirmed state and the event is in an In Progress state. In such cases, the event cannot be canceled. You can complete the event only after you modify the record, initiate a workflow, and click **Save and Process**.

Display Messages on Record UI

- The information messages on the Record UI page are displayed in green.
- The warning and error messages are displayed in red.

Modifying Records

Procedure

1. Click **Browse and Search**.
2. From the Repository Name drop-down list, select the repository whose records you want to modify.
3. Click **View All** . A list of all records is displayed.
4. Select the record that needs to be modified and click **Modify**. The Modify Record page is displayed.

The fields are displayed depending on the predefined output maps selection. Modify the fields that need to be changed.

5. Change the values in the fields
6. Click the **Reason For Change** link. The Enter Reason For Change dialog is displayed.
7. Type the reason of modifying a record.
8. Click **Done** to save the reason.

9. Click **Save and Process** to process the workflow.

i Note:

- When you access the Modify Record page using a work item, the **Save and Process** button is not available. The **Save** option saves the record with the same state as the record that was being edited (Draft or unconfirmed) and the edited version is considered a part of the workflow.
- If you do not have appropriate permissions, and you add or modify a record and click the **Save** button,
 - the record remains in an Unconfirmed state.
 - the event remains in an In Progress state.In such cases, the event cannot be canceled. You can cancel the event only after you modify the record and initiate a workflow, that is, click **Save and Process**.
- If a record is in the workflow and you modify that particular record, you are not allowed to edit it. Editing is allowed only if you have **Edit when record is in workflow** permission. The related warning messages are displayed irrespective of the Edit when the record is in workflow permission.

Inline Editing of Related Records

With inline editing of related records, you can edit child records in relationship table without the need to open a separate panel to make changes. You can update specific fields or values of a record by clicking the field and entering new data.

Procedure

1. Click **Browse and Search**.
2. From the **Repository Name** dropdown list, select the repository whose records you want to modify.
3. Click **View All**. A list of all records is displayed.
4. Select a record and click **Modify**. The Modify Record page is displayed.

5. Select a relationship name for the selected record to display the related records in that relationship.

Modify Record

Perspective: None

PARTY-35407 > ContactPhone

Relationship Name: ContactPhone
Repository Name: PHONE

[Quick Export](#) [Show Errors](#)

Record ID	Type	Name	Number	Extension	Country Code	Area Code	Is Valid
☐ PHONE-35383	Tax1	FAX	(650) 867-9895	433	434	345	true
☐ PHONE-35395	Business Phone	BUSINESS PHONE	(650) 867-3450	564	134	5433	false

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6. Hover the mouse pointer over a record attribute. An icon for each attribute type is displayed, which indicates that an attribute is editable.
7. Click a record attribute and edit the values that you want to change.
8. When you click a multi-value attribute, the **Multi-value Attribute Details** dialog is displayed. Click + to add more values or click - to remove a value.
9. For a related record, if you click a record ID link in the Record ID column, a single view editor panel is displayed. You can also modify related records in this panel.

Repository Name: PHONE
Record ID: PHONE-35383
State: Confirmed
Version Number: 4
[Reason For Change](#)

Basic System Classifications

Record ID PHONE-35383

Name FAX

Extension 332

Country Code 3322

Is Valid No

Is Phone Working No

Type Business Phone

Number (650) 867-9895

Country

Area Code 332

Last Worked On

Note: The edits that you perform in the single view editor panel take precedence over the inline edits.

10. Click **Validate** to validate and fix any errors that might occur because of missing or wrong attribute values.
11. Click **Save and Process** to process the workflow.

i Note: You cannot modify the Record ID, Extension, and File type attributes in the inline editor. To modify these attributes, open the single view editor.

Support for Mutation while Modifying Records

When you modify records through UI, you can use the Mutation feature.

The process of changing the record ID or record ID extension of a record is called mutation. In this process, the record identity is changed. Mutation allows ID or extension to be corrected during the entire span of a record. The ID or extension pair assigned to an active record cannot be assigned to another record even when an ID or extension pair is mutated.

Mutation is also supported for the following options:

- Record modification through web services
- Record modification through rulebase (using EvaluateRulebase activity)
- MergeRecord activity

For information about the Record Add/Modify web service, see the *Web Services Guide* and For information about the EvaluateRulebase activity and the MergeRecord activity, see *Workflow Reference* and *Customization Guide* on [TIBCO MDM product documentation](#) page.

ManualMerge

With the manual merge, you can manually merge multiple records into one. This does not depend on the Matcher.

You can select multiple records from the **Browse and Search** or the **Text Search** page. Based on the selected records, you can choose the source records and the target record. Attribute values can be picked from source records and can be merged into the target record. Values can be entered directly or can be from the source record or from other matched records and merged into the target record.

Manual Merge Workflow

When records are manually merged, through the UI or web service, the Record Merge event is started and the process is executed.

Before the process execution, based on the process log, all the information is saved in the Merge tables. It includes the MergeResult, MergeResultdetails, and Mergeattributes tables. Information is not stored in the matching tables, such as MatchResult, MatchCandidate, and so on. It helps make the manual merge independent of the match activity. After storing all the required data in the Merge table, the workflow is initiated for the processing.



Note: A shutdown case is not handled. If TIBCO MDM goes down before the workflow starts, the data is lost.

The wfin26productmanualmergev1.xml workflow is used for processing the manual merge. This workflow calls the wfin26producteditapprovalv3.xml workflow for modifying the records. After the completion of the wfin26producteditapprovalv3.xml workflow, the delete record activity is called to delete the source records.

Manually Selecting and Merging Records

Manually select multiple records to merge into one record. The primary selected record is treated as the target record. All the remaining selected records are treated as the source records. You can select the attribute values and relationships from source records and merge them into the target record.

Before you begin

To perform the merge operation, ensure that the **Manual Merge** and **Modify** record level [Permissions by Resource Type](#) are enabled for you.



Warning: The **Merge** option on the Browse and Search page is disabled in the following cases:

Resource Security Permission	Status
Modify	Denied
• Modify • Manual Merge	Allowed
	Denied

Procedure

1. Click **Browse and Search**.
2. From the Repository Name drop-down list, select the repository whose records you want to merge.
3. Click **View All**.
A list of all records is displayed.
4. Select two or more records that you want to merge, and then click **Merge**.

5. Click **Primary** for that record's attributes to be used for the target record. The rest of the records become the source records.

The selected primary record is displayed in the **Result** column.



Warning: You must select the primary record before you click **VALIDATE** or **MERGE**.

6. Optional: Merge attributes by dragging and dropping to the target record or double-click the attribute in the target record to inline edit. You can also double-click on the attribute value to assign value from the source records.
7. Optional steps:
 - Click **VALIDATE** to perform the validation process.
 - Click **RESET** to reset the records selected for merging.
 - Drag and drop values from the source or matched record to the result column.
 - Edit any of the attributes in the result column by double clicking on the cell. If you want to go back to the original value, click the arrow .

8. Click **MERGE**.

The SUMMARY window is displayed with the target records and the source records.

SUMMARY

	ID	ID Ext	ACTION	
Target	1	1-exe		
Record 2	3	3-exe	Delete	☒

SUBMIT
CANCEL

9. Optional: Select the check box if you want to delete the source record.
10. Click **SUBMIT**.

The target record is saved and the source record is deleted based on the selection done in the SUMMARY window. The Record Merge (wfin26productmanualmergev1.xml) event is generated.

What to do next

You can check the Record Merge event status from the [Handling of Event Logs](#) page.

Version Management Using Correction

Changing any attribute value in TIBCO MDM, creates a new version of the record. You can use these versions to track the changes and view the history of a record. However, sometimes you need not track the changes done to a record by explicit modification action or implicit action by intermediate steps in a workflow. In such a scenario, use the **Correction** option. Correction updates the existing record version instead of creating a new version.

- UI: the **Correction** option is available on the following screens:
 - Browse and Search
 - View Record
 - Modify Record
 - Work Item
 - Text Search

 **Note:** Correction action from UI triggers a new workflow, `wfin26productcorrectv1.xml`.

- Workflow Activities: use the `VersionPolicy` parameter in the following workflow activities to have similar functionality:
 - ImportCatalogRecords
 - EvaluateRulebase
 - SaveRecord

For more information about these activities and the `VersionPolicy` parameter, see *TIBCO MDM Workflow Reference*.

- Web Services: Use the `VERSION_POLICY` context variable in the Record Modify web service to have similar functionality. For more information, see the section, "Record Add Modify Services - Inputs" in *TIBCO MDM Web Services Guide*.

 **Note:** The web service with `VERSION_POLICY` context variable triggers the record modify workflow, and not the new workflow for correction. This is the difference between UI and web service.

- **Rulebases:** A new **Correct** sub-action is available in the rulebase for correction operations. For more details about `RECORD_ACTION`, see the section "Context Variables" in *TIBCO MDM Studio Rulebase Designer User's Guide*.

Correcting Records

Using the **Correction** option on the UI, you can update the existing version of a record, instead of creating a new one.

Before you begin

Resource security permission is defined for using the **Correction** option on the UI. By default, the permission is denied. For information about defining resource securities, see the section, [Defining Resource Security](#). For information about the list of permissions, see the section, [Permissions by Resource Type](#).

Procedure

1. Click **Browse and Search**.
2. From the **Repository Name** drop-down list, select the repository whose records you want to correct.
3. Click **View All**. A list of all records is displayed.
4. Select the record that needs to be corrected and click **Correction**. The **Correct Record** page is displayed.

The screenshot shows the 'Correct Record' interface. On the left is a sidebar with a tree view showing a selected record 'ACC-35460' under a 'Perspective' of 'None'. The main panel has three tabs: 'Basic', 'Details', and 'System'. The 'Basic' tab is selected, displaying a form with the following fields: 'AccountID' (ACC-35460), 'Name' (John), 'Account Type' (Savings account), 'BIC Code' (empty), 'Open Date' (12/21/2015), 'Is Closed Account' (No), 'Close Date' (empty), 'Closing Reason' (empty), 'Is Inactive Account' (No), and 'Inactivation Reason' (empty). At the bottom of the form are four buttons: 'Validate', 'Save', 'Save and Process', and 'Cancel'.

5. Change the values in the fields.
6. Click **Save and Process** to update the existing record version and trigger workflow

for further processing or customization, if any.

Copying Records

You can copy a record to the repository using an existing record.

Procedure

1. Select the **Browse and Search** menu.
2. In the Repository Name drop-down list, select the repository in which you want to add records.
3. Click **View All** and select the record to be copied.
4. Click **Copy**.
The Copy Record page is displayed.

Copy Record

Repository Name: ACCOUNT
Repository Description: Account for party
AccountID: ACC-35460

Basic | Details | System

AccountID: ACC-35460
Description:
Swift code:
Open Date: 12/21/2015
Close Date:
Is Inactive Account: No

Name: John
Account Type: Savings account
BIC Code:
Is Closed Account: No
Closing Reason:
Inactivation Reason:

CORRESPONDS: No related records exist.
HELD BY: No related records exist.

Note :Duplicate attributes marked in red

Validate Save Save and Process Cancel

5. Enter the new details in the fields.

A record may have relationships with a number of other records within or across repositories. You can choose to copy a record with or without keeping its relationships intact.

i Note: When copying records in a relationship, all records in a hierarchy are copied only if they are in a homogenous relationship. For more information about homogenous relationships, see [Homogenous Relationships](#). For more information about records in a relationship, see [Records in Relationships](#).

6. Click **Save and Process** to save the record and process for the workflow.

Comparing Records

Use the following ways to compare records:

- [Comparing Records within a Repository](#)
- [Comparing Versions of a Record](#)

Comparing Records within a Repository

Procedure

1. Click **Browse and Search**.
2. From the Repository Name drop-down list, select the name of the repository from which you want to compare records.
3. Click **View All**. A list of records is displayed.
4. Select two or more records that you want to compare. By default, you can select a maximum of 10 records for comparison.

i Note: If you want to change the default number of record comparisons, modify the default value in the `"propname=com.tibco.mdm.max.records.compare.count"` property inside the `ConfigValues.xml` file. To compare unlimited records, set value = -1.
For example, `<ConfNum default="10" value="-1"/>`.
Restart the server for these changes to take effect.

5. Click **Compare**.

The Compare Records page is displayed.

Compare Records

Repository Name: PERSON Repository Description: PERSON [Configure](#)

Show Comparison For: Show Differences Only: ☒

Summary

No.	Summary Of Comparison	PERSON-35920-V(2)	PERSON-35941-V(1)	PERSON-35946-V(2)	PERSON-35947-V(2)
1	Record Attributes	-	Differ	Differ	Differ
2	Classifications	-	Same	Same	Same

Comparison Details

Expand All Collapse All

Record Attributes	PERSON-35920-V(2)	PERSON-35941-V(1)	PERSON-35946-V(2)	PERSON-35947-V(2)
Record ID	PERSON-35920	PERSON-35941	PERSON-35946	PERSON-35947
Record ID Extension				

Unsigned

Record Attributes	PERSON-35920-V(2)	PERSON-35941-V(1)	PERSON-35946-V(2)	PERSON-35947-V(2)
First Name	John	Adam	Alex	Chan
Middle Name	mdm			Woo
Last Name	mdm	Doe	Gom	mdm
Date of Birth	2023-09-05	1960-04-12	2022-10-29	2023-09-05

Depending on the number of records selected for comparison, the number of drop-down lists displayed on the Compare Records page changes. For example, if you select three records, the Compare Records page shows three drop-down lists. When a selection in any drop-down list is changed, it is ensured that the same record cannot be selected in the remaining two drop-down lists.

- Select the source record in the Compare Record drop-down list.
- Select the second record in the with record drop-down list.

If you have selected two records for comparison, the second record is automatically populated in the with record drop-down list.

If you have selected three records for comparison, after selecting the first record in the Compare Record drop-down list and the second record in the with record drop-down list, the third record is automatically populated in the record drop-down list.

- Select one of the following options from the Show Comparison For drop-down list to specify the type of differences that must be displayed:
 - All
 - Record Attributes: By default, this option is selected. That is, differences between the values of their record attributes are displayed.
 - Relationships: Only forward relationship differences are compared.
 - Relationships Attributes
 - Relationship Target Records

For **Relationship** or **Relationship Target Records** options, the differences are viewed with respect to the first of the two records being compared. That is, if a relationship does not exist with the first record, but it exists with the second record, it is not listed in the differences.

- **Classifications:** For information about comparing Classification records, see [Comparing Classification of Records](#).
7. By default, the **Show Differences only** check box is selected and only the differences are visible. If the **Show Differences Only** check box is not selected, all the values for various attributes are displayed irrespective of whether they are different or not. Differences are highlighted in red.

i Note: If you want this check box to be cleared for the first time you login, change the value of the **Show Differences only** check box using the Configurator, and then log in to the application.

A summary of comparisons is displayed in a tabular form in the Summary section of the page. Click the record attribute row or relationship attribute row in the table of the Summary section to view the details of the comparison in the Comparison Details section of the page.

Compare Records

Repository Name: PERSON Repository Description: PERSON [Configure](#)

Show Comparison For: All Show Differences Only: ☐

▼ Summary

No.	Summary Of Comparison	PERSON-35920 (V2)	PERSON-35941 (V1)	PERSON-35946 (V2)	PERSON-35947 (V2)
1	Record Attributes	-	Differ	Differ	Differ
2	Classifications	-	Same	Same	Same

Comparison Details

Expand All Collapse All

Record Attributes	PERSON-35920 (V2)	PERSON-35941 (V1)	PERSON-35946 (V2)	PERSON-35947 (V2)
Record ID	PERSON-35920	PERSON-35941	PERSON-35946	PERSON-35947
Record ID Extension				

▼ Unassigned

Record Attributes	PERSON-35920 (V2)	PERSON-35941 (V1)	PERSON-35946 (V2)	PERSON-35947 (V2)
First Name	John	Adam	Alex	Chan
Middle Name	mdm			Woo
Additional Middle Name				
Last Name	mdm	Doe	Gom	mdm
Given Name 1				
Given Name 2				
Surname				
Name Prefix				
Name Suffix				
Professional Title Name				

▼ Basic

Record Attributes	PERSON-35920 (V2)	PERSON-35941 (V1)	PERSON-35946 (V2)	PERSON-35947 (V2)
FIRSTNAME	John	Adam	Alex	Chan
MIDDLENAME	mdm			Woo
ADDMIDDLENAME				
LASTNAME	mdm	Doe	Gom	mdm
GIVENNAME1				
GIVENNAME2				
SURNAME				
NAMEPREFIX				
NAMESUFFIX				
PROFESSIONALTITLENAME				
NICKNAME				
BIRTHDATE	2023-09-05	1980-04-12	2022-10-29	2023-09-05
BIRTHPLACE				
COUNTRYOFBIRTH				
MARITALSTATUS				
MARRIAGEDATE				
GENDER				
ETHNICITY				
SALUTATION				
HIGHESTEDUCATIONLEVEL				
DECEASEDATE				
ISEMLOYEE	false	false	false	false
CUSTOMERSTARTDATE				
SOURCESYSTEMCODE				

▼ Details

Record Attributes	PERSON-35920 (V2)	PERSON-35941 (V1)	PERSON-35946 (V2)	PERSON-35947 (V2)
LANGCODECOMM				
LANGCODEDOCUMENT				
OCCUPATION				

▼ Identification

Record Attributes	PERSON-35920 (V2)	PERSON-35941 (V1)	PERSON-35946 (V2)	PERSON-35947 (V2)
ISNATURALIZED	false	false	false	false
NATURALIZATIONDATE				
CITIZENSHIP				
ALIENNUMBER				
REGISTRATIONNUMBER				
NATIONALREGISTRATIONNUMBER				
NATIONALID				
DRIVERLICENSEID				
DRIVERLICENSEISSUEDON				
DRIVERLICENSEISSUEDBY				
FKA				
AKA				
HASNAMECHANGED	false	false	false	false
FACEBOOKID				
TWITTERID				
IDENTIFICATIONMETHOD				
IDNUMBER				

OK

For information about comparing Effective Date records, see [Comparing Effective Date Records](#).

Comparing Versions of a Record

Many times, a product is passed around in a workflow and it undergoes changes at every stage in the workflow. Every time the product is modified in a workflow, it is saved as a new version of the same record. There might be times when you would want to compare changes between any two versions of the record. Draft records can also be compared.

A **Compare** option is shown for the current record when:

- There is at least one confirmed or unconfirmed record (active or deleted) with a version previous to the current record version.
- No records are found in step 1 and there is at least one draft record with a version less than the current record version and both (draft record and current record) are owned by the same user.

Procedure

1. Click **Browse and Search**.
2. From the Repository Name drop-down list, select the name of the repository in which you want to compare records.
3. Click **View All** . A list of records is displayed.
4. Click a record whose versions you want to compare. The View Record page is displayed.
5. Click **Compare**.
The Compare Versions page is displayed.

Compare Versions

Repository Name

PERSON

Repository Description

Person definition

ID

PERSON-35920

Record ID Extension

Select Versions

Compare Version

All

with Version

All

Compare

Show Comparison For

Record Attributes

Show Differences Only

☒

Summary

No.	Summary Of Comparison	PERSON-35920-(V2)	PERSON-35920-(V1)
1	Record Attributes	-	Differ

Comparison Details

Expand All

Collapse All

Basic

Attribute	Value V2	Value V1
First Name	John	rahul

OK

6. Select any two versions of the records that you want to compare. By default, the latest and the last modified versions are selected.
 - In the Compare Version drop-down list, select first version:
 - Confirmed: All confirmed active record versions
 - Unconfirmed: All active unconfirmed records with versions between the current record and the last active confirmed record
 - All: All confirmed active records
 - All unconfirmed records (both active and deleted) and all confirmed deleted records (with versions between the current record and the last active confirmed record)
 - All draft records with version between the current record and the last active confirmed record such that the draft record and current record are owned by same user
 - In the with Version drop-down list, select second version: Confirmed, Unconfirmed, and All
7. You can choose to compare versions that are confirmed, unconfirmed, or both.
8. Click **Compare**. By default, the **Show Differences only** check box is selected. All differences pertaining to an Attribute Group are displayed. The list is categorized by

Attribute Groups. If the **Show Differences Only** check box is not selected all the values for various attributes are displayed irrespective of whether they are different or not. Differences are highlighted in red.

Note: If you want the **Show Differences only** check box to be cleared for the first time you login, change the value of the **Show Differences only** option through the Configurator and then log into the application.

9. Select one of the following options from the Show Comparison For drop-down list to specify the type of differences that must be displayed.

- All
- Record Attributes: By default, this option is selected. That is, differences between the values of their record attributes are displayed.
- Relationships: Only forward relationship differences are compared.
- Relationships Attributes
- Relationship Target Records
- Classifications: For information about comparing classification record versions, see [Comparing Classification of Record Versions](#).

A summary of comparisons is displayed in a tabular form in the Summary section of the page.

10. Click the record attribute row or relationship attribute row in the table of the Summary section to view the details of the comparison in the Comparison Details section of the page.

For information about Future Effective Date Records, see [Comparing Future Effective Date Record Versions](#).

Viewing Record History

Each time you modify the record, every record in the repository is saved in different versions. The first time you create the record, the record is in V1 (version 1). The next time you modify the record and save it, a new version V2 of the record is created with the latest changes. For every change you make to the record, a new version is created when you save it. You can view the changes made in each of these versions by viewing the record history.

Procedure

1. Click **Browse and Search**.
2. From the Repository Name drop-down list, select the name of the repository.
3. Click **View All**. A list of records is displayed.
4. Select the record for which you want to view the history and click  **Show History**.
The Record History page is displayed.

Record History								
Repository Name		PERSON						
ID		PERSON-30100						
Version		Record ID Extension						
Version #	Operation-Suboperation	Event	Event ID	Status	Performed On	Modified By	Backend System	Message
V2	EDIT PRODUCT-NEW VERSION	Record Modify	53000	Success	2023-09-14 14:55:23.978	Admin1,Admin1	N/A	
V1	EDIT PRODUCT-INITIAL VERSION	Record Add	48000	Success	2023-09-14 12:14:54.267	Admin1,Admin1	N/A	
Page 1 12								
OK								

The first part of the page shows Repository information. The second part of the page shows the history of the versions of the record. It shows the following details:

- Version number: Shows all the version numbers of a record.
- Operation - Sub operation: The operation that was performed on the record.
- Event: The Event type of the record. Click **Event Type** to view the Event Log.
- Event ID: The ID of the event.
- Status: Indicates whether the operation was a success or a failure.
- Performed On: Indicates the date and time of the operation.
- Modified By: Details who modified the repository.
- Backend System: The name of the backend system involved in the operation.
- Message: Indicates message or comment entered as a part of Reason code or Reason change while adding or modifying a record.

For information about viewing Effective Date record history, see [Viewing Effective Date Record History](#).

Restoring Records

By using the **Restore** option, you can restore an older version of a record. It also restores deleted versions of a record. Restoring a record version does not restore the relationships.

If you are making changes to the latest version of a record but at the same time it is being updated and saved by another user, the version you are working on is no longer the latest. In such a case, you can use the **Restore** option to update to the latest version of the record.

Procedure

1. Click **Browse and Search**. From the Repository Name drop-down list, select the name of the repository.
2. Click the **View All** button. A list of records is displayed.
3. Click the record ID of the record that you want to view. The View Record page is displayed.

View Record

Modify Correction Restore Compare Show History Show Usage Send Message Delete Related Records Show Associated Hierarchy Unlink Records

Perspective: None

Repository Name: PERSON-35920

ID: PERSON-35920

State: Confirmed

Version Number: 2

Show Errors

Basic Identification Details System

ID: PERSON-35920

Middle Name: mdm

Last Name: mdm

Given Name 2: mdm

Name Prefix: mdm

Professional Title Name: mdm

Date of Birth: 09/05/2023

Country Of Birth: mdm

Marriage Date: mdm

Ethnicity: mdm

Highest Education Level: mdm

Is An Employee: No

Source System Code: mdm

First Name: John

Additional Middle Name: mdm

Given Name 1: mdm

Surname: mdm

Name Suffix: mdm

Nick Name: mdm

Birth Place: mdm

Marital Status: mdm

Gender: mdm

Salutation: mdm

Deceased Date: mdm

Became Customer On: mdm

OK

4. Click **Show History**. The Record History page is displayed.

Record History

Repository Name: PERSON-35920

ID: PERSON-35920

Version: 2

Version #	Operation/SubOperation	Event	Event ID	Status	Performed On	Modified By	Related System	Message
1	EDIT PRODUCT INITIAL VERSION	Record Add	4000	Success	2023-09-14 14:52:11.078	Admin/Admin1	N/A	

Page 1 of 1

5. Click the earlier version of a record that you want to restore. The View Record page is displayed with a warning message.

View Record

Modify Correction Restore Compare Show History Show Usage Send Message Delete Related Records Show Associated Hierarchy Unlink Records

Perspective: None

Repository Name: PERSON-35920

ID: PERSON-35920

State: Confirmed

Version Number: 1

Show Errors

Record cannot be modified, not the latest version. Click here to go to the latest version of the record.

Basic Identification Details System

ID: PERSON-35920

Middle Name: mdm

Last Name: mdm

Given Name 2: mdm

Name Prefix: mdm

Professional Title Name: mdm

Date of Birth: 09/05/2023

Country Of Birth: mdm

Marriage Date: mdm

Ethnicity: mdm

Highest Education Level: mdm

Is An Employee: No

Source System Code: mdm

First Name: rahul

Additional Middle Name: mdm

Given Name 1: mdm

Surname: mdm

Name Suffix: mdm

Nick Name: mdm

Birth Place: mdm

Marital Status: mdm

Gender: mdm

Salutation: mdm

Deceased Date: mdm

Became Customer On: mdm

- Click **Restore**. The Record Restore page is displayed with a warning message. If you want to update the record to its latest version, click the link shown in the warning message.

Note: If you have clicked the latest version of a record on the Record History page, the **Restore** option is not displayed.

- Make the necessary changes and click **Save and Process**. The updated Record History page is displayed with addition of a new version of a record.

Version #	Operation-SubOperation	Event	Event ID	Status	Performed On	Modified By	Backend System	Message
V3	EDIT PRODUCT-RESTORE VERSION	Record Modify	53000	In Progress	2023-09-22 12:13:13.851	Admin1,Admin1	N/A	
V2	EDIT PRODUCT-NEW VERSION	Record Modify	53000	Success	2023-09-14 14:55:21.979	Admin1,Admin1	N/A	
V1	EDIT PRODUCT-INITIAL VERSION	Record Add	49000	Success	2023-09-14 12:14:54.207	Admin1,Admin1	N/A	

- Click **OK**. The View Record page is displayed.
- Click **OK** to go back to the Browse and Search page.

Note: When a record is in a workflow, it cannot be restored and the **Restore** option is not displayed.

Viewing Associated Hierarchies

You can view the hierarchies (manual and automatic) associated with a record using the **Show Associated Hierarchies** option.

Procedure

- From the menu bar, click **Browse and Search**.

2. From the **Repository Name** list, select the name of the repository.
3. Click **View All**.

A list of records is displayed.

4. Click a record whose associated hierarchy you want to see.

The View Record page is displayed.

View Record

[Modify](#) [Correction](#) [Restore](#) [Compare](#) [Show History](#) [Show Usage](#) [Send Message](#) [Delete Related Records](#)

[Show Associated Hierarchy](#)

Repository Name	HRDept	Version Number	1	☐ Show Errors
Record ID	1000974650	State	Confirmed	
Record ID Extension				

[Unassigned](#) [System](#) [EmployeeDetails](#) [DeptDetails](#) [EmployeeStatus](#) [RecruitmentDetails](#)

Record ID 1000974650

Record ID Extension

[OK](#)

5. Click [Show Associated Hierarchy](#).

The Associated Hierarchies page is displayed with the hierarchy links.

Record Associated Hierarchies

Name 1000974650 Record ID

Associated Hierarchies

Confirmed:
[\[Automatic\] DepartmentVsDesignationView / Production / Production Manager](#) Leaf Node

Pending:
 None

OK

The Associated Hierarchies section displays all the hierarchies to which the selected record is associated. The complete path until the leaf node (to which this record is linked) is displayed. Click the hierarchy node link to navigate to the Hierarchies page.

The **Name** value indicates the record ID and extension. The hierarchies are divided into the following categories:

- **Confirmed:** Lists the manual and automatic hierarchies.
- **Pending:** Lists the manual hierarchies (if the hierarchy link approval work item exists) and automatic hierarchies (if the hierarchy edit approval work item exists and if work items for the split and merge operations exist).

Quick Export

By using the Quick Export feature, you can export records and attributes from a repository to a file in the delimited format. The delimiter, text qualifier, file extension, and batch size are retrieved from the Configurator. For information, see the "Quick Export Properties" section in *TIBCO MDM System Administration*.

The Quick Export option is available on the following pages:

- Search Record List page
- Browse Subset page
- View Records/ Relationship tab

Using the Quick Export option, you can:

- Export records based on the Search criteria
- Export root and related records
- Export records based on the attribute security:
 - Resource Security: If the permissions are set not to view some attribute groups or records, the attributes belonging to those groups and records are not exported.
 - Rulebase: The attributes in the Attribute Group that are hidden using the Rulebase are not exported.



Note: Rulebase is executed at repository level. The rulebase conditions do not evaluate any attribute values, that is, rulebase is not applied for each record separately.

- Export records that contain a file attachment. In this case, only the filename is exported.



Note: While exporting records, the date and timestamp formats are retrieved from the User Accounts profile.

- If the date format is not selected for the user, the default date format is used. The default date format is set in the Configurator. For more information about setting the default date format, see the *TIBCO MDM System Administration*.
- If the timestamp format is not selected for the user, the default timestamp format, that is, YYYY-MM-DD hh:mm:ss.S is set.
However, for the Time Zone format, whether or not the time zone format is selected for the user, the system time zone is applicable.

Exporting Records by Using Quick Export

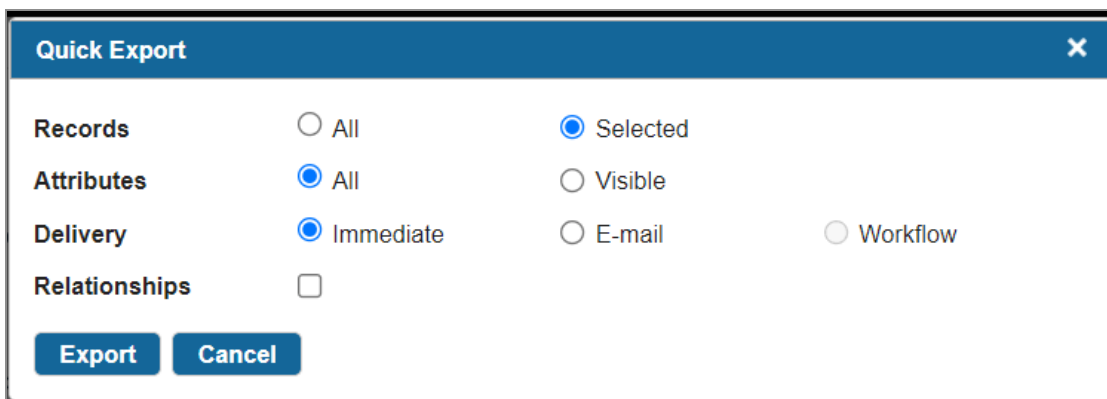
You can export records from the Search Record List page, Browse Subset page, or on the **Relationship** tab.

Before you begin

See [Quick Export](#).

Procedure

1. From one of the location (such as **Relationship** tab), click **Quick Export**.

The image shows a 'Quick Export' dialog box with a blue header bar containing the title and a close button. The dialog contains four sections: 'Records' with radio buttons for 'All' and 'Selected' (selected); 'Attributes' with radio buttons for 'All' (selected) and 'Visible'; 'Delivery' with radio buttons for 'Immediate' (selected), 'E-mail', and 'Workflow'; and 'Relationships' with an unchecked checkbox. At the bottom are 'Export' and 'Cancel' buttons.

2. In the **Quick Export** dialog box, you can define your export preferences for records and attributes. For details, see [Quick Export Options](#).
3. Click **Export**.
 - If you have selected the **Immediate** option, the Exporting records progress bar is displayed. The CSV file containing exported records and filtered attributes is downloaded and saved.
 - If you have selected the **E-mail** option, a confirmation message is displayed.
 - If you have selected **Workflow** and **Relationships** options, the information message displayed with an event ID and the Event Log page link. Click the **Check Progress** link to check the event details. From the Event Details page, download the exported file.

Quick Export Options

You can use Quick Export to quickly export all or selected records, all or visible attributes, and relationships. For visible attributes, on the Attribute Details dialog box attributes that are marked as **Display In Record List** are exported.

Quick Export

Records ☐ All ☒ Selected

Attributes ☒ All ☐ Visible

Delivery ☐ Immediate ☐ E-mail ☒ Workflow

Relationships ☒

Select Relationships

☒ Select All Filter By Direction ▼

- ☒ DeliveryStatus
 - ☒ StatusOf
- ☒ LocatedAt
 - ☒ AssociatedPerson
 - ☒ ContactAddress
 - ☒ ContactEmail
 - ☒ ContactPhone
 - ☒ Preference
 - ☒ Reference

Export **Cancel**

The Quick Export process supports the following delivery options:

- **Immediate:** Exports a small number of records. Use the **Immediate** option for the synchronous export. If you select the **Immediate** option, the Exporting records progress bar is displayed. The CSV file containing exported records and filtered attributes is downloaded and saved.
- **E-mail:** Exports large numbers of records. Use the **E-mail** option for the asynchronous export. If you select the **E-mail** option, a confirmation message is displayed. You cannot cancel the asynchronous export. After the export is complete, an email is sent to the email ID specified in the **User Accounts** profile. To receive an email, you must enable Email related settings using the Configurator. For more information about enabling Email settings, see *TIBCO MDM System Administration*.
- **Workflow:** Select to export relationship data. This option is enabled only if you have selected the **Relationships** option. The wf\in26catsynchdbdumpv5.xml workflow file is

used for exporting records.

- **Relationships:** After you select this option, all available relationships are displayed as a hierarchy chart. By default, all levels of relationships are displayed in the tree. However, you can limit it to a specific level through the Configurator by using the `com.tibco.cim.quickexport.repository.relationshipLevel.<enterpriseName>.<repoName>` configuration property. For details, see the "Quick Export Properties" section in *TIBCO MDMSystem Administration*
 - **Select Relationships:** This section contains the following options:
 - **Select All:** Select the check box to select all relationships in a tree.
 - **Filter By Direction:** Select one of the following options from the list: **All**, **Forward Only**, or **Reverse Only**.
- Relationships and their related records are exported. The Export Records event is initiated. From the Event Details page, you can download the exported file (which includes selected relationships and related records). For more information, see [Exporting Records by Using Quick Export](#).

Viewing Records

You can view all records as well as a single record in a repository.

- [Viewing All Records](#)
- [Viewing a Single Record](#)

Viewing All Records

Procedure

1. Click **Browse and Search**.
2. From the Repository Name drop-down list, select the repository whose records you want to view.
3. Click **View All** to view all records in the selected repository. A list of records in the repository is displayed.

View All

[Create Record](#)
[Modify](#)
[Correction](#)
[Merge](#)
[Copy](#)
[Compare](#)
[Show History](#)
[Quick Export](#)
[Delete Record](#)

	AccountID	Name	Description	Swift code	BIC Code
☐	ACC-35460	John		894	
☐	ACC-35500	Joe			

Note:

- The attributes shown in the Records List are defined when the repository is defined. While defining, the attributes must be marked as **Display in record list** to be included in the list.
- Record ID is always displayed in the record list.
- You can also define the order of attributes by providing it a Position number. The attribute with a smaller number precedes the one with a larger number in the sequence.

Viewing a Single Record

Procedure

1. Click **Browse and Search**.
2. From the Repository Name drop-down list, select the repository whose records you want to view.
3. Click a record to view its details. The View Record page is displayed.

View Record

Modify Correction Restore Compare Show History Show Usage Send Message Delete Related Records

Perspective: None

Repository Name: ACCOUNT
AccountID: ACC-35460
State: Confirmed
Version Number: 3

☐ Show Errors

Basic Details System

AccountID	ACC-35460	Name	John
Description		Account Type	Certificate of Deposit (CD)
Swift code	894	BIC Code	
Open Date	12/21/2015	Is Closed Account	No
Close Date		Closing Reason	
Is Inactive Account	No	Inactivation Reason	

OK

The View Record page consists of:

- **Repository information:** This section of the View Record page displays the name of the repository in which the record exists. It also displays the **Show Errors** check box. If any errors exist, they are displayed in red.
- **Attribute Group Information:** This section lists all the attribute groups and the attributes contained by each group in separate tabs on the page. The attribute group display is subject to security access controls. If you have categorized attributes in a group, they are displayed in a separate tab. All attributes that do not fall under any group are displayed under the UNASSIGNED tab. To know more details about an attribute, point on the attribute name to see Attribute help.

Other than the UNASSIGNED attributes, the following System Attributes are displayed in the SYSTEM Attribute tab:

Basic Details **System**

Last Modified on	2015-12-24 12:25:16.0	Version Number	3
Modified by	Smith, John	State	Confirmed
Active	Yes	Checksum	1367809019
Created on	2015-12-24 12:25:15.0	Parent Version	2
Owner	46002	Owner Type	21
Last Confirmed Version	3		

Last Modified on: The date and time when the current version of the record was last modified.

Modified by: The user who modified the record.

Active: This option displays **Yes** or **No** options based on whether or not a record is deleted. A record is considered active if it is not deleted.

Created on: The date and time when the current version of the record was created. The creation date and time of a record refers to the current version of the record. If you want to view the creation date and time of the previous versions, go to the Record History page and click the previous version number.

Owner: The Event ID of the record.

Last Confirmed Version: The version of the record when it was last confirmed.

Version Number: The current version of the record.

State: The state can be either confirmed, unconfirmed, or draft. It is in the draft state when the record is created. When the record is involved in a workflow, but it is not yet confirmed by an Approver, it is in an unconfirmed state, and when the approver approves the record or an Administrator saves the record, it is in a confirmed state.

Checksum: Is an autogenerated unique value for the record.

Parent Version: Is the version of the parent record.

Owner Type: Is the Type of the event.

- **Relationships Information:** To view the relationship hierarchy, expand the Relationship tree at the left side. It shows the forward, backward, and self relationships of a record. You can click each of the relationships displayed to navigate through the hierarchy of relationships.

You can perform various activities on the View Record page. See, [Actions on View Record](#).

Actions on View Record

You can perform the following actions on a view record:

Actions on View Record

Action	Description
Modify	Modify the existing record, see Modifying Records
Correction	Update the existing version of a record, see Correcting Records .
Restore	Restore an older version of a record, see Restoring Records .

Action	Description
Compare	Compare records or versions of a record, see Comparing Records .
Show History	View the record history, see Viewing Record History .
Show Usage	1. On the Browse and Search page, select the repository and click View All. A list of records are displayed. 2. Click any record whose usage you want to see. 3. On the View Record page, click Show Usage. The Record Usage page is displayed. The page displays repositories that use the repository along with the usage details such as the used by, name, description, and restrictions on the record. An example of a Restriction can be "Delete not allowed". Note: For information about viewing record usage for Effective Date records, see Viewing Effective Date Record Usage.
Send Message	Send a message, see Sending a Message .
Delete Related Records	Delete the selected record as well as its related records, see Deleting Records .
Show Associated Hierarchies	Show hierarchies associated with a record, see Viewing Associated Hierarchies .

Softlink

Attributes or values given to the attributes can be assigned a softlink. A softlink looks like a hyperlink. Softlinks are evaluated every time they are accessed. As data changes, each evaluation can result in different results. There is no permanent binding. When you click it, the system searches for records that match the criteria specified in a rulebase associated with the softlink.

For example, assume that the UOM attribute in the repository has the value "Pack" and there is a softlink on the short description of the record. The softlink constraint in the rulebase states that the softlink should retrieve records whose UOM = "Pack".

When you click the softlink, the system as per the rulebase, retrieves all records whose UOM attribute has the value "Pack".

In case the short description has a NULL value, the softlink is displayed on the name of the attribute (SHORTDESC in this case).

Softlinks can also be used with the connect action to create relationships. For example, let us consider two repositories: CUSTOMER and ADDRESS. The records in these two repositories are related using the customer ID. Let us say, you want to find address records for a particular customer and then create a relationship using a rulebase. This can be done using the softlink and connect actions.

A softlink is visible on attributes only if there is a rulebase associated with it. For more information about Softlink and connect, see the *TIBCO MDM Studio Rulebase Designer User's Guide*.

Sending a Message

This option is used for synchronization. When data is synchronized, a record can be published from one enterprise to another using the Send Message utility.

i Note: For information about sending a message for Effective Date records, see [Sending a Message](#).

Procedure

1. Click **Browse and Search**. From the **Repository Name** drop-down list, select the name of the repository.
2. Click **View All**. A list of records are displayed.
3. Click the record ID of the record that you want to publish to the retailer enterprise. The View Record page is displayed.
4. Click  **Send Message**. The Send Message page is displayed.

5. Enter the appropriate date in the fields.



Note: If you do not specify any values in all the fields, values are retrieved from one of the following files:

- `SharedStringResources.properties` file: If the key values are specified in this file, then values are retrieved from this file.
- `rbsendMessage.xml` file: If the key values are not specified in the `SharedStringResources.properties` file, then they are retrieved from the `rbsendMessage.xml` file. This file is located in the `$MQ_HOME/common/standard/rulebase` folder. For more information about this file, see the Rulebases section in *TIBCO MDM Installation and Configuration Guide*

6. Click **Submit** to publish the record. The View Record page is displayed.
7. Click **Ok**. The record is published.

Sending a Response (GDSN Only)

When a message is sent from a Supplier to a Retailer, the retailer can send back an acknowledgment for the message using the Send Response utility.

Procedure

1. Click **Browse and Search**. From the **Repository Name** drop-down list, select the name of the repository.
2. Click the **View All** button. A list of records is displayed.
3. Click the record ID of the record that you want to publish to the retailer enterprise. The View Record page is displayed.

- Click  **Send Message**. The Send Message page is displayed. Enter the appropriate date in the fields.

Send Response	
PRODUCTID	00006666600035
PRODUCTIDEXT	0040885022629-840
SHORTDESC	00006666600035
Marketplace Name	vwwre
Trading Partner Name	pksupp
Current Product Status	PUBLISHED
Action	☐ REVIEW ☐ ACCEPTED ☐ SYNCHRONISED ☐ REJECTED
Retailer Credential	GLN - 0040885021622 
Submit Cancel	

- In the Send Response page, you can set the following options:
 Action: You can select either REVIEW, ACCEPTED, SYNCHRONISED, or REJECTED.
 Retailer Credential: You can select the retailer credential from the drop-down list.
- Click **Submit**. The Record View page is displayed.
- Click **Ok**. The acknowledgment is sent to the Supplier.

Updating Synchronization Status (GDSN Only)

Records are always synchronized with Datapools.

For the following reasons, the synchronization state (synch status) of a record can be incorrect:

- Datapool failed to respond.
- Message failed in Datapools and there was no response from messages.
- Response was received but response format was not comprehensive and the processing failed.
- The record was synchronized outside the application. For instance, you migrated from the application to another GDSN system.

When the synch status is incorrect, it affects the next message generated by application and the synchronization is not possible. To resolve this issue, the synch status needs to be updated.

Procedure

1. Click **Master Data > Repositories**. A list of repositories are displayed.
2. Click the name of the repository.
3. Click the **View All** button. A list of records are displayed.
4. Click any record whose synch status you want to update. The Record View page is displayed.
5. Click **More Actions > Update synch status**. The Update Synch Status page is displayed.
6. Specify the following fields in the Update Synch Status page:

Datapool

Backend System

Operation

Sub-operation

Update Synch Status			
Repository Name	CUSTOMER		
Repository Description	Master Catalog containing information about Customer.		
Record ID - Ext	1 - 1	Status	CONFIRMED
Version	3		
Last Modified On	03/04/2009	Last Modified By	kh3,kh3 kh3
Integration Hub	v	Backend System	v
Operation	v	Sub-Operation	v
New Synch Status			
Save Cancel			

7. Click **Save** to update synch status.



Note: An out-of-box installation assumes that EAN.UCC is associated with the repository. If this format is not associated, the operation fails. To correct this, either associate the synchronization format or use another synchronization format in the rulebase `rbsyncstatusupatederivation.xml`.

Deleting Records

Procedure

1. Click **Browse and Search**.

From the Repository Name drop-down list, select the name of the repository from which you want to delete records.

2. Click **View All**.

A list of records is displayed.

3. Check the record ID check box that you want to delete.

4. Click **Delete Record**.

The Delete Record(s) page is displayed.

If the record consists of relationships, select the relationships that you want to delete in the Related Records section. For more information about deleting related records across repositories, see [Deleting Records in Cross-Repository Relationship](#).

Delete Record(s)

Repository Name	ACCOUNT	Description	Account for party
AccountID	ACC-35500	State	Confirmed
Record ID Extension		Version	1
Last Modified On	2015-12-24 11:36:23.022	Last Modified By	Smith, John

Related Records

- ACC-35500
 - HeldBy
 - Corresponds

Delete **Cancel**

5. If the record has no relationships, click **Delete**.

The record is deleted.

6. If you have the required privileges to delete records without requiring a workflow, the following message is displayed:

Delete this record immediately without initiating workflow?

Click **OK** to delete and confirm records immediately. Click **Cancel** to delete and submit records for workflow.

If you do not have the required privileges to delete records without requiring a

workflow, the delete is submitted for delete workflow.

For more information about Future Dated Records, see [Effective Date Records](#).

Searching Records

Record Search allows you to search a repository by specifying search criteria for various attributes.

For information about Effective Date records, see [Effective Date Records](#).

Procedure

1. Select the repository in which you want to search from the **Repository Name** drop-down list. By default, the first repository is selected. The last accessed repository is selected if the repositories have already been accessed using the **Browse and Search** option.

By default, the following attributes are displayed:

- Searchable attributes



Warning: Only those attributes marked as Searchable appear in the search criteria and the result is shown from the selected repository only.

- Pseudo attributes: See [Pseudo Attributes](#)

Modified By: A search can be performed based on the user who modified the records.

Modification Date: A search can be performed for the selected records based on a date or a range of dates. For a range, the start and end dates are inclusive.



Note: You can use Wildcard character to search for records with File type attributes using Like operator. For example, if you want to search for records with .gif file attributes, you can type *.gif and select Like operator. The search result displays all records with .gif file type attributes.

Note: To improve the performance of the search query, by default the Optimize search query of CONFIRMED records configuration property is set to *true* in the Configurator. This property enables search query optimization to retrieve CONFIRMED records from the GOLDENCOPY table.

2. Select the criteria based on which you want to search.
3. Click **Search**. The page displays only those records that match the search criteria. The search results are displayed in a table in the bottom part of the page.

The screenshot shows the 'Browse and Search' section of a web application. At the top, there's a 'Repository Name' dropdown menu set to 'ACCOUNT'. To the right are links for 'Create Classification Scheme', 'Text Search', and 'Configure'. Below this, the search criteria are defined: 'AccountID', 'Open Date', 'Is Closed Account', and 'Modification Date'. Each criterion has a dropdown menu set to 'equals'. There are also text input fields for each criterion, with 'Ignore' selected for 'Is Closed Account'. A 'Case-sensitive' checkbox is present and unchecked. At the bottom of the criteria section are 'Search', 'Clear', and 'Close' buttons. Below these is a 'View All' button. At the very bottom is a toolbar with icons for 'Create Record', 'Modify', 'Correction', 'Merge', 'Copy', 'Compare', 'Show History', 'Quick Export', 'Delete Record', and 'Graphical Editor'. A footer note says 'Specify search criterion and click on search to retrieve records'.

4. Click **Close** to hide the search criteria section. After you hide this section, the **Search** link appears at the upper-right corner.

This screenshot shows the 'Browse and Search' section after the search criteria section has been hidden. The 'Repository Name' dropdown is still 'ACCOUNT'. The links 'Create Classification Scheme', 'Search', 'Text Search', and 'Configure' are now visible. The 'View All' button is still present. The toolbar at the bottom remains the same. The footer note 'Specify search criterion and click on search to retrieve records' is still there.

5. Click the **Search** link to return to the Search criteria section.
6. Click **Clear** to clear the selected search criteria.

i Note: Behavior after you click **Clear**.

- If you select 'like' operator, enter search text in the field. Ensure the case-sensitivity. Then, change the 'in' operator from the drop-down list, the search text entered and the case-sensitivity choice defined by you still remains the same and does not get reset.
- If you enter a value and perform search, any changes made after this, resets to the value with which the last search was performed. Hence, if a search is conducted with 'in' clause on one of the attributes, then on another attribute the operator is changed from equal to say not equal, and clear button is pressed, the criteria set on the fields for the second attribute is reset, however, the values on the fields for the first attribute remains as it is (operator being 'in' and any choice of case-sensitivity indicated)

Configuration of Drop-Down List for Attribute

You can configure a drop-down list for an attribute using a rulebase file defined for record search.

When a new repository is created, an empty rules file, `searchcontrolrules.xml`, is created in the `$MQ_HOME/<enterpriseName>/catalog/master/<repository_ID>` directory. You can change the default rulebase filename using the **Record Search Rules File Name** property in the Configurator (**InitialConfig > Rule Base**).

When a drop-down list is defined in the rulebase and the IN operator is selected, click the edit image to display a drop-down list. Select a value from the drop-down list. Click the PLUS SIGN (+) to add the selected value.

Based on the following data types, the operators are supported for a drop-down list:

- For String data: All operators are supported.
- For Date type: All operators except between, is defined, and not defined are supported.
- For Number data (int, decimal, custom decimal): All operators except is defined, is not defined, and between are supported.
- Relationship attributes and target repository attributes are also supported. Define a separate search control rule file for a relationship catalog and target repository.

Note: Dependent drop-down lists are not supported.

Browsing Perspective Based Records

Using perspective, you can view a subset of a relationship, repository attributes, and relationship attributes. The top level of the perspective contains the entire relationship hierarchy, whereas the last level contains at least one relationship of the root with another repository.

For information about Creating Perspective, see the chapter, "Perspective Editor" in *TIBCO MDM Studio Repository Designer User's Guide*.

i Note:

- You can hide the perspective for a particular role or a user through the resource security option. For more information, see the section, [Permissions by Resource Type](#).
- You can specify a list of values to set the default perspective for a user or a role. Use the `List of Default Perspective` property in the Configurator to retrieve the default perspective based on a user or role. The value format is as follows:
 - For a user: `enterprise_internal_name: repositoryname:username:perspectivename`. For example, `acme:customer:jsmith:perspective1`
 - For a role: `enterprise_internal_name: repositoryname:rolename:perspectivename`. For example, `acme:customer:repositoryeditor:perspective2`.

Procedure

1. Click **Browse and Search**.
2. From the **Repository Name** drop-down list, select the repository, whose records you want to view.
3. Click **View All** to view all records in the selected repository. A list of records in the repository is displayed.
4. Click a record to view its details on the Browse and Search page. The View Record page is displayed.
5. On the **View Record** page, click the **Perspective** drop-down list.

In the **Perspective** drop-down list, you can select either the **perspective name** or **None** option.

View Record

Modify Correction Restore Compare Show History Show Usage Send Message Delete Related Records

Perspective: Persp_Emp_Addr

Repository Name: PERSON

Record ID: parent

Record ID Extension: parent

Version Number: 1

State: Confirmed

Show Errors

Unassigned System AttributeGroup1

Record ID	Record ID Extension
parent	parent

NAME: name1

OK

- For the repository, defined attributes and attribute groups of source and target repositories, a subset of relationship, and relationship attributes: select the perspective name. For example, **Persp_Emp_Addr**. The relationship hierarchy for the selected perspective along with the selected repository and relationship attributes are displayed.
- If you delete a repository, all associated perspectives, relationships, and attributes are deleted.
- During the perspective creation in TIBCO MDM Studio, you can select the attributes that you want to display in perspective on the Add Record, Modify Record, and View Record screens. If you do not select any repository attributes or relationship attributes, all attributes are displayed.

6. Click **OK**.

Pseudo Attributes

Pseudo attributes are those attributes that are not related to a specific repository, that is, they are present for each repository and each relationship. As the expression for such fields is fixed, it is grayed out on the UI.

Pseudo Attributes

Category	Attribute	Description	Expression	Type
Modification	Modified By	A search can be performed based on the user who modified the records.	equals	Enumeration
	Modification Date	A search can be performed for the select records based on a date or a range of dates. For a range, the start and end dates are inclusive.	All the operators for date mentioned in the table.	Date
Synchronization	Synchronization Target	The values on which search can be done is based on previously done synchronization. The synchronization target shows a list of Datapools and systems with which any synchronization is done. If N/A is selected, this filter as well as backend system and Status is not applied. If any is selected, all records which are synchronized with any Backend System are selected.	equals	List (multi-selection)
	Backend System	This list shows the backend systems with which synchronization was done. If any synchronization target is selected, the backend system list only shows the backend systems for the selected Datapool. If N/A is selected, this filter is not applied. "Any" indicates that all records which were synchronized with any backend system can be selected.	equals	List (multi-selection)
	Synchronization Status	This shows the list of various synchronization statuses. The status list shows only those statuses which are applicable for selected backend systems and synchronization targets. "Any" means that all synchronized records with any status are selected.	equals	List (multi-selection)
Classification	Classification Scheme	You cannot specify a Classification description without first choosing a Classification Scheme. Records can be searched by specifying any classifications associated with the repository. You must specify a classification scheme before specifying the classification description. Classification description is always matched with all classification codes which have the classification descriptions starting with the specified value.	equals	Enumeration
	Classification Description		equals	String
	Classification Code		equals	String
Relationships	checkExistence	Allows you to search based on existence or non-existence of a relationship. • If 'Exists' is selected, only those records are displayed that have the selected relationship. For example, if Customer is the root repository, some records may have a relationship 'Customer-Address' and some records may not have Customer-Address relationship. In this case, only those Customer records are displayed that have an Address too. • If 'Does not exist' is selected, then only those records are displayed that do not have an 'Address', i.e. do not have a Customer-	equals	Boolean

Category	Attribute	Description	Expression	Type
		Address relationship. When 'Exists' is selected, the user may specify the count of related records. For example, if the count is specified as 2 then only those Customer records are displayed that have exactly two Addresses.		
	Count	Number of related records.	equals	Numeric
Versions	Versions	Either choose the latest version of the repository or specify a date and time.	equals	Enumeration
Record State	Record State	You can choose between confirmed, unconfirmed, deleted, or all. If any record has a draft version, such versions can only be viewed within the process which created the draft record. Record search does not include any draft records. - confirmed: This is the default option and it selects the last confirmed version of any selected records. If a record does not have confirmed version, it is not selected. Any unconfirmed version after the last confirmed version is ignored. Also, if a record is deleted and deletion is confirmed, it is not included. - unconfirmed: This selects the last confirmed or last unconfirmed version of any selected records. If last version of record is confirmed, it is still included. If a record is deleted and deletion is confirmed, it is not included. - deleted: This selects those records which are deleted. A deleted record must have last version as confirmed or unconfirmed. - rejected: Selects the rejected records. - All: Selects all versions of all records selected.	equals	Enumeration

Text Search

Using text search, you can search for human recognizable terms as you search on a Search Engine. Using this utility, you can search based on attribute values.

The Text Search utility indexes the text in a record and stores it as key terms in a data store. For example, if you search for records with a description The product is in red color, the search utility looks for the key terms, product, red, and color. Articles, prepositions, pronouns, and other such fillers are not considered as key terms. The Text Search index contains the Record ID and the latest version of the record.

You must enable Text Search using the Configurator. For information about enabling Text Search using the Configurator, see *TIBCO MDM System Administration*.

**Note:**

- Records in the draft state are not included in the text search.
- Entries in the `IndexerConfig.xml` file must be set correctly with all the default attributes.
- You can search in single as well as join entities.
- Date and timestamp are considered as string for searching.

Searching Records Based on Key Words (Free Form Search)

Procedure

1. Click **Browse and Search** . The Browse and Search page is displayed.
2. Click the Text Search link. The Text Search page is displayed.

The screenshot shows the 'Text Search' interface. At the top, there's a 'Search For' field containing 'John' and a 'Search In' dropdown set to 'Person'. A 'Similarity Score' slider is set to 1.0. Below the search bar, it says 'Search result showing total 1 records'. A row of action buttons includes 'Create Record', 'Modify', 'Correction', 'Merge', 'Copy', 'Show History', and 'Graphical Editor'. A table displays the search results:

Record ID	First Name	Similarity Score	Middle Name	Additional Middle Name	Last Name
☐ PERSON-35473	John	1.0	Greg		Thomas

At the bottom, there's a pagination bar showing 'Page 1 of 1' and a 'View 1 - 1 of 1' link.

3. In the **Search For** field, enter the terms you want to search for. The search utility searches for an exact match of the term. Special characters, except ampersand (&) are not allowed.
4. In the **Search In** drop-down list, select either a single or join entity name. A list of configured single and join entities is displayed.



Note: To display a list of single or join entities in the **Search In** field, specify the index entities in the `IndexerConfig.xml` file.

5. To display the search results while typing, select the **Display Results As You Type** check box.
6. To change the value of the similarity score, move the **Similarity Score** slider. The default and maximum similarity score is **1.0**.
7. Click **Search**. The specified search results are displayed.
You can expand or collapse the record hierarchy.
8. To display all the records which match the specified criteria in the case of join entity, click **Show Matches**. All records qualifying the match criteria are displayed.

Searching Records Based on Attributes

You can search records across a repository for attribute-based search.

Procedure

1. Click **Browse and Search**. The Browse and Search page is displayed.
2. Click the Text Search link. The Text Search page is displayed.
3. Click **Attribute Based Search**. The attribute-based Text Search page is displayed.

The screenshot shows the 'Text Search' interface. At the top, there's a 'Search In' dropdown menu set to 'PERSONPROFILE'. Below it, the 'PERSONPROFILE : Fixed Attributes' section is expanded, displaying a grid of input fields for various attributes: First Name (filled with 'Padraig'), Given Name 2, Surname, Name Prefix, Formerly Known As, Last Name, Date of Birth, Alien Number, National ID, Given Name 1, Middle Name, Name Suffix, Nick Name, Also Known As, Additional Middle Name, Gender, SSN, and Driver License ID. Below this grid are sections for 'EMAIL : Fixed Attributes', 'PHONE : Fixed Attributes', and 'ADDRESS : Fixed Attributes'. A checkbox 'Use StdCustomer AI matching project for search' is present. Search buttons 'Search' and 'Clear' are at the bottom left. A 'Show matches' button is at the bottom right. A toolbar with icons for 'Create Record', 'Modify', 'ID Correction', 'Merge', 'Copy', 'Show History', and 'Graphical Editor' is also visible. At the very bottom, a table shows search results for 'PERSON_35039' with a similarity score of 1.0.

Record ID	First Name	Similarity Score	Middle Name	Additional Middle Name	Last Name
PERSON_35039	Padraig	1.0	psimes21		Simes

- In the **Search In** dropdown, select a single or join entity name. A list of configured single or join entities is displayed.

Note: To display a list of single or join entities in the **Search In** field, specify the index entities in the `IndexerConfig.xml` file.

- If the selected repository does not contain a classification scheme, the page displays the fixed attributes.
 - If the selected repository contains a classification scheme, the page displays the category-specific attributes. The classification tree is displayed on the left side only for the root repository. The fixed attributes are displayed for a repository and the category-specific attributes are displayed for a classification code when the classification tree is expanded.
- In the **Fixed Attributes** section, enter the fixed attribute value based on which you want to search. By default, the fixed attributes that are configured in the `IndexerConfig.xml` configuration file are displayed. To configure these attributes, click **Configure**.
 - In the **Category Specific Attributes** section, do the following:
 - Select the **Show Inherited Attributes** check box to display the inherited attributes. Attributes that are inherited from the parent category are called inherited attributes.
 - Enter the attribute value, based on which you want to search. To configure these attributes, click **Configure**.

**Note:**

- While indexing the category-specific attributes, either all of them are indexed or none of them are indexed, based on the value of the indexAll property. You can specify true or false for the indexAll property in the IndexerConfig.xml file.
- Irrespective of whether or not category-specific attributes are searchable, if they are indexable, they are displayed on the right side.

7. Click **Search**. The specified search results are displayed.

Searching Records Using the AI Search

You can search records across a repository for attribute-based search using the AI search feature, which is powered by the AI Matching functionality. By using the AI search, you can filter and find records that best match your search based on the similarity scores.

Before you begin

To search records across a repository by using a trained AI Model, you must first configure and deploy an AI Matching project for that repository in TIBCO Patterns.

Procedure

1. Click **Browse and Search** . The Browse and Search page is displayed.
2. Click the **Text Search** link. The Text Search page is displayed.
3. Click **Attribute Based Search**. The attribute-based Text Search page is displayed.

Text Search Configure Free Form Search Browse and Search

Search In: CustomerLearnIndex

CUSTOMERLEARN : Fixed Attributes

First Name: Alexandra Middle Name: Jones
 Last Name: Timothy Birth Date: 10/12/1982
 Address: City:
 States: Zip:
 Phone:

☒ Use customerlearn AI matching project for search

Search Clear

Search result showing total 1 records Show matches

Create Record Modify Correction Merge Copy Show History Graphical Editor

☐	Record ID	first name	Similarity Score	middle name	last name	address
☐	PERSON-350983	Alexandar	0.98	Jones	Timothy	

- From the **Search In** dropdown list, select an index entity that is configured and deployed in TIBCO Patterns.
- To search using the AI search functionality, select the **Use <AI project name> AI Matching project for search** checkbox.



Note: This checkbox is only displayed for the AI projects that are configured and deployed as an AI Model in TIBCO Patterns.

- Enter an attribute value that you want to search.
- Click **Search**. The most accurate search results are displayed based on the similarity scores.
- Click **Clear** to clear the attribute values and perform a new attribute-based search.



Note: The AI Model search is only available for attribute-based search and not for free-form search.

Private Classification Scheme

You can use the Create Classification Scheme link on the Browse and Search page to create a private classification scheme. The Create Classification Scheme page is displayed. The process to create the private classification scheme is similar to creating a classification scheme. For more information about creating a classification scheme, see *TIBCO MDM Studio Repository Designer User's Guide*.

The Private classification scheme signifies that the classification scheme can only be used for browsing by the user who created it. If you do not have permission to create a private classification, the **Create Classification Scheme** link is not visible on the Browse and Search page.

Therefore, to show or hide the **Create Classification Scheme** link is based on the user and role permissions. For information about defining securities, see the section [Defining Resource Security](#). The user with repository meta data access can modify or delete such classifications from the View Repository page.

Browse Permissions for Private Classification Scheme

Depending on your privileges, you can grant permission to others for private classification scheme. By default, the permission to browse private classification scheme is granted only to the user who created it and denied to all other roles. To browse classification schemes created by other users, you must set the permission based on the roles. For information about granting permission, see the section [Permissions by Resource Type](#).

GeoAnalytics

You can enter all the address parameters by graphically showing the address locations on the map within TIBCO MDM.

When a new record is added, all the details pertaining to the new record needs to be added manually. Adding the various address parameters like the street, city, state, zip code and country for large data is a tedious task. With the implementation of TIBCO Geo

Analytics, the task of manually adding the address is reduced to minimal. The TIBCO GeoAnalytics provides large volumes of static and dynamic data from various sources, provides geospatial processing, and integrates with various map providers. TIBCO GeoAnalytics is used in the User Interface to map address data and to complete partially entered information. Address enrichment is possible using GeoAnalytics, you can look up the full address even if the information is limited is quite valuable.

To configure the GeoAnalytics properties, see the sections, "Configuration of TIBCO GeoAnalytics Map with MDM" and "Enabling of Geo Analytics Integration with MDM" in *TIBCO MDM System Administration Guide*.

Mapping Address Data Using TIBCO GeoAnalytics

Before you begin

To use Geo Analytics, configure the following properties in the Configurator:

- Geo Analytics Service
- Geo Analytics Url
- Tab name
- Catalog list for GeoAnalytics

For information about these properties, see the section, "Configuration of TIBCO GeoAnalytics Map with MDM" in *TIBCO MDM System Administration Guide*. Additionally, you need to specify the repository attributes mapping.

Procedure

1. After enabling the Tab name property, the GEO tab is displayed. For example, the tab is named as **GEO Tab**.

Perspective

None

ADD-34883

Repository Name

Repository Description

Record ID

ADDRESS

Generic address definition

ADD-34883

Basic

Geo

Details

Delivery

Business

System

Classifications

GEO Tab

Record ID

ADD-34883

Street

Street Name e.g. 34 MAIN ST

Directionals

State/Province

Postal Code

94023

Unit Number

PO Box Number

Street Address Line 1

Street Address Line 3

External ID

Address Type

Street Suffix or Street Type

City

New york

Country

US

Postal Extension Code

Dwelling Type

Floor Number

Street Address Line 2

Is Foreign Address

Lookup

2. Click the **GEOTab** to view the geographical map.

Add Record

Perspective

None

ADD-34883

Repository Name

ADDRESS

Repository Description

Generic address definition

Record ID

ADD-34883

Basic

Geo

Details

Delivery

Business

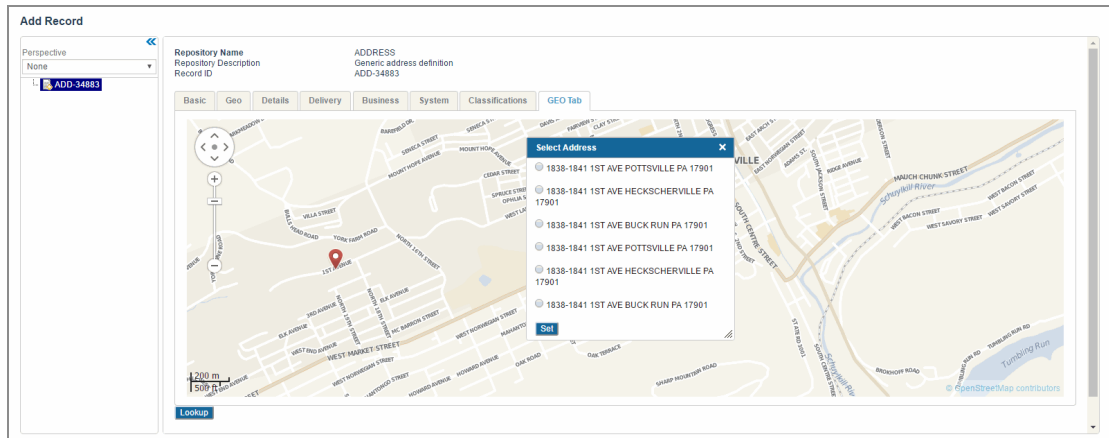
System

Classifications

GEO Tab

If you have not entered the Geo attributes, the default location is displayed.

3. To specify the location, drag and drop the location marker on the required address.



A pop-up with a list of addresses based on the location is displayed.

4. Select the address and click **Set**.

The attributes are populated with the selected address from the list.

Repository Name		ADDRESS	
Repository Description		Generic address definition	
Record ID		ADD-34883	
Record ID	ADD-34883	Address Type	
Street	1838-1841 1ST AVE	Street Suffix or Street Type	
Directionals		City	HECKSCHERVILLE
State/Province		Country	US
Postal Code	17901	Postal Extension Code	
Unit Number		Dwelling Type	
PO Box Number		Floor Number	
Street Address Line 1		Street Address Line 2	
Street Address Line 3		Is Foreign Address	
External ID			

5. You can also specify minimum details in the combination of Country code and City or Country code and Zip code and click **Lookup**.

Note: The **Lookup** button is enabled after you enable the `com.tibco.mdm.geo.lookup.enable` property in the Configurator.

A list of valid addresses is displayed.

Add Record

Perspective: None

Repository Name: ADDRESS
Repository Description: Generic address definition
Record ID: ADD-34883

Basic | Geo | Details | Delivery | Business | System | Classifications | GEO Tab

Record ID: ADD-34883
Street: El Camino
Directionals:
State/Province:
Postal Code: 10307
Unit Number:
PO Box Number:
Street Address Line 1:
Street Address Line 3:
External ID:

Address Type: Palo Alto
Country: US

Select Address

- ☐ E SAVORY ST PALO ALTO PA 17901
- ☐ SCHUYLKILL MEDICAL PLZ PALO ALTO PA 17901
- ☐ SCHUYLKILL MEDICAL PLZ PALO ALTO PA 17901
- ☐ CHARLES ST PALO ALTO PA 17901
- ☐ NEWBOLD ST PALO ALTO PA 17901-17965
- ☐ CHARLES ST PALO ALTO PA 17901
- ☐ NEWBOLD ST PALO ALTO PA 17901-17965
- ☐ TUSCARORA ST PALO ALTO PA 17901
- ☐ N TAYLOR ST PALO ALTO PA 17901
- ☐ N TAYLOR ST PALO ALTO PA 17901

Set

6. Select the address and click **Set**.



Note: When you select an address, a range of zip codes (for example, "97022- 98016") is displayed. As a result, validation error Zip code Not Found occurs. Specify the appropriate zip code from the range (for example, "97022-98016") in the zip attribute.

If you specify an invalid address, a pop-up box with the appropriate message is displayed.

Add Record

Perspective: None

Repository Name: ADDRESS
Repository Description: Generic address definition
Record ID: ADD-34883

Basic | Geo | Details | Delivery | Business | System | Classifications | GEO Tab

Record ID: ADD-34883
Street: Street Name e.g. 34 MAIN ST
Directionals:
State/Province:
Postal Code: 94023
Unit Number:
PO Box Number:
Street Address Line 1:
Street Address Line 3:
External ID:

Address Type: New York
Street Suffix or Street Type:
City:
Country: US

No address found - Please enter valid address attribute

OK

7. Click **OK** to close the pop-up message.

Effective Date Records

Using Effective Date feature, you can make changes in data to be approved and determined in advance, and then automatically applied according to the specific set dates.

You can often plan the updates that are to be made to the master data, such as, updates made to the records are completed and approved with the goal of becoming effective at a future date. For example, a vendor's product sale during Christmas. The discount rates on products may be effective from 25th December.

Future Effective Date: Allows you to apply a future date to a record or relationship. This is the date when the record turns to a golden copy. The future dates are approved in advance but become effective only on the specified date. One or more future dated versions of a record may exist.

Guidelines for Applying Effective Dates to Repositories

Applying future date to a repository is optional. The following guidelines help you to apply the future date to repositories:

- To enable future date support for a repository, add predefined EFFECTIVEDATE attribute to the repository.

View Repository

Repository Name	APPLIANCES	Table Name	MCT_35260
Last Modified	2015-12-01 11:06:10.36	Last Modified By	Smith, John
Repository Description	Appliances	Display Name	APPLIANCES
Attribute History	No	Precedence Management	No

Attributes Relationships Output Maps Classification Schemes

Expand All Collapse All

▼ Unassigned

Position	Name	Display Name	Column Name	Type	Length	Display In Record List	Include In Quick View	Searchable
1	PRODUCTID	PRODUCTID	CPRODUCTID	String	255	Yes	Yes	No
2	PRODUCTIDEXT	Record ID Extension	CPRODUCTIDEXT	String	255	No	No	No
3	CONTAINS	Related Records	CCONTAINS	String	4000	No	No	No
524	EFFECTIVEDATE	Effective date	CEFFECTIVEDATE	Timestamp	0	No	No	No
6789	New123	New123	CNEW123	String	256	No	No	No

Items/Page: 10 Page 1 of 1

▼ HOMEAPPLIANCES

Position	Name	Display Name	Column Name	Type	Length	Display In Record List	Include In Quick View	Searchable
287	Cooktop_Configuration	Cooktop Configuration	COOKTOP_CONFIGURATION	String	256	Yes	Yes	Yes
288	IF_WITH_REMOTE_CONTROL	If With Remote Control	IF_WITH_REMOTE_CONTROL	String	256	Yes	Yes	Yes
289	POWER_SOURCE	Power Source	POWER_SOURCE	String	256	Yes	Yes	Yes
290	TYPE_OF_MATERIAL	TYPE_OF_MATERIAL	TYPE_OF_MATERIAL	String	256	Yes	Yes	Yes
291	CORDED_OR_CORDLESS	CORDED/CORDLESS	CORDED_OR_CORDLESS	String	256	Yes	Yes	Yes
292	TYPE_OF_ACCESSORY	Type of Accessory	TYPE_OF_ACCESSORY	String	256	Yes	Yes	Yes

OK

- When you create the EFFECTIVEDATE attribute for the first time, the default display name appears for each of these attributes after you click **OK** on the Attributes Details dialog. The default display name of these attributes are as follows:
 - EFFECTIVEDATE: Effective Date

You can change the display name of the EFFECTIVEDATE attribute while modifying the EFFECTIVEDATE attribute.
- If you do not apply an effective date to a record, it is internally set to the current system date.

Guidelines for Applying Effective Dates to Relationships

The following guidelines help you to apply the future date to relationships:

- If you have added EFFECTIVEDATE attribute to a repository, you must add the same attribute to its relationship, else an error message is displayed.

The screenshot shows the 'View Repository' window for the 'APPLIANCES' repository. It displays metadata for a relationship named 'Contains'. The relationship is of type 'Contains' and is contained by '14500'. The target repository is 'RCT_35241'. A table below lists the relationship attributes, with one attribute highlighted: 'EFFECTIVEDATE' of type 'Timestamp'.

Position Name	Display Name	Column Name	Type	Length	Display In Record List	Searchable
1	EFFECTIVEDATE	EFFECTIVEDATE	Timestamp	0	No	No

- If either of the parent or child record is marked with a future effective date, you must apply the future effective date to a relationship.
- If a relationship is marked with a future effective date, participating records may or may not be marked with future effective date.
- A relationship's future effective date must be the same or later than the participant records' future effective dates.
- For every data change that happens to a future dated version of a record, TIBCO MDM creates a new version of record. If the change includes the future date and other data, a confirmation message is displayed to indicate whether to create a new version or change the existing version.

Actions after Effective Date Arrivals

After the future effective date arrives, a future dated record version becomes **CONFIRMED** and **EFFECTIVE**. An **EFFECTIVE** version is also referred as golden copy. If multiple versions of the same record are effective on the same date, the latest or highest version of a record becomes effective.

Browsing Effective Date Records

You can browse or search only the future effective date records based on the value of the **EFFECTIVEDATE** attribute. Multiple versions of records are displayed based on the effective

date filter. The records are filtered based on the filter criteria. The future effective date records are identified by the  icon.

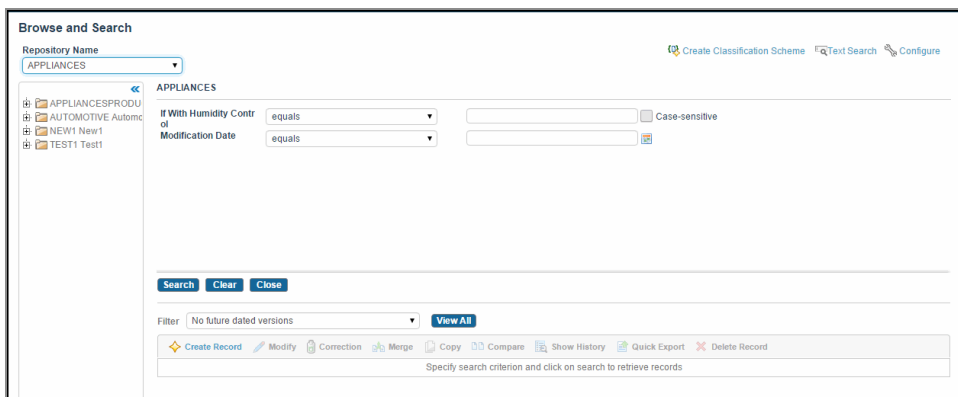
Note: The **Filter** drop-down list is displayed only if you have added the EFFECTIVEDATE attribute to a repository.

The future effective date filter criteria are as follows:

- **Include future dated versions:** Search results include future dated versions. After selecting this option, the future effective date records are included, along with the current record in the search results.
- **Only future dated versions:** Search results include only future dated versions. After selecting this option, only future effective date records are included in the search results.
- **No future dated versions:** Search results do not include future dated versions. This is the default criterion. After selecting this option, future effective date records are not included in the search results.

Procedure

1. Click **Browse and Search**.
2. From the **Repository Name** drop-down list, select the repository whose records you want to browse.
3. In the **Filter** drop-down list, select the appropriate filter option. A list of records based on the selected filter criteria is displayed. By default, **No future dated versions** is displayed as the filter option.



For more information, see the steps listed in [Viewing Records](#).

Creating Effective Date Records

The process for creating a future date records is the same that of creating a current record.

- When the effective date value is greater than the current date and the record is confirmed and approved, record is added to the FUTURE DATED RECORD table.
- When the effective date is lesser or equal to the current date and the record is confirmed and approved, record is added to the GOLDEN COPY table.

Procedure

1. Perform the steps listed in [Creating Records](#).

If you have added the EFFECTIVEDATE attribute while creating a repository, you can specify values for these attributes displayed on the Add Record page.

Modifying Effective Date Records

Using this option, you can modify any existing future date records in a repository.

Procedure

1. Click **Browse and Search**.
2. From the **Repository Name** drop-down list, select the repository whose records you want to modify.

3. In the **Filter** drop-down list, select **Only future dated versions** or Include future dated versions. A list of all future effective date records is displayed.
4. Select the record that needs to be modified and click **Modify**. The Modify Record page is displayed.

Record Modify  Following record is being modified. Review record and approve or reject modification.

Work Item Details

Type/Topic	Record Modification/Modify	Event ID	56001	Status	Open
Work Item ID	57000	Age (D:H:M:S)	11 Seconds	Intent	Approve Changes
Receipt Date	2016-02-03 16:18:03.38	Max Timeouts	N/A	Number Of Timeouts	0
Timeout Method	Relative				
Next Timeout on	2016-02-04 16:18:03.37	Locked On	2016-02-03 16:18:14.949	Lock Expiry Date	No expiration date
Locked By	Smith, John				

Primary Record

Repository Name	APPLIANCES	Version Number	5
PRODUCTID	7	Record State	Unconfirmed
Record ID Extension	7-ext	If With Humidity Control	true
TYPE_OF_MATERIAL			

Alerts

None

Comments

[View](#) [Modify](#) [Review](#) [Compare](#)

[Submit](#) [Cancel](#)

5. Modify the future date and click **Save and Process**. For change in future effective date, a confirmation message is displayed.

Confirmation Message 

You have made date changes to record(s). For dates in the future would you like to:

☐ Create a new Future Dated Version
☒ Change the date on the existing version

For dates you have removed or changed to a past date the records will be made the current version.

[OK](#) [Cancel](#)

- If you select **Create a new Future Dated Version**, a new future dated version is created and the previous future dated version is also retained.
- If you select **Change the date on the existing version**, a new future dated record is created and the previous future dated version is deleted.
- If you have removed or changed the future effective date to a past date, the records are treated as the current version.

- If you have changed the date of one or more records, the relationship's effective dates for the changed records are reset. A relationship's future effective date must be the same or later than the participant records' future effective date.

Deleting Effective Date Records

When a future dated record is deleted, the record state is updated to Rejected.



Note: The hierarchy of the future dated records cannot be deleted; only the specific record is deleted.

Procedure

- Click **Browse and Search**.
- From the **Repository Name** drop-down list, select the name of the repository from which you want to delete records.
- In the **Filter** drop-down list, select **Only future dated versions** or **Include future dated versions**. A list of all future effective date records is displayed.
- Select the record that you want to delete and click **Delete Record**.

The **Delete Record(s)** page is displayed.

Repository Name	Record ID Extension	Last Modified On	Description	State	Version	Last Modified By	Appliances
PRODUCTID	5	2016-01-04 15:23:39.858	Appliances	Confirmed	2	Smith, John	

Related Records

5 - 5-ext

ContainedBy

Contains

Delete Cancel

- Click **Delete**. The future dated record is deleted. The Delete Record page also lists the related records.

Deleting Related Future Effective Date Records

Complete the following steps to delete related future effective date records.

Procedure

1. Click **Browse and Search**.
2. From the **Repository Name** drop-down list, select the name of the repository from which you want to delete records.
3. In the **Filter** drop-down list, select **Only future dated versions** or **Include future dated versions**. A list of all future effective date records is displayed.
4. Click the record ID of the record you want to delete. The View Record page is displayed.
5. Click **Delete Related Records**. The Delete Related Record page is displayed.

Repository Name	APPLIANCES	Description	State	Version	Last Modified By	Appliances
PRODUCTID	5					Confirmed
Record ID Extension	5-ext					3
Last Modified On	2016-01-04 15:49:02.174					Smith, John

Related Records

Warning: No related records.

Cancel

6. Click **Delete**. The related future dated record is deleted. For more information about deleting related records across repositories, see [Deleting Records in Cross-Repository Relationship](#).



Note: If you have set the Record Delete Approval business process rule, and if you delete a record that is effective in future, the workflow approval process is skipped and a work item is not generated.

Viewing Effective Date Records

Complete the following steps to view effective date records.

Procedure

1. Click **Browse and Search**.
2. From the **Repository Name** drop-down list, select the repository whose records you want to browse.
3. In the **Filter** drop-down list, select **Only future dated versions** or **Include future dated versions**. A list of all future effective date records is displayed.
4. Click a record to view its details. The View Record page is displayed.

The screenshot shows the 'View Record' interface. On the left, there's a sidebar with 'Perspective' set to 'None' and a 'View as of' date of '2016-01-11 11:36:13.2'. Below this is a tree view showing '5-5-ext' and 'Contains'. The main area has a top toolbar with actions like 'Modify', 'Correction', 'Restore', 'Compare', 'Show History', 'Show Usage', 'Send Message', and 'Delete Related Records'. Below the toolbar, there's a section for 'Repository Name' (APPLIANCES), 'Product ID' (5), 'Record ID Extension' (5-ext), 'Version Number' (3), and 'State' (Confirmed). A 'Show Errors' button is also present. At the bottom, there's a table with columns 'Unassigned', 'HOMEAPPLIANCES', 'Other', 'System', and 'Classifications'. The table contains one row for 'PRODUCTID 5' with 'Record ID Extension 5-ext' and 'Effective date 2016-02-02 00:00:00.0'. An 'OK' button is at the bottom left.

For more information about the View Record page, see [Viewing a Single Record](#).

Copying Effective Date Records

You can copy a future effective date record to the repository using an existing future dated record.

Note: The hierarchy of the future dated record cannot be copied.

Procedure

1. Select **Browse and Search**.
2. Select the name of the **Repository** from which you want to copy a record.
3. In the **Filter** drop-down list, select **Only future dated versions** or **Include future dated versions**. A list of all future effective date records is displayed.
4. Select the record to be copied and click **Copy**. The Copy Record page is displayed.

Copy Record

Repository Name: APPLIANCES
 Repository Description: Appliances
 PRODUCTID: 5
 Record ID Extension: 5-ext

Reason for Change

Unassigned | HOMEAPPLIANCES | Other | System | Classifications

PRODUCTID: Record ID Extension:

Effective date:

CONTAINEDBY: No related records exist.
 CONTAINS: No related records exist.

Note: Duplicate attributes marked in red

Validate Save Save and Process Cancel

5. Enter the new details and click **Save and Process**. The record is copied.

Comparing Effective Date Records

Using this option, you can compare future dated records and its versions. For more information, see [Comparing Records](#).

Procedure

1. Click **Browse and Search**.
2. From the **Repository Name** drop-down list, select the name of the repository from which you want to compare records.
3. In the **Filter** drop-down list, select **Only future dated versions** or **Include future dated versions**. A list of all future effective date records is displayed.
4. Select any two records that you want to compare. You can select a maximum of three records.
5. Click **Compare**. The Compare Records page is displayed.

Compare Records

Repository Name: APPLIANCES
 Compare Record: 5-5-ext-V3
 Repository Description: Appliances
 with record: 7-7-ext-V1
 Show Comparison For: Record Attributes
 Show Differences Only: ☒ **Compare**

Summary

No.	Summary Of Comparison	5-5-ext(V3)	7-7-ext(V1)
1	Record Attributes	-	Differ

Comparison Details

[Expand All](#) [Collapse All](#)

Unassigned

Record Attributes	5-5-ext(V3)	7-7-ext(V1)
Effective date	2016-02-02 00:00:00	2017-01-04 00:00:00
Record Attributes	5-5-ext(V3)	7-7-ext(V1)
PRODUCTID	5	7
Record ID Extension	5-ext	7-ext

HOMEAPPLIANCES

Record Attributes	5-5-ext(V3)	7-7-ext(V1)
TYPE_OF_MATERIAL	Steel	
Installation Type	Immediate	
If With Humidity Control	true	

OK

- Click the **Compare** button. For detailed information on comparing records, see [Comparing Records](#).

Comparing Future Effective Date Record Versions

Complete the following steps to compare future effective date record versions.

Procedure

- Click **Browse and Search**.
- From the **Repository Name** drop-down list, select the name of the repository from which you want to compare records versions.
- In the **Filter** drop-down list, select **Only future dated versions** or Include future dated versions. A list of all future effective date records is displayed.
- Click the record ID of the records you want to compare for versions. The View Record page is displayed.
- From the **More Actions** menu, click **Compare**. The Compare Record page is displayed.

Compare Versions

Repository Name
PRODUCTID

APPLIANCES
7

Repository Description
Record ID Extension

Appliances
7-ext

▼ Select Versions

Compare Version

All

2,Confirmed

with Version

All

1,Confirmed

Show Comparison For

Record Attributes

Show Differences Only

☒

Compare

▼ Summary

No.	Summary Of Comparison	7-7-ext(V2)	7-7-ext(V1)
1	Record Attributes	-	Differ

Comparison Details

Expand All

Collapse All

▼ HOMEAPPLIANCES

Attribute	Value V2	Value V1
If With Humidity Control	true	

OK

6. Click the **Compare** button. For detailed information on comparing records, see [Comparing Records](#).

Viewing Golden Copy Record Versions

Complete the following steps to view the golden copy record versions.

Procedure

1. Click **Browse and Search**. From the **Repository Name** drop-down list, select the name of the repository from which you want to compare records versions.
2. In the **Filter** drop-down list, select **Only future dated versions** or Include future dated versions. A list of all future effective date records is displayed.
3. Click the record ID of the records you want to compare for versions. The View Record page is displayed.
4. From the **More Actions** menu, click the **Compare** button. The Compare Record page is displayed. The golden copy record is identified by the icon.

Viewing Effective Date Record History

Complete the following steps to view effective date record history.

Procedure

1. Click **Browse and Search**. From the Repository Name drop-down list, select the name of the repository.
2. In the **Filter** drop-down list, select **Only future dated versions** or Include future dated versions. A list of all future effective date records is displayed.
3. Select the record for which you want to view the history and click **Show History**. The Record History page is displayed.

Version #	Operation-SubOperation	Event	Event ID	Status	Performed On	Modified By	Backend System	Message
V1	EDIT PRODUCT-INITIAL V1	Record Modify	50000	Success	2016-01-04 15:49:00	Smith,John	N/A	

For detailed information about the Record History page, see [Viewing Record History](#).

Sending a Message for Effective Date Records

This option is used for synchronization. When data is synchronized, a record can be published from one enterprise to another using the Send Message utility.

Procedure

1. Click **Browse and Search**. From the **Repository Name** drop-down list, select the name of the repository.
2. In the **Filter** drop-down list, select **Only future dated versions** or Include future dated versions. A list of all future effective date records is displayed.
3. Click the record ID of the record that you want to publish to the retailer enterprise.
4. From the **More Actions** menu, choose **Send Message**. The Send Message page is displayed. Enter appropriate dates in the fields.

Send Message

Repository Name: APPLIANCES
Repository Description: Appliances

Enter data for message

PRODUCTID	7	Record ID Extension	7-ext
Action	FACTSHEET- Generate factsheet	boolean2	☐
boolean1	☐	End date	
Start Date		String2_Name	
Special Instructions		Integer2_Name	
Integer1_Name			

Submit **Cancel**

- Click the **Submit** button to publish the record. The Record View page is displayed.
- Click **OK**. The record is published.

Viewing Effective Date Record Usage

Procedure

- Click **Browse and Search**.
- From the **Repository Name** drop-down list, select the name of the repository.
- In the **Filter** drop-down list, select **Only future dated versions** or Include future dated versions. A list of all future effective date records is displayed.
- Click any record whose usage you want to see. The Record View page is displayed.
- Click **More Actions > Show Usage**. The Record Usage page is displayed. The page displays the following record information: used by, name, description, and restriction.

You can view the usage of the record using the **Show Usage** link. This Record Usage page displays repositories that use the repository, along with the usage details, such as used by, name, description, and restrictions.

Record Usage

Name 7-7-ext

Show Usage

Used By	Name	Description	Comment	Restriction
No Record Found				

OK

Effective Date Relationship

A relationship between records can also have an effective date. The effective date is applied to the relationship and its associated attributes. If one of the related repositories have an EFFECTIVEDATE attribute, it is mandatory to have an EFFECTIVEDATE attribute on the Relationship.

A relationship effective Date should be the same or later than the participant records' effective dates. If a record is confirmed and a future effective date is not specified, it is stored as the current date. For more information, see [Types of Relationships](#).

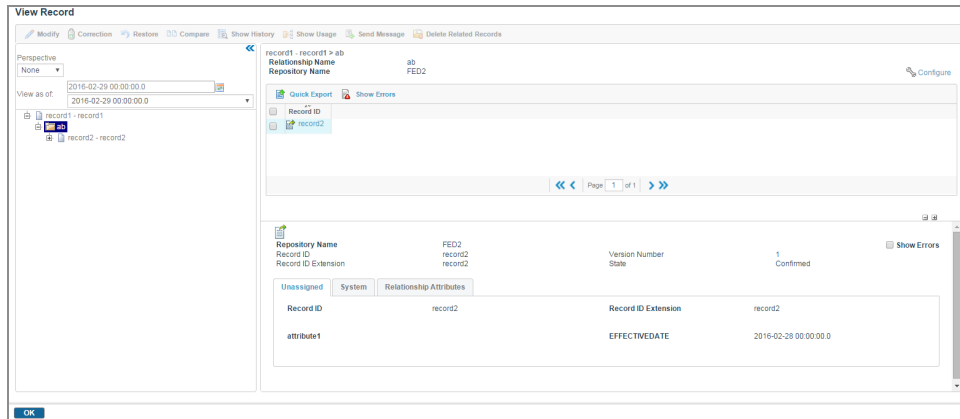
Viewing Effective Date Relationship

Complete the following steps to view a effective date relationship.

Procedure

1. Click **Browse and Search**.
2. Select the repository name from the **Repository Name** drop-down list.
3. In the **Filter** drop-down list, select **Only future dated versions** or Include future dated versions. A list of all future effective date records is displayed.
4. Click the record ID of the record that you want to view.

5. On the View Record page, click the **Relationships** tab.



If a record has future dated relationships with its first level children, a check box indicating the future effective date icon appears.

6. Date filter shows future dates for relationships with first level children. The number of future effective dates displayed are controlled by configuration. The default value is **10**. You can select a date of your choice using a date calendar. If the selected parent record has multiple related records effective on or before the new future effective date selected, then you can view the complete record hierarchy effective at that date.
7. The Version Number drop-down list allows you to navigate through multiple available versions (both LATEST CONFIRMED and all FUTURE DATED versions) for a record. You can even view the record bundle or related record hierarchy according to the selected version without having to go back to the Browser page. You can select the record version of your choice for modification.
8. Click the plus sign next to any relationship to expand the relationship.
9. Click a related record in the left pane to view the relationship details in the right pane.
10. Click the record ID in the right pane to view the details, such as record attributes and relationship attributes in the Quick View pane (bottom right pane).
11. Click **OK** when you have finished viewing the relationships.

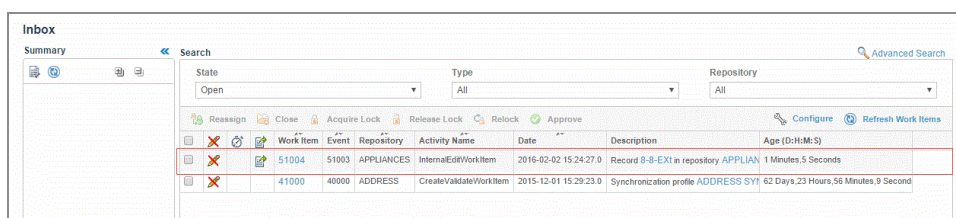
Effective Date Work Item Status

Effective Date Work Item Status

Status	Description
Record with Future Effective Date	When a work item is approved it behaves the same way as other records, except the record CONFIRMED version is not saved or updated in Golden Copy, as it is future dated.
Record with Current Effective Date	When a work item is approved it behaves the same way as records with current or null Effective dates. The record CONFIRMED version is saved or updated in Golden Copy. The record is not eligible for the scheduler's action as a future dated record.
Record with Past Effective Date	When a work item is approved it behaves the same way as records with current, null, or past dated Effective date. The record CONFIRMED version is saved or updated in Golden Copy. The record is not eligible for the scheduler's action as a future dated record.
Record with Past Effective Date and if greater than Confirmed version exists	When a work item is approved it behaves in the same way as an UNCONFIRMED record with a current, null, or past dated Effective date. The record is automatically merged with a greater CONFIRMED version if there are no conflicting attributes. If there are conflicts, it creates a conflict work item.

Effective Date Work Item Details

Click the work item link in the **Work Item** column of the Inbox UI to view detailed information about the work item. Depending on the task, different work item detail screens are displayed. For example: the Record Introduction, Record Modify, Record Delete, Record Review, and Reject screens. For more information, see [Classic Inbox](#).



Record Introduction 

Following new record is being introduced. Review/edit record information. After entering all required information, click Submit.

Work Item Details

Type/Topic	Record Introduction/Add	Event ID	51003	Status	Open
Work Item ID	51004	Age (D:H:M:S)	2 Minutes.57 Seconds	Intent	Edit records
Receipt Date	2016-02-02 15:24:27.385	Max Timeouts	N/A	Number Of Timeouts	0
Timeout Method	Relative	Locked On	2016-02-03 15:24:27.381	Lock Expiry Date	No expiration date
Next Timeout on	2016-02-03 15:24:27.381				
Locked By	Smith,John				

Primary Record [View](#) [Modify](#) [Compare](#)

Repository Name	APPLIANCES	Version Number	1
PRODUCTID	8	Record State	Unconfirmed
Record ID Extension	8-EXT		
If With Humidity Control	false		

Alerts
None

Comments

[Submit](#) [Cancel](#)

Record Modify 

Following record is being modified. Review record and approve or reject modification.

Work Item Details

Type/Topic	Record Modification/Modify	Event ID	56001	Status	Open
Work Item ID	57000	Age (D:H:M:S)	11 Seconds	Intent	Approve Changes
Receipt Date	2016-02-03 16:18:03.38	Max Timeouts	N/A	Number Of Timeouts	0
Timeout Method	Relative	Locked On	2016-02-03 16:18:14.949	Lock Expiry Date	No expiration date
Next Timeout on	2016-02-04 16:18:03.37				
Locked By	Smith,John				

Primary Record [View](#) [Modify](#) [Review](#) [Compare](#)

Repository Name	APPLIANCES	Version Number	5
PRODUCTID	7	Record State	Unconfirmed
Record ID Extension	7-ext	If With Humidity Control	true
TYPE_OF_MATERIAL			

Alerts
None

Comments

[Submit](#) [Cancel](#)

Record Review and Rejection 

[Modify](#) [History](#) [Show Usage](#)

Repository Name
APPLIANCES
Repository Description
Appliances
View
Compare
Expand All Collapse All

☐ Changes ☐ Rejections
☒ Last Confirmed ☐ Previous

▼ Unassigned

Attribute Group / Attribute	Old Value	Value	Reject	Reason for rejection
UNASSIGNED			☐	
PRODUCTID		8	☐	
Record ID Extension		8-EXT	☐	
Effective date		2017-02-28 00:00	☐	
Newf23			☐	

▼ HOMEAPPLIANCES

Attribute Group / Attribute	Old Value	Value	Reject	Reason for rejection
No attributes found using above filter conditions.	undefined	undefined	undefined	undefined
HOMEAPPLIANCES			☐	
Cooktop Configuration			☐	
If With Remote Control			☐	
Power Source			☐	

[Save](#) [Cancel](#)

Record Deletion			
Following record is being deleted. Review the record and approve or reject deletion.			
Work Item Details			
Type/Topic	Record Modification/Modify	Event ID	40001
Work Item ID	40002	Age	23 Hours, 5 Minutes
Receipt Date	09/01/2010 15:21:31	Maximum Number Of Timeouts	N/A
Timeout Method	Relative		
Next Timeout on	09/02/2010 15:21:31		
Primary Record			
Repository Name	REPOSITORY_1	Version Number	2
Record ID	Record_3	State	Unconfirmed
Record ID Extension	Record_3Exe		
Action		☒ Approve ☐ Reject	

Effective Date Subset Rules

With the help of UI enhancements for handling effective date records through subsets, you can create a future date subset rule, and then select the records by applying Future Effective Date filter criteria.

Creating Effective Date Subset Rule

Use this page to specify values for the EFFECTIVEDATE attribute while creating a subset rule based on a List, Search, or an Expression.

Procedure

1. Click **Master Data > Subset Rules**.
2. Click **Create** from the Subset Rules page.
3. Select a repository name from the drop-down list on the Create Subset Rule page. A subset is always defined for a repository.

Create Subset Rule

Repository Name
Repository Description
Subset Rule Name
Description

Based On
☒ Search
☐ List
☐ Expression

Record Search

ALLTypeA

ATA_LONG1	equals		
ATA_URL1	equals		☐ Case-sensitive
ATA_STRING1	equals		☐ Case-sensitive
ATA_INTEGER1	equals		
ATA_AMOUNT1	equals		
ATA_FILE1	equals		☐ Case-sensitive
ATA_BOOLEAN1	equals	Ignore	
ATA_DATE1	equals		☐
ATA_DECIMAL1	equals		

View Results
Cancel

- Perform the steps listed in [Creating Subset Rule](#).
- Click the **View Results** button. The Select Records page is displayed.

Selecting Effective Date Records

Use the Select Records page to select a future date record based on a List, Search, or an Expression.

The future effective date filter criteria is explained in [Browsing Effective Date Records](#).

Procedure

- On the Select Records page, by default **No future dated versions** filter is displayed.
- In the **Filter** drop-down list, select **Only future dated versions**. Only future dated versions are displayed.

3. Select the future date records.
4. Click **Done**. The Confirm Selected Records page is displayed.

Confirming Selected Effective Date Records

Use the Confirm Selected Records page to confirm a selected future date records based on a List, Search, or an Expression.

On the Confirm Selected Records page, by default **No future dated versions** filter is displayed.

Procedure

1. For confirming future effective date records, in the **Filter** drop-down list, select **Only future dated versions** filter, and then click **Done**.
2. Click **Save** to confirm the selected future date records.

The selected records are confirmed and saved. The saved record appears in the Subset Rules page.

Effective Date Synchronization Profile

Using this option, you can create a Synchronization profile with Future Effective Date filter criteria. The future effective date filter criteria is explained in [Browsing Effective Date Records](#).

You can also define the future cut-off days for synchronizing the future effective date records.

Creating an Effective Date Synchronization Profile

Complete the following steps to create an effective date synchronization profile.

Procedure

1. Click **Master Data > Synchronization Profiles**. The Synchronization Profile page is displayed.
2. Click **Create**. The Create Synchronization Profile page is displayed.

The screenshot shows the 'Create Synchronization Profile' form with the following fields and values:

- Repository Name:** REPOFED1
- Repository Version:** Latest
- Synchronization Profile Name:** SP1
- Synchronization Profile Description:** SP1
- Subset Rule:** None
- Transformation Rulebase:** None
- Record State:** Confirmed Only
- Incremental:** Only new or changed data to be included.
- Skip Identify Protocol Operation:** No product logs for publish will be generated.
- Delivery:** (Section header)
- Backend Systems:** BS1, BS2
- Output Map:** None
- Delivery Mechanism:** Local
- Destination Address:** (Empty field)
- Future Effective Date:** (Section header)
- Future Records Filter:** Include future dated versions
- Apply Future Records Cut-off?:** Checked
- Future Records Cut-off Days:** 30

3. In the **Future Effective Date** section, perform the following actions:

- a. From the Future Records Filter drop-down list, select any of the following options:
 - **Include future dated versions:** If you select this option, along with other records, future dated version records are included.
 - **Only future dated versions:** If you select this option, only future dated version records are included and other records are ignored.
 - **No future dated versions:** If you select this option, only current records are included.
 - a. Check the **Apply Future Records Cut-off** check box if you want to apply cut-off dates to future records.
 - b. Specify the **Future Records Cut-off Days**. The current date and cut-off date are considered for synchronizing the future effective date records.
4. Perform the steps listed in [Creating a Synchronization Profile](#).

Modifying Effective Date Synchronization Profile

The Modify Synchronization Profile page enables you to modify details of an existing Synchronization Profile. After completing and saving a new definition, you can synchronize (publish) the Synchronization Profile.

Modify Synchronization Profile	
Repository Name	REPOFED1
Repository Version	☒ Latest ☐ By Date Time : AM
Synchronization Profile Name	SP1
Synchronization Profile Description	SP1
Subset Rule	None Create
Transformation Rulebase	None Upload
Record State	☒ Confirmed Only ☐ Confirmed or Unconfirmed ☐ All ☒ Only new or changed data to be included. ☐ Consider relationships and children records for incremental synchronization. ☒ No product logs for publish will be generated.
Incremental	
Incremental Bundle Option	
Skip Identify Protocol Operations	
Delivery	
Backend Systems	BS1 BS2
Output Map	OM_FED1
Delivery Mechanism	☒ Local ☐ FTP ☐ E-mail
Destination Address	
Future Effective Date	
Future Records Filter	Only future dated versions
Apply Future Records Cut-off?	☒
Future Records Cut-off Days	30
Format Specific Attributes	
Save Cancel	

Procedure

- Enter the following details in the Synchronization Profile section:
 - the repository Version (latest, by date, or by named version)
 - the Synchronization Profile Name and Description
 - the Subset Rule
 - the Transformation Rulebase
 - the Record State and the incremental status. (Note that the repository name cannot be modified.)
- Select the following delivery options:
 - For a backend system, you can modify the backend system.

- (GDSN only) For a Datapool or Backend System on Datapool, you can select the Datapool.
 - Other options you can modify include the Output Format, the Delivery Mechanism (local, FTP, or email), and the Destination Address.
3. Enter the following details in the Future Effective Date section:
 - the type of Future Records Filter
 - whether to Apply Future Records Cut-off
 - the Future Records Cut off Days
 4. Enter the following details in the Format Specific Attributes section:
 - the Classification Scheme (if applicable)
 - the Valid From and Valid To dates
 - whether to generate an Output file
 5. Click **Save** to save any modifications.

View Effective Date Synchronization Profile

Click the synchronization profile name to view the details of a synchronization profile. The View Synchronization Profile page is displayed.

View Synchronization Profile			
Repository Name	REPOFED1		
Repository Version	Latest		
Synchronization Profile Name	SP1		
Synchronization Profile Description	SP1		
Subset Rule	None		
Transformation Rulebase	None		
Record State	Confirmed Only		
Incremental	Yes		
Incremental Bundle Option	No		
Skip Identify Protocol Operations	Yes		
Delivery			
Backend Systems	BS1		
Output Map	OM_FED1		
Delivery Mechanism	Local		
Future Effective Date			
Future Records Filter	Only future dated versions		
Apply Future Records Cut-off?	Yes		
Future Records Cut-off Days	30 days		
Format Specific Attributes			
Classification Scheme	None	Deliver Synchronization Profile	Yes
Valid From		Valid Until	
Generate Output file?	☒		
OK			

The following details are displayed here:

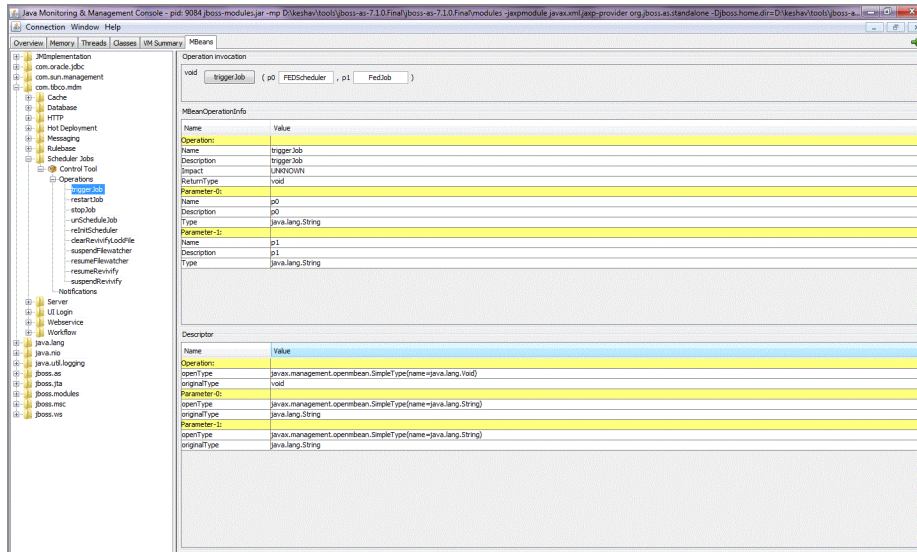
- Synchronization Profile Details — the repository Name and Version (either latest or by date), the Synchronization Profile Name and Description, the Subset Rule, the Transformation Rulebase, the Record State, and the Incremental status.
- Delivery — the type of Delivery Recipient, its details, the Output Map, and the Delivery Mechanism.
- Future Effective Date — the type of Future Records Filter, whether or not to Apply Future Records Cut-off, and the Future Records Cut-off Days.
- Format Specific Attributes — the Classification Scheme (if applicable), whether or not to deliver the synchronization profile, the Valid From and Valid To dates, and whether or not to generate an Output file.

Scheduler for Effective Dates

You can define the date and time range using the trigger expression.

To schedule the effective date jobs, configure the `CronSchedules.xml` file. It is located in the `$MQ_HOME/config` folder. For more information about configuring Scheduler, see the Configuring Scheduler section in *TIBCO MDM Customization*.

To run these jobs any time, use JMX Console or JVisual VM. The Scheduler Jobs operations are available under the Scheduler Jobs MBean. For information about MBeans and its operations, see the "TIBCO MDM Management Using JMX" section in *System Administration* guide on the [TIBCO MDM product documentation](#) page.



Features of Scheduler for Effective Date

The following are the main features of Scheduler:

- By default, the scheduler is triggered everyday at 00:00 hours, which is specified in the `CronSchedules.xml` file.
- If the effective date is on or before the date scheduler is run, the records become effective.
- If a CONFIRMED or UNCONFIRMED version greater than the future effective date record to be made effective exists, a new record version is created.
- If a CONFIRMED or UNCONFIRMED version greater than the future effective date record to be made effective does not exist, it becomes a golden copy without creating a new version.

- To track the scheduler process, event and product logs are generated. To view the event and its product logs, login as super user and go to the Event Log page and click Record Modify event.

Category Specific Attributes

Using the Category Specific Attributes feature, you can capture the details of a record based on its categorization. Consider, you have the PRODUCTS repository and the products listed in the repository belong to Food and Beverages industry.

The products are of various types, such as Bakery, Dairy, Cereals and Food Grains, Dry Fruits and Nuts, and so on. Consider that the common attributes for all kinds of these products are Stock Keeping Unit (SKU) and price.

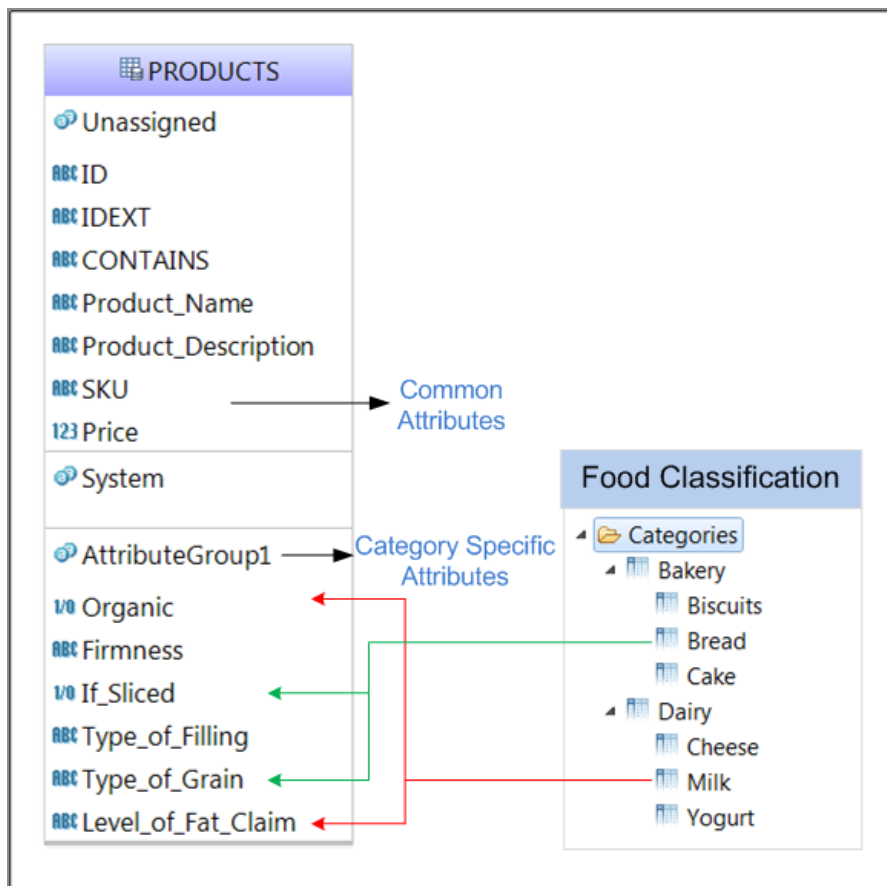
However, the Bakery products require additional attributes, such as, Type of grain and Type of Filling, and the Dairy products require Organic and Level of Fat Claim. These attributes are called as Category Specific Attributes.

Therefore, to arrange the various categories of these products in a particular hierarchy, create a classification scheme. In these categories, you may have sub categories, such as, some food items belong Nutrition and others to Diet category.

Repository Model

Use TIBCO MDM Studio to create a repository, category specific attributes, classification schemes, and then deploy a repository model in TIBCO MDM.

Repository Model



- Creating Repositories

To create a repository in TIBCO MDM Studio, see Repository Attributes and Relationships chapter in *TIBCO MDM Studio Repository Designer User's Guide*.

- Creating Category Specific Attributes

To create category specific attributes in TIBCO MDM Studio, see Define Attributes section in *TIBCO MDM Studio Repository Designer User's Guide*.

- Creating Classifications Scheme

To create classification scheme in TIBCO MDM Studio, see Creating Classification Scheme section in *TIBCO MDM Studio Repository Designer User's Guide*.

- Linking Category Specific Attributes to Classification Code

To link category specific attributes to classification code, see Linking Category

Specific Attributes with Classification Code section in *TIBCO MDM Studio Repository Designer User's Guide*.

- Deploying Repository Model

To deploy a repository model from TIBCO MDM Studio, see Deployment of Modules section in *TIBCO MDM Studio Repository Designer User's Guide*.

After you deploy a repository model in TIBCO MDM, verify the following modules of a repository model:

- Repository attributes
- Classification schemes
- Classification hierarchy

Verifying Repository Attributes

Complete the following steps to verify repository attributes.

Procedure

1. Click **Master Data > Repositories**. The Repositories page is displayed.
2. Select the repository that is deployed from TIBCO MDM Studio. The View Repository page is displayed.
3. Verify both the common and category specific attributes.
4. Click the category specific attribute. The Attribute Details dialog box is displayed.

Attribute Details	
Name	Cooktop_Configuration
Position	287
Length	256
Display In Record List	☒
Multi-value	☐
Use Common Table	☐
Group	HOMEAPPLIANCES
Column Name	COOKTOP_CONFIGURATION
Description	Cooktop Configuration
Help	
OK	

5. Verify the **Category Specific** check box is selected.

Note: After an attribute is marked as Category Specific, it cannot be changed to regular attribute unless it is deleted.

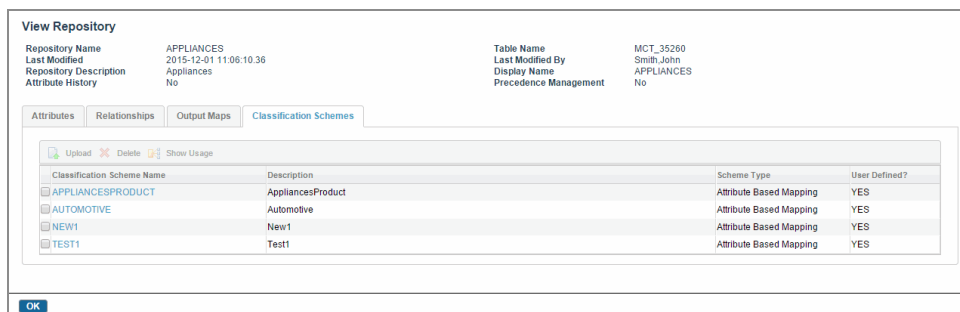
- Similar to other attributes, you can search or display category specific attributes in a record list.
 - Category specific attributes can be multivalue attributes and treated exactly the same as multivalue attributes.
 - The Use Common Table property in TIBCO MDM Studio is always set to true when creating a category specific attribute.
6. Click **OK** and close the Attribute Details dialog box.

Verifying Classification Schemes

Complete the following steps to verify classification schemes.

Procedure

1. Click the **Classification Schemes** tab on the View Repository page. The classification scheme created for the selected repository is displayed.



2. Click the name of a classification scheme in the Classification Scheme Name column. The Classification Scheme page is displayed.

Hierarchy Position	Attribute Name
1	LEVEL1
2	LEVEL2
3	LEVEL3
4	LEVEL4
5	LEVEL5
6	LEVEL6

The classification scheme details are displayed, such as, repository name, classification scheme name, its description, classification scheme type and classification extraction method.

Classification Scheme Type displays the following options:

- **Attribute Mapping:** Refers to the attribute based classification.

The other available option is Rulebase, that is, classification is defined by rulebase.

The Classification Extraction Method displays any one of the following three options based on your selection in TIBCO MDM Studio:

- **Manual:** When the record is added, it is not automatically classified. By default, the Manual option is selected.

For the Manual extraction method, attribute mapping for defining hierarchy position is not required and you can define the category hierarchy using TIBCO MDM Studio or CSV upload. The records are manually classified while creating or modifying records. Records can be classified before record data is saved.

- **Automatic:** The records are automatically classified. You cannot classify the records. Records are classified only after record data is saved.
- **Mixed:** If a record is not explicitly classified, automatic classification happens. However, if you manually classify the records, the record is not automatically classified unless existing classification is removed.

For Automatic and Mixed extraction methods, if you create classification schemes based on repository attribute mapping, you must define the repository attributes to each hierarchical position. The mapping of this attribute definition defines how and where to extract data for forming a category hierarchy and classifying the record.

For Automatic Attribute Mapping based classification scheme, the hierarchy

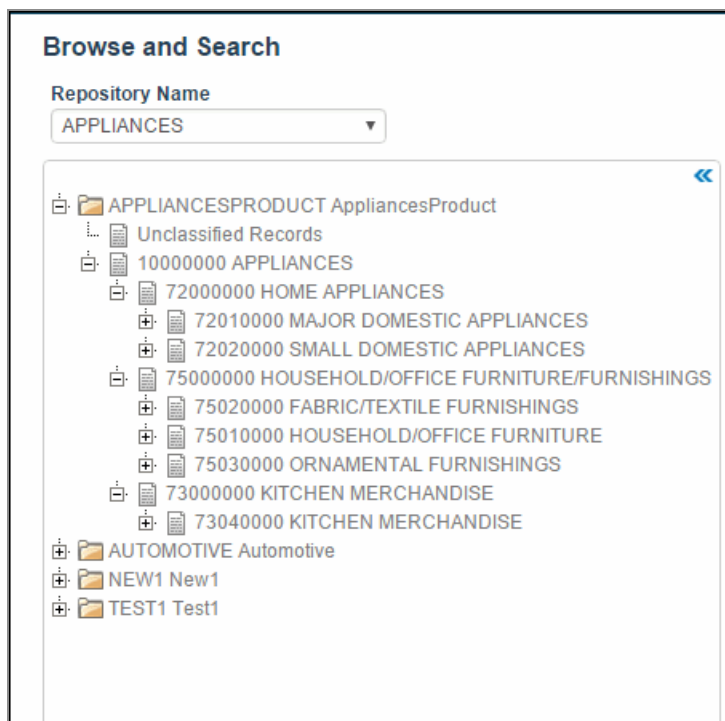
position defines hierarchical position of a category and sub-category. The position is defined using AttributeMapping against that hierarchy position.

Verifying Classification Hierarchy

Complete the following steps to verify classification hierarchy.

Procedure

1. Click **Browse and Search**. The Browse and Search page is displayed.
2. From the Repository Name drop-down list, select the repository that includes a classification scheme.
3. In the left pane, expand the Classification tree.



A list of categories of the classification scheme is displayed.

Classification of Records

For Classification schemes with extraction type 'Automatic', record classification happens automatically once record data is saved. This section explains how to create, modify, and copy manual classification of records. It also explains how to compare and search classification of records.

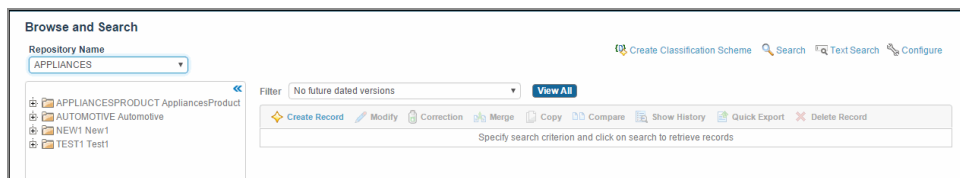
- [Creating Classification of Records](#)
- [Modifying Classification of Records](#)
- [Copying Classification of Records](#)
- [Comparing Classification of Records](#)
- [Searching Records Based on Classification](#)

Creating Classification of Records

Complete the following steps to create classification of records.

Procedure

1. Click  [Create Record](#) on the Browse and Search page.



The Add Record page is displayed.

Add Record

Perspective: None

Repository Name: APPLIANCES
Repository Description: Appliances
PRODUCTID: 1
Record ID Extension: 1-ext

Unassigned | HOMEAPPLIANCES | Other | System | Classifications

PRODUCTID: 1 | Record ID Extension: 1-ext

Effective date: [Date Picker]

Validate | Save | Save and Process | Cancel

2. Enter values in the attribute name fields.
3. Click the **Classifications** tab. The classification hierarchy is displayed on the **Classifications** tab. You can change classification of a record into more than one category in a single classification or across classifications.

Add Record

Perspective: None

Repository Name: APPLIANCES
Repository Description: Appliances
PRODUCTID: 1
Record ID Extension: 1-ext

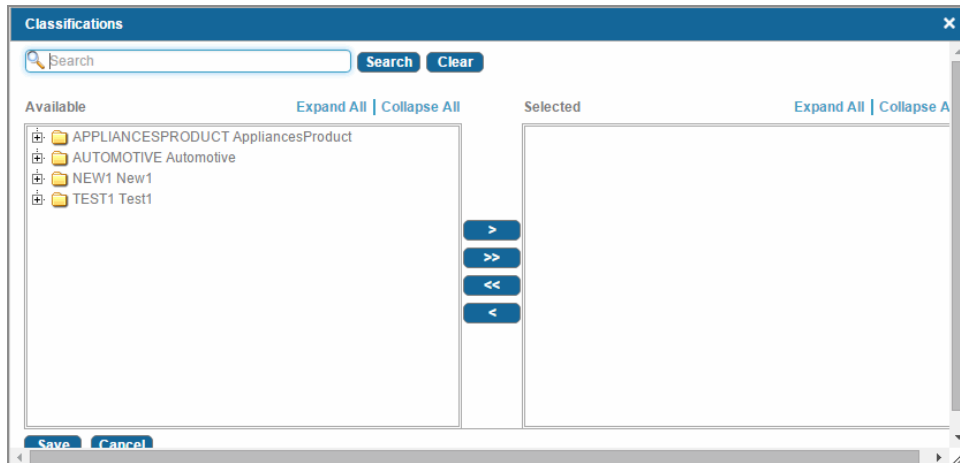
Unassigned | HOMEAPPLIANCES | Other | System | Classifications

Record is not classified

Classify

Validate | Save | Save and Process | Cancel

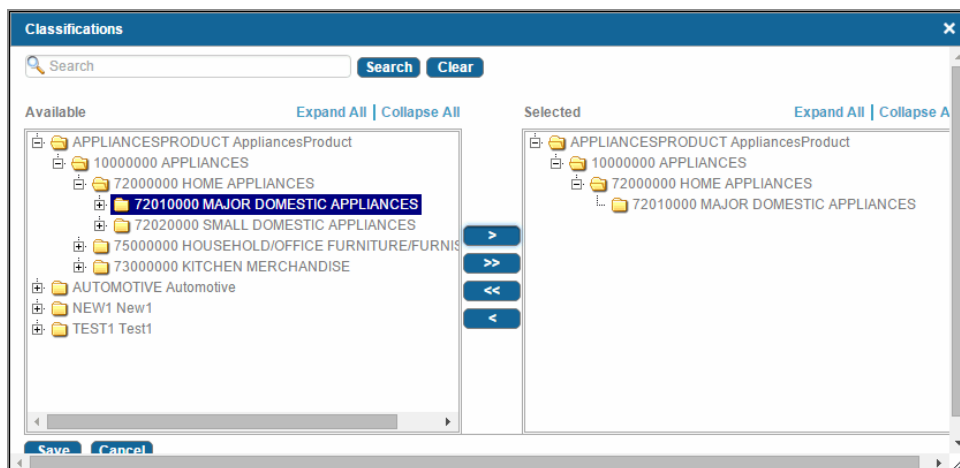
4. Click **Classify** to select categories. The Classifications dialog is displayed.



Note: The Classifications dialog box is displayed only for the Manual and Mixed classification. For Automatic classification, **Classify** is disabled. The classification code hierarchy and attribute mapping is created or changed in TIBCO MDM Studio.

If you have multiple classification schemes, you can classify records in another classification scheme. Then, **Classify** is enabled.

5. Expand the Classification tree to select one or more categories.
6. Select the category in the Available column and click  to move the category to the Selected column. The selected category is moved to the Selected column.



Note: You can click **Expand All** and **Collapse All** links to expand and collapse the categories list respectively in the Available and Selected columns.

If the classification hierarchy is huge, these operations can take a long time and should be avoided.

- Click **Save** to save the selected category. The selected classifications hierarchy is displayed on the **Classifications** tab along with the attributes of the selected classification.

Note: On the **Classification** tab, attributes are in a read-only mode. Category specific attributes appear in the respective attribute group after the category is selected.

- Click **Save** or **Save Process** to save classifications. The classifications are added to the record.

The category specific attributes that are not applicable for a record are displayed in gray color on the record list. Consider the following example, Firmness, Type_of_Filling and Type_of_Grain attributes are not applicable for the Milk record. Therefore, the gray color is displayed in the columns for those category specific attributes.

Create Record Modify Copy Compare Show History Quick Export Delete Record							
Record ID	Product Name	SKU	Organic	Firmness	Type_of_Filling	Type_of_Grain	Level_of_Fat_Claim
1	ACME Milk	548	True				Low Fat Milk

Modifying Classification of Records

Complete the following steps to modify classification of records.

Procedure

1. Click **Browse and Search**. The Browse and Search page is displayed.
2. From the Repository Name drop-down list, select the repository that includes a classification scheme.
3. In the left pane, expand the Classification tree. A list of categories is displayed.
4. Expand the Category tree. A list of sub categories is displayed.
5. Select the sub category. The classification hierarchy is displayed in the right pane.

The screenshot shows the 'Browse and Search' interface. On the left, a tree view shows the hierarchy: APPLIANCESPRODUCT > APPLIANCES > HOME APPLIANCES > MAJOR DOMESTIC APPLIANCES. The 'MAJOR DOMESTIC APPLIANCES' category is selected. On the right, a table displays the classification hierarchy for this category. The table has columns: PRODUCTID, IF With Remote Control, Power Source, TYPE_OF_MATERIAL, and CORDED/CORDESS. The first row shows a record with PRODUCTID 5, IF With Remote Control (checked), Power Source (empty), TYPE_OF_MATERIAL Steel, and CORDED/CORDESS (empty).

6. Select the record that needs to be modified and click [Modify](#). The Modify Record page is displayed.

Modify Record

Perspective

None

2016-02-03 16:10:08.9

View as of

5-5-ext

ContainedBy

Contains

Repository Name

PRODUCTID

Record ID Extension

5-ext

Version Number

State

3

Confirmed

Reason For Change

Unassigned

HOMEAPPLIANCES

Other

System

Classifications

PRODUCTID

5

Record ID Extension

5-ext

Effective date

2016-02-02 00:00:00.0

Validate

Save

Save and Process

Cancel

7. Change the values of the attributes that you want to modify.

Note: If you want to add a reason for change, click the **Reason for Change** link. Specify the reason and click **Done**.

- Click the **Classifications** tab. The classification hierarchy is displayed on the **Classifications** tab. You can change classification of a record into more than one category in a single classification or across classifications.

Modify Record

Perspective

None

2016-02-03 16:10:08.9

View as of

6:5-ent

ContainedBy

Contains

Repository Name

PRODUCTO

APPLIANCES

5

Version Number

3

Reason For Change

Confirmed

Record ID Extension

5-ent

Unassigned

HOMEAPPLIANCES

Other

System

Classifications

APPLIANCESPRODUCT APPLIANCESPRODUCT >> 100000000 APPLIANCES >> 72000000 HOME APPLIANCES >> 72010000 MAJOR DOMESTIC APPLIANCES >> 720

4

Classify

Attributes of the selected classification

Attribute Name	Attribute Value
Installation Type**	Immediate
Installation Type	Immediate
Size/Width	500
TYPE_OF_MATERIAL	Steel

Validate

Save

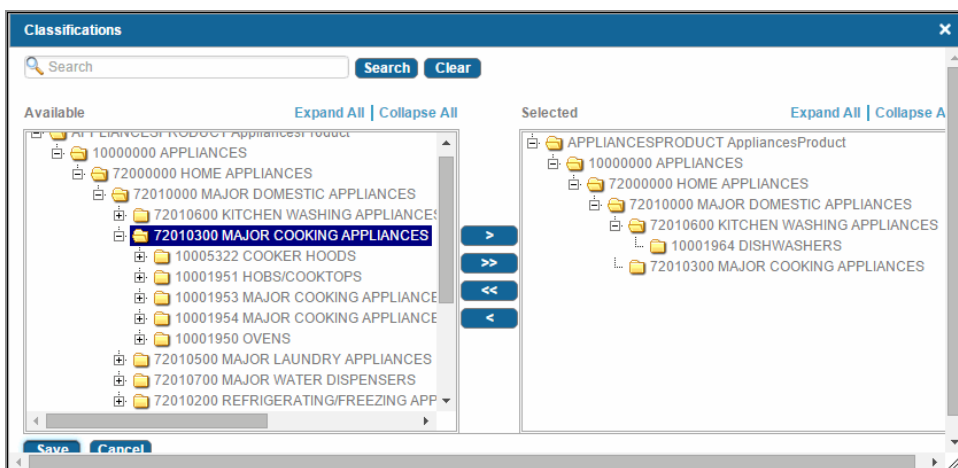
Save and Process

Cancel

9. Click **Classify** to select categories. The Classifications dialog is displayed.

Note: The Classifications dialog is displayed only for the Manual classification. For Automatic classification, the **Classify** button is disabled. The classification code hierarchy and attribute mapping is created or changed in TIBCO MDM Studio.

10. Expand the Classification tree to select one or more categories.
11. Select the category in the Available column and click  to move the category to the Selected column. For example, Cake category. The selected category is moved to the Selected column.



Note: You can click **Expand All** and **Collapse All** links to expand and collapse the categories list respectively in the Available and Selected columns.

12. Click **Save** to save the selected category. The selected classifications hierarchy is displayed on the **Classifications** tab along with the attributes of the selected classification.

Copy Record

Repository Name: APPLIANCES
 Repository Description: Appliances
 PRODUCTID: 5
 Record ID Extension: 5-ext

Reason for Change

Unassigned HOMEAPPLIANCES Other System **Classifications**

APPLIANCESPRODUCT APPLIANCESPRODUCT >> 10000000 APPLIANCES >> 72000000 HOME APPLIANCES >> 72010000 MAJOR DOMESTIC APPLIANCES >> 72010000 KITCHEN WASHING APPLIANCES >>

Classify

Attributes of the selected classification

Attribute Name	Attribute Value
Installation Type **	Immediate
Installation Type	Immediate
Size/Width	500
TYPE_OF_MATERIAL	Steel

Attributes with asterisks (**) are inherited attributes.

CONTAINEDBY: No related records exist.
 CONTAINS: No related records exist.

Validate Save Save and Process Cancel

The **Classifications** tab shows the classification details. By default, classification from source record is carried to the target record. You can add or remove classification by clicking the **Classify** button. For more information, see [Modifying Classification of Records](#).

Comparing Classification of Records

Compare records and compare record version provides a way to compare the classification of a record or its versions.

Note: The process of comparing classification records is the same as comparing other records. For information, see [Comparing Records](#).

Procedure

1. Click **Browse and Search**. From the Repository Name drop-down list, select the name of the repository from which you want to compare records.
2. Click **View All**. A list of records is displayed.
3. Select any two records you want to compare. You can select a maximum of three records.
4. Click  **Compare**. The Compare Records page is displayed.

Compare Records

Repository Name: APPLIANCES
Compare Record: 23-23-ext-V1
Repository Description: Appliances
with record: 5-5-ext-V3
[Compare]

Show Comparison For: Record Attributes
Show Differences Only: ☒

▼ Summary

No.	Summary Of Comparison	23-23-ext(V1)	5-5-ext(V3)
1	Record Attributes	-	Differ

Comparison Details

Expand All Collapse All

Record Attributes	23-23-ext(V1)	5-5-ext(V3)
PRODUCTID	23	5
Record ID Extension	23-ext	5-ext

▼ Unassigned

Record Attributes	23-23-ext(V1)	5-5-ext(V3)
Effective date		2016-02-02 00:00:00

▼ HOMEAPPLIANCES

Record Attributes	23-23-ext(V1)	5-5-ext(V3)
TYPE_OF_MATERIAL		Steel
Installation Type		Immediate
If With Humidity Control		True
Size/Width		500

▼ Automotive

Record Attributes	23-23-ext(V1)	5-5-ext(V3)
Drive Type	Car	
Maximum Number of Passengers	5	

[OK]

5. Select the **Classifications** option from the Show Comparison For drop-down list. The classification schemes are displayed.

Repositories

[Delete](#)
[Copy](#)
[Manage Input Maps](#)
[Get Record Count](#)
[Create Named Version](#)
[Export Records](#)
[Show Usage](#)

	Repository Name	Display Name	ID	Description
☐	ACCOUNT	ACCOUNT	34754	Account
☐	ADDRESS	ADDRESS	34765	ADDRESS
☐	EMAIL	EMAIL	34774	EMAIL
☐	ORGANIZATION	ORGANIZATION	34805	ORGANIZATION
☐	PERSON	PERSON	34743	person
☐	PHONE	PHONE	34783	PHONE
☐	RECRUITERS	RECRUITERS	34794	Recruiters

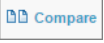
Comparing Classification of Record Versions

The records are versioned as and when the data or classification is changed.

Procedure

1. Click **Browse and Search**.
2. From the Repository Name drop-down list, select the name of the repository in which you want to compare records.
3. Click **View All**. A list of records is displayed.
4. Select a record whose versions you want to compare. The details of the record are

displayed. The View Record page is displayed.

- Click  **Compare**. The Compare Versions page is displayed.

Compare Versions

Repository Name: APPLIANCES
PRODUCTID: 5
Repository Description: Record ID Extension
Appliances: 5-ext

▼ Select Versions

Compare Version: All
with Version: Confirmed
Show Comparison For: Record Attributes
Show Differences Only: ☒

4 Unconfirmed
3
Compare

▼ Summary

No.	Summary Of Comparison	5-5-ext(V4)	5-5-ext(V3)
1	Record Attributes	-	Differ

Comparison Details

Expand All Collapse All

▶ HOMEAPPLIANCES

Attribute	Value V4	Value V3
If With Humidity Control	false	true

OK

- Select the **Classifications** option from the Show Comparison For drop-down list. The **Compare** button is displayed in the Select Versions section.

Compare Versions

Repository Name: APPLIANCES
PRODUCTID: 5
Repository Description: Record ID Extension
Appliances: 5-ext

▼ Select Versions

Compare Version: All
with Version: Confirmed
Show Comparison For: Classifications
Show Differences Only: ☒

4 Unconfirmed
3
Compare

▼ Summary

No.	Summary Of Comparison	5-5-ext(V4)	5-5-ext(V3)
1	Classifications	-	Differ

Classification Scheme Name	5-5-ext(V4)	5-5-ext(V3)
APPLIANCESPRODUCT	- APPLIANCESPRODUCT APPLIANCESPRO - APPLIANCESPRODUCT APPLIANCESPRO	APPLIANCESPRODUCT APPLIANCESPRO

OK

Differences are displayed in the Summary section. You can also select the **All** option to compare all properties of a record including classification.

For more information about comparing versions of a record, see [Comparing Versions of a Record](#).

You can also view the change in versioning using the CompareRecord activity in the workflow. For information, see *Workflow Reference* on the [TIBCO MDM product documentation](#) page.

Searching Records Based on Classification

You can search records based on their classification and for which you have defined category specific attributes

Procedure

1. Click **Browse and Search**.
2. From the Repository Name drop-down, select the repository that includes classification scheme.
3. Click the **Search** link on the Browse and Search page. By default, category specific attributes are not displayed.
4. In the left pane, expand the Classification name.
5. Expand the category tree.
6. Select the sub category. The Category Specific Attributes related to selected classification are displayed in the search criteria.



Note: Attributes that are marked as searchable and configured from the Configure dialog are displayed in the search criteria.

7. Check the **Show Inherited attributes** check box to include inherited attributes. Attributes that are inherited from the parent category are called as inherited attributes. The inherited attributes are displayed.
8. Select operator from **Operators** drop-down list. A **Value** drop-down list appears only

when a drop-down is defined for a category specific attribute in the `searchcontrol.xml` rule file.

9. Click **Search**. The search values are displayed on the Browse and Search page.

Verification of Workflow Documents for Classification of Records

You can verify the mXML documents generated by GetRecord and CompareRecord workflow activities after completion of the following actions:

- Added a record with classification.
- Modified the classification of an existing record.
- Compared the two versions of a record that contains classifications.

Verifying mXML Document of GetRecord

Procedure

1. Click **Event Log**. The Event Log page is displayed.
2. Click the **Record Add** link in the Event column.
3. Go to the GetItemData section.
4. Click the  icon next to an Input Document to view the mXML input document generated by GetRecord activity. The Input Document is opened in Internet Explorer.

i Note: If you want to download the output document, click the **Download** link. The File Download dialog is displayed. Click the **Save** button to save it your local drive.

Go to the <Classifications> element section to view the representation of the classification schemes and codes of a record. For information about the structure of a document, see the GetRecord activity section in *Workflow Reference* on the [TIBCO MDM product documentation](#) page.

Verifying mXML Document of CompareRecord

You can verify mXML document of CompareRecord to view changes in classification related data of a record.

Procedure

1. Click **Event Log**. The Event Log page is displayed.
2. Click anyone of the following links in the Event column as per your requirement:
 - **Record Add** – To verify the added classifications.
 - **Record Modify** – To verify the modified or deleted classifications.
3. Click the **Show More Details** link in the upper-right corner of the Event Details table.
4. Go to the CompareRecord section.
5. Click the **Show More link** in the Information column.
6. Click the  icon next to an Output Document to view the mXML output document generated by CompareRecord activity. The output document is opened in Internet Explorer.

i Note: If you want to download the output document, click the **Download** link. The File Download dialog is displayed. Click **Save** to save it your local drive.

Go to the <ChangedClassificationData> element section to view the representation of actions performed on the classification schemes and codes of a record. For information about the structure of a document, see the CompareRecord activity section in *TIBCO MDM Workflow Reference*.

Classifying Records during Import

Procedure

1. Create a data source in TIBCO MDM Studio. For more information about creating data sources in TIBCO MDM Studio, see the *TIBCO® MDM Studio User Guide*.
2. Create a classification input map in TIBCO MDM Studio using the Manual

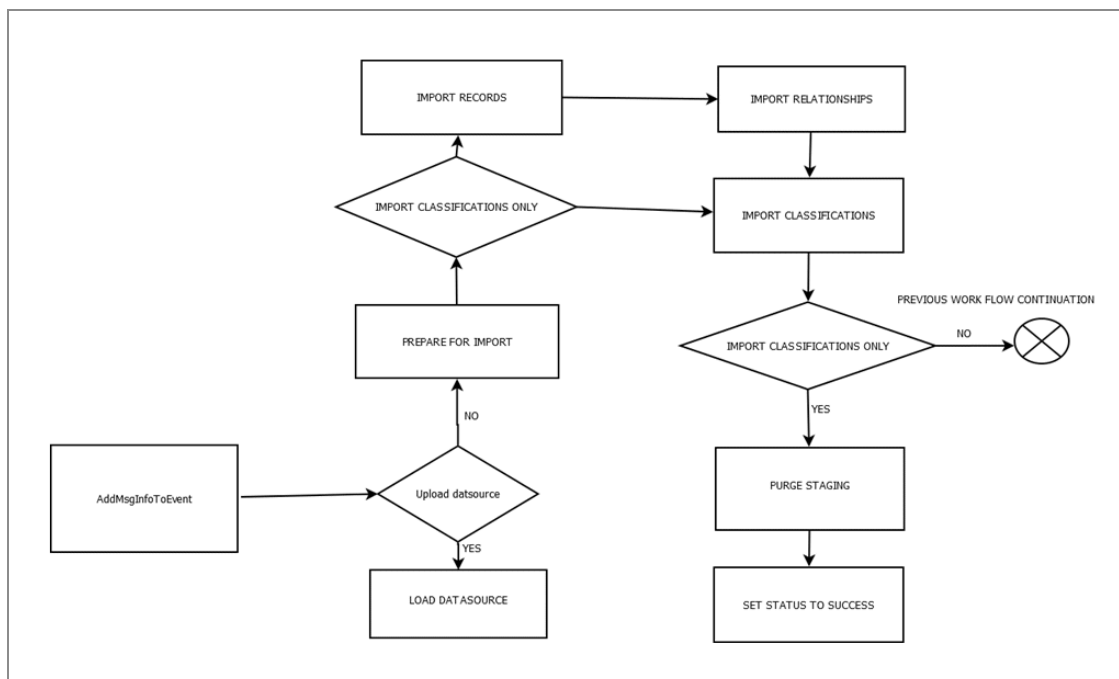
Classification Scheme. Map the classification code (data source column) to the level defined in the manual classification scheme.

The classification input map is associated with the repository input map.

For more information about creating input maps in TIBCO MDM Studio, see the *TIBCO® MDM Studio User Guide*.

Classification Code Import Workflow

The execution of the main workflow activities is as follows:



Exporting Records with Category Specific Attributes

When exporting records, you can export category specific attributes and also the associated classification codes.

Procedure

1. Create an output map in TIBCO MDM Studio by selecting the appropriate classification schemes. For more information about creating output maps in MDM Studio, see the *TIBCO® MDM Studio User Guide*.
2. Map the classification scheme logical levels with the Sync Format columns in MDM Studio. For more information about how to do this mapping in MDM Studio, see the *TIBCO® MDM Studio User Guide*.

- The mapping of Category Specific Attributes with Sync Format columns is similar to the normal attributes mapping and only the explicitly mapped attributes are output.
- If one or more Logical Levels of any Classification Scheme associated with an Output Map are mapped with the columns in a Synchronization Format, then the codes corresponding to those levels are populated in appropriate columns in OUTPUT_*.txt file. This mapping is represented by a Source Expression "@classificationSchemeName.logicalLevelName".
- If there are no mappings for Logical Levels of Classification Scheme associated with an Output Map, then a separate output file for each such Classification Scheme is created with the following file name format:

```
<catalogName>_<schemeName>_timestamp.txt
```

Header for these files:

```
CATALOGID,PRODUCTID,PRODUCTIDEXT,LEVEL1,LEVEL2,...,Level_N
```



Note: LEVEL1, LEVEL2, and so on are the actual logical level names in the respective classification schemes.

- If records in a repository are classified in a scheme which is NOT associated with Output Map, records classification data for that scheme is not present in the Synchronization output.
3. Create a synchronization profile.
 4. Create a subset for the set of data that needs to be exported. Select records based on the classification codes. The "or" operation or "in" operation is supported; this allows you to select records which fall into multiple categories. For more information, see the *TIBCO® MDM Studio User Guide*.

Merging of Records with Category Specific Attributes

To merge records with category specific attributes, go to the Merge Record page. First, select the primary record, and then click **Merge**.

The screenshot shows the 'Merge Record' interface. It has a table with four columns: 'Record Attributes', 'Record 1' (marked as Primary), 'Record 2' (marked as Primary), and 'Result [Based On Record 1]'. The table lists various attributes under the 'APPLIANCES' category, including 'Unassigned', 'PRODUCTID', 'Record ID Extension', 'Effective date', 'HOMEAPPLIANCES', 'If With Humidity Control', 'Other', 'attribute1', 'APPLIANCESPRODUCT > MAJOR COOKING A', 'If with Built-In Light', 'APPLIANCESPRODUCT > KITCHEN WASHING', 'Installation Type', 'APPLIANCESPRODUCT > KITCHEN WASHING', 'TYPE_OF_MATERIAL', 'Installation Type', 'Size/Width', and 'APPLIANCESPRODUCT > KITCHEN MERCHAM'. The 'Result' column shows the outcome of the merge, which is based on Record 1. Buttons for 'VALIDATE', 'MERGE', 'RESET', and 'BACK' are visible.

- Match
 - If category specific attributes are a part of matching attributes, both the source record and target record are of the same category (unless the matching score is less).
 - If category specific attributes are not a part of matching attributes, matching is done on all attributes. The result may have two different category levels.
- Merge
 - For the merge of category specific attributes, first attributes values gets merged.
 - If source and target records have same category schemes, there are no change in the Category Specific codes and level.
 - If source and target records have different category schemes, the category schemes are added. The target records have both the category schemas.

For information about merging records, see Working with Merge Record Page section in *Customization Guide* on the [TIBCO MDM product documentation](#) page.

Relationships

Relationship is formed when records in a repository can either be related to each other within a repository or from across repositories.

- **Simple Relationship:** When records within a repository are related to each other, they are known as *simple relationship*. For example, if two records are related by ASSOCIATE relationship and both the records are in the same repository, they are said to be in simple relationship. You can define relationships of your choice between repositories or between the records of the same repository.
- **Cross-repository Relationship:** When records that span across repositories are related to each other, they are known as *cross-repository relationship*. The cross-repository relationship is identified by the relationship established between the source and target repositories.
 - The repository for which relationship is defined as a forward relationship is treated as the *source repository*.
 - The repository that establishes a relationship with the source repository becomes the *target repository*.

Consider that Customer is a source repository and the Address is a target repository. You have stored the Customer's Billing Address information in the Address repository. In this case, the relation between Customer and Address repositories is defined by the Billing Address relationship. In the hierarchy, the Customer source repository becomes the parent. The Address target repository becomes the child. Since the relationship is from Customer to Address, the relationship is known as a *forward relationship*. With respect to the Address repository, the relationship is known as a *reverse relationship*.

You can also establish a simple relationship within a repository; in which case the target repository must not be specified while defining relationships.

You can add, modify, copy, view, or delete records that are involved in a cross-repository relationship as you work with records related by simple relationships.

By using the cross-repository relationship, you can independently manage different entities, create business process rules specific to certain repositories,

and also create rulebases that apply only to specific repositories.

- **Circular Relationships:** Cross-repository relationships can chain repositories such as repository, Customer, can be related to Address, which is related to Bank and so on. Therefore, it is possible to define circular relationships. In the previous example, Bank can be related to Customer.

Note: Records associated using such circular relationships cannot create an instance of circular relationships.

When records are processed, one of the repositories is identified as the source repository. All relationships of chained repositories, starting from the source repository are processed. In most cases, the source repository is implicitly identified by the user action. However, in some cases, the source repository must be identified explicitly, such as in workflows.

Types of Relationships

The type of relationship one record establishes with another can be different based on the requirement.

For example, Customer and TaxData can be related to each other by the PayTax relationship. In this case, PayTax is the relationship type between Customer and TaxData. Customer can also be related to BankDetails by DepositStatus relationship. In which case, the relationship type between Customer and BankDetails is DepositStatus.

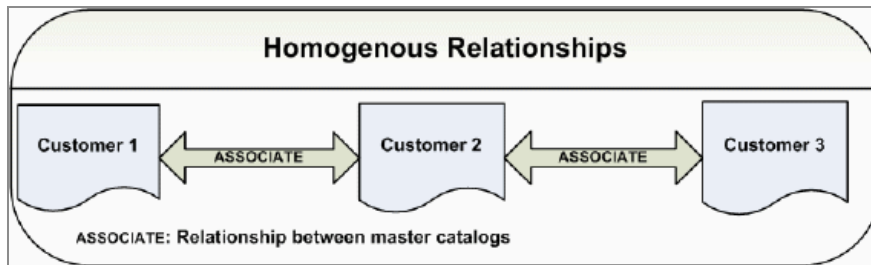
Based on these facts, relationships can be divided into two categories, homogenous and heterogeneous.

Homogenous Relationships

When the relationship between any records in a hierarchy is of the same type, the relationship is said to be a *Homogenous relationship*.

For example, consider a simple relationship (within a repository) that uses ASSOCIATE as the relationship between CUSTOMER 1, CUSTOMER 2 and CUSTOMER 3. Since the three records in the hierarchy are related to each other using the same type (ASSOCIATE), the relationship is a homogenous relationship.

Homogenous Relationships

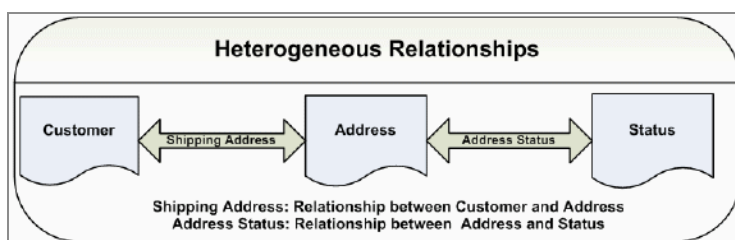


Heterogeneous Relationships

When the relationships between any three records in a hierarchy is different from the parent record to its parent, the relationship is said to be a *Heterogeneous relationship*.

For example, consider a cross-repository relationship between the repositories - Customer, Address, and Status. The repository, Customer is related to Address using the Shipping Address relationship. The repository, Address is related to Status using the Address Status relationship. In the hierarchy, the relationship type between Customer and Address (Shipping Address) is different from the relationship type (Address Status) between Address and Status. Since the relationship type between any two records in the hierarchy are different, the relationship is a heterogeneous relationship.

Heterogeneous Relationships



Viewing Relationships

After you deploy the created repositories with relationships in TIBCO MDM, the relationships are displayed on the **Relationships** tab.

Note: To add and modify a relationship, use TIBCO MDM Studio. Refer to Define Relationships section in *TIBCO® MDM Studio Repository Designer User Guide*.

Procedure

1. Click **Master Data > Repositories**.
2. Click the source repository. For example, Person repository. The View Repository page is displayed.
3. Click the **Relationships** tab.

View Repository

Repository Name: ACCOUNT
 Last Modified: 2015-11-30 12:51:33.977
 Repository Description: Account for party
 Attribute History: No

Table Name: C_ACCOUNT
 Last Modified By: Smith John
 Display Name: ACCOUNT
 Precedence Management: No

Attributes | **Relationships** | Output Maps | Classification Schemes

Expand All Collapse All
 Relationship "Corresponds"

Relationship Name	Corresponds	Relationship Description	Bank account
Reverse Relationship Name	HeldByAccount	Reverse Relationship Description	Account held by
Type	13852	Target Repository	BANKACCOUNT
Cross Repository Relationship	Yes		

Relationship Attributes

Position Name	Display Name	Column Name	Type	Length	Display In Record List	Searchable
No relationship attributes defined.						

OK

You can view details of forward and reverse relationships.

4. Click the **Target Repository** link to view the details of a target repository.

Records in Relationships

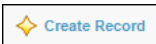
The related records span across repositories. While you are working on the records of one repository, you can simultaneously add, modify, or delete records in other repositories using cross-repository relationships.

Adding Records in Cross-Repository Relationship

The first repository in which you choose to add records becomes the source repository. The repository with which the source repository establishes a relationship becomes the target repository. While adding records across repositories, the relationships between the repositories are visible on the following conditions:

- If it is already defined in the RELATIONSHIPDEFINITION table.
- If the rulebase applied to the repository allows you to view relationships.

Procedure

1. Click **Browse and Search**.
2. Select the name of the source repository for which you want to add records from the **Repository Name** drop-down list.
3. Click . The Add Record page is displayed.
4. Enter record details in the fields for the source repository. For information about entering record details, see [Creating Records](#).



Note: The record ID is mandatory. If you do not enter the record ID, an error message is displayed while creating relating record.

5. Expand the relationship tree at the left side. A list of existing relationships is displayed.

6. Select the relationship, and click **Create Related Record**. The Add Record Relationship for *recordID* pane is displayed.

7. Enter record details in the fields for the target repository.
8. Click **Done**. The related record details are displayed on the right side and its *recordID* and *recordID extension* node is displayed under the relationship name tree.

9. Expand the related record's node. The target repository's relationships are displayed. You can create related record for each relationship.
10. Click **Validate** to validate the added record. If there are any errors, the page displays the error against the attribute that caused the error. In case of errors, resolve the error and click **Validate** again. For more information about validating records, see [Validating Records](#).
11. You can save a record in following ways:
 - a. If you have permissions, click **Save** to save the record directly to the database. An alert appears asking for a confirmation. Click **Ok**. When you save, each record added is validated against its respective rulebase. Errors, if any, are flagged on the Validate page. You can resolve the errors and save the record. When you save a record as an Administrator, the state of the record changes to confirmed. Whenever the record state is changed to confirmed, the record is saved in the Golden Copy table.
Similarly, if you do not have the permissions and click **Save**, no alert appears asking for confirmation. The record is saved, but the state of the record is unconfirmed.
 - b. Click the **Save and Process**. Each record is validated against its respective rulebase. Errors, if any, are flagged on the Validate page. If there are no errors, Save and Process initiates the workflow.
 - c. If you click **Cancel**, the record and its associated relationships are not be added. If you have permissions and you click **Cancel**, the record remains in an unconfirmed state.

Modifying Records in Cross-Repository Relationship

You can also modify relationships spanning across repositories. The first repository in which you choose to modify records becomes the source repository. The repository with which the source repository establishes a relationship becomes the target repository.

You cannot modify a record when it is participating in a workflow. However, the Administrator can override this constraint and edit the record.

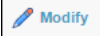
Procedure

1. Click **Browse and Search**.
2. Select the name of the source repository of which you want to modify records from the **Repository Name** drop-down list.
3. Click **View All**.

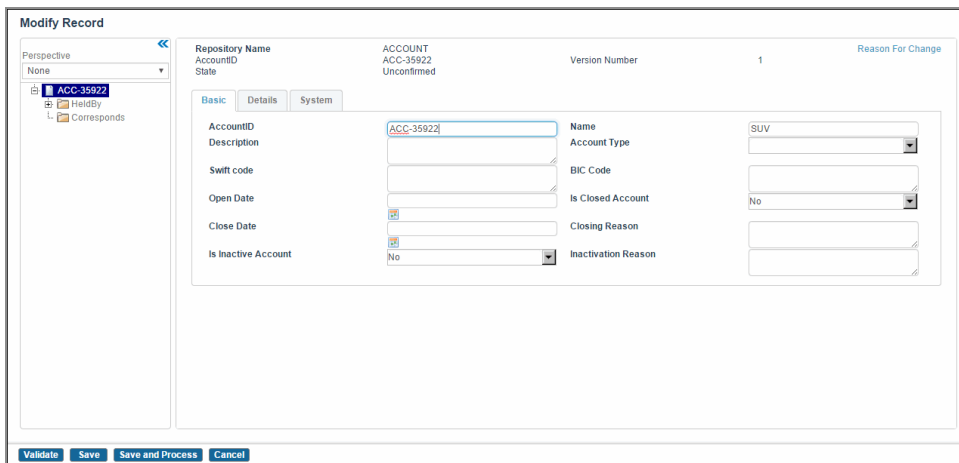
A list of records is displayed.

4. Click a record ID in the Record ID column.

The View Record page is displayed.

5. Click .

The **Modify Record** page is displayed.



Modify Record

Perspective: None

Repository Name: ACCOUNT
AccountID: ACC-35922
State: Unconfirmed
Version Number: 1
Reason For Change

Basic | Details | System

AccountID: ACC-35922
Description:
Swift code:
Open Date:
Close Date:
Is Inactive Account: No

Name: SUV
Account Type:
BIC Code:
Is Closed Account: No
Closing Reason:
Inactivation Reason:

Validate Save Save and Process Cancel

6. Modify record details. For information about modifying records, see [Modifying Records](#). To modify related record for each relationship, expand *recordID-recordIDExtension* node.

7. Click the **Reason for Change** link at the right side to specify the reason for a record modification. The Enter Reason For Change text box is displayed.
8. Enter the reason and click **Done**.
9. Click **Validate** to validate the modified record. If there are any validation errors, the page displays the error against the attribute that caused the error. Resolve the error and click **Validate** again.
10. You can save a record in the following ways:
 - a. If you have permissions, click **Save** to save the record directly to the database. An alert appears asking for a confirmation. Click **Ok**. When you save, each record is added and validated against its respective rulebase. Errors, if any, are flagged on the Validate page. Resolve the errors and save the record. When you save a record, the state of the record changes to confirmed. Whenever the record state is changed to confirmed, the record is saved in the Golden Copy table.
 - b. If you do not have permissions, click **Save and Process**. Each record added is validated against its respective rulebase. Errors, if any, are flagged on the Validate page. Once there are no errors, click **Save and Process** to initiate the workflow.
 - c. If you click **Cancel**, the record and its associated relationships are not be added.



Note: When relationships are being modified, bundling comes into effect. As a result, **Save and Process** can only be performed on the record which you originally started modifying.

Copying Records in Cross-Repository Relationship

You can copy a record in two ways that has associated relationships. Either choose to copy the record without copying its relationships (Clone None), or choose to copy the record with its hierarchy of relationships (Clone All).

Procedure

1. Click **Browse and Search**.
2. Select the name of the repository from the **Repository Name** drop-down list of which you want to copy records.
3. Click **View All**. A list of records is displayed.
4. Select the record that you want to copy.
5. Click . The Copy Record page is displayed. Relationship details are displayed below the main record.

Copy Record

Repository Name: ACCOUNT
Repository Description: Account for party
AccountID: ACC-35922

Reason for Change

Basic Details System

AccountID: ACC-35922
Description:
Swift code:
Open Date:
Close Date:
Is Inactive Account: No

Name: SUV
Account Type:
BIC Code:
Is Closed Account: No
Closing Reason:
Inactivation Reason:

CORRESPONDS
HELD BY
Record ID: PARTY-35923
Relationship Attributes

No related records exist
None Clone All Levels

Record ID Extension:

Note :Duplicate attributes marked in red

Validate Save Save and Process Cancel

6. Change the attribute values that distinguishes the record in a unique manner. For example, Record ID. A combination of the Record ID and Record EXT are used to uniquely identify a record.
7. Under the Relationships section, you can copy by selecting:
 - a. **None:** Select this option if you want to copy only the current record and not its relationships.
 - b. **Clone all levels:** (Homogenous relationships only.) Select this option if you want to copy a record with the associated hierarchy of relationships. If you have selected this option, change the Record ID or Record EXT of the related record to avoid duplicates.

i Note: When you select **Clone all levels**, all records in a hierarchy are copied only if they are in a homogenous relationship. For more information about the types of relationships, see the section [Modifying Records in Cross-Repository Relationship](#).

8. Click **Save and Process**.

i Note: Ensure uniqueness when you copy records. The values in either the Record ID or Record EXT of the duplicate record should differ from the original record.

i Note: Assume that there are two users A and B using the repository (MC) A and MC B, associated to each other using a cross-repository relationship. User A has all permissions granted for MC A. But users do not have the permission to copy in MC B. But when records are created in MC A, they can be cloned in MC B through the cross-repository relationship, even though MC B does not have "copy" permission on it.

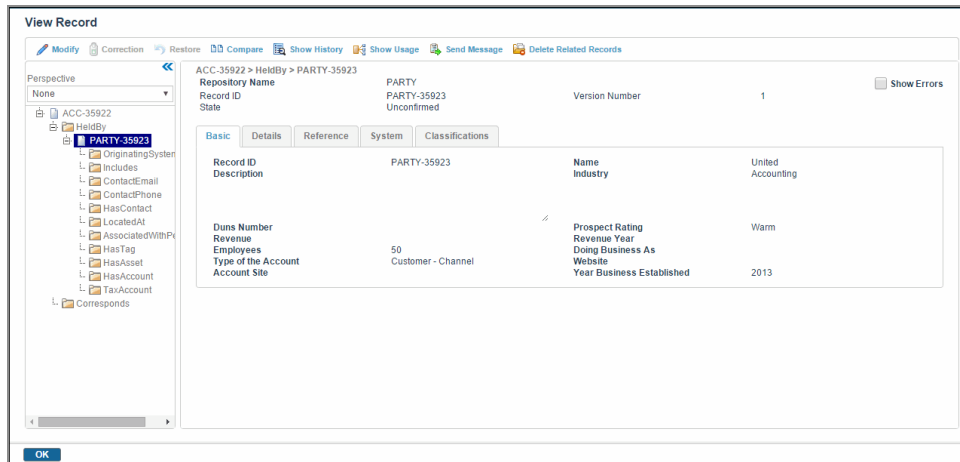
Viewing Cross-Repository Relationships

You can view a hierarchy of relationships established by a record by taking a look at the View Record page of the source repository. Relationships are displayed as a tree starting from the source repository and moving further down the hierarchy till the child record is visible. If you select the source record, the View Record page displays all forward cross-repository and simple relationships. If you select any of the related records, the View Record page displays cross-repository relationship and simple relationships in both directions - forward and reverse.

Procedure

1. Click **Browse and Search**.
2. Select the repository name from the **Repository Name** drop-down list.
3. Click **View All Records**. A list of records is displayed.
4. Click the record ID of the record that you want to view. The View Record page is

displayed.



5. Expand the *recordID* and *recordID extension* node to view the related record for each relationship. The related record details are displayed at the right side of the page.
6. Click the plus sign next to any relationship in the left pane to expand the relationship.
7. Click a related record to view the relationship details. The details are displayed in the right pane.
8. Click **OK** when you have finished viewing the relationships.

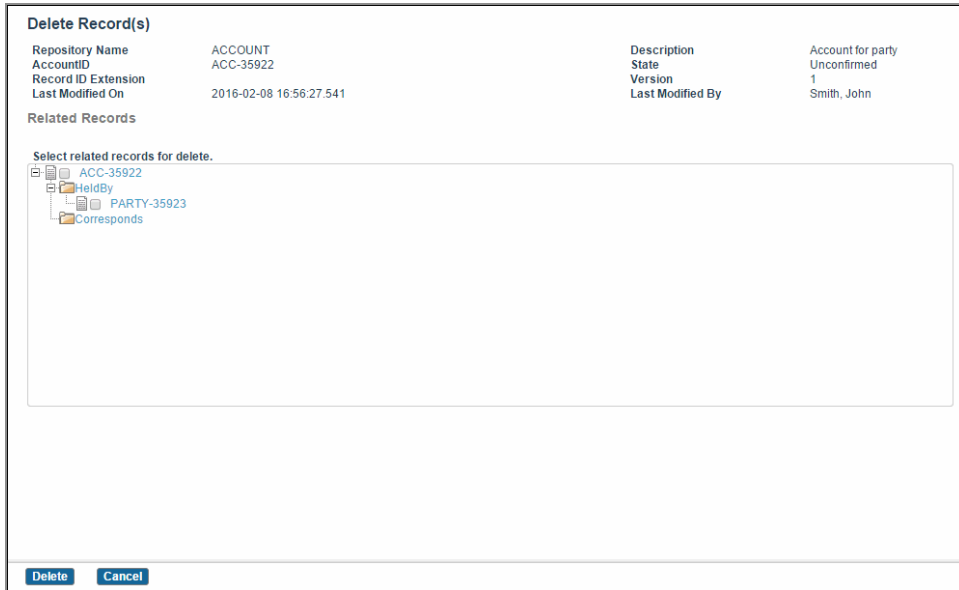
Deleting Records in Cross-Repository Relationship

To delete a record that is associated with records in other repositories, you can either choose to delete the current record and leave the associated records intact, or you can choose to delete the current record with all its relationships.

Procedure

1. Click **Browse and Search**.
2. From the **Repository Name** drop-down list, select the name of the repository from which you want to delete records.
3. Click **View All Records**. A list of records is displayed.

4. Click the record ID of the record that you want to delete. The View Record page is displayed.
5. Click  [Delete Related Records](#). The Delete Record(s) page is displayed.



Delete Record(s)

Repository Name	ACCOUNT	Description	Account for party
AccountID	ACC-35922	State	Unconfirmed
Record ID Extension		Version	1
Last Modified On	2016-02-08 16:56:27.541	Last Modified By	Smith, John

Related Records

Select related records for delete.

- ☒ ACC-35922
 - ☒ HeldBy
 - ☒ PARTY-35923
 - ☒ Corresponds

Delete **Cancel**

6. In the Related Records section, expand the relationship tree.
7. Check the check box next to *recordID-recordIDExtension* for the related record that you want to delete. When you select a related record, all its associated related records also get automatically selected. If the selected related records have an associated relationship, it is not deleted. For example, assume that Customer is related to the Address and Address to Status repository. If you mark Address for deletion, Status is automatically marked for deletion. Similarly, if you uncheck the Address from being deleted, its child relationship is also retained.
8. Click **Delete** .

If you have the required privileges to delete records without requiring a workflow, the following message is displayed: Would you like to delete this record without initiating a workflow?

If you do not have the required privileges to delete records without requiring a workflow, the delete functionality is submitted for delete workflow.
9. Click **OK** to delete and confirm records immediately.
10. Click **Cancel** to delete and submit records for workflow.

Searching Records of Relationship

When searching across relationships, you can search across forward and reverse relationships as well.

For example:

- Example 1: A single repository 'Person' has a relationship to itself. The forward relationship is named 'has child'. The reverse relationship is named 'child of'. A search in the person repository allows searching across the reverse 'child of' relationship.
- Example 2: Two repositories 'Person' has a relationship to 'Address'. The forward relationship is named 'has address'. The reverse relationship is named 'address of'. A search in the 'Address' repository allows searching across the reverse 'address of' relationship.



Tip: You can specify the following two record search relationship properties in the Configurator (**InitialConfig > Optimization**):

- **Record search relationship depth/width:** Maximum depth or width of the relationship for which the record search can be executed. The default value is 5.
- **Record search UI relationship depth/width:** Maximum depth or width of a relationship for which the record search UI can show relationships for the selected record. The default value is 3. You can reduce as well as increase the relationship level visibility on UI. However, it is recommended to not increase the default value since it degrades the performance.

Procedure

1. Click **Configure** to add other pseudo attributes of the selected repository and relationship criteria.

If relationships are present for the selected repository, the criteria section is divided into multiple sub-sections with the first section denoting the root repository and the rest denoting a related repository each.

- Only those related repositories appear in which at least one pseudo-attribute or

repository attribute is selected for search criteria.

- The first section that denotes the selected repository has further sub-sections if at least one pseudo-attribute or relationship attribute is selected for search criteria.
- The header of each repository section displays the bread crumbs for the relationship of the corresponding repository. The header of the relationship sub-section displays only the relationship name.

2. Select the **Case-sensitive** check box for String type attributes if you want the search for the specified attribute to be case-sensitive.
3. Select operators from the drop-down lists. For information about operators, see [Search Operators and Data Types](#).
4. Click **Search**.

The page displays only those records that match the search criteria. The search results are displayed in a table in the bottom part of the page.

Search Operators and Data Types

The following table lists the operators that you can select while searching records for different data types:

Search Operators

Description	Data Types
equals	ALL
not equals	ALL

Description	Data Types
is defined	ALL
is not defined	ALL
in	ALL supported data types except Boolean
not in	ALL supported data types except Boolean
like	String, File
not like	String, File
starts with	String, File
ends with	String, File
sounds like	String, File
greater than	Number
greater than equals	Number
less than	Number
less than equals	Number
later than	Date and Timestamp
earlier than	Date and Timestamp
later than or equals	Date and Timestamp
earlier than or equals	Date and Timestamp
between	Number, Date, and Timestamp

Searching for Records Using in or not in Operator

While searching records on the Browse and Search page, you can specify multiple values in a single field using the in or not in operator.

When the in or not in operator is selected, an editable text box appears with an edit image icon next to it:

ACCOUNT

AccountID in [] Case-sensitive

Procedure

1. Click the edit image icon to open the multivalue editor:

ACCOUNT

AccountID in [] Case-sensitive

[+] [] [-] Done Cancel

2. Expand a plus sign (+) to add multiple values in the field.

You can also enter comma-separated values in the text box. If the value contains a comma, enclose the value in double quotation marks.

3. Optional: Collapse a minus sign (-) to remove values from the field.
4. Click **Done** when you finish entering all the values.

All the values are displayed in the text box separated by commas.

Searching Records Using Other Operators

Behavior on selecting various operators and after you click **Clear**.

Procedure

1. If a search condition other than 'equals' was considered at second level of relationship and **Clear** was clicked.
Result: The search condition got reverted to its default value of 'equals'.
2. If a search condition 'is defined' was selected. A search was conducted.

Result: Nothing returned as no records were added to the repository.

3. If at first level, a search condition other than 'equals' was selected. But '**Clear**' was clicked.

Result: At the top level the search condition reverted to its default value of 'equals'. But at the second level it remained as 'is defined' which was the condition with which the last search operation was conducted.

4. If a search condition such as 'not equal to' was chosen at the second level of the relationship, and a value 0 was entered to value field. **Search** was clicked. Then **Clear** was clicked.

Result: The search condition remained as not equal to but the field value got cleared.

5. If at the top level, a step similar to step 4 was conducted with case sensitive check box clicked and value entered to the value field.

Result: After you click **Clear** and **Search**, the choice of search condition (not equal to), and case sensitivity were retained but the field value 0 got cleared.

Record Relationship Tree Pagination and Search

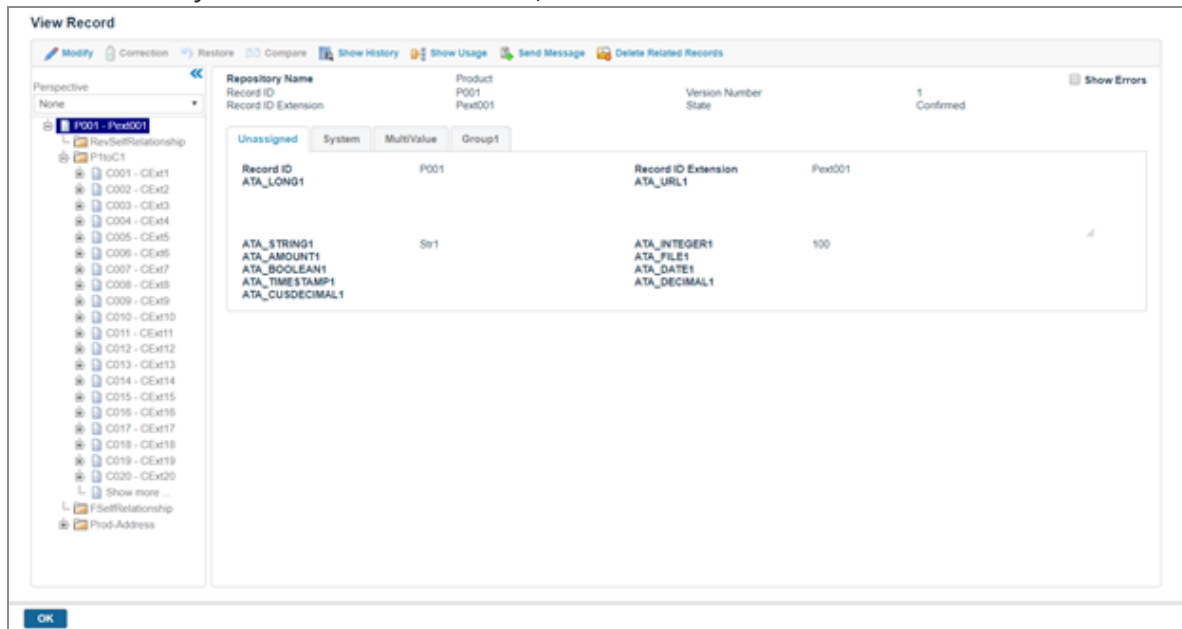
To load a large number of related records with the large rulebase in the related record list, use the relationship tree pagination. Additionally, use the pop-up menu option to search for related records for the selected relationship, refresh the related records, and expand the relationship level.

Use the following properties in the Configurator to improve the record UI tree pagination:

- **Related Records List Size:** Set a number of related records to be displayed in the related record list, which is displayed in the right pane after clicking the relationship node. By default, 20 related records are loaded. You can click **Show more ...** to load more related records. After all related records are loaded, the **Show more ...** link is not displayed.
- **Enable rulebase on recordUI tree:** Enable or disable the execution of the rulebase on the record UI relationship tree.
 - By default the value is set to true. Rulebase is executed for multiple rulebase

functionalities including filtered relationship, access permission, assign action, and display values.

- If you set the value to false, the related records are loaded faster.



When you right-click the relationship node, a pop-menu is displayed with the following options:

- **Expand To Level:** Set the level for loading of related records up to the specified relationship. The value is retrieved from the **Optimal Record Bundle Load Depth for Record View** configuration property. By default, the value is set to zero (0). The smaller the depth, faster the loading of related records. Consider the following relationship structure:

```
A is related to B,
B is related to C,
C is related to D
```

In this case, if you specify the depth level as two (2), the record bundle loads all related records up to the level c relationship.

- **Search:** Supports searching for related records for the selected relationship. The search is performed only on the relationship's target repository. You can search for related records based on the searchable attributes that are defined when creating a repository. Currently, the Exact Match and Contains search operators are supported. For information, see [Searching Records of Relationship](#).

- **Refresh:** Refreshes the selected node and reloads a number of related records that is defined in the **Related Records List Size** configuration property. If you have added a new related record, it is also displayed in the related record list after refreshing.

Restore Relationship Information

When a record is restored, you can choose to restore relationships of the following versions:

- Restored version
- Latest version

For example, the latest version of record A is related to record B, C and D. An older version of record A was related to D and E. When the older version is restored, you can choose which of the relationships out of B, C, D and E are to be retained.

Relationships are restored subject to the following rules for merging a relationship:

- Relationship metadata is retrieved from the latest version.
- The latest version of the related record must be active. If the latest record version is active, all relationships of the latest version are selected during restore. If the latest record version is not active, the related records cannot be restored.
- If a relationship is present in the previous version but it is not present in the latest version, the latest confirmed/unconfirmed version of the relationship (related record) is used.
- If a relationship is present in both the versions (latest and previous), the relationships from the latest version are selected during restoration (mainly for correct relationship attributes).
- The relationship must not be present in the latest record version.
- If any latest related records of the previous/latest version are deleted, such records are not considered during merging.
- If addition of any relationship from a previous version causes cyclic relations, the concerned relationship is not merged.
- Only first level relationships are merged from the version being restored. Relationship attributes are also restored accordingly.

- Relationship attributes correspond to the relationship which is kept, that is, from previous version or latest version.
- When deleted or older record versions are restored, relationships associated with the restored version are also restored. Relationships of deleted or older version (forward and reverse) are restored based on relationship restore rules. Restored relationships can be identified through visual cue on the record UI.

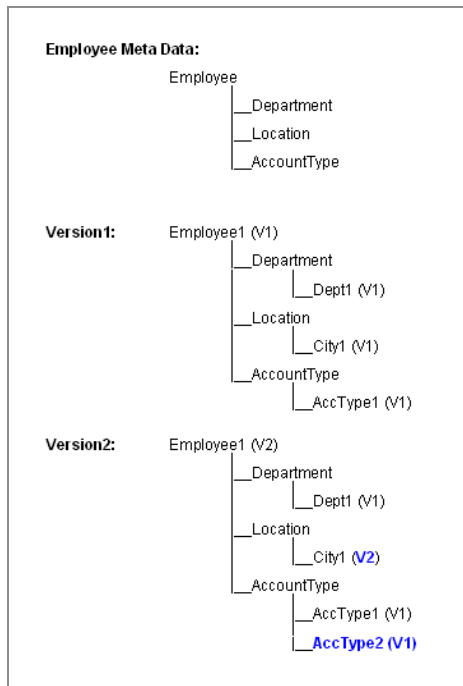
The Relationship tab on the Modify Record page displays:

- Records related to the previous and latest version.
- Merged relationships displayed in the Relationships tab.
- Relationships merged from a previous version prefixed by a (*) in the relationship tree. On mouse over, text explaining the cue is displayed — Merged from version being restored.
- The **Reason Code** and **Reason for Change**.

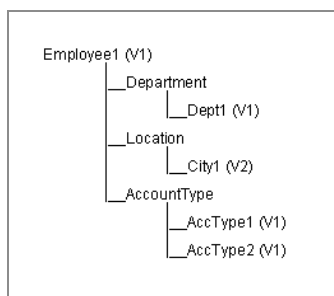
Example of Restore Relationship

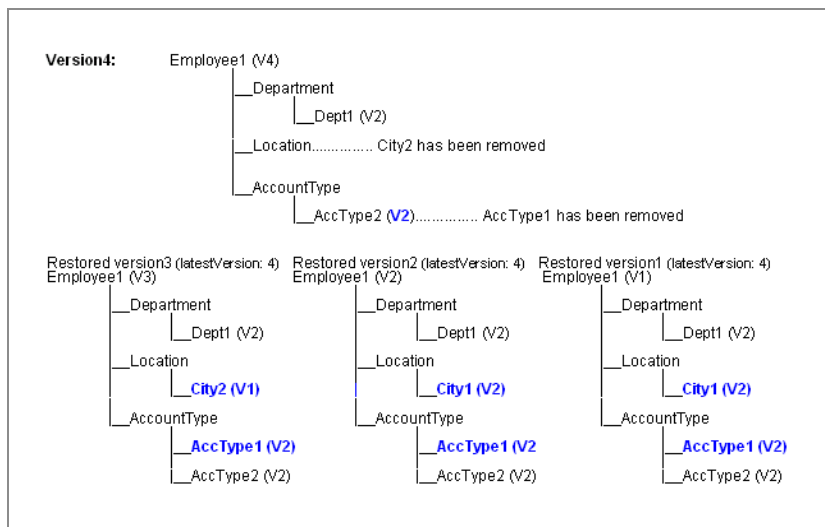
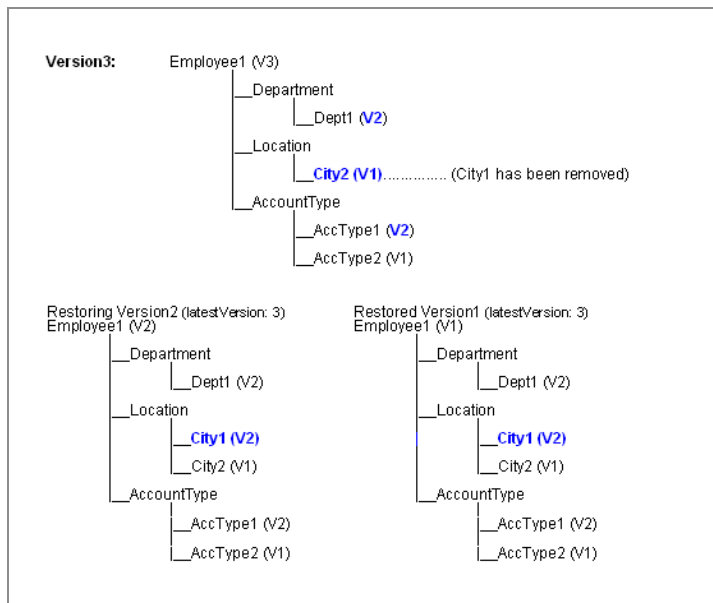
Using the following **Employee** metadata example to understand the rules of restoration. Changes made in each version are highlighted in blue.

Restoring Versions

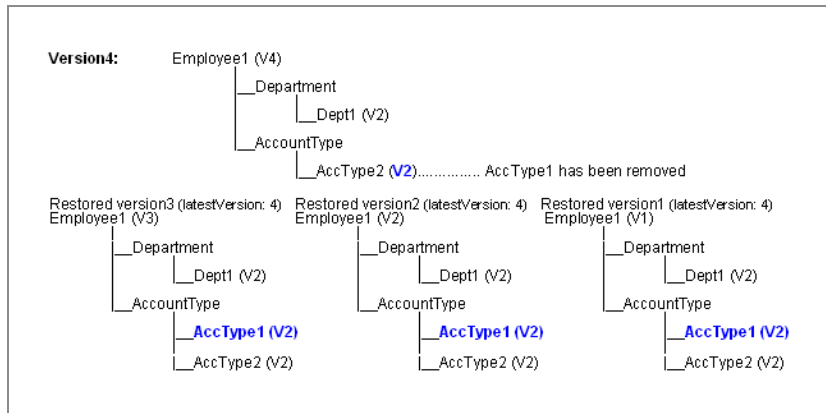


If Version1 is to be restored, the restored version is similar to Version2 except that the record attributes are fetched from Version1. The following figure represents the records and their versions which are displayed while restoring Version1.





Instead of removing City2 from Location relationship, if relationship Location itself is removed from the metadata of the Employee repository:



Additional Information for Restore Relationship

The additional information is added to the request/response document and productlog, which helps in performing special processing for restored records.

- DocSubType of workflow request/response document

When a record is restored, the docSubType for the workflow request document is set to CatEditRestore.

- SubOperation of ProductLog

When a record is restored, the suboperation of its corresponding product log is set to RESTORE VERSION.

- Rulebase variable RECORD_SUB_ACTION

Currently, the only possible value that can be assigned to this variable is RESTORE.

When a record is restored, for all UI-based rulebase validations for restored record, RECORD_SUB_ACTION is set to RESTORE.

Note that RECORD_SUB_ACTION is bound to RESTORE only for UI-based validations and not during workflow processing.

Adding Relationship between Records

Before you begin

You must have an existing record for which you want to add a relationship. See [Creating](#)

Records.

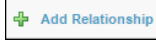
Procedure

1. Click **Browse and Search**.
2. Select the name of the source repository for which you want to add records from the **Repository Name** drop-down list.
3. Click .

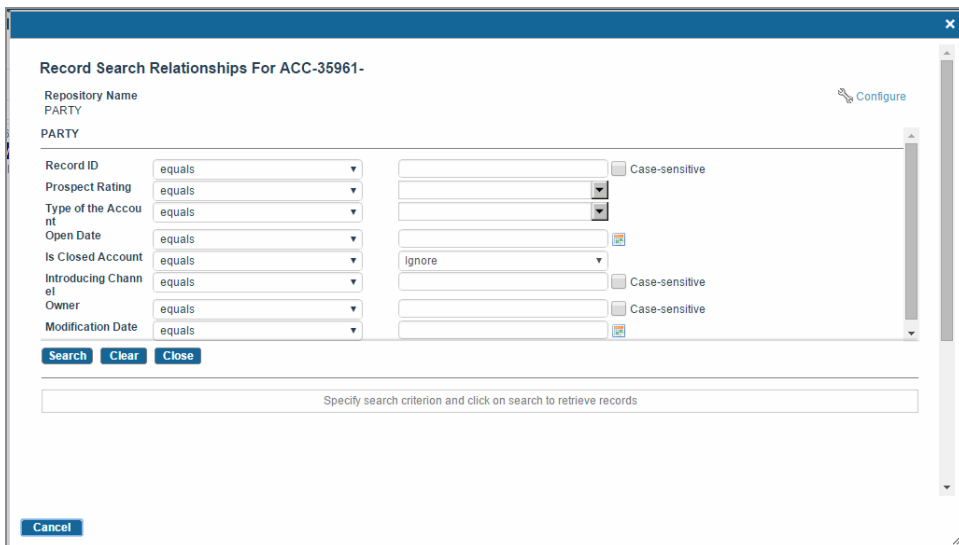
The Add Record page is displayed.

4. Enter record details in the fields for the source repository. For information about entering record details, see [Creating Records](#).

Note: The record ID is mandatory. If you do not enter the record ID, an error message is displayed while creating related record.

5. Expand the relationship tree at the left side. A list of existing relationships is displayed.
6. Select the relationship, and click .

The Browse and Search page is displayed for the source repository.



7. Click **Search**. Added records of the source repository are displayed in the search criteria.

Record ID	Name	Description	Industry	Duns Number
PARTY-35923	United		Accounting	
PARTY-35941	Amazing		Advertising	

Items/Page: 50 Page: 1 of 1

Done

8. Select the record.
9. Click **Done**. A relationship is defined between two records.

Add Record

Perspective: None

ACC-35961 > HeldBy

Relationship Name: Repository Name

HeldBy: PARTY

Buttons: Create Related Record, Add Relationship, Remove Relationship, Quick Export, Show Errors

Record ID	Name	Description	Industry	Duns Number	Revenue Year	Type of the Account	Is it a Person Account?	External ID	VAT Registration Number
PARTY-35923	United		Accounting			Customer - Channel	No		

Page: 1 of 1

Buttons: Validate, Save, Save and Process, Cancel

10. Click **Save** or **Save and Process** to save the added relationship.

Remember that when you are defining a relationship, the target repository is automatically selected based on the relationship definition.

Note: Ensure that relationship definitions (when created) do not lead to ambiguous definition. This could happen when the same relationship name is used (definition) more than once between different or the same set of repositories. For example, if one repository is the target repository for more than one relationship of the same name, the relationship name alone is not enough to detect the correct relationship and may lead to erroneous outcome.

Removing Relationship between Records

Under the Relationships section, you can:

Procedure

1. Modify the record in one of the related repositories. Click any of the related relationship. The Modify Record page of the related repository is displayed.
2. Under the relationships section, click **Remove Relationship** to delete the relationship between the source and the target repository.

Graphical Editor for Relationship Management



Tip: If you prefer a video of the *Graphical Editor* feature overview, visit https://youtu.be/_QsfNn8GroM.

The graphical editor for relationship management is the visual tree representation (nodes and edges) of record hierarchy. The node action bar provides an option to view or update record details such as attribute data.

The parent node in the tree representation indicates record at one level and the names of relationships (relationship node) at the immediate child level. Further, expanding one of the relationship nodes display the child nodes, which are actual records related by the expanded relationship.

You can perform the following tasks from the graphical editor:

- Add a root record or a new record in the repository
- Add a new related record or existing related record in the existing record hierarchy
- Search a related record
- View existing relationship model for the selected record
- Drill down to the last level of relationship
- Modify record attributes of an existing record
- Modify relationship attributes of an existing relationship

- Validate record and relationship modifications
- Remove existing relationship

Graphical Editor

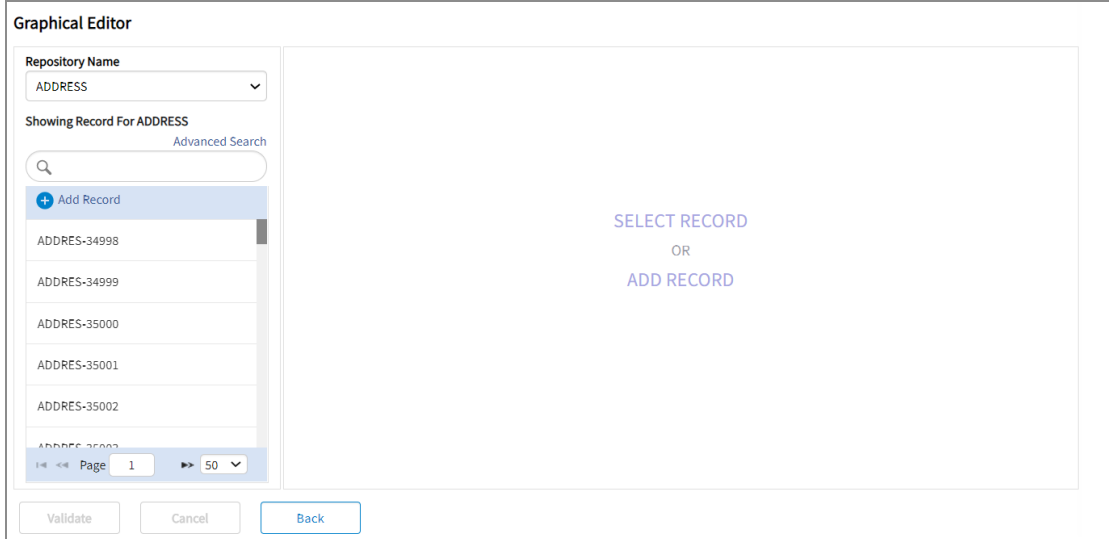
✓ **Tip: Watch the Video:** To watch various actions performed on the Graphical Editor page, click .

You can access the graphical editor from the following menus:

- **Browse and Search** > click **Graphical Editor**
- **Browse and Search** > select a record > click **Graphical Editor**
If you select this option, the left record list pane is hidden.
- **Browse and Search** > **Text Search** > **Graphical Editor** option

The following panes are displayed on the Graphical Editor:

- **Record list pane**



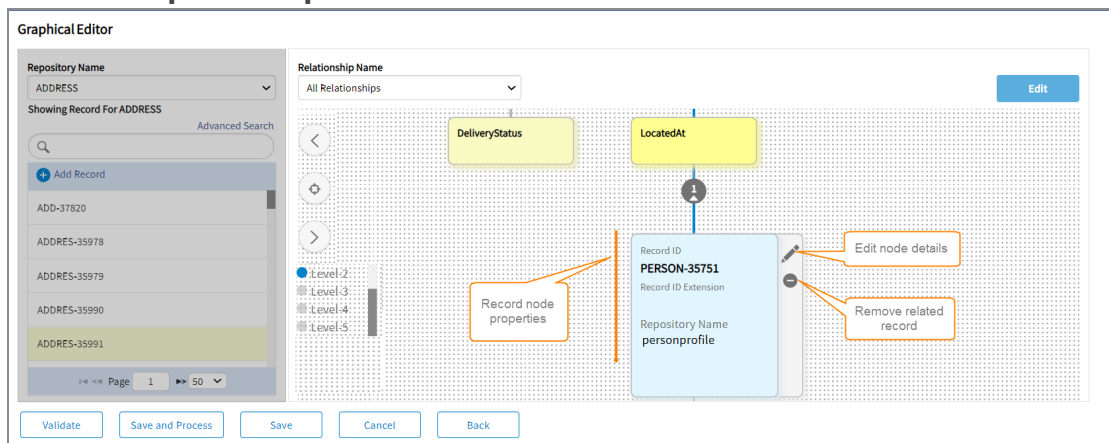
The screenshot shows the 'Graphical Editor' interface. On the left, there's a sidebar with a 'Repository Name' dropdown menu currently set to 'ADDRESS'. Below this is a search bar with a magnifying glass icon and a link to 'Advanced Search'. A list of records is displayed, starting with 'ADDRESS-34998' and ending with 'ADDRESS-35002'. At the bottom of the sidebar are 'Validate', 'Cancel', and 'Back' buttons. The main area on the right is titled 'Showing Record For ADDRESS' and contains two large buttons: 'SELECT RECORD' and 'ADD RECORD', separated by the word 'OR'.

On the **Browse and Search** page, click **Graphical Editor** without selecting a record. The record list pane is displayed. The left pane includes the following options:

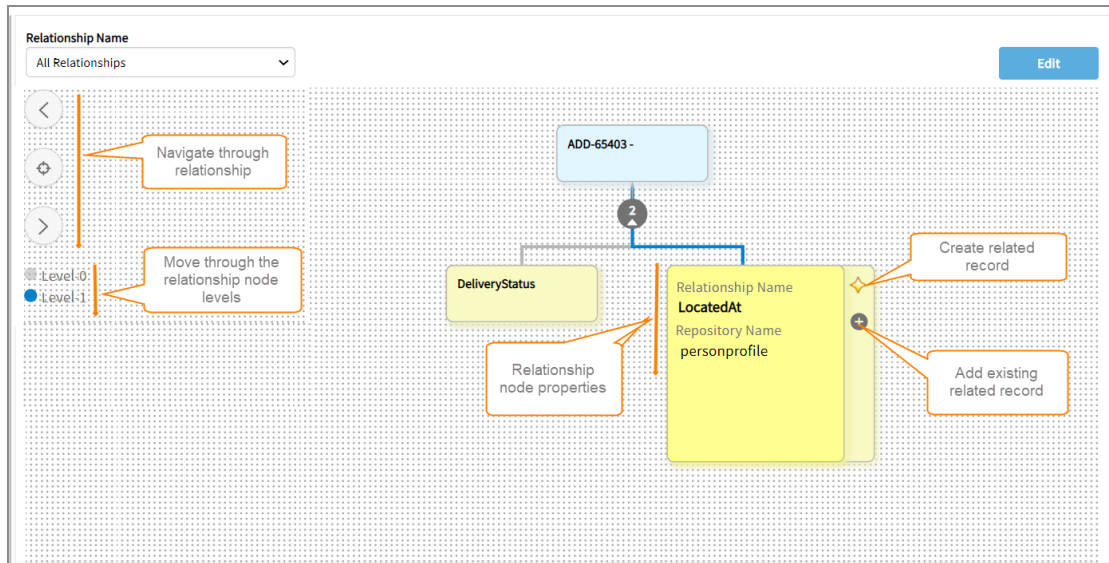
- **Repository Name:** Contains a list of available repositories. Select a repository to view its records.

- Search option: Search for a specific record using PRODUCTID - PRODUCTIDEXT in the record list. The selected record is highlighted in the record list. After clicking a record in the record list, relationship canvas is displayed.
- You can click the **Advanced Search** link to filter records based on the values of record attributes. In the Record Search window, perform the following actions:
 - Enter values for the record attributes and record state and click **Search**.
 - To change the search criteria, click **Clear** to reset the criteria.
 - Click **Close** to go back to the Graphical Editor page.
- Add Record: Click to add a new record. For information, see [Adding Records to a Repository](#).

- **Relationship canvas pane with the record node**



- **Relationship canvas pane with the relationship node**



Record hierarchy is represented as a tree graph on the user interface. By default, the tree graph spans from top to bottom. The pane includes the following options:

- Relationship list: By default, all relationships are displayed. Select the relationship to view its graphic view on the canvas.
- Navigate the relationship tree on the left, right, and at the center of the canvas
- Parent node displays the count for child nodes. You can expand or collapse the child node by clicking the node count. The node with no count is a leaf node.
- Click the level number to directly navigate to the selected level in the tree

When you click **Edit**, the relationship mode on the canvas changes from view to edit. You can perform the following actions in the edit mode:

- On the record node:
 - Modify the record and related record attributes. See [Modifying Record and Relationship Attributes](#).
 - Remove related record: Click **Remove Related Record** on the record node. A confirmation message is displayed. Click **Yes, remove**. The Related Record Deleted successfully confirmation message is displayed. If any error occurs, the errors are displayed in the error pane with details.
- On the relationship node:
 - Add a new related record. See [Creating Related Records](#).

- Add existing related record. See [Adding Existing Related Records](#).
- Search related record. See [Searching Related Records](#).
- Validate, save and process, save, or cancel the modified record hierarchy.
 - **Validate:** For successful validation, a confirmation message is displayed. If the record contains errors, error notifications are displayed in the upper right corner. Click **Errors** to view a list of errors. Resolve the errors and click **Validate** again. For more information on validating records, see [Validating Records](#). For a list of validation errors, see *TIBCO® MDM System Administration*.

i Note: If a record has an error, all records cannot be saved until the record with the error is either corrected or removed from the list. However, when you create a new related record, you can save a related record with errors. For information, see [Creating Related Records](#).

- **Save and Process:** The record is saved in the repository and the left record list is updated with a new record.
- **Save:** The record is saved in the Confirmed state if you have permission to save a record without workflow.
- **Cancel:** The record and its associated relationships are not added.
- **Back:** You can go back to the **Browse and Search** page. The record modifications are not saved.

For relationship and record nodes properties, see [Record and Relationship Node Details](#).

Record and Relationship Node Details

A relationship hierarchy contains the record and relationship nodes.

When you select a node in a relationship hierarchy, the following properties are displayed:

Nodes	Property Name	Description
Record	Record ID	Displays an ID of the record.
	Record ID Extension	Displays an ID Extension of the record.
	Repository Name	Displays repository display name of the record.
	State	Displays the state a record. CONFIRMED or UNCONFIRMED. Note: The State value is displayed only in the view mode.
Relationship	Relationship Name	Displays the relationship name for each relationship node.
	Repository Name	Displays the target repository name.

Adding Records to a Repository

You can add records in the selected repository from the record list pane.

Before you begin

You must have a permission to create a record, else the **Add Record** option is disabled.

Procedure

1. Click **Browse and Search**.
2. Select a repository in which you want to add records and click **Graphical Editor**.
The Graphical Editor page is displayed for the selected repository.
3. Optional: If required, you can change selected repository from the **Repository Name** list.
4. In the record list pane, click .

The Add Record window is displayed with attribute groups and attributes for the

selected repository.

Add Record

▼ Basic

Record ID: ADD-65403

TYPE: Shipping

STREETSUFFIX:

DIRECTIONAL:

CITY: Palo Alto

STATENAME: California

COUNTRY: UNITED STATES

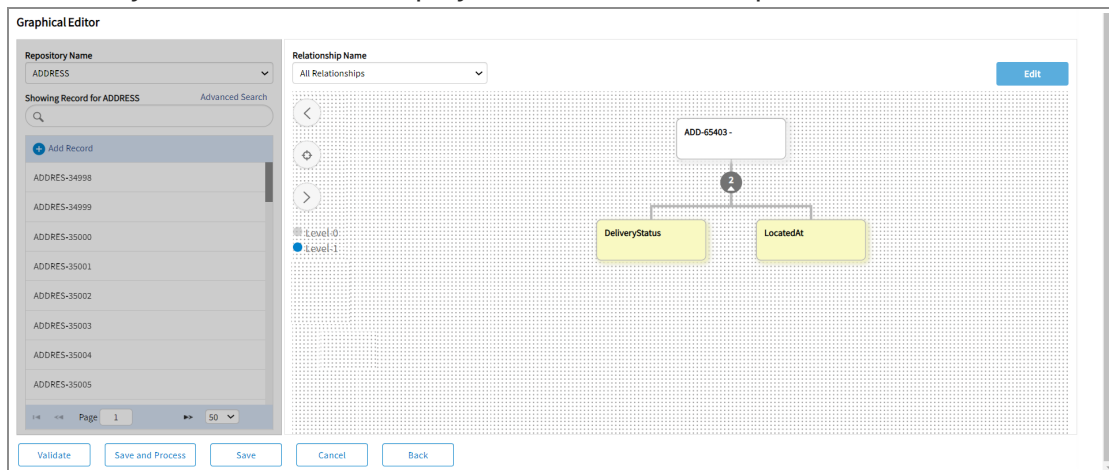
POSTALCODE:

► Hidden

Add Record Cancel

5. Enter attribute values and click **Add Record**.

The newly added record is displayed on the relationship canvas in edit mode.



6. Click **Validate**, and then **Save and Process** or **Save**.

The record is validated and then saved in the repository. The left record list is updated with a new record.

For more information on the action buttons displayed on the graphical editor, see [Graphical Editor](#).

Creating Related Records

You can create a related record in the selected relationship by clicking each relationship node.

Before you begin

You must have a permission to create a related record, else the **Add Related Record** option is disabled.

Procedure

1. Click **Browse and Search**.
2. Select a repository in which you want to add records and click **Graphical Editor**. The Graphical Editor page is displayed for the selected repository.
3. On the relationship canvas, from the **Relationship Name** list, select a relationship or **All Relationships**.
The records with selected relationship hierarchy are displayed in the view mode.
 - If you select a single relationship, the selected relationship with related record is displayed.
 - If you select **All Relationships**, multiple level relationships are displayed.
4. Click **Edit** to modify a record and add related records.

i Note: The **Edit** option is displayed only if you have the Modify permission for the selected repository.

5. On the relationship node, click **Create Related Record**.
The Add Related Record window is displayed.
6. Enter record attribute values.
7. Click **Add Related Record**.
 - If the record contains errors, errors are displayed in the error notification. For example, if you do not enter value in the Record ID field and click **Add Related**

Record, the Record ID cannot be empty error is displayed. In this case, if you want ignore errors and add a record with errors, click **Continue Add**. The Related Record Added Successfully message is displayed and the newly added related record is displayed in the hierarchy.

- If the record does not contain errors, the newly added related record is displayed in the hierarchy.
8. Click **Validate**, and then **Save and Process** or **Save**.
The record modification is validated and then saved with newly added related record. For more information on the action buttons displayed on the graphical editor, see [Graphical Editor](#).

Adding Existing Related Records

You can add existing related record in the target repository by clicking each relationship node.

Before you begin

You must have a permission to add existing related record, else the **Add Existing Related Record** option is disabled.

Procedure

1. Open the relationship canvas as described at steps 1-3 of [Creating Related Records](#).
2. On the relationship node, click **Add Existing Related Record**.
The Search & Select <record> to link window is displayed.

Search & Select PERSONPROFILE to link

Record Search Relationships For ADD-37820-

Repository Name
CoPERSON

CoPERSON

[Configure](#)

First Name equals ☐ Case-sensitive

Middle Name equals ☐ Case-sensitive

Additional Middle Name equals ☐ Case-sensitive

Last Name equals ☐ Case-sensitive

Professional Title Name equals ☐ Case-sensitive

Date of Birth equals ☐ Case-sensitive

Country Of Birth equals ☐ Case-sensitive

Marital Status equals ☐ Case-sensitive

Marriage Date equals ☐ Case-sensitive

Search **Clear** **Close**

[Select All Pages](#) [Deselect All Pages](#)

☐	ID	First Name	Middle Name	Additional Middle Name	Last Name
☒	PERSON-35750	Mohammed	msakins2s		Sakins
☐	PERSON-35751	Nerita	ndericot2t		Derico
☐	PERSON-35752	Giorgio	galbertson2u		Albertson
☐	PERSON-35753	Shea	sbodell2v		Bodell
☐	PERSON-35754	Melicent	mpyke2w		Pyke
☐	PERSON-35755	Aggie	amale2x		Male
☐	PERSON-35756	Montague	mweadick2y		Weadick
☐	PERSON-35757	Rich	rrosser2z		Rosse
☐	PERSON-35758	Shelley	sdood30		Dood
☐	PERSON-35759	Annabella	acushe31		Cush

Items/Page 50 Page 1 of 4

Done **Cancel**

- Enter search criteria fields and click **Search** to retrieve filtered records of the target repository.
- From the result list, select records and click **Done**.
The existing related record is displayed in the hierarchy.
- Click **Validate**, and then **Save and Process** or **Save**.
The record modification is validated and then saved with the newly added related records.
For more information on the action buttons displayed on the graphical editor, see [Graphical Editor](#).

Modifying Record and Relationship Attributes

You can update the values of the record and relationship attributes by clicking the **Edit node details** option on each record node and related record node on the relationship canvas.

Procedure

1. Select the record node or related record node and click **Edit node details**. The Record Details window is displayed. You can maximize the window to view details of each attribute group.

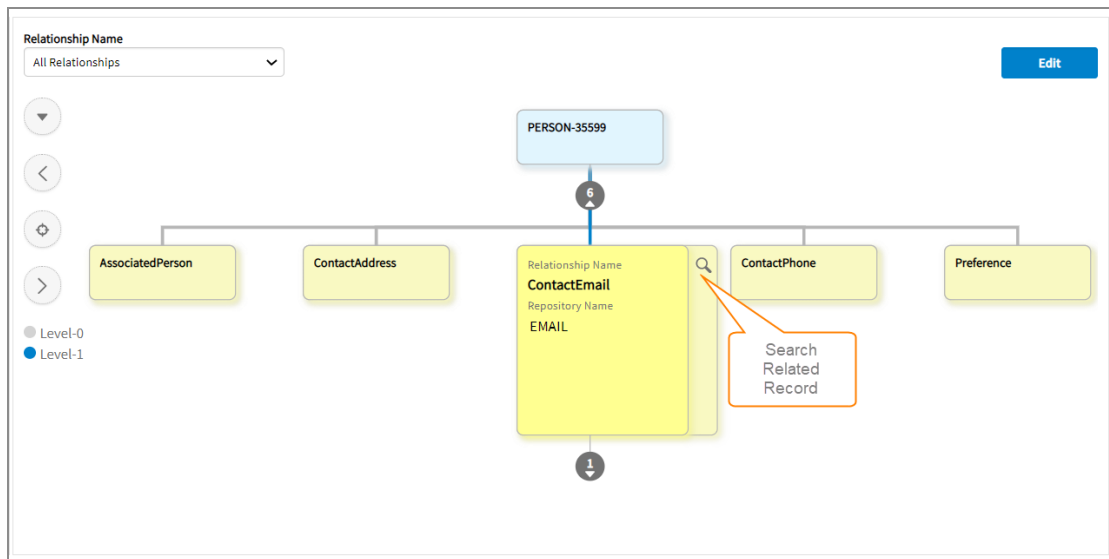
2. Update the values of the record attribute or related record attribute and click **Update**. The attribute values for the selected record node are updated, and the Record is Modified message is displayed.

Searching Related Records

You can search a related child record in the target repository by clicking each relationship node. The functionality is useful if you have a large number of child records. You can search related records in the View and Edit modes.

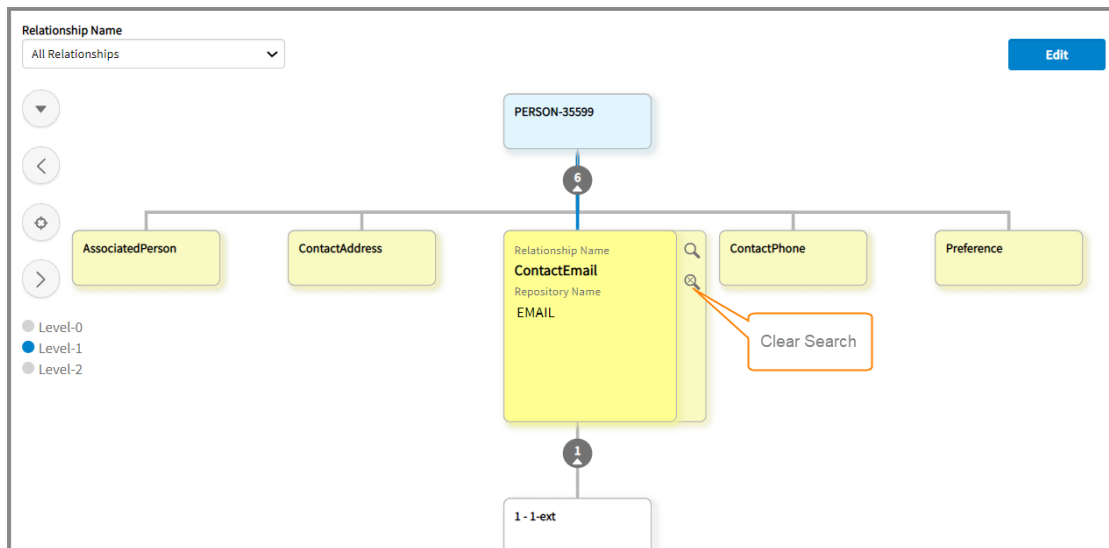
Procedure

1. Open the relationship canvas as described in steps 1-3 of [Creating Related Records](#).



- On the relationship child node, click **Search Related Record**.
The Related Record Search window is displayed.

- To retrieve filtered records of the target repository, enter data in the search criteria fields and click **Search**.



Searched related records are displayed as child nodes in the hierarchy along with the **Clear Search** icon.

Note: To remove the related record (added by search criteria) from the hierarchy, click **Clear Search**.

Importing of Records Using Input Maps

Import is the process of acquiring master data from external sources into TIBCO MDM. The imported data may need to be transformed and mapped to one or more repositories. You can configure the Import process as per your company needs. To import records, you need to create a data source, an input map, and then use the Import option.

The Import process involves the use of Data Sources, Input Map, and workflow activities. For more details, see [Record Import Process](#).

Data Sources

Data source is a representation of external source of data, typically maps to a file or the database table. Data source defines the attributes and order of attributes. Using the data sources, you can import data into repositories, identify records to create subsets, and transform data. Using data sources, you can perform the following main actions:

- Input information into repositories.
- Define a subset.
- List valid values for validation and cleansing.
- Input data validation rules, and so on.

Data sources can be in different formats within an organization. A data source is defined by:

- Format: SQL database or comma-separated files. An SQL data source is an alias for a database table or SQL select statement. This allows the use of any external table without making a copy of the data.
- List of the record attributes: Those automatically extracted from column headings or configured manually.

Data Fragments in Data Source

Consider a supplier who:

- Maintains a record description SQL database that is indexed by a SKU code with English descriptions for all records sold.
- Has a flat file maintained by the IT department that identifies the UPC codes for each SKU.
- Has a Microsoft Excel file with the current list price for each record.

Each of these data fragments is identified in the data source.

- Data Source Upload: During the upload, the data source profile is verified and data is moved to the application.
 - For a manual upload, you are prompted for a file residing on a system network. When the loading is complete, the file created on your system is automatically converted to the correct format for use on the server.
 - For an SQL data source no file is required, instead the source database is queried. Existing data from the database can be accessed in the following two ways:

- **Using a source table**

When a source table is defined, it does not copy the data from a source table to the application. Instead, it simply links to it. During an upload, the associated table is verified and the row count is calculated. However, the data is not copied over.

- **Using a select SQL statement**

When a SQL statement is specified as a source, the result of the select statement is copied and stored within the application during the upload.

Once the data source is created, you must execute Upload to validate the data source. Subsequently, the upload is needed only if the data in the underlying table changes.

If SQL data sources are used in a rulebase, the data changes in the underlying table are not automatically visible in the rulebase unless an Upload action is executed. If the data source contains any Date type attributes, all such attributes must have the same date format. The correct date format must be selected when defining data

sources. This applies even when attributes that contain date data are defined as a string type. If such date attributes are mapped to any date attributes while defining input mapping for a repository, the date format specification is required.

- **Data Source Upload Return Codes:** Data source upload event success and error return codes are as follows:
 - When there is an error during a data source upload, the step status displayed is Error. For example, when there is a TNS Error, which occurs when the Oracle client is not configured correctly, the step status is displayed as Error. The event is also displayed with an error status.
 - Data source upload event proceeds even if the number of rows uploaded is zero (0). The event status is "success" and the number of records uploaded is displayed as zero.
 - Uploading a data source is considered successful if the number of records uploaded is the same as the number of records present in a data source file or table.

Accessing Data Sources

Data sources are visible to the company which creates them.

If you want to share a data source across enterprises, define the data source within a TIBCO CIM enterprise. Such data sources, though not visible in the data source list of other enterprises, can be used in the rulebase. For more information, see *TIBCO® MDM Studio Rulebase Designer User Guide*.

 **Note:** To create and modify data sources, use TIBCO MDM Studio. For information, see *TIBCO® MDM Studio Repository Designer User Guide*.

Procedure

1. In TIBCO MDM, select **Master Data > Data Sources**.
2. On the Data Sources page, select one of the following options from the **Filter By Usage** list to filter data sources:
 - **All:** All data sources are displayed.
 - **Referenced:** The data source is used in an input map or subset rule. Currently,

usage in rulebase is not considered.

- **Unreferenced:** The data source is created but is not being referenced by any repository.

Actions on Data Sources

From the Data Sources page, you can perform various actions on a data source.

Data Source Actions

Action	Description
View	Select the Data Source Name link to view the data source details, see Viewing Data Sources
Delete	Delete an existing data source, see Deleting a Data Source
Copy	Copy an existing data source with a new name, see Copying a Data Source
Upload	Upload a file, see Uploading Data Sources
Show Usage	View the usage of a data source, see Viewing Data Source Usage

Columns of Data Sources

The Data Sources page displays various columns.

The following table lists the column name and their description:

Data Source Columns

Column	Description
Data Source Name	Data source name that uniquely identifies the source file.
Description	Data source description.

Column	Description
Format	Indicates the format of the data source file that was uploaded, such as, Delimited, Fixed Length, XML, and SQL.
Text Qualifier	Indicates the text qualifier.
Delimiter	Indicates the delimiter in the data source.
File Name	Source file uploaded into the data source. Click the filename to view the source file. Based on your desktop computer settings, the file opens in its native application for more effective viewing.
Last Uploaded On	Date on which the last source file was uploaded.
Row Count	Count of rows in the data source file.

Viewing Data Sources

Procedure

1. In TIBCO MDM, click **Master Data > Data Sources**.
2. On the Data Sources page, click the data source link in the Data Source Name column.
3. On the View Data Source page, you can only view the selected data source details. The page has the following three sections:

View Data Source Screen Sections

Section Name	Description
Data Source Details	• Displays basic details of a data source, such as name of the data source, format of the source file, delimiter, date format, timestamp format, and so on.

Section Name	Description
	◦ Date format: It must match the date format used in the actual data. If you have specified an incorrect date format, data may be rejected or loaded incorrectly. For example, if the date format is specified as MM/DD/YY, and the actual data is specified in DD/MM/YY, then 02/01/67 may be imported as Feb-01-1967 instead of Jan-02-1967. ◦ Delimiter: The options are Comma, Tab, or Other . ◦ Timestamp Format: By default, the YYYY-MM-DD HH:mm:ss.S timestamp format is displayed. The actual data should contain the timestamp formats that TIBCO MDM supports. The following four timestamp formats are supported: <pre> YYYY-MM-DD hh:mm:ss.S YYYY-MM-DD hh:mm:ss.S AM/PM YYYY-MM-DD hh:mm:ss.S z YYYY-MM-DD hh:mm:ss.S AM/PM z </pre> If you have specified an incorrect timestamp format, data may be rejected or loaded incorrectly. ◦ Source SQL: The SQL statement for the SQL format data source. a. The String data type of a data source can be mapped with the Timestamp data type of a repository. b. The Timestamp data type of a data source can be mapped to the Timestamp data type of repository. The Date data type of a data source can be mapped to the Timestamp data type of a repository. In this case, time of the Timestamp field is displayed as 00.00.00 in the repository.
File Details	Browse and select the source file you want to upload.

Section Name	Description
	Note: It is recommended that you use ASCII characters for all filenames. If these names include non-ASCII characters, copying the files from Windows to UNIX or Linux, and vice versa, may result in the corruption of filenames.
Attributes	Each attribute represents a column in an input table or file. You can choose to create attributes automatically during the first upload. Attribute names cannot be more than 26 characters and should contain only ASCII (A-Z, a-z, 0-9, _). Once attributes are created, subsequent uploads do not change the attribute list. When attributes are automatically created, all attributes are defined as a string of 256 characters, which may not be sufficient for some data. Once attributes are defined, you can increase the size of the attributes up to 4000 characters. The total row size of all attributes should not exceed 32 KB characters. Note: Ensure that the data source attribute name does not have non-ASCII characters as part of the name. Mapping a data source attribute to a repository attribute fails if the data source attribute name has non-ASCII characters, such as \$, formats. On Windows, Notepad allow conversion from one encoding type into another. You can save files as UTF-8 encoded using Notepad. On UNIX, you can achieve the same by using tools like: iconv which is part of the GNU libc (and therefore probably already on your system). Usage: <pre>iconv -f ISO8859-8 -t UTF-8 -o myfile.utf8 myfile.input</pre> uniconv shipped with yudit (http://www.yudit.org/)

Section Name	Description
	This is a free unicode text editor. (http://j3e.de/linux/convmv/).
	Usage:
	<code>uniconv -decode ISO8859-1 -encode utf-8 -in myfile.input -out myfile.utf8</code>

Deleting a Data Source

Procedure

1. Click **Master Data > Data Sources** from the menu.
The Data Sources page is displayed.
2. Select the data source and click **Delete**.
A confirmation message is displayed.
3. Click **OK** to delete the selected data source.
The selected data source is deleted.

Viewing Data Source Usage

Procedure

1. Click **Master Data > Data Sources** from the menu. The Data Sources page is displayed.
2. Select the data source and click **Show Usage**. The Data Source Usage page shows how the data source has been used and provides the usage details. It shows how many repositories are created using a data source.

Data Source Usage

Name

STANDARDCUSTOMER

Description

StandardCustomer

Show Usage

Used By	Name	Description	Comment	Restriction
☒ Input Map	CONTACTADDRESS_INPUTMAP1	ContactAddress_InputMap1	Data source used in input map of repository 'ADDRESS'.	Delete allowed
☐ Input Map	CONTACTEMAIL_INPUTMAP1	ContactEmail_InputMap1	Data source used in input map of repository 'EMAIL'.	Delete allowed
☐ Input Map	INITIALPERSONIMPORT	InitialPersonImport	Data source used in input map of repository 'PERSONPROFILE'.	Delete allowed
☐ Input Map	CONTACTPHONE_INPUTMAP1	ContactPhone_InputMap1	Data source used in input map of repository 'PHONE'.	Delete allowed
☐ Input Map	PREFERENCE_INPUTMAP1	Preference_InputMap1	Data source used in input map of repository 'PREFERENCE'.	Delete allowed
☐ Input Map	REFERENCE_INPUTMAP1	Reference_InputMap1	Data source used in input map of repository 'SOURCEREFERENCE'.	Delete allowed

<<

<

Page 1

>

>>

20

View 1 - 6 of 6

Notes You can perform action indicated under "Restriction" only if authorized to perform the action.

OK

- Click **OK** to go back to the Data Sources page.

 **Note:** Use of buttons on the browser is not recommended. Using the Back, Forward, or Refresh buttons may work sometimes; however, it is likely to result in a conflict with the session data of the browser or the cache maintained by the application. This may cause inconsistent UI behavior and errors.

Use the menu to quickly switch to different sections of the application.

Uploading Data Sources

Procedure

- In TIBCO MDM, click **Master Data > Data Sources**.
- On the Data Sources page, select the data source and click **Upload**.
- On the Upload Data Source page, click **Choose File** to select a source file into a data source.

Upload Data Source

Data Source Name ACCOUNTSOURCE

Description Valid values for AccountSouce attribute

File To Upload account_datasource.txt

4. Click **Upload** to upload the selected source file.
5. For SQL format data source, **File to Upload** field is not displayed. Click **Upload** to update the row count and store the result of SQL within the application.

Importing of Data into File Type attributes

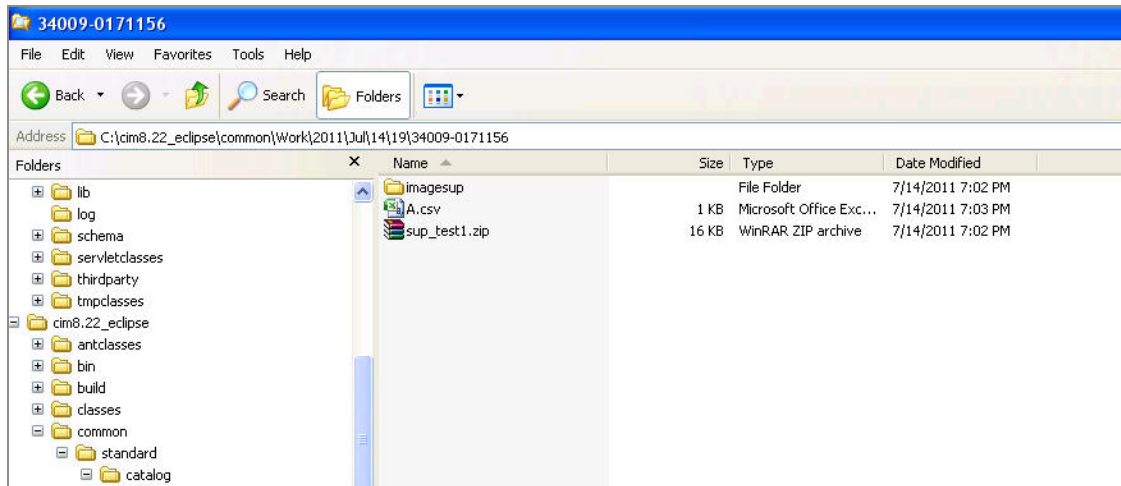
For large data sources based on files (more than 8 MB), ZIP the file before uploading. This speeds up the upload process. While working with zipped files, the data source must describe the format of the un-zipped data source file. TIBCO MDM automatically decompresses (unzips) data source files during the upload.

You can upload the images and other supporting files with the data source file, provided that the supporting files are located in the same directory. The data source file must be in the root directory and the supporting files in a subdirectory. You can zip the entire directory and upload.

For example, data source A which may be a CSV file has columns a RecordID, a Description and fileattr. If this file is stored under RootDir/test directory and the image prod1.jpg is stored under RootDir/test/imagesup directory on your file system, then the fileattr column's value should be imagesup/prod1.jpg or imagesup\prod1.jpg in A.csv if you are importing the image prod1.jpg along with the RecordID and description.

i Note: TIBCO MDM supports only ZIP for uploading the data. Other formats such as 7z, rar, and so on are not supported.

When the records of file type are imported, the uploaded file gets stored under Work directory in the Common directory of the build.



Uploading Data from UI

Procedure

1. Create a repository with the file type attribute.
2. Create a record on the Browse and Search page.
3. Upload a file for the file type attribute.

Exporting of Data of File Type Attributes

On exporting a record of file type attribute, creates a ZIP file that can be downloaded from the **Event Log** page. The ZIP file contains a csv file with the image name under the file attribute column. The attribute column does not contain the entire path name of the location of the file. It only contains the name of the image.

CATALOG_REPFF_COA89875_40281BF530F									
Home Insert Page Layout Formulas Data Review View Developer									
Clipboard Cut Copy Paste Format Painter									
Font Calibri 11 A- B I U									
Alignment Wrap Text Merge & Center									
Number									
D2 nutbolt_1.jpg									
	A	B	C	D	E	F	G	H	I
1	Record ID	Record ID	Related R	fileattr	MODVERSION				
2	12	12		nutbolt_1.jpg	1				
3									
4									
5									
6									
7									
8									
9									

Data Source Upload Status

The Upload Status page shows the upload status of the data source. It shows the name of the data source and the uploaded filename and size, when it was last uploaded. You can also click **Check Progress** to monitor the file transfer. Click the filename link to either save or open it.

Upload Status

Data Source Name	ACCOUNTSOURCE
File Name	AccountSource.csv
File Size	0.74KB/ 761bytes
Last Uploaded	2022-01-10 12:06:18.213

File uploaded and submitted for validation. Monitor the progress by clicking here: [Check Progress](#)

Ok



Note: When a workflow is run as in-memory, no event is generated. As a result, you cannot check event details for operations triggered by an in-memory workflow. In this case, click **Check Progress** to redirect you to a page that displays an in-memory operation message instead of displaying the progress.

To resolve errors of the data source upload failure, see "Appendix E Errors and Resolutions" in *TIBCO MDM System Administration*. The errors of data source upload are listed in the Catalog Errors and General Errors sections.

Copying a Data Source

By using this page, you can copy an existing data source to create a new data source. This only copies the structure of the source data source. You need to upload the file again.

Procedure

1. Select **Master Data > Data Sources**.
2. On the Data Sources page, select the data source to be copied.
3. Click **Copy**.

The Copy Data Source page is displayed. The page shows the existing data source

name and description.

Copy Data Source [X]

Data Source Name ACCOUNTSOURCE

Data Source Description Valid values for AccountSouce attribute

Enter Copy Details

Enter New Name

Enter New Description

Save

4. Specify the new name and description for the new data source created.
5. Click **Save**.

Indexes on Data Sources

Data source indexes are required while importing data using database loader. It is also helpful when multiple data sources are joined in the direct load import and the load sizes are huge, that is, more than 200 thousand.

Create the index file under: \$MQ_COMMON_DIR*enterpriseinternalname*\datasource*datasourcename*.idx. Filename must match to the data source name. Each new line in this file represents an index. Composite index multiple columns can be specified with a comma separated.

Indexes are created only when uploading a data source. Therefore, create the index file before the actual upload or re-upload the data source after creating the index file.

Example 1: For Option loaddb and loaddbwithcontains

If the CID column of the DF_33969_37793_TAB data source table is mapped to PRODUCTID; and not mapped to PRODUCTIDEXT, create an index file as UPPER("CID").

Example 2: For Option loadrelationship

If the CID column of the DF_33969_37793_TAB data source table is mapped to PRODUCTID, and CEXT is mapped to PRODUCTIDEXT, create an index file as UPPER("CID"),UPPER("CEXT")

Syntax of the index file based on the databases is as follows:

- **Oracle:** UPPER("CID"),UPPER("CEXT")
- **Microsoft SQL Server:** CID,CEXT
- **PostgreSQL:** CID,CEXT

Input Maps

Input map defines how datasource is mapped to repositories. It maps an attribute of the data source to an attribute of the repository. The input maps support expressions, such as substring and concat. However, you are recommended to use rulebase to perform the same operations.

- **Root Input Map:** To import data to more than one repository in one import, a hierarchy of input maps need to be defined. The import is for a root repository and corresponding input map is called *root input map*. The root input map is important as most of the run options selected for the root input map applies to all input maps (mode, incremental, or full). Each repository must have at least one input map for which data is imported. The default input map for a repository is specified while creating the repository.
- **Related Input Map:** All input maps other than root input map are called *related input maps*. A repository can have more than one input map, each with the same or distinct data sources and mappings. The Input map name is unique for a repository.
You can also have relationships between input maps across repositories. For input maps to be related, you must predefine the relationships between the repositories. During import, an input map which is related to other input maps can be used to map data to more than one repository by selecting the respective relationship names while creating the input map.

Accessing Input Maps

If you have deployed the created input maps in TIBCO MDM, input maps are displayed on the Input Maps page.

Note: To create and modify input maps, use TIBCO MDM Studio. For information, see *TIBCO® MDM Studio Repository Designer User Guide*.

Procedure

1. Log in to TIBCO MDM.
2. Click **Master Data > Repositories**.
The Repositories page is displayed.
3. Select a repository and click **Manage Input Maps**.

The Input Map page is displayed.

Input Map

Repository Name

ADDRESS

View

Import

Delete

Copy

Show Usage

Input Map Name	Description	Merge Data	Data Source(s)	Incremental	Approval Option
☒ CONTACTADDRESS_INPUTMAP1	ContactAddress_InputMap1	Yes	STANDARDCUSTOMER	Yes	Direct Load

Back

Actions on Input Maps

You can perform various actions on an input map.

The DEFAULT input map is used automatically if import is done using the FileWatcher utility and no specific input map is selected.

Actions on Input Map

Action	Description
View	View input map details, see Viewing Input Maps
Import	To import an input map, select the input map name on the Input Map page and click Import . The Start Import page is displayed. For information about importing records, see Importing Records .
Delete	Delete an existing input map, see Deleting an Input Map
Copy	Copy an input map with another name, see Copying an Input Map
Show Usage	Select the input map, and then click the Show Usage icon. The Input Map Usage page is displayed with the usage details, such as used by, name, description, comment, and restrictions.

Approval Options

You can select the following approval options when creating inputs maps in TIBCO MDM Studio.

Approval Options	Description
Split/Approval Required	Allows splitting the logical batch into record bundles before processing and executes the normal governance. The bundling is done based on the hierarchy configured in a workflow. Each of the bundles is processed in separate independent workflows, which is a series of two workflows for each bundle. Conflict resolution and merge: This workflow checks if the imported changes are in conflict with any other changes done to the bundle after import has been initiated. If there are any conflicts, you need to resolve it. Normal governance workflow: After the conflict is resolved, workflows for record add, modify, or delete are invoked for each bundle and goes through the normal governance process as if the changes were initiated

Approval Options	Description
	from UI or web services. In these workflows, an approval step is included before changes to record bundles can be confirmed.
Split/No Approval	Goes further and converts the logical batch into individual record bundles and merges the concurrent changes or detect conflict in the concurrent changes. Use this mode when records being imported are also modified by other processes or users. The Split/No Approval mode splits the import batch into multiple record bundles. For each bundle, a separate workflow process is fired to verify if the data has changed since the import has started. If required, data is merged or conflict resolution is attempted. Each workflow completes independent of other workflows.
Direct Load	All records are processed as one batch, with the intention to make the data available and confirm the records immediately. The records can be validated and erroneous records can be rejected before confirming the valid records. A batch approval step can be configured to approve the whole batch. During the direct load, if any records that are part of the import are modified concurrently by other processes or users, such changes are overridden by imported data. Direct load is one of the four pre-defined modes implemented by out-of-the-box workflows. In most cases, the out-of-the-box workflows are modified for specific implementation. For the Direct Load option, the following options are displayed: • Validate Only: Select the check box to validate incoming records and generate an error report without actually importing the records. For more information about the Validate Only option, see Validation of Imported Records. • Confirm Immediately: Select the check box to confirm the records immediately in ImportCatalogRecords activity. For more information about the Confirm Immediately option, see Confirmation of Imported Records. • Import Relationships Only: Select to import only relationships. If you select this check box, the following actions are performed:

Approval Options	Description
	◦ If the relationship does not exist in a repository, the relationship is created with the current version of existing records without considering the change in parent and child attributes. Existing records' version is not changed. ◦ If the relationship and its attributes do not exist in a repository, the relationship is created and its attributes are also added in the repository. ◦ If the relationship already exists in a repository and only relationship attributes are changed, they are updated. ◦ If both a relationship and its attributes exist in a repository and there is no change in relationship attributes, the relationship is not created and its attributes are also not updated. ◦ Duplicate records are ignored. ◦ The relationships are imported while executing the ExtractRelationship activity. Attention: The following actions are not performed with import Relationships: ▪ New records are not imported. ▪ The Rulebase is not executed. ▪ History is not maintained because the record versions are not changed. ▪ Existing record versions are not updated. • Delete Relationships Only: Deletes the relationships between two records as per the input map mapping. • Classify Records Only: Creates classification records for existing records.
Database Loader	If this approval option is selected, the following options are displayed: • Mode: Select the Load Records or Load Relationships mode. The

Approval Options	Description
	records or relationships are uploaded using a database loader. • Fresh Data: Select the check box to indicate that the data is clean, and the initial version records need to be loaded. To learn more about database loader, see Importing of Records Using Database Loader.
Big Data Import	Processes huge data loads, reduces failure points during asynchronous processing and provides a clear trace of the failures, improves performance during import, improves debugging, statistical information, and monitors import progress. If the Big Data Import option is selected, the File to Upload option is displayed. You can upload a CSV or TEXT file. After you initiate the upload, you can check the status on the Import Status page. See Actions on Import Status Page. To learn more about big data import, see Records Import Using the Big Data Import Option.

Viewing Input Maps

To view details of an input map, select the input map name on the Input Map page and click **View**. The View Input Map page is displayed.

View Input Map

Repository Name

ADDRESS

Input Map Name

CONTACTADDRESS_INPUTMAP1

Incremental

Yes

Approval Option

Direct Load

Input Map Description

ContactAddress_InputMap1

Merge Data

Yes

Source ID

Data Sources

Data Source Name	Description	Format	Primary
STANDARDCUSTOMER	StandardCustomer	Delimited	No

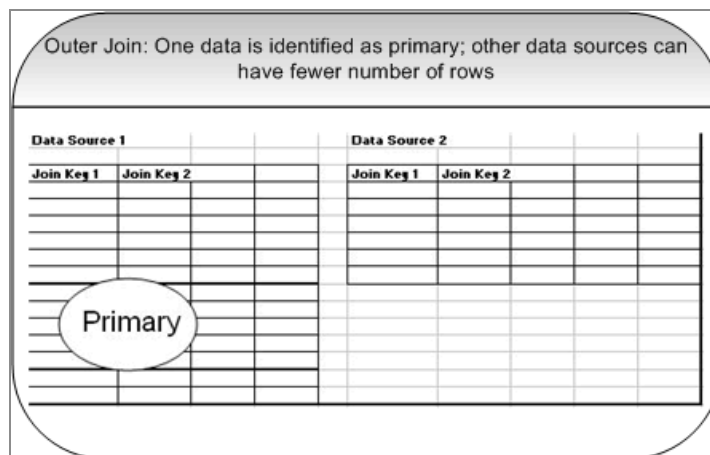
Next

Cancel

The View Input Map page contains the following sections:

- **Input Map Details:** The name and description for the Input Map. The Name is unique and not case-sensitive for a repository. The name can contain A-Z, 0-9, and _.
- **Approval Option:** See [Approval Options](#).
- **Source ID:** The source ID allows you to associate the data with an external system. The source ID is not automatically stored with records as attributes, but a rulebase can be used to copy the value to an attribute. The source ID can be used in workflow and business process rules to customize business processes.
- **Merge Data:** Indicates whether to retain the previous data or child relationships. When the value for this attribute is **Yes**, any null values in the imported data are populated with data already stored in the database, provided the **Null If Blank** input mapping option is not selected for such attributes. This allows partial data to be imported.
- The **Data Sources** tab: Primary column indicates whether a data source is primary. It is recommended only if multiple data sources or a data source has fewer number of rows, and join key for such rows in primary data source do not exist in other data source. The primary data source should be the one which is a pivot data source. When multiple data sources are selected, data between the data sources is joined as follows:
 - **Outer Join:** If a primary data source is identified, data from other data sources is joined with the primary data source using an outer join.

Outer Join



- Natural Join: A natural join is also known as an equi-join. If no primary data source is identified, data from all data sources is joined using a natural or equi-

View Input Map

Repository Name	ADDRESS	Input Map Description	ContactAddress_InputMap1
Input Map Name	CONTACTADDRESS_INPUTMAP1	Merge Data	Yes
Incremental	Yes	Source ID	
Approval Option	Direct Load		
Data sources	STANDARDCUSTOMER		

Attributes

[Expand All](#) [Collapse All](#)

▼ Basic			
Name	Type	Expression	Null If Blank
Record ID	String		No
Address Type	String		No
Street	String		No
Street Suffix or Street Type	String		No
Directionals	String		No
City	String	@STANDARDCUSTOMER.CITY_NM	No
State/Province	String		No
State/Province Code	String	@STANDARDCUSTOMER.STATE_NM	No
Country	String		No

[Previous](#) [Cancel](#)

- Click **Expand All** to view the user-defined system attributes and the user-defined attributes in their respective Attribute Groups.
- Click **Collapse All** to collapse the Attribute Group list. In this case, only the names of the Attribute Groups are displayed.

Click the arrow next to an attribute group to display or hide its attributes.

- **Expression:** Displays an SQL expression mapped to the attribute.
- **Null if Blank:** Indicates whether to consider a blank value in the data source as NULL. Usually, this value is specified for the CONTAINS attribute. It is used only if Merge Previous Data is TRUE and CONTAINS attribute does not have any value for the record. When the value is TRUE, it indicates that child relationships would not be merged if no value is specified in the CONTAINS attribute. For more information about Contains attribute, see [Explicit Relationship Using the CONTAINS Attribute](#).

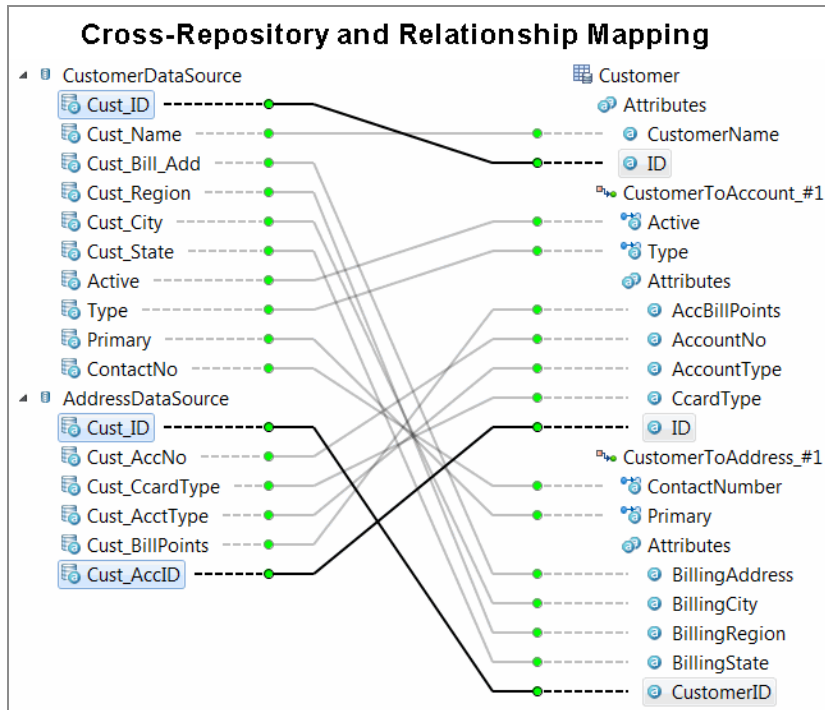
Input Map with a Cross-repository Relationship

At times, there is a need to capture data spread across data sources into multiple logically related repositories. To achieve this purpose, Input Maps of one repository can be related to Input Maps of other repositories to distribute data across related repositories.

For example, assume that you have a data source containing the following data: CustID, Cust Name, CustSSN, Billing Address, State, and Country. The application has two repositories, Customer and Address, related by Billing Address. You can establish a relationship between the input maps of these two repositories in such a way that during

import, the data in the CustID, Cust Name, and CustSSN columns goes to the Customer repository and the data in the Billing Address, State, and Country columns goes to the Address repository.

Input Map with a Cross-repository Relationship



When an input map has related input maps, the next page shows one tab for the root input map, and another for every related input map.

Note: Using the full import, you can replace all records in a repository with the records being imported. The data merging is still performed with the previous versions, but any records which are not part of the import are deleted.

As the import now spans across repositories, records across repositories that are not a part of the import are deleted. To delete:

- A list of related repositories is obtained.
- In every repository, records that are not a part of the Import process are deleted.

Also, during a Full import, a new version is not created for duplicate data. Such records are marked by updating the LastImportTime. However, these records are deleted when the system identifies the records that need to be deleted.

The table lists the relationship name and target repository names of the selected relationship for the root input map in a non-hierarchical view.

View Input Map

Repository Name	CoPERSON	Input Map Description	InitialPersonImport
Input Map Name	INITIALPERSONIMPORT	Merge Data	Yes
Incremental	Yes	Source ID	
Approval Option	Direct Load		

Data Sources

Relationships

Relationship Name	Target Repository Name
ContactEmail	EMAIL

Next

Cancel

Click **Next**. Here, you see the information related to the root repository. Every relationship is displayed as a tab on the View Input Map page.

View Input Map

Repository Name	CoPERSON	Input Map Description	InitialPersonImport
Input Map Name	INITIALPERSONIMPORT	Merge Data	Yes
Incremental	Yes	Source ID	
Approval Option	Direct Load		
Data sources	STANDARDCUSTOMER		

Attributes

CoPERSON

ContactEmail

ContactPhone

ContactAddress

Reference

Preference

Repository Name	EMAIL	Input Map Description	ContactEmail_InputMap1
Input Map Name	CONTACTEMAIL_INPUTMAP1		

[Expand All](#)
[Collapse All](#)

▼ Basic

Previous

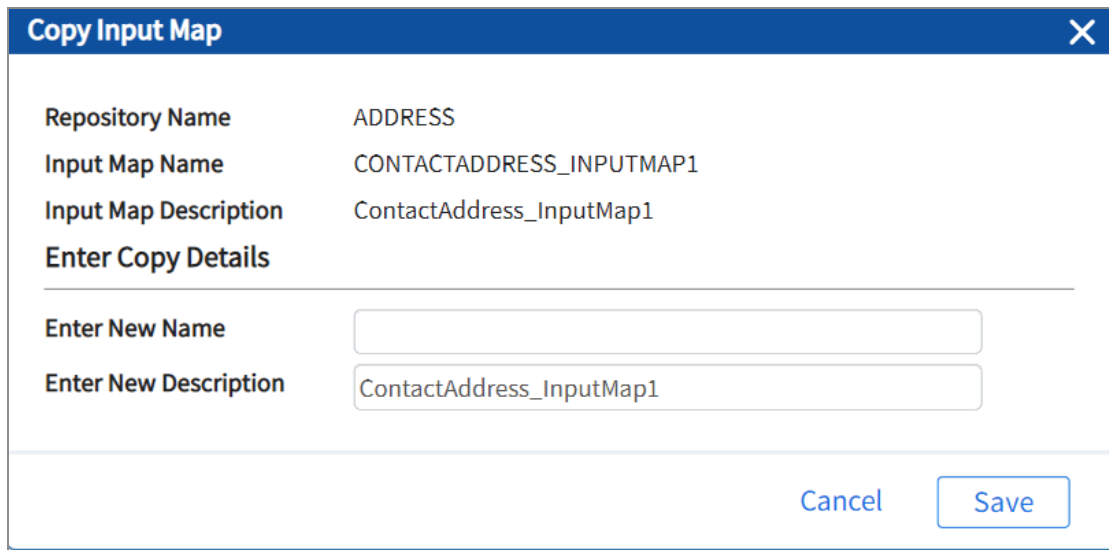
Cancel

Copying an Input Map

Note: If you copy an input map containing cross-repository relationships, the relationships get duplicated, along with the source input map.

Procedure

1. Select **Master Data > Repositories** from the menu. The Repositories page is displayed.
2. Select the repository and click **Manage Input Maps**. The Input Map page is displayed.
3. Select the input map to be copied and click **Copy**. The Copy Input Map page is displayed.



The dialog box titled "Copy Input Map" has a blue header bar with a close button (X) in the top right corner. It contains the following fields and labels:

Repository Name	ADDRESS
Input Map Name	CONTACTADDRESS_INPUTMAP1
Input Map Description	ContactAddress_InputMap1

Below these fields is a section titled "Enter Copy Details" separated by a horizontal line. It contains two input fields:

Enter New Name	
Enter New Description	ContactAddress_InputMap1

At the bottom right of the dialog box are two buttons: "Cancel" and "Save".

The name and description of the input map that you want to make a copy of and the repository name are displayed in this page.

4. Enter a new name and description for the copy of the Input map.
5. Click **Save** to create the copy.

Deleting an Input Map

Procedure

1. Click **Master Data > Repositories** from the menu. The Repositories page is displayed.
2. Select the repository and click Manage Input Maps. The Input Map page is displayed.
3. Select the input map to be deleted and click **Delete**.

If you are unable to delete an input map, it is because you do not have the necessary privileges on the Repository to perform this task.

If you delete the source input map in a cross-repository relationship, along with the source input map, all associated relationships with other input maps across repositories are deleted. The input map in the related repositories remains intact.

Similarly, when a repository is deleted, all the associated relationships, input maps, and output maps across repositories are deleted.

Record Import Process

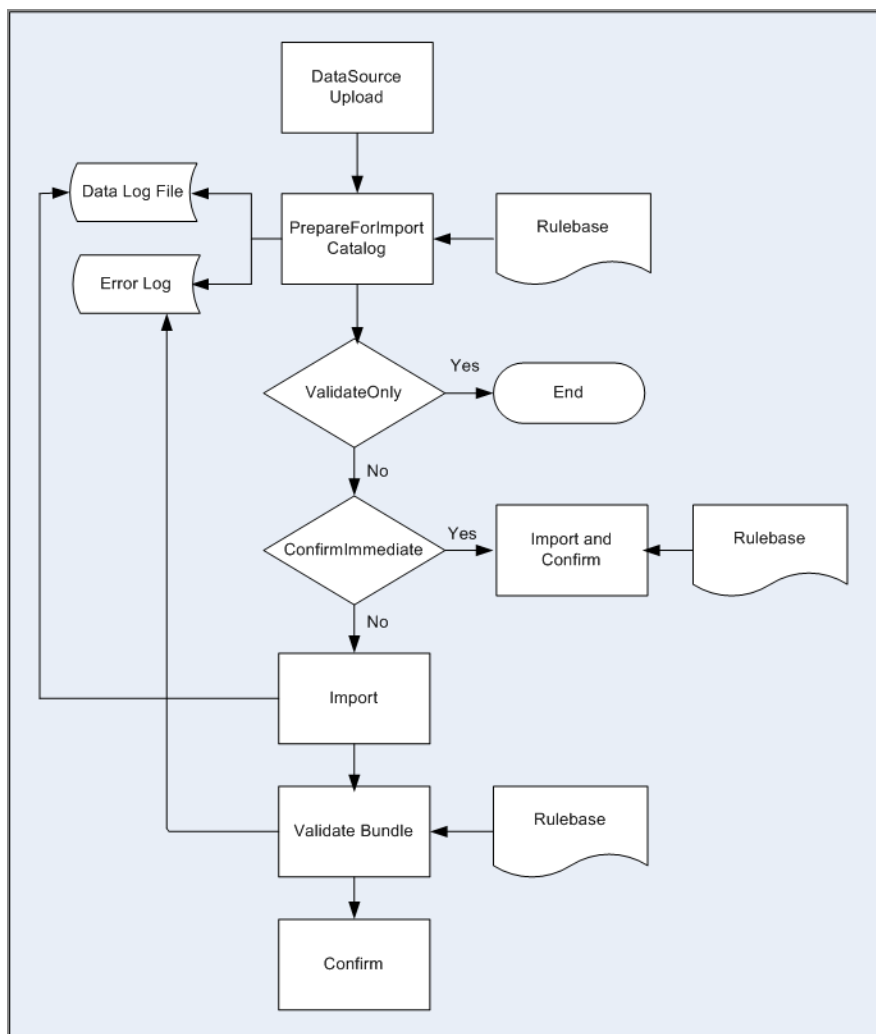
When import is initiated, data being imported is merged with the existing data.

The version selected to read the existing data is called *base version*. Using the Import Parent Record Version State configuration parameter, you can select the golden copy version or last confirmed or unconfirmed version. The valid values are CONFIRMED or LATEST. If the value is LATEST, the incoming record data is merged with the latest Confirmed or UnConfirmed version of the record. If value is CONFIRMED, the incoming record data is merged with the latest Confirmed version. The default value is CONFIRMED.

To initiate the import process, click **Start Import** on the Start Import page.

The following diagram illustrates how the import process works:

Import Process



The import process consists of the following activities:

- **PrepareForImportCatalog:** To load data into staging tables
- **ImportCatalog:** To import records into master repository
- **DeleteRecord:** To delete old records in the repository if incremental is true
- **ExtractRelationship:** To create relationships between the records
- **ReclassifyRecord:** To run the Classification scheme
- **PurgeStaging:** To clean staging tables or staging data
- **EvaluateRulebase:** To validate hierarchies and classifications
- **SpawnWorkflow**
- **UpdateRecordState**

For more information about these activities, see *Workflow Reference* on the [TIBCO MDM product documentation](#) page.

Performance of Import Process

To optimize the performance, the activities used in import are processed asynchronously. Data is inserted in the database in batches. For each activity in the workflow, the `RecordperAsyncCall` and `isAsyncProcessing` variables are defined. If `isAsyncProcessing` is set to true, asynchronous processing takes place.

In Asynchronous processing, the Import process populates a queue with batches of records. The batch size, or the number of records held by a batch, is as defined in the `RecordperAsyncCall` variable. You can also define the pool size by using the `Async_PoolSize` variable. The pool size is the number of batches that can be processed at a time. For example, if `Async_PoolSize` is set to 2, a machine can process a maximum of two batches at a time. For more information about these variables, see *TIBCO MDM Workflow Reference*.

Machines involved in the import process can work on the records in each of these batches without waiting for another machine to finish work on a batch. Once they complete working on the batches, they pick up more batches from the queue.

For performance improvements during import, `UpdateRecordState` should be run using Event mode. This can be done by not passing a record list to this activity.

Identity Assignment during Import

When you import records in TIBCO MDM from external sources, you may need to map new records to the existing records in TIBCO MDM. If the imported data does not have PRODUCTID and PRODUCTIDEXT, it is not possible to detect whether the data being imported is for existing records or new records. In such cases, the identity of the record is established by a set of *business keys*. If identity is not established correctly, duplicates may be imported.

Consider the following scenario: A person is identified by business keys, such as, first name, last name, SSN, and zip code, and you have imported this data in TIBCO MDM. When the update is available, to associate this data with the existing records, the data must be identified by PRODUCTID and PRODUCTIDEXT. However, the PRODUCTID and PRODUCTIDEXT may not be known to external source and may not be available in the updated data. Therefore, to map this data with the existing records in TIBCO MDM, *business keys* are used.

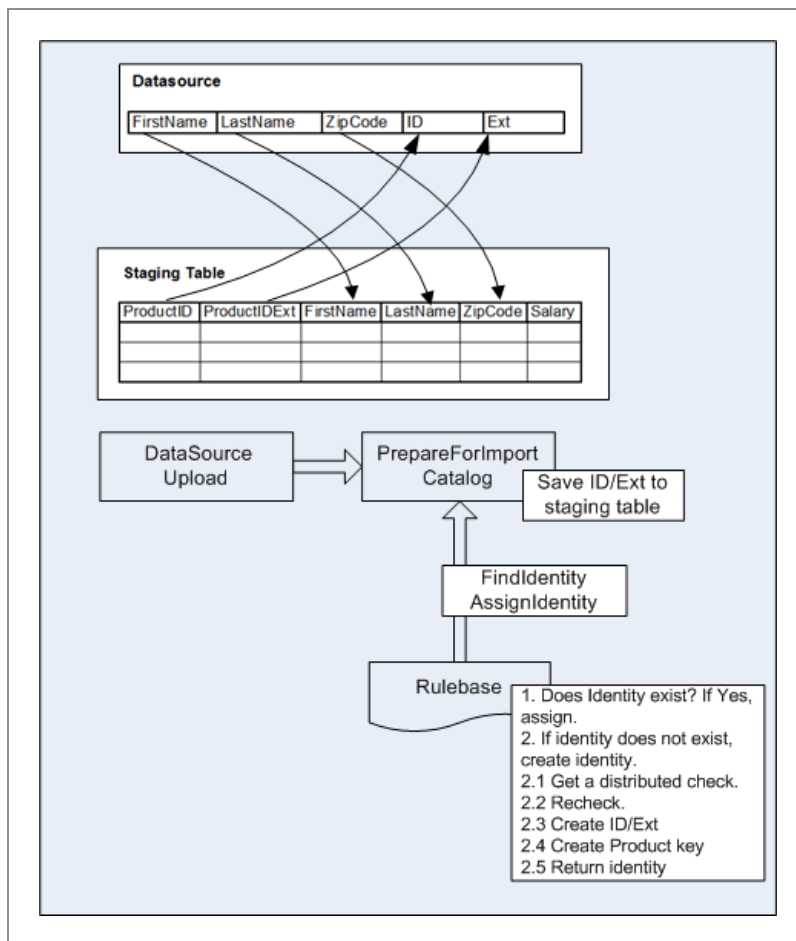
You can assign an identity to records that are being imported using the following two ways:

- Adding an <assignidentity> action tag in a rulebase file, and then using the rulebase file in PrepareForImportCatalog activity. For information about how to add <assignidentity> tag in rulebase, see [Adding Assign Identity in Rulebase](#).
- Using the  Assign Identity button in Rulebase Designer. For more information, see *TIBCO® MDM Studio Rulebase Designer User Guide*.

Mapping of Identity Assignments

The following diagram illustrates how identity assignments are mapped:

Identity Assignment Mapping



Adding Assign Identity in Rulebase

Procedure

1. Define a rule and save it in the catalogvalidation.xml file for the repository. Refer to the following sample:

```
<?xml version="1.0" encoding="UTF-8"?>
<rulebase metaversion="1.0"><name>Catalog
Validations</name><description>Catalog Validations</description><constraint>
<name>identitycheck</name> <description>find identity and
assign</description> <action> <assignidentity> <explanation>Identity is
```

```
assigned.</explanation> <var>AssignSequence1</var> <var>FIRSTNAME</var>
<var>LASTNAME</var> </assignidentity> </action></constraint></rulebase>
```

Note: The Sequence key is a mandatory variable that generates a PRODUCTID.

2. Create a new record and specify the values for FIRSTNAME and LASTNAME business key variables. For information about creating records, see [Creating Records](#).
 - If you specify values that do not match existing records, the <assignidentity> action retrieves PRODUCTID using the specified sequence and assign it to a record. However, PRODUCTIDEXT remains null.
 - If you specify values that match an existing record, the <assignidentity> action retrieves PRODUCTID and PRODUCTIDEXT and assigns them to a record.
 - However, if <assignidentity> action locates multiple matching records, it does not assign PRODUCTID and PRODUCTIDEXT to a record.
3. Create a rulebase file. For example, assignidentity.xml and use it in the Rulebase parameter of the PrepareForImportCatalog activity.

Import data without PRODUCTID and PRODUCTIDEXT and verify the result.

Limitations for Assign Identity

AssignIdentity does not work in the following scenarios:

- If business keys are mapped to multiple records, that is, not mapped to unique records.
- If business keys are not reliable and go through cleansing or transformation later. In this case, save the record as a new record and use it for match and merge later.

AssignIdentity ensures that the unique identity is assigned to records even if duplicates exist in the same run and the saved record does exist in the database.

Validation of Imported Records

You can use the PrepareForImport activity to prevalidate incoming data by passing in a rulebase and to set the PRODUCTID and PRODUCTIDEXT. It is required that PRODUCTID and

PRODUCTIDEXT be generated or otherwise assigned at this stage. Irrespective of a rulebase supplied to this activity, all repository attributes are validated for data format and length. The validation of relationship attributes is not performed because relationships are not recognized at this step.

- **ValidateOnly mode:** The ValidateOnly mode does not save the incoming data to database. It reads the data from input map and performs the validations. You can specify this option in two ways during import:
 - Use the `ValidateOnly` parameter of the `PrepareForImportCatalog` activity: you need to modify the workflow to configure the `ValidateOnly` parameter. After the `PrepareForImportCatalog` activity, the workflow terminates with the Success status, that is, no other import activity should be executed.
 - Select the **Validate Only** check box when initiated import from the Start Import page: When the **Validate Only** check box is selected, the workflow only validates the data and generates an error report and a log file. The workflow terminates after the `PrepareForImportCatalog` activity and does not continue with the `ImportCatalogRecords` activity.



Note: If the `ValidateOnly` parameter is specified in the activity, it takes precedence over the runtime parameter.

For more information about the `ValidateOnly` parameter, see *TIBCO MDM Workflow Reference*.

Confirmation of Imported Records

To confirm records that are being imported, use the `RecordState` parameter of the `ImportCatalogRecords` activity.

For information about the `RecordState` parameter, see *Workflow Reference*. However, use the `ConfirmImmediately` mode with caution especially when your objective is to import data quickly and with eventual consistency.

By default, the `Draft` value is specified for the `RecordState` parameter. This facilitates a *sandbox* so that the imported data is isolated from the rest of the data and changes are not immediately visible. The data imported through import is moved out of the *sandbox* and made visible to you and all other processes by changing the state of the record using `UpdateRecordState` activity. To work this, you must use the following two steps - import the data as draft, and then change the status as `CONFIRMED` or `UNCONFIRMED`.

After performing these steps, configure other workflow to process the data further, that is, work item for approval of the batch, validation and cleansing, match and merge, and so on. Moreover, you can work on the data at a while when other users are concurrently modifying and working on the data. The DRAFT record state does not prohibit further modification of the latest version, which could have a state of CONFIRMED or UNCONFIRMED). The sample of customized workflow is located at `/common/standard/samples/workflow`. The filename is `workflowname_sample.xml`.

However, in some scenarios when the objective is to import the data as quickly as possible, you can configure the workflow to set the record state directly as CONFIRMED or UNCONFIRMED.

When you set the record state as CONFIRMED:

Option 1

1. Select the **Confirm Immediately** check box on the Import page when initiating import.
2. When this check box is selected, the workflow saves records as confirmed in the ImportCatalogRecords activity and skips the UpdateRecordState activity.
3. This is only supported for the DirectLoad mode for out-of-the-box workflow.

Option 2

1. Do not use the UpdateRecordState activity to change the state of the record.
2. The data is immediately available and visible to you and other processes. When a large batch is being imported, some data may be confirmed in parts. That is, the all or none rule does not apply.

When you set the record state as UNCONFIRMED:

1. You can use the UpdateRecordState activity, however, the data is still immediately visible to you and processes.

Due to the multi-pass nature of import, when records are saved in the ImportCatalogRecord activity, the relationships of the records are not yet processed and may not be correct. The relationships are processed in the later step. Therefore, during these two steps, you may have a confirmed or unconfirmed version with incorrect relationships.

If the workflow fails after the records are confirmed and before the relationships are processed, relationships are lost.

However, advantage of setting the record state to CONFIRMED is to avoid the UpdateRecordState activity. Hence, the performance of the import is significantly improved and the time can be cut by as much as 40%.

You can use combination of imports to achieve high throughput and consistent outcome. For example, you can import one repository at a time, confirming the data immediately, followed by the Import Relationship only mode to import relationships between the records. This use case occurs frequently during the initial load and when the database loader is not an option due to data validation requirements.

Another limitation of confirming records immediately is that it does not float the unconfirmed versions. To learn about the floating scenario, see [Example of Floating of Record Versions](#).

Example for Confirm Immediately in case of Floating of Record Versions

Consider the following scenario for Confirm Immediately in case of floating of record versions:

Create a record using the UI and send it for processing. Ensure it is queued up for approval and is not confirmed.

Import the record with workflow changed to confirm records immediately using the RecordState parameter of ImportCatalogRecord activity.

After import, the state of a record is CONFIRMED, and the version of a record is changed to Version 2.

However, if you modify the record using UI or web services, the modification is not allowed as Version 1 of the record is pending with the approver in the workflow. When the approver attempts to modify the record, the modification is not allowed as the record is not the latest version and already CONFIRMED, later version of a record exists in a workflow. To resolve this deadlock, cancel the record modification event using event log UI the import event as follows:

1. Go to the Record History page and locate the event corresponding to the UNCONFIRMED record. For information about how to view the Record History page, see [Viewing Record History](#).
2. Cancel the event. For information about how to cancel the event, see [Handling of](#)

Event Logs.

Record is canceled. You can modify the CONFIRMED version of a record.

Importing Records

Before you begin

Read the following considerations before importing records:

- If the Import Records permission is denied, you cannot import records from the user interface. However, no security is applied when import is initiated from FileWatcher.
- If you change the input map when import is in progress, this results in import failure or incorrect results.
- The ImportCatalogRecords activity is not supported for in-memory workflows.

Procedure

1. Select a specific input map on the Input Map page and click **Import**.

The **Start Import** page is displayed with the available data sources.

Start Import

Repository Name	ADDRESS	Input Map Description	ContactAddress_InputMap1
Input Map Name	CONTACTADDRESS_INPUTMAP1	Merge Data	Yes
Incremental	Yes	Source ID	
Approval Option	Direct Load	Delete Relationships Only	No
Import Relationships Only	No	Confirm Immediately	☐
Classify Records Only	No		
Validate Only	☐		
File To Upload	Choose File No file chosen		

Data Sources			
Data Source Name	Description	Format	Primary
STANDARDCUSTOMER	StandardCustomer	Delimited	No

Based on the selection of the [Approval Options](#) when creating an input map, the different options are displayed on the **Start Import** page.

2. Click **Start Import** to import records.

The import process is initiated and the Import Status page is displayed. See [Actions on Import Status Page](#).

If an input map comprises a cross-repository relationship, all the related input maps

are also imported.

Cancellation of Import

When large batches of data are being processed, the batches are split in smaller batches and processed in parallel. To cancel the import in such situation may be difficult. You can cancel the import only after all the batches are created and sent for processing.

After the Cancel action is performed, any remaining batches which are not yet processed are abandoned. If import was confirmed to set the record state to DRAFT, all the data imported so far is also canceled. Besides, cancel may also possible during the transition between the batch processing activities.

When you click **Cancel**, the `isCancelled` flag is set to true. It is set to true when the Import process is in progress. The activity in progress gets completed but the subsequent activities get canceled. For example, if the Import process was Applying Rulebases when you clicked **Cancel**, the Import process completes applying the rulebase, but it does not perform the subsequent activities and prematurely exit the process.

How Import Processes Relationships

All relationships that are imported go through two passes. This is processed in the `ExtractRelationships` activity.

- The First Pass: If the import is being performed using an input map, which maps records to more than one repository, all implicit relationships are first processed. During this pass, relationships of the imported data are processed according to Merge Previous Data options. When this pass is complete, all relationships for the records are final except for the relationships specified in the `CONTAINS` attribute.

When import is performed using an input map, which maps data to more than one repository, the import is said to be running in a Cross-repository Relationship mode. If data is mapped to one repository, the import is said to be running in a Simple mode.

The following table illustrates the impact of **Merge Previous Data** options on relationships processing:

Note: These factors only affect relationships to child records. Relationship to parent records are always retained.

Factors that Influence Relationship Processing During Import

Merge Previous Data	Null If Blank	Import Mode	Data in Contains Attribute	Relationships Processing
N	N/A	cross-repository relationship	Null	All implicit relationships are imported. All previous relationships are dropped. After import, only relationships that are <i>implicitly</i> defined in the import process is present.
Y	N/A	cross-repository relationship	Null	All previous relationships are retained. All implicit relationships are imported. After import, union of all previous relationships and newly imported implicit relationships are present.

- The Second Pass: In the second pass, the records are processed for explicit relationships. If the records processed in the first pass have a non-null value in the CONTAINS attribute, they are processed again.

Note: You can control how import should handle duplicate records by setting the Duplicate Row Check parameter in the Configurator. For information about using the Configurator, see *TIBCO MDM Installation and Configuration*.

The default is false, that is, the import process does not allow you to import duplicate records. You can change this behavior by changing the Duplicate Row Check parameter to true.

- Floating of Record Versions: Whenever the state of a record is being changed from draft to confirmed or unconfirmed, (for example, R3) and if there is an unconfirmed version of the same record (for example, R2), the unconfirmed version (R2) is floated to a version number subsequent (R4) to the last confirmed version. This concept is

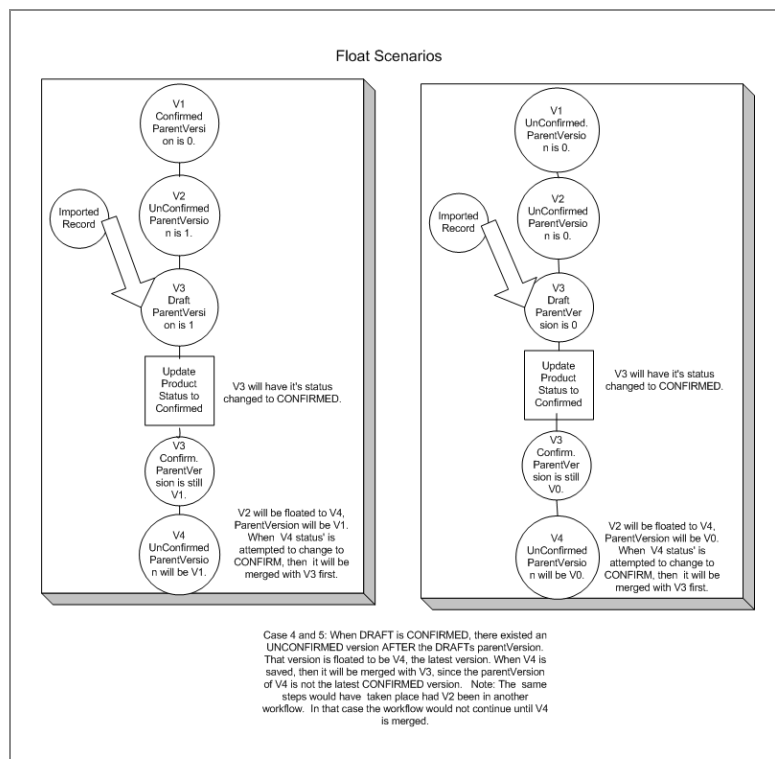
known as *floating of record versions*. Relationship of the floated record version is the same as that of the record version whose state was changed.

Note: Floating of records can happen in any workflow when the record state is changed from draft to confirmed or unconfirmed.

Example of Floating of Record Versions

Consider the following scenario:

Scenarios Depicting Floating of Record Versions



This scenario assumes that when a record changes its version, its current version is called *record_nameversion_name*. For example, A1 is used in the following scenario to depict the first version of the record A.

To understand the concept, consider a scenario when there are two records, A and B. The repository to which they belong has a Record Edit Approval rule associated with it. Therefore, records need an approval before getting updated.

Assume that you perform the following activities on the records A and B:

The repository, for example, Customer, has two records, Firstname and Lastname. Firstname is related to Lastname using the CONTAINS relationship. Both Firstname1 and Lastname1 are in the confirmed state.

Set the Business Rule, Record Edit Approval, and modify Lastname1. The modification generates version 2 (Lastname2) for record Lastname. Version 2 is unconfirmed, and it remains so as long as it is waiting for an approval in the workflow. There is no change on Firstname1.

Import Firstname contains Lastname. While importing, select the Direct Load option. After the import, Firstname's version is changed to Firstname2, and Lastname's to Lastname3. The state of both the records is confirmed.

Since Lastname2 was in the unconfirmed state before the creation of Lastname3, Lastname2 is immediately floated to Lastname4, but its state remains unconfirmed. Even if the version changes, the state remains unchanged. This concept is known as *floating of record versions*.

Lastname4 is related to the record obtained as a result of the current event. In this scenario, the current event is the Import event that created version Firstname2. Lastname4 copies its relationship from Lastname3, and as a result, Lastname4 is related to Lastname2, *not* Firstname1.

Application of Rulebases during Import

The rulebase used during import may not make assumptions about the relationships because the relationships are not established during this validation. If such validations are required, you need to implement them in a separate rulebase and configure an EvaluateRulebase activity. Rulebase can be applied on incoming data in various stages.

- Prepare for import: During this stage, the rulebase can only update the product ID and Ext. Any other updates are ignored. The rulebase only has access to the data, which is in the staging step, the record does not have an identity and relationships. The rulebase cannot compare the record with previous versions.
 - It is recommended that when this step completes, all records have been assigned an ID and Ext.
 - Use the AssignIdentity action to locate matching records using business keys and to modify the existing records.
 - This step allows rejection of records during this step. The data can be validated

and erroneous records rejected. Validate the data in isolation (the validations, which only work on incoming data) to reject the record.

- **Import:** During this stage, the record has an identity and can be validated and transformed. Using a rulebase to transform the data at this step instead of a separate step avoids creation on another version of the record. The rulebase can
 - Compare the record with the previous version to implement tolerance limits on changes
 - Transformation of the attributes other than the ID or Ext and comparison with the previous version should be done in this step. Records can be rejected.
 - Transformation of the record ID or Ext is not recommended in this step.

This step also validates the data types and sizes of each attribute and rejects records, which do not pass the validation. Note that the record does not have relationships so the rulebase should not attempt to validate the hierarchy.
- **Evaluate Rulebase:** As most validations can be done in the import step, this step is necessary only if there are validations, which require the full hierarchy (for example, sibling's validation, propagations).
 - The evaluate rulebase should be executed after the ExtractRelationship and ManageRecordCollection step.
 - Any hierarchy validations and propagation should be done in a separate Evaluate Rulebase step after the relationships are established.

Actions on Import Status Page

When the Import process is complete, the Import Status page is displayed.

Import Status

Repository Name

ADDRESS

Input Map Name

CONTACTADDRESS_INPUTMAP1

Input Map Description

ContactAddress_InputMap1

Data Source Name	Description	Type	File Name	Imported On	Row Count	Bad Row Count	Error File	Log File
STANDARDCUSTOMER	StandardCustomer	Delimited	StandardCustomer.csv	2022-02-18 15:34:49.928	200	0	Download	Download

Repository successfully initiated import. Click [here](#) to monitor the progress.

OK

The following table lists the actions that you can perform on the Import Status page:

Actions on Import Status page

Action	Description
File Name	Click the <i>filename</i> link in the File Name column to download the data source.
Error File	Click the Download link in the Error File column. You can view this.csv file in Microsoft Excel. It includes a consolidated report of staging, import, and ExtractRelationship steps. The relationship attributes are also validated. All errors and any warning or information messages returned by rulebase are added to the error file. If there are no error messages, the file is empty. The format of an error file is as follows: • Step - Indicates if the message corresponds to staging or import step. • Row number • Repository name • RecordID, RecordIDExt - If null, means empty. • AttributeName - Denotes if message is specific to the attribute. Specifies name of the attribute or empty. • GroupName - Specifies the name of the attribute group. • ResultCode - Indicates whether validation was successful or not. If empty, means error. • ActualValue - Indicates the value after the change.

Action	Description
	• ReferenceValue - Indicates the value before change. • Message - Provides the explanation for an error.
Log File	Click the Download link in the Log File column. This file includes an import summary for each repository, which provides count for rejected, duplicate, added, and modified records. Note: The Log file is generated only if you have specified the F value for the LogOption parameter in the EvaluateRulebase activity. For information about this activity, see <i>TIBCO MDM Workflow Reference</i>.
Check Progress	Click the here link to verify the status of the import process. The Event Details page is displayed. Import status can either be Success, Error, or In Progress. Click Records in the Information column to view the details of imported records. Note: When a workflow is run as in-memory, no event is generated. As a result, you cannot check event details for operations triggered by an in-memory workflow. In this case, click the here link that redirects you to a page. The page displays an in-memory operation message instead of displaying the progress

Error File Example

```
Step,RowNumber,RepositoryName,RecordID,RecordIDExt,AttributeName,GroupNa
me,ResultCode,ActualValue,ReferenceValue, Message
Staging,1,TEST50K3,"B11","A1","STRING2","UNASSIGNED","PASS","Test this
assignment","C1","Attribute 'String 2' is transformed from ('C1') to
('Test this assignment')"
```

```
Staging,2,TEST50K3,"B11","A4","STRING2","UNASSIGNED","PASS","Test this
assignment","C1","Attribute 'String 2' is transformed from ('C1') to
('Test this assignment')"
```

Log File Example

- Repository Name: Customer

- Repository ID: 34515
- Input Map Name: CustomerInputMap
- Input Map ID: 34584
- Records Processed: 3
- Empty Records Ignored: 0
- Records Rejected: 0
- Records Ignored as Duplicate: 3
- Records Added as New: 0
- Records Modified: 0

State of Imported Records

During an Import, all imported records are initially in a draft state. After the Import process is complete, the state may change to unconfirmed or confirmed, depending on the import options selected. If imported records are rejected, the state is changed to rejected.

The Draft record version is only valid for the event which created it. Other events and workflows do not have access to such record versions. A draft record version is also not visible when records are searched from Record Search, the page for browsing repositories, and the Subsets options. A draft record version cannot be exported. It is automatically skipped during export. A draft record version is visible only in Record History.

A draft record version can be created by any workflow by configuring the workflow SaveRecord activity to save the data as draft. Additionally, the import process always creates record versions as draft. The state of the draft versions must be changed to the other states (confirmed, unconfirmed, and rejected) to make these versions available outside of the event or workflow. A draft record version cannot be created using the user interface.

If your installation is enabled for text search, the draft records are not included in the text search.

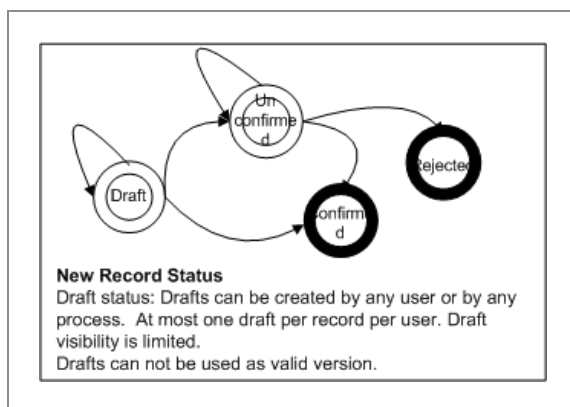
By creating draft records, the system allows you to modify the same record in more than one workflow. Each change is localized to the workflow which made the change. When the state of such record versions is changed to confirmed or unconfirmed, draft data is compared with the latest confirmed and unconfirmed versions. As a result, one of the following can happen:

- The draft record state is changed without any changes to the data.
- The draft record data is merged with the latest confirmed or unconfirmed version (the version with which the data is merged, selected based on workflow configuration). If this results in any change in data, a new version is created. This version replaces the draft version. The state of the new version state is changed as requested.
- The draft record data conflicts with the latest confirmed or unconfirmed version. Depending on workflow configurations, either the draft record state is changed by ignoring the conflict, or the state change is denied.

Handling of the Draft Record Versions

Handling of the draft record versions and the consequence of a change in state is configured using parameters specified in the workflow.

Draft Records



An imported batch does not require approval if no Business Process Rule (Repository Import Approval) is set. The situations that can change the state of a record version after imported batch is approved are:

- If the **Direct Load** option is selected, imported records are confirmed.
- If the **Split/No Approval** option is selected, records are bundled and the state is changed to unconfirmed. If conflicts are detected, the state is then changed to confirmed.
- If the **Split/Approval Required** option is selected, records are bundled, the state is changed to unconfirmed, and each bundle is sent for approval using configured workflows. The state remains unconfirmed till the work item is approved or rejected.
- If a Business Process rule (Import Approval) is defined, the state of the records

remains draft till the work item is approved or rejected.

For more information about setting Business Process Rules, see [Business Processes](#).

Actions on an Import Event

You can perform the following actions on an Import Records event using the Event Log page:

- Cancel
- Restart
- Resubmit

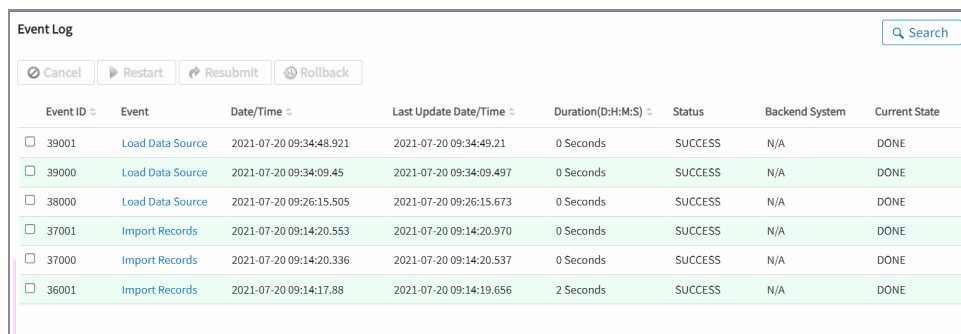
For more details about these events, see [Handling of Event Logs](#).

Viewing the State of an Import Event

If the import process is successful, you can see the state of the records using the Event Log page or Import Approval page.

Procedure

1. Click **Event Log** from the main menu. The Event Log page is displayed.



Event ID	Event	Date/Time	Last Update Date/Time	Duration(D:H:M:S)	Status	Backend System	Current State
39001	Load Data Source	2021-07-20 09:34:48.921	2021-07-20 09:34:49.21	0 Seconds	SUCCESS	N/A	DONE
39000	Load Data Source	2021-07-20 09:34:09.45	2021-07-20 09:34:09.497	0 Seconds	SUCCESS	N/A	DONE
38000	Load Data Source	2021-07-20 09:26:15.505	2021-07-20 09:26:15.673	0 Seconds	SUCCESS	N/A	DONE
37001	Import Records	2021-07-20 09:14:20.553	2021-07-20 09:14:20.970	0 Seconds	SUCCESS	N/A	DONE
37000	Import Records	2021-07-20 09:14:20.336	2021-07-20 09:14:20.537	0 Seconds	SUCCESS	N/A	DONE
36001	Import Records	2021-07-20 09:14:17.88	2021-07-20 09:14:19.656	2 Seconds	SUCCESS	N/A	DONE

2. Click **Import Records** in the Event column. The Date/Time column helps you select the latest import event. The Event Detail Log page is displayed.
3. On the Event Details Log page, click **Browse**.

The Repository Import: Record List page is displayed.

Repository Import: Record List

Repository Name: PARTY
Named Version: AfterImport2021-07-20 09:14:18
Repository Description: Default Party definition
Configure

Record ID	Version	Operations	Name	Description	Industry	Duns Number	
PARTY-36750	1	INITIAL VERSION	GenePoint	Genomics company engaged in mapping and sequencing of the human genome and developing gene-based drugs	Biotechnology		
PARTY-36751	1	INITIAL VERSION	United Oil & Gas, UK		Energy		
PARTY-36752	1	INITIAL VERSION	United Oil & Gas, Singapore		Energy		
PARTY-36753	1	INITIAL VERSION	Edge Communications	Edge, founded in 1998, is a start-up based in Austin, TX. The company designs and manufactures a device to convert music from one digital format to another. Edge sells its product.	Electronics		

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Back

- Click the record ID link whose state you want to view. The View Record page is displayed.

The View Record page is displayed.

View Record

Modify Correction Restore Compare Show History Show Usage Send Message Delete Related Records Show Associated Hierarchy

Perspective: None
Repository Name: PARTY
Record ID: PARTY-36750
State: Confirmed
Version Number: 1
Show Errors

Basic	Details	Reference	System	Classifications
Record ID	PARTY-36750	Name	GenePoint	
Description	Genomics company engaged in mapping and sequencing of the human genome and developing gene-based drugs	Industry	Biotechnology	
Duns Number		Prospect Rating	Cold	
Revenue	30000000.00	Revenue Year		
Employees	265	Doing Business As		
Type of the Account	Customer - Channel	Website	www.genepoint.com	
Account Site		Year Business Established		

OK

The state of a record can either be draft, confirmed, or unconfirmed. To learn more about the state of a record, see [State of Imported Records](#).

- Click **Configure** on the Repository Import: Record List page to configure the columns displayed in the table. See [Configuring Columns Displayed in Various Tables](#).

View the State of Record Using Import Approval Page

Procedure

- Click the import work item in the **Inbox** page.

The **Import Approval** page is displayed.

Import Approval
Bulk data has been imported. Review the information and approve or reject it.

Work Item Details

Work Item ID	37298	Event ID	37297	Status	Open
Record Date	2016-02-29 12:38:19.856	Age (D:H:M:S)	22 Hours 29 Minutes 8 Seconds	Event	Approve Changes
Timeout Method	Relative	Max Timeouts	N/A	Number Of Timeouts	0
Next Timeout on	2016-03-01 12:38:19.851	Locked On	2016-02-29 12:41:16.377	Lock Expiry Date	No expiration date
Locked By	a.a.a				Browse

Import Details

Repository Name	APPLIANCES	Repository Description	Appliances	Split Import Batch	Direct Load
Incremental	Yes	Merge	Yes	Log File	Download
Date And Time Of Import	02/29/2016 12:34:24-05:30	Source	N/A	Number Of Records Deleted	0
Number Of New Records	2498	Number Of Records Edits	0		
Number Of Records With Errors	0	Number Of Records With Warning	0		
Total Records Attempted (A)	2516	Number Of Duplicate Records (B)	0	Number Of Rejected Records (C)	18
Records Selected for Import (D) = (A)-(B)-(C)	2498				

Comments

☒ Approve ☐ Reject

[Submit](#) [Cancel](#)

- Click **Browse** in the Work Item Details section.

The **Repository Import: Record Browse** page is displayed.

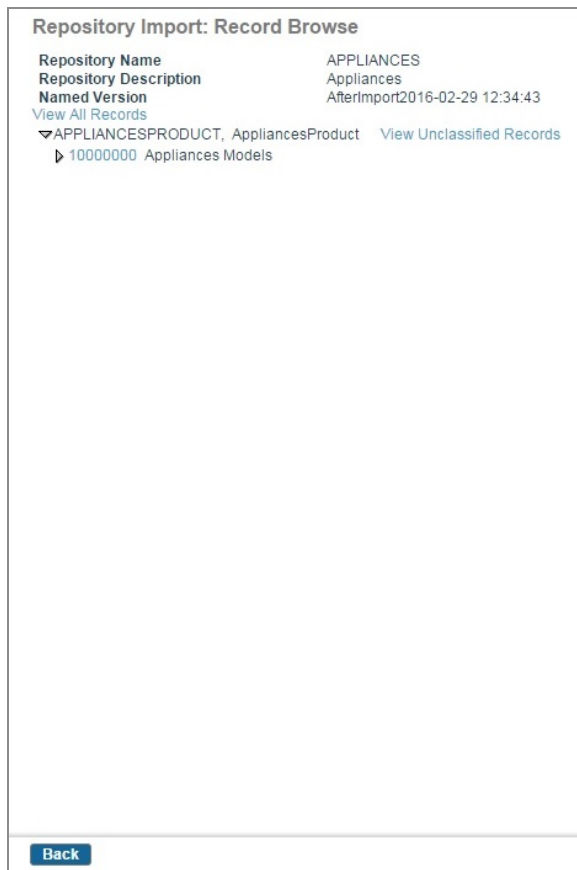
Repository Import: Record Browse

Repository Name APPLIANCES
Repository Description Appliances
Named Version AfterImport2016-02-29 12:34:43
[View All Records](#)
 ▶ APPLIANCESPRODUCT, AppliancesProduct

[Back](#)

- Click the **View All Records** link to view the imported records.

4. Click  next to the private classification scheme to view the imported classified records. For example, click  next to the APPLIANCES PRODUCT.



The classification list only displays the schemes for which you have browse permissions. You can click **View Unclassified Records** if you have imported any unclassified records.

Note: If the **Full control** or **Browse Records by Classification** permissions are denied for a particular private classification scheme, then that classification scheme is not displayed.

Handling of Errors during Import

The errors for each attribute are reported in an error file and viewed as a spreadsheet. Records with errors are stored in a log file. Parse the log file to extract the data from the

log file. For more information, see [Actions on Import Status Page](#).

If you use an EvaluateRulebase activity to validate the records after import, the activity generates a record collection for all rejected records. You can process this record collection as any other record collection. You can send all the records in separate workflows for correction by spawning the workflow for each record in the rejected record collection.

Errors By Import Stage

Errors are handled differently during different stages of the import.

- **Upload:** The data is first loaded from files into data source tables. The loading may fail if the data in the file cannot be loaded. In this case, the errors are reported in an error file for the load step.
- **Import:** The import step can generate various data validation errors, such as:
 - Data does not match the target attribute format and cannot be converted correctly. This can happen if the data type of the data source attribute or expression is different for the data type of the repository attribute it is mapped to. In this case, the whole record is rejected.
 - Data truncation warning - some data was truncated to fit the target attribute size.
 - Rulebase data validation error if a rulebase was specified.
- **Validate:** The records rejected by the rulebase validation are moved into a separate record collection.
- **Manage Record collection:** When records cannot be bundled correctly. Bundling is needed only if you import hierarchical data and if you need to spawn a workflow for each hierarchy. If the same children are part of multiple hierarchies, the bundling fails. In this case, you need to import in multiple passes.
- **Rejection:** If a row is mapped to more than one repository, import may reject one of the mapped records. During rejection, the parts of the rows mapped to other repositories are not rejected.

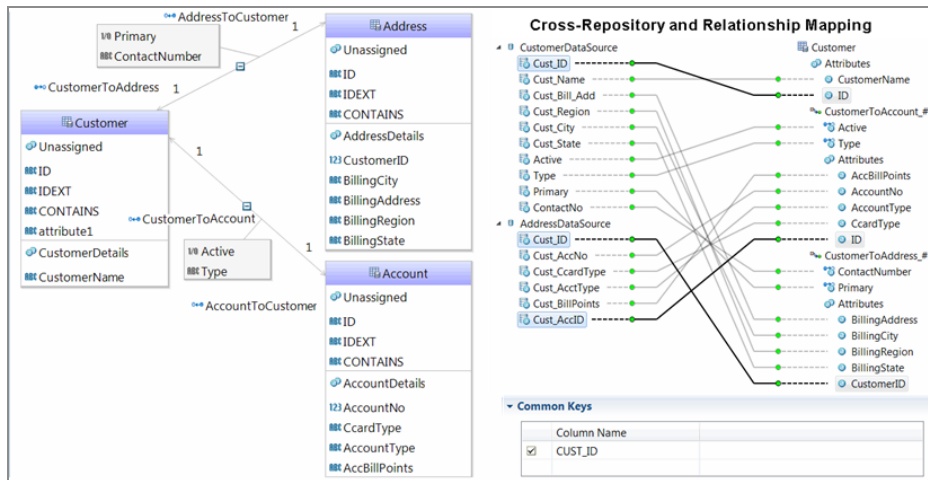
Implicit Relationship

Implicit relationships are the relationships specified for records through the relationship between input maps. While defining input maps, a set of relationships are selected. For each relationship, maps are created to map data. The data being mapped to hierarchy of input maps implicitly defines the relationships between the records mapped to different repositories.

Implicit relationships allows you to create a relationship across repositories. An Implicit relationship is established when you import data within a single row of a data source. When you import data from a data source with large chunks of data in a single row, the import process segregates data into different repositories with the help of the implicit relationship. The data of one data source can span across repositories with the help of input maps.

For instance, a single record in the data source containing Customer, Shipping Address, Billing Address, and Tax Info details can be bound by an implicit relationship. Input maps defined on this data can segregate customer-related information to be sent to the Customer repository, Billing and Shipping Address-related information to the Address repository, and the Tax Info to the Tax Info repository. In this case, Customer is the parent record. Billing Address, Shipping Address, and Tax Info are the child records.

Implicit Relationship



Implicit relationships are always processed as incremental. For example, assume that Customer has established a Billing Address relationship with five child records. There are two more records to be imported: one that is an update to the existing child record, and another that is a new record. When import is complete, the import row has two addresses associated implicitly using the Billing Address relationship. Once import is complete, the

Customer has six addresses. Import modifies the existing address and adds a new one. That is, relationships to previous addresses are retained.

Explicit Relationship Using the CONTAINS Attribute

An Explicit relationship allows you to relate records within a repository. The relation between the records is achieved using the CONTAINS attribute. Every repository has a predefined attribute called CONTAINS, which is defined as a String. The attribute cannot be manipulated using the user interface. The CONTAINS attribute is used only during the Import process. It is used to manage relationships with child records, not with parent records.



Warning: The record operations such as search based on CONTAINS is not supported. For best results, the use of the CONTAINS attribute should be limited to the DELETE and DELETEALL commands to manage relationships.



Restriction: While importing records, if you use contains column to delete relationships and the value of the VersionPolicy parameter is selected as Correct or Optimize, then delete takes precedence and deletes the relationship even if it is a part of the current import.

While creating a data source, you can have a column with the CONTAINS attribute that can be mapped to the CONTAINS attribute of the repository. For example, you can have a data source with PRODUCTID, PRODUCTTEXT, PRODUCTDESC, and CONTAINS columns. The following is a list of sample values retrieved by these columns:

- PRODUCTID : PO1
- PRODUCTTEXT: P11
- PRODUCTDESC: The model number for this product is PZ123.
- CONTAINS: B02:B11:1:121:Delete

The value entered in the CONTAINS column is called a relationship entry. Every record in a data source becomes a parent record, and the relationship entry defined in the CONTAINS attribute denotes the kind of relationship a parent record establishes with the child record.

A Sample Data Source File

id	ext	desc	contains
CUST01	C11	this is parent record	CUST02:C12:110:100
CUST02	C12	this is child record	

The syntax for CONTAINS column is as follows:

```
ID:EXT:QTY:TYPE:COMMAND
```

Where,

ID: Product ID of the child record.

EXT: Product ID extension of the child record.

QTY: (Optional) Quantity of child included in the parent record. The value must be a positive integer greater than 0. The default value for this field is 1.

TYPE: (Optional) Relationship type. Either the name of the relationship or the type (integer) can be specified. The integer entered here should be the same as that entered for TYPE in the Relationship definition. The default value for this field is 1. If TYPE is specified, QTY must also be specified.

COMMAND : If you leave this blank, the relationship entry gets added to the database. If the COMMAND is specified, TYPE must be specified. The following commands can be specified:

DELETE : If the relationship to a child record exists, it should be deleted.

DELETEALL: All relationships of a specified TYPE should be deleted. When this command is entered, ID and EXT can be 0 to ensure that they are ignored.

You can specify more than one relationship entry in the CONTAINS attribute separated by a comma. If the data contains multiple commas following each other, the comma is treated as a part of the record (not treated as a separator). The data must be enclosed in double quotation marks.

Records with both Implicit and Explicit Relationships

Consider a scenario when the data source has both implicit and explicit relationships. Assume that a record (for example, CUST01), having the CONTAINS attribute, appears more than once in the data source. In both the records, the CONTAINS attribute establishes a relationship with one of the records in the repository, (for example, Cust02). During import, ensure that you are explicitly populating the CONTAINS attribute of the duplicate record with the relationship details; otherwise the content in the CONTAINS attribute is lost. Consider the following data source:

Sample Data Source with Implicit and Explicit Relationships

AAID	AAext	AAdesc	BBId	BBext	BBdesc	CCId	CCext	CCdesc	AAcontains
customerAtest1	CustomerAtest1	Atest1	ShippingBtest1	ShippingBtest1	Btest1	StatusCtest1	StatusCtest1	Ctest1	customercontainstest1:customercontainstest1:10:1,customercontainstest2:customercontainstest2:10:1
customerAtest1	CustomerAtest1	Atest2	ShippingBtest2	ShippingBtest2	Btest2	StatusCtest2	StatusCtest2	Ctest2	customercontainstest1:customercontainstest1:10:1,customercontainstest2:customercontainstest2:10:1
customercontainstest1 customercontainstest1 customercontainstest1 customercontainstest2 customercontainstest2 customercontainstest2									

To retain old explicit relationships, during an Import activity, ensure that the CONTAINS attribute of the second occurrence of CUST01 is populated with the relationship details.

Validating the CONTAINS Attribute

Data in the CONTAINS attribute is validated as follows:

Procedure

1. If ID and EXT combination of the child record does not identify as a valid record, the relationship entry is not processed. This condition does not apply when COMMAND = DELETEALL.
2. When COMMAND = DELETEALL, the ID, EXT, and QTY of the child record are ignored.
3. Every relationship type entered must be a valid relationship entry defined in the relationship definition table; otherwise the processing of the records in the CONTAINS field is ignored.
4. COMMAND can only take values: DELETE, DELETEALL, or NULL; otherwise the relationship is ignored.

Precedence of Operations

The CONTAINS attribute may have many entries for same relationship type.

If DELETEALL is specified for any relationship type, all other entries for this relationship type are ignored. The order of relationship entries in a data string is not important.

If DELETE is specified, and at the same time there is any other relationship entry for the same child ID, EXT, and TYPE to create a relationship, DELETE takes precedence.

Assumptions for these examples are as follows:

- Relationship Name – Contains
- Relationship Type – 21
- The following hierarchy exists in the repository in the CONFIRMED state:

A (contains)

```
|
|___B
|
|___C
```

Example for DELETEALL

Attempted Import on the repository for record A. The data file used in the data source for the import is as follows:

ID,Ext,ShortDesc,Contains

A,A,A,"0:0::21:DELETEALL"

Result: Record A does not have any relationship remaining. This is because all relationships for specified relationship are deleted.

Examples for DELETE

Attempted Import on the repository for record A and D. The data file used in the data source for the import is as follows:

ID,Ext,ShortDesc,Contains

A,A,A,"B:B::21:DELETE,D:D::21"

D,D,D,

Result: Record A has the following hierarchy remaining.

A (contains)

|

|__D

i Note: A new relationship with record D is created, while those of all old relationships are lost. As you delete relationship of record A with record B for relationship type 21, the relationship with record B is deleted. At the same time, you are adding a relationship with record D for relationship type 21, which overwrites the previous relationship of record A with record C. That is, A contains C.

Attempted Import on the repository for record A. The data file used in the data source for the import is as follows:

ID,Ext,ShortDesc,Contains

A,A,A,"B:B::21:DELETE,B:B::21"

Result: Record 'A' has the following hierarchy remaining.

A (contains)

|

|__C

i Note: Relationship with record B is deleted even though an attempt was made to add the relationship for the same record. This is because DELETE takes precedence.

Attempted Import on the repository for record A and D. The data file used in the data source for the import is as follows:

ID,Ext,ShortDesc,Contains

A,A,A,"B:B::21:DELETE,B:B::21,D:D::21"

D,D,D,

Result: Record 'A' has the following hierarchy remaining:

A (contains)

|

|__D

i Note: Relationship with record B is deleted even though an attempt was made to add the relationship for the same record. This is because DELETE takes precedence.

Also, a new relationship with record D is created, while that of all old relationships is lost. As you delete relationship of record A with record B for relationship type 21, the relationship with record B is deleted. At the same time, you add a relationship with record D for relationship type 21, which overwrites the previous relationship of record A with record C. That is, A contains C.

Processing of CONTAINS Attribute

Data specified in the Contains attribute is processed in an incremental way. The relationship entries are scanned, and entries that have valid commands are separated from the other entries. Of the remaining entries, if there is a relationship for a specific type, all existing relationships of similar type are replaced by new entries. However, any relationship which is not present in the remaining entries is not modified.

Importing of Records Using Database Loader

Use database loader for the bulk loading of data with and without relationships. It addresses the need to import millions of records, along with their relationships. You can import huge records using the **Database Loader** option in a fast and efficient manner. Database loader internally sequents the loading of data. No parallel execution is required.

To optimize the time involved to import a large number of records, validation is not performed and workflows are not considered while importing records into a repository. For more information, see [Database Loader versus Record Import](#).

Database Loader - How It Works

- Database loader can be initiated from UI, FileWatcher, and Command line by providing the appropriate input arguments. For more information, see [Initiation of Database Loader](#).
- Using import, the following tables are populated in the Repository: MCT, PRODUCTKEY, PRINCIPALKEY, GOLDENCOPY, and RELATIONSHIP (Multivalue Attribute and Relationship Attribute tables, if applicable).
- Implicit relationships are processed.
- Multi-Value attributes and Relationship attributes are supported.
- A rollback file is generated to roll back the changes.

i Note: You can roll back changes by executing the rollback script. Search for the filename using the following information message: database loader rollback filename is: (The Complete path is logged as an INFO message in the log file). The Rollback file is generated in the work directory. Download the rollback file using the **Event Log** page.

Rollback is performed only for those records and versions that are created or modified by the current event. Therefore, it is best to roll back recent versions of records with the most recent event only.

Prerequisites

Before loading bulk data using the Database Loader option, you must first perform the following actions:

- Upload the data source
- Create indexes on the uploaded data source.
- Create input map using the data source and selecting the Database Loader approval option

 **Note:** Input maps are supported based on only one data source.

- Set TIBCO MDM environment variables before executing the script from the command line.

Database Loader Usage

Use Database Loader when data being imported does not need any validation or cleansing. Data is mapped from data sources to input maps, and imported as-is. Database Loader consists of the following two modes:

- **Load Records:** Use to load record data with a relationship.
- **Load Relationship:** Use to load a relationship between existing records.

Each mode includes the following two options:

- **Fresh Data:** The Fresh Data option requires clean data and only initial version records. Initial version records signify that the same record must not already exist in the repository and not even in the deleted state. Clean data signifies that duplicate and deleted records do not exist in data source.

 **Note:** If the data is not clean or it is not an initial version record, an error occurs and you need to run the rollback script.

Consider that the following record hierarchy is available in TIBCO MDM: CUSTOMER1 > BANK1 and BANK1 > LOCATION1 and BANK1 > LOCATION2, Input maps are created to support this hierarchy and data source.

To load this hierarchy, a typical data source can be:

- Example 1

CUSTOMER1, BANK1, LOCATION1

CUSTOMER1, BANK1, LOCATION2

In this example, the CUSTOMER1 and BANK1 records are duplicated. Hence, this data source cannot be used for the Fresh Data option.

- Example 2

CUSTOMER1, BANK1, LOCATION1, LOCATION2

This example contains clean data, and can be used for the Fresh Data option.

- **Record Versioning:** Record Versioning option is similar to the regular Direct Load import with some limitations. Using this option, you can perform the following actions:
 - **Import initial version records**
 - **Modify records by incrementing record versions:** In this case, older version records are overwritten by new versions, whereas if previous relationships exist; they are merged. If an older version is already in the workflow, then the processing of such records is skipped by the Database Loader. An entry is created in the skipped records log file, which can be downloaded from the Event Log page.
 - **Duplicate data source records:** In this case, only one record is processed. Other records are ignored, although relationships from all records is processed.

i Note: Fresh Data mode is faster than Record Versioning mode.

The mode in which the Database Loader should run is determined by the input map's Approval Option, Mode, and the Fresh Data check box.

If you want to import deleted records, clear the **Fresh Data** check box.

i Note: The Database Loader is enhanced for faster and better tracking of data loading progress, error reporting file with summary of the errors. The enhancement works only for initial load having **Fresh Data** enabled, the new mode can be enabled by disabling bulk mode. The bulk mode is disabled by setting the `com.tibco.cim.dataloader.loadrecord.bulkmode` to false and the `com.tibco.cim.dataloader.loadrelationship.bulkmode` to false. The new mode is recommended for initial load cases.

Initiation of Database Loader

You can initiate the Database Loader in the following ways:

- **Using User Interface:** Click **Import** for a specific input map from the Input Map page; provided that the selected input map approval option is Database Loader. For more information about an Import Record, see [Importing Records](#).
- **Using FileWatcher:** Use import or load import data set database loader; provided that the selected inputmap approval option is Database Loader. For more information about Input Map, see [Input Maps](#).

You can use the FileWatcher mode to load data without continuous monitoring, and can take advantage of a 24 hours window, compared to the traditional 8-hour work day.

Large loads should be broken into multiple smaller loads. FileWatcher internally sequences all loads, and executes each load sequentially. If one load is being processed, the other load is queued until the previous load completes. For more information about FileWatcher, see the FileWatcher chapter in *TIBCO MDM Customization*.

- **Using a Command Line:** Run `dbloader.bat` or `dbloader.sh` from `$MQ_HOME/bin`.
 - Mandatory arguments: `-e`, `-i`, `-c` and `-u`
 - Optional argument: `-freshdata`
 - `-e`: Name of the organization.
 - `-i`: Name of catalog input map.
 - `-c`: Name of the catalog.
 - `-u`: Username.

- **-freshdata:** No value is required for this argument. It indicates that the data is clean and initial version records only.



Note: Username and organization names are case-sensitive.

After running the database loader, data is loaded into the specified repository (and its related repositories specified in the input map) from the specified organization using the provided input map.

Monitoring of Database Loader

You can monitor Database Loader using the Event Details page. The Database Loader event displays information similar to other workflow events with multiple steps, in-out parameters, and additional parameters.

Event Details

Event ID

Event

Started on

36003

Database Loader

2016-10-05 17:03:51.0

Status

Success

State

Done

Generate Error Report

▼ Additional Data

Records Processed

Error File

100 / 100 (100%)

Download

Number of Records With Error

0 / 1

Rollback File

Download

Show Less Details

Search

Process	Event State	Description	Status	Started on	Ended on	Duration(D:HH:M:S)	Information
12103 DBLoader	Database Loader	Database Loader	Success	2016-10-05 17:03:51.0	2016-10-05 17:03:51.0	0 Seconds	External Table Fresh Data Username Repository Input Map Loader Option Organization Name Error Threshold Total Records MDM-12414-2 Show less DF_34729_35046_TAB true a MDM-12414-2 MDM-12414-2 loaddb/externaltable import 1 100 100

Using this page, you can also view the following additional information:

- **Start and End Time:** Displays the start and end time of the event.
- **Total Records Processed:** Displays the total number of records processed during the event.
- **Total Relationship Processed:** Displays the total number of relationships processed during the event.
- **Total Relationship Merged:** Displays the total number of relationships merged during the event.
- **Total Records Modified:** Displays the total number of records modified during the event.
- **Total Records Processed:** Display the total number of records processed during the

event.

- **Downloadable Rollback files:** Displays the link to download the changed files for rollback.
- **All Input Parameters:** Displays all the inputs parameters in the event.
- **Record Count for each Repository and Relationships:** Displays the record count for each repository and relationship.

i Note: The Database Loader does not have any workflow, hence the Workflow Name and Workflow Details are not displayed. If data source upload is initiated using FileWatcher, the details are displayed as individual activities similar to data source upload events.

Database Loader adds DBLoader process completed message into a log that you can view to monitor the process.

Database Loader versus Record Import

The Database Loader versus Record Import table compares difference between the database loader and record import.

Database Loader versus Record Import

Database Loader	Record Import
No Workflow	Workflow-based record import.
No approval	Records approval option can be added as part of the workflow. (The out-of-box workflow supports approval.)
No validations	Validations can be added and performed as part of the workflow.
No record history created	Record history is created and maintained correctly.
No named version created	A Named version is created and can be used as a

Database Loader	Record Import
	search filter.
Records are directly confirmed, no intermediate record state.	Intermediate record states are supported and can be created as part of a workflow.
Does not support multiple data source-based input maps. Only a single file-based data source is supported.	No such limitation on data source.
Does not support the usage of database functions or source expressions in an input map mapping.	Supports database functions or source expressions.
Does not support explicit relationships (contains field parsing and processing).	Supports for explicit relationships.
Does not support data merging, a new version of a record overwrites the older version.	Supports data merging based on configuration.
Does not support the issuing of change notifications.	
Does not support indexing of data in text index (TIBCO® Patterns)	
Does not support importing more than one child appearing in different rows.	
Does not support file type attribute.	Supports all types of attributes.
Records already pending for approval are skipped from processing.	Supports processing of records, which are already pending for approval. Record versions already in workflow are normally floated.
Multiple Database Loaders cannot run simultaneously. They are executed	Multiple imports can run parallel, provided there is no common entity involved in import.

Database Loader	Record Import
sequentially even though two Database Loaders do not have a common entity.	
Does not support automatic rollback, in case of error or failure, you need to execute the rollback script manually.	All types of error handling are supported.
No fail-over support	Supports failover
Multivalue attributes are supported with only specific data source format and mapping. For each value of each multivalue attribute, data source should have an independent column, and an input map should map all those by cloning the attributes. Example - Suppose COLOR is a multivalue attribute and you want to import a record with the COLOR value as RED, BLUE, and GREEN. Your datasource should have three columns for COLOR as follows: Id, Ext, Color1, Color2, Color3 A1, A1, RED, BLUE, GREEN An inputmap should be created to map Color1, Color2, and Color3 to the attribute COLOR.	Does not have a limitation on the datasource for multivalue attributes. Multivalue attribute values can be defined as different columns, or they can be in a single column with value parts text qualified and delimited internally. Example - Id, Ext, Color1, Color2, Color3 A1,A1,RED,BLUE,GREEN Inputmap should be created to map Color1, Color2, and Color3 to the attribute COLOR OR Assume the text qualifier is a quotation mark (") as follows: Id, Ext, Color A1, A1, "RED,BLUE, GREEN" An inputmap should be created to map all Colors to the attribute COLOR.

Database Loader versus Record Versioning

Record versioning is different than record import. The following examples and their expected results describe this difference:

Example 1 - Record Versioning

[Example 2 - Record Versioning](#)

Example 1 - Record Versioning

Precondition

No records in repository

Test

Parent_ID	Parent_IDEXT	Parent_ATTR	Child_ID	Child_IDEXT	Child_ATTR
A1	A1	Aattr1	B1	B1	Battr1
A1	A1	Aattr2	B2	B2	Battr2

Expected Results

- Import: Depends on the property `com.tibco.cim.optimization.import.duprowtest`. By default, it is true. Which means that A1(V1) is created. If it is false, then A1(V2) is created.
- Database Loader: A1(V1) has relationships with B1(V1) and B2(V1). Data changes in A1 is ignored.

Example 2 - Record Versioning

Precondition

Parent_ID	Parent_IDEXT	Parent_ATTR	Child_ID	Child_IDEXT	Child_ATTR
A1	A1	Aattr1	B1	B1	Battr1

Parent_ID	Parent_IDEXT	Parent_ATTR	Child_ID	Child_IDEXT	Child_ATTR
A2	A2	Aattr2	B2	B2	Battr2
A3	A3	Aattr3	B3	B3	Battr3

Test

Parent_ID	Parent_IDEXT	Parent_ATTR	Child_ID	Child_IDEXT	Child_ATTR
A1	A1	Aattrx	B1	B1	Battr1
A2	A2	Aattr2	B2	B2	Battrx
A3	A3	Aattrx	B3	B3	Battrx

Expected Results

- Direct Load Import: A new version of A1(V2), A3(V2), B2(V2), B3(V2) is created. For A2(V1) and B1(V1), a new version is not created, since data is not changed.
- Database Loader: New versions are created for all records. A1(V2), A2(V2), A3(V2), B1(V2), B2(V2), B3(V2).

Database Loader Interruptions during Import

Do not interrupt the loading process. Although, the Database Loader generates back-out scripts, it is a cluttered and time consuming process.

Additionally, it is almost impossible to back out if other users or processes have changed the imported data.

- The Database Loader performance is dependent on the database, especially on the amount of assigned memory, rollback, and temporary tablespace. You may get an out of memory error thrown by the database or loader tools. When you see such errors, you need to either reduce the size of the data being loaded or increase the memory assigned to the database.

- The Database Loader is designed for bulk data loads when there is no other activity on the server which changes metadata structures or record data.
- Since the Database Loader is a bulk data import, it reduces some of the internal processes.
- Database Loader does not support populating of partitioning keys.
- Data loaded through Database Loader neither generates change notifications nor updates the text index.
- While using a Database Loader, keep each batch size to 3-5 M. If you are using a more powerful database, you can use higher batches. As data is loaded, the subsequent loads take longer than previous loads, finally providing consistent performance after about 100 M records are loaded.
 - If any loading failures occur through a Database Loader, you must clean up the failed job before initiating another load. You can use the Database Loader to generate back out scripts for backout.

Limitation using Database Loader

While importing records using Database Loader, do not map the string data type attribute of a data source to the timestamp attribute of a repository. The conversion from string to the timestamp value fails. Therefore, you must always map the timestamp attribute of a data source with the timestamp attribute of a repository.

Records Import Using the Big Data Import Option

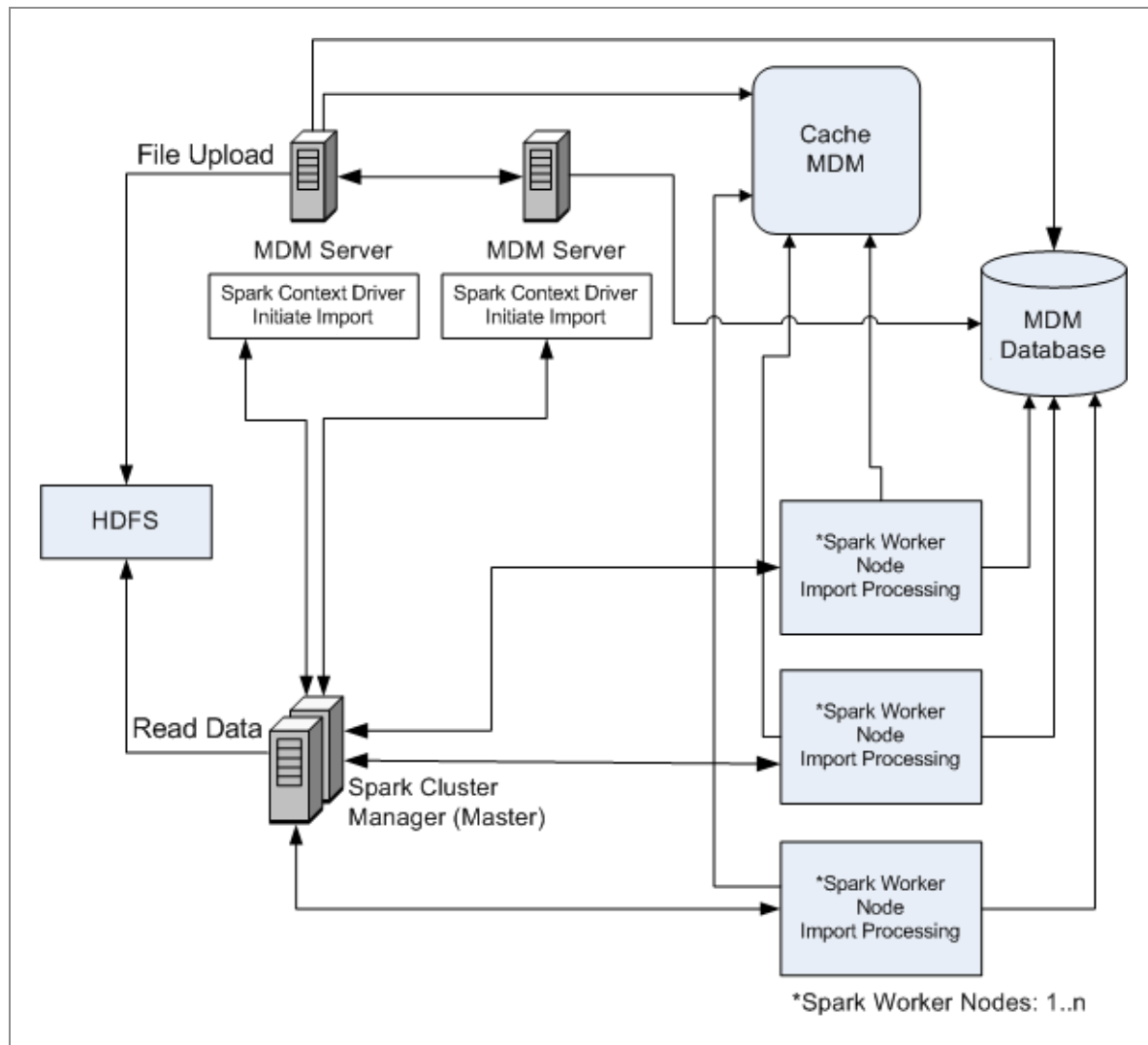
Use the **Big Data Import** approval option in TIBCO MDM Studio to import huge files.

Enterprises can use the big data import option as a quick way of getting huge data loads into TIBCO MDM with simple rules. You can also view the import progress and the failures of records while they are being imported. The errors provide clear information about what is failed and also the probable resolution. The error rows are populated in a file, which can be downloaded and imported again. You need to create the data source with headers and map it to the repository attributes with the help of input maps with the new **Big Data Import** option. For information, see [Approval Options](#).

Big Data Import Using Apache Spark and HDFS

The big data import feature uses Apache Spark cluster to get high throughput. The big data import feature also leverages Apache Spark performance by processing the file simultaneously. The file is also uploaded to Apache Hadoop Distributed File System (HDFS) to get high throughput when using huge files.

When you start big data import, Apache Spark and HDFS must be up and running. Import is triggered from any of the TIBCO MDM servers. Spark worker nodes need to know the configuration of database and the cache. After the import is triggered in TIBCO MDM and the jobs are completed by the Spark cluster (by balancing the loads among the worker nodes), the import event is updated.



- **HDFS**: When you upload the file to TIBCO MDM, it is uploaded to HDFS and Apache Spark reads the file from HDFS.
- **Spark Worker Nodes**: Spark worker nodes act as clients.
- **Cache**: This is an external cache.

Prerequisites for Big Data Import

Before uploading huge data using the **Big Data Import** approval option, you must first perform the following actions:

- Install and configure Apache Spark and Apache Hadoop Distributed File System (HDFS). For configuration, see the "Setting Up Apache Spark" and "Setting Up Hadoop Distributed File System" sections in *TIBCO MDM Installation and Configuration Guide*.
- Understand the Apache Spark and HDFS architecture for big data import processing. For information, see [Big Data Import Using Apache Spark and HDFS](#).
- Create an input map using the data source in TIBCO MDM Studio. For information, see *TIBCO® MDM Studio Repository Designer User Guide*. Additionally, see [Approval Options](#).



Note: Input maps are supported based on only one data source.

Configuration Properties for Apache Spark

By default, the Apache Spark configuration properties are defined in the Configurator to use the big data import functionality.

Change the values of the following properties as per your requirement:

Property Name	Description	Default Value
Spark Import App (<code>com.tibco.loader.sparkappname</code>)	Application name to import records through Apache Spark	<code>cim_spark_App</code> .
Spark Master URL (<code>com.tibco.loader.sparkmasterurl</code>)	The URL for the Apache Spark master node	<code>spark://localhost:7077</code> .
Partitions in SparkApp(<code>com.tibco.loader.sparkpartitions</code>)	Number of partitions required for the Apache Spark import application	500.
HDFS URL (<code>com.tibco.loader.hdfsurl</code>)	URL to the Hadoop Distributed File System (HDFS) that provides high-throughput access	<code>hdfs://localhost:9000</code> .

Property Name	Description	Default Value
	to application data	
Database Host Name (com.tibco.cim.database.host)	Database host name.	Default value: localhost. Change to database host IP.
Database Port Number (com.tibco.cim.database.port)	Database port number.	Default value: 5432. Change to database port number.

Copy the [Required JAR Files for Apache Spark](#) to the \$MQ_HOME/lib/external directory.

Optional: If TIBCO MDM and Apache Spark are installed on different machines, enable the discovery of remote nodes in the IgniteMember.xml file from \$MQ_HOME/config.

Even after configuration of Apache Spark with TIBCO MDM, if you face any issues when performing the big data import operation, see the "Big Data Import Errors" section in *TIBCO MDM System Administration* to resolve the issues.

Required JAR Files for Apache Spark

Copy the following required JAR files to the \$MQ_HOME/lib/external directory:

JAR File Name	Copy From Location
For Oracle database: ojdbc8.jar	\$MQ_HOME/configurator/server/configurator/lib/ext
For Microsoft SQL Server database: mssql-jdbc-7.2.2.jre8.jar	Download the mssql-jdbc-7.2.2.jre8.jar (Microsoft JDBC Driver 7.2 for SQL Server, Java Development Kit (JDK) 8.0) file from Microsoft Download Center .
For PostgreSQL database: Download the supported JAR from the PostgreSQL JDBC Driver site.	
For JBoss WildFly Application	\$JBoss_HOME/modules/system/layers/base/javax/ejb/api/main

JAR File Name	Copy From Location
Server: jboss-ejb-api_3.2_spec-2.0.0.Final.jar	
For JBoss EAP Application Server: jboss-ejb-api_3.2_spec-1.0.1.Final-redhat-1.jar	\$JBOSS_HOME/modules/system/layers/base/javax/ejb/api/main
hibernate3.jar	\$MQ_HOME/lib/external/hibernate

How Big Data Import Works

You can initiate big data import either from FileWatcher or from the TIBCO MDM UI. After the metadata is in place, you can specify the file to be imported and initiate the import. This file is then uploaded into HDFS, and then the import is initiated with Apache SparkContext. The entire import is processed by Apache Spark worker nodes and then returned. Big data import does not have workflow. Therefore you need to provide input either through metadata or Configurator.

To initiate big data import from the UI, see [Importing Records](#) and through FileWatcher, see [Importing Input Maps Metadata](#).

- Processes records row by row parallelly by each worker node as a result you cannot control on the processing of rows, that is, which row is processed and when it is processed. You cannot order the duplicates. The first record is saved, and the subsequent records are marked as duplicates. The records are confirmed immediately.
- Supports a single data source with only CSV and TEXT formats
Supports data source files created with different delimiters such as a pipe, tab, space, colon, comma, semicolon, and other
- Maps constants within a single quote
- Maps to only data source attributes. Manual editing is disabled.
- Supports simple one to one mapping within the data source
- Supports rulebase. You can define a rulebase on each input map in the Rulebase

Designer and can use it to assign values, add AssignIdentity, and check constraints. You can apply the rulebases on individual records and not on the bundle.

For more information, see the "Advanced Tab for Big Data Import" section in *TIBCO® MDM Studio Repository Designer User Guide*.

When you export metadata with the Big Data Import input map and a rulebase, the exported DataServiceQuery XML file contains the rulebase details in the <CatalogInputMaps> section.

- Supports the [Validation of Imported Records](#) mode to view the errors. The records are not saved but you can view the errors with the possible fix. You can download the errors from the UI.
- Supports import sequencing based on the repositories to prevent the parallel processing of records in two different events.
- Supports the Load Import Records Web service
- Supports merge data, that is, if the **Merge Data** check box is selected, the data is merged with the previous latest version.
- If the **Incremental** option is not selected, all records are treated as new and a new version is created. The existing records are not deleted during import.
- Support multivalue attributes only with specific data source format and mapping. Cloned mapping for every multivalue attribute must be done.
- Supports import initiation by using the Load Import Records Web service. For more details, see the "Load Import Records Service" section in the *TIBCO MDM WebServices Guide*.

Direct Load versus Big Data Import

Direct Load versus Big Data Import

Direct Load	Big Data Import
The Order by query is used on any attribute or a set of attributes to decide which record can survive in case of duplicate records.	A record is randomly selected and can survive in case of duplicate record detection. (Duplicate records indicate the records that contain same PRODUCTID and

Direct Load	Big Data Import
	EXTENSION.)
You can choose to save a single version of the record or all versions of the record.	Only one record is retained, which is randomly selected.
Records are processed earlier and then the relationships are processed.	Records and relationships are processed at the same time.
If the record is in the same row where relationship is and the record fails; however, the same record is present in some other row and it succeeds, then all relationships are processed.	If the record fails and the record is part of another row, relationships are not established. However, if the other row is processed earlier, then relationship is also processed.
In case of hierarchical input maps, you can select additional keys as join keys. This is done because the relationships are processed later.	Supports only a single data source thus, defining additional join keys are not possible.
The Contains field is used to process relationships.	The Contains field is not supported.
Import workflow can also be used to delete records which are not part of import.	Not supported

Monitoring the Status of Big Data Import

On the Import Status page, you can monitor the status of big data import.

Import Status

Repository Name: MDM-AllDataType
 Input Map Name: IM-ALLDATATYPE
 Input Map Description: IM-AllDataType

Data Source Name	Description	Type	File Name	Imported On	Row Count	Bad Row Count	Error File	Log File
DS-ALLDATATYPE	DS-AllDataType	Delimited	DS_AllDataType_New (2).txt	2022-04-11 12:24:52.0	2	0	Download	Download

Repository successfully initiated import. Click [here](#) to monitor the progress.

Import status: INPROGRESS - 50%

Total Rows	2	Rows Processed	1
New Records	0	Records Processed	1
Modified Records	0	Duplicate Records	1
Error Records	0	Ignored Records	0

[View Errors](#) [Export](#)

Error Summary

Line Number	Repository Name	Record ID	Record ID Extension	Error Type	Error Message	Error Attributes	Resolution

[OK](#)

- If you have selected the **Big Data Import** approval option, the progress bar is displayed. It shows the percentage completed for the import action and the summary of imported records. The summary includes the following information:
 - Total number of rows
 - The number of rows processed
 - The number of new records imported
 - The number of records processed
 - The number of modified records imported
 - The number of duplicate records imported
 - The number of records that contain errors
 - The number of ignored records during import

Error Summary

As the import progresses, the progress bar and the **Error Summary** table is updated and always shows the latest errors. If the number of errors is large and cannot be viewed on the UI, you can export all the errors by clicking **Export**. The errors are exported in a CSV file. You can use this exported CSV file to re-initiate import for the failed records by removing errors from the file.

Types of Errors during Big Data Import

You can resolve the errors found in the data source file. Some common scenarios are as follows:

- If the number of data source attributes does not match with the number of header attributes in the input file, the attributes mismatch error is displayed
- The errors for the attribute which has an error, such as an incorrect date format or the string value exceeded the maximum characters
- Classification errors against each record
- Unexpected errors against each record
- Duplicate data errors
- Invalid repository attribute errors
- Invalid multivalue attributes
- Invalid relationship attribute

If Apache Spark and Apache Hadoop are not properly installed or configured, the SPARK-20005 Fatal error is displayed. For resolution of installation and configuration related errors, see the "Big Data Import Errors" section in *TIBCO MDM System Administration*.

After restarting the Apache Spark master and worker nodes if you initiate the big data import, the import fails. In this case, instead of restarting the TIBCO MDM server, you must clear the spark context by using the Spark MBean. For information about using the Spark MBean and performing the clear spark context operation, see the "TIBCO MDM Monitoring and Management Using JMX" section in *TIBCO MDM System Administration*.

Big Data Import Event Details

The Event Details page for the Big Data Import event displays the following options:

Event Details [Generate Error Report](#)

Event ID: 167032
 Event Name: Big Data Import
 Started on: 2019-08-09 14:00:33.383
 Status: Success
 State: Done

Additional Data

Repository Name: [PRODUCT](#)
 Merge: [Y](#)
 Records Ignored as Empty: [0](#)
 Rows Processed: [10000](#)
 Records Added as New: [10000](#)
 New Data File: [Download](#)

Input Map Name: [PROD-CUST-ADD](#)
 Approval Option: [B](#)
 Records Rejected as Duplicate: [0](#)
 Records Processed: [30000](#)
 Records Modified: [0](#)

Incremental: [Y](#)
 Validate Only: [N](#)
 Total Rows: [10000](#)
 Records Rejected: [20000](#)
 Error Data File: [Download](#)

Description	Status	Started on	Ended on	Duration(D:H:M:S)	Information
IMPORT	Success	2019-08-09 14:00:33.393	2019-08-09 14:02:10.309	1 Minutes, 36 Seconds	Records Status Summary Relationship Rejected Relationship Count Relationship Failed

Page 1 of 1 Items/Item: 50

- **Additional Data:** Displays the options that you have selected during import and the summary of imported records. Additionally, you can download the following files:
 - **Data File:** A data source file that is used when initiating an import.
 - **Error Data File:** Contains data source content and line numbers. The line number signifies the errors identified during import. By using this file, you can rectify the errors and use the file to re-initiate import. When re-initiating import, remove the line number column.
- **Status Summary:** Click the **Status Summary** link to view the summary of imported records. For information, see [Monitoring the Status of Big Data Import](#).

For information about other common event options, see [View Event Details](#).

Limitations of Big Data Import

The following features or components do not work with big data import:

- Multiple data sources
- SQL format data sources
- SQL expressions in mapping
- Delete records

- Workflow
- Rulebase on record bundles
- [Version Management Using Correction](#)
- Import with the File Type attribute
- Cancel operation on the import event

When the Big Data Import event is canceled, the event status is changed to Cancelled however, the record processing continues. When the record processing completes, the event status is changed to SUCCESS.



Warning: If one of the TIBCO MDM servers goes down, the import operation is canceled.



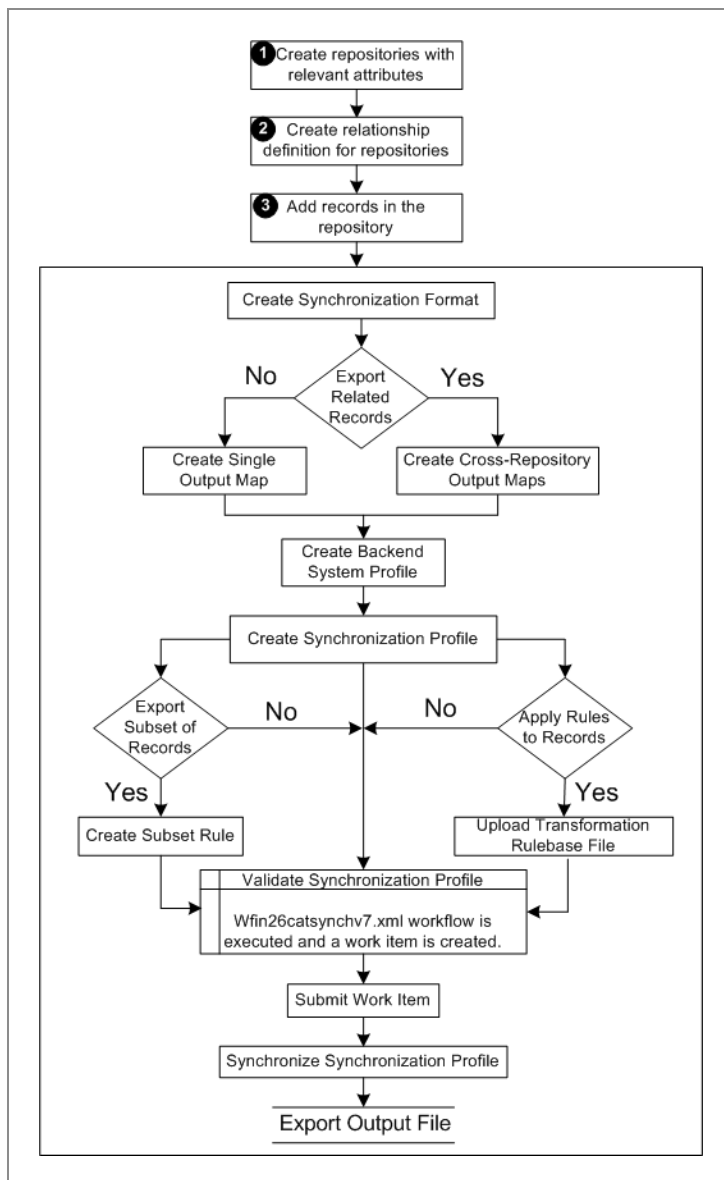
Restriction: The big data import feature does not work in TIBCO MDM Containerization.

Exporting of Records Using Synchronization

Exporting records is a process that you can configure as per your company needs. To export records, you need to define a valid synchronization format, output map, synchronization profile, and subset rules.

The following process diagram illustrates how the records of a single and cross-repository are exported using Synchronization:

Exporting Records using Synchronization



Synchronization Formats

Synchronization formats define the attributes and structure of the data required by the consumers of that data. The output map defines mappings of repository attributes to synchronization format. When a repository is synchronized, the synchronization format provides the structure for the output information.

Synchronization formats define the data formats required by any External System or Datapool. The format defines the attributes and their order.

If you are defining a synchronization format to use for a file generation, you can also specify additional control parameters to organize the file.

(GDSN Only) Many predefined formats are supplied that cannot be modified.

Accessing Synchronization Formats

Procedure

1. Log in to TIBCO MDM.
2. Select **Master Data > Synchronization Formats**.

The Synchronization Formats page is displayed.

Synchronization Formats						
Delete Copy Show Usage						
Synchronization Format Name	Description	Pre-defined	Fixed Length	Delimiter	Text Qualifier	
☒ SYNCHRONIZATIONFORMATFORADDRESS	Synchronization Format for Address repository	NO	NO	COMMA	*	
☐ SYNCHRONIZATION FORMAT FOR ACME ACCOU	Synchronization Format for ACME Account	YES	NO	COMMA	None	
☐ TIBCO	TIBCO Catalog Format	YES	NO	COMMA	None	

If you have deployed the created synchronization formats in TIBCO MDM, synchronization formats are displayed on the Synchronization Formats page.

Note: To create and modify synchronization formats, use TIBCO MDM Studio.

3. You can perform various actions on a synchronization format.

The following table lists the buttons and their relevant actions that you can perform on a synchronization format:

Icon	Action
View	Select the Synchronization Format Name link to view the synchronization format details. For information, see Viewing a Synchronization Format .

Icon	Action
	Click to delete the selected synchronization format. For information, see Deleting a Synchronization Format .
	Click to copy the selected synchronization format. For information, see Copying a Synchronization Format .
	Click to view the usage of a synchronization format. For information, see Viewing Synchronization Format Usage .

Viewing a Synchronization Format

Procedure

1. Log in to TIBCO MDM.
2. Select **Master Data > Synchronization Formats**.
The Synchronization Formats page is displayed.
3. Click the synchronization name link in the Synchronization Form at Name column.
The Synchronization Format page is displayed.

Synchronization Format

Format Name

SYNCHRONIZATIONFORMATFORADDRESS

Description

Synchronization Format for Address repository

Column Header Required

Yes

Fixed Length

No

Delimiter

Comma

Text Qualifier

"

Date Format

MM/DD/YYYY

New Attributes

No

Table Name

BCT_34028_57869

Timestamp Format

YYYY-MM-DD HH:mm:ss.S

Attributes

Expand All

Collapse All

UNASSIGNED

Position	Name	Display Name	Column Name	Type	Length	Display in Record Li	Searchable	Required
1	NewID	NewID	CNEWID	INTEGER	0	false	false	N
2	TelNum	TelNum	CTELNUM	INTEGER	0	false	false	N
3	TAddress	TAddress	CTADDRESS	VARCHAR	256	false	false	N

OK

You can only view the selected synchronization format details. The page has two sections:

- **Synchronization Format:** You can view basic details, such as name,

description, and the delimiter of the format, timestamp format as was defined when the format was created in TIBCO MDM Studio.

- For a single value attribute, the timestamp value is exported as per selection during the creation of a Synchronization Format in TIBCO MDM Studio.
 - Since synchronization format multivalue supports only the String data type, the timestamp multivalue attribute is exported in internal timestamp format, that is, YYYY_MM_DDHHmmss.S.
 - The Timestamp data type of a repository can be mapped to the Timestamp type of the synchronization format.
 - The Timestamp data type of a repository can be mapped to the String data type of the synchronization format.
 - The Timestamp data type of a repository can be mapped to the Date data type of the of the synchronization format. In this case, time is not be displayed.
- **Attributes:** You can view all attributes. Click **Expand All** or **Collapse All** link to expand or collapse all the attributes.

4. Click **OK**.

Deleting a Synchronization Format

Procedure

1. Log in to TIBCO MDM.
2. Click **Master Data > Synchronization Formats** from the menu.
The Synchronization Format page is displayed.
3. Select the synchronization format and click the **Delete** icon.
A confirmation message is displayed.
4. Click **OK** if you want to delete the selected synchronization format.
The selected synchronization format is deleted.

Copying a Synchronization Format

Procedure

1. Log in to TIBCO MDM.

2. Select **Master Data > Synchronization Formats**.

The Synchronization Formats page is displayed.

3. Select the synchronization format and click the **Copy** icon on the Synchronization Formats page to copy an existing synchronization format to create a new format.

The Copy Synchronization Format page is displayed.

Copy Synchronization Format	
Synchronization Format Name	SYNCHRONIZATIONFORMATFORADDRESS
Synchronization Format Description	Synchronization Format for Address repository
Enter Copy Details	
Enter New Name	Synchronization Format for ACME Acco
Enter New Description	Synchronization Format for Address re
Save Cancel	

4. Enter a new name and description for the format.

The newly created format is displayed on the Synchronization Formats page.

Viewing Synchronization Format Usage

Procedure

1. Log in to TIBCO MDM.

2. Select **Master Data > Synchronization Formats**.

The Synchronization Formats page is displayed.

3. Select the synchronization format from the Synchronization Formats page, and then click the **Show Usage** icon.

The Synchronization Format Usage page is displayed.

Synchronization Format Usage

Name

SYNCHRONIZATIONFORMATFORADDRESS

Description

Synchronization Format for Address repository

Show Usage

Used By	Name	Description	Comment	Restriction
☐ Output Map	OUTPUTMAPFORADDRESS	Output Map for Address repository	Synchronization format used to define output map of repository 'ADDRESS'.	Delete not allowed
<< < Page 1 of 1 >> >> 20				View 1 - 1 of 1

OK

The page displays the usage details of the synchronization format. It displays restrictions that are imposed on the synchronization format. For example, if a synchronization format is being used by an output map, the restriction is that it cannot be deleted.

Output Maps

Output maps associate repository attributes with corresponding attributes in various outbound synchronization formats. A selection of predefined output maps are incorporated in TIBCO MDM to support numerous industry standard synchronization formats. In some cases, however, you may need to copy a pre-delivered template, or create an output map for a custom synchronization format.

In cross-repository relationships, to synchronize data scattered across repositories, you can establish a relationship between the output maps of the related repositories. In the relationship output maps, you can map the relationship attributes to synchronization format columns.

Self Relationship between Output Maps

To export or publish related records in the self relationships, you need to create a related output map in that relationship. Only the relationships from either perspective or output maps (related output maps) are considered for publish.

For the earlier version of TIBCO MDM, only the list of relationships specified in the IdentifyRecordVersion and EvaluateSubset activities of the synchronization workflow (wf-in26catsynchv7.xml) were considered to publish related records and relationship information. The specified relationship list is ignored. You do not need to add the relationship name in the synchronization workflow to export related records. On the contrary, create a related output map in the self relationship because earlier such output map did not exist and the same output map on a repository was used to output self relationships.

Run the following script: `$MQ_HOME/db/dbtype/migration/Migrate83_90/alterForSelfOutputMaps.sql`

- to support out-of-the-box self relationship between output maps for the existing metadata
- to add self related output maps to the repository that contains self active relationships

For more information, see the section, "Manually Migrating Individual Components" in *TIBCO MDM Installation and Configuration Guide*.

Mapping Multiple Relationship between Related Maps

While creating an output map in the parent repository, select the multiple forward and reverse relationships. You can use the same output map with the same or different synchronization format from the related repository, that is, the child repository to be related to the parent output map.

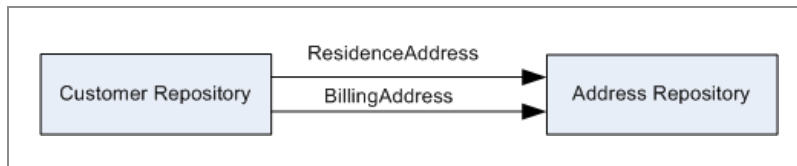
If the same synchronization format is used, the output data retains in the same file, and if the different synchronization format is used, the data segregates into different files. The mapping between multiple relationship and related maps is useful in the following cases:

- When a parent repository is related to the child repository by multiple relationships.
- In a complex metadata structure where multiple relationships from the parent repository lead to the same child repository.

Mapping Example for Cross-repository Relationship

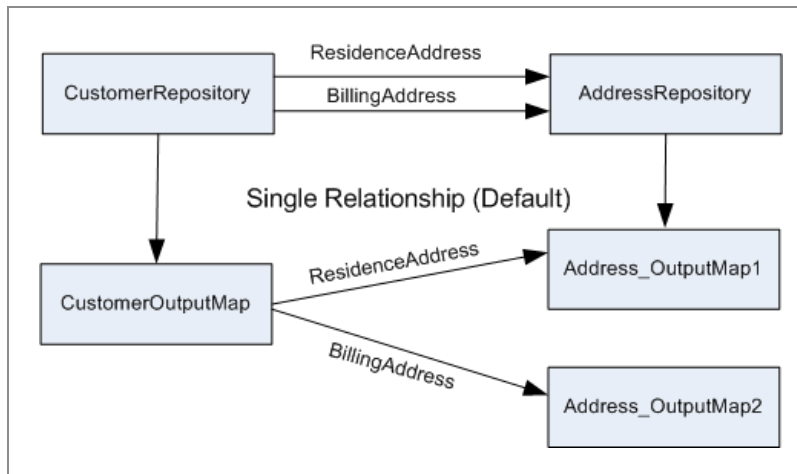
Consider the scenario where the Customer repository is the parent repository and Address is its related repository. The Customer repository is related to the Address repository by the ResidenceAddress and BillingAddress relationships.

Cross-repository Relationship



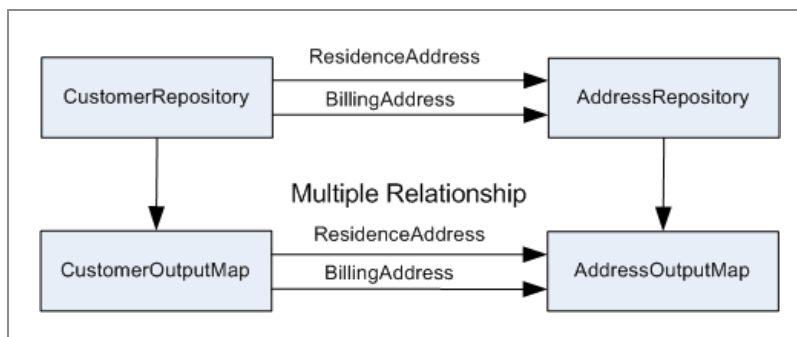
By default, two output maps are created. You can also select and map a single relationship to an output map of the related repository.

Single Relationship Mapping with Cross-repository Related Map



However, you can customize an output map. While creating an output map in the parent repository, you can select and map multiple forward relationships to a common output map of the related repository.

Multiple Relationship Mapping with Cross-repository Related Map



Mapping Example for Complex Repository Structure

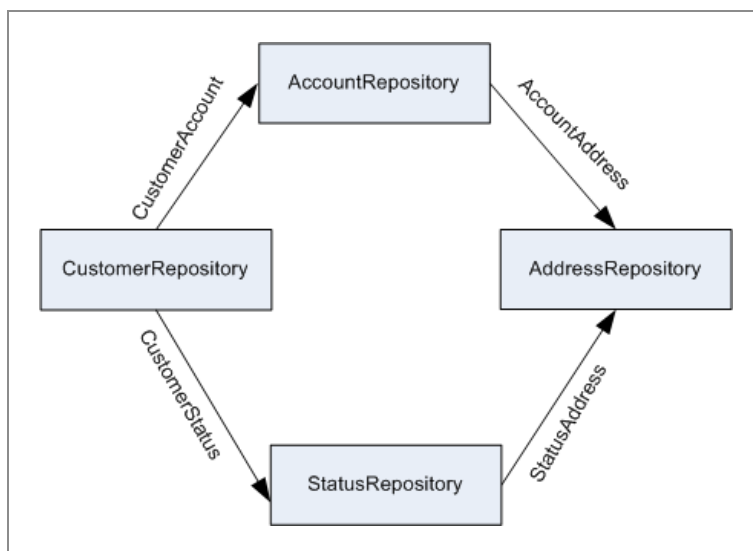
A complex repository structure where one of the child repositories is related to the parent repository by multiple relationships. Consider the following scenario where four repositories are related to each other:

Customer > Account > Address and Customer > Status > Address

The relationship among these four repositories is as follows:

CustomerAccount, CustomerStatus, AccountAddress, and StatusAddress

Complex Repository Structure

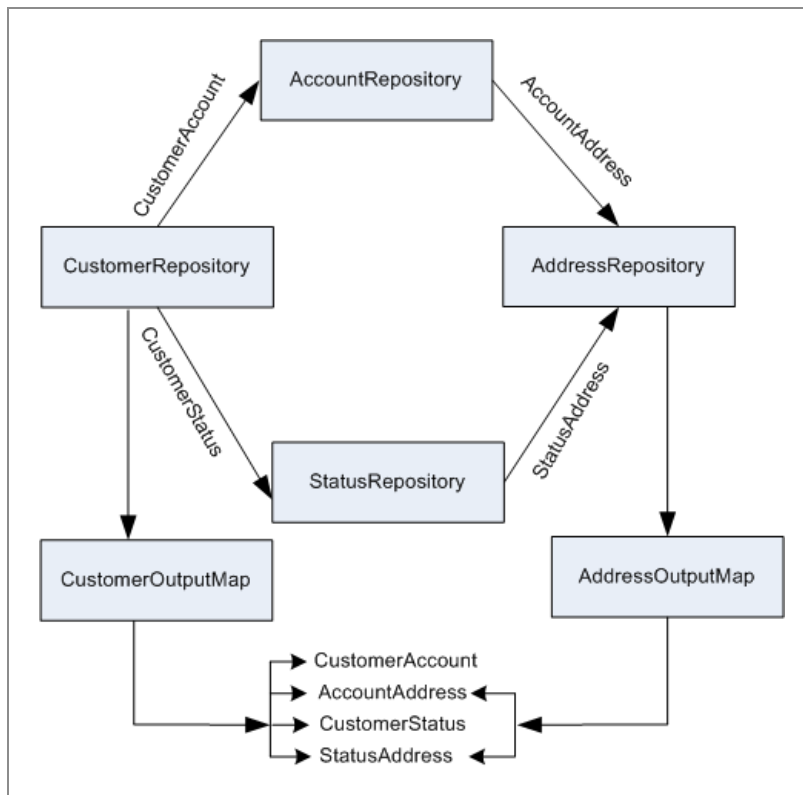


In this scenario, the Address repository is related to the Customer repository by AccountAddress and StatusAddress relationships.

- Forward Relationship Mapping

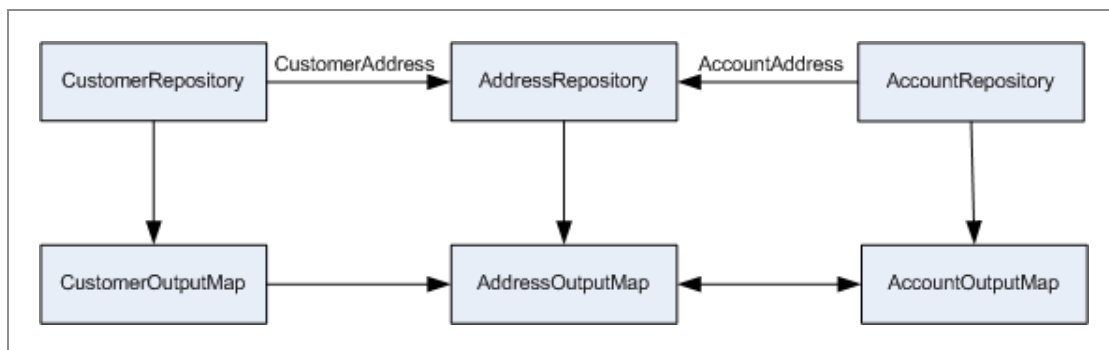
While creating an output map for a parent repository, you can select all forward cross-repository relationships with a common synchronization format or different synchronization formats for different relationships. You can use the same output map from the related repository to be related to the parent repository by two different relationships. In the following scenario, you can use the Address repository to be related with the parent output map in the Customer repository by AccountAddress and StatusAddress relationships.

Multiple Relationship Mapping for Complex Repository Structure



- Reverse Relationship Mapping

You can add a related output map in the reverse relationship. Consider the following scenario: Customer > Address and Account > Address



For the Customer repository and the CustomerAddress forward relationship, if you create an output map as CustomerOutputMap and the related output map as AddressOutputMap, then for the Address repository, when you select the AccountAddress reverse relationship, you can create the related output map as AccountOutputMap for the AddressOutputMap.

✓ **Tip:** While creating related output maps in a complex metadata structure, a relationship either self or cross-repository can be used only once in any given direction, that is, forward and reverse.

i **Note:** To create and modify output maps and map multiple relationships with the related maps, use TIBCO MDM Studio. Refer to *TIBCO® MDM Studio Studio Repository Designer User Guide*.

Copying Output Maps

After you deploy the created output maps in TIBCO MDM, output maps are displayed in the **Output Maps** tab of the View Repository page.

Procedure

1. Log in to TIBCO MDM.
2. Select **Master Data > Repositories** from the menu.
3. Click the repository name.
The View Repository page is displayed.
4. Select the output map name on the **Output Maps** tab, and then click the **Copy** icon.
The Copy Output Map page is displayed.

Copy Output Map	
Output Map Name	OUTPUTMAPFORADDRESS
Output Map Description	Output Map for Address repository
Enter Copy Details	
Enter New Name	
Enter New Description	Output Map for Address repository
Save Cancel	

5. Enter a name and description for the copy of the output map.
6. Click **Save**.

If you copy an output map containing cross-repository relationships, all the relationships also get duplicated along with the source output map.

Note: The Name is case insensitive and can only have A-Z, 0-9. The name must be unique for all output maps associated with a repository, and cannot be the same as any of the predefined output maps.

Viewing Output Maps

Procedure

1. Log in to TIBCO MDM.
2. Select **Master Data > Repositories** from the menu.
3. Click the repository name.
The View Repository page is displayed.
4. Click the output map name on the **Output Maps** tab of the View Repository page.
The View Output Map page is displayed.

Repository Name	ADDRESS
Output Map Name	OUTPUTMAPFORADDRESS
Output Map Description	Output Map for Address repository
Synchronization Format	SYNCHRONIZATIONFORMATFORADDRESS

Output Map Attribute	Data Type	Required	Repository Attribute	Mapping
NewID	2	Yes		[PRODUCTID]
TelNum	2	Yes		[TYPE]
TAddress	4	Yes		[STREET]

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5. View the detailed mappings of any output map.

All mappings show display names of any repository attribute included in the mappings. The repository attribute name is enclosed in [].

Note: To view the mappings of any predefined output map, you must first associate the output map to a repository.

Deleting Output Maps

Procedure

1. Log in to TIBCO MDM.
2. Select **Master Data > Repositories** from the menu.
3. Click the repository name.

The View Repository page is displayed.

4. Select the output map name on the **Output Maps** tab of the View Repository page, and then click the **Delete** icon.

 **Note:** If you are unable to delete an output map, it is because you do not have the necessary privileges to perform the task. The permissions are usually set at the repository, attribute groups or records level.

If you delete the source output map in a cross-repository relationship, all associated relationships with other output maps across repositories are deleted, but the output map in the related repositories remain intact.

Similarly, when a repository is deleted, all the associated relationships, input maps, and output maps across repositories are deleted.

 **Note:** Output maps can be deleted even if they are used in repositories. Such repositories cannot be used for any more synchronization, and are useful for historical purpose only.

Synchronization Profile

Synchronization Profile provides a way of extracting information from repositories. As part of the Synchronization Profile definition, you can choose:

- Which records should be extracted
- Which record versions should be included
- Which attributes are to be extracted

- If there are any transformation rules to be applied
- Where the extracted data is to be sent and how

A Synchronization Profile can be setup once and reused again to extract data. The extraction can be initiated using FileWatcher or from the user interface. The data contained in repository is not changed by extraction process. For each extraction, the synchronization history can be maintained and inquired. The extracted data can be a text file or XML message.

Creating a Synchronization Profile

Create a synchronization profile that associates a repository with an output map.

Procedure

1. Log in to TIBCO MDM.
2. Click **Master Data > Synchronization Profiles**.
The Synchronization Profile page is displayed.
3. Click the **Create** icon.
The Create Synchronization Profile page is displayed.

Create Synchronization Profile

Repository Name

ADDRESS

Repository Version

Latest

By Date

By Named version

Select a value

Synchronization Profile Name

Synchronization Profile Description

Subset Rule

None

Create

Transformation Rulebase

None

Upload

Record State

Confirmed Only

Confirmed or Unconfirmed

All

Incremental

Only new or changed data to be included.

Incremental Bundle Option

Consider relationships and children records for incremental synchronization.

Skip Identify Protocol Operations

No product logs for publish will be generated.

Delivery

Backend Systems

Output Map

None

Delivery Mechanism

Local

FTP

E-mail

Destination Address

Format Specific Attributes

Classification Scheme

None

Valid From

Generate Output file?

For Data Transfer

Deliver Synchronization Profile

Yes

No

Valid Until

Save

Cancel

Enter the synchronization profile details in the following fields:

Field Name	Description
Repository Name	From the list of repositories, select a Repository .
Repository Version	Specify the Repository Version. Use this option to specify the snapshot option of the repository. This option works in conjunction with the Record State option. The options available for the repository version are: Latest: All the records available in the repository as of now. However, if the Latest option is selected, and All is selected for the Record State option, the records are published from the latest version of the record and not from the root record. For example, if a record "a" in the A repository includes versions from "a1" to "a10", and version "a8" is selected as the base version for publishing, in this case,

Field Name	Description
	even though "All" record state is selected, versions from "a8" to "a1" are considered during synchronization. • By Date: Records available in repository, till the date specified. If there are records which were created after the specified date, then those are not included for synchronization. • By Named Version: If any named version were created on the repository, then this option appears. Choose one of the available named version for synchronization. Any record which was created after the named version creation, is not included for synchronization.
Synchronization Profile Name	Specify the name of a synchronization profile.
Synchronization Profile Description	Specify the description for a synchronization profile.
Subset Rule	Select the subset rule from the drop-down list or click Create to create the subset rule. Subsets created from this page are private, meaning, such subsets are only visible to the user who created them unless visibility of this subset is changed and permissions are granted to other users using permissions. Refer to Resource Security for details on permissions. You can also browse the selected subset to verify the records that are included. Note that the record list shown here is indicative only as subset are re-evaluated on synchronization. If no subset is selected, all records in the repository are included. If you edit a synchronization profile which already has subset assigned and you do not have browse or edit permissions, you cannot edit or browse the subsets.
Transformation Rulebase	Select a Transformation Rulebase from the drop-down list or click Upload to upload one directly from here. Transformation

Field Name	Description
	Rulebase validates the records being exported. The changes to the data do not affect the repository. Note that the transformation rulebase uploaded from here cannot be removed.
Record State	Select the following record state options: • Confirmed Only: Confirmed means that the last confirmed versions of records, if not deleted are included. Note that only last qualifying version is included. • Confirmed or Unconfirmed: Confirmed or Unconfirmed indicates that as long as the last record version is not deleted, and it is confirmed or unconfirmed, it is included. Note that only last qualifying version is included. • All: All indicates that all versions (confirmed, unconfirmed, and deleted) of a record from the selected repository and its relationship are exported. Only the rejected versions are excluded. ◦ synchronizes all versions of the root record, that is from the version being selected for publish up to the first version of the record and valid relations of all those versions. ◦ includes version wise record classification information (codes) in output because a record may belong to different code hierarchies in different versions, and classification scheme structure may change in the terms of logical levels and codes. Note: Added a new column MODVERSION in the Classification output file generated in synchronization to denote the version of a record in case of ALL publish.
Incremental	By default, this option is selected. The selection indicates that

Field Name	Description
	only new or changed data is included in the output file. In case of changed data, ensure that you modify the repository attributes that are mapped with the output map attributes. Incremental for child records (bundle) or relationships In the Customer > Address > Account output map structure, if the records in the Address and/or Account repositories are changed, however the root records in the Customer repository are not changed, the records in the Customer repository are also considered for publishing along with the relationships selected for synchronization using output maps. The newly added relationships are also considered for synchronization.
Incremental Bundle Option	If you select this option, the relationships and children records are considered for incremental synchronization.
Skip Identity Protocol Operations	By default, this option is selected. The selection indicates that the IdentityProtocolOperations activity used in synchronization workflow is ignored and the product logs are not generated while publishing records. - If Incremental and Skip Identity Protocol Operations are selected, the product and record sync logs are not generated. - If Incremental is selected and Skip Identity Protocol Operations is not selected, the product logs are generated. - If Incremental is not selected and Skip Identity Protocol Operations is selected, all records selected for export are included in the output file and the product logs are not generated. - If Incremental and Skip Identity Protocol Operations are not selected, all records selected for export are included in the output file, however the product logs are generated.

Field Name	Description
Note: The Skip Identity Protocol Operations option is available only for the MDM software edition.	
Delivery (Select the entity to which you have to deliver the records.)	
Backend Systems	If you select this option, you have to specify the name of the backend system. Note that a backend system must already exist in the system to create a new Synchronization Profile. When you click Synchronize, the system creates a ZIP file that should be delivered to the selected backend system. You can either send the ZIP file through mail, FTP, or copy the ZIP file to the destination address provided. Note: You cannot select multiple backend systems for non-GDSN synchronization profile.
(GDSN Only) Datapool	The Datapool is the central repository. When you select Datapool, and click Synchronize, the system sends the data as a message to the Datapool. The message is sent in an XML format and the system waits for an acknowledgement from the Datapool. When you select Datapool, you need to provide the name of the Datapool, the output map, and the delivery mechanism.
(GDSN Only) Backend System on Datapool	When you select this option, and click Synchronize, the message is sent to only those backend systems who are subscribed to the Datapool. The backend system should have a valid GLN account with the Datapool. You need to specify both the Datapool and backend systems subscribed to the Datapool. You also need to specify the Output Map format and the delivery mechanism. Note: You can select multiple backend systems for the GDSN based synchronization profile.

Field Name	Description
Output Map	Select the output map from the drop-down list.
Delivery Mechanism	Select any one of the following options: • Local: When this option is selected, the transport of the extracted information gets decided in the workflow. The data transport using JMS is supported out-of-the-box and can be used. • FTP: When this option is selected, the extracted data file is sent through FTP. • Email: When this option is selected, the extracted data file is attached to the email and sent along with the email. However, the file may not be attached to email if the size of the file exceeds the threshold specified for your organization.
Destination Address	Specify the destination address.

4. Select the **Format Specific Attributes** as necessary. For information, see [Format Specific Attributes](#).
5. Click **Save**. The Synchronization Profile page is displayed. Having created the synchronization profile, you can proceed to synchronize the synchronization profile.

Format Specific Attributes

The Format Specific Attributes vary based on where you want to deliver the records. Following are the options:

Selection in Delivery	Fields displayed in Format Specific Attributes
Backend System	• Classification Scheme: Specify under which synchronization profile you want to categorize the record.

Selection in Delivery	Fields displayed in Format Specific Attributes

- **Valid From:** The time since when the data is available to the backend system.

Note:

- The **Valid From** date can be less than current date.
- If the **Valid From** date is not specified, the current date + 1 day is considered as the synchronization date.

- **Valid Until:** The time till when the data is available to the backend system.
- **Deliver Synchronization Profile:** Select Yes if you wish to deliver the synchronization profile to the backend system.
- **Generate Output File:** Select the option to generate output file.
- **For Data Transfer:** If the **For Data Transfer** option is selected and synchronization is initiated, the meta information with required metadata for data transfer is generated and added to `export.zip`. For more information, see [Data Transfer](#).
- **Include Repository Metadata:** This option is enabled if you have selected the **For Data Transfer** option. Select this option if you want to include repository metadata in the `export.zip` file.

The repository metadata includes metadata of the selected root repository in the synchronization profile and all its relationships. By selecting this option, you can later import `export.zip` in any fresh target enterprise which does not contain any pre-deployed repository metadata. For more information, see [Importing Data Using Data Transfer](#).

(GDSN Only) Datapool	Apart from the fields mentioned when a backend system was selected, the Operation field is displayed. You can choose from the following operations:

- **Add:** Adds the record to the Datapool.
- **Data Correction:** If there is a discrepancy in the published record, you can select Data Correction to rectify the record. In this case, the record reverts to its original state.

Selection in Delivery	Fields displayed in Format Specific Attributes
	• Cancel: If you cancel a record, you cannot publish or reinstate the same record within 24-48 months of cancellation. • Discontinue: If you discontinue a record, you cannot publish the same record within 24-48 months. • Delete: Once you delete a record, it cannot be added back to the Datapool. • Reinstate: Using reinstate, you can republish a discontinued record.
(GDSN Only) Backend System on Datapool	Apart from the fields mentioned when a backend system was selected, the following fields are displayed: • Operation: You can choose from the following operations: Add: Adds the record to the Datapool. Data Correction: If there is a discrepancy in the published record, you can select Data Correction to rectify the record. In this case, the record reverts to its original state. Publish: Publishes the record to the selected backend systems. Withdraw: Removes the record from the Datapool but you can reinstate such records. • Supplier Credentials: When you select a backend system, the supplier credentials are populated in this option. • Backend System Credentials: When you select the backend system, the backend system's credentials are populated in this option.

Modifying a Synchronization Profile

The following Synchronization Profile details can be modified:

- Synchronization Profile Details — the repository version (latest, by date, or by named version), the Synchronization Profile Name and Description, the Subset Rule, the Transformation Rulebase, the Record State and whether Incremental. (Note that the

repository name cannot be modified).

- **Delivery** — the delivery options that can be modified.
 - For a Backend System, you can modify the backend system to select.
 - (GDSN Only) For a Datapool or Backend System on Datapool, you can select the Datapool.
 - Other options you can modify here include the Output Format, the Delivery Mechanism (local, FTP, or email) and the Destination Address.
- **Format-specific Attributes**—the Classification Scheme (if applicable), the Valid From and Valid To dates, and whether to generate an Output file.

Procedure

1. Select the synchronization profile on the View Synchronization Profile page, and then click the **Modify** icon. The Modify Synchronization Profile page enables you to modify details of an existing Synchronization Profile.
2. After completing and saving a new definition, synchronize (publish) the Synchronization Profile.

Modify Synchronization Profile

Repository Name: REPO_A
 Repository Version: ☒ Latest ☐ By Date Time AM

Synchronization Profile Name: SPN_REPO_A
 Synchronization Profile Description: SPN_REPO_A

Subset Rule: SRN_REPOA [Create](#) [Browse](#) [Modify](#)

Transformation Rulebase: None [Upload](#)

Record State: ☒ Confirmed Only ☐ Confirmed or Unconfirmed ☐ All

Incremental: ☒ Only new or changed data to be included.

Incremental Bundle Option: ☐ Consider relationships and children records for incremental synchronization.

Skip Identify Protocol Operations: ☒ No product logs for publish will be generated.

Delivery

Backend Systems: BSN

Output Map: CONTAINS_OUTPUTMAP

Delivery Mechanism: ☒ Local ☐ FTP ☐ E-mail

Destination Address:

Format Specific Attributes

Classification Scheme: None

Valid From:

Generate Output file? ☒

Deliver Synchronization Profile: ☒ Yes ☐ No

Valid Until:

[Save](#) [Cancel](#)

Validating a Synchronization Profile

Procedure

1. Select the synchronization profile on the Synchronization Profiles page, and then click the **Validate** icon.
The Validate Synchronization Profile for Synchronization page is displayed.
2. Validate Synchronization Profile is very similar to the Modify Synchronization Profile page.

Validate Synchronization Profile for Synchronization

Repository Name	ADDRESS
Repository Version	Latest
Synchronization Profile Name	ADDRESS SYNCHRONIZATION PROFILE
Synchronization Profile Description	Synchronization Profile for Address
Subset Rule	None
Transformation Rulebase	None
Record State	Confirmed Only
Incremental	Yes
Incremental Bundle Option	No
Skip Identify Protocol Operations	Yes

Delivery

Backend Systems	BS1
Output Map	LOCATEDAT_OUTPUTMAP
Delivery Mechanism	Local

Format Specific Attributes

Classification Scheme	None	Deliver Synchronization Profile	Yes
Valid From		Valid Until	
Generate Output file?	☒		

Buttons: Validate, Cancel

This can be customized to define different validation processes.

3. Click **Validate**.
The Synchronization Validation Status page is displayed as shown in the following figure.

Synchronization Validation Status

Backend System Name	BS1
Synchronization Profile Name	ADDRESS SYNCHRONIZATION PROFILE
Repository Name	ADDRESS
Classification Scheme	None

Step Num	Step	Details
1	Record Selection	Repository Name = ADDRESS Version Date = 11/30/2015
2	Subset Rule	None
3	Transformation	None
4	Generation	Output Map Name = LOCATEDAT_OUTPUTMAP

Status: Successfully initiated Synchronization validation.

Synchronization validation request submitted for processing. Monitor event progress by clicking here: [Check Progress](#).

Buttons: OK

Synchronizing a Synchronization Profile

To export synchronization profiles, repositories associated with a specific output map should be synchronized. Records involved in a cross-repository relationship are exported based on the relationships between records and output maps.

For more information about Output Maps, see the section [Output Maps](#).

Procedure

1. Click **Master Data > Synchronization Profiles**.

The Synchronization Profile page is displayed.

2. Select the check box against the synchronization profile name that you want to synchronize and click the **Synchronize** icon.

If you do not have an existing synchronization profile, create one by referring to the [Creating a Synchronization Profile](#) section. The page that is displayed has the information that you filled in when you created the synchronization profile.

Initiate Synchronization	
Repository Name	ADDRESS
Repository Version	Latest
Synchronization Profile Name	ADDRESS SYNCHRONIZATION PROFILE
Synchronization Profile Description	Synchronization Profile for Address
Subset Rule	None
Transformation Rulebase	None
Record State	Confirmed Only
Incremental	Yes
Incremental Bundle Option	No
Skip Identify Protocol Operations	Yes
Delivery	
Backend Systems	BS1
Output Map	LOCATEDAT_OUTPUTMAP
Delivery Mechanism	Local
Format Specific Attributes	
Classification Scheme	None
Valid From	
Generate Output file?	☒
Deliver Synchronization Profile	Yes
Valid Until	
Synchronize Cancel	

3. Click **Synchronize**. The Synchronization Status page is displayed.

Synchronization Status		
Backend System Name	BS1	
Synchronization Profile Name	ADDRESS SYNCHRONIZATION PROFILE	
Repository Name	ADDRESS	
Classification Scheme	None	
Step NumId	Step	Details
1	Record Selection	Repository Name = ADDRESS Version Date = 11/30/2015
2	Subset Rule	None
3	Transformation	None
4	Generation	Output Map Name = LOCATEDAT_OUTPUTMAP
Status: Successfully initiated Synchronization. Synchronization request submitted for processing. Monitor event progress by clicking here: Check Progress .		
OK		

- Click **Check Progress** to monitor the progress of synchronization. Once the synchronization process is over, if you have chosen **Local** to be the delivery mechanism, a ZIP file is created.

- Click **Download** next to Data File to open the output files.

You can verify the records in the output text file. For more information, see [Synchronization Output File](#).

Synchronization Output File

Synchronization bundles a root repository output file and the related repositories output file together into a ZIP file along with other output files. You can download the ZIP file from the Event Details page.

The ZIP folder contains the following files:

- An index file (`Index_Date-Time.txt`): includes a list of files names containing in the ZIP.
- An output file for every output format supported by the output map. For example, if a source output map and the related output maps support the GS1 format, there is one file comprising all information related to all the output maps. However, if the source output map supports the GS1 format and the related output map supports the ean.ucc format, two files are generated for each of these output formats respectively.

The output file contains a header column for every attribute that is being exported based on the output map. However, the CONTAINS attribute is explicitly populated. Note that only the forward relationships are populated in the CONTAINS field. For

more information about the CONTAINS attribute, see [Explicit Relationship Using the CONTAINS Attribute](#).

Note: If the cross-repository related data is exported, the CONTAINS field is not present in the export output file. This is a known limitation while exporting cross-repository relationships. In other cases, the CONTAINS field is included in the export file.

If you have defined synchronization cross-repository relationship and classification schemes, the ZIP folder also contains the following files:

- Multiple output files
- Relationship file containing record relationship information
- Relationship attribute file for each relationship
- Relationship CONTAINS file
- Classification output file

Note: When a workflow is run as in-memory, no event is generated. As a result, you cannot check event details for operations triggered by an in-memory workflow. In this case, click the **check progress** link that redirects you to a page. The page displays an in-memory operation message instead of displaying the progress.

- A relationship file (*Relationship_DateTime.txt*) : contains the relationship between the root and the related repositories.

Since release 8.2, the RECORDSYNCLLOG database table is introduced to keep the final status of synchronization. The table stores all the records that are processed during a particular event for synchronization operation and its related sub operations.

If the exported records contains records with a time zone, the system time zone is displayed for those records whether or not the time zone format is selected for the user.

Viewing Synchronization Profiles

Procedure

1. Log in to TIBCO MDM.
2. Click **Master Data > Synchronization Profiles**.

Only those Synchronization Profiles for which you have permissions to view and take actions are shown.

Synchronization Profile Name	Repository Name	Backend System Name	Synchronization Format	Output Map	Deliver To	Incremental
ADDRESS SYNCHRONIZATION	ADDRESS	BS1	SALESFORCEACCOUNT	LOCATEDAT_OUTPI	Backend System	Yes

3. View Synchronization Profile details such as the Name, the repository Name, Delivery To and Backend System Name. By default, all Synchronization Profiles are displayed, however, you can filter by the backend system name or any other enterprise system which can consume the information. The **Deliver To** option indicates whom the Synchronization Profile is intended for.
4. View Synchronization Profile details such as the Name, the repository Name, Delivery To and Backend System Name. The page displays all Synchronization Profile by default, however, you can filter by the backend system name. The **Deliver To** option indicates whom the Synchronization Profile is intended for. There are following three options and in each case, the synchronization status is maintained:
 - Backend System: This could be any backend system or any other enterprise system which would consume the information
 - (GDSN Only) Datapool: The Datapool represents another repository which maintains data. It could additionally provide synchronization services based on standards (1Synch).
 - (GDSN Only) Backend System on Datapool: This option allows for synchronization with a backend system or target system through Datapool

Deleting a Synchronization Profile

Procedure

1. In the Synchronization Profiles page, select the Synchronization Profile that you want to delete.
2. Click **Delete**.

The application alerts you before progressing with deletion of a Synchronization Profile.

Subset Rules

Using Subset rules, you can complete the following tasks:

- Select records for synchronization with backend system.
- Save searches to save the selection criterion for reuse in a record search.
- Create a list of records for browsing.

You can construct a Subset Rule from a predefined list using a data source, individual searches and selections or an SQL expression.

The original repository remains unchanged and the outbound Partner Catalog contains the product subset, based on these rules. This allows for a single set of master product information to support several customer-specific product list requirements.

The main page is shown below:

Subset Rules					
 Create  Modify  Delete  Copy  Export Records  Show Usage					
	Subset Rule Name	Description	Repository Name	Based On	
☐	SRN_REPO_B	SRN_REPO_B	REPO_B	Search	
☐	SRN_REPOA	SRN_REPOA	REPO_A	Search	

This page lists the subsets for which you have permissions to perform any actions. Value based security is applied for records selected for subset. Also, the list of attributes shown in subset record list is the same as attributes shown in record list. These attributes are selected when attributes are defined for a repository.

From this page, you can do the following tasks. Each of these tasks are described in detail in the following sections.

- **Create** — Click the **Create** link to create a new subset rule based on a List, Search, or an Expression.
- **Browse** — If you are allowed to browse a subset, the subset rule name appears as a hyperlink. Click this link to view the records selected by the subset. For subset by expression, the records which match the expression at the time of browse are displayed.

 **Note:** When record is browsed through subset, it shows the record version as shown if the record is browsed from browse and search.

- **Modify** — Click **Modify** to modify an existing subset rule.
- **Delete** — Click **Delete** to delete a subset.
- **Copy** — Click **Copy** to make a copy of an existing subset rule.
- **Export Records** — Click **Export Records** to export all the records from the repository into a text file.

After you click **Export Records** a workflow starts, which generates the text file. This text file can be downloaded from the Event Detail Log.

- **Specify attributes to be searched for** — Results from the search are shown under column headings in accordance to the searchable attributes (flags set to Y). Corresponding values are also displayed. For example, if you create an Authorized Record List (ARL) for selected Buyers, the subset rules are referenced within the definition of a Partner Catalog and applied to the repositories prior to synchronization with the repository.

 **Note:** Performance can be improved by adding an index to the data fragment table.

For information about Future Dated Records, see [Effective Date Records](#).

Creating Subset Rule

Use this page to create a new subset rule based on a List, Search or an Expression.

Create Subset Rule

Repository Name: ACCOUNT

Repository Description: Account for party

Subset Rule Name: AccountSubset

Description: Subset rule for the Account repository

Based On: ☒ Search ☐ List ☐ Expression

Record Search [Configure](#)

ACCOUNT

AccountID: equals

Open Date: equals

Is Closed Account: equals

Modification Date: equals

1 ☐ Case-sensitive

[View Results](#) [Cancel](#)

Procedure

1. Click **Master Data > Subset Rules**.
2. Click **Create** from the Subset Rules page.
3. Select a repository name from the drop-down list on the Create Subset Rule page. A subset is always defined for a repository.
4. Enter a Subset Rule Name and Description in the respective text fields. The subset rule name must be unique and can only contain A-Z, 0-9. It is case insensitive.
5. Select a method on which the rule is to be based On - List, Search, or Expression.
 - For a subset rule based on a list, do the following in the Pick a Data Source for Lookup List section:
 - Select a Data source from the drop-down list.
 - Map Data Source Attributes and Repository Attributes by selecting them from the drop-down lists.
 - Click **View Results**.
 - For a subset rule based on search, do the following in the record search section:
 - Fill in record information fields.
 - Enter product information.
 - Enter the record information.
 - Enter synchronization information.
 - Click **View Results**.

- For a subset rule based on an Expression, do the following in the Expression section:
 - Select an item in the Filter text field and click > to move it to the Expression field.
 - Repeat till the Expression is complete.
 - Click **View Results**.
6. Click **Save**.

Subset by List

Subset by List is defined based on a data source. The data source defines a list of record attribute. The records are selected by matching the record attributes. The record attribute match is exact and case sensitive.

The subset is evaluated when defined. That is, the records matching the list are selected and saved as results. Once the results are saved, the data source is not used any more to evaluate the results.

For example, if a data source *RecordList1* has an attribute *ItemId* associated with a column text file with an Item ID *list* then:

- In the Subset Rule, choose a List - the *RecordList1* data source - to refer to the data source attribute *ItemId*. The record selected is evaluated when subset is defined. The results are not re-evaluated when subset is used except that any deleted records may be removed from the subset.
- Choose the repository attribute record Id. The rule then matches the record IDs in the data source with those of the repository resulting with a set of matching records.

Subset by Search

Subset based on a search allows you to search for record interactively and save the selection. Such subsets can also be reused in record search. You can specify the search criteria and select the desired records from the search results.

If you have the appropriate privileges, you can specify the searchable fields for attributes. However, there are default searchable fields that cannot be changed. You can also specify which attributes are shown as the result of a search. This feature affects the Subset Search and Search Results screens.

- **Subset Search:** This page allows you to conduct search based on attributes marked as searchable when repository is defined. Searchable fields (attributes) appear on the page when the associated search flag is set to Y. Default fields include Classification Scheme, Code, and Description. The searchable fields are not necessarily displayed fields under subset by search.
- **Search Results:** Results from a search are shown under column headings in accordance to the searchable attributes. Corresponding values are also displayed.

Subset by Expression

Subset based on expressions allow for more advanced selections of records. The expressions are defined in a SQL like syntax. You can choose multiple attributes from the repository list and create a SQL expression based on the attributes.

This type of a subset evaluates the list of records everytime it is used. As records are added or changed, the list of records selected by subset changes. The list of records shown for confirmation are the records which match the criterion at the time of definition and must be taken as an indicative list.

The expression is defined using the attributes display names and it is recommended that you use the list of attributes to avoid any spelling errors. This list includes system attributes as well.

For example, you may create a subset rule where all records have the string Paint in the description, a price range of \$100-\$150, and a UPC code containing the string 247. The expression for this would be as follows:

```
@Description like%'Paint'% AND @Price > 100 AND @Price < 150 AND @UPCCode like%'247'%.
```

The following table lists common SQL operations you can use for a subset expression rule.

Operator	Description	Example
<Field> = <Field/Constant>	Equality	@UnitPrice=29
<Field> != <Field/Constant>	Inequality	@UnitPrice!=29
<Field> > <Field/Constant>	Greater than	@UnitPrice>10

Operator	Description	Example
<Field> >= <Field/Constant>	Greater than equal	@UnitPrice >=29
<Field> < <Field/Constant>	Less than	@UnitPrice<10
<Field> <= <Field/Constant>	Less than equal	@UnitPrice <29
<Field> IN <Field/Constant>	Equal to any members in the list.	@UnitPrice IN (30,25,48)
<Field> [NOT] IN <Field/Constant>	Not equal to any members in the list.	@UnitPrice NOT IN (30,25,48)
<Field> [NOT] Between <Field/Constant> AND <Field/Constant>	Greater than equal to first value, and less than equal to second value.	@UnitPrice Between(10,100)
<Field> [NOT] Like%<Field/Constant>%	Match value in field.	Description Like%'Widget'%

You need to specify different expressions for the Timestamp format as per database:

- For Oracle database: [TIMESTAMP_ATTRIBUTE_NAME]= to_timestamp('2012-11-21 10:12:34.003 AM','YYYY-MM-DD HH12:MI:SS.FF AM')
- For SQL Server database: [TIMESTAMP_ATTRIBUTE_NAME]= convert(datetime2,'2012-11-21 10:12:34.003 AM')
- For Postgres SQL database: [TIMESTAMP_ATTRIBUTE_NAME]= to_timestamp('2012-11-20 12:01:14.142 PM','YYYY-MM-DD HH24:MI:SS.MS PM')

Modifying Subset Rule

Use the Modify Subset Rule page to modify an existing subset rule.

Procedure

1. Click **Master Data > Subset Rules**.
2. Click the **modify** link to access this page. You can search the specified subset rule for

records.

Modify Subset Rule

Repository Name

Repository Description

Subset Rule Name

Description

ACCOUNT

Account for party

ACCOUNTSUBSET

Subset rule for the Account repository

Based On

Search

Record Search

Configure

ACCOUNT

AccountID

Open Date

Is Closed Account

Modification Date

equals

equals

equals

equals

Ignore

Case-sensitive

View Results

Cancel

3. Specify the search criteria in the Record Search section and click **View Results**.

View Subset Rule Usage

This page shows you how the subset rule has been used and gives the usage details. It shows restrictions and the type of repository used by this subset. Click **OK** to go back to the Modify Subset Rule page .

Subset Rule Usage

Name

Description

ACCOUNTSUBSET

Subset rule for the Account repository

Show Usage

Used By	Name	Description	Comment	Restriction

Copying Subset Rule

Use the Copy Subset Rule page to make a copy of an existing subset rule.

Procedure

1. Click **Master Data > Subset Rules**.
2. Select the subset rule.

3. Click **Copy**. The Copy Subset Rule page is displayed with details of the selected subset rule.

Copy Subset Rule

Subset Rule Name	ACCOUNTSUBSET
Subset Rule Description	Subset rule for the Account repository

Enter Copy Details

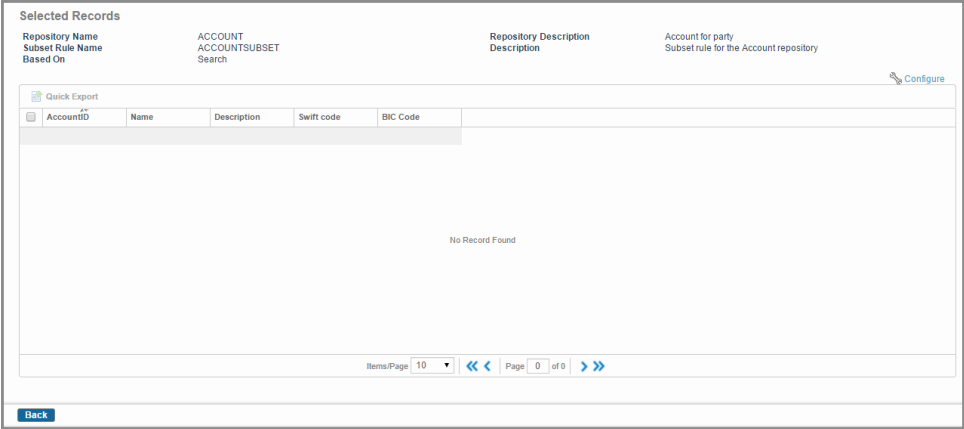
Enter New Name	
Enter New Description	Subset rule for the Account repository

SaveCancel

4. Specify a new name for the rule.
5. Click **Save**. The new subset rule is saved.

Records Selected by Subset Rule

This page lists the records found that fit the search criteria specified in [Subset Rules](#). To access this page, click the **Subset Rule Name** link in the Subset Rule Name column.



Click **Configure** to configure the columns displayed in the table. See [Configuring Columns Displayed in Various Tables](#).

Export and Import of Metadata

You may come across situations where you need to migrate the metadata of the components from a company to another company within or outside an organization. The source and destination companies can be located in different locations. In such cases, TIBCO MDM allows you to export and import the metadata of one company to another using the System Operations menu.

By exporting or importing metadata, you are in essence exporting or importing only the record structure from one company to another. For example, if you have a structure called Product with Code, Name, and Description as its attributes, then importing the metadata retrieves these attributes of the Product. The records of one company are not retrieved to the other.

Exporting Metadata

Procedure

1. Select the business objects for export as follows:
 - Use the export metadata wizard, see [Export Metadata Wizard](#).
 - Create an XML file listing the business objects.
2. Export the selected business objects.
 - If you use the export metadata wizard approach for selecting the business objects, use the following two ways of exporting:
 - Using UI. See [Exporting Metadata Using UI \(Wizard Approach\)](#).
 - Using Command Line. See [Exporting Metadata Using Command Line \(Wizard Approach\)](#)
 - If you use the XML file approach for selecting the business objects, use the following two ways of exporting:
 - Using UI. See [Exporting Metadata Using UI \(File Approach\)](#)
 - Using FileWatcher. See [Importing Metadata Using FileWatcher](#)

Export Profile

The Export Profile stores information related to metadata selection for the purpose of export in database. It also stores additional information related to export, such as, the last export date, and so on.

Use the Export Profiles page to view all export profiles. You can create, view, modify, copy, export, and delete the Export Profile.

Export Profiles						
Create Modify Delete Copy Export						
	Export Profile Name	Description	Last Modified On	Created By	Export Profile Zip File	Last Exported On
☐	ACME Export Profile	Export Profile for ACME	2015-11-30 15:16:01	John Smith	Download	2015-12-01 11:04:18

Columns in Export Profile Table

The Export Profiles table shows the following columns:

Export Profiles Columns

Column Name	Description
Export Profile Name	Displays the unique Name of the Export Profile.
Description	Displays the description of the Export Profile.
Last Modified On	Indicates the date when the Export Profile was last modified.
Created By	Displays the owner of the Export Profile.
Export Profile Zip File	Displays the link to download the zip file. If you have not exported any export profile, the column is empty.
Last Exported On	Indicates the timestamp when the last export was performed.

i Note: You can sort export profiles based on their name.

Actions on Export Profiles

You can perform various actions on an export profile.

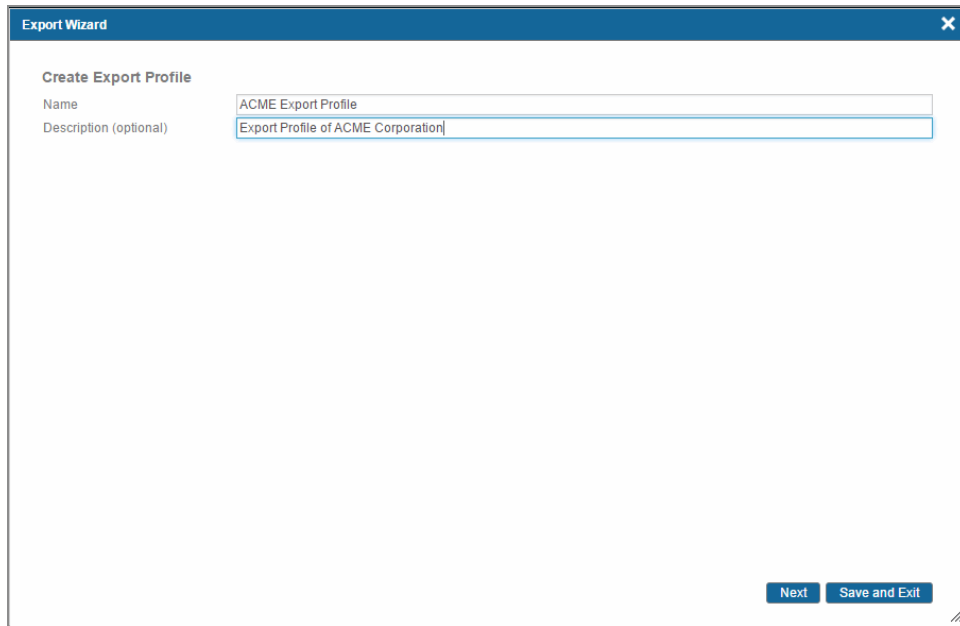
Export Profiles Actions

Action	Description
Create	Create an export profile, see Creating Export Profile
Modify	Modify an existing export profile, see Modifying Export Profile
Copy	Copy an existing export profile with a new name, see Copying Export Profile
Export	Export the created export profile, see Exporting Export Profile
Click the export profile link.	View an existing profile, see Viewing Export Profile
Delete	Delete an existing export profile, see Deleting Export Profile

Creating Export Profile

Procedure

1. Select **System Operations > Export Metadata (Wizard)**. The Export Profiles page is displayed.
2. Click **Create**. The Export Wizard dialog is displayed with the Create Export Profile page.



The screenshot shows a window titled "Export Wizard" with a close button (X) in the top right corner. Inside the window, the section "Create Export Profile" is active. It contains two text input fields: "Name" with the value "ACME Export Profile" and "Description (optional)" with the value "Export Profile of ACME Corporation". At the bottom right of the window, there are two buttons: "Next" and "Save and Exit".

3. In the **Name** field, type the name of the profile. This is unique name of the Export Profile.
4. In the **Description** field, type the description of the export profile. This is optional field.
5. Click **Save and Exit**. The export profile is saved and displayed on the Export Profiles page.

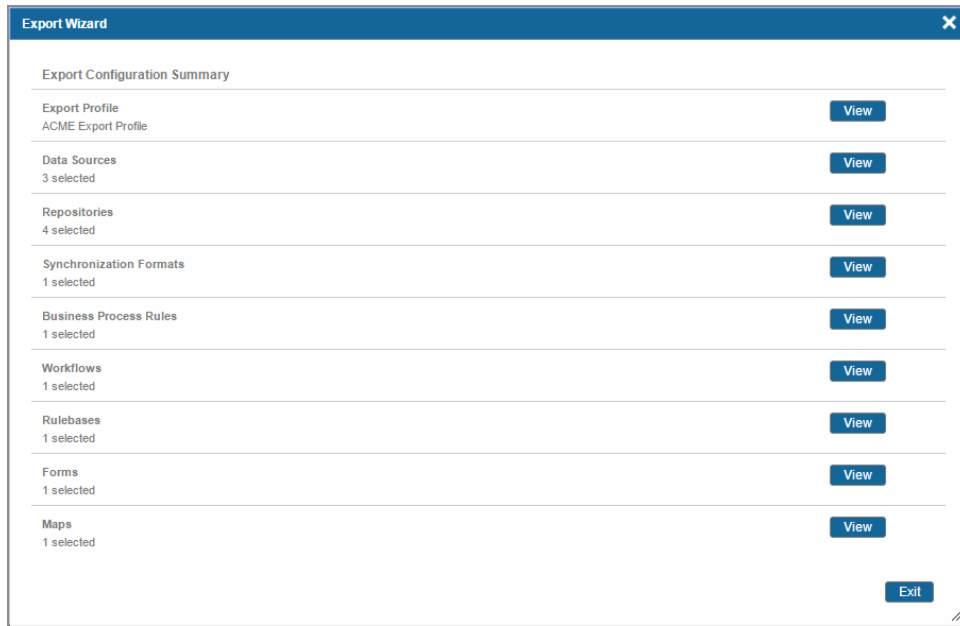


Note: If the export profile name already exists, an error message is displayed. You need to specify the unique name.

Viewing Export Profile

Procedure

1. Select **System Operations > Export Metadata (Wizard)**. The Export Profiles page is displayed.
2. Click the existing export profile. The export configuration summary is displayed in the Export Wizard dialog.



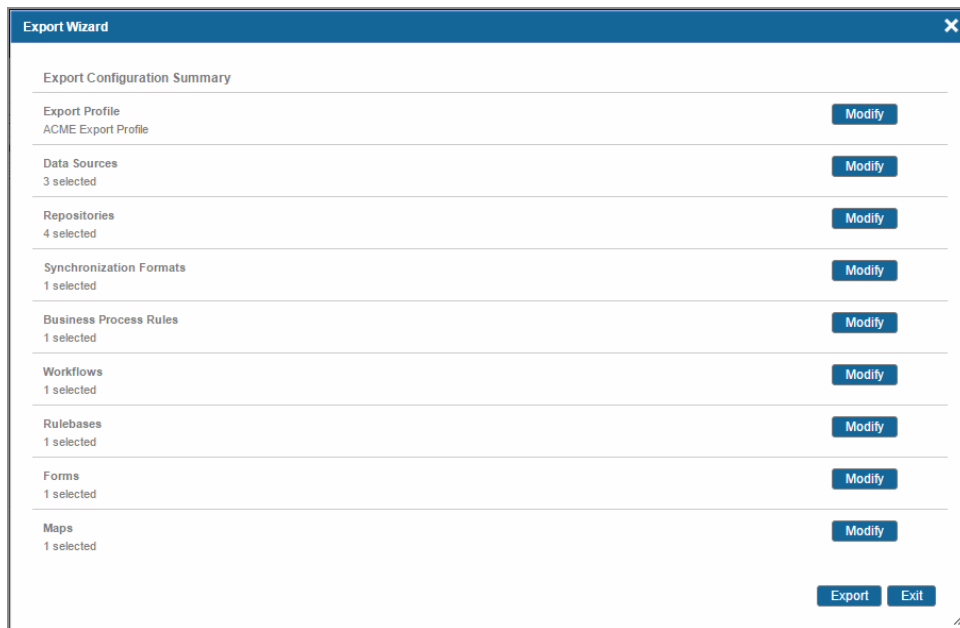
3. Click **View** next to Export Profile. The Export Wizard dialog is displayed with the View Export Profile page. You can view the created export profile.
 4. Click **Next** to view other business objects, if they are selected.
- Or
- Click **Exit** to go back to the Export Profile page.
- Or
- Click **Done** to go back to Export Configuration Summary page.

Modifying Export Profile

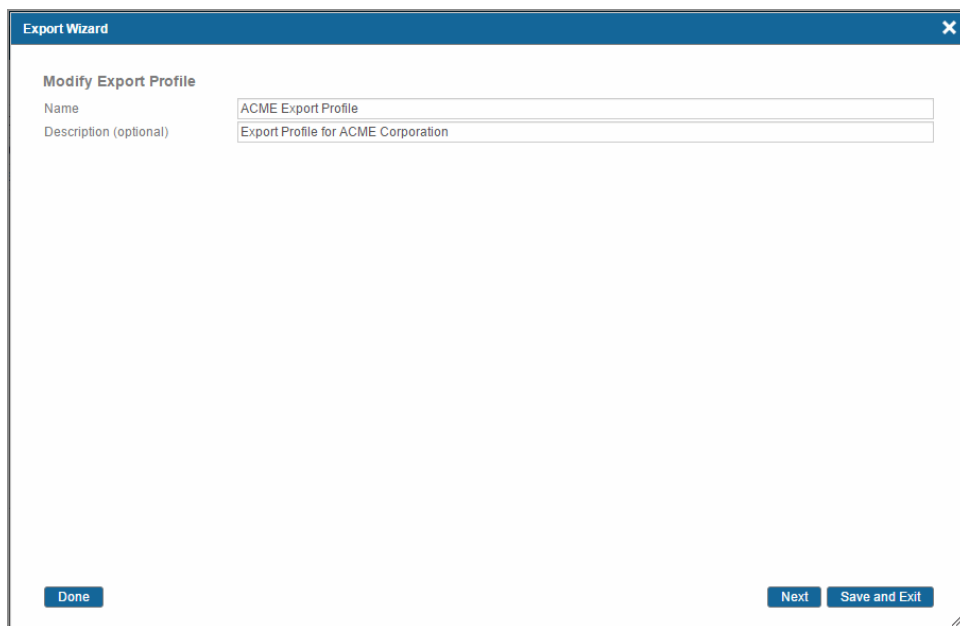
The Modify Export Profile page allows you to modify the details of the selected export profile.

Procedure

1. Select **System Operations > Export Metadata (Wizard)**. The Export Profiles page is displayed.
2. Select the export profile that needs to be modified and click **Modify**. The Export Wizard dialog is displayed.



- Click **Modify** next to Export Profile. The Export Wizard dialog is displayed with the Modify Export Profile page.



- Change the name of an export profile and its description.
 - Click **Done**. The modified export profile is saved in the Export Wizard.
- Or

Click **Next** to modify other business objects, if they are selected.

Or

Click **Save and Exit**.

Copying Export Profile

The Copy Export Profile page allows you to copy an existing export profile to create a new export profile. Copying the export profile also copies the business objects selected by you in the source export profile.

Procedure

1. Select **System Operations > Export Metadata (Wizard)**. The Export Profiles page is displayed.
2. Click the check box next to an export profile name that you want to copy and click **Copy**. The Copy Export Profile page is displayed.

Copy Export Profile	
Export Profile Name	ACME Export Profile
Export Profile Description	Export Profile for ACME Corporation
Enter Copy Details	
Enter New Name	
Enter New Description	Export Profile for ACME Corporation
Save Cancel	

3. In the Enter New Name field, type the new name for copied export profile.
4. Click **Save**. The export profile is saved and listed on the Export Profile page.

Exporting Export Profile

Procedure

1. Select the created export profile on the Export Profiles page and click **Export**.

The selected export profile is exported and a **Download** link appears in the **Export Profile Zip File** column.

Export Profiles						
Create Modify Delete Copy Export						
	Export Profile Name	Description	Last Modified On	Created By	Export Profile Zip File	Last Exported On
☒	ACME Export Profile	Export Profile for ACM	2015-11-30 15:16:01	John Smith	Download	2015-12-01 11:04:18

2. Click the **Download** link to download the zip file.

Deleting Export Profile

Procedure

1. Select **System Operations > Export Metadata (Wizard)**. The Export Profiles page is displayed.
2. Check the export profile name check box that you want to delete and click **Delete**. A confirmation message is displayed.
3. Click **OK** to delete the selected export profile. The export profile is deleted.

Export Metadata Wizard

The Export Wizard provides an integrated step-by-step UI to export various business objects.

To export metadata using the UI, select **System Operations > Export Metadata (Wizard)**. The Export Profiles page is displayed.

Export Profiles						
Create Modify Delete Copy Export						
	Export Profile Name	Description	Last Modified On	Created By	Export Profile Zip File	Last Exported On

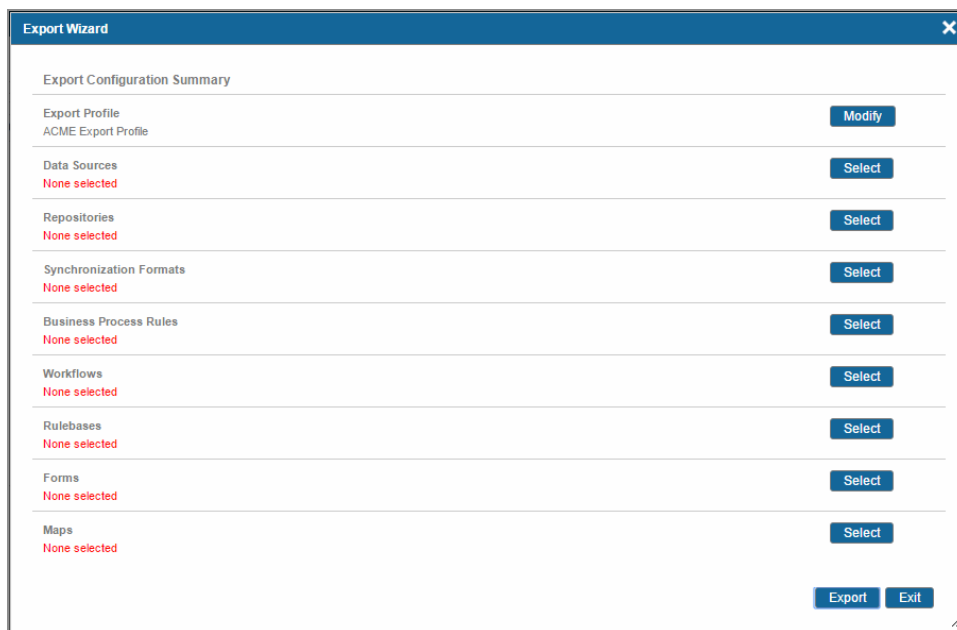


Note: To view the System Operation menu, you must have an Administrator role assigned to you.

To export metadata, you need to create an export profile. For more information about creating an export profile, see [Creating Export Profile](#). After creating an export profile, use the Export Metadata Wizard to select and export the following business objects:

- Data Sources
- Repositories
- Synchronization Formats
- Business Process Rules
- Workflows
- Rulebases
- Forms
- Maps

To access the Export Wizard, click **Next** on the Create Export Profile page.



Export Wizard provides the following major features:

- Provides the Export Configuration summary page to display an overview of the selected business objects for export and manage the exported business objects
- Provides the count for every selected business object
- Allows you to create multiple export profiles and to save multiple set of business

objects for export.

- Handles dependencies

Selection of Business Objects

On the Export Configuration summary page, you can select and export the following business objects:

- Data Sources
- Repositories
- Synchronization Formats
- Business Process Rules
- Workflows
- Rulebases
- Forms
- Maps



Note:

- The Export Wizard does not support individual selection of the Classification Schemes, users, roles, or permissions for export.
- Export performed using the FileWatcher utility, TIBCO MDM Studio, and ExportMetadataAction web service still supports export through XML file.
- Export performed using TIBCO MDM Studio and ExportMetadataAction web service still supports export through XML file.

Common Actions on each Business Object Page

The following are common actions on each Business Object page:

- To move a business object from the Available *business object* list to the Selected

business object list, click .

- To move a business object from the Selected *business object* list to the Available *business object* list, click .
- To select multiple business objects, press Ctrl and click the *business object* name.
- To move all business objects from the Available *business object* list to the Selected *business object* list, click .
- To move all business objects from the Selected *business object* list to the Available *business object* list, click .
- You can also select more than one business objects by clicking on multiple objects.

Export of Data Sources

You can export more than one data source from the source company to the destination company. The data source file is exported as is. For SQL based data sources, exported metadata does not contain the data of the underlying table. Also, when imported, no changes are made to the underlying table.

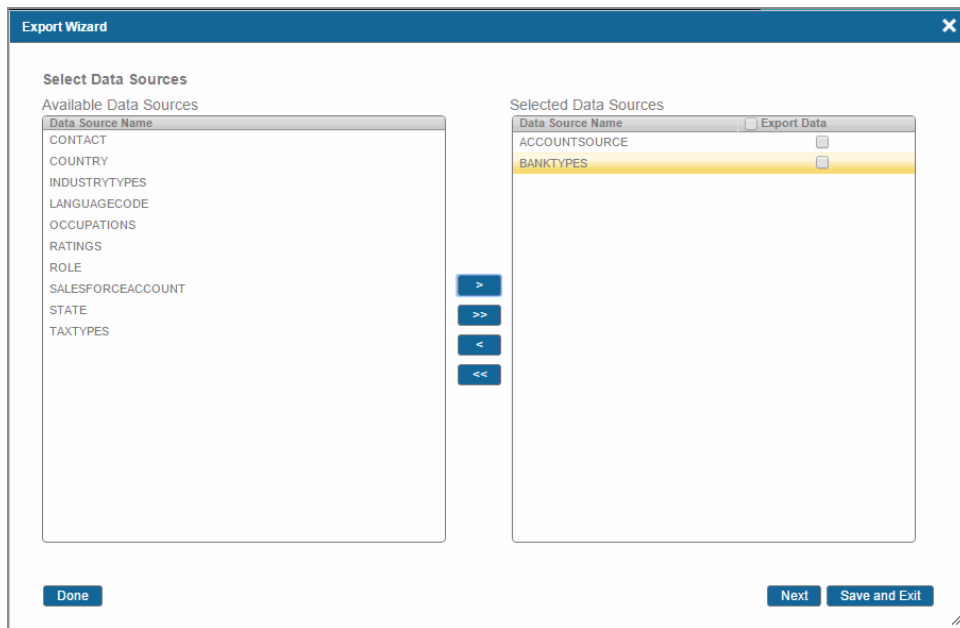
When a data source is exported, the following subcomponents are exported along with it:

- Database Table Name
- Database Attribute Names

Selecting Data Sources

Procedure

1. Click **Select** next to the Data Sources option on the Export Configuration summary page. The Select Data Sources page is displayed with a list of available data sources.



- From the Available Data Sources list, select the data source and click  to move it to the Selected Data Sources list.

The data source is moved to the Selected Data Sources list. If you want to export data along with the data source, check the check box in the Export Data column.

- To export data from all the selected data sources, select the **Export Data** check box in the header of the Selected Data Sources area.
- Click **Done** to go back to the Export Configuration summary page.

Or

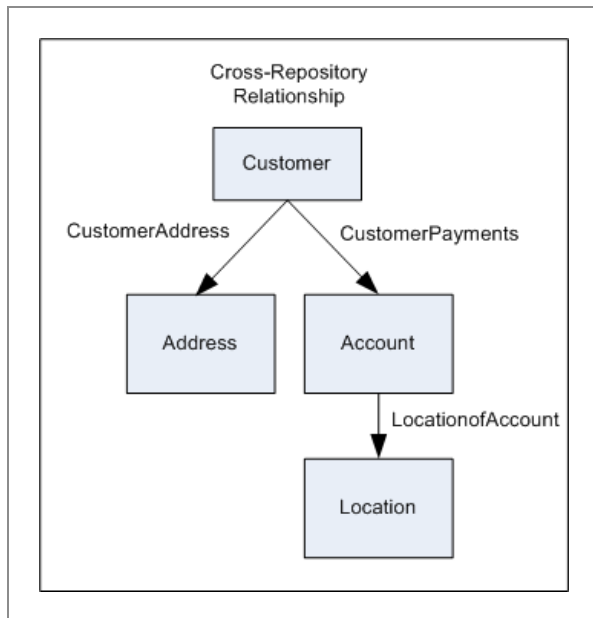
Click **Next** to go to the Select Repositories page.

Export of Data Sources

You can export more than one repository from one Company to another. For every repository that is exported, all the components get exported along with them.

If a repository is related to another repository, all the related repositories are also exported to the destination company. For example, consider, the Customer repository is related to Address and Account repositories by CustomerAddress and CustomerPayments relationships respectively, and the Account repository is related to the Location repository by LocationofAccount relationship.

Selecting Cross-Repository Relationship



In this case, if the metadata of a customer is exported, the metadata of all four repositories is exported from the company. However, if the metadata of account is exported, the metadata of only the Location repository is exported. Hence, only forward-related repositories are selected in the hierarchy.

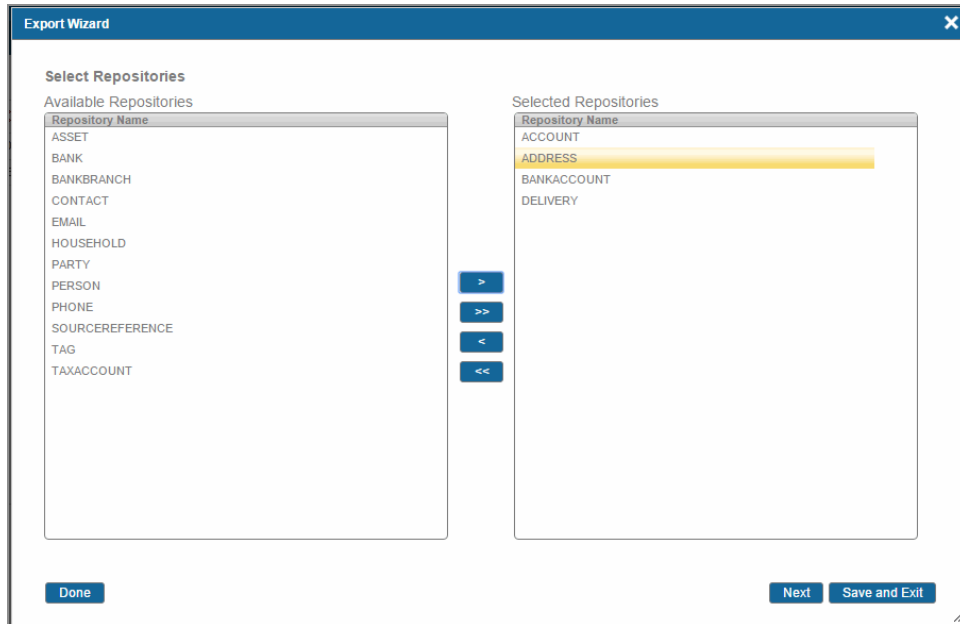
When a repository is exported, the following subcomponents are exported along with it:

- Attribute
- Attribute Group
- Classification Scheme
- Output Map
- Input Map
- Perspective
- Relationship Definition
- Database Table Name for the repository
- Database Column Name for any user-defined attribute of the repository.

Selecting Repositories

Procedure

1. Click **Select** next to the Repositories option on the Export Configuration summary page. The Select Repositories page is displayed with a list of available repositories.



2. From the Available Repositories list, select the repository.

Note: If you select the parent repository, the  icon is displayed next to its related repository. It signifies the hierarchical relationship between the repositories.

3. Click  to move it to the Selected Repositories list.
4. Click  to move it to the Selected Repositories list.
 - If you select a child repository in the Selected Repositories list, the  dependency icon is displayed next its parent repository or repositories.
 - If you click  to move a child repository from the Selected Repositories list to the Available Repositories list, a warning message is displayed. You need to confirm whether you want to move its parent repository or repositories along with it.

5. Click **Done** to go back to the Export Configuration summary page.

Or

Click the **Next** button to go to the Select Input/Output Maps page.

Export of Input and Output Maps

The Select Input/Output Maps business object is not listed on the Export Configuration summary page. The input and output maps are displayed only if you have created an input or output map for the selected repository.

- Input Maps: when you export an InputMap, the following components are exported:
 - Attribute
 - Attribute Groups

If an input map is related to another input map, all the related input maps are also exported.



Note:

- If no mappings are defined, the default input map is not exported with the repository.
- A repository with zero input map cannot be exported. All or at least one input map is exported.

- Output Maps: when you export an OutputMap, the following components are exported:
 - Attribute
 - Attribute Groups

If an output map is related to another output map, all the related output maps are also exported.



Note: A repository with zero output maps cannot be exported. All or at least one output map is exported.

Selecting Input or Output Maps

Procedure

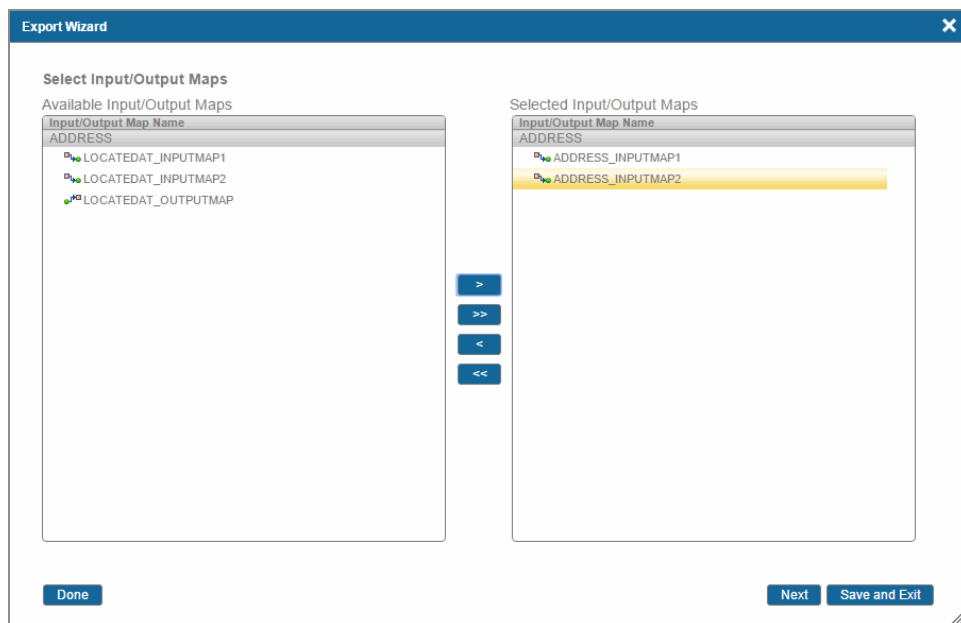
1. Click **Next** on the Select Repositories page. The Select Input/Output Maps page is displayed with a list of available input or output maps along with the predefined output map.

Note: You can differentiate between an input map and an output map by their icon. For input map,  is displayed next to each input map name and for output map  is displayed next to each output map name.

2. From the Available Input/Output Maps list, select the input/output map. You can also select the TIBCO predefined output map.

Note: If you select the parent input map, the  icon is displayed next to its related input maps. It signifies the hierarchical relationship between input maps.

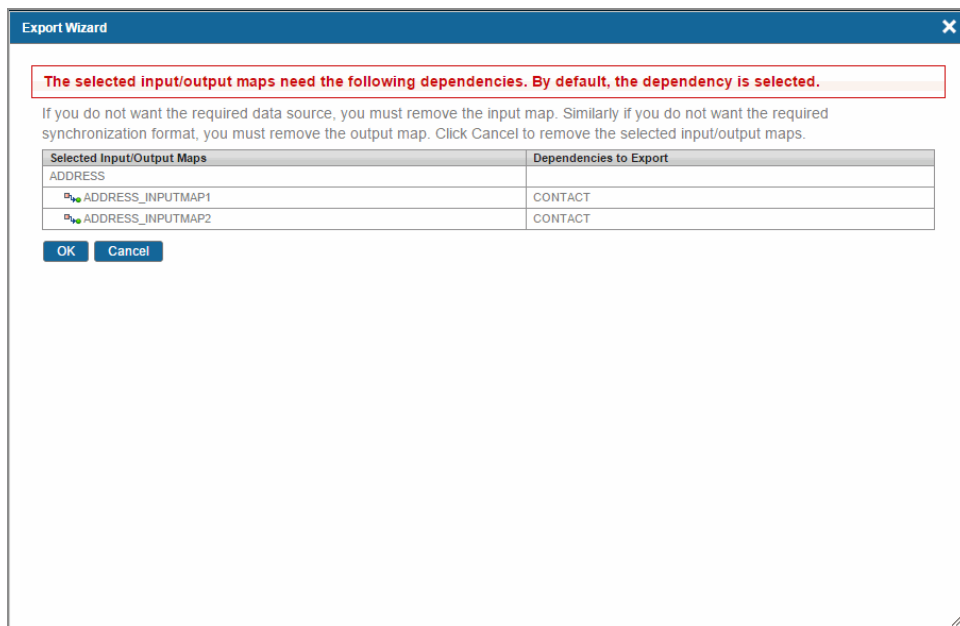
3. Click  to move the selected input and output maps to the Selected Input/Output Maps list.



Note:

- If you select the dependent input or output map in the Selected Input/Output Maps list, the  dependency icon next its parent input or output map is displayed.
- If you click  to move a child input or output map from the Selected Input/Output Maps list to the Available Selected Input/Output Maps list, a warning message is displayed. You need to confirm whether you want to move its the parent input or output map along with it.

4. Click **Next**. A dependency message for the input or output maps is displayed.



You can view the dependencies that exist for the selected input and output maps.

- For input map, its data source dependency is displayed. It displays only those data sources that were not selected on the Select Data Sources page. For example, CUSTDATASOURCE is the dependency for INPUTMAP1.
 - For output map, its synchronization format dependency is displayed. For example, SYNCHFORMAT1 is the dependency for ACCOUTPUTMAP.
5. Click **OK**. The dependencies are automatically selected. The Synchronization Format dependencies are displayed in the Selected Synchronization Formats list of the Select

Synchronization Formats page.

i Note: If you do not want to export the dependencies, click **Cancel**. However, you need to remove its relevant input or output map.

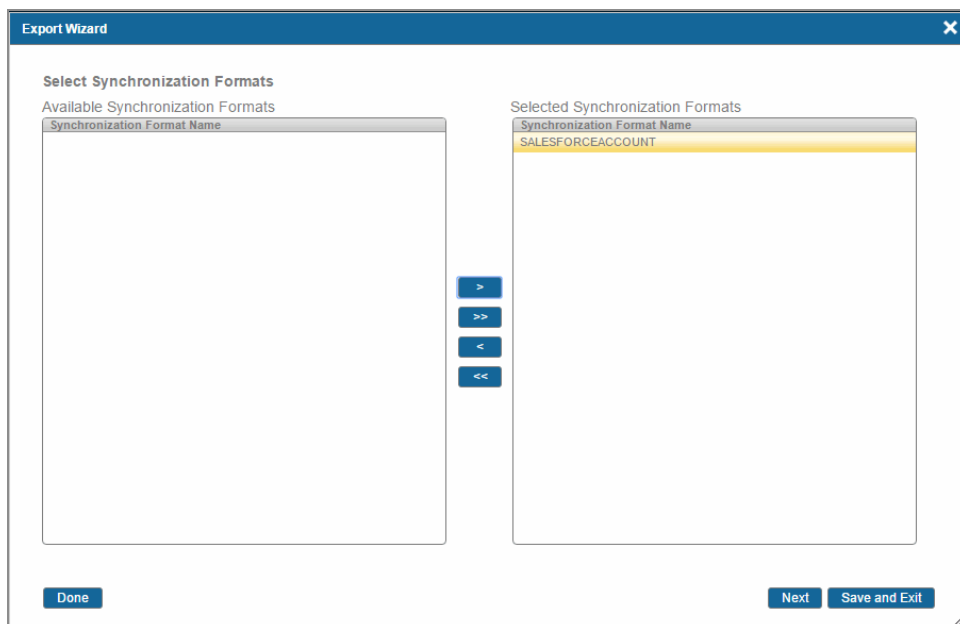
Selecting Synchronization Formats

When you export a synchronization format, the following components are exported:

- Attribute
- Attribute Groups

Procedure

1. Click **Select** next to the Synchronization Formats option on the Export Configuration summary page. The Select Synchronization Formats page is displayed with a list of available synchronization formats.
2. From the Available Synchronization Formats list, select the synchronization format and click **>** to move it to the Selected Synchronization Formats list.



3. Click **Done** to go back to the Export Configuration summary page.

Or

Click the **Next** button to go to the Select Business Process Rules page.

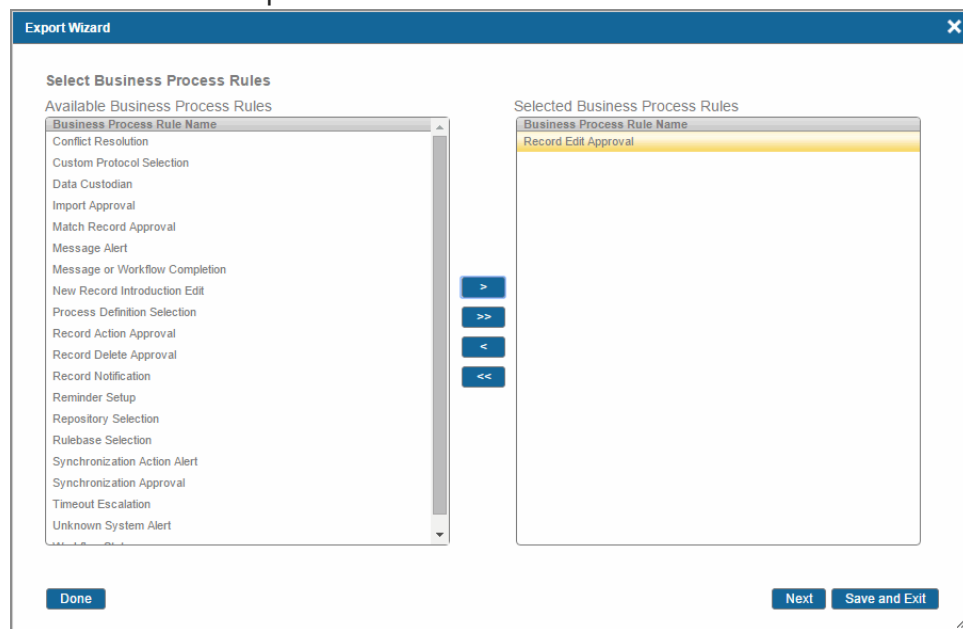
Selecting Business Process Rules

You can export one or more Business Process Rules from one company to another. When you export a Business Process Rule, the following subcomponents are exported as files:

- Rules Metadata
- Rules Model
- Rules Data

Procedure

1. Click **Select** next to the Business Process Rules option on the Export Configuration summary page. The Select Business Process Rules page is displayed with a list of available business process rules.



2. From the Available Business Process Rules list, select the business process rule and click  to move it to the Selected Business Process Rules list.
3. Click **Done** to go back to the Export Configuration summary page.

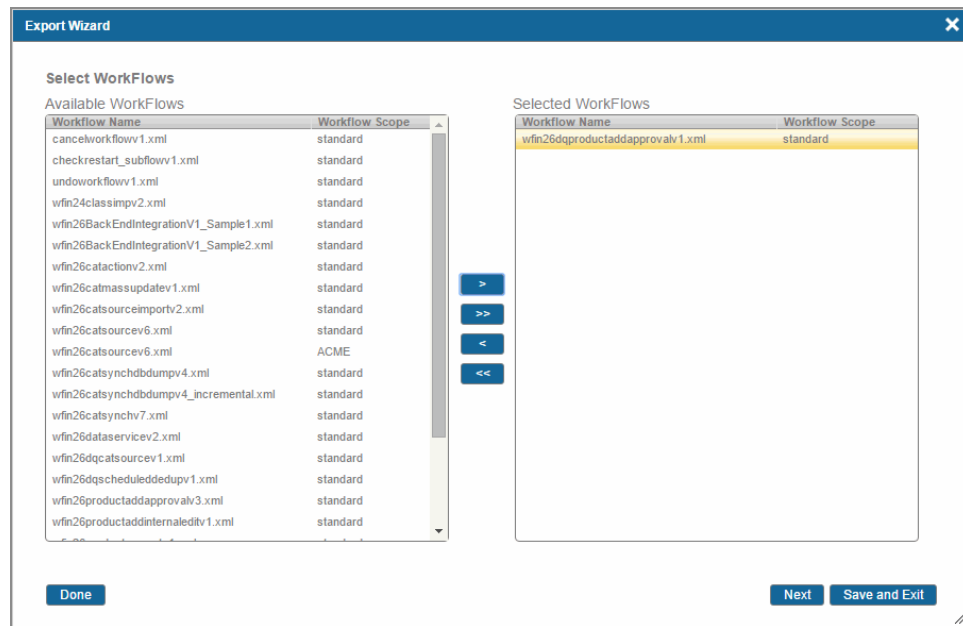
Or

Click the **Next** button to go to the Select WorkFlows page.

Selecting Workflows

Procedure

1. Click **Select** next to the workflows option on the Export Configuration summary page. The Select Workflows page is displayed with a list of available standard workflows.



The Workflow Scope list represents the scope of the workflow, that is, whether the workflow is deployed at an enterprise level or at a standard level. If workflow is defined at the enterprise level, the enterprise name is displayed and if it is defined at the standard level, standard is displayed.

A list of workflows is retrieved from the ConfigurationDefinition table.

2. From the Available Workflows list, select the workflow and click  to move it to the Selected Workflows list.
3. Click **Done** to go back to the Export Configuration summary page.

Or

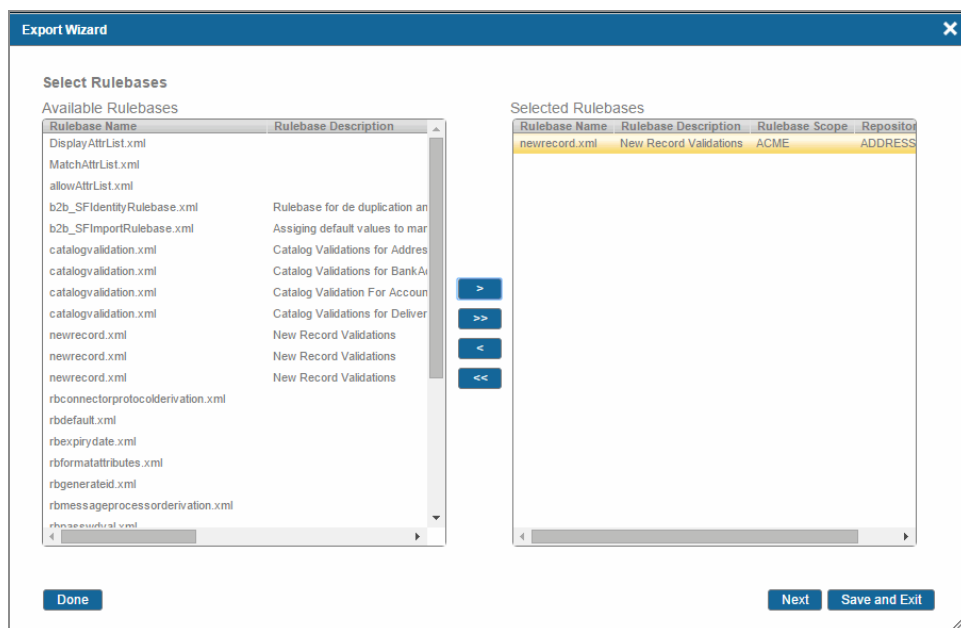
Click the **Next** button to go to the Select Rulebases page.

Note: For workflows to be listed in the wizard, an entry must exist in the ConfigurationDefinition database table. Workflows deployed using TIBCO MDM Studio have entries in ConfigurationDefinition table, and therefore can be exported using the Export Metadata Wizard.

Selecting Rulebases

Procedure

1. Click **Select** next to the Rulebases option on the Export Configuration summary page. The Select Rulebases page is displayed with a list of available rulebases.



- Rulebase Name - Displays the name of a rulebase file.
- Rulebase Description - Displays the description of a rulebase, that is, whether it is a new record validation rulebase or catalog validation rulebase.
- Rulebase Scope - Defines the scope of a rulebase. You can define rulebase at standard level, an enterprise level, and at a repository level.
- Repository Name - For the repository level rulebases, only those rulebases are displayed for which the repositories have been selected for export on the Select Repositories Screen.

2. From the Available Rulebases list, select the rulebase and click  to move it to the Selected Rulebases list.
3. Click **Done** to go back to the Export Configuration summary page.

Or

Click the **Next** button to go to the Select Forms page.

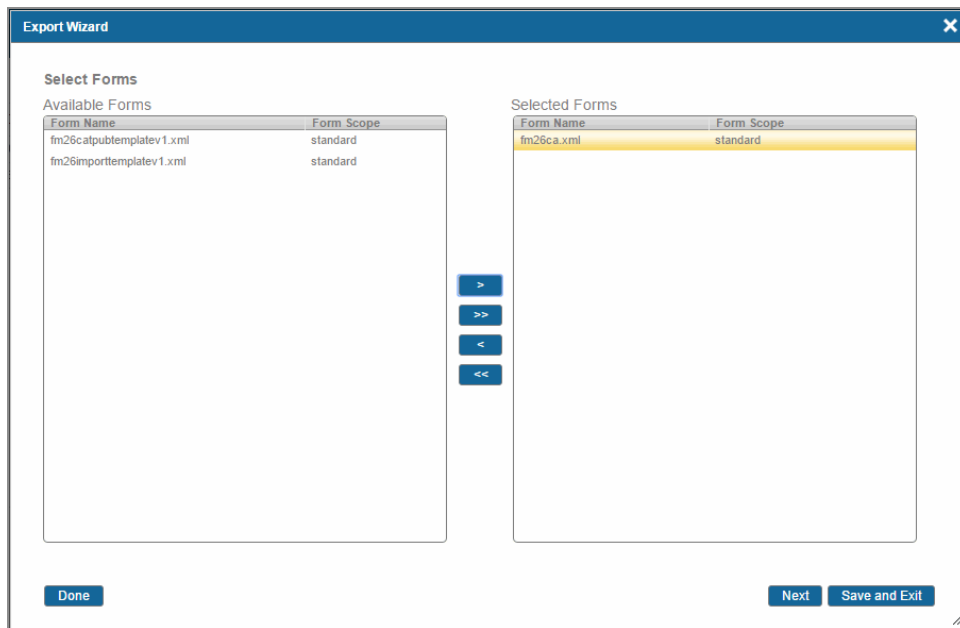
 Note:

- Exporting parent rulebases exports immediate child rulebases only. For example, if rulebase A contains rulebase B/Decision table B and B contains rulebase C/Decision table C, on exporting A.xml, both A.xml and B.xml are exported. However, C.xml is not automatically exported. To export C.xml, select its parent rulebase B.xml for export.
- For rulebases to be listed in the wizard, an entry must exist in the ConfigurationDefinition database table. Rulebases deployed using TIBCO MDM Studio have entries in ConfigurationDefinition table, and therefore can be exported using the Export Metadata Wizard.

Selecting Forms

Procedure

1. Click **Select** next to the Forms option on the Export Configuration summary page. The Select Forms page is displayed with a list of available forms.



The form list is retrieved from the \$MQ_HOME\common\standard\forms and \$MQ_HOME\common\enterprisenam\forms folders.

2. From the Available Forms list, select the form and click  to move it to the Selected Forms list.
3. Click **Done** to go back to the Export Configuration summary page.

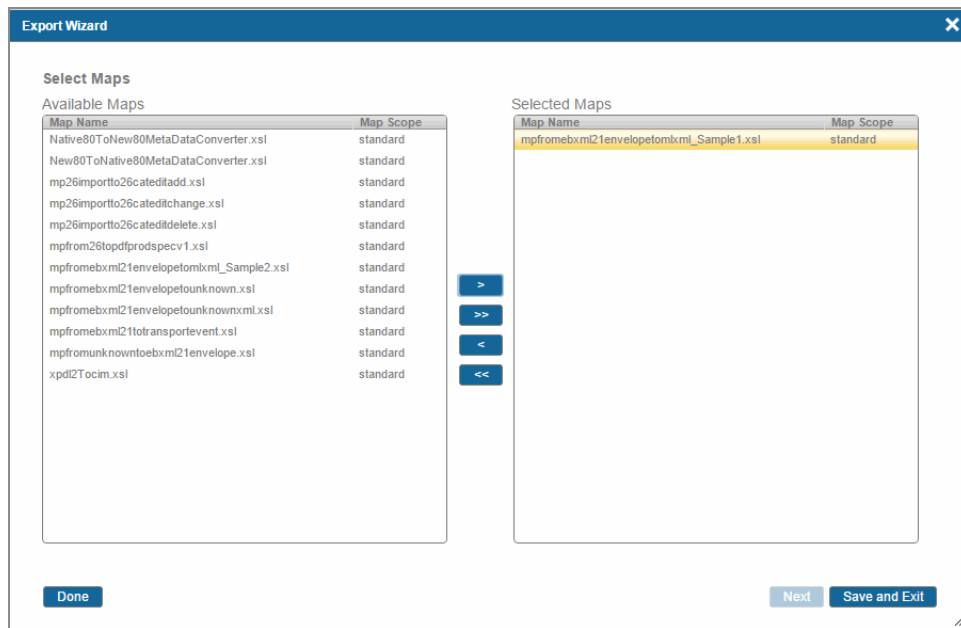
Or

Click the **Next** button to go to the Select Maps page.

Selecting Maps

Procedure

1. Click **Select** next to the Maps option on the Export Configuration summary page. The Select Maps page is displayed with a list of available maps.



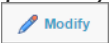
The map list is retrieved from the \$MQ_HOME\common\standard\maps and \$MQ_HOME\common\enterprisenam\maps folders. The Map Scope list represents the scope of the map.

- From the Available Maps list, select the map and click  to move it to the Selected Maps list.
- Click **Done** to go back to the Export Configuration summary page.

Or

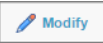
Click the **Save and Exit** button to go to the Export Profiles page.

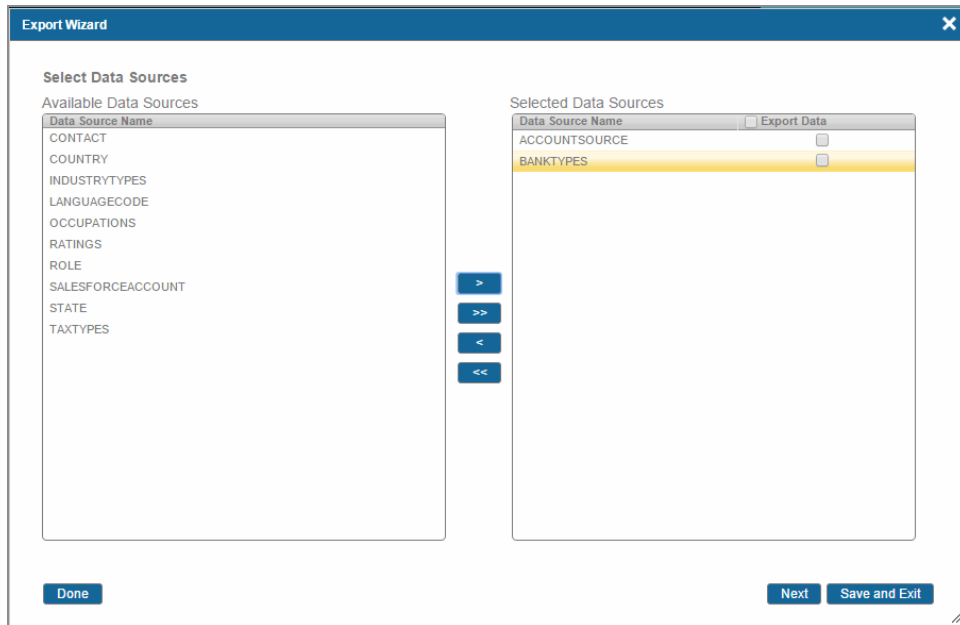
Modification of Business Objects

You can modify business objects by selecting the existing profile on the Export Profiles page, and then clicking the  icon. The Export Wizard is displayed. You can modify your business objects selection.

Modifying Data Sources

Procedure

1. Select the export profile that needs to be modified and click  on the Export Profiles page. The Export Wizard dialog is displayed.
2. Click **Modify** next to Data Sources. The Select Data Sources page is displayed with a list of available and selected data sources.



3. Click  to move the data source from the Selected Data Sources list to the Available Data Sources list.

Note: If the data source is already selected as a dependency for the input map, a warning message is displayed. You need to remove its usage in the input maps.

4. Click **Done**. The modified data sources selection is saved in the Export Wizard.

Or

Click the **Next** button to modify repositories.

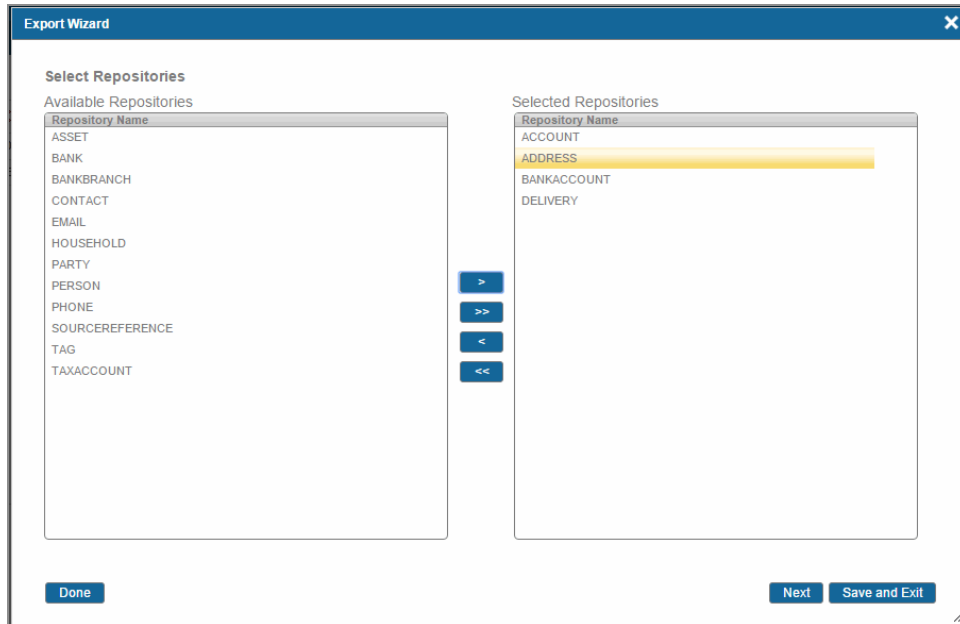
Or

Click **Save and Exit** to go back to the Export Profile page.

Modifying Repositories

Procedure

1. Click **Modify** next to Repositories on the Export Configuration summary page. The Select Repositories page is displayed with a list of available and selected repositories.



2. Click  to move the repository from the Selected Repositories list to the Available Repositories list.

Note: If you have already selected its rulebase in the Select Rulebase page, a warning message is displayed. You need to remove its rulebase from the Selected Rulebases list.

3. Click **Done**. The modified repositories selection is saved in the Export Wizard.

Or

Click the **Next** button to modify input or output maps.

Or

Click **Save and Exit** to go back to the Export Profile page.

Modifying Input or Output Maps

Procedure

1. Click **Next** on the Select Repositories page Export Configuration summary page. The Select Input/Output Maps page is displayed with a list of available and selected input or output maps along with the predefined output map.
2. Click  to move the input or output map from the Selected Input/Output Maps list to the Available Input/Output Maps list.
3. Click **Done**. The modified input or output maps selection is saved in the Export Wizard.

Or

Click the **Next** button to modify synchronization formats.

Or

Click **Save and Exit** to go back to the Export Profile page.

Modifying Synchronization Formats

Procedure

1. Click **Modify** next to Synchronization Formats Export Configuration summary page. The Select Synchronization Formats page is displayed with a list of available and selected synchronization formats.
2. Click  to move the synchronization format from the Selected Synchronization Formats list to the Available Synchronization Formats list.

Note:

- If the synchronization format is a dependency for the output map, a warning message is displayed. You need to remove its usage in the selected output maps.
- If you click  to move all synchronization formats from the Selected Synchronization Formats list to the Available Synchronization Formats list, the synchronization format that are not dependencies for the selected output map, they are moved and others remain in the same list.

3. Click **Done**. The modified synchronization formats selection is saved in the Export Wizard.

Or

Click the **Next** button to modify business process rules.

Or

Click **Save and Exit** to go back to the Export Profile page.

Modifying Business Process Rules

Procedure

1. Click **Modify** next to the Business Process Rules option on the Export Configuration summary page. The Select Business Process Rules page is displayed with a list of available and selected business process rules.
 2. Click  to move the business process rule from the Selected Business Process Rules list to the Available Business Process Rules list.
 3. Click **Done** to go back to the Export Configuration summary page.
- Or
- Click the **Next** button to modify workflows.
- Or
- Click **Save and Exit** to go back to the Export Profile page.

Modifying Workflows

Procedure

1. Click **Modify** next to the Workflows option on the Export Configuration summary page. The Select WorkFlows page is displayed with a list of available and selected standard workflows.
2. Click  to move the workflow from the Selected WorkFlows list to the Available WorkFlows list.
3. Click **Done** to go back to the Export Configuration summary page.
Or
Click the **Next** button to go to the Select Rulebases page.
Or
Click **Save and Exit** to go back to the Export Profile page.

Modifying Rulebases

Procedure

1. Click **Modify** next to the Rulebases option on the Export Configuration summary page. The Select Rulebases page is displayed with a list of available and selected rulebases.
2. From the Available Rulebases list, select the rulebase and click  to move it to the Selected Rulebases list.
3. Click  to move the rulebase from the Selected Rulebases list to the Available Rulebases list.
4. Click **Done** to go back to the Export Configuration summary page.
Or
Click the **Next** button to go to the Select Forms page.
Or
Click **Save and Exit** to go back to the Export Profile page.

Modifying Forms

Procedure

1. Click **Modify** next to the Forms option on the Export Configuration summary page. The Select Forms page is displayed with a list of available and selected forms.
 2. Click  to move the form from the Selected Forms list to the Available Forms list.
 3. Click **Done** to go back to the Export Configuration summary page.
- Or
- Click the **Next** button to go to the Select Maps page.
- Or
- Click **Save and Exit** to go back to the Export Profile page.

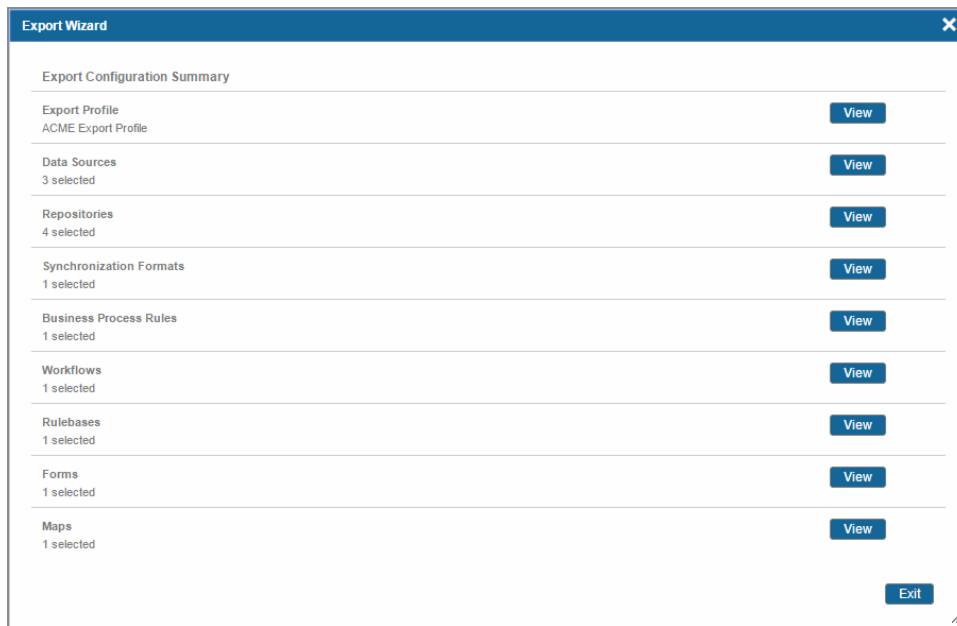
Modifying Maps

Procedure

1. Click **Modify** next to the Maps option on the Export Configuration summary page. The Select Maps page is displayed with a list of available and selected maps.
 2. Click  to move the map from the Selected Maps list to the Available Maps list.
 3. Click **Done** to go back to the Export Configuration summary page.
- Or
- Click the **Save and Exit** button to go to the Export Profiles page.

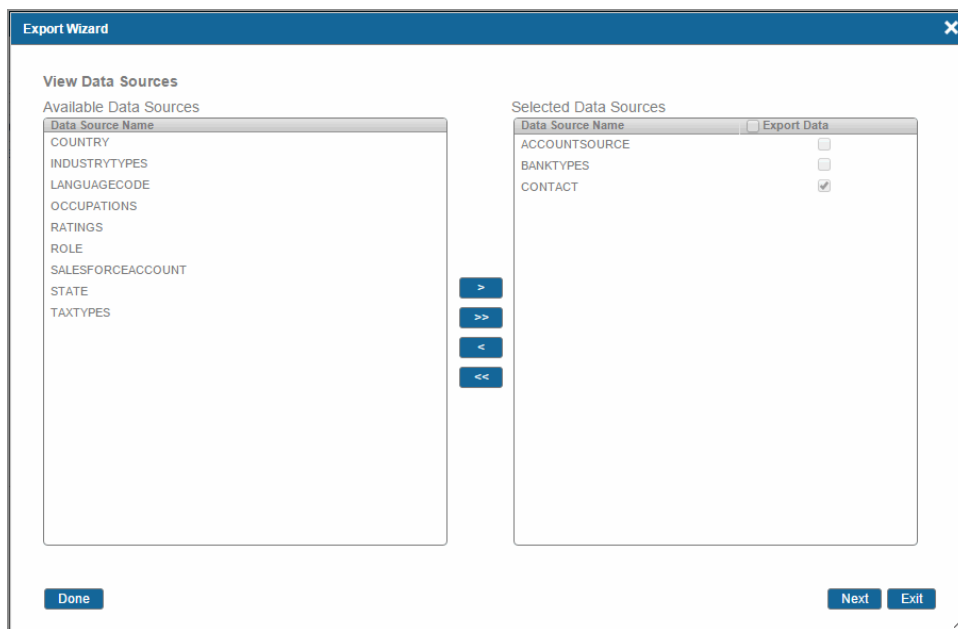
Viewing Business Objects

To view business objects, click the existing export profile on the Export Profiles page. The Export Wizard is displayed with the **View** button.



Procedure

1. Click **View** next to each business object. For example, Data Sources object.



You can only view the business objects. All action arrows are disabled. You cannot make any changes.

2. Click **Next** to view other business objects.

Or

Click **Done** to go back to Export Configuration Summary page.

Or

Click **Exit** to go back to the Export Profile page.

Elements of Request XML File

Before exporting metadata, you need to create a request XML file with the business components to be exported.

The following table lists the elements and their usage of the XML file:

Elements of Request XML File

Element	Description
Transaction	Contains the Command to be executed on an entity. Commands within a Transaction element are processed as a single transaction. Only one command is allowed within a transaction. Note: Copy metadata does not support multiple transactions in SqlServer.
Command	This determines if a metadata is being imported or exported. Supported command types are 'Query' for exporting metadata out of the company, and 'Update' for importing metadata into the company. A Command can contain only one Entity. This means that each Entity is exported or imported in a transaction of its own.
Entity	This element represents the application's components which need to be migrated.
ExternalKeys	This element is used to identify an Entity of a given type within a company. In most cases, the only key required to identify an Entity is its name.

Export of Business Objects Using Request XML

You can export the following business objects and their components. A request XML file can have one or all of the business objects as an independent entities in the file. The IDs of these business objects and their components are output.

- **Repository:** When a repository is exported, the following subcomponents are exported along with it:
 - Attribute
 - Attribute Group
 - Classification Scheme
 - OutputMap
 - InputMap
 - Perspective
 - Relationship Definition
 - Database Table Name for the repository
 - Database Column Name for any user-defined attribute of the repository.

You can export more than one repository from one Company to another. For every repository that is exported, all the components get exported along with them. If a repository is related to another repository, then all the related repositories are also exported to the destination Company.

For example, there are four repositories MC1, MC2, MC3 and MC4. There are forward relationships defined between them as MC1->r1->MC2->r2->MC3->r3->MC4. In this case, if the meta data of MC1 is exported, the meta data of all four repositories is exported from the company.

But, if the meta data of MC2 is exported, the meta data of only MC2, MC3 and MC4 is exported.

- **Business Process Rules:** You can export one or more Business Process Rules from one company to another. When you export a Business Process Rule, the following subcomponents are exported as files:
 - Rules Metadata
 - Rules Model
 - Rules Data
- **Data Sources:** You can export more than one data source from the source company to the destination company. The data source file is exported as is. For SQL based data sources, exported meta data does not contain the data of the underlying table. Also, when imported, no changes are made to the underlying table.

When a data source is exported, the following subcomponents are exported along with it:

- Database Table Name
- Database Attribute Names
- Synchronization Format: When you export a synchronization format, the following components are exported:
 - Attribute
 - Attribute Groups
- OutputMap: When you export an OutputMap, the following components are exported:
 - Attribute
 - Attribute Groups

If an output map is related to another output map, then all the related output maps are also exported.
- InputMap: When you export an InputMap, the following components are exported:
 - Attribute
 - Attribute Groups

If an input map is related to another input map, then all the related input maps are also exported.



Note: The default input map does not get exported with the repository if no mappings are defined.

- Classification Scheme: When you export a Classification scheme, the following components are exported:
 - Classification definition
 - Codes
 - Code attributes
- Users, Roles, and Permissions: These Business Objects do not have any further components.

Export of Users Roles and Permissions

The request and response files are different when exporting users, roles, and permission as compared to the other business objects.

- **Users:** To export a specific user, specify the username in the request XML. To export a list of users, specify the list in the request XML. To export all users, specify 'ALL' in the request XML. To export all the UI users, specify 'ALLUI'. To export all non-UI users such as GLN, NetworkId, and so on, specify 'ALLNONUI'.

Role definitions are not exported as part of users. Role definitions must be exported and synchronized separately.

- **Roles:** You can export a specific role, list of roles, or all roles. To export a specific role, specify the role name in the request XML. To export a list of roles, a role list needs to be specified. To export all the roles, 'ALL' must be specified.
- **Permissions:** Permissions can be exported for users, or roles but not both in the same transaction. To export permissions for specific user, specify the username. To export permissions for specific role, specify the role name. To export permissions for all roles, specify "ALL". To export permissions for all users, specify "ALLUI". To export permissions for a list of users, specify list of usernames. Similarly, to export permissions for a list of roles, specify the list of role names.

When no permissions are defined in the source but permissions are defined in the destination, permissions defined in the destination are deactivated for that user or role.

The set of permissions in destination company are overwritten by the set of permissions being imported.

Guidelines for Creating Request XML for Users Roles and Permissions

The following are the guidelines for creating request XML for users roles and permissions:

- **Transactions** — Roles, users, and permissions must always be in different transaction boundaries. Two different roles, users, or permissions can be in different transactions. Either all business objects in a transaction are imported or none of them are imported.

- Functions and HtmlElements must be synchronized by the user separately. It is not a part of copy metadata. Ideally, functions come with seed data are not created by the users. Roles get associated with a function when roles are exported. If such a function is not defined in the seed data of the destination company, an exception is thrown.
- Only one command per transaction is allowed.
- You can have multiple transactions per request or response.
- Only one type of input per command is allowed. That is, either of Users, Roles, or Permissions per command is allowed. Implicitly, only one type of input is allowed in one transaction.
- Other business objects such as repositories and so on cannot be exported along with users, roles, and permissions. They cannot be a part of the same request.

Samples for Users Roles and Permissions

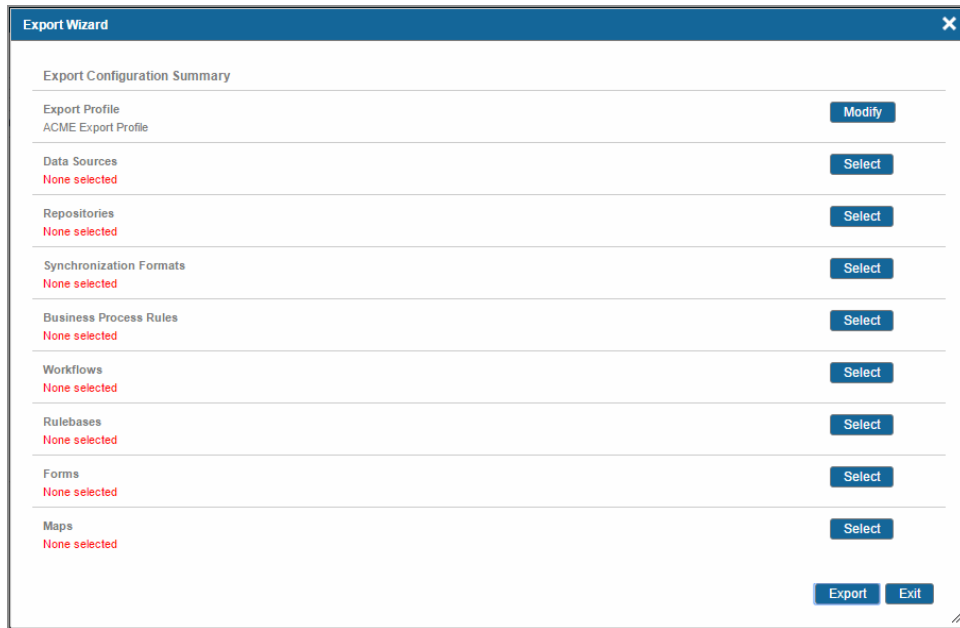
The request and response sample files related to users, roles, and permissions are available in the `$MQ_HOME\schema\DataService\2.0\samples\metadataexchange\security` folder.

Exporting Metadata Using UI (Wizard Approach)

After you are done with selection of all business objects, you can export the selected metadata.

Procedure

1. Click **Export** button on the Export Configuration Summary.



The Export process starts. After the event is Success, the **Download** link appears in the Export Profile Zip File column on the Export Profiles page.

Note:

- If the datasource that a input map is using is deleted, the input map is not listed in the wizard and cannot be exported.
- If the synchronization format that an output map is using is deleted, the output map is not listed in the wizard and cannot be exported.

2. Click the **Download** link. The File Download dialog is displayed.
3. Click the **Save** button to save the ZIP file. You can save the file in the source or the destination company. The ZIP filename is *ZIP_profileID_timestamp.randomID.zip*. For example, *ZIP_111_2012-10-26_11_13_16.150.zip*.

By default, the ZIP folder contains the following files:

- DataServiceQuery XML file
- Rulebase.properties file
- Repository schema file

If you have selected the business objects, the selected datasource, workflow, map, form, and rulebase files also appear in the ZIP folder.

Exporting Metadata Using Command Line (Wizard Approach)

You can export the existing export profile using the `export.bat` file located at `$MQ_HOME\bin`.

Procedure

1. Open the command prompt.
2. Change the directory to `$MQ_HOME\bin`.
3. Type the following command: `export.bat`
4. Specify the following details:
 - `-memberId`: specify the member ID.
 - `-profileName` : specify the name of the Export Profile. Profile Name is already created from the Export Metadata wizard.
 - `-zipFileName` : specify the name of a zip file that contains the exported metadata. You can specify path to the zip file.
5. Press Enter.

The metadata is exported. You can verify the event details by clicking on the "Data Service Query" event on the Event Log page. For example,

```
MQ_HOME\bin>export.bat -memberId 36823 -profileName exportmetadata  
-zipFileName "C:\Users\apps\Desktop\export88\exportdata.zip"
```

Exporting Metadata Using UI (File Approach)

Procedure

1. In TIBCO MDM, click **System Operations > Export Metadata**. The System Operations option is visible only if you have 'adminstrator' privileges.
2. On the Export Metadata page, click **Choose File** to navigate to the path where the XML file containing the metadata is located.

Export Metadata

Select metadata export request XML file.

File Details

File To Upload	Choose File PersonAccount.xml

3. Select the request XML file and click **Upload**.
4. On the Export Status page, click **here** to monitor the status of the upload.

Export Status

File Name	PersonAccount.xml
File Size	59.94KB / 61381bytes

Metadata management request accepted and submitted to workflow. Click [here](#) to monitor the progress.

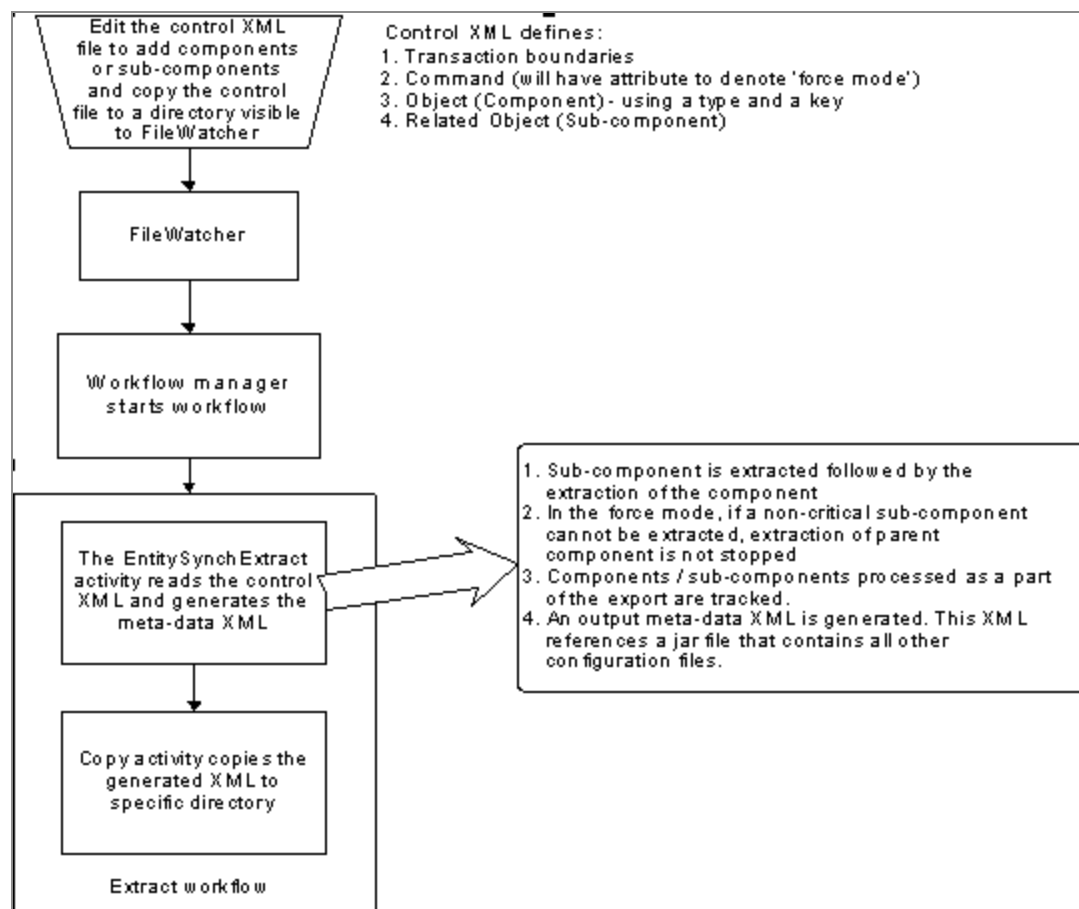
By default, the .jar file that is created is stored in \$MQ_COMMON_DIR.

Note: When a workflow is run as in-memory, no event is generated. As a result, you cannot check event details for operations triggered by an in-memory workflow. In this case, clicking on the Check Progress link redirects you to an appropriate page with a message that it is an in-memory operation instead of displaying the progress.

5. From the Event Details Log, download the Data File (.jar file).
6. Save the .jar file in the source or the destination company.

Flow of Exporting Metadata Using FileWatcher

The following figure illustrates the flow of exporting metadata using FileWatcher:



Exporting Metadata Using FileWatcher (File Approach)

Procedure

1. Complete the required FileWatcher setup.
 - a. The following sample FileWatcher section must be present for exporting metadata:

```

<DataSet type="single" >

  <Name>Export</Name>

  <Credential domain="GLN">

    <Identity>0040885020007</Identity>

    <!-- Set this to point to the source enterprise --
  >      </Credential>

  <Action>DataServiceQuery</Action>

  <URIInfo scheme="local">

    <Relative>MQ_COMMON_DIR</Relative>

    <URI>source/metadata/export</URI>      <!--
Directory where      request XML is put-->

  </URIInfo>

</DataSet>

```

In this example, the credential section is set to use a credential of the source

company from which the export of metadata is to be done. The credentials can belong to any valid TIBCO MDM supported domain.

- b. Ensure that `PollingInterval` is set to a non-zero value to turn on polling by `FileWatcher`. For example:

```
<PollingInterval>600</PollingInterval>
```

In the above example, the polling interval is set to 10 minutes.

2. Create an Export Request XML.

- Create as many transaction sections as the number of entities that need to be exported. Keep in mind that only one command and entity are supported within a transaction.



Note: Copy metadata does not support multiple transactions in SQL Server.

- Set command type to Query.
- Set the type and name of entity to be exported.
- All entries are case-sensitive.

3. Copy the Export Request XML into the directory monitored by FileWatcher. In the above example, copy the file into the `$MQ_COMMON_DIR/source/metadata/export/incoming` directory.

You can monitor the export from the event log of TIBCO MDM. You can also look at `$MQ_HOME/log/dataservice.log`.

Result

A JAR file is generated as a response to the export request. The JAR file is copied to a location specified in the metadata migration workflow (`$MQ_COMMON_DIR/standard/workflow/wfin26dataservicev2.xml`). The JAR file can also be downloaded from the Event Log.

Structure of JAR File

TIBCO MDM generates metadata exports as a JAR file. The JAR file contains one Import Request XML file at the root directory. The format of the said XML is provided above. Any

files referenced by the Import Request XML are bundled with the JAR file. The following is an extract from the above example:

```
<Attribute name="fileName" type="string">simple2.csv</Attribute>

<Attribute
name
="dataSourceFileRefernece"
type="commondirfilereference">commdir/Work/2004/Nov/19/14/55244-2728421/</Attribute>
```

In the above example, the JAR file contains the file simple2.csv under the directory commondir/Work/2004/Nov/19/14/55244-2728421/.

When a JAR file is imported, the system extracts the referenced files, and then copies them over to appropriate locations on the destination system.



Tip: When exporting metadata of a repository that has cross-repository relationships, do not export all the related repositories. Export only the root repository metadata, and do not specify export for related repositories. This is to ensure that all repositories' metadata are imported in one transaction. The same is applicable for output maps and input maps participating in a cross-repository relationship.

Copying of Exported JAR to another Location

The metadata migration workflow wfin26dataservicev2.xml has a copy activity ComputeExportFileDirectory that can be configured to copy the exported JAR to a required location. By default, the export is relocated to \$MQ_COMMON_DIR/enterprisename/metadata/export/data.

You can change the location by modifying the workflow XML for the activity as shown in the following example:

```
<Activity Name="ComputeExportFileDirectory">
<Action>InterpretCommand</Action>
<Description lang="en">Determine the enterprise-specific directory to
```

```

store the export file</Description>
<Parameter direction="in" eval="xpath" type="string"
name="EnterpriseShortName" source="/Message/Header/MessageHeader
[@origin='Receiver']]/
Enterprise/PartyID/ShortName/text()">inDoc</Parameter>
<Parameter direction="out" name="ExportFileDirectory" type="string"
eval="variable">ExportFileDirectory</Parameter>
<Script format="bsh"><![CDATA[
<!-- change the location here-->String ExportFileDirectory =
EnterpriseShortName + "/metadata/export/data";
</Script>
</Activity>
<Activity Name="CopyResponseFile">
<Action>Exec</Action>
<Description>Copy the response message</Description>
<Execution>SYNCHR</Execution>
<Parameter direction="in" type="string" eval="constant"
name="eventState">COPYFILE</Parameter>
<Parameter direction="in" eval="constant" type="string"
name="Command">copy</Parameter>
<Parameter direction="in" eval="property" type="string"
name="File">workDoc.FileName</Parameter>
<Parameter direction="in" eval="constant" type="string"
name="TofilePrefix">ServiceResponse</Parameter>
<!--Parameter direction="in" eval="constant" type="string"
name="TofileExt">xml</Parameter-->
<Parameter direction="in" eval="variable" type="string"
name="Todir">ExportFileDirectory</Parameter>
<Parameter direction="in" eval="constant" type="string"
name="Torelative">MQ_COMMON_DIR</Parameter>
<Parameter direction="out" name="OutDocument"
type="document">responseDoc</Parameter>
</Activity>

```

Repository Schema

Out-of-the-box, all repository exports follow the Metadata XML format and corresponding schema described in this section. The repository schema file is located at \$MQ_HOME/schema/metadata/RepositorySchema.xsd.

Sample for Repository Schema

A sample repository metadata XML format based on the RepositorySchema.xsd schema is listed below:

```
<?xml version="1.0" encoding="UTF-8"?>
<CIMMetaData xmlns="http://www.tibco.com/mdm/repository"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.tibco.com/mdm/repository
metaDataSchema/RepositorySchema.xsd" MetadataVersion="8.0">
  <Repositories>
    <Repository>
      <RepositoryInfo DBID="34497">
        <Name>SUBSET</Name>
        <Description>subset</Description>
        <TableName>SUBSET</TableName>
      </RepositoryInfo>
      <AttributeGroups>
        <AttributeGroup>
          <AttributeGroupInfo>
            <Name>UNASSIGNED</Name>
            <Description>UNASSIGNED</Description>
            <Predefined>Y</Predefined>
            <ExpandByDefault>Y</ExpandByDefault>
          </AttributeGroupInfo>
        </AttributeGroup>
        <Attributes>
          <Attribute DBID="32298">
            <Name>PRODUCTID</Name>
            <Description>Unique identifier for current
              entity.</Description>
            <Predefined>Y</Predefined>
            <DisplayName>Record ID</DisplayName>
            <Required>N</Required>
            <Help/>
            <Searchable>N</Searchable>
            <Length>255</Length>
            <Position>1</Position>
            <DataType>STRING</DataType>
            <DisplayInRecordList>Y</DisplayInRecordList>
            <QuickViewable>Y</QuickViewable>
            <ColumnName>CPRODUCTID</ColumnName>
            <MultiValued>N</MultiValued>
          </Attribute>
          <Attribute DBID="32299">
            <Name>PRODUCTIDEXT</Name>
            <Description>Auxiliary identifier for current
```

```

        entity.</Description>
        <Predefined>Y</Predefined>
        <DisplayName>Record ID Extension</DisplayName>
        <Required>N</Required>
        <Help/>
        <Searchable>N</Searchable>
        <Length>255</Length>
        <Position>2</Position>
        <DataType>STRING</DataType>
        <DisplayInRecordList>N</DisplayInRecordList>
        <QuickViewable>N</QuickViewable>
        <ColumnName>CPRODUCTIDEXT</ColumnName>
        <MultiValued>N</MultiValued>
    </Attribute>
    <Attribute DBID="32300">
        <Name>CONTAINS</Name>
        <Description>Contains</Description>
        <Predefined>Y</Predefined>
        <DisplayName>Related Records</DisplayName>
        <Required>N</Required>
        <Help/>
        <Searchable>N</Searchable>
        <Length>4000</Length>
        <Position>3</Position>
        <DataType>STRING</DataType>
        <DisplayInRecordList>N</DisplayInRecordList>
        <QuickViewable>N</QuickViewable>
        <ColumnName>CCONTAINS</ColumnName>
        <MultiValued>N</MultiValued>
    </Attribute>
    <Attribute DBID="32301">
        <Name>aa</Name>
        <Description>aa</Description>
        <Predefined>N</Predefined>
        <DisplayName>aa</DisplayName>
        <Required>N</Required>
        <Help>aa</Help>
        <Searchable>Y</Searchable>
        <Length>256</Length>
        <Position>4</Position>
        <DataType>STRING</DataType>
        <DisplayInRecordList>Y</DisplayInRecordList>
        <QuickViewable>Y</QuickViewable>
        <ColumnName>AA</ColumnName>
        <MultiValued>Y</MultiValued>
    </Attribute>

```

```

    </Attributes>
  </AttributeGroup>
  <AttributeGroup>
    <AttributeGroupInfo>
      <Name>SYSTEM</Name>
      <Description>SYSTEM</Description>
      <Predefined>Y</Predefined>
      <ExpandByDefault>Y</ExpandByDefault>
    </AttributeGroupInfo>
    <Attributes/>
  </AttributeGroup>
</AttributeGroups>
<Relationships>
  <Relationship>
    <RelationshipDefinition DBID="-1">
      <Name>Contains</Name>
      <Description>Contains</Description>
      <Type>11111</Type>
      <ReverseName>ContainedBy</ReverseName>
      <ReverseDescription>ContainedBy</ReverseDescription>
      <TargetRepositoryName>SUBSET</TargetRepositoryName>
    </RelationshipDefinition>
  </Relationship>
</Relationships>
</Repository>
</Repositories>
</CIMMetaData>

```

Import of Metadata

The **System Operations > Import Metadata** option allows you to import metadata from a source company to a destination company. Before importing metadata, the first step is to export metadata from a source company. When you export metadata, a JAR file is created out of the metadata. You can also use the existing JAR file of the metadata, if any.



Note: While importing metadata, only JAR, ZIP, and XML file extensions are allowed. For all other extensions, an error message is displayed.

To import metadata, upload the JAR file that contains the metadata to the destination company. After the JAR file is uploaded, the DataService workflow is initiated. To learn more about the DataService workflow, see *TIBCO MDM Workflow Reference*. The DataService workflow uses the metadata in the JAR file to create a repository at the

destination company. If a repository of the same name exists in the destination company, the content of the repository is overwritten. Metadata, namely, attributes, attribute groups, classification scheme, input maps, output maps, and so on, is overwritten.

i Note: When repository metadata is imported, if the table name is specified, it is used to create the repository data table. Else, a system-defined value is used. If the specified table name already exists, an exception is thrown and the repository is not imported.

Similarly, for an attribute, if the database column name is not specified or a duplicate column name is specified, a system-generated column name is used.

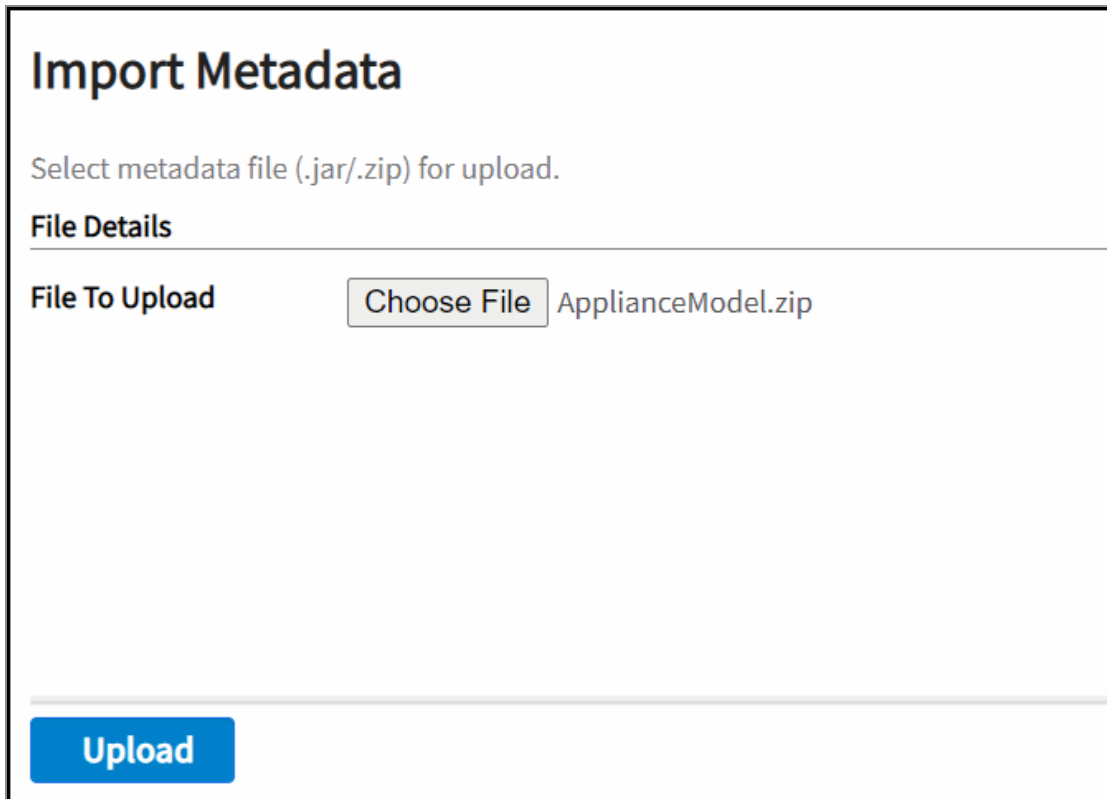
Importing Metadata Using UI

Before you begin

The System Operations option is visible only if you have the Administrator privileges.

Procedure

1. On the destination company, log in to TIBCO MDM.
2. Click **System Operations > Import Metadata**.



Import Metadata

Select metadata file (.jar/.zip) for upload.

File Details

File To Upload ApplianceModel.zip

3. On the Import Metadata page, click **Choose File** to navigate to the path where a .jar or .zip file containing the metadata is located.
4. Select the file and click **Upload**.
5. Click **OK** at the prompt that warns you that metadata changes cannot be undone. The metadata gets overwritten.
6. In the Web page that follows, click **Check Progress** to monitor the status of the upload.



Note: When a workflow is run as in-memory, no event is generated. As a result, you cannot check event details for operations triggered by an in-memory workflow. In this case, clicking the check progress link redirects you to an appropriate page with a message that it is an in-memory operation instead of displaying the progress.

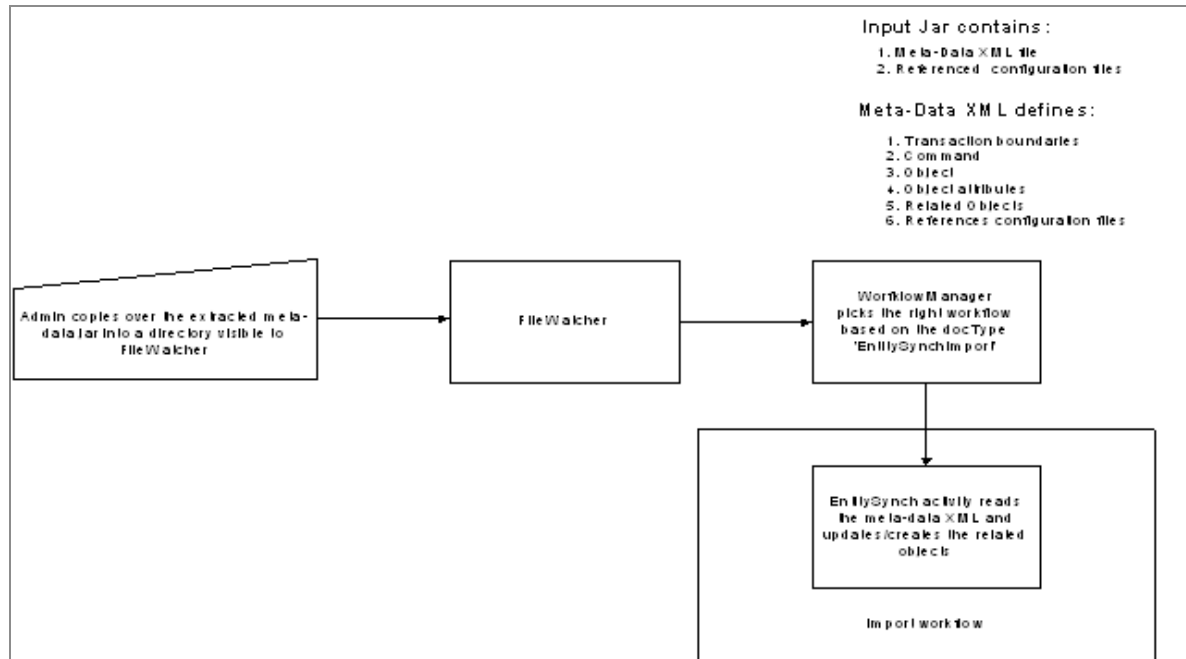
7. Verify whether the metadata has been imported correctly. For example, for verifying whether the repository information has been imported correctly, click **Master Data >**

Repositories.

Flow of Importing Metadata Using FileWatcher

The following figure shows the flow of importing metadata using FileWatcher:

Flow of Importing Metadata Using FileWatcher



Importing Output Maps Metadata

You can import the metadata for output map in two ways:

- Along with the metadata import of the repository.
- Independent of the metadata import of the repository.

Prerequisites

- For importing metadata for a custom output map, ensure that the synchronization format and the repository referred to in the response XML exist on the target company.
- For importing metadata from a predefined output map, ensure that the

synchronization format referred in the response XML exists on the target company.

Procedure

1. Importing Metadata Independent of the Repository

- a. User the response file generated from the metadata export of an output map to import metadata.

To alter the metadata of exported entities to avoid duplication or loss of metadata in the target company, you can perform the following. However, this is not recommended.

- b. Extract the response XML from the metadata response JAR file, and edit this file.
- c. You can add new attributes to predefined, and custom output map definitions. To do so, update the response XML extracted from the JAR file generated by the copy metadata export operation for the output map.
- d. If you want to add new attributes to existing output map definitions, add XML elements to the response XML.
- e. You can also change attribute definitions. For example, change the following attribute value in any attribute definition:

```
<Attribute name="dataType" type="string">DATE</Attribute>  <!--changed
from VARCHAR2 to DATE-->
```

However, the new attributes added in the XML must also be available in the referred synchronization format.

- f. If you want to add new Output maps (custom/predefined), change the name of that map as follows in the XML element ExternalKeys of the output map and in **EntityData > Attribute** (name):

```
<ExternalKeys>
  <Key name="name" type="string">GS1</Key>
</ExternalKeys>
<EntityData>
  <Attribute name="name" type="string">GS1</Attribute>
```

- g. You can also manually create a response XML; ensure it is valid per the DataService Schema.
- h. After making all the required changes to the response XML, JAR it back to the

source JAR file.

- i. You can also use the response XML without un-jarring it.

2. Importing Output Maps Metadata with Cross-repository Relationships

- a. When a OutputMap is exported as a part of a MasterCatalog Entity or as an independent Entity, related OutputMaps are also exported in the Response XML.
- b. For the Given OutputMap Entity within a Command Object, the Response XML would have multiple entities within the same Command if the OutputMap Entity being exported has related OutputMaps.

Importing Input Maps Metadata

You can import the metadata for input map in two ways:

- Along with the metadata import of the repository.
- Independent of the metadata import of the repository.

i Note: The ProcessServiceMessage activity is not supported for in-memory workflows.

Procedure

1. Importing Metadata Independent of the Repository

- a. Use the response JAR file generated from the metadata export of the input map to import the metadata.
- b. Copy the JAR into the FileWatcher incoming folder setup for copy metadata, setup polling interval and check event log after the interval. Make sure the event is successful.
- c. Ensure that:
 - The Data Source and repository referred in the response XML/JAR exist on the target company.
 - All input map attributes referred in the response XML are present in the target repository.

To alter the metadata of exported entities to avoid duplication or loss of metadata in the target company, you can perform the following actions. However, this is not recommended.

- a. Extract the response XML from the metadata response JAR file, and edit this file.
- b. If you want to add a new input map (custom), you can change the name of that map in the ExternalKeys XML element of the input map and in the EntityData Attribute (name):

```
<ExternalKeys>
  <Key name="name" type="string">IMAP1</Key>
  <Key name="catalog" type="string">Address</Key>
</ExternalKeys>
<EntityData>
  <Attribute name="name" type="string">IMAP1</Attribute>
  <Attribute name="description"
type="string">IMAP1</Attribute>
  <Attribute name="commonKey" type="string"/>
</EntityData>
```

- c. You can also import an input map to a repository different from the source repository, provided all attributes referred by the input map exist in the target repository. To do this, you have to change the repository name as follows in the metadata export response XML:

```
<ExternalKeys>
  <Key name="name" type="string">IMAP1</Key>
  <Key name="catalog" type="string">Address</Key>
</ExternalKeys>
<EntityData>
  <Attribute name="name" type="string">IMAP1</Attribute>
  <Attribute name="description"
type="string">IMAP1</Attribute>
  <Attribute name="commonKey" type="string"/>
</EntityData>
```

You can also create the response XML manually, which is valid per the DataService Schema.

- d. After making all changes to the response XML, put it back into the source JAR file.

- e. You can also use the response XML without adding this file into the JAR.
2. Importing Input Maps Metadata with Cross-Repository Relationships
 - a. When an Input Map is exported as a part of MasterCatalog Entity or as an Independent Entity, the related InputMaps are also exported in the Response XML.
 - b. For a given InputMap Entity within the Command Object, the Response XML would have multiple Entities within the same Command if the InputMap Entity being exported has related InputMaps.

Import of Repositories Metadata with Cross-Repository Relationships

For repositories with cross repository relationships, you need to consider the relationships on the target company and how such relationships (on the Target company) may be affected as a result of an import.

For instance, you have a Customer repository with an associated Address repository, and if you want to import it to a target company which already has a Address repository with more attributes than the source repository of the same name, the target repository attributes are overwritten by the source repository attributes. To avoid this and in case of such conflict, you can open and edit the response XML as a part of the exported JAR, put it back into the JAR and then perform the import on the target company.

- When a repository is exported, the related repositories are also exported in the response XML.
- For a given repository entity within the command object, the response XML would have multiple entities within the same command if the repository entity being exported has related repositories.
- If a relationship definition has relationship attributes, the relationship attributes and table name corresponding to the attributes is also exported along with the relationship definition.
- If an attribute is multivalue, the table name for the multivalue attribute is exported along with the attribute.
- When input maps are defined in a repository, the input maps are also exported along with the repository. When the input maps have related input maps, the related input

map is also exported along with the relationship attribute.

Importing Synchronization Formats Metadata

You can import new or custom synchronization format as well as the existing synchronization format. For predefined synchronization formats, either the response file generated from metadata export or the JAR file can be used.

Procedure

1. For a New or Custom Synchronization Format
 - a. Create a new XML or extract XML file from the JAR file created by metadata export process.
 - b. Add a new attribute, if required. Synchronization formats also support the following properties for an attribute:
 - **DisplayName:** Specifies the display name of the attribute.
 - **Searchable:** Specifies whether the attribute is searchable.
 - **DisplayInRecordList:** Specifies whether the attribute is to be displayed in a record list.
 - **MultiValued** : Specifies whether the attribute is a multivalue attribute.
 - **MultiValueTableName:** Specifies the multivalue table name if the attribute is a multivalue attribute.
 - **SharedMultiValueTableName:** Specifies the shared multivalue table name. When you import metadata that uses common table indicator as true for multivalue data, the Multivalue Table Name is ignored and replaced by the system determined common table name.
 - a. After adding or modifying the new attributes, save the file. You can also add or modify the attribute group definition. If any attribute refers to an attribute group and is replaced by another attribute group, the reference for that attribute group should also be changed in the attribute definition.
 - b. Save the XML file. Repackage in the JAR from which was extracted and place it in the directory which is accessible to FileWatcher. You can also directly place the XML file without repackaging it in JAR file.

Importing Users Roles and Permissions

You can import new or custom users, roles, and permissions as well as the existing users, roles, and permissions. To import existing users, roles, and permissions from one system to another, use the response JAR file generated from metadata export.

Procedure

1. Import predefined Users, Roles, and Permissions:
 - a. Export the existing users, roles, and permissions using sample XML files.
 - For information about exporting metadata, see [Exporting Metadata Using UI \(File Approach\)](#).
 - The in-built sample XML files are available at \$MQ_HOME\schema\DataService\2.0\samples\metadataexchange. For more information, see [Export of Business Objects Using Request XML](#).
 - a. Download the response JAR file from the Event Log page.
 - b. Import the response JAR file using **System Operations > Import Metadata** option.
2. For New or Custom Users, Roles, and Permissions:
 - a. Go to \$MQ_HOME\schema\DataService\2.0\samples\metadataexchange\security folder.
 - b. Use any of the existing XML files as per your business requirements. For example, you want to import multiple users, roles, and permissions. You can modify the following predefined XML files:
 - For Users: MultipleUsersRequest.xml.
 - For Roles: MultipleRolesRequest.xml
 - For Permissions: SimplePermissionsForMultipleUsersRequest.xml
 - For Roles: SimplePermissionsForMultipleRolesRequest.xml
 - a. Add a new username, role, or permission, if required.
 - b. Save the modified XML file.
 - c. Repackage the XML file in the JAR from which it was extracted.
 - d. Import the JAR or ZIP file using **System Operations > Import Metadata** option.

Note: Users imported without security questions are also created in the application.

Importing Metadata Using FileWatcher

Procedure

1. Complete the required FileWatcher setup.
 - a. The following is a sample FileWatcher section that needs to be present for importing metadata:

```
<DataSet type="single" >
  <Name>Import</Name>
  <Credential domain="GLN">
    <Identity>0040885020007</Identity>
    <!-- Point to the destination enterprise -->

    </Credential>
    <Action>DataServiceUpdate</Action>
    <URIInfo scheme="local">
      <Relative>MQ_COMMON_DIR</Relative>
      <URI>target/metadata/import</URI>
      <!-- Directory where jar file to be imported is kept
-->
    </URIInfo>
  </DataSet>
```

In this example, the credential section is set to use a credential of the destination enterprise to which import of metadata is to be done. The credentials can belong to any valid TIBCO MDM supported domain.

- b. Ensure that the PollingInterval is set to a non-zero value to turn on polling by FileWatcher. For example:

```
<PollingInterval>600</PollingInterval>
```

In this example, the polling interval is set to 10 minutes.

2. Copy the JAR file to be imported into the directory monitored by FileWatcher. For example, copy the JAR file into \$MQ_COMMON_DIR/target/metadata/import/incoming.

Result

You can monitor the import from the Event Log page. You can also refer to `$MQ_HOME/log/dataservice.log`.

Troubleshooting while Importing or Exporting Metadata

A log file is generated for each execution of import or export. You can go to the Event Log page to access the log file. This reports both successful activity and any warning or failures.

A summary of entities exported or imported is also reported on the event log page. The `elink.log` file can be used to get more information.

Limitations for Export or Import of Metadata

The following are the limitations for export or import of metadata.

- Metadata migration is supported only between the similar versions of TIBCO MDM. At least, the major versions of TIBCO MDM have to match between the instance from which the export is being done, and the instance into which it is imported.
- If you attempt metadata migration, ensure that the applications are not being used (either through the user interface or through XML messages) while export or import is being done. Doing an export or import while the application is being actively used might lead to inconsistent results. TIBCO recommends that the web server bridge to the application be brought down to ensure no users are using the system. To ensure that no messages are being processed, you should bring down the Communicator.
- Only one command is supported per transaction in the data service XML, and only one entity in a command.
- Export and import do not allow incremental migration. This means an entity with all its subcomponents are exported or imported. If an entity with the same name is present in the target company, the entity and its subcomponents are overwritten.
- TIBCO MDM running on the SQL Server database: Importing metadata concurrently

may lead to database locks. Therefore, it is recommended that you import metadata sequentially.

- Importing metadata fails on the Oracle database if the metadata is exported from the SQL Server database containing the table name more than 30 characters.

Data Transfer

Using the Data Transfer option, you can export metadata and data from one enterprise to another for the purpose of replicating. Data Transfer supports both the export (from the source enterprise) and import (into the target enterprise) operations.

i Note: For Data Transfer, the repository metadata on the source and target enterprises must be the same.

Data is transferred using the import workflow with some modifications to accommodate this special import case. The exported data files represent the data source itself. These exported data files can be imported into the existing data sources of the target enterprise. The associated input map configuration can then be used to initiate the import of the data into repositories.

Three endpoints trigger the import workflow to enable the import of the export archive that is generated by data transfer export or synchronization-based data transfer.

i Note: When ImportWorkflow is run in the Data Transfer mode, the `AsynProcessIndicator` parameter is the only parameter that determines that the activity runs in parallel. `RecordsPerAsynCall` is used only for batching and has no significance in determining whether to run the process in parallel or not. For the Data Transfer mode, add the `AsynProcessIndicator` parameter and set its value to true in the following activities:

- `PrepareForImportCatalog`
- `ImportCatalogRecords`
- `ExtractRelationship`

Importing Data Using Data Transfer

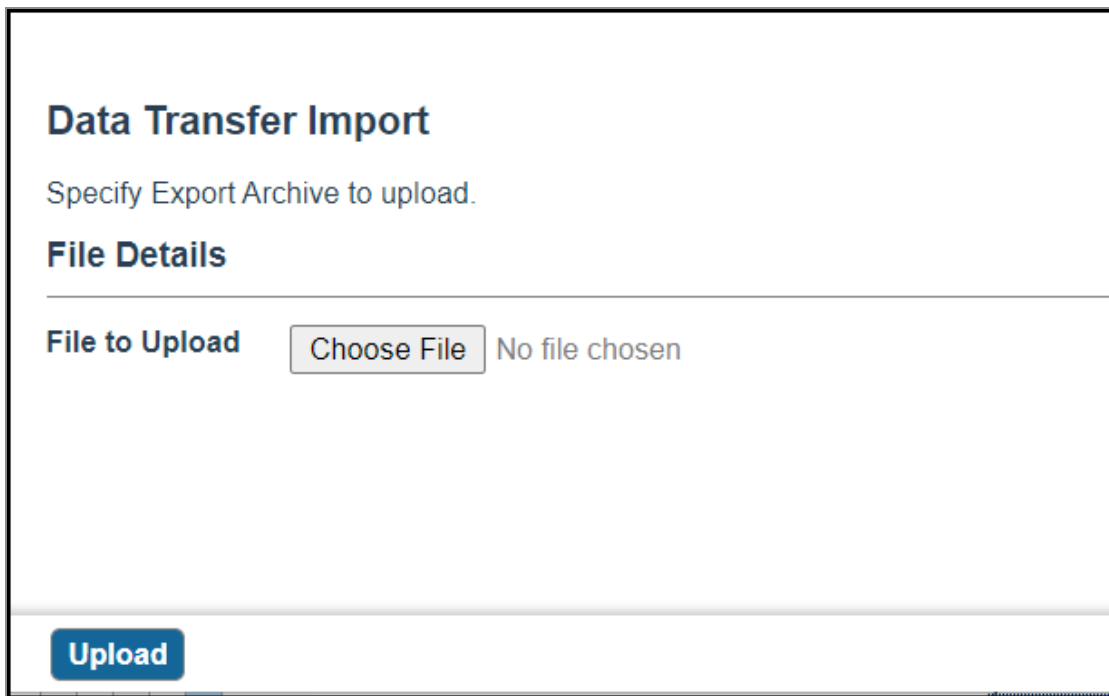
By using the Data Transfer Import option, you can import the export archive exported from the source company.

Before you begin

Export data from the source company using either the **Data Transfer Export** option (see [Exporting Data Using Data Transfer](#)) or synchronization-based data transfer by selecting the **For Data Transfer** option on the Create Synchronization Profile page (see [Synchronization Profile](#)).

Procedure

1. On the destination company, log in to TIBCO MDM.
2. Click **System Operations > Data Transfer Import**.



The screenshot shows a web interface for 'Data Transfer Import'. At the top, the title 'Data Transfer Import' is displayed in a large, bold, dark blue font. Below the title, the instruction 'Specify Export Archive to upload.' is shown in a smaller, dark blue font. Underneath this, the section 'File Details' is highlighted with a dark blue header. A horizontal line separates this header from the content below. The content area features the label 'File to Upload' in bold. To its right is a button labeled 'Choose File' with a light gray border, followed by the text 'No file chosen' in a light gray font. At the bottom of the interface, there is a prominent blue button with the word 'Upload' in white text.

3. Click **Browse** to navigate to the export archive to upload.
4. Select the export.zip file and click **Upload**.
5. Click **Yes** to confirm that the action uploads data source(s) and initiates imports.
6. In the Web page that follows, click **Check Progress** to monitor the status of the

upload.

The export ZIP is imported into the selected enterprise.

Result

Importing the export archive in the data transfer operation triggers the following actions:

- First, the repository metadata is imported if it is a part of the export archive
- Then, the metadata required for reimport of data is imported, which includes all generated data sources and input maps
- Lastly, the data transfer operation is invoked, which involves uploading each CSV data file (from the export archive) to its data source, and then invoking import of records using each associated input map into its corresponding repository

Exporting Data Using Data Transfer

By using the **Data Transfer Export** option, you can export metadata and data for a single or all root repositories in the enterprise. The purpose of this option is to transfer record data (confirmed, unconfirmed, or latest) from one enterprise to another.

The **Data Transfer Export** feature is an extension of the existing export records functionality (**Master Data > Repositories > Export Records**) in a way that it includes the following additional capabilities:

- Supports options to export either a single root repository or all repositories
- Includes metadata in export along with data
- Exports incremental data based on various filters
- Provides a history of all data exports at one place to download

The Data Transfer Export option is different from the synchronization-based data transfer functionality, where only the data for a single root repository selected in the Synchronization Profile is exported, and the output data depends upon the selected output map, relationships, synchronization formats, transformation rulebase, and so on.

Before you begin

To fully export or replicate one enterprise to another, first use the Export Metadata Wizard to export metadata and associated resources or artifacts for intended repositories, then import that metadata in the target enterprise and lastly use the **Data Transfer Export**

option to transfer records data from the source enterprise to the target enterprise.

Procedure

1. In TIBCO MDM, click **System Operations> Data Transfer Export**.

Data Transfer Export

Data Transfer Operations ☒ **Export** ☐ **Download**

Repository ALL

Description data export for ALL repositories

Incremental ☐

From Date 2021-11-01 00:00:00.000

To Date 2021-11-29 00:00:00.000

Export Metadata ☒

Export

2. On the Data Transfer Export page, select one of the following Data Transfer Operations:
 - **Export:** Use this option to select either ALL repositories or one of the root repositories in the enterprise. Select other filters such as incremental or dates range.
 - **Download:** Download the export archive (ZIP) of current and previous transactions, and also check the status and event details. See [Downloading Export ZIP](#)
3. Select the root repository from the repository list. By default, the **All** option is selected to export all root repositories from the selected company.
4. Write the description. The field is mandatory.
5. Select the **Incremental** check box to export only incremental changes since the

previous export, either as part of data change or metadata changes. If you select the **Incremental** check box, the following options are displayed:

- **Previous Data Transfer operation:** If earlier data transfer was performed for the selected repository, then all those data transfer operations are listed along with the date and timestamps. Select the specific data transfer operation that you want to export.
 - **Repository Named Version:** This option is enabled only for the **All** root repository option.
When you select the **Repository Named Version** option, the named version operations are either created by the import functionality or manually listed for the selected repository along with the date and timestamps. Select the specific named version operation that you want to export.
6. From the **From Date** field, select the from date, for example, if you select 1st March, records that are added or modified after 1st March are exported from the selected repository.
 7. From the **To Date** field, select the to date, for example, if you select 1st March, records that are added or modified before 1st March are exported from the selected repository.
 - If you select both the dates, records that are added or modified between the specified date range are exported from the selected repository.
 - If you do not select from and to dates, and also do not select the **Incremental** check box, all records are exported from the selected repository.
 8. To export metadata, click the **Export Metadata** check box.
 9. Then, click **Export**.
A confirmation message is displayed listing the selected options.
 10. On the Confirmation message box, verify the listed options and then click **Submit**.

Result

A confirmation message is displayed. Click the **Event Status** link to view export records event details and download the export .zip file.

What to do next

See [Downloading Export ZIP](#) and [View Event Details](#).

Downloading Export ZIP

By using the Download option, you can download the existing export archive (ZIP) file.

Before you begin

Export repository metadata by using the **Export** option. See [Exporting Data Using Data Transfer](#).

Procedure

1. In TIBCO MDM, click **System Operations> Data Transfer Export**.
2. On the Data Transfer Export page, select **Download**.

Data Transfer Export

Data Transfer Operations

Export

Download

Download exported zip

Event ID	Status	Repository	Description	Timestamp	Member	Export Zip
90019	SUCCESS	ALL	export of all repositories	2021-12-23 09:48:34.111	jsmith jsmith	Export_2021-12-23-09-48-34.zip

The Download exported zip section displays the event ID link, status, repository name, description, timestamp, member, and the export ZIP link.

3. In the Event ID column, click the event ID link to see details of the event. See [View Event Details](#).
4. In the Export zip column, click the `Export_datetimestamp.zip` link to download the export .zip file.

Result

The export archive is downloaded containing the repository metadata ZIP files and various CSV files containing records, relationship data, and reimport metadata.

What to do next

The downloaded export archive can be imported as it is in a target enterprise by using the **Data Transfer Import** option. The export archive contains a `README.txt` file that has information about its origin and details such as source enterprise name, repositories exported, username, date, and time stamp.

Hierarchy Management



Tip: If you prefer a video of the *Hierarchy Management* feature overview, visit <https://youtu.be/mh8PWnFTlfM>.

Each business has its own unique data with different hierarchical relationships. Managing and presenting this hierarchical data is key to each business and a core aspect of master data management. Product hierarchies and categories, customer hierarchies, organization structure, and market segments are a few examples of master data hierarchies.

TIBCO MDM deals with hierarchical data, starting with designing a repository data model to maintaining data records. Records are spread across multiple repositories and linked together with relationships, together forming hierarchical data. This hierarchical MDM data can be further categorized or extended to many static and dynamic hierarchies. The purpose for this can be better visualization, faster search, and reporting.

By using the hierarchy management feature, you can view and maintain TIBCO MDM data by extending it to another hierarchy without actually affecting MDM data.

Key Hierarchy Management Features and Benefits

Flexible and Multidomain Modeling

Supports a variety of complex hierarchy structures across multiple domains. Multiple parent and child nodes, and the nodes connecting relationships are all supported as part of TIBCO MDM's business information modeling. You can attach domain golden records to nodes.

Hierarchy Visualization

Presents a hierarchy editor that provides intuitive and straightforward navigation across hierarchies.

You can hover over the different nodes of a hierarchy to view the properties of the node. You can save time with a lightning-fast search in the hierarchy editor.

In addition to better visualization, you can manage the previously created hierarchies by using the cloning, merging, and updating actions in the hierarchy editor.

Data Stewardship Control

Controls the access to hierarchies. Subject matter experts of the hierarchy management can handle and assign roles.

Data Governance

Handles changes to the hierarchy, both from a structural and data quality perspective, and maintains version history. With the creation of new hierarchies or any changes to the existing hierarchies, are automatically captured and stored in different versions. You can view the changes made in different versions of the hierarchy.

However, automatic hierarchies do not support the full governance model or process as manual hierarchies. Automatic hierarchies are updated automatically and continuously (without user intervention) on any operations on TIBCO MDM repository records (or domain golden records) such as record add, modify, delete, import, mass update, merge, and so on. Automatic Hierarchies only support governance for the split and merge operation.

In addition, TIBCO MDM provides lock and unlock hierarchy feature to avoid concurrent editing of a hierarchy.

Workflow

Processes change requests and approvals on hierarchies. Workflows are a core component of TIBCO MDM. The workflow enables both efficiency and proper governance around the business process. Workflow manages events, workflow states, and state transitions.

Types of Hierarchies

You can create the following types of hierarchies on the Hierarchies page:

Type	Description
Manual Hierarchy	See Creating Manual Hierarchies .
Automatic Hierarchy	See Creating Automatic Hierarchies .

Hierarchies				
Export Link Records Delete Unlock Page 1 of 1 20 View 1 - 2 of 2				
Name	Type	State	Description	Last Modified
☐ Products	Manual	Published	New Hierarchy	2020-07-01 13:10:51.160
☐ DepartmentVsDesignation View	Automatic	Published	Last updated by Event 40000: Import	2020-06-30 16:59:52.663

Manual Hierarchy

The Manual hierarchy is user focused and provides the entire control to the user. By using the Manual hierarchy, you can create the hierarchy structure that includes nodes, node linkages, and record linkages. In the manual hierarchy, you need to manually link records to the nodes.

You can use the Manual hierarchy when you have a small set of data, which is easy to organize and maintain.

Automatic Hierarchy

You can use the automatic hierarchy feature for large volumes of data, where manually creating hierarchy and linking records is unmanageable task. When data is more logically organized, you can quickly organize the data in the business hierarchy by using automatic hierarchies.

By using the automatic hierarchy, you can define the abstract structure of a hierarchy. The levels and nodes in the hierarchy are controlled (and generated automatically) by the records in repositories (based on the values of attributes). These values are mapped to the levels in the hierarchy.

Key Features

- The values of various record attributes define the levels in automatic hierarchies
- When new records are introduced in the associated repository or existing records are modified, the nodes at each levels are automatically generated or modified accordingly

This process generates a hierarchy structure containing levels and nodes. The records that generated the nodes are linked to the respective leaf nodes in the hierarchy.

Consider that a retailer builds the product hierarchy for the retail business, deploys it in to TIBCO MDM, and keeps enhancing it based on the business. A retailer can have some commonly used hierarchies such as the product categorization, regional categorization, and marketing campaign.

Use the automatic hierarchy for fast searching, searching for the records and nodes based on name and other categories.

Repository-Based Automatic Hierarchy

You can use the repository attributes to create automatic hierarchies:

- **Single repository:** When repositories do not contain any relationship, create a hierarchy by using attributes of a single repository at all levels. To avoid duplicate nodes, select each attribute a single time and map it to the only one level.
- **Multiple repositories:** After you select a root repository for the level one, you can map other levels to attributes from the related repositories (in forward relationship) of the root repository. To avoid duplicate nodes, select an attribute a single time from a repository and map it to the only one level. However, you can select the same repository at multiple levels to map it to other attributes.

 **Note:** The first level must belong to the root repository. If you define the first level for multiple repositories, then you cannot delete it.

The following repository attributes are excluded when defining levels or nodes in the automatic hierarchy:

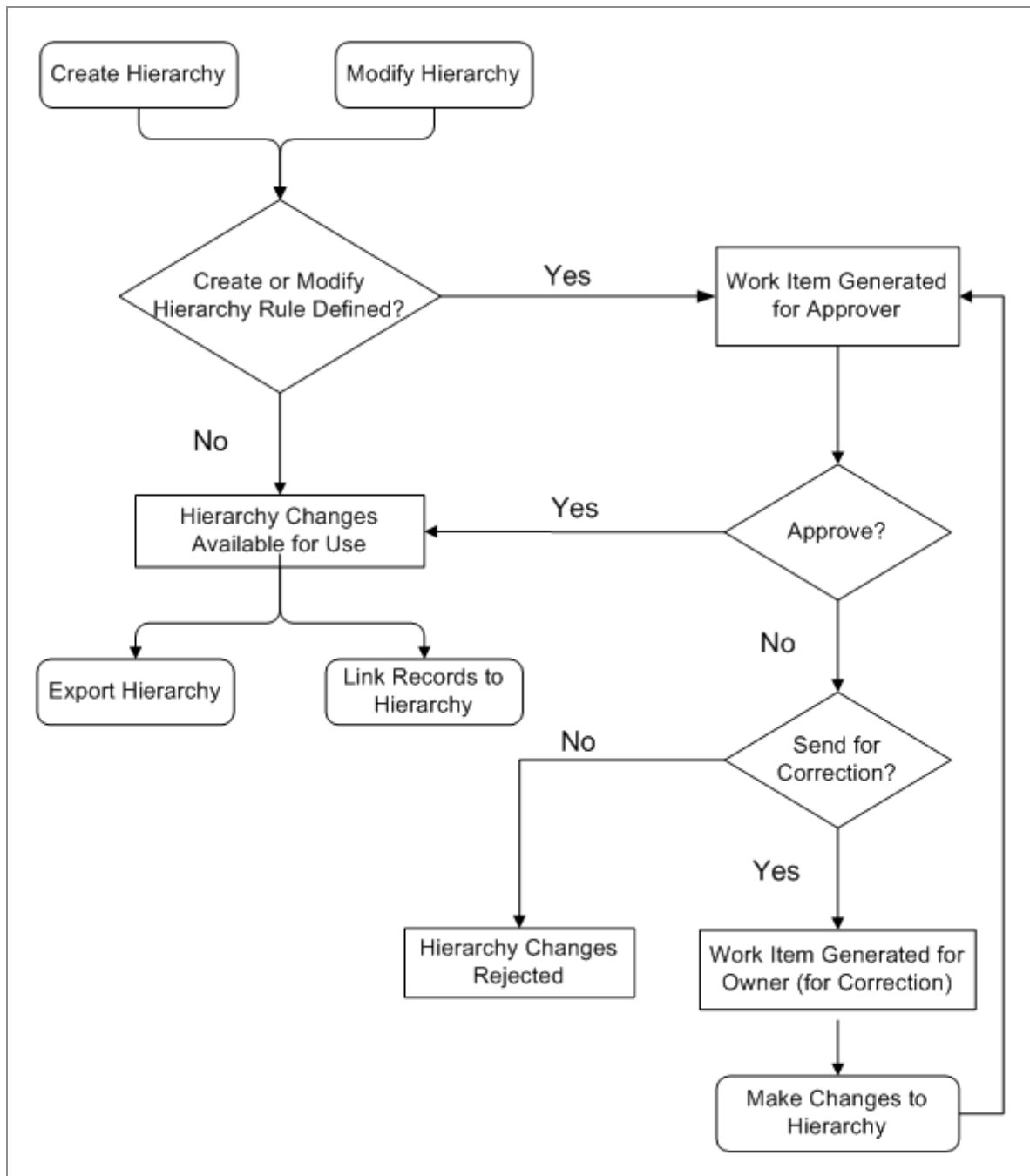
- Multivalue
- Category specific
- Custom
- System
- Internal record attributes such as CONTAINS, PRODUCTID, and PRODUCTIDEXT
- Attributes of certain data types such as DATE, TIMESTAMP, BOOLEAN, URL, and FILE

These attributes are ineffective to create hierarchical structure (nodes) or data classification points for records. For example, `TIMESTAMP` is a unique value. You cannot have a node based on timestamp.

The following states of an automatic hierarchy are displayed on the hierarchy editor or viewer: Draft, Published, Pending, and Inactive. An inactive hierarchy cannot turn into active. You must delete the inactive hierarchy.

Hierarchy Workflow

The following diagram illustrates the hierarchy workflow:



Business Process Rules for Hierarchy

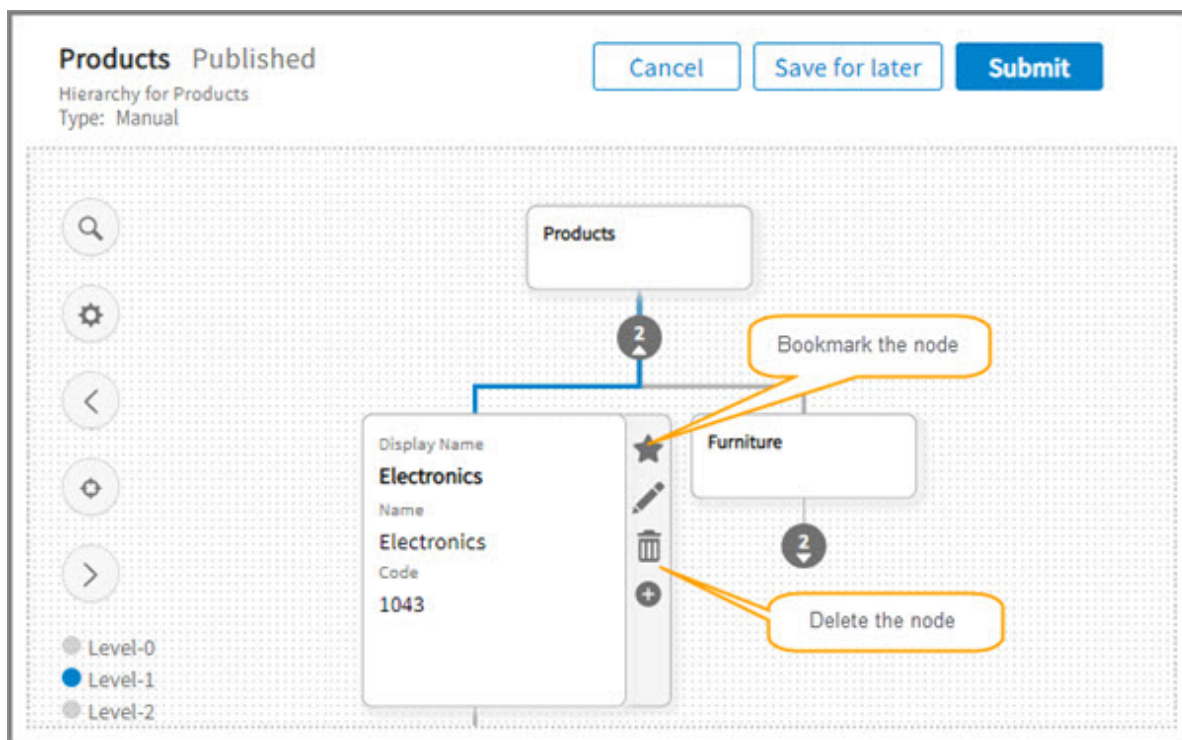
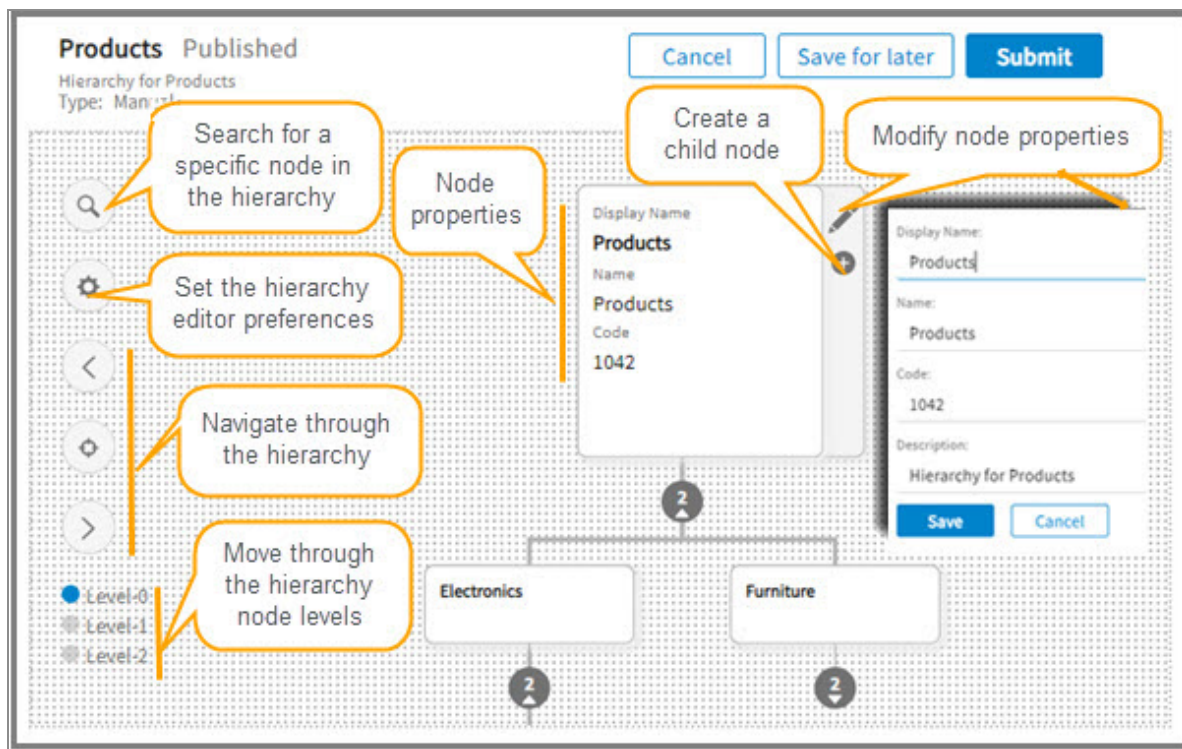
You can run a business process rule for all hierarchies. You can also run all of the actions on a specific hierarchy. Details of the business process rules are as follows:

Rule Name	Action	Action and Description	Applicable for Automatic Hierarchy
Hierarchy Create Approval	Create	To create hierarchy	Yes
Hierarchy Edit Approval	Modify	- To modify hierarchy - To perform the split and merge operations from the Link Records page	No
Hierarchy Delete Approval	Delete	To delete hierarchy	Yes
Hierarchy Link Approval	Link and Unlink	To link records to hierarchy and unlink records from hierarchy	No

See also: [Business Processes](#) and [Creating Rules](#).

Hierarchy Editor

You can access the hierarchy editor by clicking **Edit** on the view hierarchy page or by clicking **Create > New Hierarchy**. Hierarchy is represented as a tree graph on the user interface. By default, the tree graph spans from top to bottom. The easiest way to understand the structuring of the hierarchy model is to hover over the different nodes of a hierarchy.



- When you select a node (root or child), a toolbar is displayed on the right side of the

node with a list of actions that can be performed.

- To search for a specific node in the hierarchy, click the **Search** icon and type minimum of three characters to view the search result. The search result is matched against the code, name, and display name properties of the nodes.

The search result displays the details about the matched property. You can select one of the matched results to navigate directly to the matching node on the hierarchy tree graph.

If the search result contains more than five entries, the **More results** link is displayed.

- Set or change the preferences of the hierarchy. The tooltip is available for all the preferences options.

Preferences are saved for the user session, that is, for two different users two different preferences setting can be applied.

- Navigate the hierarchy tree on the left, right, and at the center of the canvas.

Click the level number to directly navigate to the selected level in the tree. For example, if you click **Level-0**, the root-level hierarchy node is displayed.

- Cancel, save, or submit the modified hierarchy. For information, see [Creating Manual Hierarchies](#).

Properties on the Node in a Hierarchy

When you select a node in a hierarchy, the following properties are displayed:

Property Name	Description
Name	Name of the hierarchy node. This name can be a name internal to the business and can be duplicated through the hierarchy in different branches.
Display Name	By default, the hierarchy display name for each hierarchy node appears on the UI. If you have used duplicate names for internal business reasons, you can use unique, user-friendly display names to resolve this conflict.

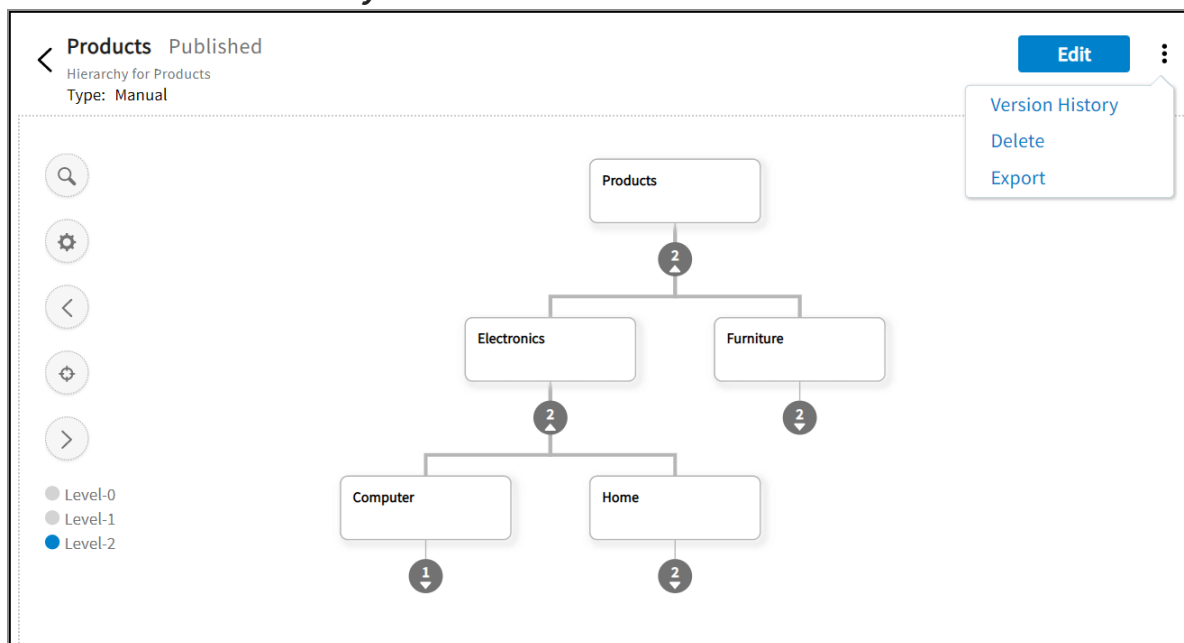
Property Name	Description
Code	Each node has a short and unique identifier, called code. By default, a sequence-generated numeric value is assigned to the code. You can change this value. Code is an alphanumeric field, for example, USA1234.
Description	Description of the hierarchy.

The default values are displayed based on the [Configuration Properties for Hierarchies](#) set in the Configurator.

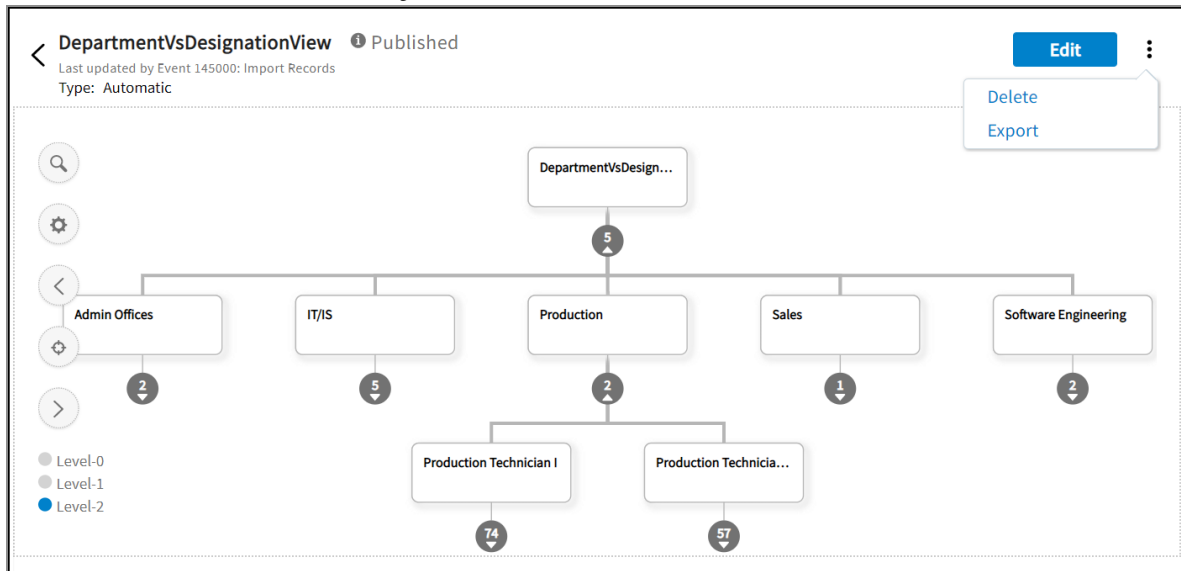
Hierarchy Viewer

You can view the hierarchy from the **Hierarchies** page by clicking the hierarchy link in the Name column.

View for Manual Hierarchy



View for Automatic Hierarchy



You can perform the following actions in the view mode of the hierarchy editor, depending on the state of the hierarchy:

Actions	Description
Edit	You can modify the hierarchies that are in Draft or Published state. A warning message is displayed. Click Got it to modify the hierarchy. When you click Edit, the hierarchy mode on the canvas changes from view to edit. The hierarchy is locked until you submit changes or discard the changes. See Creating Manual Hierarchies. For automatic hierarchies, you cannot edit the hierarchy (or change definition of the hierarchy) after the hierarchy is published. See Creating Automatic Hierarchies.
Version History	See Viewing Version History of Manual Hierarchy. For automatic hierarchies, version history is not available.
Discard Draft	Select to discard the draft. A confirmation message is displayed. Warning: The Discard Draft option is displayed only for hierarchies that are in the draft state.

Actions	Description
Delete	See Deleting a Hierarchy .
Export	See Exporting Hierarchy .

For the published automatic hierarchy, the Information icon is displayed. When you click the icon, the definition of an automatic hierarchy is displayed. The definition includes information about levels, repository, and attributes of the selected hierarchy.

Actions on a Hierarchy



Tip: Watch the Video: To watch various actions performed on the Hierarchies page, click 

Actions available on the **Hierarchies** page are restricted by the access control list. Thus, some of the actions described might not be available to you, depending on the resource security defined. See [Defining Resource Security](#) for a list of all access permissions that can be defined.

On the **Hierarchies** page, you can perform the following actions on a hierarchy:

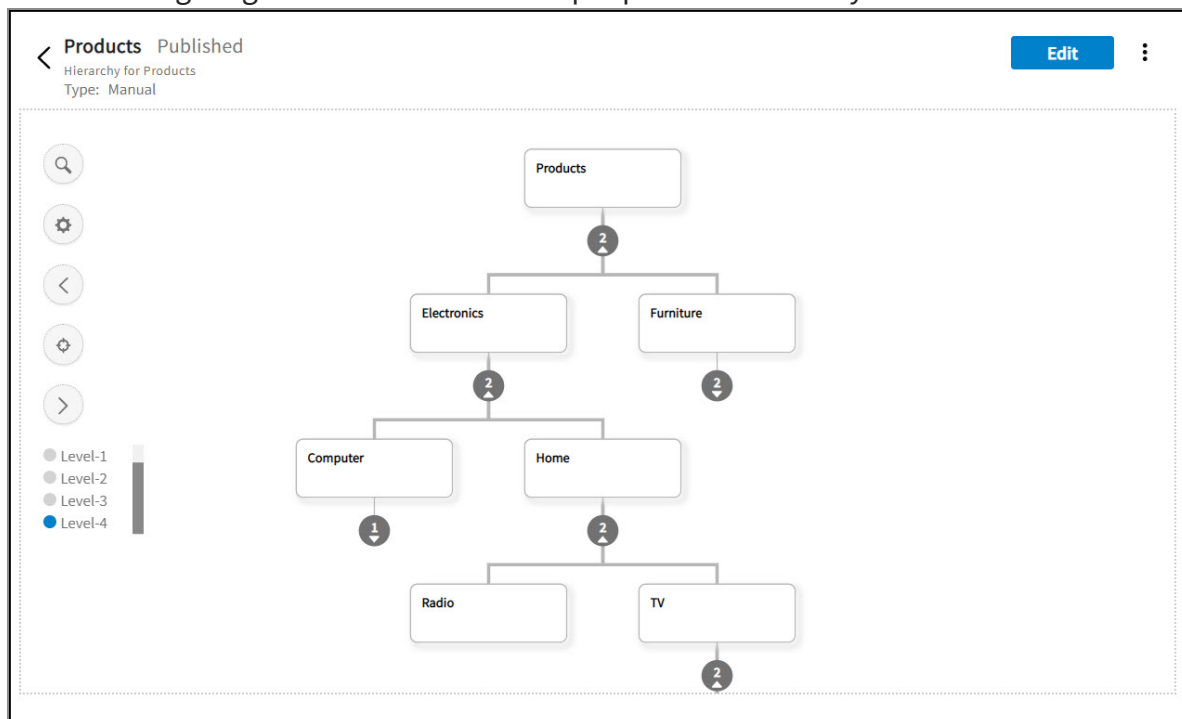
Action	Reference
Create a manual hierarchy or import a hierarchy	Creating Manual Hierarchies
Create automatic hierarchy	Creating Automatic Hierarchies
Export the hierarchy	Exporting Hierarchy
View the version history of the hierarchy	Viewing Version History of Manual Hierarchy
View and link records to the hierarchy	Linking Records to Manual Hierarchy
Delete an existing hierarchy	Deleting a Hierarchy

Action	Reference
Unlock hierarchy	Locking and Unlocking Hierarchy
View the hierarchy details	Viewing Associated Hierarchies

Creating Manual Hierarchies

Create a hierarchy from the beginning. By default, an initial node (root node) is available, and you can create a fully functional hierarchy from this starting point. Root node properties also define the hierarchy properties example name.

The following diagram illustrates the sample product hierarchy:



Procedure

1. On the Hierarchies page, click **Create > Manual Hierarchy**.

The NewHierarchy_nodeID node is displayed on the hierarchy editor. The node name is displayed based on the value defined in the Configurator for the Hierarchy name default value configuration property. For information, see [Configuration Properties](#)

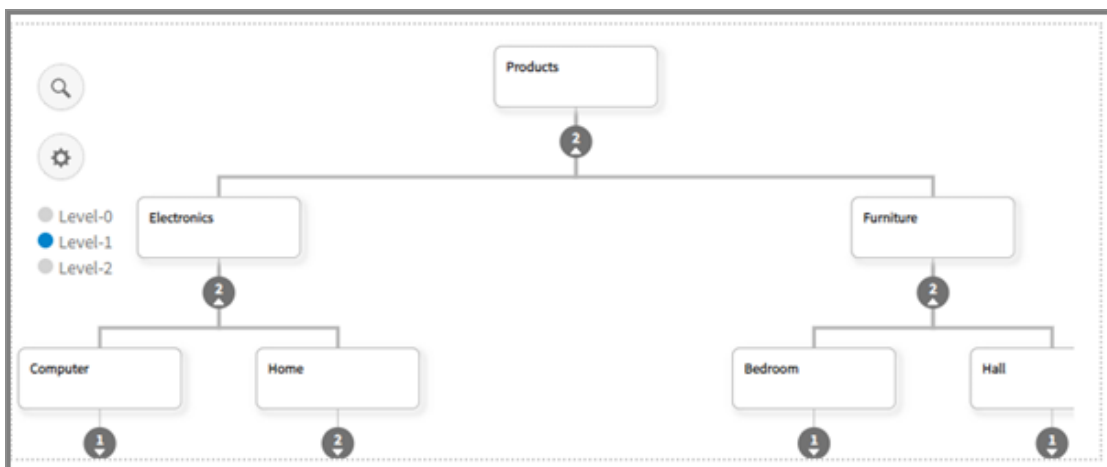
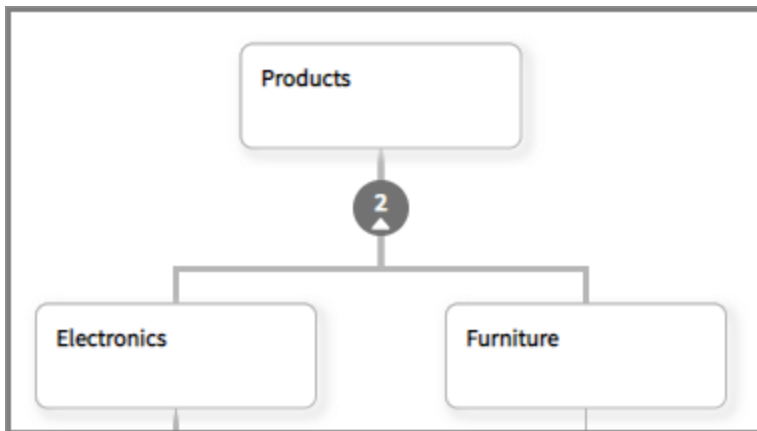
for Hierarchies.

2. In the hierarchy editor, click the NewHierarchy_nodeID root node on the graph.

i Note: The root node is a starting point already available on the hierarchy editor. You can rename the hierarchy by editing the details of the root node. For example, the Products hierarchy.

The selected hierarchy root node is expanded with its properties. For information about properties, see [Properties on the Node in a Hierarchy](#).

3. When you select a node, a toolbar with icons is displayed on the right of the selected node. Each icon represents some actions to be performed on a node. For icons and their description, see [Hierarchy Editor](#).
4. Add nodes to the hierarchy.

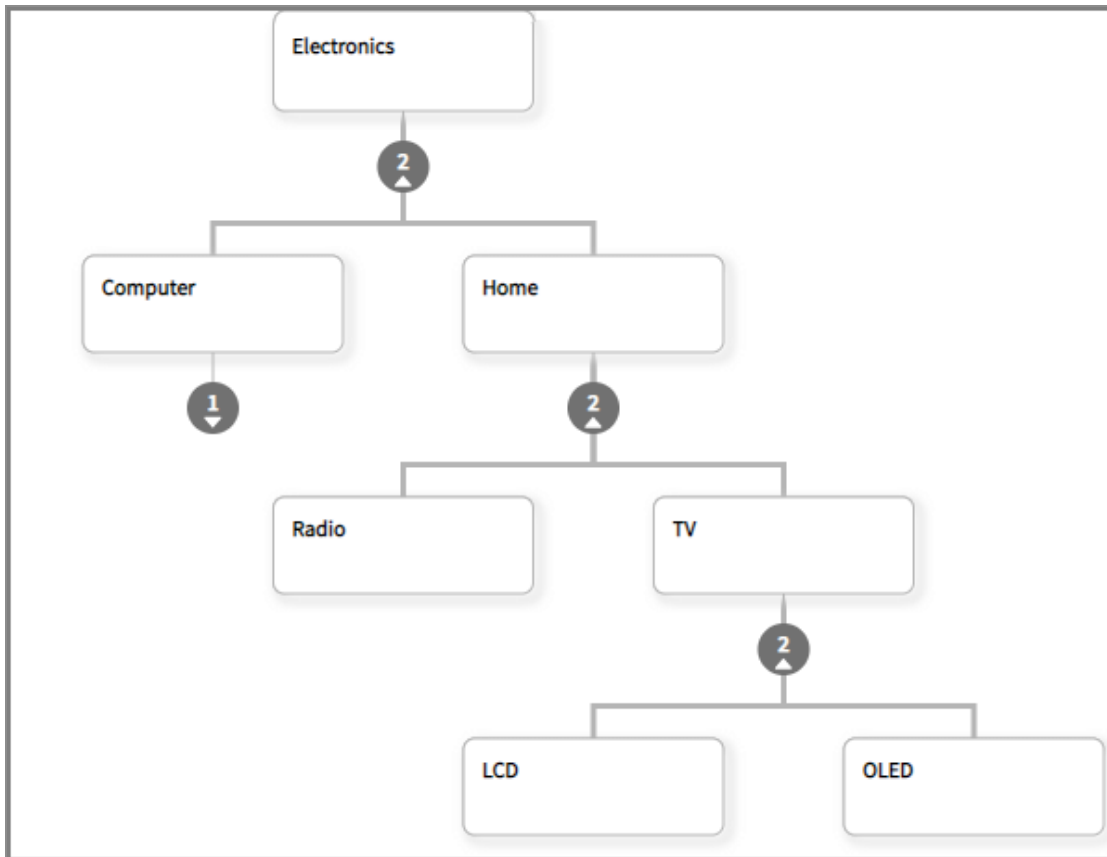


After adding nodes, the updated hierarchy is:

Products/Electronics/Computer
Products/Electronics/Home

Products/Furniture/Bedroom
Products/Furniture/Hall

Add some more nodes.



After adding some more nodes, the new hierarchy is:

Products/Electronics/Home/Radio
Products/Electronics/Home/TV/LCD
Products/Electronics/Home/TV/OLED

5. To save the hierarchy in the Draft state, click **Save for later**.

Partially completed changes are saved for later use. To edit the draft hierarchy, see

[Hierarchy Viewer](#).

6. To initiate hierarchy workflow to process all the changes, click **Submit**.

When submitting the hierarchy, you can provide an optional comment with the changes done. In the **Comments** box, type the comment. This comment can act as a reason for the changes done and can be viewed in the hierarchy work item and hierarchy history pages.

i Note: If you have already set the Hierarchy Create Approval business process rule, the hierarchy work item is created. Navigate to Inbox and submit the work item to complete the workflow.

Creating Automatic Hierarchies

To understand the concepts of automatic hierarchy, see [Types of Hierarchies](#).

Before you begin

Ensure that repositories (a single and multiple) exist in the enterprise.

Procedure

1. On the Hierarchies page, click **Create New > Automatic Hierarchy**.
2. On the Automatic Hierarchy page, place the cursor in the *NewHierarchy_code* to change the hierarchy name.

Hierarchy state is displayed as **Draft** until you publish the hierarchy.

For a single repository

DepartmentVsDesignationView Draft Cancel Save for later Publish

New Hierarchy

Select Repository : HRDept

☒ Use Single Repository

Define Levels + level

Page 1 of 1 View 1 - 2 of 2

Level	Repository Attribute	Action
1	Department	
2	Designation	

For multiple repositories

Publisher Cross-Repository Hierarchy View Draft Cancel Save for later Publish

New Hierarchy

Select Repository : Publisher

☐ Use Single Repository

Define Levels + level

Page 1 of 1 View 1 - 4 of 4

Level	Repository	Repository Attribute	Action
1	Publisher	Name	
2	Author	Name	
3	Book	Genre	
4	Book	SubGenre	

- From the **Select Repository** list, select a repository.

Repositories that do not have supported data type attributes (date, timestamp, and multivalue) are hidden. The remaining repositories available in the current company are displayed. By default, the first repository is selected.

- If you select a repository that does not contain relationships, the **Use Single Repository** check box is disabled.
- If you select a repository that contains relationships, the **Use Single Repository** check box is enabled. To create a hierarchy using multiple repositories, clear the **Use Single Repository** check box.

- In the Define Level section, click the **level** button + level to define the levels for the attributes in the repository.

5. In the Define Level section, perform the following actions based on repository selection:
 - a. For a single repository: From the **Repository Attribute** list, select an attribute.
 - b. For multiple repositories:
 - i. By default, the root repository is selected in the **Level 1 Repository** list.
 - ii. From the **Repository Attribute** drop-down list, select an attribute of the root repository.
 - iii. From the **Level 2 Repository** list, select a repository. The drop-down lists all the related repositories (in the forward relationship) of the selected root repository.
 - iv. From the **Repository Attribute** drop-down list, select an attribute of the related repository.
 - c. Add multiple levels matching to the number of available attributes in the selected repository. The number of levels and corresponding attributes are displayed.
 - d. For a single repository, change the value of the repository or attribute selected at any level or you can delete the level, if required. However, for a cross-repository hierarchy, if you change the value of the repository at the intermediate level, a confirmation message is displayed and you need to redefine the levels.
 - e. For a single repository, if all attributes from the selected repository are used, then the **level** button is disabled.

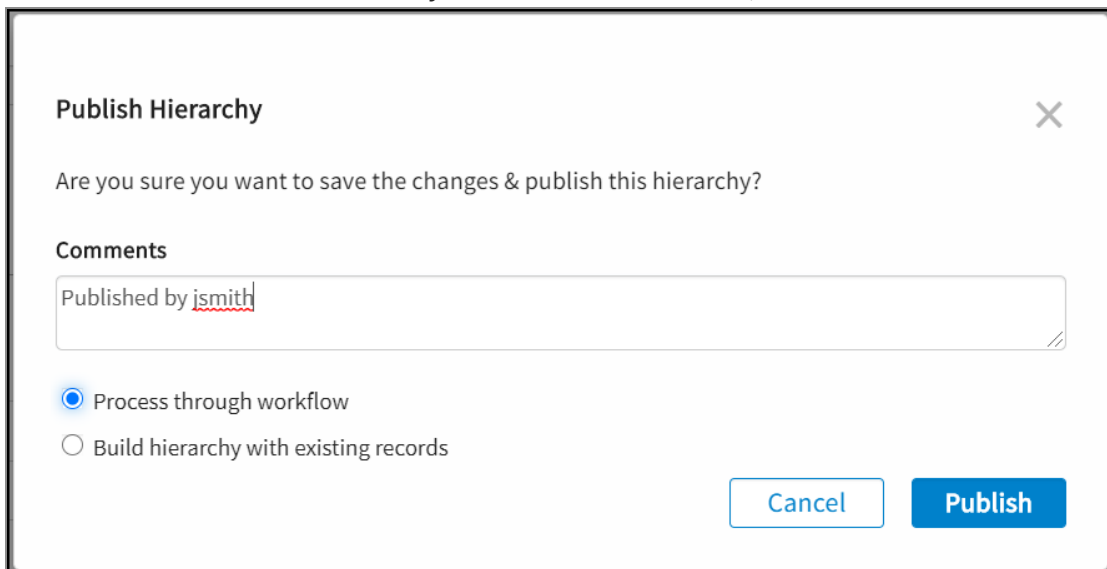
Additionally, if you change the repository from the **Select Repository** drop-down list, the columns in the Define Level section are cleared and the current or existing definition of levels is removed.

If you clear the **Use Single Repository** check box, a confirmation message is displayed before clearing the levels information. Click **OK**.

6. To save the automatic hierarchy in the Draft state, click **Save for later**.

When you save the hierarchy as a draft, the hierarchy does not process through the workflow. You can edit the draft hierarchy multiple times. The process of creating nodes in the hierarchy does not start unless you publish the hierarchy.

7. To save the automatic hierarchy in the Published state, click **Publish**.



The image shows a 'Publish Hierarchy' dialog box. At the top, it says 'Publish Hierarchy' with a close button (X) on the right. Below this is a question: 'Are you sure you want to save the changes & publish this hierarchy?'. Underneath is a section titled 'Comments' with a text input field containing 'Published by jsmith'. Below the input field are two radio button options: 'Process through workflow' (which is selected) and 'Build hierarchy with existing records'. At the bottom right are two buttons: 'Cancel' and 'Publish'.

8. In the Publish Hierarchy window, enter the comments and select one of the following options:

- **Process through workflow:** Processes the hierarchy through Hierarchy Create Approval workflow and creates a work item.
- **Build hierarchy existing records:** Builds hierarchy from the existing confirmed records without waiting for automatic hierarchy scheduler. Creates the hierarchy nodes from the existing records, and then links records to the leaf nodes.

i Note: If you have permission to save the hierarchy without the workflow, then both the options are displayed. You can select only one option at a time. However, if you do not have permission, these options are not displayed and by default the hierarchy is published through workflow.

9. Click **Publish**.

An automatic hierarchy is published. A published hierarchy cannot be modified. After an automatic hierarchy is published, the hierarchy contains only one root node with the same name as that of hierarchy. You can view the hierarchy on the Hierarchies page.

Single repository hierarchy view with root node

DepartmentVsDesignation View ⁱ Published Edit ⋮

published by jsmith
Type: Automatic

🔍

⚙️

⏪

🔄

⏩

● Level-0

Display Name

DepartmentVsDesign...

Name

DepartmentVsDesignat

Code

1001

ⁱ

Display Name:

DepartmentVsDesignation View

Name:

DepartmentVsDesignation View

Code:

1001

Description:

published by jsmith

Close

Multiple repositories hierarchy view with root node

Publisher Cross-Repository Hierarchy View ⁱ Published Edit ⋮

published by jsmith
Type: Automatic

🔍

⚙️

⏪

🔄

⏩

● Level-0

Display Name

Publisher Cross-Repo...

Name

Publisher Cross-Reposi

Code

1409

ⁱ

Display Name:

Publisher Cross-Repository Hierarchy View

Name:

Publisher Cross-Repository Hierarchy View

Code:

1409

Description:

published by jsmith

Close

What to do next

- To add nodes to the hierarchy, you can add, modify, or import records in a

repository. The nodes are also affected by the delete record and mass update operations, and on running the automatic hierarchy scheduler. Consider the import record scenario. After you import records, the import record and update automatic hierarchy processes start. The processes work on a record list. After the records are confirmed, the workflow is transitioned to the UpdateAutomaticHierarchies activity and a list of processed hierarchies is displayed on the Event Log page.

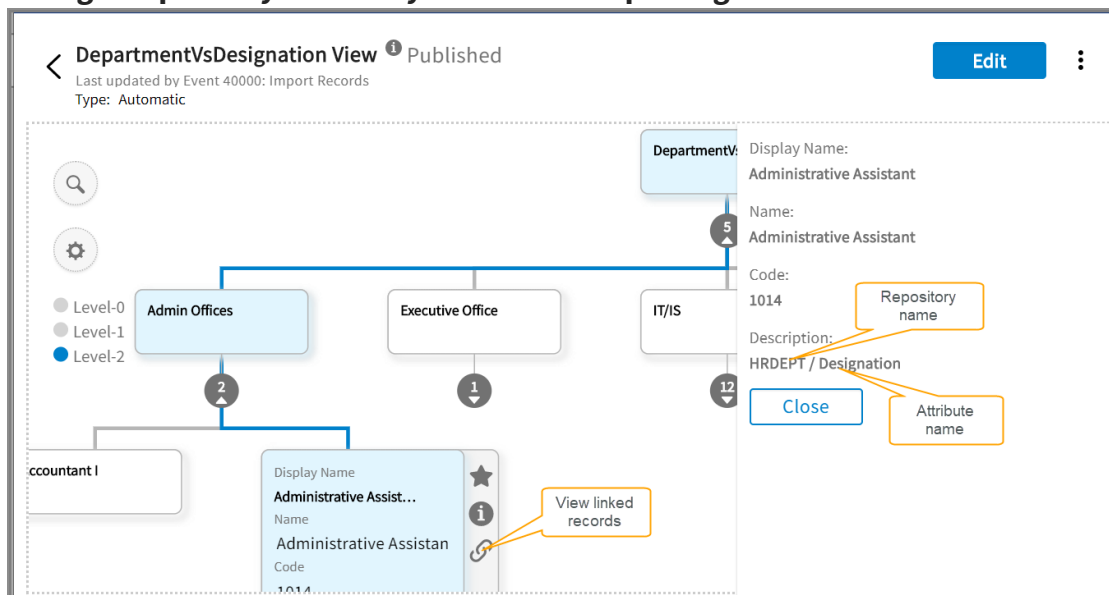
However, if you have created a hierarchy by importing records with the **Split/No Approval** or **Split/Approval Required** option and if associated automatic hierarchies exist in the repository at the root level, then such hierarchies are not updated correctly, few records might be missed in the processing, and the associated nodes are not visible in the hierarchies.

Such nodes are created or updated when the associated records are modified next time or when the automatic hierarchy scheduler is run next time.

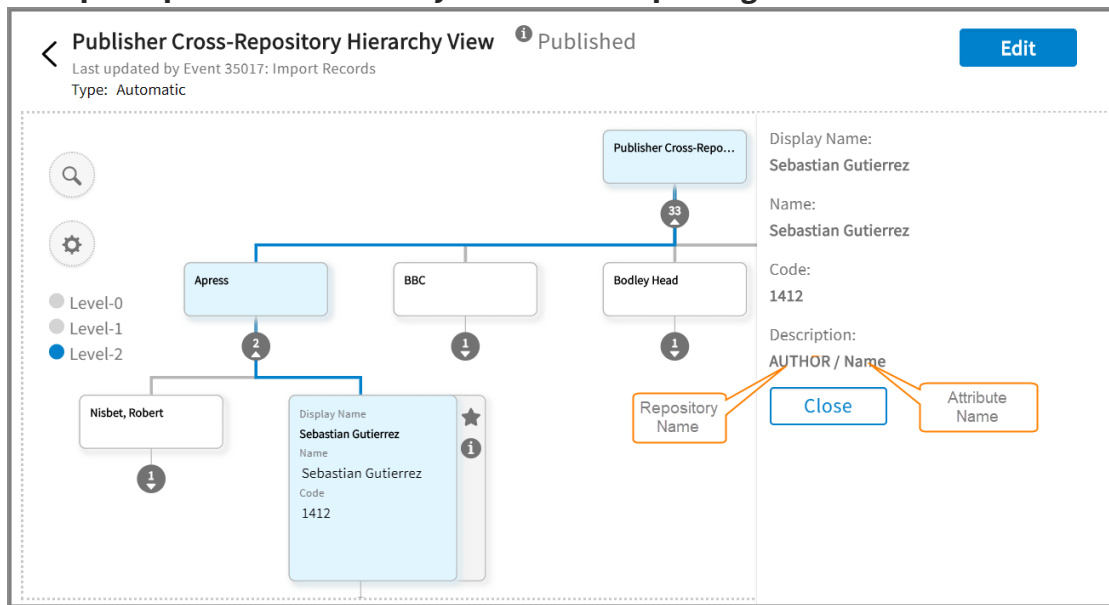
- For the **Split/No Approval** option, a work item is not generated. However, each record is processed in its own event at the same time, and then the issue occurs.
- For the **Split/Approval Required** option, if you have set the business process rule and submit work items one by one (not at the same time), then the issue might not occur.

b. Navigate to the Hierarchies page to view the automatic hierarchy with nodes.

A single repository hierarchy view after importing records



Multiple repositories hierarchy view after importing records



Importing Hierarchy

You can import the JSON file to create a new hierarchy. The format of the JSON file is similar to the format produced by export hierarchy. Import is not supported for the modification of a hierarchy. To modify a hierarchy, you must modify the JSON file before or after the import.

Note: After importing hierarchies by using the JSON file, only the manual hierarchies are created.

Before you begin

To create a work item for the imported hierarchy, you must select the Hierarchy Create Approval business process rule before importing the hierarchy.

Procedure

1. On the **Hierarchies** page, click **Create** and select **From JSON File**.
2. On the **Upload JSON File** page, drag the JSON file to the page or browse to the file location and select the appropriate file.

The hierarchy workflow initiated successfully message is displayed along with the event ID.

The JSON file is validated for errors such as duplicate names and the required JSON format. A list of all errors that occur is displayed on the page.

3. Upload another file, click **Yes**; else, click **No**.

The uploaded hierarchy is displayed on the **Hierarchies** page. The newly imported hierarchy is processed through workflow and is published. However, if you have set the Hierarchy Create Approval business process rule, a work item is created for the imported hierarchy.

See also [Exporting Hierarchy](#).

Exporting Hierarchy

You can export a hierarchy from the **Hierarchies** page or from the hierarchy viewer and **Version History** pages. Export Hierarchy exports the nodes structure in the JSON format in a file, which can be imported back to TIBCO MDM using **Hierarchies > Create New > Import JSON File** option.

Before you begin

The Export resource security permissions must be enabled for the for hierarchy. See [Permissions by Resource Type](#).

Procedure

1. On the **Hierarchies** page, select the hierarchy that you want to export and then click **Export**.
2. Optional: On the hierarchy viewer, click More Actions  icon next to **Edit** and select **Export**.
3. Select the location where you want to save the hierarchy as *hierarchyname.json* file and click **Save**.

The selected hierarchy is exported.



Warning: Export Hierarchy does not export records linked to hierarchy nodes.

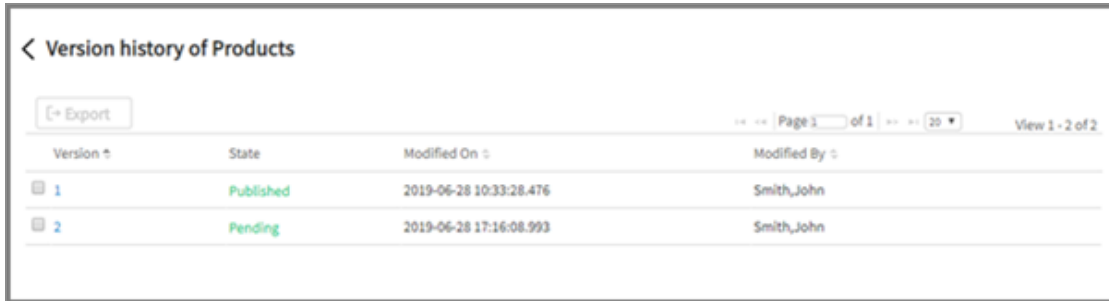
Viewing Version History of Manual Hierarchy

After a manual hierarchy is saved in the draft, pending, or published state, you can view the changes made in different versions of the manual hierarchy. To view the version history, select **Version History**.

Each time you modify a manual hierarchy, it is saved with different versions. The first time you create the manual hierarchy, the hierarchy is in V1 (version 1). The next time you modify the hierarchy and save it, a new version V2 is created with the latest changes. For every change you make to the hierarchy, a new version is created when you save it.

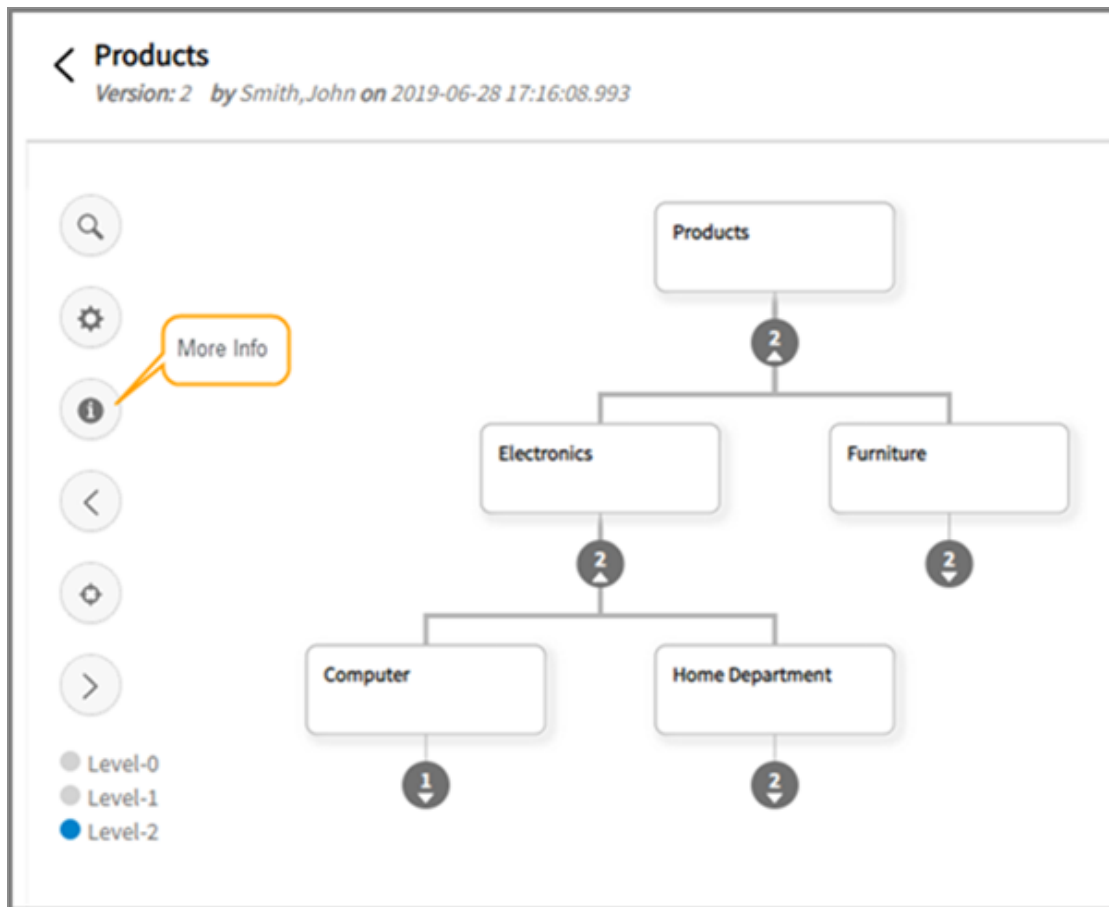
Procedure

1. On the hierarchy viewer, click More Actions  icon next to **Edit** and select **Version History**.

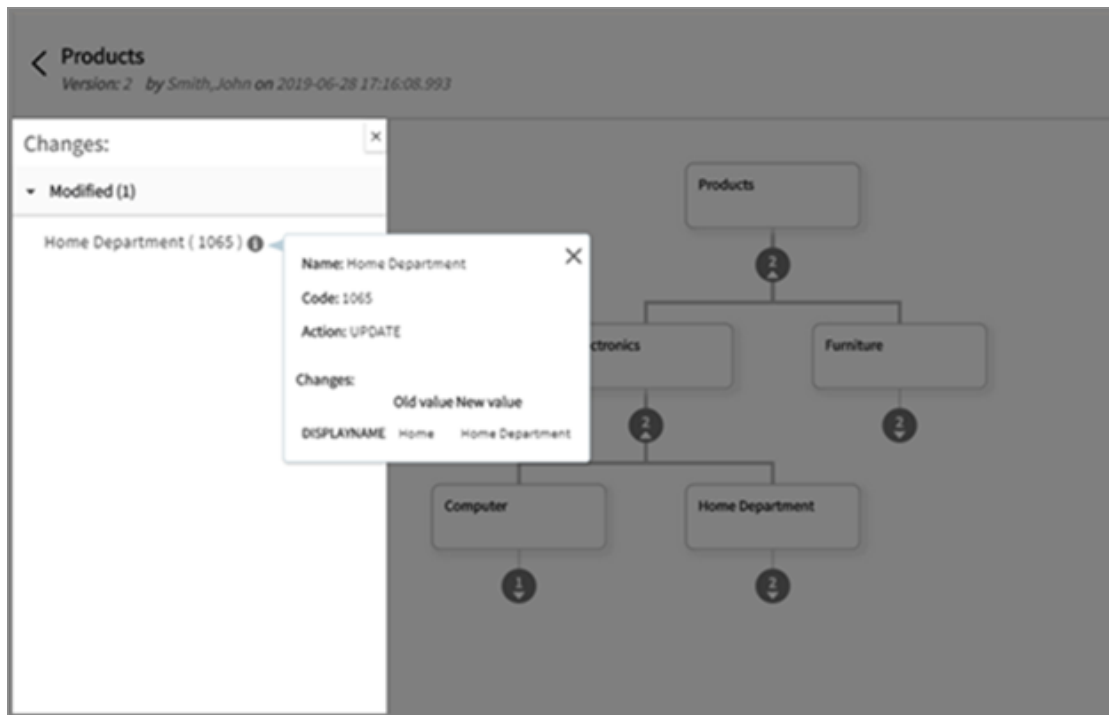


< Version history of Products			
Export Page 1 of 1 20 View 1 - 2 of 2			
Version	State	Modified On	Modified By
1	Published	2019-06-28 10:33:28.476	Smith, John
2	Pending	2019-06-28 17:16:08.993	Smith, John

2. Click the version number of a hierarchy for which you want to view the history.



3. In the hierarchy viewer, click the **More info**  icon to view the changes made to the hierarchy.



In the **Changes** section, a list of new, modified, and moved nodes is displayed. Click the **More info** icon next to each node. The changes are displayed as a tooltip.

- Optional: On the **Version history of hierarchy name** page, select the version and click **Export** to export the version history of hierarchy.

The selected version is exported. For details, see [Exporting Hierarchy](#).

Linking Records - An Overview

In the hierarchical model, data are represented as a collection of records; and relationships between data are represented by the links. Linking records to the hierarchy provides a bird's-eye view of the relationships between repository and linked hierarchy.

After the hierarchy is created, you can link it to the TIBCO MDM records to achieve the required business motive such as categorization or reporting. You can use one or more hierarchies to link records from one or more repositories.

The following guidelines are considered when you link records to a manual hierarchy or when records are automatically linked to the hierarchy:

- Records are linked only to the leaf nodes of a hierarchy.
- Records are linked to the hierarchy only when it is in the Published state.

Note: Records remain linked to their respective nodes even if the hierarchy goes through any modifications and approval cycles (provided the modification does not impact the nodes to which the records are linked).

- Records are linked from multiple repositories to the leaf nodes of the same hierarchy. Similarly, records are linked from one repository to the leaf nodes of different hierarchies.

Note: Linking is not restricted to one repository.

- Records are linked that are confirmed or golden copy records to hierarchies (leaf nodes). The records remain linked to their respective nodes in different hierarchies until the confirmed version of records exist in a repository. If a record is deleted or rejected and if the confirmed or golden copy version of a record does not exist, then the hierarchy linkage cleanup scheduler job cleans such links from the hierarchy nodes. For more information about the scheduler job, see *TIBCO MDM System Administration*.

The Hierarchy Link Approval (`wfin26hierarchylinkapprovalv1.xml`) workflow is available for approvals and sending notification changes of linking records.

For information about the hierarchy workflow activities, see *TIBCO MDM Workflow Reference*.

For hierarchy management, some new [Business Process Rules for Hierarchy](#) and associated workflows are added.

For migrating workflows and adding new rules in the existing enterprise, see the "Upgrade to TIBCO MDM" chapter in *TIBCO MDM Installation and Configuration Guide*.

Linking Records to Manual Hierarchy

From the **Link Records : *hierarchyname*** page, you can link records to the manual hierarchy.

Before you begin

- Enable the Link Records and Edit Link Records permissions. See [Permissions by](#)

Resource Type.

- Set the Hierarchy Link Approval business process rule if you want to create a work item for the approval of record linkages.
- The hierarchy must be in the Published state.

Procedure

1. On the Hierarchies page, select the hierarchy that you want to link records to and then click **Link Records**.

The **Link Records : *hierarchyname*** page is displayed. From this page, you can navigate to the hierarchy by clicking the *hierarchyname*.

2. The **Nodes** panel displays a list of hierarchy leaf nodes. Before selecting the node, you can perform the following tasks:
 - Sort leaf nodes in ascending or descending order
 - Search for a leaf node
 - Traverse through the nodes using the left and right arrows
3. Select a node to which you want to link records.
The selected node is displayed in the **Linked Records** panel.
4. Click **Edit** to link records to nodes.

The **Link Records** panel is expanded with the **Add Links** option.

Link Records: [Products](#) Cancel Submit

Nodes Sort by: [A-Z](#)

[Products](#) [All](#)

Search a node

A_Type

B_Type

Double Door

LCD

OLED

Linked records: Add links

Products / Electronics / Computer / RAM / A_Type

Link Unlink ☒ Pending ☐ Review ADDRESS

Page 1 of 0 20 No records to view

Record ID	Repository	Status
No records to view		

5. Select a repository from the repository drop-down list and click **Add Links** to link records to the selected leaf node.

The **Add Records** page is displayed with the following options:

- **Repository** drop-down list
- Attribute-based search filter criteria similar to [Searching Records](#) on the **Browse and Search** page
- Record ID column and first three attributes (marked as **Display in record list**) columns. The remaining attributes are displayed in the tooltip when you hover over the record ID link.

Link Records: Products Cancel Submit

Nodes Sort by: A-Z

< Products > All > >

Search a node

A_Type

B_Type

Double Door

LCD

OLED

Radio

Single Door

Add records ×

Repository: ADDRESS Filter

Page 1 of 10 20

☐ Record ID	Address Type	Street	City
☒ ADDRES-34657			Rochester
☒ ADDRES-34658			Harrisburg
☒ ADDRES-34659			Charlottesville
☐ ADDRES-34859			Tampa
☐ ADDRES-34860			Saint Paul
☐ ADDRES-34861			Minneapolis
☐ ADDRES-34862			Warren
☐ ADDRES-34863			New York City
☐ ADDRES-34864			Atlanta

Link Cancel

6. Select records from the **Record ID** column and click **Link**.

The selected records are linked to the selected node and displayed in the Review section of the **Linked Records** panel.

Unless you submit the link records hierarchy, the linked records are displayed in the Review list. On the **Linked Records** page, you can filter records based on the following options:

- **Linked:** Displays a list of approved links
- **Pending:** Displays a list link that is pending for approval
- **Review:** Displays a list of unsaved links

7. Click **Submit**.

A confirmation message is displayed. Clear the **Process through workflow** check box if you do not want to process the hierarchy through workflow. The check box is displayed only if you have the **Allow confirmation of hierarchy without workflow** permission.

8. Click **Save**.

Result

- If you have selected the **Process through workflow** check box, the hierarchy linking approval work item is generated. After submitting the work item, the records are displayed in the Linked list.
- If you have not selected the **Process through workflow** check box, the links are displayed in the Linked list for the respective nodes.

Record Linking in Automatic Hierarchy

In automatic hierarchies, the records are automatically linked to the hierarchy when the following record operations are performed:

- Add, modify, or delete records from the UI, REST services, web services, or with workflows that contain UpdateAutomaticHierarchies activity
- Import records
- Mass update records

The screenshot shows the 'Link Records' interface for 'DepartmentVsDesignation View'. On the left, there is a 'Nodes' section with a 'Sort by' dropdown set to 'A-Z'. Below this is a search bar and a list of nodes: 'Accountant I', 'Administrative Assi...', 'Area Sales Manager', and 'BI Developer'. On the right, the 'Linked records' section shows the path 'DepartmentVsDesignation View / Admin Offices / Accountant I'. It includes radio buttons for 'Linked' (selected) and 'Pending', and a dropdown for 'All Repository'. Below this is a table with columns 'Record ID', 'Repository', and 'Status'. The table shows three records, all with 'Status' 'Linked'.

Record ID	Repository	Status
1103024456	HRDept	Linked
1106026572	HRDept	Linked
1302053333	HRDept	Linked

Only confirmed or golden copy records can be linked to a hierarchy. For other considerations, see [Linking Records - An Overview](#).

Split and Merge Nodes

When records are linked to leaf nodes, adding a child node to the leaf node or deleting a leaf node can result into losing record linkages. As a result, you cannot directly modify the leaf nodes from the hierarchy editor. Use the split and merge node operations to reorganize the record linkages.

Consider a scenario where your business is booming and requires changes to the hierarchy. You have already created a hierarchy and linked records to the hierarchy. Now, you want to create more granular hierarchy. You want to split existing leaf nodes into multiple granular nodes. In this case, the existing nodes do not remain leaf node and the earlier record linking is lost and you need to redo these operations after the hierarchy changes are complete. To avoid these cumbersome tasks, you can use the advanced split and merge node operations.

Note: The split and merge operations are supported for the manual and automatic hierarchies. In case of automatic hierarchy, you can fix the incomplete data by using the split and merge operation. For example, if any column in the data source or any attribute in the record is empty or null.

From the **Link Records** page (View mode), you can perform the split and merge operations. The Split Nodes and Merge Nodes wizards guide you to split and merge the existing nodes into more granular categorizations while retaining the record links.

Hierarchy Example:

```
Products/Electronics/TV,
Products/Electronics/TV/LCD,
Products/Electronics/TV/LED,
Products/Electronics/TV/PLASMA
```

- [Splitting Node](#)

You can perform the following types of split operations:

- **In-place Split:** Delete the existing node and create a couple of new nodes. In the hierarchy example mentioned before, you can split the TV node and create more nodes. The TV node itself is replaced by multiple nodes, that is, the TV node is deleted and multiple nodes are created.
- **Roll-down Split:** Create child nodes to the node being split. The TV node can

have child nodes as LCD, LED, and PLASMA.

When you split nodes, you can move record linkages to the new nodes. For example, you have 190 records linked the TV node, after splitting the TV node, you can move 20 links to LCD, 80 links to LED, and 90 links to PLASMA.

- [Merging Nodes](#)

You can perform the following types of merge operations:

- **In-place Merge:** Delete existing leaf nodes and keep only one node at the same level under the TV node.
- **Roll-up Merge:** Delete existing nodes and keep only the parent TV node. In this case, the TV nodes become the leaf node.

When you merge nodes, you can move record linkages to the TV node.

i Note: The split and merge node operations include changing the structure of the hierarchy, the split and merge operations use the Hierarchy Edit Approval rule rather than Hierarchy Link Approval.

Splitting Node

Use the split operation to split node, category, or links into multiple for more granular classification or categorization. You can split the node at the same level or a level down the current node.

Before you begin

- Ensure that you have records linked to the node that you want to split. Also, the node must be in a manual hierarchy. See [Linking Records to Manual Hierarchy](#).
- Ensure that you have submitted the previously generated hierarchy link approval work item.
- Set the Hierarchy Edit Approval [Business Process Rules for Hierarchy](#) if you want approval for splitting a node in the hierarchy by generating the work item (applicable only for the manual hierarchy).

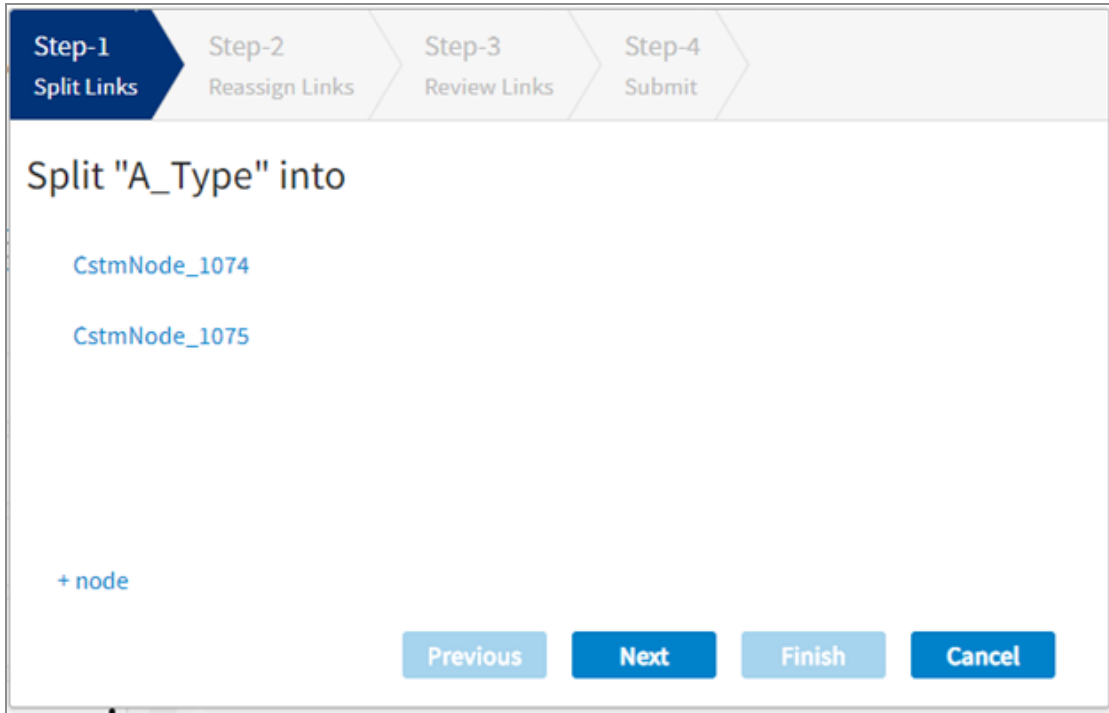
Procedure

1. On the **Link Records** page, from the **Nodes** panel, select the node which you want to

split.

2. Click More Actions  icon and select **Split**.

The Split Nodes wizard is displayed with a list of steps.



The screenshot shows the 'Split Nodes' wizard interface. At the top, there is a progress bar with four steps: 'Step-1 Split Links' (highlighted in dark blue), 'Step-2 Reassign Links' (light blue), 'Step-3 Review Links' (light blue), and 'Step-4 Submit' (light blue). Below the progress bar, the main content area has the title 'Split "A_Type" into'. Underneath the title, there are two nodes listed: 'CstmNode_1074' and 'CstmNode_1075'. Below these nodes is a link that says '+ node'. At the bottom of the wizard, there are four buttons: 'Previous' (light blue), 'Next' (dark blue), 'Finish' (light blue), and 'Cancel' (dark blue).

3. In the **Step-1 Split Links** section, by default, two nodes are displayed into which you can split the selected node. Perform the following actions:
 - a. Click the nodes to update or edit. A window is displayed with node details where you can update or remove nodes.
 - b. Add new nodes using the **+node** link.
 - c. Click **Next**.
4. In the **Step-2 Reassign Links** section, the record links available for the selected node are displayed. The record links of the node being split are automatically moved to the first child node that was selected in the **Step-1 Split Links** section.

Step-1 Split Links Step-2 Reassign Links Step-3 Review Links Step-4 Submit

Reassign records to new nodes

Page 1 of 1 View 1 - 8 of 8

Record ID	Repository Name
☐ Addr1	ADDRESS
☐ Addr10	ADDRESS
☐ Addr2	ADDRESS
☐ Addr3	ADDRESS
☐ child1-child1	CUSTOMER
☐ child10-child10	CUSTOMER
☐ child100-child100	CUSTOMER
☐ child101-child101	CUSTOMER

Previous Next Finish Cancel

Perform the following actions:

- a. Select the record links and drag and drop them to the second node. The selected record links are removed from the first node and moved to the second node.
 - b. Repeat the first step to reassign record links to the third node.
 - c. Click **Next**.
5. In the **Step-3 Review Links** section, the existing node, new nodes (into which the existing node is split), and the number of records linked to the new nodes are displayed.

Step-1 Split Links Step-2 Reassign Links **Step-3 Review Links** Step-4 Submit

Review 2 new nodes

Existing node
A_Type

New

CstmNode_1074	6 records
CstmNode_1075	2 records

Location

Path: ../

Previous **Next** **Finish** **Cancel**

Based on your requirement, select one of the following options from the **Location** drop-down list and click **Next**.

- **Replace Existing:** Select this option for the [Split and Merge Nodes](#) split mode. The existing node is deleted and new nodes are created.
 - **Append to Existing:** Select this option for the [Split and Merge Nodes](#) split mode. The existing node remains as a parent node and the new nodes are appended to the existing node.
6. In the **Step-4 Submit** section, add reasons for splitting nodes in the **Comments** box. By default, the **Process through workflow** check box is selected. The check box is displayed only for the manual hierarchy and if you have the **Allow confirmation of hierarchy without workflow** permission. See [Permissions by Resource Type](#).
7. Click **Finish**.

The hierarchy workflow is initiated for processing all changes done. The selected node is split based on your selection.

Result

If you have set the Hierarchy Edit Approval business process rule, the split hierarchy work item is created. For information, see [Hierarchy Work Item](#).

Merging Nodes

Use the merge operation to eliminate duplicate or redundant categories by merging them into one (merge into existing at the same level). In cases where re-branding products as a new category (new node at the same level) or completely removing sub-category of products.

Before you begin

- Ensure that you have [Linking Records to Manual Hierarchy](#) to the nodes that you want to merge.
- Ensure that you have submitted the previously generated hierarchy link approval work item.
- Set the Hierarchy Edit Approval [Business Process Rules for Hierarchy](#) if you want approval for merging nodes in a hierarchy by generating the work item (applicable only for the manual hierarchy).

Procedure

1. On the **Link Records** page from the **Nodes** panel, select the node, which you want to merge.



Warning: You cannot select multiple nodes. You can merge only the sibling nodes. You cannot merge two different branches. For example, you cannot merge nodes from Electronic and Food nodes.

2. Click the More Actions  icon and select **Merge**.

The Merge Nodes wizard is displayed with a list of steps.

The screenshot shows a multi-step process for node management. The top navigation bar has four steps: Step-1 (Select nodes), Step-2 (Merge Nodes), Step-3 (Review), and Step-4 (Submit). Step-1 is the active step, highlighted in dark blue. Below the navigation bar, the main content area is titled 'Select nodes to merge'. It displays a node 'B_Type' and a section 'Merge with' containing two checked checkboxes: 'CstmNode_1074' and 'CstmNode_1075'. At the bottom of the form, there are four buttons: 'Previous' (disabled), 'Next' (active), 'Finish' (disabled), and 'Cancel' (disabled).

3. On the **Step-1 Select Nodes** page, the selected node that you want to merge and a list of its leaf sibling nodes are displayed.
 - a. Select the sibling nodes that you want to merge.
 - b. Hover over help on the node displays its properties.
 - c. Click **Next**.
4. In the **Step-2 Merge Nodes** section, select any one of the following options:

Step-1 Select nodes **Step-2 Merge Nodes** Step-3 Review Step-4 Submit

Provide merge node details

☒ Create new node at same level CstmNode_1078
☐ Merge with B_Type ▼
☐ Move all links to parent

Previous **Next** Finish Cancel

- a. **Create a new node at the same level:** Merges the selected nodes and creates the new node at the same level.
- b. **Merge with** (select node from the drop-down list): Merges the node with one of the existing nodes
- c. **Move all links to parent:** Deletes all the sibling nodes. The parent node becomes the leaf node. All records links move to the parent node.



Note: The **Move all links to parent** option is disabled in the following cases:

- If the node selected for merging is an immediate child node of the root node of a hierarchy
- If the non-leaf sibling node exists at the same level of the node that is being selected for merging

- d. Click **Next**.
5. In the **Step-3 Review** section, the existing nodes and the new node (into which you want to merge the existing nodes) are displayed. Review the node list.

The screenshot shows a four-step workflow: Step-1 Select nodes, Step-2 Merge Nodes, Step-3 Review (active), and Step-4 Submit. The 'Review changes' section displays two columns: 'Existing' and 'New'. The 'Existing' column lists 'B_Type', 'CstmNode_1074', and 'CstmNode_1075'. The 'New' column lists 'CstmNode_1078'. At the bottom, there are four buttons: 'Previous', 'Next', 'Finish', and 'Cancel'.

a. Click **Next**.

6. In the **Step-4 Submit** section, add reasons for merging nodes in the **Comments** box. By default, the **Process through workflow** check box is selected. The check box is displayed only for the manual hierarchy and if you have the **Allow confirmation of hierarchy without workflow** permission. See [Permissions by Resource Type](#).

7. Click **Finish**.

The hierarchy workflow is initiated for processing all changes done. The selected node is merged based on your selection.

Result

If you have set the Hierarchy Edit Approval business process rule, the merge hierarchy work item is created. For more information, see [Hierarchy Work Item](#).

Locking and Unlocking Hierarchy

Concurrent modification of hierarchy leads to more complex data management scenarios. To avoid concurrent editing of a hierarchy, you can lock the hierarchy for edit. However, in case of emergency, if you want to change the hierarchy, you can also take over the lock from another user.

Lock Hierarchy

Hierarchies being modified are automatically locked. Do not submit the hierarchy, unless you complete the modification. If you modify the hierarchy that is locked by another user, an error message is displayed and you cannot modify the hierarchy, unless another user releases the lock.

You can have only one lock on a hierarchy at any time point. If a hierarchy already locked by another user, then a current user cannot lock it for modifications.

Unlock Hierarchy

When editing a manual hierarchy, if you click **Cancel** or **Back**, the hierarchy is unlocked automatically. However, if you click **Save for later**, the hierarchy remains in lock to let you come back and complete the changes. In case hierarchy changes are submitted to the workflow, the hierarchy is unlocked automatically after the workflow is completed.

Additionally, if you have the Release Lock permission, you can unlock the hierarchy that is locked by other users. If any hierarchy event fails, you can unlock the hierarchy. The hierarchy cannot be unlocked in the following cases:

- Hierarchy in Draft state (even if you have the explicit permissions to unlock it)
- Hierarchy pending in a workflow cannot be unlocked (that is, when the event is in progress).

Deleting a Hierarchy

You can delete a hierarchy from the **Hierarchies** page or from the hierarchy viewer page.

Before you begin

- Set the Hierarchy Delete Approval business process rule if you want approval for deletion of a hierarchy by generating the work item.
- Ensure that the hierarchy is in the Published state.

Procedure

1. On the **Hierarchies** page, select the hierarchy that you want to delete and then click **Delete**.

2. On the hierarchy viewer page, click **More Actions**  icon next to **Edit** and select **Delete**.
3. Optional: On the confirmation message box, clear the **Process through workflow** check box if you do not want to process it through the workflow.
4. Click **Yes, Delete** to delete the selected hierarchy.

The selected hierarchy is deleted.

If the Hierarchy Delete Approval business process rule is set, a work item is created. Approver or work item owner can either accept or reject this work item. If the work item is rejected, the Hierarchy delete operation is reverted and the previously published hierarchy is available for use. The hierarchy **Version History** page shows that the delete operation is rejected.

Hierarchy Work Item

The hierarchy work item is generated for the actions that you perform on a hierarchy only if you have set the hierarchy approval business process rule.

The hierarchy work item is created in the following cases:

- [Creating Manual Hierarchies](#)
- [Creating Automatic Hierarchies](#)
- [Importing Hierarchy](#)
- [Deleting a Hierarchy](#)
- [Linking Records to Manual Hierarchy](#)
- [Split and Merge Nodes](#) (work item generated only for the manual hierarchy)

Work Item for Import Hierarchy

Hierarchy Create


The following Hierarchy is being created. Review the Hierarchy and approve/reject the modification.

Work item Information

Type/Topic	Hierarchy Create				
Work Item ID	54033	Event ID	54032	State	Open
Created On	2019-08-07 10:50:25.459	Age	1 Minutes, 11 Seconds	Intent	Approve Changes
Timeout Method	Relative	Maximum Timeouts	N/A	# of Timeouts	0
Next Timeout	2019-08-08 10:50:25.443				
Locked By	Smith, John	Locked On	2019-08-07 10:51:36.491	Expiry Date	No expiration date

Hierarchy Information

Hierarchy Name	Products	Version	1
ID	1033		
Action	CREATE		
Alerts	N/A		

Change Summary 20 Added

Details

[New nodes](#) (20)

Change Information

Changed By	Reason for change
jsmith [Smith, John]	Hierarchy imported from file.

☐ Send for Correction

Comments

Work Item for Delete Hierarchy

Hierarchy Delete


The following Hierarchy is being deleted. Review the change and approve/reject the operation.

Work item Information

Type/Topic	Hierarchy Delete				
Work Item ID	55033	Event ID	55032	State	Open
Created On	2019-08-07 12:03:08.819	Age	4 Seconds	Intent	Notify
Timeout Method	Relative	Maximum Timeouts	N/A	# of Timeouts	0
Next Timeout	2019-08-08 12:03:08.819				
Locked By	Smith,John	Locked On	2019-08-07 12:03:13.704	Expiry Date	No expiration date

Hierarchy Information

Hierarchy Name	Products			
ID	1033	Version	2	
Action	DELETE			
Alerts	N/A			
Action	☒ Accept ☐ Reject			
Comments				

Work Item for Link Records to Hierarchy

Hierarchy Link


The nodes from following Hierarchy are being linked to Records. Review the change and approve/reject the operation.

Work item Information

Type/Topic	Hierarchy Link				
Work Item ID	57037	Event ID	57036	State	Open
Created On	2019-08-07 12:12:33.389	Age	6 Seconds	Intent	Approve Changes
Timeout Method	Relative	Maximum Timeouts	N/A	# of Timeouts	0
Next Timeout	2019-08-08 12:12:33.389				
Locked By	Smith,John	Locked On	2019-08-07 12:12:40.295	Expiry Date	No expiration date

Hierarchy Information

Hierarchy Name	Products			
ID	1055	Version	1	
Action	LINK			
Alerts	N/A			
Change Summary	2 Links Added			

☒ Accept
 ☐ Reject

Comments

Browse Linkages of Hierarchy

[<](#) Browse linkages for hierarchy *Products* [Back](#)

Link

All Repository ▼

1 << Page 1 of 1 >> 20 ▼ View 1 - 3 of 3

Node Name	Record	Repository
NewNode_1083	ACC-36963	ACCOUNT
NewNode_1083	ACC-36964	ACCOUNT
NewNode_1083	ACC-36972	ACCOUNT

Unlink

All Repository ▼

1 << Page 1 of 1 >> 20 ▼ View 1 - 5 of 5

Node Name	Record Id	Repository
B_Type	ACC-36963	ACCOUNT
NewNode_1079	ACC-36963	ACCOUNT
B_Type	ACC-36964	ACCOUNT
NewNode_1079	ACC-36964	ACCOUNT

Work Item for Split Node Hierarchy

Hierarchy Modify


The following Hierarchy is being modified. Review the Hierarchy and approve/reject the modification.

Work item Information

Type/Topic	Hierarchy Modify				
Work Item ID	60033	Event ID	60032	State	Open
Created On	2019-08-07 12:22:38.329	Age	6 Seconds	Intent	Approve Changes
Timeout Method	Relative	Maximum Timeout	N/A	# of Timeouts	0
Next Timeout	2019-08-08 12:22:38.329				
Locked By	Smith,John	Locked On	2019-08-07 12:22:44.357	Expiry Date	No expiration date

Hierarchy Information

Hierarchy Name	Products	Version	2
ID	1055		
Action	MODIFY		
Alerts	N/A		

Change Summary 2 Added, 1 Removed

Details

☐ [New nodes \(2\)](#)

☐ [Removed nodes \(1\)](#)

Action ☒ Accept ☐ Reject

Comments

Work Item for Merge Node Hierarchy

Hierarchy Modify


The following Hierarchy is being modified. Review the Hierarchy and approve/reject the modification.

Work item Information

Type/Topic	Hierarchy Modify				
Work Item ID	62033	Event ID	62032	State	Open
Created On	2019-08-07 12:28:43.168	Age	5 Seconds	Intent	Approve Changes
Timeout Method	Relative	Maximum Timeout	N/A	# of Timeouts	0
Next Timeout	2019-08-08 12:28:43.168				
Locked By	Smith,John	Locked On	2019-08-07 12:28:48.698	Expiry Date	No expiration date

Hierarchy Information

Hierarchy Name	Products	Version	3
ID	1055		
Action	MODIFY		
Alerts	N/A		

Change Summary 1 Added, 3 Removed

Details

New nodes (1)

Removed nodes (3)

Action ☒ Accept ☐ Reject

Comments

Submit

Cancel

Work Item for Hierarchy Correction

Hierarchy Modify



The following Hierarchy is being modified. Review the Hierarchy and approve/reject the modification.

Work item Information

Type/Topic	Hierarchy Modify				
Work Item ID	66032	Event ID	65032	State	Open
Created On	2019-08-07 12:39:09.305	Age	6 Seconds	Intent	Correction
Timeout Method	Relative	Maximum Timeout	N/A	# of Timeouts	0
Next Timeout	2019-08-08 12:39:09.289				
Locked By	Smith,John	Locked On	2019-08-07 12:39:16.16	Expiry Date	No expiration date

Hierarchy Information

Hierarchy Name	Products	Version	4
ID	1055		
Action	MODIFY		
Alerts	This work item cannot be submitted until corrections in the Hierarchy are done and Hierarchy is saved. Correct Now		

Change Summary 1 Updated

Details

[Modified nodes](#) (1)

Change Information

Changed By	Reason for change
jsmith [Smith,John]	corrected the hierarchy name

Comments

Sections on the Work Item Page

Description

Work item Information

For information, see [Work Item Details View](#).

The **Browse** link is displayed if you have linked records to the hierarchy and split and merged nodes in a hierarchy.

After clicking **Browse**, you can view the changes made during linking records (linked and unlinked records). In the **Link** and **Unlink** sections, the node, its linked or unlinked records, and its associated repository details are

Sections on the Work Item Page	Description
	displayed. When you hover over on the node name, the path to the node is displayed. After clicking the record link, record details are displayed.
Hierarchy Information	Lists information about the hierarchy name, its ID and version, the action performed on the hierarchy (create, modify, delete, or link records), and information about the nodes added, deleted, or records linked. Click the <i><hierarchyname></i> link to view the hierarchy details. However, you cannot modify the hierarchy from within the work item.
Details	The details include added, modified, moved, and removed nodes with Approve and Reject options per node. Note: All recurring changes in the draft state are saved in the same version. Therefore, the removed nodes section is not displayed after submitting the draft hierarchy. • Approve: Reviewer approves the changes done to the hierarchy. • Reject: If the reviewer rejects one of the nodes in a new hierarchy, the entire hierarchy is rejected. When reviewer rejects any changes, the work item is rejected along with the changes made in the work item, and then original user can make necessary corrections and submit those changes for approval (which in turn creates a fresh work item for approval). Reviewer can reject changes in the hierarchy nodes and add rejection comments to be corrected by the modifying user. Reviewer can add a comment on each rejected node. After the reviewer identifies all rejections to be done, sends the nodes for correction, and submits the work item, the work item is closed. A new correction work item is created for the original user who made the modifications in the hierarchy or the user who created hierarchy. Later, the event goes to the Hierarchy Correction state.

Sections on the Work Item Page	Description
	Additionally, if the reviewer rejects any nodes and does not select the Send For Correction check box, and submits the work item, then complete version of hierarchy is rejected. For automatic hierarchy, the entire hierarchy creation can either be approved or rejected. Note: The Details section for closed approval work items shows hierarchy change details in the read-only format.
Details section for correction work items	The Correct Now link is displayed in the Alerts section for correction work items. The Alerts section also shows a message that correction work item cannot be submitted until corrections are made to the hierarchy and hierarchy is submitted or saved (which in turn are processed through workflow and a new approval cycle).
Change Information	Shows the username and comments added by a user when submitting the hierarchy.
Sent for Correction	By default, the check box is disabled. The check box is displayed only for the manual hierarchy. If the reviewer rejects one of the nodes (that is, changes the nodes from any of the added, modified, moved, or removed section), then the Send For Correction is enabled. If all nodes are approved, the Send For Correction check box is disabled.
The Change Information section and the Send For Correction check box are not displayed for the correction work items.	
Comments	Add relevant comments for rejection or approval of a work item.

When a hierarchy is in work item for the approval process, it remains locked with the associated user (who created the hierarchy or made changes to the hierarchy) and in an event. The status of the hierarchy is displayed as **Pending** on the Hierarchies list page. Lock is automatically released when the workflow is completed.

Rejection of Delete Hierarchy Work Item

Consider, you have deleted version 1 confirmed (Published state) hierarchy. Version 2 is created with unconfirmed (Pending state) and a work item is created. Reviewer rejects the delete operation from the **Details** section of a work item and submits the work item. The following actions are performed:

- Version 2 is discarded as rejected and version 1 is automatically restored.
- Version history list page shows version 1 as Published and version 2 as Rejected.
- This hierarchy then further remains Active and in the Normal state. Further modifications to the hierarchy generates version 3.

Configuration Properties for Hierarchies

You must define the following configuration properties in the Configurator. The values of the hierarchy name and description, node name, node description, and node code are displayed on the hierarchy editor.

Property Name	Description	Applicable for Manual Hierarchy	Applicable for Automatic Hierarchy
Hierarchy name default value	Defines the default value for the hierarchy name. Hierarchy has two separate Name and DisplayName properties. Name is used for an internal purpose. The display name is used to display on UI. Therefore, you must define the display name to be more descriptive or easy to remember. This default value is used for both the Name and DisplayName properties. Default Value NewHierarchy_{ID}	Yes	Yes

Property Name	Description	Applicable for Manual Hierarchy	Applicable for Automatic Hierarchy
	<i>{ID}</i> is replaced by the generated hierarchy ID.		
Hierarchy description default value	Defines default value for the hierarchy description. Default Value New Hierarchy	Yes	Yes
Hierarchy node name default value	Defines default value for the hierarchy node name. Hierarchy node too has two separate Name and DisplayName properties. The default value is used for both the properties. Default Value NewNode_<i>{ID}</i> <i>{ID}</i> is replaced by the generated hierarchy node ID	Yes	No
Hierarchy node description default value	Defines default value for the hierarchy node description. Default Value New Node	Yes	No
Hierarchy node code default value	Defines default value for the hierarchy node code.<i>{ID}</i> Default Value <i>{ID}</i> is replaced by the generated hierarchy node code ID.	Yes	No

Property Name	Description	Applicable for Manual Hierarchy	Applicable for Automatic Hierarchy
Skip processing automatic hierarchies	Specify the names of automatic hierarchies that you want to skip the processing for. If you start the processing again, the scheduler updates the hierarchies. Default Value A comma separated list of automatic hierarchies.	No	Yes
Skip processing links for automatic hierarchies	Specify the names of automatic hierarchies that you want to skip the processing of record linking in automatic hierarchies when importing or modifying records. Useful when you want to view only the tree structure of a hierarchy or nodes (generated from the record attributes) without links. Default Value A comma separated list of automatic hierarchies.	No	Yes

Note: Set the Skip processing automatic hierarchies and Skip processing links for automatic hierarchies properties to isHotDeployable="true" and add them under the **Miscellaneous** category.

When adding a configuration property in the Configurator, you need to enter the internal name of the property. Refer to the following list for internal name of hierarchy configuration properties:

Configuration Property Name	Internal Name
Hierarchy name default	com.tibco.mdm.hm.hierarchy.name.default.value

Configuration Property Name	Internal Name
value	
Hierarchy description default value	<code>com.tibco.mdm.hm.hierarchy.description.default.value</code>
Hierarchy node name default value	<code>com.tibco.mdm.hm.hierarchyNode.name.default.value</code>
Hierarchy node description default value	<code>com.tibco.mdm.hm.hierarchyNode.description.default.value</code>
Hierarchy node code default value	<code>com.tibco.mdm.hm.hierarchyNode.code.default.value</code>
Skip processing automatic hierarchies	<code>com.tibco.mdm.hm.skipProcessingAutoHierarchy</code>
Skip processing links for automatic hierarchies	<code>com.tibco.mdm.hm.skipProcessingAutoHierarchy.links</code>

For information about adding a configuration property in the Configurator, see "Adding a New Property" section in *TIBCO® MDM System Administration*.

Limitations

- On the **Event Log** page, the following event actions are not supported for hierarchy events: **Cancel**, **Resubmit**, **Restart**, and **Rollback**.
- When the length of an attribute value is long, the nodes are not created. For errors, see the `error.log` file.

Precedence Management

With Precedence Management, you can ensure that only quality metadata for each attribute is accepted from a data source. You can configure TIBCO MDM such that data is accepted only if the quality of incoming data is better than that of the existing data.

To do this, you must define the quality of each attribute when it is received from a source. With repositories, such data can be easily maintained. During precedence handling, a defined set of repositories captures the quality definition for each source. Precedence Management has an algorithm to compare the quality of incoming data and existing data.

Precedence management requires at least one set of existing data records. The attribute change history (which includes what changed, time of the change, and source details) is used to calculate precedence and to determine the delta of change.

By using the `applyPrecedence` rulebase action, you can control when the precedence is applied. Ideally, it must be applied as soon as possible, preferably even before storing the data.

Related topics

In the *TIBCO® MDM Customization Guide* guide, the following topics provide more information about the concepts covered here:

- How the Algorithm Works
- Configuration Properties for Attribute History
- How Rulebase is Defined to Measure Absolute Quality

Key Concepts

You must be familiar with the following terms and concepts when handling precedence management:

- **Weight** is the quantitative measure of the quality of the data.
- **Decay** is the reduction in the quality of the data over some time. For each attribute, a different decay might apply. For example, linear decay with 6 months means that the data quality declines to 0 after 6 months of receipt of the data.

- **Source** is the named source of the data provider.
- **Half Life** is the same as half-life of radioactive materials applied to the quality of the data.
- **Change History** is the changes to data over some time, along with the source which caused the change.

Deploying Precedence Data Model

The precedence data model defines the precedence repository model to implement the attribute quality and precedence for TIBCO MDM. You can deploy precedence data models either through TIBCO MDM or through TIBCO MDM Studio.

Importing through TIBCO MDM

To use the Precedence Management feature, you must import the precedence metadata. The precedence metadata project is available in the `Precedence.zip` folder located at `$MQ_HOME\templates\precedence`.

Procedure

1. In TIBCO MDM, click the **Precedence Management** menu.
If the precedence metadata is not available, the **Precedence Metadata Import** window is displayed.
2. Click **Import Metadata** to import precedence data into your company.
The precedence metadata is imported into TIBCO MDM.

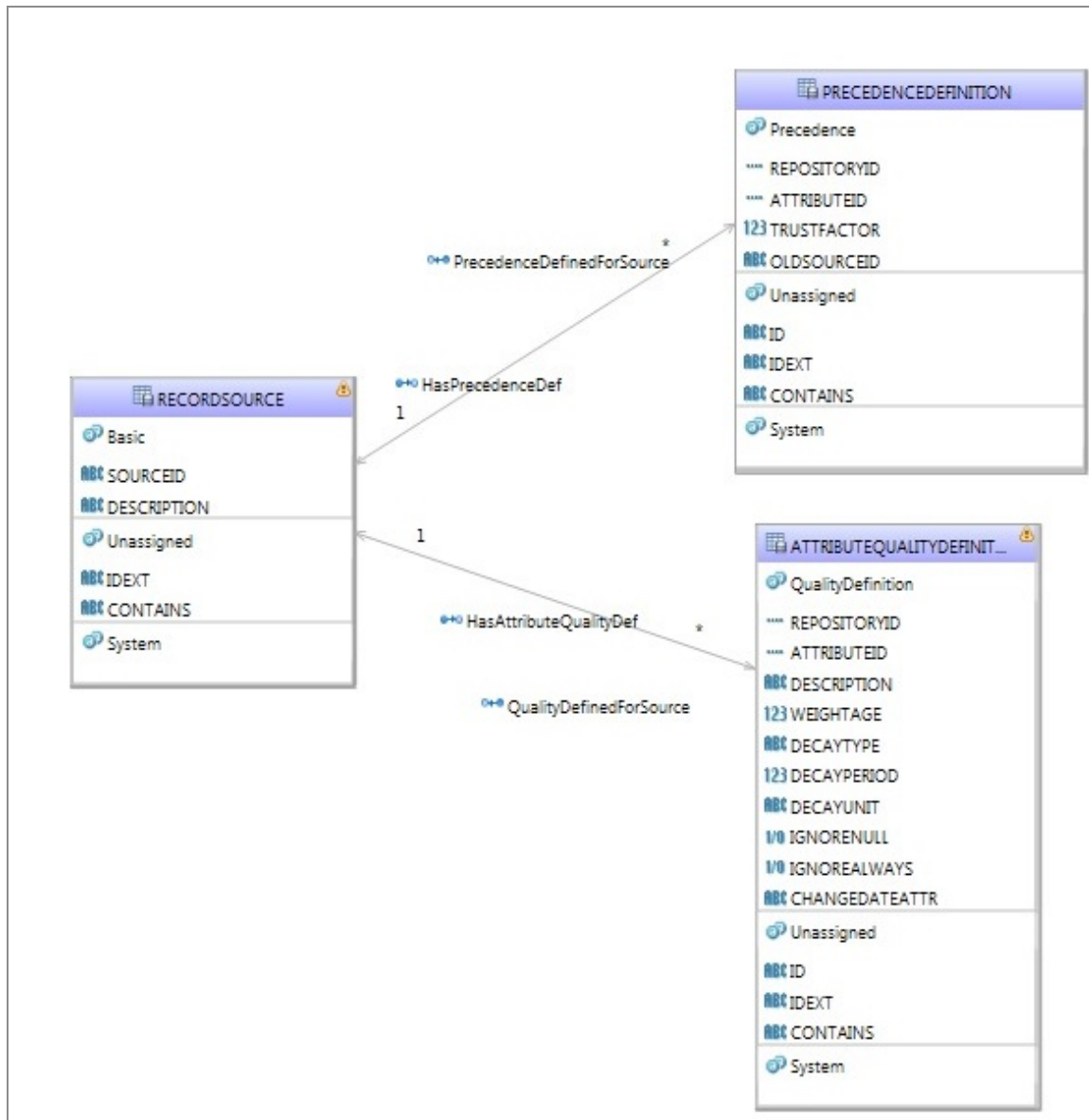


Restriction: If importing of precedence metadata is in progress and you click **Close**, the importing fails with an error. Delete the existing precedence metadata (repositories) and then re-import the precedence metadata.

Deploying from TIBCO MDM Studio

To deploy the precedence metadata from TIBCO MDM Studio, use the precedence metadata project. The Precedence data model is provided as a template.

Note: The sample **TIBCO MDM Model Templates** project contains the **Precedence Studio Project**.

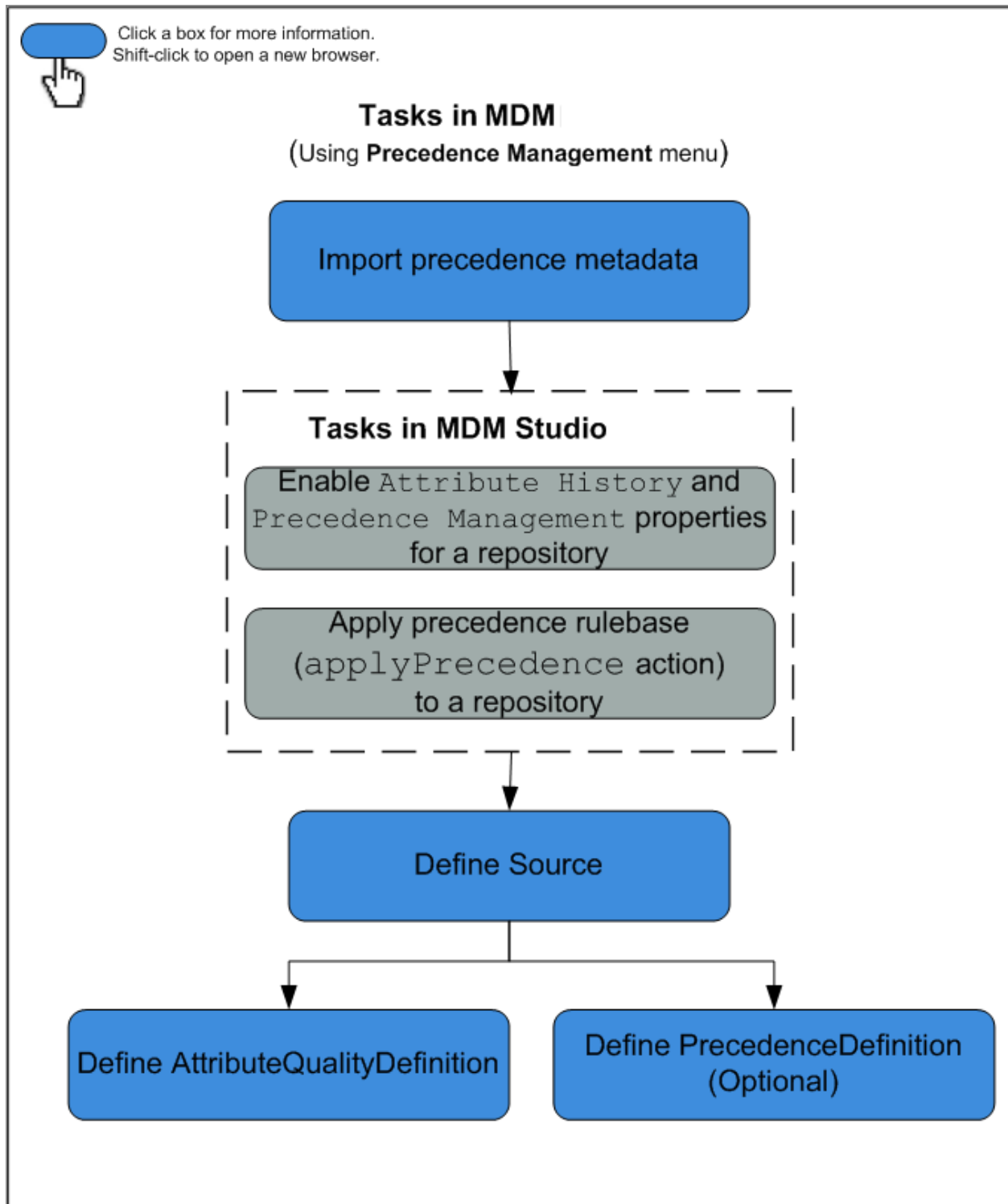


For more information about importing the precedence template, see "Accessing Samples" in *TIBCO MDM StudioRepository Designer User Guide*.

TIBCO MDM Studio does not handle the resource security, and to restrict the **Create**, **Modify**, **View**, or **Delete** record actions on the precedence metadata repositories (RecordSource, AttributeQualityDefinition, and PrecedenceDefinition) for a particular role, you must manually set the restrictions in TIBCO MDM (Resource Security page). See [User Role Matrix](#).

Precedence Management Workflow

The following diagram depicts the basic workflow of the precedence management process:



Defining Source

The *source* indicates the name of the system that has produced the given set of data that is being pushed into TIBCO MDM. Typically, in a given enterprise the data might come from various systems such as SAP, ORACLE, JD Edward, Salesforce, and so on. To compute the precedence, you must record or tag the data along with the source information (name of the source as an identifier) within TIBCO MDM.

If a source is not defined, precedence does not apply to data coming from that source.

Before you begin

- Enable Attribute History and Precedence Management properties in TIBCO MDM Studio for the repository that you want to deploy. See *TIBCO® MDM Studio Repository Designer User Guide*.
- Apply the precedence rulebase action to a repository. See *TIBCO® MDM Studio Rulebase Designer User Guide*.

Procedure

1. In TIBCO MDM, click **Precedence Management**.
The Precedence Management page is displayed.
2. On the **Source Definitions** tab, click **Create**.
3. On the Precedence Management - Source page, perform the following actions:
 - a. Enter details in the following sections:

Section Name	Description						
Source Details	Enter source ID and description. For example, <table><tr><th>Source ID</th><th>Description</th></tr><tr><td>SAP</td><td>SAP ERP</td></tr><tr><td>JDE</td><td>Main JDE instance</td></tr></table>	Source ID	Description	SAP	SAP ERP	JDE	Main JDE instance
Source ID	Description						
SAP	SAP ERP						
JDE	Main JDE instance						

Section Name	Description
	If the source ID is null, the default source is assigned as UI . The default source is required to track the attribute history. Attribute history does not need the source to be defined, but the precedence cannot be computed.
Attribute Quality Definitions	- To add related records, see Defining Attribute Quality Definition Repository. - To link records from existing repositories, see Linking Records from Existing Repository. - Change the value of selected records by inline editing or selecting the Edit Selected Records option.
Precedence Definitions	- To add related records, see Defining Precedence Definition Repository. - To link records from existing repositories, see Linking Records from Existing Repository. - Change the value of selected records by inline editing or selecting the Edit Selected Records option.

- b. Click **Validate** to validate records.
A consolidated list of errors is displayed. The validation errors are displayed for the incorrect values. This validation uses the `catalogvalidation.xml` file where validation rules are defined. If errors are found, correct the values according to the message.
- c. Click **Save**.
A confirmation message is displayed and the record is saved in the Source Definitions repository.

What to do next

[Defining Attribute Quality Definition Repository](#)

Defining Attribute Quality Definition Repository

For each attribute, the AttributeQualityDefinition repository defines the quality of data received from a source. For example, if you have defined the weight of the lastName attribute to 70% received from the SAP source compared with the JDE source which is 80%, then the algorithm within Precedence Management computes the changes made, calculates the new weight based on quality, compares the weight, and decides which value to retain. The weight and decay decide whether the data is stale.

Before you begin

See [Precedence Management Workflow](#).

Procedure

1. In TIBCO MDM, click **Precedence Management**.
2. On the Precedence Management page, click the **Attribute Quality Definitions** tab.
3. Click **Create**.

Precedence Management - Attribute Quality

▼ Quality Details

Repository: PERSONPROFILE

Attribute: Birth Place

Description: source definition

Weightage: 20

Decay Type: Linear

Decay Period:

Decay UOM:

Ignore if null: Yes

Ignore this attribute always?: No

Associated Change Date:

4. In the **Quality Details** section, enter the required details.



Note: The following table provides additional information that is useful when filling the fields. This is not an exhaustive list of all fields.

Field Name	Description
Weightage	The range for weight can be 1 - 100.

Field Name	Description
Decay Type	Select anyone of the following options: • None • Linear: Select when quality declines linearly over a set time. • Half Life: If selected, the quality never becomes zero.
Decay Period	Define the range with positive integers. Valid range values: 1-999
Decay UOM	Select the unit of measurement for the decay period. It can be Hour , Day , Month , or Year .
Note: The Decay Period and Decay UOM fields are enabled only if you have selected the value in the Decay Type list.	
Ignore if null	Define how to handle empty, or NULL attributes in the dataset associated with the precedence set. If this value is set, the following result occurs: • Yes: If the new value of an attribute in this dataset is NULL, then the old value is retained irrespective of weight • No: If the old value of an attribute in this dataset is NULL, then the new value is retained irrespective of weight Note: When applying precedence, if the existing multivalue attribute has more weightage than the new multivalue attribute, the new value is ignored. Additionally, the weightage is applied to all values of multivalue attributes.
Ignore this attribute always?	• Select Yes to ignore any value coming from a new source. This option is useful to quickly drop some data from the incoming feed. • Default value: No

Field Name	Description
Associated Change Date	Enter the change date along with the timestamp. The change date value is useful when the change date of incoming data is other than the current date. Consider that the weight of both ORCL and SAP sources is 90. - A record, record1 comes from the ORCL source and is updated on 2021-09-28 3:14:07. - The same record1 comes from the SAP source on 2021-09-29. However, the value of the Associated Change Date attribute in this record is 2021-08-14 3:14:07. In this scenario, when the precedence is applied, the ORCL data is retained because the value of Associated Change Date of the SAP source is older than the ORCL source. Note: The value of Associated Change Date attribute is considered only when the new-computed weight equals the old-computed weight.

- In the **Source References** section, you can enter new records or existing records from the RecordSource repository. See [Defining Source](#).
- Click **Validate**, and then **Save**.
Records are validated and then saved in the AttributeQualityDefinition repository.

What to do next

[Defining Precedence Definition Repository](#)

Defining Precedence Definition Repository

The PrecedenceDefinition repository includes a set of properties that define the quality of an attribute for a source, only when the previous source was a specific one. The repository defines any relative weight between two sources.

Before you begin

See [Precedence Management Workflow](#).

Procedure

1. In TIBCO MDM, click **Precedence Management**.
2. On the Precedence Management page, click the **Precedence Definitions** tab.
3. Click **Create**.
4. In the **Precedence Details** section, enter the required details:

Precedence Management - Precedence Definition

▼ Precedence Details

Repository:	PERSONPROFILE
Attribute:	Citizenship
Trust Factor:	30
Previous Source:	1,source definition



Note: The following table provides additional information that is useful when filling the fields. This is not an exhaustive list of all fields.

Field Name	Description
Trust Factor	Enter the trust factor, which must be a positive integer. It is applied to the weight only if the value comes from the specified old source and new source. Example: You have defined a trust factor of 50 for the previous source (SAP). In this case, when data from the new source (JDE) is received for an attribute, and if the old data was from SAP, then after calculating the weight of SAP (weight + decay), the trust factor is applied to reduce the weight further. The precedence definition is optional if the trust factor is not applied. The trust factor is applied only to a new source for weight calculation. Decay is applied only to an old source.
Previous Source	Select the value from the Source repository if the precedence applies only if the previous change was from a specific source.

5. In the **Source References** section, you can enter new records or existing records from the RecordSource repository. See [Defining Source](#).
6. Click **Validate**, and then **Save**.
Records are validated and then saved in the PrecedenceDefinition repository.

What to do next

1. Create records and add value to the source records. See [Creating Records](#).
Example: RecordID=1, SourceID=S1, and Weight=100.
2. Modify records and change the value of the source records, see [Modifying Records](#).
Example: RecordID=1, SourceID=S2, and Weight=80.

Precedence is calculated based on the values of modified records, and the precedence rulebase is applied.

Linking Records from Existing Repository

You can link records from the existing AttributeQualityDefinitions and PrecedenceDefinitions repositories.

Before you begin

See [Precedence Management Workflow](#).

Procedure

1. In TIBCO MDM, click **Precedence Management**.
2. On the Precedence Management page, click the **Source Definitions** tab.
3. On the **Source Details** tab, enter source ID and description.
4. Click any one of the following repositories from where you want to link records:
 - **Attribute Quality Definitions**
 - **Precedence Definitions**
5. Click **Add Relationship**.
6. On the Browse and Search page, click **Search**.
7. On the Search & Select *repositoryname* to link dialog box, select the records you want

to add, and click **Done**.

Selected records are added to the repository.

8. Click **Validate**, and then **Save**.

Records are validated and then saved in the selected repository.

Common Actions on Repositories

You can perform the following common actions on the **Source Definition**, **Attribute Quality Definitions**, and **Precedence Definitions** repositories:

Common Actions	Source Definition	Attribute Quality Definitions	Precedence Definitions
Create	See Defining Source	See Defining Attribute Quality Definition Repository	See Defining Precedence Definition Repository
Modify		NA	NA
Restriction: You cannot modify records in AttributeQualityDefinitions and PrecedenceDefinitions repositories. To modify records, go to the source. See Defining Source .			
Delete	The Delete Record(s) page is displayed. See Deleting Records .		
Show History	The Record History page is displayed. See Viewing Record History .		
Copy	The Copy Record page is displayed. See Copying Records .		
Compare	The Compare Records page is displayed. See Comparing Records within a Repository .		

Business Processes

A Business Process models the real world processes to perform various tasks. The Application's Business Process provides customization points for defined workflow processes.

Workflow is defined by the IT personnel and deployed on the server. The Business Process user interface allows changes to the workflows for definition of routing rules and various process options. If customized rule domains and templates have been created for your installation, the Business Process page appears slightly different.

Business Processes are organized in Rule domains. Each rule domain is a collection of rules for a specific purpose. These domains are referred to by workflows and evaluated at run time to access matching rules.

Each rule domain has one or more rule templates which define the available conditions and actions for any rule. Some rule domains are configured only to have one rule template. You can define rules using any rule template.

For example, for the SEND activity, you can assign a parameter to indicate how you want to send a document (for example, via HTTP) and where you want to send it (for example, to a URL or FTP address).

i Note: When import is done using FileWatcher, the <source> attribute is available to be used in the Import Approval business process rule. However, for all workflows started from the user interface, this attribute is set to "Any".

Business Processes - Rule Domains

You see this page after clicking the **Business Processes** link in the menu. It lists all the rule domains including the custom defined.

Each rule domain is a collection of rules for a specific purpose. These domains are referred to by the workflows and evaluated at run time to access matching rules.

Business Processes	
Name	Description
Conflict Resolution	User or role who will resolve conflicts
Custom Protocol Selection	Rulebase to determine messaging protocol
Data Custodian	User or role who is custodian for an attribute or attribute group
Hierarchy Create Approval	User or role who will approve hierarchy creation
Hierarchy Delete Approval	User or role who will approve hierarchy deletion
Hierarchy Edit Approval	User or role who will approve hierarchy changes
Hierarchy Link Approval	User or role who will approve the hierarchy to record linking operations
Import Approval	User or role who will approve the import
Match Record Approval	User or role to select the record from matching records
Message Alert	User or role to be notified when a new message is received
Message or Workflow Completion	User to send an alert to when message processing completes
New Record Introduction Edit	User or role to edit the records when records are introduced
Process Definition Selection	Process definition selection for event
Record Action Approval	User or role to approve actions on records
Record Delete Approval	User or role who will approve record deletion
Record Edit Approval	User or role who will approve record changes
Record Notification	User or role to be notified of a record notification message or workflow
Reminder Setup	In case a message is not handled for a certain period of time, send reminders to notify people about the task in hand
Repository Selection	Repository selection for activity input
Rulebase Selection	Rulebase to be used as activity input
Synchronization Action Alert	User or role to notify when approval of synchronization action completes
Synchronization Approval	User or role to approve synchronization
Timeout Escalation	User to escalate the request to if message is not handled within required time
Unknown System Alert	User or role to notify when a new backend system is detected
Workflow State	Set the workflow state

Business process domains are the contexts in which rules are applied. Each business process domain consists of one or more templates.

This is an example of typical business process domains:

- **Record Notification:** A business process domain structured by a group of rules for product change notifications. This affects users responsible for handling Datapool or Buyer actions on products, such as an authorization of an item added to the 1Sync registry.

Use this page to:

- **View all business processes that exist:** You can view a list of all the business processes available. The list varies based on the type of company (Seller or Buyer).
- **Edit the rule template:** You can edit the rule templates by clicking the name of the business process in the Business Process column. This opens the Rule Template List page, where you can add or delete rules.

Rule Templates

A business process rule template contains a set of conditions and actions that provide a structure for the rules that make up the template. Most common conditions are predefined. Any custom conditions can be added during implementation.

Click **Business Processes** in the menu. The Business Processes page displays a list of all available business processes. Click the name of the business process to view the template for it. For example, the following page is displayed when you click the **New Record Introduction Edit** business process.

Rule Templates

Business Process Rule Name

New Record Introduction Edit

Create

Delete

	Name	Description	Default	
☐	Default	Default Template	No	

Rules

Rules are created based on a template. When a workflow activity refers to the rules, all rules in the business process domain are executed. The results of rule executions are available as input parameters to activities and transitions in workflow. The Rule List page lists the rules for the business process.

Rule List

Business Process Rule Name: New Record Introduction Edit
 Template Name: Default

✚ Create ✖ Delete

Repository	Action	Work Item State	Deployment Mode	Participant ID	Move To	Default
No Record Found						

OK

Each business process domain has a default rule. The default rule is executed when no other rule in the domain produces a positive result. This is the reason all conditions in a default rule are set to Any.

Use this page to:

- Create a rule. You can create a new rule for the selected business process. Click **Create** to open the New Rule page.
- Modify a rule. After the rule is created. The rule is displayed in the Rule list. Click the repository name link to modify a rule.
- Delete rule. You can delete an existing rule by selecting the rule from the list and clicking **Delete**.

Creating Rules

The New Rule page is used to define conditions, actions, and the default values used in workflow processing. These values then trigger the new business process rule. Rules created here are seen in the Rules page. For example, the New Rule page for the **New Record Introduction Edit** Business Process looks as follows:

New Rule

Business Process Rule Name	New Record Introduction Edit
Template Name	Default
Use as default	No ▼

Conditions

The repository is	Any ▼
The work item state is	Any ▼

Actions

Set the participant user to	Define Value ▼
Set the next work item state to	Define Value ▼

SaveCancel

Use this page to:

- **Define a new rule.** Specify the rules details to define a rule. You can choose the repository, the state of the work item and the user the work item is sent to. You also need to define the next state of the work item and if these settings must be used as default. When you set the state to anything other than done, make sure that there is another rule that sets the state to Done.

Procedure

1. From the menu, select **Business Processes**.

2. From the Business Processes page, click a business process name link.
3. From the Rule Template List page, select a rule name.
4. From the Rule List page for the domain, click **Create**.
5. Specify the parameters for the new rule by making appropriate selections from the drop-down lists and enter new parameters as necessary.
6. Click **Save** to create the rule.

Modifying Rules

Procedure

1. Click the repository name to modify the rule in the Rule List page. The Modify Rule page is displayed with the existing data.

Modify Rule

Business Process Rule Name	New Record Introduction Edit
Template Name	Default
Use as default	No ▼

Conditions

The repository is	Any ▼
The work item state is	Initial Step/Step 1 ▼

Actions

Set the participant user to	Jaw,Karr ▼
Set the next work item state to	Final Step/Done ▼

SaveCancel

2. Modify the existing conditions, actions and defaults used in workflow processing.
(GDSN Only) If a backend system is part of the rule template, only Datapools associated with that backend system are shown.
3. Click **Save** after you are done with the modifications.

Handling of Event Logs

The Event Log page shows the list of events in the system. The navigation buttons on this page allow you to manage lists across pages. To access the Events page, click **Event Log** from the main menu. A table of events is displayed.

Event Log Search							
Cancel Restart Resubmit Rollback							
Event ID	Event	Date/Time	Last Update Date/Time	Duration(D:H:M:S)	Status	Backend System	Current State
☐ 42000	Import Records	2022-01-11 12:13:15.128	2022-01-11 12:13:17.485	2 Seconds	SUCCESS	N/A	DONE
☐ 40001	Import Records	2022-01-11 12:08:54.710	2022-01-11 12:09:01.59	6 Seconds	SUCCESS	N/A	DONE
☐ 40000	Record Add	2022-01-11 12:05:15.993	2022-01-11 12:05:17.728	1 Seconds	SUCCESS	N/A	DONE
☐ 39002	Import Records	2022-01-11 11:40:02.361	2022-01-11 11:40:08.169	5 Seconds	SUCCESS	N/A	DONE
☐ 36000	Load Data Source	2022-01-10 12:15:57.935	2022-01-10 12:15:58.615	0 Seconds	SUCCESS	N/A	DONE
☐ 35002	Import Records	2022-01-10 12:06:28.622	2022-01-10 12:07:19.398	50 Seconds	ERROR	N/A	DONE
☐ 35001	Data Service Update	2022-01-10 12:06:16.800	2022-01-10 12:06:26.688	9 Seconds	SUCCESS	N/A	DONE

Actions/Column names	Description
Action buttons	Select the check box for a single event, applicable action buttons are enabled. See Actions on Events .
Event	Displays the event name. To view a list of common events, see Common Events . To view details of a specific event, click the link in the Event column. The details of the events are displayed on the View Event Details page. To return to the main list, click Back .
Date/Time	Shows the date on which updates were made on events.
Last Update Date/Time	Shows the last date on which updates were made on events.
Duration(D:H:M:S)	Displays the duration for which an event was running. Time is displayed

Actions/Column names	Description
	in the Days, Hours, Minutes, and Seconds format.
Status	Displays the various statuses of an event. The statuses are Success, In Progress, Cancelled, Error, Start, or Timed Out .
Backend System	Displays the name of the backend system, if defined.
Current State	Displays the current state of the event. If the Record Add Event is successful, the CurrentState is Done or if the event is in progress, Current State is Record Introduction. Note: You can sort events based on their EventID, Date/Time, LastUpdate Date/Time, and Duration.
Search	To search for an event, click Search. You can search events based on Event Status, Event Type, Event ID, User ID, Operation, Backend System, Event Start Date, Event End Date, Record ID, and RecordID Ext. The default filter criterion for the Search operation is 30 days, that is, when you click the Search link, by default Event Start Date and Event End Date fields are populated with the date counting the duration of 30 days. Note: If an event ID is specified, all other filter criterion is ignored.

Permissions for Events

You must have appropriate permissions to view, cancel, restart, resubmit, or roll back events. The permission can be granted or denied to any role or user. To define the permission for these events, see [Defining Resource Security](#).

For more information about each event, see [Permissions by Resource Type](#).

Actions on Events

You can perform various actions on an event from the Event Log page.

Event Actions

Action	Description
Cancel	Cancel an event, see Canceling Events
Resubmit	Resubmit the canceled event, see Resubmitting Events
Restart	Restart the suspended event, see Restarting Events
Rollback	Roll back an event, see Rolling Back Events

Canceling Events

You can cancel any event which is not yet completed, that is, its status is In Progress. However, you cannot stop or abort the Cancel event after it is initiated.

Event Log Search							
Cancel Restart Resubmit Rollback							
Event ID	Event	Date/Time	Last Update Date/Time	Duration(D:H:M:S)	Status	Backend System	Current State
☐ 41000	Record Modify	2022-01-11 12:07:46.941	2022-01-11 12:07:46.941	0 Seconds	SUCCESS	N/A	PRODUCTEDIT
☒ 40001	Import Records	2022-01-11 12:08:54.710	2022-01-11 12:08:59.318	4 Seconds	START	N/A	UPDATERECORD STATUS
☐ 40000	Record Add	2022-01-11 12:05:15.993	2022-01-11 12:05:17.728	1 Seconds	SUCCESS	N/A	DONE
☐ 39002	Import Records	2022-01-11 11:40:02.361	2022-01-11 11:40:08.169	5 Seconds	SUCCESS	N/A	DONE
☐ 36000	Load Data Source	2022-01-10 12:15:57.935	2022-01-10 12:15:58.615	0 Seconds	SUCCESS	N/A	DONE
☐ 35002	Import Records	2022-01-10 12:06:28.622	2022-01-10 12:07:19.398	50 Seconds	ERROR	N/A	DONE
☐ 35001	Data Service Update	2022-01-10 12:06:16.800	2022-01-10 12:06:26.688	9 Seconds	SUCCESS	N/A	DONE

You can cancel an event even if there is no workflow associated with it, but for the following exceptions:

- An event that is created when a record is saved as unconfirmed, not yet sent to the workflow for processing should not be canceled. It is not advised doing so, but it is not prohibited. If you cancel such an event, it is marked as canceled. However, the corresponding records are not rejected. It is better to first confirm the record, and then roll back the event.

- Events which are currently executing may not be canceled even if the cancellation is issued.



Note: When an event is canceled, the current activity in the workflow is completed and the rest of the activities are canceled. Consider the workflow which is currently evaluating a rulebase. If you cancel the Import Records Event at this stage, the Evaluate Rulebase activity is completed, but the following activities of the workflow are canceled, such as, Work item import approval or Spawn individual workflow for record bundle.

Procedure

- Select the Event ID from the Event ID column, and click **Cancel**. A warning message is displayed.
- Click **OK** to cancel the selected event.

Result

The Cancel action initiates a subflow to cancel the event. The subflow rejects record versions created by the event which are not yet confirmed, closes all open work items, and then updates the status of an event to **Canceled**.

Resubmitting Events

You can resubmit any event for re-execution which is in the **Cancelled**, **Error**, or **Success** state.

Event Log Search							
Cancel Restart <input checked="" type="button" value="Resubmit"/> Rollback							
Event ID	Event	Date/Time	Last Update Date/Time	Duration(D:H:M:S)	Status	Backend System	Current State
☐ 42001	Import Records	2022-01-11 12:14:08.598	2022-01-11 12:14:33.355	24 Seconds	ERROR	N/A	DONE
☐ 42000	Import Records	2022-01-11 12:13:15.128	2022-01-11 12:13:17.485	2 Seconds	SUCCESS	N/A	DONE
☒ 41000	Record Modify	2022-01-11 12:07:46.941	2022-01-11 12:07:46.941	0 Seconds	SUCCESS	N/A	PRODUCTEDIT
☐ 40001	Import Records	2022-01-11 12:08:54.710	2022-01-11 12:09:01.59	6 Seconds	SUCCESS	N/A	DONE
☐ 40000	Record Add	2022-01-11 12:05:15.993	2022-01-11 12:05:17.728	1 Seconds	SUCCESS	N/A	DONE
☐ 39002	Import Records	2022-01-11 11:40:02.361	2022-01-11 11:40:08.169	5 Seconds	SUCCESS	N/A	DONE
☐ 36000	Load Data Source	2022-01-10 12:15:57.935	2022-01-10 12:15:58.615	0 Seconds	SUCCESS	N/A	DONE
☐ 35002	Import Records	2022-01-10 12:06:28.622	2022-01-10 12:07:19.398	50 Seconds	ERROR	N/A	DONE
☐ 35001	Data Service	2022-01-10 12:06:28.622	2022-01-10 12:07:19.398	50 Seconds	ERROR	N/A	DONE

Procedure

1. Select the Event ID from the Event ID column and click **Resubmit**. A confirmation message is displayed.
2. Click **Ok** to resubmit the selected event. A Confirm Event Resubmission page is displayed.

Confirm Event Resubmission

Workflow Request Details

Event ID
41000

File to Upload (Optional)
Choose File No file chosen

Specify workflow request XML file to process resubmitted event. Upload workflow request file, else workflow request of event 41000 will be used to process resubmitted event

Resubmit Event Cancel

3. Click **Choose File** to upload a workflow request document, that is, mXML document. However, uploading the workflow request document is optional.
 - If you do not upload the workflow request document, the inDoc from the canceled event or the event with errors is used for event processing.
 - If you upload a file, the uploaded file is used as the inDoc for processing the new event.
4. Click **Resubmit Event**. The Resubmit event status page is displayed.
5. Click the **Check Progress** link to monitor the status of the resubmitted event.

A new event is created and is sent to the workflow queue for further processing. This new event is associated with the event that had errors or was canceled (the event being resubmitted). Due to this association, the event has the newly created event in its **Associated Events** list.

The Resubmit event does not copy record versions associated with the original event. For example, when a add record event is resubmitted, it does not result in a new version of the record. The original change may have already been confirmed.

The information that was used for creating and executing the **Cancelled** events is used for creating the new event. Examples: eventType, mXML document, product

logs, and so on.

Variables and Parameters for Resubmit Event

When the canceled event or event with errors is resubmitted:

- The `isProcessResubmitted` variable in the Process Definition Selection BPR evaluates to true.
- The global boolean parameter, `isResubmitEvent`, is added to the resubmitted message. For resubmitted events, the value of this parameter is true. This field is helpful in differentiating between regular and resubmitted events. Based on this parameter, the `isProcessResubmitted` variable is set to either true or false.

This parameter is useful in making appropriate transitions for a resubmitted event.

```
<Parameter direction="in" name="inDoc" description="Test this out"
type="document" eval="variable">1</Parameter><Parameter direction="in"
name="isResubmitEvent" type="boolean" eval="variable">2</Parameter>
```

Resubmit Limitations

- Resubmitting canceled events, such as add or modify, may lead to exceptions or may not work as expected.
- If events do not have a workflow document attached with them, they cannot be resubmitted. For example, events created by purge that are initiated using the command-line.

Restarting Events

You can restart a suspended event, which is waiting for a task to complete.

The event waits for a task when:

- An event is suspended explicitly.
- An event is suspended implicitly. Implicit suspend is performed when an activity splits a large batch of records and submits for parallel execution. Such activities wait

for all parallel threads to complete before continuing.

Therefore, you can use the Restart event, when the SuspendWorkflow activity cannot be used effectively, or when an event is unresponsive and there is no way to restart it.

Procedure

1. On the Event Log page, select an Event ID from the Event ID column, and click **Restart**.

A Restart event with the selected event ID window is displayed.

☐ Event ID	Event	Date/Time	Last Update Date/Time	Duration(D:H:M:S)	Status	Backend System	Current State
☒ 55006	Record Modify	2021-10-12 10:46:34.0 AM Asia/Kolkata	2021-10-12 11:04:53.0 AM Asia/Kolkata	18 Minutes,19 Seconds	INPROGRESS	N/A	PRODUCTEDITI TERNALAPPR OVAL
☐ 55004	Record Modify	2021-10-12 9:37:00.0 AM Asia/Kolkata	2021-10-12 9:37:01.0 AM Asia/Kolkata	1 Seconds	INPROGRESS	N/A	PRODUCTEDITI TERNALAPPR OVAL
☐ 55002	Record Modify	2021-10-12 12:29:07.0 AM Asia/Kolkata	2021-10-12 12:29:11.0 AM Asia/Kolkata	4 Seconds	INPROGRESS	N/A	PRODUCTEDITI TERNALAPPR OVAL
☐ 50002	Record Add	2021-09-14 6:16:53.0 PM Asia/Kolkata	2021-09-16 10:28:40.0 AM Asia/Kolkata	1 Days,16 Hours,11 Minutes,47 Seconds	INPROGRESS	N/A	PRODUCTADDI TERNALAPPR OVAL
☐ 42003	Record Modify	2021-07-14 3:21:21.0 PM Asia/Kolkata	2021-07-14 3:21:21.0 PM Asia/Kolkata	0 Seconds	INPROGRESS	N/A	PRODUCTEDITI TERNALAPPR OVAL

2. Click **OK** to restart the selected event.

Result

The event is restarted.

Rolling Back Events

After executing an event, you can use the Rollback option to roll back the impact of one or more events, or to a certain step in an event. You can roll back an event which is completed with a Success or Error status. After you start the rollback of an event, it cannot be stopped. Rollback deletes all master data related to rollback events.

Before you begin

Grant permission to enable the Rollback action. Navigate to **Administration > Resource Security > Event > Show Permissions > Add Grantee** and select **Allow** for **Allow rollback and edit of event**. To grant permission to restart the workflow from that specific step till where it was rolled back, select **Allow** for **Restart paused event**. Perform the steps to roll back an event and not a record.

Procedure

1. On the Event Log page, select an Event ID from the **Event ID** column, and click **Rollback**.

Event ID	Event	Date/Time	Last Update Date/Time	Duration(D:H:M:S)	Status	Backend System	Current State
☐ 42001	Import Records	2022-01-11 12:14:08.598	2022-01-11 12:14:33.355	24 Seconds	ERROR	N/A	DONE
☐ 42000	Import Records	2022-01-11 12:13:15.128	2022-01-11 12:13:17.485	2 Seconds	SUCCESS	N/A	DONE
☒ 41000	Record Modify	2022-01-11 12:07:46.941	2022-01-11 12:07:46.941	0 Seconds	SUCCESS	N/A	PRODUCTEDIT
☐ 40001	Import Records	2022-01-11 12:08:54.710	2022-01-11 12:09:01.59	6 Seconds	SUCCESS	N/A	DONE
☐ 40000	Record Add	2022-01-11 12:05:15.993	2022-01-11 12:05:17.728	1 Seconds	SUCCESS	N/A	DONE
☐ 39002	Import Records	2022-01-11 11:40:02.361	2022-01-11 11:40:08.169	5 Seconds	SUCCESS	N/A	DONE
☐ 36000	Load Data Source	2022-01-10 12:15:57.935	2022-01-10 12:15:58.615	0 Seconds	SUCCESS	N/A	DONE
☐ 35002	Import Records	2022-01-10 12:06:28.622	2022-01-10 12:07:19.398	50 Seconds	ERROR	N/A	DONE
☐ 35001	Data Service Update	2022-01-10 12:06:16.800	2022-01-10 12:06:26.688	9 Seconds	SUCCESS	N/A	DONE

2. On the Event Details page, from the **Select rollback option** list, select one of the following options:
 - **Rollback full event::** A warning message is displayed. The event is rolled back, and the event is no longer listed on the Event Log page.
 - **Rollback event up to selected step:** Select the step in the Rollback column. Then, a warning message is displayed.
 - **Rollback event upto selected step and restart workflow from this step:** Select the step in the Rollback column.

Event Details Generate Error Report

Event ID: 40000
 Event: Record Add
 Started on: 2022-01-11 12:05:15.993

Repository Name: ADDRESS
 Status: Success
 State: Done

Select rollback option:

[Show More Details](#) [Graphical View](#) [Search](#)

Process	Event State	Description	Status	Started on	Ended on	Duration(D:H:M:S)	Information
EDIT PRODUCT	Record Introduction	Edit Record	Success	2022-01-11 12:05:15.999	2022-01-11 12:05:15.999	0 Seconds	Workflow Request: Down Workflow Name: wfrn File Location: stan fadd
InternalEditMoveToFirst	Internal Approval	Set workflow to next step	Success	2022-01-11 12:05:16.542	2022-01-11 12:05:16.557	0 Seconds	Records Event Initiator jsmit
GetItemData	Internal Approval	Get record data	Success	2022-01-11 12:05:16.573	2022-01-11 12:05:16.621	0 Seconds	Repository ADC

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3. Click **OK** to roll back the selected event or the event up to the selected step.



Note: Rollback up to the intermediate steps is not possible because the check boxes against intermediate steps on the Event Details page are not enabled. In this case, update the value of the `com.tibco.cim.processstate.history.enable` property to true in the Configurator, and then restart the application.

Result

After the rollback action is completed, the following tasks are executed:

- Updates state of the associated records
- Updates the version of the records
- Adjusts the relationships as appropriate
- Deletes the record versions, the entries from synchronization history, as well as the following master data related to the event:

EVENT, EVENTDETAILS, PROCESSLOG, PROCESS, PRINCIPALKEY, GOLDENCOPY, RELATIONSHIP, MCT, RCT, CONVERSION, DOCUMENTS, WORKITEMS, PROCESSDETAILS, FUTUREDATEDRECORD, and so on.

Attribute History Table and Correction

Correction is when there is a change made in a record, but without the creation of a new version. To track the changes made to the attributes, the table `ATTRIBUTEHISTORY` is implemented.

When a state is changed, an entry is created in the `ATTRIBUTEHISTORY` table to note this. Similarly, when a record is deleted, the `ACTIVE` flag change is noted.

Correction updates the record and also transfers the ownership of the version to a new processlog ID and owner ID. In this case, when a step is being rolled back, the attribute history is removed for the steps which are being rolled back.

When correction is done, the following tasks can be completed:

- Record data can be updated
- Relationships can also be modified (added or deleted)
- Relationship records can be updated

Using the Attribute Change Table

When record data is changed through correction, the attribute history table must be used to revert it. You can detect correction by checking the product log for operation = Correction.

If correction is detected, complete the following tasks to use the attribute history table to get the older values:

Procedure

1. Use the modified date to get the attribute values. The values belong to same version number.
2. For each changed attribute, get the previous value.
3. Create a new record and update it with correct attributes. Set the mod date, mod member, owner ID, and process log ID as the values from the previous update.

View Event Details

To view details of a specific event, click the link of a specific event in the **Event** column of the **Event Log** page. By default, the Event Details Table view is displayed.

Table View for Event Details

Event Details

Event ID

Event

Started on

39002
Import Records
2022-01-11 11:40:02.361

Repository Name

Status

ADDRESS

Success

State

Done

Show More Details

Graphical View

Search

Additional Data

Process	Event State	Description	Status	Started on	Ended on	Duration(D:H:M:S)	Information
12012		Process for data source upload and import					Workflow Workflow File Loca
AddMsgInfoToEvent	Start	AddMsgInfoToEvent	Success	2022-01-11 11:40:02.395	2022-01-11 11:40:02.395	0 Seconds	None
PrepareForImportCatalog	Prepare for Import	PrepareForImportCatalog	Success	2022-01-11 11:40:02.411	2022-01-11 11:40:03.800	0 Seconds	Repository

Page 1 of 1

Items/Page 50

Back

You can view the following details of the event, depending on the state of the hierarchy:

Section /Column Name	Description
Event Summary	Displays a summary of the event selected. It shows the event ID, name, state of the event, status of the action, and the date and time when the action is started. If a backend system is not defined for the event, the header is not displayed. Depending on the state of the event, a repository name link is displayed. Click the link to view repository details.
Additional Data	Shows additional data depending upon the type of an event. Consider the Import Metadata event, you can view the details of how many repositories are imported and how many are failed. You can also view logs by downloading the workflow trace file and an input file. However, if a workflow trace file is not generated, the Log File option is not displayed.

Section /Column Name	Description
Note: If the Skip Identify Protocol Operations option is selected while creating a synchronization profile, all product logs are not generated. In this case, for Synchronization event, the details such as, Total Publish and Total Operations are not visible. If the workflow trace is enabled, the detailed trace log or error log file is generated.	
Additional Attributes	Shows additional attributes depending upon the type of an event. For example, this section is displayed for Import event, Synchronization event, and so on.
Process	The Process represents the tree. The root node of the tree is the process ID that is created for the first workflow selected.
Information	The corresponding row of the Information column has the information related to the name and location of the workflow. The leaf node that contains children is represented as a tree node from where you can expand or collapse the tree. The Information column shows only two rows of data. If more rows of data are present, a toggle link that can either be Show More or Show Less is displayed. You can use these links to expand or collapse the information. The spawned events are represented as a link. To view the details of the event, click the link. • The light red background is displayed for the event, which blocks other events. • An appropriate message is displayed after you move the mouse pointer over the hyperlink of event ID, which is blocked or blocking other events. • By default, product logs are not shown on the Event Detail page. The Records link is displayed. When you click this link, the records are displayed on a separate page. • Activities are arranged in an ascending order. The activities are ordered by the sequence they have been executed.

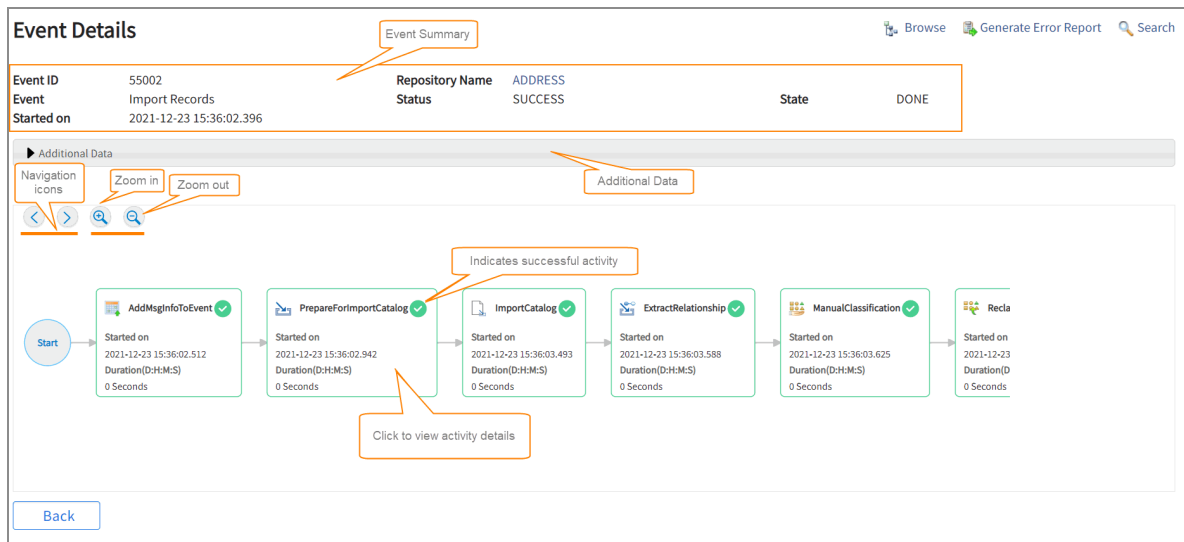
Section /Column Name	Description
Status	Shows Success or Error status.
Browse	The Browse link appears only for the Import Records event. Click the Browse link to go through a list of records that are being imported. For remaining events, the Browse link is not displayed.
Generate Error Report	If you find errors in the event, you can generate a report of these errors. Click the Generate Error Report link in the upper-right corner of the Event Details page to generate a report of errors. A report is generated and the Download link is displayed in the Additional Data section. Click the Download link to download the report. The File Download dialog is displayed. You can either choose to save or open the ZIP file. It comprises a list of XML files. To view the errors, open the .log or .csv files.
Search	To search for specific event details, click Search. You can search events based on Event Status, Event State, Event From Date, Event To Date, Record ID, RecordID Ext, Operation, and Activity. The search result displays the details about the matched event or activity. You can select one of the matched results to navigate directly to the matching event or activity on the tree graph.

Graphical View for Event Details

Click the **Graphical View** link on the Event Details Table view page. The event details graphical view is represented as a flow diagram on the user interface.



Restriction: If the event does not contain any activities, then the **Graphical View** link is not displayed.



- Click the **Zoom in** and **Zoom out** icons to magnify or reduce the process diagram.
- Diagram shows sequence of activities executed for the event. Each box indicates activity, with details such as Started On and Duration. Click each activity to view its details. For example, if you click the **ImportCatalog** activity, the selected activity details such as input and output parameters are displayed under the diagram.
- If the event has a subflows, the plus + icon is displayed in the InitiateSubflow activity box. Click the + icon to display activities for the selected subflow.
- In the upper-right corner of the activity box, status icon is displayed: a green check mark icon for the Success status and a red cross icon for the Error status.
- To go back to the table view, click **Back**.

Common Events

A list of some common events that are displayed in the **Event** column of the Event Log page.

Events Generated while Adding Modifying or Deleting Records

Events Generated while Adding, Modifying, or Deleting Records

Event Name	Is the Record Active?	Record State
Record Add	Y	Confirmed/Unconfirmed
Record Modify	Y	Confirmed/Unconfirmed
Record Delete	N	Confirmed

Events Generated while Uploading or Importing Data Source

Events Generated while Uploading or Importing a Data Source

Event Name	Is the Record Active?	Record State
Import Records	Y	Draft
Load Datasource	N/A	N/A

Events Generated during Synchronization

Events Generated during Synchronization

Event Name	Description
Synchronization	This event is generated when records are synchronized with the Backend System. Records that are both unconfirmed and confirmed are published depending on the

Event Name	Description
	status of the selected record in the synchronization profile. For more information about synchronizing a repository, see Synchronizing a Synchronization Profile .
Synchronization Validate	This event is generated when you validate a synchronization profile. The event validates the synchronization profile against a validation file and lists out failed validations. For more information, see Validating a Synchronization Profile .
GenerateFactSheet	This event is generated when a record is published from one company to another during synchronization using Send Message. While sending a message, if you have selected the Action field to be FACTSHEET-Generate factsheet, a PDF file containing the details is generated. For more information about Send Message, see Sending a Message .
MultiPartySynchronization	This event is generated when one record is being published to multiple Backend Systems. For more information, see the section on Backend System on Datapool under Creating a Synchronization Profile .
DataPoolResponseNotification	This event is generated when a record is published to the data pool, and the data pool sends a response.
De-AuthorizationNotification- Obsolete	This event is generated when the record is deleted after synchronization.
InitialLoadPublicationRequest	This event is generated when the Retailer sends a new record publication request to the Supplier. This event is generated on the

Event Name	Description
	Retailer side.
InitialLoadPublicationRequestNotification	This event is generated on the Supplier side when the Supplier receives a notification that the retailer has requested for a new record publication.
NewRecordPublicationNotification	This event is generated on the Retailer side when a record is published for the first time.
NewRecordPublicationRequest	This event is generated on the Supplier side when the Retailer requests for a new record publication.
PublicationDeliveryNotification	This event is generated both on the Supplier and the Retailer. This event is sent by WWRE in receipt of a message.
RecordAddNotification	This event is generated on the Retailer side when the Supplier adds a record and publishes it to the Retailer.
RecordChangeNotification	This event is generated on the Retailer side when the Supplier changes attributes of a record and publishes it to the Retailer.
RecordCorrectionNotification	This event is generated on the Retailer side when there is a change in attributes defined by GS1.
RecordDeleteNotification	This event is generated when a record is deleted from the Supplier side.
RecordPublicationCancelNotification	This event is generated when the Supplier no longer publishes to the retailer.
SendResponse	This event is generated when the retailer sends

Event Name	Description
	an acknowledgment for the message received from the supplier.
Unresolved Message	This event is generated when a message received by the application could not be identified.
Unresolved Catalog Message	This event is generated when a message received by the application is identified, but the application is unable to identify the DocType.

Events Generated during Purge

Events Generated during Purge

Event Name	Description
PurgeRepository	This event is generated on purging data related to the specified repository.
PurgeRecord	This event is generated on purging a single record.
PurgeMetadata	This event is generated on purging the change history related to the metadata. The following metadata objects are purged: • Repository • Subset • Synchronization Profile • Output Maps • Inputs Maps • Datasource
PurgeMetadataVersion	This event is generated on purging the version change history

Event Name	Description
	related to the metadata.
PurgeHistory	This event is generated in two cases - when you purge history, or when you force purge history.
PurgeEvent	This event is generated on purging a single event.
Right To Be Forgotten	This event is generated when you mark records for permanent deletion from repositories. For information, see the "Right To Be Forgotten" section in <i>TIBCO MDM System Administration</i>. In the Additional Data section, the following details are displayed: • Purge log file • Repository name and its corresponding attribute names • Number of records that have been purged • Company details

Administration

Using the Administration module of TIBCO MDM, an administrator can perform the following activities:

- Create and maintain user accounts and profiles

This feature allows you to create, modify, and delete user accounts that use the application within a company. You can maintain the name, contact details, default synchronization format to be used, and roles assigned to the user. You can also configure default date and time formats and allowed roles for a selected user. You can also activate and deactivate a delegation profile for a selected user.

- Define roles

This feature allows you to view users assigned for a particular role. If you have admin privileges, you can modify the users assigned to a particular role. You can also configure role delegation.



Note: The admin module is role specific and may not be available to all roles.

- Create and maintain a company profile

This feature allows you to maintain your own data pool profile and also configure contact details, supported synchronization formats, and credentials. It also shows a list of data pools that you have subscribed to and allows you to set credentials for them.

- Create and maintain Datapool profiles

This feature allows you to view all available data pool profiles and modify or subscribe to them.

- Create and maintain backend system profiles

This feature allows you to create, modify, and delete your backend system profiles. You can maintain the name, contact details, credentials, and default synchronization formats that is used by the backend systems. You can also set the Datapool Participation for the backend system. Moreover you can add FTP details that is used when the transport mechanism is FTP (while publishing).

- Specify resource security

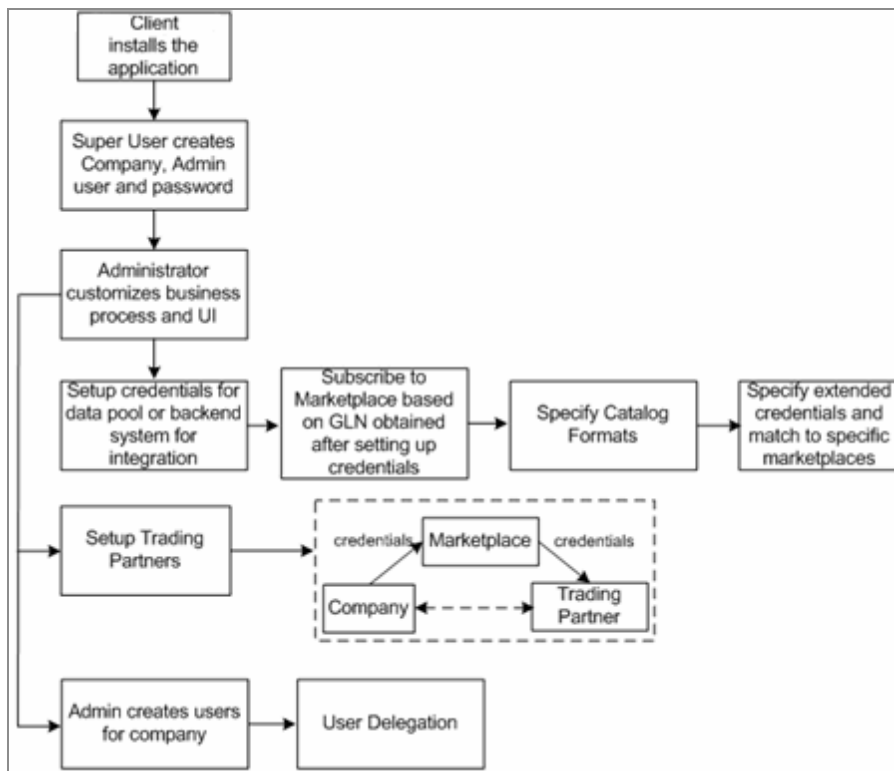
This feature allows you to select specific resources from a list of repositories and set permissions for them.

- View the Event log

Flow of Administration Activities

The following diagram shows the administration activities and their flow.

Administration Flow



User Accounts

An administrator uses the User Accounts feature. Users are created per company.

An administrator performs the following activities:

- create new user profiles
- modify existing user profiles
- delete user profiles
- assign roles to created users which gives them the required rights and access privilege
- delegate work to other users
- unlock the locked users

This is the first page you see when you click **Administration > User Accounts**.

User Name	Last Name	First Name	Delegation Active	Roles	Phones	Emails	Locked
☒ jcallis	Callis	John	false	Administrator	none	none	false
☐ jsmith	jsmith	jsmith	false	Administrator	none	none	false

Use this page to:

- View all users: you can see details such as the Login ID, Names, and the Organization the user belongs to.
- Filter users: you can filter users based on their alphabet. By default, the list of all users is displayed. However, you can view a specific set of users, such as select the first letter of login ID of the user from the **Filter Users Alphabetically** drop-down list.
- Search users: you can search users by their username, first name, middle name, and last name. Select the following search operator from the list:
 - Equal
 - Not Equal
 - Equal Ignore Case
 - Not Equal Ignore Case
 - Contains
 - Not Contains
 - Contains Ignore Case
 - Not Contains Ignore Case

i Note: Ignore case signifies not case sensitivity. For example, for the Equal Ignore Case operator, if you type 'jsmith' in lowercase and click **Search**, the lowercase used for the searching criteria is ignored and the username in uppercase is also shown in the result, that is, JSMITH.

- Perform the following actions:
 - To create a new user, click **Create**. See [Creating a User](#).
 - To delete an existing user, select the user and click **Delete**.
 - To edit an existing user, select the user and click **Modify**. See [Modifying a User](#).
 - To view the usage, select the user and click **Show Usage**.
 - To unlock the user, select the user and click **Unlock**. If a user is locked, **true** is displayed in the Locked column.

Creating a User

On the **Add User** page, you can create a new user for a company.

Procedure

1. Log in to TIBCO MDM.
2. Click **Administration > User Accounts**.
3. On the **User Accounts** page, click **Create**.

Add User

User Name

jsmith

First Name

John

Last Name

Smith

Password

Security Type

Middle Name

Partitioning Key

Re-enter Password

Password

▼ Roles

Available Roles

Command Line User

Data Steward

External User

Repository Approver

Repository Editor

Repository Manager

Selected Roles

Administrator

▼ Delegation Profile

Delegation Allowed To

None

Available Users

Selected Users

Active Delegation

Continue delegation until de-activated

Send notification if work is delegated

Start Date

End Date

☐ Delegation profile is used only when activated.
 ☐ Delegation will remain in effect even after delegation end date has passed.
 ☐

▼ Locale Settings

Language

Select language

Date Format

Select Date Format

Timestamp Format

Select Time Stamp Format

Country

Select Country

Time Format

Select Time Format

Time Zone

Select Time Zone

▼ Security Questions

Question 1

In what city or town was your first job?

Enter your answer

☐ Show answer

Question 2

What is your grandmother's first name?

Enter your answer

☐ Show answer

▼ User Defined Fields

Show Record Attribute Help?

Save

Cancel

4. On the **Add User** page, enter different types of details in the following sections for the user being created:

Section	Description
Add User	Define basic details, such as the Username, First Name, Middle Name, Last Name, Password, and Partitioning Key.

Section	Description
	Note: The Username can accept the following special characters as a part of the name: * (asterisk) . (period) - (minus) @ (at) / (Forward Slash) \ (Backward Slash) These special characters are accepted when you enter the username while adding permissions, roles, users. These can be used when referring to the username in a dataset of a File Watcher and also while referring to the username in a workflow.
	Select the required Security Type from the list: • Password: User defined password. See Characteristics of Strong Password and Password Restrictions. • LDAP: LDAP-based authentication where password is not stored within the application. If you choose the LDAP security type: The user must already exist in the LDAP directory server. Certain properties need to be configured in the <code>application.yaml</code> file. Refer to the <i>TIBCO MDM System Administration</i> for details. When this security type is selected and the user attempts to log in, then the user is searched in the existing user list of the LDAP directory server. If the user is not found, an error is displayed. Else, the user is created for the selected company using this security type. If LDAP is selected as the security type, the Password fields do not get displayed as LDAP server does not require a password for authentication.

Section	Description
Roles	Note: If LDAP authentication is selected while configuring the server, the following 3 options are available: None, Simple, and Strong. If the administrator selects None, the password is not authenticated but the user must type something in the Password field. If Simple or Strong is selected, the password typed in the login page is authenticated using the LDAP server. Each user in TIBCO MDM is assigned roles that control the user's access and privileges. You can assign any user one or more predefined roles. • To assign a single role, select one from the Available Roles list and click ">" to move it to the Selected Roles list. • To assign multiple roles, press Ctrl and click roles from the Available Roles list and click '>' to move the selected multiple roles to the Selected Roles list. • To assign all roles, click ">>". All roles are moved to the Selected Roles list. An assigned role is no longer be available in the Available Roles list, once it has been assigned to the user. To know the available predefined roles, see Roles. For information about the access rights defined for each role, see User Role Matrix .
Delegation Profile	- Specify the <i>delegation profile</i> of the user. You can forward work items assigned to you to another user. The users are available for selection depending on their roles and privileges. To activate the delegation profile, you need to specify how the delegation is activated and deactivated and whether to send notification when work is delegated. - Using the delegation and reassignment feature, you can control delegation and reassignment of work items from one user to another. Delegation and reassignment is based on a list of specified user roles and their related access privileges. A delegation profile is

Section	Description
	used to limit the roles and users to whom work can be reassigned. For each organizational role, the TIBCO MDM administrator specifies which roles can be delegated by another role. When a user attempts to reassign a work item, the action is limited to a select list of user roles. Only users with the appropriate roles and access privileges are shown as possible candidates for the reassignment.
Locale Settings	Specify the locale setting details in the following fields: • Language and Country: Select the language and country. • Date Format: Select a date format from the drop-down list. The supported formats are: ◦ MM/DD/YYYY ◦ DD-MON-YYYY ◦ MM/DD/YY ◦ DDMMYYYY ◦ YYYY-MM-DD ◦ YYYY/MM/DD ◦ DD-MM-YYYY ◦ DD/MM/YYYY ◦ DD-MM-YY All date fields on the pages are displayed in the selected format for this user. • Time Format: Select a time format from the list. The supported formats are: - hh:mm:ss (24 hours) - hh:mm:ss AM/PM (12 hours)

Section	Description
	All time fields on the pages are displayed in the selected format for this user. Note: If you do not select the date or time format, the default format is selected from the Configurator. By default, the MM/DD/YYYY and hh:mm:ss formats are specified for the Default Display Date Format and Default Display Time Format properties respectively. However, if you have specified the date or time format using UI, the selected date and time format take precedence over the application level configuration. • Timestamp Format: Select a timestamp format from the drop-down list. The supported formats are: ◦ YYYY-MM-DD hh:mm:ss.S – Time is displayed in 24 hours format with milliseconds. S indicates milliseconds. ◦ YYYY-MM-DD hh:mm:ss.S AM/PM – Time is displayed in 12 hours format with milliseconds. ◦ YYYY-MM-DD hh:mm:ss.S z – Time is displayed in 24 hours format with milliseconds and time zone. Z indicates time zone. By default, the system time zone is displayed. ◦ YYYY-MM-DD hh:mm:ss.S AM/PM z – Time is displayed in 12 hours format with milliseconds and time zone. Note: If you do not select the timestamp format, the default format is selected from the Configurator. By default, the YYYY-MM-DD hh:mm:ss.S format is specified for the Default Display Timestamp Format property. However, if you select the timestamp format using UI, the selected timestamp format takes precedence over the value that is specified for the Default Display Timestamp Format property. • Time Zone: Select the time zone specific to your region from the drop-down list. If you do not select any time zone, the system time zone is applicable.

Section	Description
Security Questions	- Select a security question from the Question 1 list. If you do not want to use a predefined question, select Others from the list. - If Others selected, enter your own question. - Enter a secret answer to the question. - Select the Show answer check box if you want to display your answer in the text box. - Repeat the step a to d for the Question 2 field. However, you must select a different question from the Question 2 list. By default, two security questions are displayed. However, if your system administrator has configured more number of questions to be displayed on the Add Users page, then repeat the step a to d for all questions. Caution: For the successful user creation, selecting security questions and answering them is mandatory. The security questions are asked when resetting the password. Restriction: The security questions are not applicable for the single sign-on and LDAP login.
User Defined Fields	Show Record Attribute Help?: Enter Y or N to activate the mouse over display of Help in the record add, modify, and copy pages. The default (if no data input is provided here) is to display the Help.

- Click **Save** to save user creation details.

Modifying a User

Using the Modify User page, you edit the profile of an existing user. You can modify any part of the information that you provided while initially creating this user from the Add User page.

Procedure

- 1. Log in to TIBCO MDM.
- 2. Click **Administration > User Accounts**. The User Accounts page is displayed.
- 3. Select the user and click **Modify**. The Modify User page is displayed.

Modify User

User Name

jsmith

First Name

jsmith

Last Name

jsmith

Password

Phone

None

Security Type

Password

Middle Name

Partitioning Key

Re-enter Password

Email

None

Roles

Available Roles

Command Line User
Data Steward
External User
Repository Approver
Repository Editor
Repository Manager

<

>

<<

>>

Selected Roles

Administrator

Delegation Profile

Delegation Allowed To

None

Available Users

<

>

<<

>>

Selected Users

Active Delegation

Continue delegation until de-activated
Send notification if work is delegated

Start Date

End Date

Delegation profile is used only when activated.

Delegation will remain in effect even after delegation end date has passed.

Locale Settings

Language

Select language

Date Format

Select Date Format

Timestamp Format

Select Time Stamp Format

Country

Select Country

Time Format

Select Time Format

Time Zone

Select Time Zone

Security Questions

Security Question 1

In what city or town was your first job?

Enter answer

Show Password

Security Question 2

In what city or town was your first job?

Enter answer

Show Password

User Defined Fields

Show Record Attribute Help?

Save

Cancel

Similar to the Add User page, modify different types of details for the user in the following sections:

Sections	Description
Modify User	You can change basic details, such as the username, password, phone numbers, and name. There are two ways that a user can be authenticated in TIBCO MDM - using a user- defined password or LDAP. Select the required type from the drop-down list.

Sections	Description
Phone	Click the link to add various types of phone numbers for the selected user. For more information, see Adding Phone Number Details .
Email	Click the link to add multiple email addresses for the selected user. For more information, see Adding an Email Address .
Roles	You can modify the roles that are currently assigned to the user. • To change a role, select one from the Selected Roles list and click "<" to move it to the Available Roles list. • To un-assign multiple roles, press Ctrl and click roles from the Selected Roles list and click '<' to move the selected multiple roles to the Available Roles list. • To un-assign all roles, click "<<". All roles are moved to the Available Roles list. Note: Roles can be customized. Refer to the <i>TIBCO MDM Customization Guide</i> for more details.
Delegation Profile	You can specify the delegation profile of the user or can modify an already defined delegation profile.
Security Questions	You can change the security question from the list and enter an answer for the selected question.
Locale Settings	You can change the language, country, date format, time format, timestamp format, and time zone for the user.
User Defined Fields	Show Record Attribute Help?: This field can take an input of Y or N and based on the input, it activates a mouse over display of help in the record add, modify, and copy screens. The default (if no data input is provided here) is to display the help.

4. Click **Save** to save the modified changes.

Result

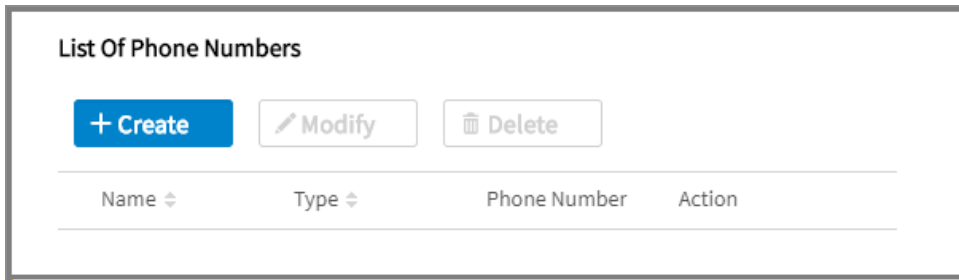
Note: Changes made are effective only when you log in again.

Adding Phone Number Details

You can add various types of phone numbers for the selected user on this page. Phone numbers are stored for information only and are not used for any processing.

Procedure

1. Click the **Phone** link in the Modify User page. If you have the List of Phone Numbers page is displayed.



List Of Phone Numbers

+ Create  **Modify**  **Delete**

Name ▾	Type ▾	Phone Number	Action

2. Click **Create** to add the phone numbers. The Phone Number page is displayed.
3. Enter the name of a user in the Name field.
4. Select the type of a phone number of a user from the **Type** drop-down list. The available Type options are:
 - Fax Machine
 - Main Telephone
 - Cell Phone
 - Other
 - Pager
 - Work Telephone
5. Enter the phone number.
6. Click **Save** to save the phone number details.

Viewing and Modifying the Phone Number Details

You can modify various types of phone numbers for the selected user. Use the Modify User page to modify an existing number.

Procedure

1. Click the **Phone** link in the Modify User page.
The List of Phone Numbers page is displayed.
2. Select the phone number and click **Modify** or click the Name link.
The Phone Number page is displayed.
3. Modify the existing phone number.
4. Click **Save** to save the changes.

Deleting the Phone Number Details

Procedure

1. Click the **Phone** link in the Modify User page. The List of Phone Numbers page is displayed.
2. Select the phone number and click **Delete**. A confirmation message is displayed.
3. Click **OK** to delete the phone number. The phone number is deleted.

Adding an Email Address

You can add multiple email addresses for the selected user. Email is used to send notification when work is assigned to the user.



Note: If you include an email address, it gets populated in the Address field of the Business Process Rules (wherever applicable) and can be used to send an email notifications to the user.

Procedure

1. Click the **Email** link in the Modify User page. The List of Email Addresses page is

displayed.

The screenshot shows a web interface titled "List Of Email Addresses". Below the title are three buttons: a blue "+ Create" button, a light gray "Modify" button with a pencil icon, and a light gray "Delete" button with a trash icon. Below these buttons is a table with three columns: "Name", "Email", and "Action". Each column header has a small downward arrow icon next to it. The table is currently empty.

2. Click **Create**. The Email Address page is displayed.
3. Enter the name
4. Enter the email address of the user.

Viewing and Modifying the Email Details

You can see and modify all the email addresses that have been added for the user.

Procedure

1. Click the **Email** link in the Modify User page. The List of Email Addresses page is displayed.
2. Select the email and click **Modify** or click the Name link. The Email Address page is displayed.
3. Modify the existing email name and email address.
4. Click **Save** to save the changes.

Deleting the Email Details

Procedure

1. Click the **Email** link in the Modify User page. The List of Email Addresses page is displayed.
2. Select the email and click **Delete**. A confirmation message is displayed.
3. Click **OK** to delete the email. The email is deleted.

Roles

Roles show all users that belong to a specific organization. From here, you can see who belongs to the Supplier organization, Datapool organization, Buyer organization, and backend systems. By default, roles display users who belong to your organization and their specific roles. A user's role determines their access rights for the application. Using the filter available here, you can see all users in a Supplier, Datapool, Buyer, or backend system organization.

The Roles page is accessed by clicking **Administration > Roles**. It displays all the available roles and their description. On this page, you can select a role and click **Show Users** to view the users assigned to that role. A user may be assigned to more than one role. You can view a list of users alphabetically when you click **Show Users**.

Roles

Manage Role Delegation

Show Users

Role Name	Role Description
☐ Administrator	Manages users, roles, permissions, and so on.
☐ Command Line User	Persons having command line access
☐ Data Steward	Role who has data stewardship
☐ External User	External User
☒ Read Only	Read Only access
☐ Repository Approver	Approver for changes to records
☐ Repository Editor	Editor who can initiate changes to records
☐ Repository Manager	Role who manages metadata
☐ Support Engineer	Support Engineer who can inquire raw data
☐ Work Supervisor	Role who can override workflow actions and reassign work items

<<

>>

Page 1 of 1

20

View 1 - 10 of 10

Role	Description
Administrator	A user that deals with all the administrative aspects of TIBCO MDM. The tasks include creating users, assigning roles, granting specific permissions, including those for repository records.

Role	Description
Command Line User	A user who has permission to run the command line operations. For example, Purge command line operations.
Data Steward	A user who is responsible for the definition, management, control, integrity, or maintenance of a departmental or Company data resources.
External User	External user gets notifications and action items in the Inbox.
ReadOnly	A user who can only view data in the menus available for this role. This user cannot perform any other operation.
Repository Approver	User who reviews and approves Synchronization Profile before publishing.
Repository Editor	User who gives on-line record editing access rights to other users.
Repository Manager	A Synchronization Profile specialist who identifies Synchronization Profile data fragments. This user can also build, administer repositories, and create custom rules.
(GDSN only) Channel Manager	A user who is responsible for business activity in a particular sales channel. Typically, this user is responsible for relationships with Datapools or a set of buying organizations.
(GDSN only) Sales Rep	Member of the supplier sales organization who acts on current items in the Inbox that pertain to their area. Sales Rep is NOT created for the MDM edition. If it existed already, it is NOT deleted during migration.
Support Engineer	A user that deals with all the support aspects of TIBCO MDM. The Log Download and Query Tool menus are visible for the user with this role.
Work Supervisor	A work supervisor has rights similar to those of an admin user (except the system operations). A work supervisor monitors all operations and work items of other users. This user can reassign work items, add and confirm records without sending them to workflow, and cancel a workflow process at any time.

Get Role List of Logged In Users

Using the AJAX service with URL, you can get a list of roles of the logged in users.

Run the following URL in a browser:

http://hostname:port/eml/json/wizard/member/getroles, a list of roles for the logged in users is displayed.

Role Delegation

All users with appropriate privileges can delegate work items to users playing specific roles using the Role Delegation feature. After using this feature, Role Delegation must be activated from Delegation Profile as described in [Managing Your Profile](#).

You can add, modify, or delete roles delegated to other users.

Adding a Delegation

You can delegate work items to a user holding specific roles, if you are an administrator or if you have appropriate privileges to delegate work items.

Procedure

1. Click **Administration > Roles**. The Roles page is displayed.
2. Click **Manage Role Delegation**. The Role Delegation page is displayed. When no roles are delegated, you see No Delegated Roles Defined under the **Delegation Allowed To** column.
3. To add a delegation, click **Add Delegation**. The Add Role Delegation page is displayed.
4. In the **Delegation Setup For Role** list, select the role for which you want to delegate roles. For example, Administrator.
5. Under the **Delegation Setup**, there are two lists available. One has a set of available roles for the selected user, and the other lists the roles you have delegated. Select the role from the **Available Roles** list and click to shift the role to the **Allow Delegation to Role** list.

Note: Once you shift the role to be delegated from the **Available Roles** list to the **Allow Delegation to Role** list, the **Delegation Setup for Role** is grayed out.

You can select a different user from this list only when the **Allow Delegation To Role** list is empty.

6. You can repeat Step 5 multiple times to add more roles to the **Allow Delegation to Role** list.
7. If you have accidentally added a role to the **Allow Delegation to Role** list, click < to remove it from the list.
8. Click **Save** to save the role delegation. The Role Delegation View page is displayed. The Role Delegation View page displays a list of users and the roles that are delegated.

Role Delegation

Company Name ACME

[+ Add Delegation](#) [Modify](#) [Delete](#)

Role	Delegation Allowed To
☐ Administrator	Administrator

Page 1 of 1 View 1 - 1 of 1

Cyclic Delegations

Cyclic delegations happen when user A delegates a work item to B, B delegates it to C, and C in turn delegates it to A.

The system does not check for cyclic delegations when a role delegation is created. However, when a work item is created and if a cyclic delegation is found, the system stops. It assigns the work item to the user who was active before the cyclic delegation was encountered.

Activate Delegations

Once you have defined role delegations, activate delegation for a set of users who hold the delegated role. For example, as an administrator, you might have defined a role delegation to anybody who is a Data Steward. If U1, U2, U3, and U4 are playing the role of Data Steward, you can now activate delegation for either U1 and U4, or for all of them. To set the delegation profile, see [Activating Delegation of Work Item for a User](#).

Modify a Delegation

You can modify delegations by clicking **Modify** on the Role Delegation page. The Add Role Delegation page is displayed. Perform the procedure to modify delegations described in [Adding a Delegation](#).

Delete a Delegation

You can delete a delegation by clicking **Delete** on the Role Delegation page. If you want to delete a role delegation, you must first revoke the delegation from My Account Profile and then delete the delegation from Role Delegation user interface. To learn about revoking the delegation, see [Deactivating Delegation of Work Item for a User](#).

For example, assume that you delegated work items to the role of a Data Steward. User1 and User3 are Data Stewards who are still working on work items delegated to them. Before deleting the delegation of Data Steward, ensure that you revoke the delegated roles for User 1 and User 3.

Once you revoke delegations for users, you can delete the role. Click **Administration > Roles > Manage Role Delegation**. In the Role Delegation list, select the role and click **Delete**. An alert message appears.

Click **OK**. The role delegation is deleted. If you click **Cancel**, the delegated role is not updated.

MarketPlace and Company Profile

You can enable or disable the use of the MarketPlace and Company Profiles features by setting the following properties in the ConfigValues.xml file.

```
com.tibco.mdm.marketplace.enable  
com.tibco.mdm.companyprofile.enable
```

These properties are intended to enable GDSN functionality and must be set to false for non-GDSN use.

My Company Profile

The **My Company Profile** page is the first page you see when you click **Administration > My Company Profile**. It displays the profile of the company that you have logged into.

This page consists of contact information and credentials for your company. This information enables you to track and communicate with the backend systems your organization does business with.

My Company Profile

NameACME
Modify

Contact Information

Main PhoneNo 'Main Phone' assigned.

General InfoNo 'General Info Email' assigned.

Email

Main FTPNo 'Main FTP' assigned.

Credentials

+ Create

Identity	Domain	Action

The purpose of a company credential is to enable your organization to communicate with a data pool. Synchronization can occur smoothly with data pools using credentials for each data pool.

Use this page to:

- View company profile — You can see details such as the main contact information and the Datapools the company is subscribed to.
- Manage credentials — You can create a new credential by clicking **Create** in the Credentials section of the page. This opens the Create Credential page. You can delete an existing credential by clicking **Delete** in the Actions column.
- (GDSN only) Provide extended credentials — Each credential can be supplemented with additional information known as extended credentials. You can create extended credentials by clicking the **Administration > Company Profile > Datapool section > credentials** link (of the data pool which you subscribed).
- Modify my company profile — You can modify only the company name.

Contact Information

Company contact information is most commonly used to send notification messages. Contact information includes phone and fax numbers, e-mail addresses, and so on. You can define an unlimited number of addresses, phone numbers, and e-mail addresses for your company.

- Main Phone
- General Info Email: This is used as source of communication with the company.
- Main FTP: This section is used to specify the FTP details. FTP addresses are used to get data files for uploading to data sources and the repository. This section shows all the FTP URLs for your company currently in the system.

i Note: Adding an FTP address here enables using FTP for publishing catalogs. In create, synchronize catalog page, there is an option to deliver catalog to backend system using this FTP address.

This page allows you to:

- view all FTP URLs that have been added for the company.
- add a new FTP URL by clicking **Create**. This opens the Modify FTP Address page.
- delete or edit the an existing FTP URL by clicking **Delete** or **Modify**. Clicking **Modify** opens the Modify FTP Address page.
- show an existing URL on the Contact Information. Click the **Select** link in the Action column for the required URL.

Datapool (GDSN Only)

This section of the page displays the Datapool the company is subscribed to. A "Not subscribed to any Datapool" message indicates that no Datapool subscriptions have been made for the company yet.

You can subscribe to a data pool by clicking **Datapool Profiles** in the menu. This opens the Datapool Profiles page that displays all Datapools supported by TIBCO MDM. Click **Subscribe** to subscribe to that Datapool. Only Datapools that the company is subscribed to are available for participation by the backend system.

Credentials

Credentials are used to identify a Company to its backend systems. A credential is a unique identification for a selling organization (supplier) in electronic data pools. Most of the credentials are assigned by standard bodies such as GLN, is assigned by 1Sync and DUNs

numbers are assigned by Standard and Poor. You can also define mutually agreed credentials which establish private credentials with a backend system.

A company may choose to define multiple credentials to identify itself to its backend systems and data pools.

(GDSN Only) On the Company profile, credentials are extended to add additional information specific to the Datapool, and company association to the company credentials defined already.

The constraints currently used to validate the uniqueness of credentials for different organization types are:

Basic credentials unique in an organization.

Basic credentials unique across companies.

Basic credentials unique in a company.

(GDSN Only) Extended credentials unique across companies. These constraints are implemented using predefined seed data and cannot be changed using the UI.

One GLN per Company.

One GLN per Organization per Channel.

There are four different types of Organizations that the application supports. The constraints that are applicable to them are:

- Supplier: Constraints 1, 2 and 4 apply to this Organization type.
- Retailer: Constraints 1, 2 and 4 apply to this Organization type.
- (GDSN Only) Datapool: Constraints 1 and 5 apply to this Organization type.
- Backend system: Constraints 1 and 6 apply to this Organization type.

The Credentials section of the **My Company Profile** page allows you to create a new credential for a backend system.

Create Credential

Company Name

Domain

Identity

Name

Last Name

ACME

DUNS Number

From here you can:

- Define company credentials.
- (GDSN Only) Subscribe to Datapool.
- (GDSN Only) Go to Datapool credentials - extend or add more information to company credentials already defined.

Extended Credentials (GDSN Only)

You can define additional data to be associated with existing credentials. This data is used for authentication when communicating with the Datapool. Such credentials are called *extended credentials*. To define an extended credential, first define a *basic credential*.

- To create the extended credentials, click **Administration > My Company Profile > Datapool** section > **credentials** link (of the data pool which you subscribed). The following page appears.

CREDENTIAL

Datasetool

Trading Partner

1Sync

TradingPartner1

Identity

Domain

Actions

90050600003365

OLN

[modify](#) [delete](#)

Back

Click **Create**. The following page appears.

ADD CREDENTIAL

Company Name: CorpA

Domain: GLN

Identity: 0065068083365

Batch User ID:

User ID:

Password:

Synchronize With Global Registry: ☒

Save Cancel

In the Add Credential page, enter the appropriate details, and click **Save**.

Note: If you are setting up synchronization with GS1, ensure that the **Synchronize With Global Registry** is selected. For the 1 Sync data pool, it is mandatory to select the **Synchronize With Global Registry** check box.

- To modify or delete existing extended credentials, click **modify** or **delete** on the Credential page.

Datapool Profiles (GDSN Only)

Note: Information in this section is applicable for the GDSN edition of the software only

Datapool profiles and credentials are used to establish new Datapools and manage Datapool activities. A *Datapool Profile* defines an electronic sales channel, data pool, or hub - where backend systems can exchange goods. A Datapool Profile correlates to a workflow associated with the Datapool and you can subscribe to or unsubscribe from a Datapool as desired. Datapool credentials are provided automatically. However, you can define additional credentials.

There are 2 forms of Datapool profiles. The most common form is when a company wants to communicate with a Datapool. In this case, the only data elements visible are:

- Subscribe to this Datapool.
- Define any integration URL, if applicable.
- Define credentials. Here, the credentials of the Datapool are being defined (and not the company as company credentials are defined in the Company Profile).

- Some pre-existing credentials may show up as read only. These credentials are global and can only be modified by a super user.

A supplier organization Datapool Profile consists of:

- Documents for communication - such as Item Add, or Item Publish.
- A document format - such as EANUCC, XML, WWRE, 1Sync, or the like.

This is the first page you see when you click **Administration > Datapool Profiles**. It displays all data pools that you can subscribe to and that are supported by TIBCO MDM.

DATAPOL POFILES		
View ALL ▼		
Datapool	Status	Actions
1SyncTest	Subscribed	modify unsubscribe
1Sync	Unsubscribed	modify subscribe
WWRE	Subscribed	modify unsubscribe

Use this page to:

- Modify a Datapool Profile -You can modify the data pool profile by clicking **Modify**. The Datapool Profiles - Synchronization Formats page is displayed. From this page, you can:

- Modify supported synchronization formats. TIBCO MDM supports formats specific to data pools, and default formats can be set for each data pool. If custom formats are required, they can be created using synchronization formats.
- Create credentials. A Datapool credential uniquely identifies a data pool or backend system within a Datapool. This establishes message origination and destination for that backend system.

For example, if a supplier wants to do business with a backend system through a data pool like 1Sync, the data pool provides UserIDs and Password or credentials to both the supplier and backend system, and identifies itself to both using its own password and credentials.

- Subscribe or unsubscribe to a data pool.
- Filter Datapools - The page displays all Datapools by default. However, you can sort them by subscribed and unsubscribed by selecting the appropriate option from the **View** drop-down list.

Backend System

The Backend System List page displays all the backend systems defined.

You can access the Backend Systems page by clicking **Administration > Backend System Profiles**.

You can see details such as the name, whether it is a global partner or not, and the backend system's default synchronization format. *Global* indicates if the backend system is visible to all the companies within the same instance of TIBCO MDM. Global backend systems are partners who are shared across companies. These profiles can be used and viewed at all other companies, but can only be modified by the company which defined it. This allows centralized management of partner profiles.

From this page, you can:

- Create a backend system profile
- View and modify a backend system profile
- Delete a backend system profile

Creating a Backend System Profile

Using the Backend System Profile, you can create a new backend system for your company. There are two ways to exchange data with a backend system: you can either publish data to the Datapool from where the data gets synchronized with the backend system, or you can deliver the data to the backend system directly via FTP or email.

Procedure

1. Click **Administration > Backend System Profiles**. The Backend System List page is displayed.
2. Click **Create**. The Backend System Profile page is displayed.

The screenshot shows a web form titled "Backend System Profile". It is divided into several sections:

- Backend System Profile:** Contains a "Name" field with the value "Backend System 1" and a "Global" checkbox that is checked.
- Contact Information:** Contains a "Phone" field with the value "00549921319".
- Synchronization Defaults:** Contains a "Default Synchronization Format" dropdown menu set to "TIBCO", a "Transport Mechanism" section with radio buttons for "Email", "FTP", and "Local" (where "Local" is selected), and an "Email" text field.
- FTP Details:** Contains fields for "Name" (ftp-server), "Host" (filehost), "Password" (masked with asterisks), "Directory" (e:\temp), "Login" (jsmith), and "Re-enter Password" (masked with asterisks).

At the bottom of the form are two buttons: "Save" and "Cancel".

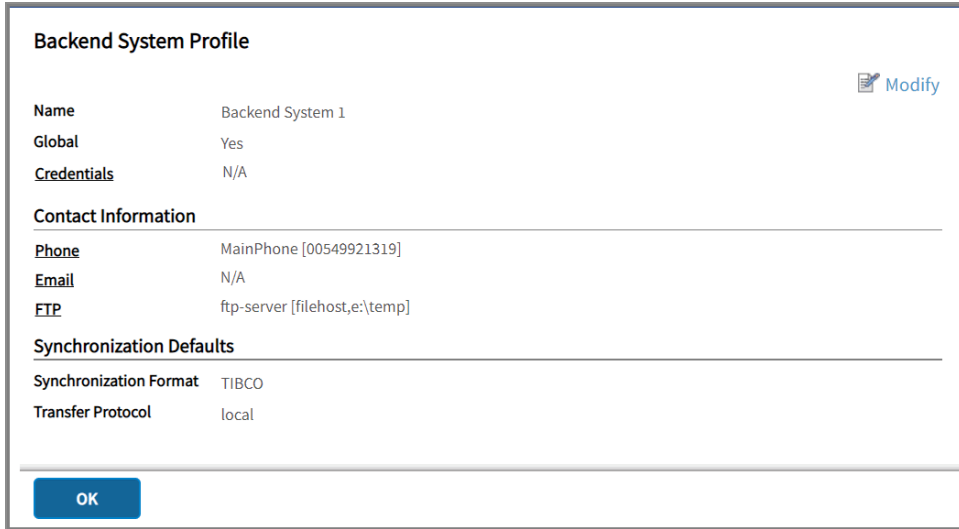
3. Enter the specific details in the fields on this page to create the backend system. Click **Save** once you have specified the details.
 - a. Backend System Profile—Define basic details, such as the name and whether the backend system is Global.
 - b. Contact Information — Provide contact information details such as a phone number.
 - c. (GDSN only) Datapool participation—Subscribe or unsubscribe to data pools.
 - d. Synchronization Defaults — Select the **Default Synchronization Format** to be used for the user. The **Transport Mechanism** specifies the delivery mode for the synchronization profile. The available mechanisms are email, FTP, and local.
 - **Email:** The email used here is the one specified in the Email field.
 - **FTP:** Specify the FTP details.
 - **Local:** Uses the communication mechanism of the Datapool that you are subscribed to.
 - a. FTP Details—Specify the FTP details to use for the FTP transport mechanism.
4. Click **Save**. The Backend System Profile details are saved.

Viewing a Backend System Profile

You can view the details of the selected backend system.

Procedure

1. Click **Administration > Backend System Profiles**. The Backend System List page is displayed.
2. Select a backend system profile from the list, and click **View**. The Backend System Profile page is displayed with the details of the backend system.



The screenshot shows a 'Backend System Profile' window. It contains the following information:

- Name:** Backend System 1
- Global:** Yes
- Credentials:** N/A
- Contact Information:**
 - Phone:** MainPhone [00549921319]
 - Email:** N/A
 - FTP:** ftp-server [filehost,e:\temp]
- Synchronization Defaults:**
 - Synchronization Format:** TIBCO
 - Transfer Protocol:** local

There is a 'Modify' link with a pencil icon in the top right corner and an 'OK' button at the bottom left.

3. Click **OK** after you are done with the viewing the details.

Deleting a Backend System Profile

Procedure

1. Click **Administration > Backend System Profiles**. The Backend System List page is displayed.
2. Select the backend system profile that you want to delete, and click **Delete**. A confirmation message is displayed.
3. Click **OK**. The selected backend system profile is deleted.

Resource Security

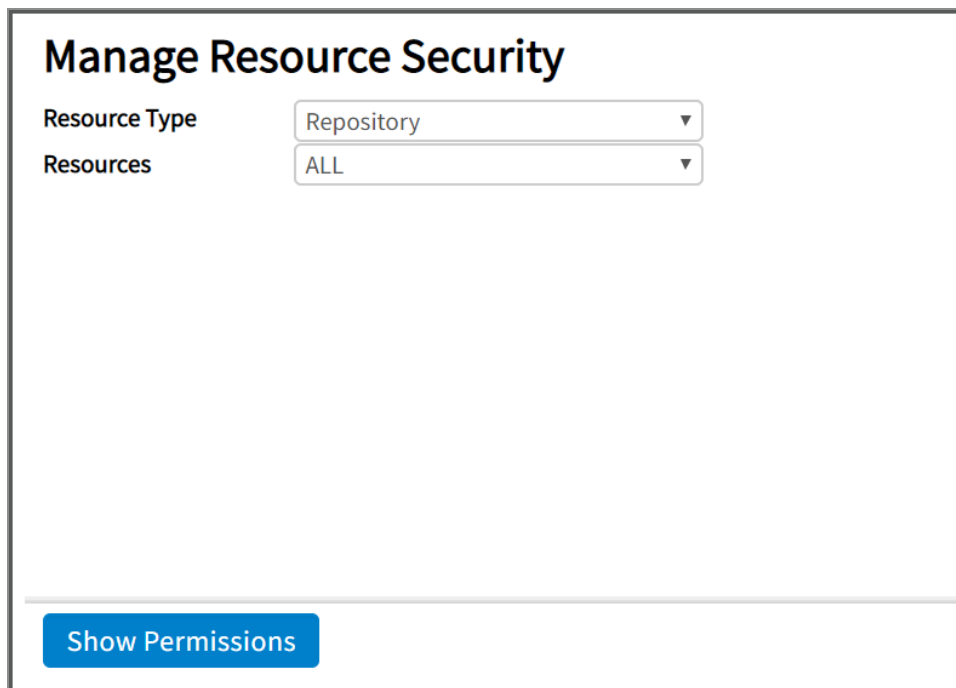
Resource security for users and roles can be set by an administrator. The application administrator can select one or more grantees. Moreover, the access control lists for

grantees can be created for all or any specific resources. If a user and its role are selected as grantees, the user access permissions override the role permissions.

i Note: Names of the objects and permissions shown in these screens can be customized and may be different from what you see on your page.

Defining Resource Security

Use the Manage Resource Security page to select the specific resources for which you want to set the permissions.



Manage Resource Security

Resource Type

Resources

[Show Permissions](#)

Procedure

1. Select **Administration > Resource Security**. The Manage Resource Security page is displayed.
2. From the **Resource Type** drop-down list, select one of the following depending on what you want to set the permission for:
 - Event
 - Repository

- Synchronization Profile
- Work Item
- Hierarchy

The **Resources** drop-down list is populated based on this selection.

3. From the **Resources** drop-down list, select the specific object for which you want to set the permission. If no event, repository, synchronization profile, work item, or hierarchy is present in the instance, the **Resources** drop-down list shows only the **ALL** option.
4. Click **Show Permissions**. Depending on the **Resource Type** selected, you can set permissions as listed in the following section. This also refreshes the page to show the grantee to whom the permission is assigned.

Selecting Resource Security Based on Resource Type

Before you begin

To view and set the permissions for a particular resource, you need to add grantee on the following pages:

- Manage Resource Security for Events
- Manage Resource Security for Repositories
- Manage Resource Security for Synchronization Profiles
- Manage Resource Security for Work Items
- Manage Resource Security for Hierarchies

Procedure

1. **Event:** When an event is selected as the **Resource Type** on the Manage Resource Security page, you can set permissions under **Resource Type** on the Manage Resource Security for Events page.
2. **Repository:** When a repository is selected as the **Resource Type** and a specific repository is selected in the **Resources** drop-down list of the Manage Resource Security page, you can set permissions for the following resources under **Resource**

Type on the Manage Resource Security for Repositories page.

- **Attribute Group:** You can set permissions for a specific attribute group within a repository. All available attribute groups for the selected repository are listed under the **Resources** drop-down list.

Attribute Group permissions are used when records are viewed, edited, or added. They are not applied when metadata is edited.

- **Repository:** You can set permissions for the entire repository.

Following repository permissions apply to metadata management: Create, Modify, Input Mapping, Management of classifications, Rulebase management, View, Show usage, Copy, Delete, and Named version management.

The following repository permissions apply to record management: Import records, Browse Records, Export Records, Mass update records, and Text Search.

- **Record:** You can set permissions for records within a single repository or all repositories in one go. The **ALL** option is available in the **Resources** drop-down list when a **Record** is selected. By default, the External User and Support Engineer roles are assigned for this permission.
- **Relationship:** You can set permissions for a specific relationship of the repository. All available relationships for the selected repository are listed under the **Resources** drop-down list. Reverse relationships of the same repository are shown as separate entries. For example, if a repository has a cross-repository relationship, a contains (self forward), and a containedby (self reverse) relationships, all three are listed. However, the name of the reverse relationship for the cross-repository relationship is shown in the **Resources** drop-down list of the target repository.

For each relationship defined, permission can be allowed or denied for the following: Full control, Add new related record, Remove relationships, Modify relationships attributes, Search records to add relationships, View relationships and related records.

Relationship permissions do not apply once the message is delivered to workflow. Relationships are used in workflow activities without resource security.

Relationships option is not displayed when there are no relationships defined for a repository.

- **Subset:** This option appears when you select **Resource Type** as **Repository** and **Resource** as a specific repository and the selected repository has Subset Rules created for it. This option allows you to set permissions based on a filter on repository records.
- **Classification Scheme:** You can set permissions for a specific classification scheme or all classification schemes within a repository. If the classification is not defined for a repository, the **Classification Scheme** option is not displayed in the **Resource Type** drop-down list.

If you select a single classification scheme from the **Resources** drop-down list, the following two permissions are displayed on which you can set the **Allow** or **Deny** permissions: Full Control and Browse Records by Classification.

If you select the **All** option from the **Resources** drop-down list, the Create Private Classification permission is displayed on which you can set the **Allow** or **Deny** permission.

By default, **Allow** is selected for Full Control. However, when the private classification scheme is created, the permission to browse private classification scheme is granted only to the user who created it and denied to all other roles.

For more information about Classification Scheme, see [Classification Schemes](#).

- **Perspective:** You can set permissions for a specific perspective within a repository. All available perspectives for the selected repository are listed under the **Resources** drop-down list.

For each perspectives defined, you can deny or allow permission for the following options: Full Control and Browse Records by perspective.

By default, **Allow** is selected for Full Control and Browse Records by perspective. However, if the user or role is denied permission to browse, they cannot see the name of the perspective on the drop-down menu on the record UI.

If the perspective is not defined for a repository, the **perspective** option is not displayed in the **Resource Type** drop-down list.

3. **Synchronization Profile:** When a synchronization profile is selected as the **Resource Type** on the Manage Resource Security page, you can set permissions under **Resource Type** on the Manage Resource Security for Synchronization Profiles page.
4. **Work item:** When a work item is selected as the **Resource Type** on the Manage Resource Security page, you can set permissions under **Resource Type** on the

Manage Resource Security for Work items page.

5. **Hierarchy:** On the Manage Resource Security page, if you select **Hierarchy** as the **Resource Type** and a specific hierarchy or all hierarchies from the **Resources** drop-down list, you can set permissions on the Manage Resource Security for Hierarchies page.

Adding and Selecting a Grantee

Procedure

1. Click **Add Grantee** in the **Manage Resource Security for <Resource Type>** page. The Select Grantee page is displayed.
2. Click **OK**.
3. Set the permissions as appropriate. You can allow or deny permissions for various actions. You can choose to deny or allow full control. Doing so overrides all other individually set permissions.

Each resource has default permissions. If you do not define any permission for the resource, the default value is used.

For example, the permissions that can be set for repositories are shown in the following figure.

Manage Resource Security for Repositories

Repository Name: ALL
 Repository Description: ALL
 Resource Type: Repository

[+ Add Grantee](#) [Delete Grantee](#)

Grantee	Type
☒ jsmith	User

Permission Name	Default	Allow	Deny
Full Control	Allowed	☐	☒
Browse Records	Allowed	☐	☐
Create	Allowed	☐	☐
Copy	Allowed	☐	☐
Delete	Allowed	☐	☐
Export Records	Denied	☐	☐

[Save](#) [Cancel](#)

4. Click **Save**.



Note:

- The application allows the maximum possible permissions. If you "deny" all permissions and then specifically "allow" a permission for an object, "allow" overrides the "deny".
- Permissions defined for ALL resources of a type and permissions defined for specific resources of the type work independent of each other. The permission specified for a specific resource takes precedence on permissions specified on ALL. Permissions specified on ALL is default, it applies when same permission is not specified on a specific object. Setting permissions for "ALL" resources does not mean you cannot specify resource-specific permissions.

Permissions by Resource Type

The Permissions table lists the various permissions that you can set.

Permissions

Resource Type / Object	Permission name	Description	Default
Event / Event Permissions for this object apply for all instances of the object.	Full Control	Allows you permission to work on the selected resource.	Denied
	Cancel event	Allows you to cancel an event/workflow.	Allowed
	Allow record workflow initiation using web services	Allows you to initiate a workflow using web services.	Allowed
	Allow process records service	Allows you to process records using web service and rest service channels.	Denied
	Allow roll back and edit of event	Allows you to roll back a selected event or selected step.	Denied
	Restart paused event	Allows you to roll back to a selected step and restart the workflow from that step.	Denied
	Resubmit event	Allows you to resubmit an error or canceled event directly from the Event Log.	Allowed
Synchronization Profile / Synchronization Profile	Browse Records	Allows you to browse records from a synchronization event.	Allowed
	Create	Allows you to create a synchronization profile.	Allowed
	Copy	Allows you to copy a synchronization profile.	Allowed

Resource Type / Object	Permission name	Description	Default
	Delete	Allows you to delete a synchronization profile.	Allowed
	List	Allows you to specify whether the synchronization profile should be listed or not.	Allowed
	Modify	Allows you to modify a synchronization profile.	Allowed
	Synchronize Records	Allows you to synchronize a record.	Allowed
	Show History	Allows you to show the history of a synchronization profile.	Allowed
	Show Usage	Allows you to show the usage of a synchronization profile.	Allowed
	View	Allows you to view the details of a synchronization profile.	Allowed
	Validate For Synchronization	Allows you to validate a synchronization profile.	Allowed
Work item Permissions for this object apply for all instances of the object.	Full control for work items assigned to other users	Allows you to give full control for work items owned by other users.	Denied
	Lock work items assigned to other users	Allows you to lock work items for others.	Denied
	View, reassign and close work items	Allows you to view, close, or reassign work items for others. This also	Denied

Resource Type / Object	Permission name	Description	Default
	assigned to other users	implies that, you must have permissions to view, reassign, or close the work items of other users.	
	Unlock work items locked by other users	Allows you to unlock work items of other users.	Denied
Repository / Attribute group	Modify Attribute Data	Allows you to modify attribute data from the selected attribute group.	Allowed
	View Attribute Data	Allows you to view attribute data from the selected attribute group.	Allowed
Repository/ Classification Scheme	Full Control	Allows you to give full control for classification schemes owned by other users.	Allowed
	Browse Records by Classification	Allows you to browse classification schemes in a repository.	Allowed
	Create Private Classification	Allows you to create a private classification scheme.	Allowed
Repository / Repository	Browse Records	Allows you to browse records in a repository.	Allowed
	Create	Allows you to create a repository.	Allowed
	Copy	Allows you to copy a repository.	Allowed
	Delete	Allows you to delete a repository.	Allowed
	Export Records	Allows you to export data from a repository.	Denied

Resource Type / Object	Permission name	Description	Default
	Import Records	Allows you to import records into a repository.	Allowed
	Input Mapping	Allows you to manage the input maps of a repository (View, Import,Delete, Copy, and Show Usage).	Allowed
	List	Allows you to view the list of repositories.	Allowed
	Modify	Allows you to modify a repository.	Allowed
	Named version management	Allows you to create and manage named versions of a repository.	Allowed
	Rulebase Management	Allows you to create and manage validation rules.	Allowed
	Show Usage	Allows you to show the usage of a repository.	Allowed
	Text Search	Allows you to search for text in a repository.	Allowed
	View	Allows you to view details of a repository.	Allowed
Repository / Record	Create	Allows you to create a record.	Allowed
	Compare	Allows you to compare records.	Allowed
	Copy	Allows you to make a copy of an existing record.	Allowed
	Correct	Allows you to update the existing	Denied

Resource Type / Object	Permission name	Description	Default
		version of a record instead of creating a new version.	
	Delete	Allows you to delete a record.	Allowed
	Edit when record is in workflow	Allows you to edit a record even if it is in a workflow.	Denied
	Modify	Allows you to modify a record.	Allowed
	Manual Merge	Allows you to merge records from the Browse and Search and Text Search pages. Note: You can merge records only if you have permission to modify a record.	Allowed
	Override integration hub action	Allows you to override an action suggested by integration hub.	Allowed
	Save with errors	Allows you to save even when there are errors.	Denied
	Show History	Allows you to show the history.	Allowed
	Allow confirmation of record without workflow	Allows you to confirm a record without sending it through a workflow (add, modify, or delete). For a web service, when the permission is denied and the record state is confirmed, the request results in an error response with the message "User is not authorized to	Denied

Resource Type / Object	Permission name	Description	Default
		save records without workflow processing".	
	Allow action - Send message	Allows you to send message for a record.	Allowed
	Allow record saved as unconfirmed without workflow	Allows you to add or modify a record and save it as unconfirmed without sending it through workflow.	Allowed
	Allow action - Send response	Allows you to send response for a record.	Denied
	View	Allows you to view records.	Allowed
	Update synchronization status (GDSN only)	Allows you to update synchronization status of a single record.	Denied
Repository / Relationship	Add new related record	Allows you to add relationships. The permission can be applied to a specific relationship. When this permission is denied, the Create Related Record option is not displayed. For web services, if the user tries to add a related record, error response is returned.	Allowed
	Remove relationships	Allows you to delete relationships. The permission can be applied to a specific relationship. When this permission is denied, the Remove Relationship option is not displayed.	Allowed

Resource Type / Object	Permission name	Description	Default
		For web services, if the user tries to remove relationship, error response is returned.	
	Modify relationship attributes	Allows you to add and modify the relationship attribute values of two related records. When this permission is denied, user is not able to modify the values of relationship attributes. For web services, if the user tries to update the relationship attribute data, an error is returned in the response.	Allowed
	Search records to add relationships	Allows you to search records to add related records. When this permission is denied, the Add Relationship option to add a related record is not displayed. For web services, if the user tries to search a record to add as a relationship, error response is returned.	Allowed
	View relationships and related records	Allows you to view relationships. The permission can be applied to a specific relationship. If this permission is denied, the relationship is not displayed. For web services, when the record is queried, the relationship and the related record are not a part of the response returned.	Allowed

Resource Type / Object	Permission name	Description	Default
Repository / Subset Rule	Browse Records	Allows you to browse records from a subset.	Allowed
	Create	Allows you to create a subset rule.	Allowed
	Copy	Allows you to copy a subset rule.	Allowed
	Delete	Allows you to delete a subset rule.	Allowed
	Export records	Allows you to export records based on a subset rule.	Denied
	List	Allows you to view a list of subset rules.	Allowed
	Modify	Allows you to modify a subset rule.	Allowed
	Show Usage	Allows you to show the usage of a subset rule.	Allowed
Repository/ Perspective	Full Control	Allows you to give full control for perspective owned by other users.	Allowed
	Browse Records by Perspective	Allows you to browse perspectives in a repository.	Allowed
Hierarchy/ Hierarchy	Full Control	Allows you to work on the selected hierarchy.	Denied
	Delete	Allows you to delete the hierarchy.	Allowed
	Edit Record Links	Allows you to edit records that are linked to the hierarchy.	Denied
	Release Lock	Allows you to release a hierarchy that is locked by another user.	Denied

Resource Type / Object	Permission name	Description	Default
	Export	Allows you to export the hierarchy.	Denied
	List	Allows you to view the list of hierarchies.	Allowed
	Modify	Allows you to modify an existing hierarchy.	Allowed
	Allow save/delete Hierarchy without workflow	Allows you to save or delete the hierarchy even if it is not in a workflow, that is, you can save or delete the hierarchy immediately as confirmed.	Denied
	View	Allows you to view the details of a hierarchy.	Allowed
	View Record Links	Allows you to link records to the hierarchy.	Denied

Permissions for Combined Relationship Resource

The following table explains various permutations and combinations of the effect of permissions defined for a Relationship resource:

Permissions for Combined Relationship Resource

Access Type	Description	Web Service	User Interface
Add new related record Denied + Search records to add relationships Denied	If both Add new related record + Search records to add relationships are denied, the user cannot add a related record.	If the user tries to add a new relationship using web service, an error response is returned.	Create Related Record and Add Relationship are not shown.

Access Type	Description	Web Service	User Interface
Add new related record Allowed+ Search records to add relationships Denied	If Add new related record is allowed and Search records to add relationships is denied, the user can create a related record, however cannot add relationship by searching an existing record.	If the user tries to search a record to add a relationship using web service, an error response is returned.	Create Related Record is shown and Add Relationship is not shown.
Add new related record Denied+Search records to add relationships Allowed	If Add new related record is denied and Search records to add relationships is allowed, the user cannot create a related record, however can search records to add relationships.	If the user tries to create a related record using web service, an error response is returned.	Create Related Record is not shown and only Add Relationship is shown.
Add new related record Denied	The user needs to have Add new related record permission to create related records.	If the user tries to create a related record using web service, an error response is returned.	Create Related Record is not shown.
Modify relationships attributes Denied	If Modify relationships attributes permission is denied, the user cannot modify relationship attribute values between related records.	Error message is displayed as Relationship Attributes cannot be modified.	All controls for relationship attribute values are disabled.
View relationships and related records Denied	To view the relationship the user must have View relationships and related records permission.	Only viewable relationships are shown in the record query response. If the permission is denied for a relationship, an error response is returned.	Only viewable relationships are shown in the tree view structure of records on the left pane in View record page.

Access Type	Description	Web Service	User Interface
View relationships and related records Denied + View Record Denied	The user has no permission to view records or relationships.	When the record is searched using record query web service, neither the record nor the relationships are returned.	No records or relationships are shown in the tree view structure of records on the left pane in View record page.
View relationships and related records Allowed + View Record Denied	The user must have View Record permission to view relationship. Only View relationships and related records permission on a relationship is not enough.	When the record is searched using record query web service, neither the record nor the relationships are returned.	No records or relationships are shown in the tree view structure of records on the left pane in View record page.
Search records to add relationships Denied	Search a record for adding a relationship.	If the user tries to search a record and add it as a relationship to the current record using web service, an error response is returned.	Add relationship link is not visible.
Remove relationships Denied	The user must have Remove relationships to delete a relationship between two records.	If the user tries to delete relationship between two records using web service, an error response is returned.	Remove relationship link is not visible.

User Role Matrix

The following table displays the access rights of each role.

**Note:** “√” denotes the availability of the menu for the role. In case of “√” marked for the main menu, all sub-menus are available for the particular role. For example, an Administrator has access permissions for all sub-menus under **Master Data**.

User-role Matrix

Menu / Role	TIBCO Admin (tadmin)	Administrator	Data Steward	External User	ReadOnly	Repository Editor	Repository Approver	Repository Manager	Channel Manager (GDSN only)	SalesRep (GDSN only)	Support Engineer	Work Supervisor
Inbox	√	√	√	√	√	√	√	√	√	√	√	√
Administration>All Company Profiles	√											√
Administration > User Accounts	√	√										
Administration > Roles	√	√										√
Administration > My Company Profile	√	√	√						√			√
Administration > System Configuration		√										
Administration > Backend System Profiles	√	√	√					√	√	√		√
Administration > Resource Security	√	√										√
System Operations	√	√										

Menu / Role	TIBCO Admin (tadmin)	Administrator	Data Steward	External User	ReadOnly	Repository Editor	Repository Approver	Repository Manager	Channel Manager (GDSN only)	SalesRep (GDSN only)	Support Engineer	Work Supervisor
System Operations > Import Metadata	✓	✓										
System Operations > Export Metadata (Wizard)	✓	✓										
System Operations > Export Metadata (File)	✓	✓										
System Operations > Data Transfer	✓	✓										
System Operations > Data Transfer Import	✓	✓										
System Operations > Data Transfer Export	✓	✓										
Master Data > Data Sources	✓	✓						✓				✓
Master Data > Repositories	✓	✓	✓	✓	✓			✓	✓			✓
Master Data > Subset Rules	✓	✓	✓		✓			✓	✓			✓
Master Data > Synchronization Profiles	✓	✓	✓		✓			✓	✓			✓
Master Data > Synchronization Formats	✓	✓	✓					✓	✓			✓
Master Data > Mass		✓	✓									

Menu / Role	TIBCO Admin (tadmin)	Administrator	Data Steward	External User	ReadOnly	Repository Editor	Repository Approver	Repository Manager	Channel Manager (GDSN only)	SalesRep (GDSN only)	Support Engineer	Work Supervisor
Update												
Master Data > Mass Update	✓					✓	✓					
Browse and Search	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓
Precedence Management	✓	✓	✓			✓	✓	✓	✓	✓		✓
Hierarchies	✓	✓			✓							
Business Process	✓	✓										✓
Event Log	✓	✓	✓		✓				✓			✓
Tools > Dashboard	✓	✓										
Tools > Log Download	✓	✓									✓	
Tools >Configuration Viewer	✓	✓										
Tools > Query Tool	✓										✓	
Tools > Component Overview	✓	✓										
Tools > Clear Data	✓	✓										
Tools > Utilities	✓	✓										

AI Matching

By using the AI Matching feature (based on the Artificial Intelligence) of TIBCO MDM, an administrator can apply a trained AI model of TIBCO® Patterns to match incoming new records with the existing records and subsequently identify possible duplicate records. The AI model uses actions taken on records in the data quality work item and trains itself. When similar records arrive in TIBCO MDM, TIBCO Patterns uses the trained AI model for matching records, and then returns more accurate results.

- If only one match is detected, automatically two records are merged
- If multiple duplicate records are found, you can review and reject unwanted records, and merge accurate matched records

Finding and labeling record pairs for supervised training of any machine learning model is a time-consuming task. The AI Matching feature aims to simplify this task by periodically extracting labeled record pairs from the previous record merge decisions that have accumulated in the TIBCO MDM database. Newly extracted record pairs can make the retrained model perform better. You can then redeploy such retrained models to improve the performance of the record matching in TIBCO MDM over time.

An administrator can access the AI Matching page by clicking the **Administration** on the global navigation bar.

AI Matching

OK Action Initial Load completed successfully. Refresh

Notices for CustomerAddressLearn: Model has never been trained. It will be trained after features are defined and some pairs are collected.

Mouse Over Action Button to View Help (Click to Show Help)

Projects Manage Selected Project Setup Selected Project

Edit Directory: /home/ashok/work/source/cim/common/cc/Edit

Edit Actions: Edit Cancel Pair Collection: Turn Auto Off Collect Pairs

All Projects (click row to select project for management)

Project Name	Primary Repository	Match Activity Name	Create State	Active State	In Edit	On Hold	Notices
CustomerAddressLearn	CUSTOMER	Matcher	Features Defined	NOT TRAINED	No	No	Model has never be
PARENT	PARENT	Matcher	Model Deployed	APPROVED	No	No	Approved by the us
CUST	CUST	Matcher	Model Deployed	APPROVED	No	No	Approved by the us

If you prefer a video about AI Matching, visit <https://youtu.be/ju5oOVzbdZs>.

Preparing for AI Matching

Before using AI Matching feature, perform the following tasks:

- Install TIBCO Patterns Learn UI. See *TIBCO Patterns Learn UI Guide*.
- Identify repositories that you want to configure for the AI model
- Add the repository model in the `Learnconfig.xml` file. See the "AI Matching Configuration File" section in *TIBCO MDM Customization Guide*.
- Specify index entities in the `IndexerConfig.xml` file. See the "Index Configuration" section in *TIBCO MDM System Administration*.
- Verify that the text indexing is enabled. See the "Text Indexing Enabled Options" in *TIBCO MDM System Administration*.
- Configure data quality workflows. See the "Selecting Data Quality Workflows" in *TIBCO MDM Customization Guide*
- Add Java libraries to the `PATH` variable to store generated Java classes of the AI model. Example: `export PATH=$PATH:$JAVA_HOME/bin:$JAVA_HOME/lib`
- Add `[[[Undefined variable MDM-global-variables.prod_patterns_learn_second]]]` API to the `PATH` variable. Example: `export PATH=$PATH:TIBCO PatternsInstallationDirectory\learnapi\bin:TIBCO PatternsInstallationDirectory\learnapi\lib`
- `[[[Undefined variable MDM-global-variables.prod_patterns_learn_second]]]` is not supported on the Linux platform. Therefore, you must copy the `edit > project_name` directory from Linux to Windows platform.

Setting up the Project

After completing the initial configuration, set up a project from the AI Matching UI in TIBCO MDM.

Before you begin

See [Preparing for AI Matching](#).

Procedure

1. In TIBCO MDM, click **Administration > AI Matching**.

Note: If the AI Matching configuration is not loaded on the UI, click **Restart**.

2. On the **Setup Selected Project** tab, click **Create** and confirm the action.
The new project is listed on the **Projects** tab.
The project directory is created under the specified directory mentioned in the LearnConfig.xml file under the RootDirectory tag. The project directory signifies all active and deployed learn models.
3. To export the active project to the Edit directory mentioned in the LearnConfig.xml file, click **Edit** and confirm the action if prompted.
The project is available for editing. If the project is in the edit mode, you cannot perform any other action such as deploy and approve. For details, see [AI Model Process](#).
4. Open the editable project in [[[Undefined variable MDM-global-variables.prod_patterns_learn_second]]] and define features.
A feature is a query or querylet defined on the fields or group of fields used as matching criteria in the record matching process. For example, to search for records based on the first name, last name, or the street address, define feature first name, last name, or the street address as fields.



Restriction:

- For child repositories, you can define only one feature in [[[Undefined variable MDM-global-variables.prod_patterns_learn_second]]].
- Do not merge attributes or features from parent and child repositories.
- Do not create attributes with the same name in parent and child repositories.

For information about defining features, see *TIBCO Patterns Learn UI Guide*.

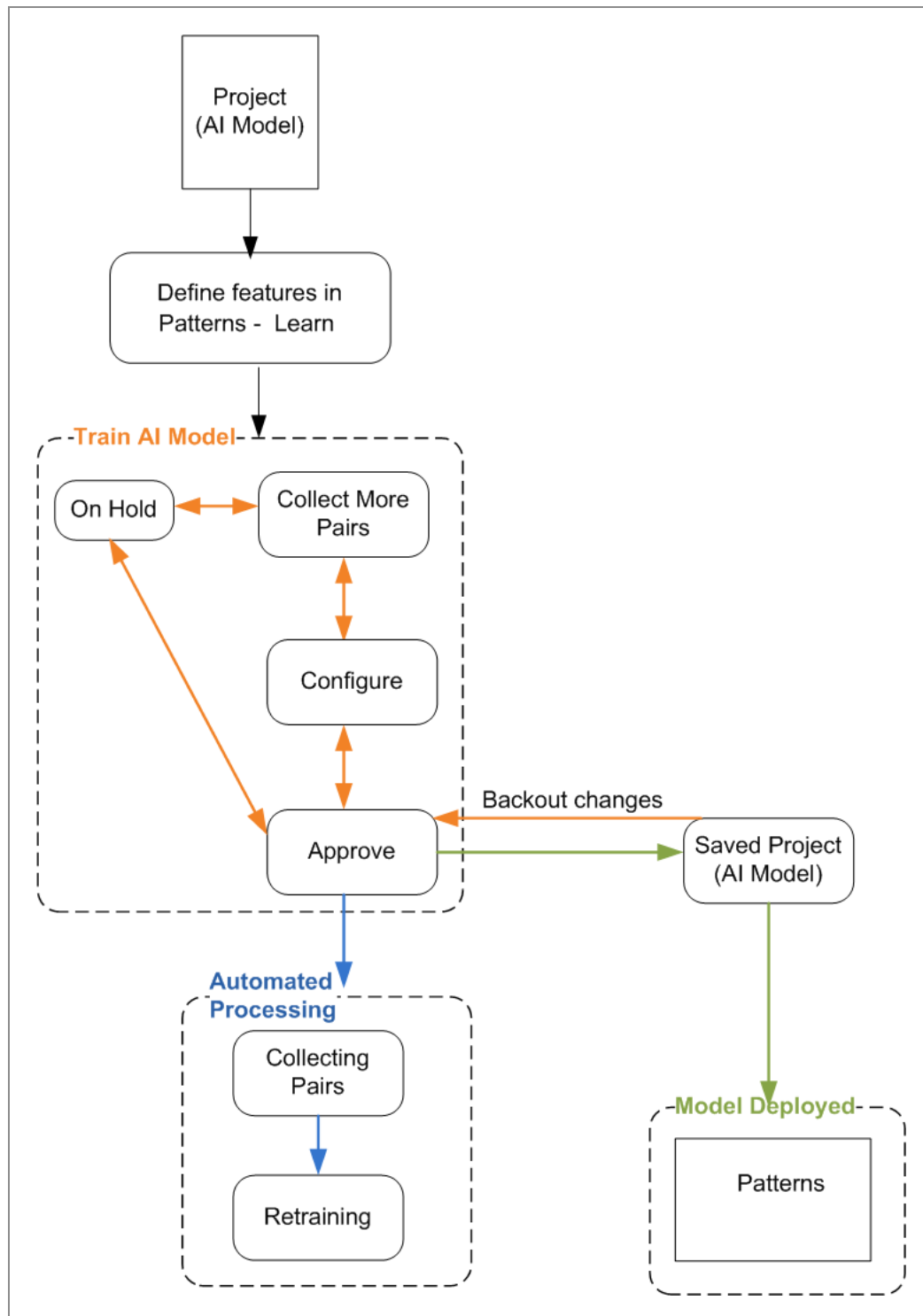
5. On the **Projects** tab, click **Complete Edit** and confirm the action if prompted.
The project state is changed to **Features Defined** in the Create State column.

What to do next

After you set up the project, see [Training an AI Model](#).

AI Model Process

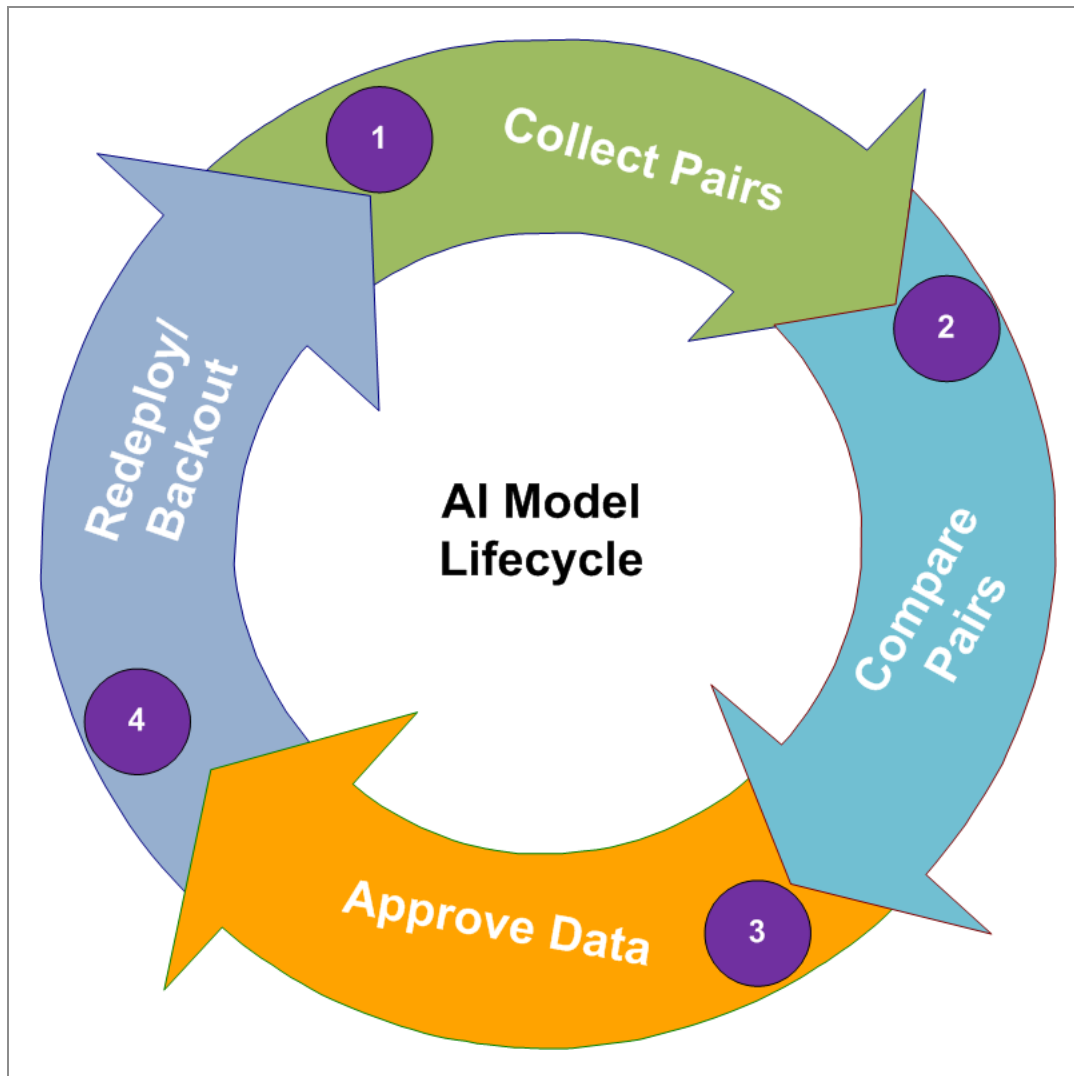
The following diagram depicts the process of the AI model:



AI Model Lifecycle

AI model lifecycle is a cyclic process to build an efficient AI model project. The events described in the following cycle belong to each AI project as configured in the initial steps.

In the whole lifecycle, a machine learning system is called a *model*, and this model is created by providing *training*. However, to train a model, data is required. Hence, the lifecycle starts with data collection.



Collect Pairs

Data Gathering is the first step of the AI model lifecycle. You can automatically collect new pairs from existing data quality merge events in TIBCO MDM. To do this, configure the scheduler to collect new pairs. For details about the scheduler job, see *TIBCO MDM*

System Administration.

When you take an action on data quality work items, the data is stored in the data quality tables. The new pairs are extracted and loaded into the project. The `LastPairCollectionDate` is updated to the end date of the current pair collection. After completing the pair collection, the state of the project reverts to the original state, otherwise, the state is transitioned to “retraining”.

Compare Pairs

Compare the data of the active project with the previously deployed data such as number of pairs, number of false and true pairs, and error rates. In this way, you can evaluate data to check how your model performs on any new data it encounters.

Approve Model

If the model provides accurate results as per your requirement, you can approve the model. After approving the model, the project is deployed into TIBCO Patterns.

Redeploy or Backout Model

To revert to the previous state after an error, select the **Redeploy** or **Backout** option. You can select any one of the deployed models and to replace the current active project.

Training an AI Model

You can teach the model to predict the labels of novel record pairs based on the examples provided in the Training dataset.

Before you begin

See [Setting up the Project](#)

Procedure

1. In TIBCO MDM, click **Administration** > **AI Matching**.
2. On the **Projects** tab, select the project with the **Features Defined** state and click **Collect Pairs**.
3. Confirm the action, if prompted.

Result

All records are retrieved from the Match and Merge tables and copied to [[[Undefined variable MDM-global-variables.prod_patterns_learn_second]]] and the record pairs are stored in the project directory.

- Records that are manually merged from work items are paired. Records that are auto-merged or merged using the Direct merge process are not considered.
- Record pairs are collected in the incremental order.
- If the **Learn Collect Pairs Schedule** job is configured, the scheduled record pair collection runs automatically at the specified time.
- If the error rate is less than the previously deployed model and the `AutoDeploy` parameter is set to **true** (in the `LearnConfig.xml` file), then the AI model is auto deployed in [[[Undefined variable MDM-global-variables.prod_patterns_learn_second]]].
- You can turn on or off the scheduled job by clicking **Turn Auto On** or **Turn Auto Off** to temporarily suspend the scheduled pair collection for the selected activity project.

What to do next

See [Applying Settings to the AI Model](#)

Applying Settings to the AI Model

Create workflows and apply other TIBCO MDM configuration items for the selected project to the AI model.

Before you begin

See [Training an AI Model](#)

Procedure

1. In TIBCO MDM, click **Administration > AI Matching**.
2. On the **Projects** tab, select the project that is in the **Features Defined** state.
3. On the **Setup Selected Project** tab, click **Configure**.

Result

The files defined in the `LearnConfig.xml` file are generated.

- New workflows are created in the `$MQ_COMMON_DIR/enterprise_name/workflow` folder.
- New rulebase file (`MatchAttrList.xml`) is created in the `$MQ_COMMON_DIR/enterprise_name/rulebase` folder.
- New Java class files are generated in the `$MQ_COMMON_DIR\learn` folder. Generated Java classes must be rewritten for normalized entities. The Java code for the customer model is provided as a sample at `$MQ_COMMON_DIR/standard/samples/LearnUISample`.
- On the **Manage Selected Project** tab, the **Approve** button is enabled.

What to do next

In the Compare column, click the **Compare** icon to compare detailed data with the selected project instance, such as number of pairs, number of false data, number of true data, error rate, and so on. The dataset types are training, validation, and validation active. The entire information is retrieved from `[[[Undefined variable MDM-global-variables.prod_patterns_learn_second]]]`.

States of a Project

The active project instance can be in one of the following states:

State	Description
Collect More Pairs	Indicates that the current state of the AI model is not suitable for deployment and more pairs must be collected. This is an initial state for a project. This state is also used when the retrained model performs worse than the deployed model and therefore must not be automatically deployed.
Approved	Indicates that the current model is approved for use in

(Continued)

State	Description
	TIBCO MDM and deployed to TIBCO MDM.
On Hold	Indicates that the current state of the AI model is not suitable for deployment. Automatic pair collection and retraining are turned off until issues are resolved.
Collecting Pairs	Collection of new pairs from TIBCO MDM merge event tables is in progress. All actions on the project are on hold until the collection is completed.
Retraining	Automatic retraining of the AI model is in progress. All actions on the project are on hold until the retraining is completed.

Managing the AI Model

After settings are applied to the AI model, manage the model on an ongoing basis by using various options provided on the AI Matching UI. Managing models includes deploying models, monitoring previously deployed models, and rolling back models.

Before you begin

See [Applying Settings to the AI Model](#)

Procedure

1. In TIBCO MDM, click **Administration > AI Matching**.
2. On the **Projects** tab, select the project.
3. On the **Manage Selected Project** tab, click **Approve**.
The model is deployed to the TIBCO Patterns server. The Active instance type is changed to Deployed and its version is increased.

AI Matching

OK Action Configure Project completed successfully. Refresh

Notices for CUST: Approved by the user despite the recommendation not to approve. Previous state: DO_NOT_APPROVE: Validation confidence decreased from 0.973 to 0.963. Wait for more record pairs to be collected.

Change the Deployed instance. (Click to Show Help)

Projects **Manage Selected Project** Setup Selected Project

Approve Redeploy Change Deployed Backout Active Undo Backout

Saved Project Instances

Instance Type	Version	Origin	State	Last Pair Collection	Error Rate	Active Val Error Rate	Compare
Active	10	0	APPROVED	2022-02-14 19:29	1.22%	1.22%	ⓘ
Deployed	10	0	APPROVED	2022-02-03 08:19	1.22%	1.22%	ⓘ
Previously Deployed	6	0	APPROVED	2022-02-02 08:53	1.22%	1.22%	ⓘ

Notices for selected instance: Approved by the user despite the recommendation not to approve. Previous state: DO_NOT_APPROVE: Validation confidence decreased from

- If any issues occur during deployment of the model such as system failure, click **Redeploy** to resend the currently deployed project to the TIBCO Patterns server.
- To revert to the previously deployed version, select the previously deployed instance and click **Change Deployed** and confirm the action.
- To use a pair of records of the deployed or previous deployed instance, click **Backout Active**.
- On the Confirm Action window, click one of the following options:
 - Skip Pairs:** Backs out the project and skips collecting new pairs. The previously collected pairs are used.
 - Recollect Pairs:** Backs out the project and recollects new pairs from the match and merge tables.

A new Backup instance type is created and the version of Active instance is decreased. You can roll back the Backup instance by clicking **Undo Backout**.

What to do next

See [Using the AI Model](#)

Using the AI Model

After the AI model has been deployed, use it to match incoming records with the existing records. The AI model gives accurate matching results during the matching process, which in turn helps you to make the right decisions when merging records.

Before you begin

See [Managing the AI Model](#).

Procedure

1. In TIBCO MDM, navigate to **Business Processes > Process Definition Selection > Default > Create**.
2. On the New Rule page, from the **Set the Process to** list select the generated data quality workflow. See [Business Processes](#).
These workflows contain newly generated Java classes. These classes are used by the Matcher activity. Whenever a new record arrives in TIBCO MDM, these classes are used.
3. Set Match Record Approval to the newly generated `MatchAttrList_repository name.xml` file.
4. Add a new record to the primary repository and the child records to the child repositories. see [Creating Records](#).
5. View event details for the latest Record Add event. See [View Event Details](#).
The Status of the Matcher process must be Success. If the MatchCount is more than 1, the model has found a number of duplicates and a work item is created in the Inbox.
6. Navigate to Inbox and open the new work item.
7. Merge the incoming record with one or more found records, or accept the incoming record as a new record.

Result

You must make merging decisions carefully and follow the same business principles because these decisions are used to further train the model. Randomly selecting records to merge, or skipping merge action for records that actually match the incoming record decreases the model accuracy. You can also find and merge several existing matching records in the primary repository using record UI. These merge decisions are also used to further train the model.

What to do next

See [Retraining and Redploying the AI Model](#).

Retraining and Redeploying the AI Model

After some incoming records are merged with existing records, or several existing records are merged, the pair collection process collects new pairs from these merge events. See [Training an AI Model](#) for ways to trigger this process and interpret its results.

The newly retrained model is automatically approved under the following conditions:

- The `AutoDeploy` property is set to **true** in the `LearnConfig.xml` file.
- The `Learn Collect Pairs Schedule` job is configured.
- The AI Matching system determines that the new model performs better than the currently deployed model

If the model is automatically approved, the State of the Active project instance is set to “Approved” after the pair collection process completes. For information about the states of projects, see [States of a Project](#).

If the `AutoDeploy` property is set to **false** in the `LearnConfig.xml` file, you must perform the action based on the state of the Active project instance.

Before you begin

See [Using the AI Model](#).

Procedure

1. In TIBCO MDM, click **Administration > AI Matching**.
2. On the **Projects** tab, select the project.
3. Click the **Manage Selected Project** tab, perform the following actions based on the Active State of the selected project:
 - **Approve:** Click **Approve**. For further steps, see [Managing the AI Model](#).
 - **Do not approve:** Wait for more pairs to be collected, do not deploy the model. The model performs the same or slightly worse than the deployed model, or too few pairs have been collected.
 - **Resolve issues:** The model performs significantly worse than the deployed model, or an error occurred while collecting pairs or retraining the model. This state might indicate a problem. After exporting the project for editing, examine the errors made by the model and the pair labels to investigate and resolve

performance issues.

Result

TIBCO MDM loads trained and deployed models.

Dynamic Services

The current web service interface is generic and data model agnostic, but suffers from poor usability. The primary problem is generic representation of data services which makes it difficult for you to define a web services client for it. The schema is not rigorous and has limited validation capabilities. Another problem is the use of 'special' keywords (not schema exposed) which have to be understood before proper use. For example for record services, the specific name PRODUCTID has to be used in order to identify the primary record identifier.

The primary goal for the dynamic services is to make the web services simple and easy to use.

The dynamic services are especially useful for record services based on an actual repository, including attributes and information, to allow a more meaningful and syntactically tight schema. The number of such services can be different for each repository, hot deployed and redeployed if any changes are required.

You can define a specific data repository, with all the needed attributes and generates from this definition a repository-specific web service in form of a WSDL definition and an associated implementation. This web service has the 4 fundamental operations for record data management available (add, delete, update and find - also known as CRUD operations). This newly generated web service can then be deployed onto a TIBCO MDM Server instance to be used.

Hot Deployment of Services

The outcome of the generation process is a deployable entity `Service.aar`. The AAR file can be deployed into the TIBCO MDM Server. It can also be deployed into a running server (hot deployment).

A directory called `hotdeployment/services` has been created under `MQ_HOME`. For deployment place the `Repository NameService.aar` file into the `$MQ_HOME/dynservices/services` directory.

There should be a message on the stdout declaring:

- 14:34:33,251 INFO [ServiceDeployer] Deploying Web service:
PersonService.aar -
- file:/e:/cim_ws/venus82_dist/dynservices/services/<Repository
Name>Service.aar

Drop services as AAR or JAR file to be deployed in hot deployment /services, which appear at `http://host:port/eml/dynservices/repositoryname/Service`, so for example for the Person repository and adding a record you would use

`http://host:port/eml/dynservices/PersonService/addPerson.`

For example, for the Person repository and adding a record in this repository, you can use `http://host:port/eml/dynservices/PersonService/addPerson.`

CRUD Services

The scope of the web service operations is provided by the most common operations used on Master Data.

- Add a record
- Modify a record
- Delete a record
- Search for a record.

These services are often referred to as CRUD (Create, Retrieve, Update, and Delete) and this should be the initial scope of the project. While multi repository record services are important to you and supported by the generic TIBCO MDM Record Service the scope is too large to be successfully attempted in this TIBCO MDM Server release.

The generation is offered through an Wizard, which is provided as a 'New Project' wizard in the repository designer. Since the code generation must have the repository information, this is the best placement for the new wizard. The WSDL exposes the standard four CRUD operations.

For more information about CRUD services, see the Record Services section in *TIBCO MDM Web Services Guide*.

Super User Role

In addition to the roles mentioned in the User-Role matrix, the application also provides a *super user* role which is assigned to 'tadmin'. This role and user are created when TIBCO MDM is installed. To login as this user, company name must be specified as TIBCO. With special functions, this user has the highest level of access to the application. This user can also see *All Company Profiles* and is the *only* one who can create companies.



Note: It is recommended that the super user role is used only to perform special functions. You must switch to admin users of your company as soon as admin user is created.

Other than company creation, this is the only user who can:

- (GDSN only) Edit data for predefined Datapools, specifically global credentials.
- Edit company names.
- Switch between companies.

The super user also has access to many predefined global data sources. This is applicable only for the GDSN edition. To access the predefined global data sources, click **Item Data > Data Sources**. For more information about data sources, see the section [Data Sources](#).

Companies

You can create, modify, or select an existing company. Each company is created as an enterprise by the super user. Click **Administration > All Company Profiles** to open the Company page.

Use this page for the following tasks:

- **View All Companies.** You can see a list of all the companies that exist in the system.
- **Filter Companies.** By default, the page displays all companies. You can filter it by the first letter of name from the **View** drop-down list.
- **Perform actions.** You can create a company by clicking **Create**. This opens the

Create Company page. Alternatively, you may modify or select an existing company by clicking **Modify** or **Select** respectively. Clicking the **Modify** opens the **Modify Company** page.

Creating a Company Profile

Using the All Company Profiles page, if you are the super user, you can create a company. Specify the name and an internal name for the company.

For the GDSN edition, you must also specify whether it is Datapool, a Supplier, or a Retailer type of company.

Procedure

1. Log in to TIBCO MDM with the super user credentials, tadmin.
2. Click **Administration > All Company Profiles**.
The All Company Profiles page is displayed.
3. Click **Create**.

Create Company

Name

ACME

Internal Name

ACME

Industry Vertical

ACME

Select Data Model

Data Model

Customer

☒ Add Sample Data

Admin User Name

jsmith

Admin Password

.....

Note: If Data Model is selected, an admin user is created for deploying the data model.

Save

Cancel

4. On the Create Company page, perform the following actions:

Fields	Actions
Create Company	
Name	Specify name of the company. This name is later specified in the Company Name field on the Login page. You can modify the Company Name later. Note: You can specify the company name in mixed case. However, when the user logs on to the application the company name is matched without case sensitivity.
Internal Name	Specify an internal name.

Fields	Actions
	The internal name is used to create a directory; it should contain only English characters and must follow the directory naming conventions of the operating system on which the application is installed. This name is for internal reference only and cannot be modified. The internal names that are reserved are: TIBCOCIM, TIBCO, VELOSEL, STANDARD, 1SYNC, 1SYNCTEST, VTEST, and WWRE. Note: You must use ASCII characters for company internal names. If these names include non-ASCII characters, copying the files from Windows to UNIX or Linux and the opposite way might result in corruption of filenames.
Industry Vertical	Specify the industry vertical name, that is the type of the company. For example, for the GDSN edition, you can specify Retailer, Supplier, or a Datapool.
Select Data Model	
Note: This section is optional. If you want to add a template, then select data model options, add sample data, and create a user.	
Data Model	Select one of the following data models: • Customer • Party • Insurance Select the Add Sample Data check box if you want to add the sample data of the selected data model. Note: If you select the Customer data model with the Add Sample Data option, ensure that TIBCO Patterns server is running. The MatchRecord activity requires the TIBCO Patterns server.

Fields	Actions
	When the data model is selected, the model deployment is initiated in the asynchronous mode after the successful creation of an enterprise. The following actions are triggered sequentially: - Create an admin user in the newly created enterprise - Deploy data model - Merge the index configuration (IndexConfig.xml) file with the existing index configuration file and initiate re-indexing - Upload sample data if the Add Sample Data check box is selected.
Admin User Name	Enter the credentials of the admin user. These fields are mandatory if you have selected the data model. The admin user is created before initiating the deployment.
Admin Password	

- Click **Save** to create the company **MyCompany**.
- Verify whether the company has been successfully created by ensuring that the name is displayed on the **All Company Profiles** page. Now, create at least one admin user for the created company. This user can be used to configure this company.

 **Note:** You must assign the Administrator role to the admin user.

Modifying a Company Profile

You can view the Company Profile only if you are a super user.

Procedure

- Click **Administration > All Company Profiles**. This opens the All Company Profiles page.
- Select the Company and click **Modify**. This opens the Modify Company page.

Modify Company

Name

Internal Name

Industry Vertical

[Save](#) [Cancel](#)

3. Modify the **Name** or the **Industry Vertical**. You cannot modify the **Internal Name**.
4. Click **Save**.

Switching between Companies

You can switch from one company to another. The **Select** link in the **Action** column allows you to switch from one company to another.

All Company Profiles

Filter Companies Alphabetically

[+ Create](#) [/ Modify](#) [Drop](#)

ID	Name	Internal Name	Created On	Created By	Action
39472	NisargPetroChemicals	Nisarg	2019-08-08 11:43:45.259	user,super H	Select

Procedure

1. Click **Administration > All Company Profiles**. This opens the All Company Profiles page.
2. Click **Select** in the **Action** column. The selected company is displayed.

Selected Company

Name NisargPetroChemicals

Internal Name Nisarg

Industry Vertical Chemicals

You can create repositories, users, records, and so on in the selected company.

3. To select a different company, go back to the Companies list by clicking **Administration > All Company Profiles**.

The **Select** link disappears from the selected company's **Action** column. You can select other company from this list.

All Company Profiles

Filter Companies Alphabetically All ▾

[+ Create](#) [/ Modify](#) [Drop](#)

ID	Name	Internal Name	Created On	Created By	Action
☐ 38549	a	a	2019-08-07 16:22:34.252	user,super H	Select
☐ 35692	ACME	ACME	2019-08-07 10:36:23.1	user,super H	Select
☐ 34412	CUSTOMER	CUSTOMER	2019-08-06 19:41:10.408	user,super H	Select
☐ 37492	entp	entp	2019-08-07 15:44:41.923	user,super H	Select
☐ 34052	k	k	2019-08-06 17:46:04.60	user,super H	Select
☐ 36992	manali	manali	2019-08-07 12:32:42.56	user,super H	Select
☐ 39472	NisargPetroChemicals	Nisarg	2019-08-08 11:43:45.259	user,super H	
☐ 34892	reltest	reltest	2019-08-06 20:57:30.537	user,super H	Select

Introduction to the Tools

TIBCO MDM provides a collection of tools that help you view and download logs and configuration files; view the status of a node, a cache, and index entities of TIBCO Patterns, delete records from a repository, and run utilities.



Note: For information about the access rights to the **Tools** menu and the submenus, see [User Role Matrix](#).

From the **Tools** menu, you can access the following tools:

Tools	Description
Downloading Logs	Download logs that are available in the <code>log</code> directory of the TIBCO MDM server.
Configuration Files	View and download the TIBCO MDM configuration files.
Query Tool	Debug customer environments when securing database details.
Viewing Application Performance	View the status of the TIBCO MDM server or node.
Cache Status and TIBCO Patterns Index Entities	View the status of the cache and index entities of TIBCO Patterns.
Clear Data	Delete records from the specified repository.
Utilities	Run various utilities.

Downloading Logs

Logs are helpful in solving technical issues, and you can use them for troubleshooting. To view the logs, you must first download them from the `log` directory of the TIBCO MDM

server.

Before you begin

Ensure that you have allocated sufficient space for the log directory (usually 1 GB). Also, see [Introduction to the Tools](#).

Procedure

1. Navigate to **Tools > Log Download**.
2. Select the node from the **Node** list.
3. Select the check box next to the log file name and click **Download** to download the logs.

Downloads the log file with its name and extension.

4. Optional: Click **Download All** to download all log files.
5. In the **Save As** dialog box, select the location where you want to download the log file and click **Save**.

The log file is saved to the selected location. The log file is *nodename_log.zip*.

6. Extract the contents of the ZIP file.

The ZIP folder contains the logs of the selected node of the TIBCO MDM server.

Downloadable Log Files

You can download and monitor the following log files:

Log Name	Description
commIOJournal.log	Stores communication IO journal logs.
dataservice.log	Stores the export and import metadata logs.
elink.log	Store logs that can be used for debugging purposes.
error.log	To avoid the accumulation of unwanted logs, you must regularly archive or remove log files.

Log Name	Description
failover.log	Stores the system failover logs. Logs are written to this file only when the system is in wait-retry mode because of problems with external components. In fact, the generation of failover logs indicates that the system is in wait-retry mode and needs administrative intervention.
ignite.log	Stores the logs of Apache Ignite cache.
scheduler.log	Stores the default scheduler logs for Future Effective Date (FED) and temporary files expiration interval time (NoFSPurgeFrequency). For information about the temporary files expiration interval logs, see the "Expiration Interval for Deleting Temporary Files" section in <i>TIBCO MDM System Administration</i>.
StartupShutdown.log	Stores the logs including time and details when the TIBCO MDM server was started and shut down.
timing.log	Stores the timing log information generated by different components (such as web services, UI, DBUtil, and workflow activities). The timing log indicates when the time exceeds the configured threshold.
configurator.log	Stores the configurator logs.
server.log	Stores the application server logs.
HtmlTranslator.log	Stores logs generated by HTML translator.

Cache Viewer

The Cache Viewer tool is used to view or delete the data that is present in different caches. You can search cache data by using various operators like contains, equals, starts with, and ends with. The search is performed for the specified criteria through the cache key.

Since the data stored in the caches is large, cache searches display only the initial 1000 records. Therefore, for specific record searches, it is recommended to use the exact cache key or refine your search criteria.



Note: Only the Administrator and the Support Engineer user roles have access to the Cache Viewer tool.

To perform a cache search, follow the steps below:

Procedure

1. Select the search type from the **Search** dropdown list.
2. Select a search criteria. For example, contains.
3. Enter the keyword that you want to search and click **Search**. All the matching cache records are displayed in the search result.
4. If you want to delete cache records, select the corresponding checkboxes and click **Delete**.

The image below shows search results containing sample cache records.

Cache Viewer

Search

RECORD

contains

00

Search

Delete

☐ key	catalogID	catalogVersionNumber	attributeValuesWithKeys	attributeValuesWithoutKeys	productID
☐ RECORD__10600__1	35497	1	{32049=, 32050=, 32051=, 32052=, 320...	{CCHECKSUM=-452137200, CPROCES...	wqw
☐ RECORD__10100__1	35480	8	{32032=, 32033=, 32034=, 32035=, 320...	{CCHECKSUM=-1992350612, CPROCE...	00001
☐ RECORD__10700__1	35480	8	{32032=, 32033=, 32034=, 32035=, 320...	{CCHECKSUM=-64077910, CPROCES...	00003
☐ RECORD__10200__2	35480	8	{32032=, 32033=, 32034=, 32035=, 320...	{CCHECKSUM=1119269387, CPROCES...	00002
☐ RECORD__10200__3	35480	8	{32032=, 32033=, 32034=, 32035=, 320...	{CCHECKSUM=1119269387, CPROCES...	00002
☐ RECORD__11400__1	40620	1	{34982=, 34983=2023-08-15}	{CCHECKSUM=1500715926, CPROCES...	1
☐ RECORD__10200__1	35480	8	{32032=, 32033=, 32034=, 32035=, 320...	{CCHECKSUM=1119269387, CPROCES...	00002
☐ RECORD__10800__1	35480	8	{32032=, 32033=, 32034=, 32035=, 320...	{CCHECKSUM=-1247425207, CPROCE...	00004
☐ RECORD__10400__1	35480	8	{32032=, 32033=, 32034=, 32035=, 320...	{CCHECKSUM=-359456432, CPROCES...	tyu

Page 1 of 1

20

Notes:

1. Search is performed on the cache key.

2. Due to performance optimization, the first 1000 records will be displayed in the result.

Configuration Files

As an Administrator, you can view and download the TIBCO MDM configuration files. In addition, you can also upload new configuration files. To view, download, or upload configuration files, navigate to **Tools > Configuration Viewer**.

The following table explains the contents of the directories that contain configuration files:

Directory Name	Description
common	Includes all standard configurations files for workflow and data validation as well as all customizations, for example, maps, rulebases, workflows, templates, and forms. This directory also holds all files generated during normal application processing. It is shared by all application servers in the cluster. Warning: Do not modify any files available in the common/standard directory. If a modification is unavoidable, maintain the modified file in the enterprise-specific directory.
config	Contains the configuration files related to cache configuration, cluster configuration, index configuration, AI configuration (LearnConfig.xml), and the Configurator. • ConfigValues.xml: The properties and values defined in this file are reflected in the Configurator. Note: Use the Configurator to change the value of a configuration property. • CacheConfig.xml: In this file, you can configure cache the Trial and Development environments. Note: In the production and test environments, the default CacheConfig.xml file is updated to the CacheConfig.large.xml file. • CacheConfig.large.xml: Configure a large number of repositories or large data.
custom	Contains the files required for the custom resource bundle. For example, the CustomSharedStringResources.properties file.

Directory Name	Description
schema	Contains the schema files of web services. To download the schemas.zip file, navigate to common/standard/samples/schemas.zip.

You can view or download only the following directories or files:

- log
- common
- config
- config.war
- schema
- custom



Note: Apart from the directories or files available for download, if you try to access any other directory or file, an access denied message is displayed for the *file path/filename*.

Dashboard Overview

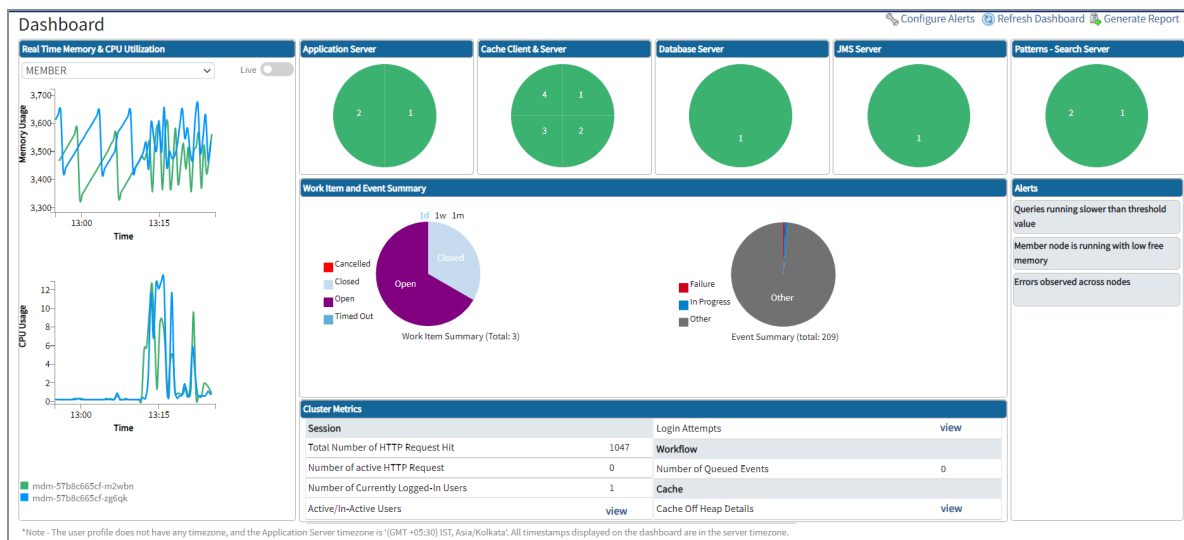
By configuring the dashboard, an administrator can obtain continuous insights into the master data and track the performance of TIBCO MDM regularly. An administrator can also view and download metrics during run time related to TIBCO MDM entities.

The dashboard provides key measures about the master data such as:

- Health check information
- Cache reports
- Golden copy records

The dashboard highlights significant changes in metrics and provides insights into key improvement areas and risk areas on which you can take immediate action, for example, a sudden increase in heap memory or system errors.

Note: The dashboard is best viewed at the default 100% browser zoom.

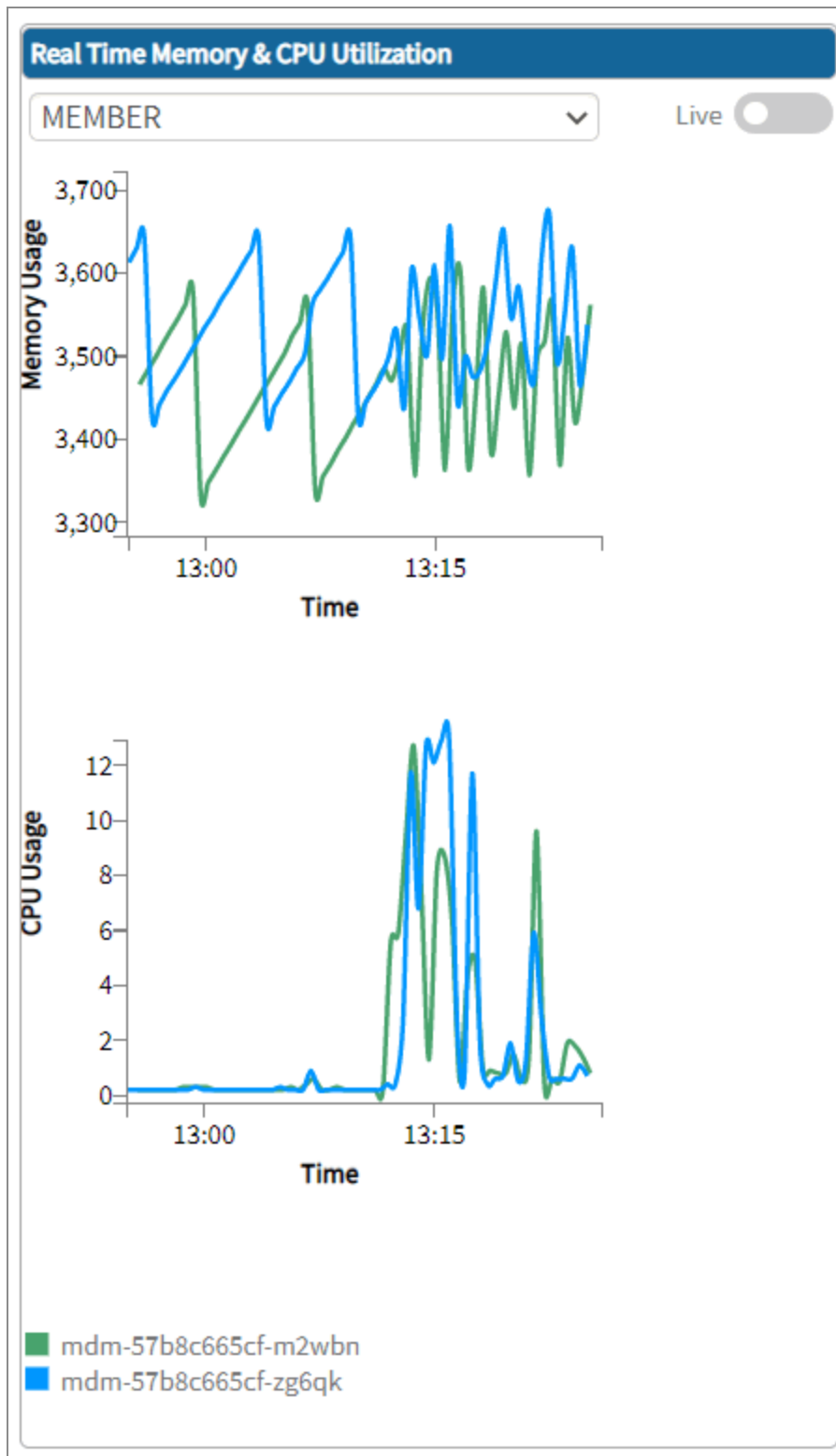


Benefits

- Efficiently filter and analyze data
- Drill down to key information
- Enable application monitoring and management
- Reload the dashboard with the latest data
- Download HTML report

Viewing Application Performance

On the **Dashboard** page, select the *nodename* of the server or **Cache** from the list to view the status of the TIBCO MDM server node or the cache node.



The following table lists the status displayed based on the node selection:

Selected Node	Description
Memory Usage	Displays how much memory has been used by the TIBCO MDM server or the cache node out of the total memory. Retrieves the memory from JVM. The memory is displayed in MB.
CPU Usage	Shows the CPU usage of the TIBCO MDM server or cache node in percentage.

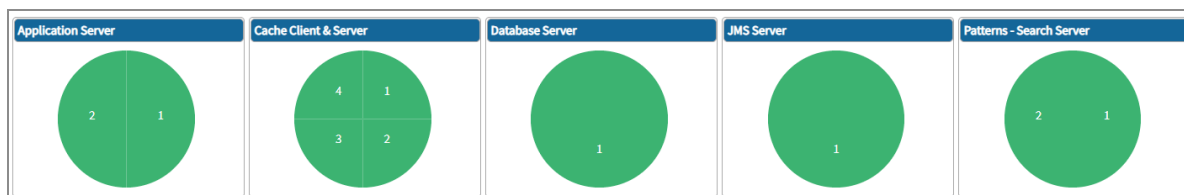
Click the **Live** option to get live information of the member and cache nodes. You can configure the value in milliseconds by using the `Fetch Interval to Show Live Performance of different Components` property in the Configurator. For details, see the "Dashboard Configuration Properties" section in *TIBCO MDM System Administration*.

Nodes and Server Metrics

Charts on the dashboard display the metrics of all available nodes and servers such as member node, cache node, database server, messaging server, and TIBCO Patterns server. Hovering over a node displays server information. If multiple nodes are available, the chart is divided into multiple parts. You can click each node to view metrics details. The details are displayed in tabular format.

The duration of node statistics (that is to display on the chart) is configured by using the `Node Statistics Store Duration` configuration property. By default, the duration is set to 30 minutes. Specify the value in milliseconds.

You must enable the `Node Registration` configuration property in a cluster environment (multiple TIBCO MDM nodes are running). If you set the value to true, availability information about each node is updated in the database.

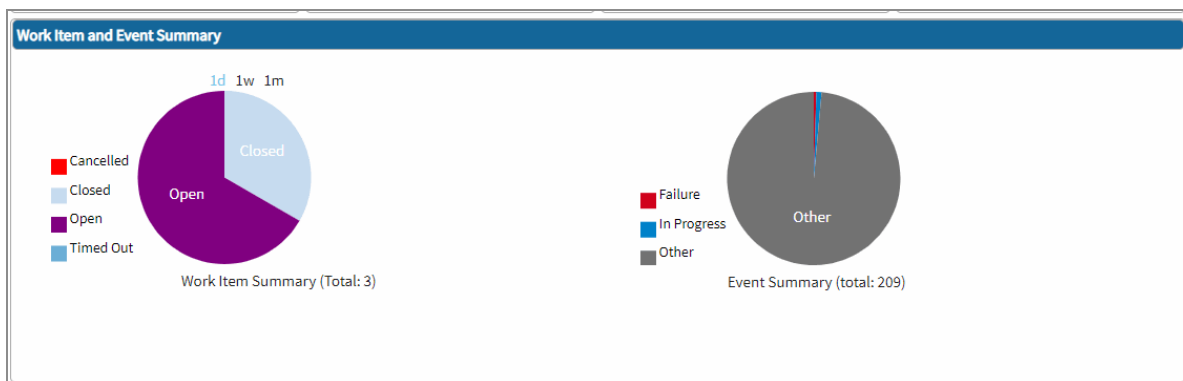


Server Category	Description
Application Server	Metrics are divided into the following sections: • Node Information: Displays information about the node, status, server type, host name, IP address, Up Time, CPU usage, and memory details. The health information is configured by using the Low Heap Memory Alert Threshold configuration property. For example, if you have set the value to 20 and the free heap memory is lower than 20 percentage, then the Critical message for the Health property is displayed. • System Information: Displays information about the operating system, Java runtime environment, time zone, encoding, and default locale. • Configuration Detail: Displays information about product version and configured environment variable details.
Cache Client and Server	Metrics about the cache node, its status, cache provider, host name, IP address, up time, CPU usage, and memory details. If you start multiple cache servers, each running cache server is displayed on the chart.
Note: On a periodical basis, application servers and cache nodes' health are also displayed on the server console, log, or on both. The default value is CONSOLE.	
Database Server	Metrics about database type, name, its status, version, URL, driver, version, username, total acquired connections, active connections, the total number of records, and the total number of golden copy records. Shows data source pool information if available on the application server JMX MBean. Warning: On the WildFly application server, you might need to set the true value for the statistics-enabled property in the standalone.xml file (under <datasources> element) to collect metrics of attributes.

Server Category	Description
JMS Server	Metrics of messaging server details, queues, and topics details. - You can configure a list of queues and topics for which you want to display statistics on the dashboard. - To do this, use the following property: <code>List of Queues and Topics for which Statistics will be Displayed on Dashboard</code>. - To collect JMS metrics, specify true for the <code>Enable stats</code> collection by MBean property in the Configurator.
TIBCO Patterns Server	Details of the TIBCO Patterns server type (primary or secondary), its status, URL, and the value for the configured server types.

Work Item and Event Summary

In the **Work Item and Event Summary** section of the dashboard, you can view metrics of work items and events for all users.



Metrics	Description
Work item summary	Displays the status of work items and the number of total work items specific to the logged-in user. 1d1w1m: Duration of work item summary displayed on the chart. By default, the one-day summary is displayed. To view the work item

Metrics	Description
	summary of one week, click 1w , and to view the work item summary of one month, click 1m .
Event summary	Displays the status of events and the number of total events specific to the enterprise. Click the status to go to the Event Log page.

Cluster Metrics

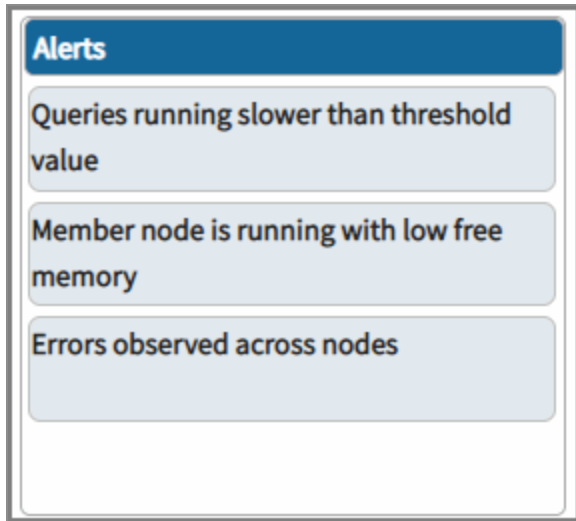
The Cluster Metrics section collects the statistics and monitors the performance of a particular operation, for example, how many users are currently logged in to the UI.

Cluster Metrics			
Session		Login Attempts	view
Total Number of HTTP Request Hit	1405	Workflow	
Number of active HTTP Request	0	Number of Queued Events	0
Number of Currently Logged-In Users	2	Cache	
Active/In-Active Users	view	Cache Off Heap Details	view

Statistics	Description
HTTP	Count of active and total HTTP requests made
UI Login	- Number of currently logged-in users - Information about successful and failed login attempts If N/A is displayed, then the Login Information Collection Mode - UI property is disabled in the Configurator. For details, see the "Track User Sessions" section in <i>TIBCO MDM System Administration</i>. To collect detailed information about active and inactive users and login attempts, you must set the Login Information Collection for - UI property to true.
Workflow	Number of queued events
Cache	Details of cache off-heap memory for each cluster Details include total off-heap memory, used memory, and available memory.

Alerts

The Alerts section displays information about any alerts generated by TIBCO MDM. As an administrator, you can also configure alerts for the dashboard. To view alerts, click each alert message in the Alerts section, the alert window is displayed with details.



Some examples of alerts are as follows:

Alert	Message	Alert is displayed when
SQL Query Performance	Queries running slower than the threshold value	SQL queries are running slower than the threshold value. The queries hit each server and collect details related to the timing log. The event ID is populated when the query is related to events.
Low Heap Memory	Member node is running with the low free memory	Heap memory is lower than the threshold value
High CPU Usage	Member node is running with the high CPU usage	CPU usage is more than the threshold value
Low Disk Space	Member node is	MQ_LOG is running with low memory

Alert	Message	Alert is displayed when
	running with the low disk space	
Low off Heap Memory	Cache node is running with the low-off heap memory	The server is running with the low off-heap memory
Server Errors	Errors observed across the cluster	The administrator configures these alerts and sets the Capture Server Errors to Display on Dashboard property to true

Configuring Alerts

Complete the following steps to configure the system alerts to be displayed on the dashboard.

Procedure

1. In the upper-right corner of the dashboard, click the **Configure Alerts** icon. The System Alert Configuration window displays the Available Alerts and Selected Alerts columns.

2. To display an alert in the Threshold Value field, select an alert from the **Available**

Alerts list.

Restriction: The Threshold Value is not applicable for the Slow SQL Queries and System Errors alerts.

3. Use the navigation arrows (>, >>, <, and <<) to move alerts between the lists so that the required alerts are displayed under **Selected Alerts**.
4. Click **Save**.

The configured alerts are saved and displayed in the Alerts section.

Cache Status and TIBCO Patterns Index Entities

On the **Component Overview** page, you can view the status of cache and index entities of TIBCO Patterns.

Section Name	Description
Cache	• Category: Displays statistics for RECORD and MEMBER cache spaces. • Items: Number of record entries in the cache. • Hit Count and Miss Count: Count of how many cache items are hit and missed. These attributes measure cache effectiveness. • Evictions: Number of records or entries removed from cache using the default cache eviction policy. • Actions: Click Clear Cache to clear cache items and capacity. • Click the Refresh Cache Data  icon to load the latest cache information.
Index Entities	Provides status of the index entities related to TIBCO Patterns.

Section Name	Description
	• Index: Name of the index entity defined in the <code>IndexerConfig.xml</code> file. • Entry Count: Number of records indexed in the index entity • Average Access Time: Average time required for searching records defined in the index entity. Upload the <code>IndexerConfig.xml</code> file from the Configuration Viewer in the <code>config</code> directory or deploy it from TIBCO MDM Studio. Click Re-index, the previously stored data in the index entity is erased and newly added index entities are displayed. Click the Refresh Patterns Data  icon to load the latest indexing information.
Note: To view the average access time of the TIBCO Patterns index entities, change the value of the <code>com.tibco.cim.jmxmonitor.details.enable</code> configuration property to true in the Configurator, and then restart the TIBCO MDM server.	
Thesaurus	Upload the thesaurus file from the Configuration Viewer to the <code>config/thesaurus</code> directory. By default, the following files are available: <code>nickname.csv</code> and <code>streets.csv</code>. Click Re-index to load thesaurus into the TIBCO Patterns server. Tip: Thesaurus is a set of terms and synonyms to be treated as similar when provided in a file.
AI Matching Projects	Provides the list of AI Matching Models that are deployed on TIBCO Patterns.

Query Tool

The Query Tool menu is only visible to the Support Engineer role. By using this tool, you can run SQL queries against a database to manipulate and modify data.

The Restricted Queries property (**Advanced > System Debugging**) in the Configurator specifies a list of queries that should be supported by the query tool.

By default, INSERT, UPDATE, CREATE, DELETE, DROP, and TRUNCATE queries are not allowed. You can allow these operations by specifying values through the Configurator or specify NONE to allow all queries.

Clear Data

From the **Clear Data** page, you can delete all records from the selected repository. The deleting of records is processed in batches. By default, 100 batch size is defined for the Records Per Asynchronous Call configuration property in the Configurator.

 **Note:** Perform the **Clear Data** action carefully: you cannot roll back the action.

The following items are deleted during the record clearing process:

- Principal key, golden copy of records, and product key
- Data stored in the repository, multivalue, synchronization profile (BCT), and relationship catalog (RCT) tables
- Relationships
- Records from the text index, if indexed
- Cache

From the **Clear Data** page, you can also get the record count of the selected repository. After you click **Get Record Count**, the number of confirmed or golden copy records available in the selected repository are displayed in the **Number Of Records** column.

Deleting Records from Repository

You can delete records from a single repository. After successful deleting of records, the details are displayed in the progress bar.

Procedure

1. On the Clear Data page, search for a repository by using the **Search Repository** field.
2. Select the check box to delete records from the repository.
3. Click **Clear Data**.

A confirmation message is displayed. Click **Proceed** to delete all records from the selected repository. The progress bar is displayed with the following information:

- Status of deleting records in percentage.
 - Total time required to delete the records and total time remaining for deleting the records
 - Name of repositories or repository to be deleted
4. Click **Back** to go back to the **Clear Data** page.

i Note: The **Back** button is enabled only after the data is cleared. At a time, you can run only one clear operation for the selected repository.

What to do next

For more details, you can check the logs from the Purge Repository event in TIBCO MDM. Navigate to **Event Log > Purge Event > Additional Data**.

Utilities

Accessing and running utilities from the TIBCO MDM UI is useful in the cloud environment or when accessing the TIBCO MDM remote server.

To view and run utilities, go to **Tools > Utilities**. Currently, the Data Cleanup utility is available. You can also access it by navigating to the \$MQ_HOME\bin folder.

You can select the following utilities from the **Utilities** list:

Utility	Description
Data Cleanup	Referred to as the Purge utility. The utility deletes various objects (repository, events, data sources, synchronization formats, and records) within the current company. You can run the utility from the UI or the command line. This utility supports all purge command-line operations. • Using the UI: See Running the Data Cleanup Utility. • Using the command line: See the "Purge Using Command Line" section in <i>TIBCO MDMSystem Administration</i>. Caution: The superuser can run the Purge utility for all enterprises. Specifying enterprise details is a must. However, running the utility for all enterprises can delete other enterprise details too.
Others	Select this option to perform operations that are specific to the TIBCO MDM instance or environment debugging. Caution: An administrator must use this option carefully with the guidance of TIBCO support.

Running the Data Cleanup Utility

The Data Cleanup utility removes the data from the database, cache, and text index. For information about the utility, see *TIBCO MDM System Administration*.

Procedure

1. Go to **Tools > Utilities**.
2. From the **Utilities** list, select the **Data Cleanup** utility.

The Utilities page is displayed.

The screenshot shows a web interface titled "Utilities" with a "View History" link in the top right. A dropdown menu is set to "Data Cleanup". Below it is a "Parameters" section with a text input field containing the command: `-o repository -r 38220`. A blue "Execute" button is positioned below the input field. At the bottom is a "Help" section containing the following text:

Usage: PurgeHelper [options]
This utility initiates purge by using the following options:

Options:

- ? : print usage
- o : exec mode
- history: purge event history, only completed events are purged
- historyForce: purge history ignoring status of the events
- metadata: Purge metadata for repository/enterprise and for all objects related to repositories
- metadataversions: Purge older metadata for repository/enterprise and for all objects related to repositories
- repository: Purge all records of the specified repository/all repositories of an enterprise
- record: Purge specified record
- deletedRecord: Purge Active='N' records
- recordversions: Remove record versions earlier than the cutoff date for a repository/all repositories for an enterprise
- recordversionsForce: Remove record versions earlier than the cutoff date for a repository/all repositories for an enterprise aggressively
- recordversionsGoldenCopy: Remove record versions for a repository/all repositories for an enterprise by retaining GoldenCopy version

3. In the **Parameters** section, enter parameters.

The command examples are listed in the Help section. You can copy the command from the list that you want to run. You can run only one command at a time.

Note: The user credentials are not required because you are already logged in. The superuser can specify enterprise details.

4. Click **Execute**.

The following message is displayed: Purge Process Initiated. Click here to see the progress. The commands are stored in the Utilities History table. If the command is successful, a link is displayed.

Result

Click the link displayed in the message. The Event Details page is displayed. For information about purge events, see [Events Generated during Purge](#).

Viewing Data Cleanup Utility History

The utility history is enterprise-specific and all administrators can view the history of purge commands that are executed by using the Data Cleanup utility.

Before you begin

Run purge commands. See [Running the Data Cleanup Utility](#).

Procedure

1. Navigate to **Tools > Utilities**.
2. From the **Utilities** list, select the **Data Cleanup** utility.
The Utilities page is displayed.
3. Click the **View History** link in the upper-right corner.

The Utility History page is displayed, with the search information at the top.

4. To filter by specific criteria, use the search options in the Search section:

Search Options	Description
Utility	To view the Data Cleanup history, select the utility as Data Cleanup .
Status	After running the utility, you can track the status of the selected utility. From the Status list, select any one of the following options: • Success: Displays a list of successful commands. No remedial action is required. • Error: Displays a list of commands for which error occurred. This status indicates a problem that must be corrected. You can correct the error and run the Data Cleanup utility again.

Search Options	Description
From	Select the From and To dates to specify when the utility was executed from the UI.
To	Note: If you do not select From and To dates, all utilities executed until the current date are listed in the Search result.

5. Click **Search**.

The utilities that meet the filter criteria are displayed.

If the command is successful, the **Event Details** link is displayed in the Event Details column.

6. Click the **Event Details** link to check the utility event details.

7. If you want to run the command again, from the Action column, click the **Re-Execute** link.

The selected command is copied in the **Parameters** section of the Utilities page. You can run the copied command. See [Running the Data Cleanup Utility](#).

Glossary

A

Actionable work item

Type of a work item. These work items require some action, such as an approval from you. Open each work item and take an action. These work items cannot be selected for closing.

Active

Type of a system attribute. A record is considered active if it is not deleted. This option displays Yes or No values based on whether or not a record is deleted.

Asynchronous mode

A web service can be executed in the Synchronous or Asynchronous execution mode. In the asynchronous mode, the client invokes a service but does not wait for the completion of the workflow execution. See also Synchronous mode.

Attribute

Attributes define the structure of a repository or a synchronization format. Some predefined attributes are already added when you create a repository. System attributes such as Last Modified On, Last Modified By, and so on are also added to maintain version and audit information. You can add custom attributes to create a repository.

Attribute group

Each attribute is assigned to an attribute group. A default group named UNASSIGNED holds all attributes that do not belong to a specific group.

Attribute group sequence

You can also change the sequence of attribute groups of a repository.

B

Backend System

The application allows you to specify a backend system for your company. There are two ways to exchange data with a backend system. You can either publish data to the Datapool from where the data gets synchronized with the backend system, or you can deliver the data to the backend system directly via FTP or e-mail.

Business keys

This term refers to the attributes other than PRODUCTID and PRODUCTIDEXT, which identify a record uniquely. The keys are how external systems identify the record. Multi value or Category Specific Attributes cannot be defined as business keys.

Business process

A Business Process models the real world processes to perform various tasks. The application provides some predefined business processes. The Business Process user interface allows you to customize the workflow definition for routing rules and various process options. Business processes are organized in Rule domains.

C

Catalog rule

A catalog rule is an encapsulated piece of business logic that specifies validations, transformations, and access controls for attributes in a record.

Category specific attributes

Supports variations in records within the same repository. The feature enables to create category hierarchies to capture the details of a record based on its categorization.

Checkpoint in a workflow

An activity used in a workflow. Saves the process state to database at workflow milestones. Saves the minimal data required for recovery, and in case of failure, workflow execution starts with the next activity.

Circular relationship

Cross-repository relationships can chain repositories. For example, the Customer repository can be related to the Address repository, which in turn can be related to

the Bank repository, and so on. Such a relationship is called a circular relationship.

Classification code

Indicates the unique identification code that defines the category code hierarchy. When a record is created, it is not automatically classified. Use TIBCO MDM Studio to classify a record and define a classification code on the same.

Classification scheme

Classification schemes allow you to organize records based on their attributes. For example, vendor records can be organized by a country - state - city hierarchy. You can define an unlimited number of classifications, each with unlimited levels of hierarchy.

Company

Refers to the company name. Only the super user role can create a company for other users. The role is assigned to tadmin.

Configurator

This tool allows you to configure various properties. The Configurator client is implemented using TIBCO General Interface (GI). Values set through the Configurator are stored in MQ_HOME/config/ConfigValues.xml.

ConfigValues.xml

This is a configuration file that stores all the values set through the Configurator. This file is located in \$MQ_HOME/config/.

Confirm immediately

Allows you to confirm the records without initiating the workflow.

Conflict resolution

Type of a work item intent that is defined in the workflow. Type of a business process rule. If the Conflict Resolution business process rule is defined for a particular user, he/she can resolve the conflict aroused in work item.

ContainedBy relationship

Only relevant during import. Contains and ContainedBy relationships can be established between records of a repository. These relationships can be used to create a hierarchy of records.

Contains relationship

Only relevant during import. Contains and ContainedBy relationships can be established between records of a repository. These relationships can be used to create a hierarchy of records.

Copy clone

Enables you to copy a record with its hierarchy of all relationships.

Copy metadata

Copy metadata allows you to export or import metadata of business objects such as Type and Classification scheme. Objects that can be exported or imported are Components/Objects, SubComponents/SubObject (implicit of Objects), Repository, BusinessProcess Rules, Synchronization Format, Data sources, Output Map, and Input Map, and so on.

Creation date and time

Refers to the creation date and time of the current version of a record. You can view creation date and time on the System attribute tab, displayed for the Created on system attribute.

Cross-repository relationship

When records that span across repositories are related to each other, they are known to be in a cross-repository relationship. The repository for which relationship is defined as a forward relationship will be treated as the source repository. The repository that establishes a relationship with the source repository becomes the target repository. The cross-repository relationship is identified by the relationship established between the source and the target repository.

D

Data cleansing

To avoid duplicate records in a repository, it is often necessary to bring the same logical record into a standardized form. Only after this data standardization occurs, you can successfully check for duplicates. This process of standardizing the data is also known as data cleansing.

Data custodian

Type of a business process rule. You can set this business process rule, who has a custody for an attribute or attribute group. If the Data Custodian business process

rule is set, a work item is created for the data custodian role and can send for corrections.

Data quality

Data Quality is the process used to derive unique, standardized, and complete master data. Data quality routines ensure that the data entered in a repository is "golden" so that data can be managed appropriately. If data quality is low, the repository will contain two or more records for the same logical item, that is, it will result in duplicate or unreliable data.

Data source

A data source is used to import data into repositories, identify records to create subsets and transform data. Data sources model external sources of information, such as any file that you want to upload. Data sources can be in different formats within an organization.

Datapool profile

Datapool profiles and credentials are used to establish new Datapools and manage Datapool activities. A Datapool Profile defines an electronic sales channel, data pool, or hub - where backend systems can exchange goods. A Datapool Profile correlates to a workflow associated with the Datapool and you can subscribe to or unsubscribe from a Datapool as required. Datapool credentials are provided automatically. However, you can define additional credentials.

Delegation profile

The delegation and reassignment feature allows controlled delegation and reassignment of work items from one user to another. Delegation and reassignment is based on a list of specified user roles and their related access privileges. A delegation profile is used to limit the roles and users to whom work can be reassigned.

Display names

You can configure the Display Names for an attribute. Use TIBCO MDM Studio to define a display name for an attribute.

Draft

Indicates the state of a record. When the record is created, it is in Draft state.

E

Effective date

A predefined attribute that enables the future date support for a repository.

EMS

Refers to TIBCO Enterprise Message Service software. It enables TIBCO MDM to send and receive messages using the Java Message Service (JMS) protocol.

Event

An event is created to initiate workflows when master data changes. Each event is associated with one or more workflows and has several steps. Most of the actions on master data are logged by creating events. Events are also created for any workflows fired. For each event, detailed trace information is logged to allow full audit of all changes. All event related information can be viewed and searched from the UI. Notification work items notify you of any event that happens.

Explicit relationship

Explicit relationships are established within a repository using a predefined attribute called CONTAINS. The CONTAINS attribute is used to manage relationships with children records (not to parent records.) These relationships can span across repositories but, typically, they are established between records within a repository.

F

Failover

Failover refers to the ability of a server to assume the responsibilities of a failed server. The application provides a workflow failover mechanism, where in case of a failure, workflows will not terminate but will restart at the point of last execution.

File attribute

A data type attribute. Used to search records that contain file extensions, such as, .gif, .png, and so on.

FileWatcher

An application server component which is used to monitor various directories for incoming files. Each application server runs a FileWatcher. For all other servers, change the filewatcher.xml file so that it does not monitor any directories. You can

change the configuration in filewatcher.xml to disable monitoring of directories on a server.

Floating of record

Whenever the state of a record is being changed from draft to confirmed or unconfirmed, (say R3) and if there is an unconfirmed version of the same record (say R2), the unconfirmed version (R2) is floated to a version number subsequent (R4) to the last confirmed version. This concept is known as floating of record versions. Relationship of the floated record version is the same as that of the record version whose state was changed.

Forward relationship

For example, assume that there is a source repository called Customer and the target repository called Address. You have stored the Customer's Billing Address information in the Address repository. In this case, the relation between Customer and Address is defined as Billing Address. The source repository is Customer, the target repository is Address, and the Relationship between them is Billing Address. In a hierarchy, the source repository, Customer becomes the parent. The target repository, Address becomes the child. Since the relationship is from Customer to Address, the relationship is known as a forward relationship. With respect to the Address repository, the relationship will be known as a reverse relationship.

Future dated record versions

Refers to the version of a record that contains an EFFECTIVEDATE attribute. After the future effective date arrives, a future dated record version becomes CONFIRMED and EFFECTIVE.

G**GDSN**

Global Data Synchronization Network.

GLN

Global Location Number.

Global Backend System

A global backend system is visible to all the companies within the same instance of TIBCO MDM. Global backend systems are partners who are shared across enterprises. These profiles can be used and viewed at all other enterprises, but can

only be modified by the enterprise which defined it. This allows centralized management of partner profiles.

Golden copy

Name of a database table. The GOLDENCOPY table is added to store a copy of the confirmed data. The table includes PRODUCTKEY, CATALOGID, VERSION, and MODDATE.

GPC (GDSN Only)

GPC is a predefined classification scheme supplied with the seed data for the GDSN edition. This predefined classification scheme cannot be modified or deleted.

GTIN

Global Trade Item Number. This is a system defined attribute used for validation of TIBCO MDM.

H

Heterogeneous relationship

When the relationships between any three records in a hierarchy are different from the parent record to its parent, the relationship is said to be a Heterogeneous relationship. For example, consider a cross-repository relationship between the repositories - Customer, Address, and Status. The repository, Customer is related to Address using the Shipping Address relationship. The repository, Address is related to Status using the Address Status relationship. In the hierarchy, the relationship type between Customer and Address (Shipping Address) is different from the relationship type (Address Status) between Address and Status. Since the relationship type between any two records in the hierarchy is different, the relationship is a heterogeneous relationship.

Homogenous relationship

When the relationship between any records in a hierarchy is of the same type, the relationship is said to be a Homogenous relationship. For example, consider a simple relationship (within a repository) that uses ASSOCIATE as the relationship between CUSTOMER 1, CUSTOMER 2 and CUSTOMER 3. Since the three records in the hierarchy are related to each other using the same type (ASSOCIATE), the relationship is a homogenous relationship.

Hot deployment

You can re-initialize various configured objects at run time without requiring a server re-start. In other words, as soon as values are changed, the Administrator can issue a request to reconfigure the application. This is known as hot deployment.

I**Implicit relationship**

Implicit relationships are the ones that are established using cross-repository relationships and they are usually established across repositories.

In-memory workflow

Indicates that the workflows are executed in memory. When workflows are set to in-memory, all the workflow data is retrieved from the cache and you can run workflows without persisting the workflow state information.

Incremental deployment of metadata

Indicates that only new or changed data is included in the output file.

InDoc

The input document specified for a Workflow activity.

Input map

Input Maps are used to import a large amount of data from external sources. They use data sources as primary input and allow you to map the data source attributes to repository attributes. You can combine more than one data source to map all or only some of the repository attributes. You can define an expression while mapping, to transform the data. The Input map name is unique for a repository.

J**JMS**

Refers the Java Message Service protocol that is used by TIBCO Enterprise Message Service to send and receive messages in TIBCO MDM.

JMX

Java Management Extensions technology. Using the JMX technology, you can manage and monitor various objects of TIBCO MDM as they are created, installed,

and implemented. For more information, see TIBCO MDM Management Using JMX chapter of TIBCO MDM System Administration.

L

Last confirmed version

Type of a system attribute. Refers to the version of a record when it was last confirmed.

Latest record

Includes the confirmed and unconfirmed records.

Latest version

Type of a record version. Refers to the most recent version of a record.

LDAP

Light-Weight Directory Access Protocol - name of a login module. TIBCO MDM uses this login module for password based authentication. For more information, see Appendix C External User Authentication in of TIBCO MDM System Administration.

M

Mass update

This feature allows you to update a set of records using a rule or to revert a set of records to a specific version.

Match and Merge

Activities included in the Record Duplicate Detection process. The MatchRecord activity allows you to search for matching records, and the MergeRecord activity accepts the output received from the MatchRecord activity and merges the source record with the target record.

MDM

Master Data Management.

MDM Studio

Master Data Management Studio is a graphically designed application. You can design processes, repositories, and rulebases using the following three main

components: Process Designer Repository Designer Rulebase Designer After designing, you can import these sources to TIBCO MDM.

Metadata

Master data. It is often referred to as metadata. This data is defined by your company and is very specific to your business requirements. It consists of: Definition of attributes and arrangement of attributes in groups. Classifications schemes for records. Input maps to import data from external sources. Output maps to extract data to synchronize data with other systems or partners. Rules for validating, access control and cleansing of data.

MQ_COMMON_DIR

Refers to the directory that includes all standard configuration files for workflow, data validation, and customization. The directory also contains all files generated during the application processing. For example, /home/tibco/mdm/version_number/common.

MQ_HOME

Refers to the location where TIBCO MDM is installed. For example, /home/tibco/mdm/version_number. A minimum of 8 GB should be allocated to this directory.

MQ_LOG

Refers to the location where log files are generated. The recommended location is \$MQ_HOME/log. A minimum of 1 GB should be allocated to this directory.

Multivalue attribute

Type of an attribute. For multivalue attributes, you can specify multiple values for the same record.

Mutation

The process of changing the PRODUCTID or EXT of a record is called mutation. Mutation is possible if a record with the same PRODUCTID and EXT does not exist in a repository.

N

Named version

A named version is a logical name to the snapshot of records in the repository.

Notification work item

Type of work item. These work items are for information only and notify you of an event.

O

OutDoc

The output document returned by a Workflow activity.

Output map

Output Maps associate repository attributes with corresponding attributes in various outbound synchronization formats such as EAN.UCC. A selection of predefined Output Maps are incorporated in TIBCO MDM to support numerous industry standard synchronization formats. In some cases, however, you may need to copy a pre-delivered template, or create an Output Map for a Custom synchronization format.

P

Parent version

Type of a system attribute. Indicates the version of a parent record.

Patterns

A matching engine utility. Used for text search.

Perspective

A subset view of a record bundle. Contains a subset of all relationships defined for a repository.

Product EXT

Each record has a unique combination of ID and EXT.

Product ID

Each record has a unique combination of ID and EXT.

Purge

A data cleanup operation that lets you delete history, records, metadata, record versions, and event.

Q

Quick view

Enables to display attributes as quick viewable. If the Include in Quick View check box is selected while creating an attribute, the attributes are displayed in the Quick View section of the record's Relationships tab.

R

Record

Basic unit of a repository. All records that are added or modified are first validated against a rulebase before getting stored in the repository.

Record bundle

A group of a record and its relationships.

Record history

Allows you to view the changes made in the versions of a record.

Reinstate

Used for GDSN while creating synchronization profile. Allows you to republish a discontinued record.

Relationship

Indicates that the records in a repository are related to each other either within a repository or from across repositories.

Relationship attribute

Refers to the attributes defined in the related records.

Relationship effective date

The effective date applied to the relationship and its associated attributes.

Repository

A repository is a repository of master and reference data. You can store different types of records in one repository or create more than one repository. Repository allows you to manage records, establish relationship between records, search data, and integrate data with other enterprise systems. A repository defines the structure of your master data (metadata).

Reverse relationship

See Forward relationship

Revivifier

Revivifier is a timer-based component of the TIBCO MDM application and is used to trigger workflows that need to be resumed from a suspended state. Each application server runs Revivifier.

Role

Roles show all users that belong to a specific organization. You can see who belongs to the Supplier organization, Datapool organization, Buyer organization and backend systems. By default, roles display users who belong to your organization and their specific roles (which determine their access rights for the application). For each organizational role, the TIBCO MDM administrator specifies which roles can be delegated by another role. When a user attempts to reassign a work item, the action is limited to a select list of user roles. Only users with the appropriate roles and access privileges are shown as possible candidates for the reassignment.

Root record

Displayed in the top level in hierarchy of records of the Perspective model.

Root repository

Displayed in the top level in hierarchy of repositories of the Perspective model.

Rule domain

Business Processes are organized in Rule domains. Each rule domain is a collection of rules for a specific purpose. These domains are referred to by workflows and evaluated at run time to access matching rules. Each rule domain has one or more rule templates which define the available conditions and actions for any rule. Some rule domains are configured only to have one rule template. You can define rules using any rule template.

Rule template

A business process rule template contains a set of conditions and actions that provide a structure for the rules that make up the template. Most common conditions are predefined. Any custom conditions can be added during implementation.

Rulebase

Catalog rules are specified in a rulebase file. Rules are executed in the order in which they are defined in the rulebase. A rulebase file is composed of a header, variable declarations, and a constraint.

Rulebase constraints and actions

Rulebase constraint contains a condition and an action. The condition describes when the rule needs to be applied. The action describes what the rule actually does and controls what attributes the rule is applicable to.

S

Save and process

This action saves the data and processes it for an event.

Scheduler

Enables you to schedule the duplicate detection process in data quality.

Simple relationship

When records within a repository are related to each other, they are known to be in a simple relationship. You can define relationships of your choice between repositories or between the records of same repository.

Single entity

Specified in the IndexerConfig.xml file. Includes only one repository and its attributes.

SKU

Stock Keeping Unit

Softlink

Attributes or values given to the attributes can be assigned a softlink. A softlink looks like a hyperlink. Softlinks are evaluated every time they are accessed. As data changes, each evaluation can result in different results. There is no permanent binding. When you click a softlink, the system searches for records that match the criteria specified in a rulebase associated with the softlink. Softlinks can also be used with the connect action to create relationships. A softlink will be visible on attributes only if there is a rulebase associated with it.

Spawning of workflows

The SpawnWorkflow activity initiates one or more new events.

SSO

Single Sign-on. A type of login module used for authentication of a user prior to logging in to TIBCO MDM.

State

Indicates the status of a work item. For example, Open, Closed, Cancelled, or Time Out. Indicates the status of a record. For example, Draft, Confirmed, and Unconfirmed.

Sticky configuration

Allows you to configure attributes to be always displayed on the Browse and Search page. You can configure such attributes using the Configure link.

Subflow

A subflow is a small workflow segment which can be used together to compose bigger workflows. This makes management of configuration easy.

Subset rule

Subset rules are created to select a set of records from a repository. Subset Rules allow you to: Select records for synchronization with Partners or backend systems. Save searches to save the selection criterion for reuse in a record search. Create a list of records for browsing. You can construct a Subset Rule from a predefined list using a data source, individual searches and selections or an SQL expression. These rules are applied when a Partner Catalog is created.

Super user

A super user role is assigned to tadmin. This user has the highest level of access to the application. The user performs the following special functions: Creates and modifies companies Switches between companies Edits data for predefined Datapools, specifically global (GDSN only) credentials.

Support engineer

A user that deals with all the support aspects of TIBCO MDM. The Log Download and Query Tool menus are visible for the user with this role.

Synchronization

Synchronization is a workflow process and can be configured as per your company needs. Synchronization bundles a root repository and the related repositories together into a ZIP file that contains the following: A relationship file, which is a text file that contains the relationship between the root and the related repositories. An index file. An output file for every Output Format supported by the Output Map. The ZIP file is stored in the local directory and can be downloaded from the Event Details page.

Synchronization format

Synchronization formats define the data format of the data required by the consumers (such as any External System or Datapool) of that data. The format defines the attributes and their order. The mappings of repository attributes to a synchronization format are defined in an output map. When a repository is synchronized, the synchronization format provides the structure for the output information.

Synchronization profile

Synchronization profiles provide a way of extracting information from repositories. As part of the Synchronization Profile definition, you can choose: which records should be extracted, which record versions should be included, and which attributes are to be extracted. If any transformation rules to be applied where the extracted data is to be sent and how a Synchronization Profile can be setup and reused again to extract data, then the extraction can be initiated by using FileWatcher or from the user interface. The data contained in a repository is not changed by the extraction process. For each extraction, the synchronization history can be maintained and inquired. The extracted data can be a text file or XML message.

Synchronous mode

A web service can be executed in the Synchronous or Asynchronous execution mode. With synchronous services, the client invokes a service and then waits for a response to the request.

T

Taxonomy

Refers to a classification. See also classification scheme.

Text indexing

Allows you to index single and join entities in an IndexerConfig.xml file. The defined single entities can be searched and displayed on the Text Search page. The defined join entities can be searched using web services.

Text search

Enables you to search the terms based on attribute values.

TIBCOCIM

Company credentials used for the tadmin user.

Timeout

Displays the detailed status of timeout of a work item. For example, number of times, maximum number of timeouts, method, and next timeout.

Transition

Defines the next course of an after an activity is executed in a workflow.

U

UDEX (GDSN Only)

UDEX is a predefined classification scheme supplied with the seed data for the GDSN edition. This predefined classification schemes cannot be modified or deleted.

UPC

Universal Product Code. Used to identify the product quickly. Includes two parts - numbers and a series of bars. You can read the defined numbers. A series of bars is scanned and tracked by Computers.

W

Work item

The Inbox has a list of assigned and delegated tasks, known as work items. Work items are assigned to users based on the business process rule configured for the organization. You may also receive work items delegated to you by other users as a result of reassignment of work items. Work items are of two types: Notification: These work items are for information only and notify you of an event. Action: These work items require some action, such as an approval from you. When a shared

work item is created for a user, the user can lock or unlock the work item to prevent other users from opening the work item.

Work item expiry

Indicates that the work item is expired or timed out. After it expires, it can be automatically unlocked.

Work item lock

You can lock a shared work item to prevent others from opening it. Indicates that you have started working on a shared work item, and others should wait for you to complete or unlock the work item.

Work item reassignment

Refers to the work items delegated from one user to another user. The work item reassignment is allowed only if you have permissions to do so. Also, the users to whom you can reassign is determined by Role Delegation. Reassignment of work items releases the lock on that work item.

Work item submit

After you complete the action on a work item, click the Submit button to close the work item.

Work item summary

Represents a summary of all work items. The Work Item Summary contains a hierarchical tree structure that includes a set of preferences and its various levels.

Work item summary preference

Defines how work items are to be summarized. You can define multiple preferences. Each preference is a set of levels on which work items are summarized.

Work supervisor

Monitors all operations and work items of other users. The work supervisor performs the following tasks: Reassign work items Add and confirm records without sending them to a workflow Cancel a workflow process at any time.

Workflow

Workflow is one of the core components of TIBCO MDM. It is used to initiate and manage business processes. Workflows are initiated by submitting a workflow request to the Process Engine. Workflow requests are XML documents created by the application in response to an external event, that is, receipt of a JMS message

or modification of data using the UI. The process engine selects a workflow based on data present in the workflow request.

Workflow activity

Workflow activities are atomic work units which can be connected together to define a business process. Workflow activities share a common set of tags that define their execution mode and interaction with the rest of the workflow system.

Workflow trace file

Includes the logs of an event.

WSDL

Web Services Description Language. The WSDL file contains the primary contract with the new service definition and the four primary operations (add, delete, update, and find).

TIBCO Documentation and Support Services

For information about this product, you can read the documentation, contact Support, and join Community.

How to Access TIBCO Documentation

Documentation for TIBCO products is available on the [Product Documentation website](#), mainly in HTML and PDF formats.

The [Product Documentation website](#) is updated frequently and is more current than any other documentation included with the product.

Product-Specific Documentation

The documentation for this product is available on the [TIBCO® MDM Documentation](#) page.

How to Contact Support for TIBCO Products

You can contact the Support team in the following ways:

- To access the Support Knowledge Base and getting personalized content about products you are interested in, visit our [product Support website](#).
- To create a Support case, you must have a valid maintenance or support contract with a Cloud Software Group entity. You also need a username and password to log in to the [product Support website](#). If you do not have a username, you can request one by clicking **Register** on the website.

How to Join TIBCO Community

TIBCO Community is the official channel for TIBCO customers, partners, and employee subject matter experts to share and access their collective experience. TIBCO Community offers access to Q&A forums, product wikis, and best practices. It also offers access to extensions, adapters, solution accelerators, and tools that extend and enable customers to gain full value from TIBCO products. In addition, users can submit and vote on feature

requests from within the [TIBCO Ideas Portal](#). For a free registration, go to [TIBCO Community](#).

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