

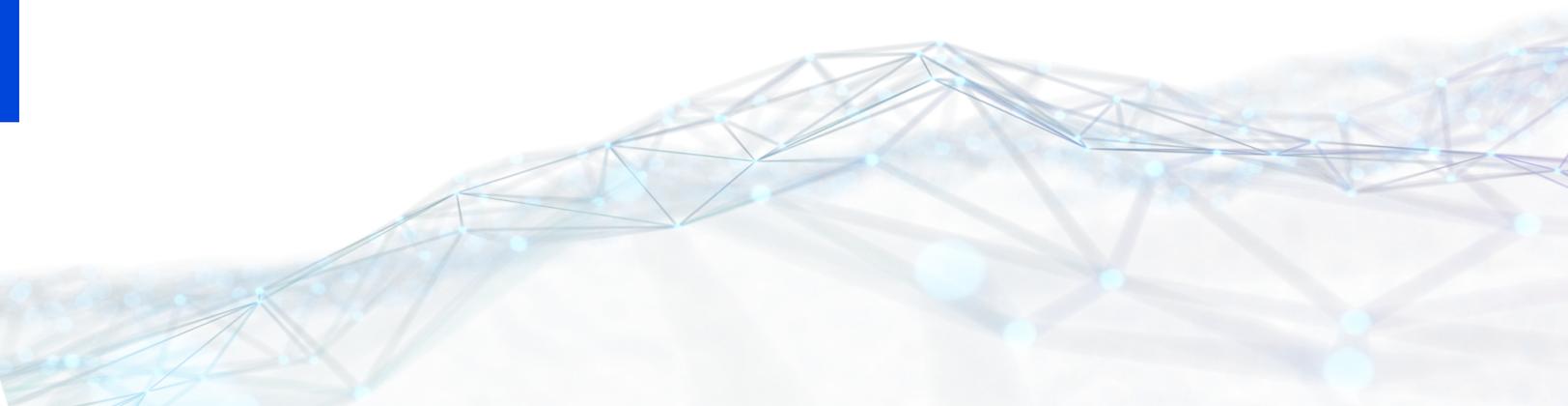


# TIBCO® MDM Studio

## Rulebase Designer Tutorial

Version 6.1.1 | June 2024

Document Updated | October 2024



# Contents

---

<b>Contents</b> .....	<b>2</b>
<b>Tutorial Overview</b> .....	<b>3</b>
Creating a Project .....	4
Defining Repository Data .....	7
Creating Rulebase Model .....	8
Declaring Variables .....	11
Add Constraints .....	12
Adding Constraint for Gender Selection .....	13
Adding Constraint to generate Customer ID .....	14
Adding Constraint for Mandatory Attributes Check .....	15
Adding Constraint to Get Current User Role .....	17
Adding Constraint to Hide MaidenName for Male Customers .....	18
Adding Constraint to Generate PreferredName .....	20
Adding Constraint to Ensure Date of Birth is Less than the Current Date .....	21
Add Constraints to Create a Dependent Drop-down .....	22
Adding Constraint to assign values to Country .....	23
Adding Constraint to Populate US States .....	24
Deploy the Rulebase Model .....	25
<b>TIBCO Documentation and Support Services</b> .....	<b>26</b>
<b>Legal and Third-Party Notices</b> .....	<b>28</b>

# Tutorial Overview

---

This tutorial walks you through the process of creating a rulebase model that contains the following:

A **Repository Model** that serves as the base data for the Rulebase. The Repository contains the following:

- A **Customer** repository that the rulebase will be built on. This Repository contains the following attributes - FirstName, LastName, DateOfBirth, Age, PreferredName, Gender, MaidenName.
- A second repository **Address** (which contains Address data) which is related to the **Customer** repository by a CustToAdd relationship and AddressType relationship attribute.
- A third repository **Organization** (which contains Organization data) which is related to the **Customer** repository by a CustToOrg relationship and CustomerType and CustomerSince relationship attributes.

A **Rulebase** based on the **Customer** repository which contains the following:

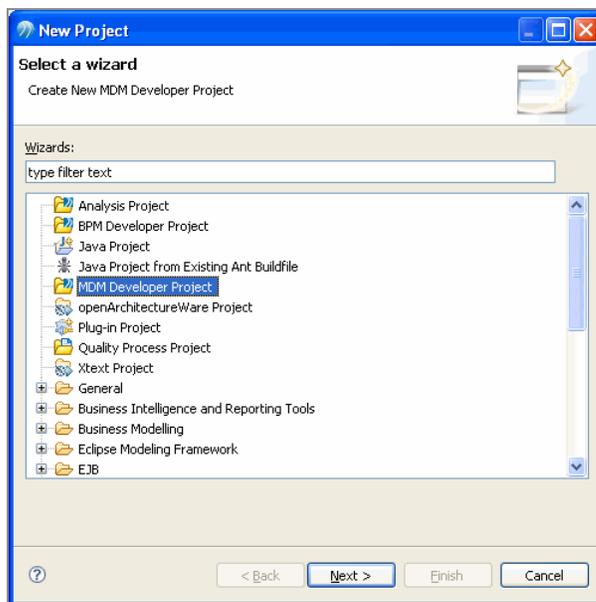
- Checks if the current user is an Admin User.
- Generates a unique ID for each customer record.
- Performs a mandatory attributes check for **FirstName** and **LastName**.
- Hides the **MaidenName** field if gender is **Male**.
- Connects the **FirstName** and **LastName** fields (minus the MaidenName field) to create **PreferredName**.

# Creating a Project

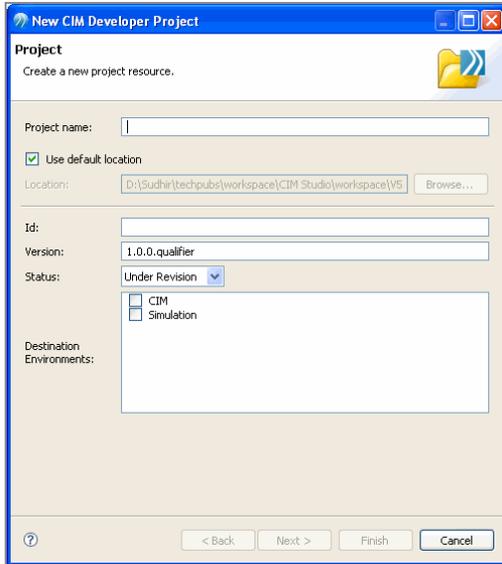
First, create a new Project to hold the Rulebase Model.

## Procedure

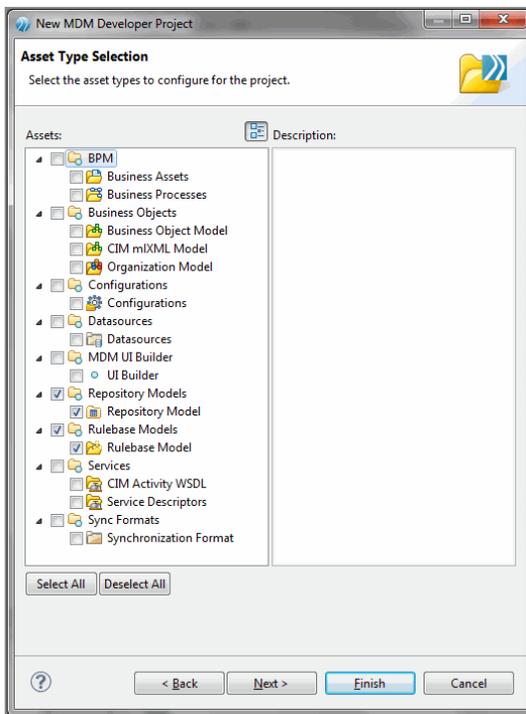
1. Go to **File > New > Project** and click **Next**. The **Create New MDM Developer Project** wizard is displayed.



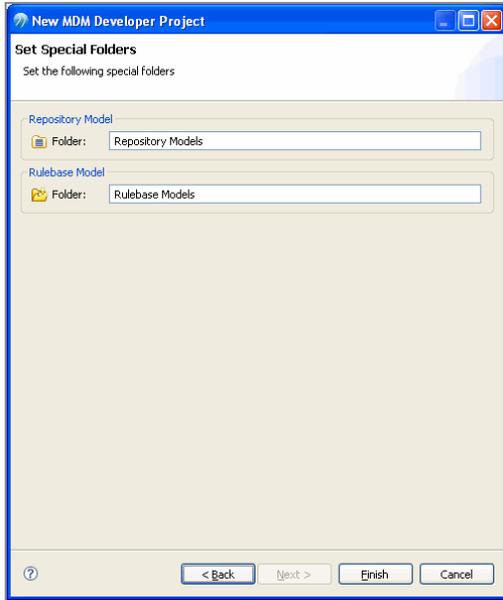
2. Select **MDM Developer Project** and click **Next**.
3. Provide a name for the Project, for example, **RulebaseTutorial**. Clear the **Use default location** checkbox if you want to provide a different location for the project (by default, the current workspace). Select Destination Environment as **MDM**. Click **Next**.



4. The **Asset Type Selection** dialog is displayed - select the **Repository Models** and **Rulebase Models** folders and click **Next**.



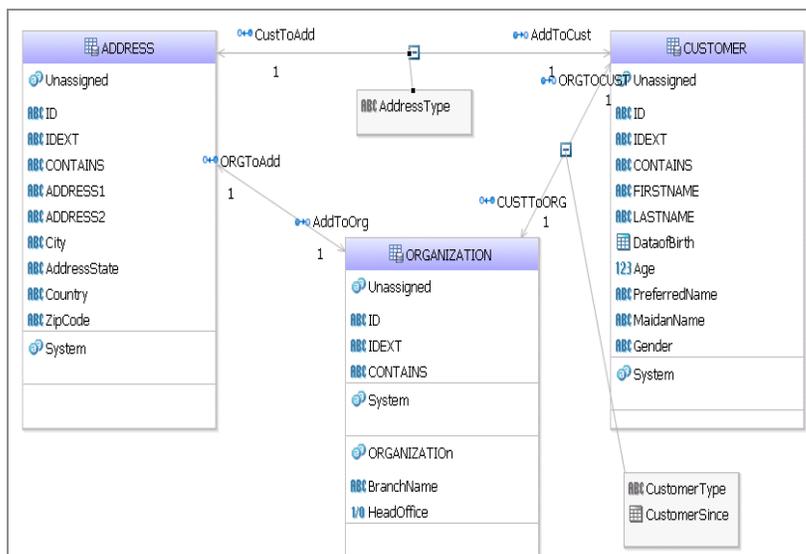
5. The folder for the **Repository Models** and **Rulebase Models** is displayed. Click **Finish**.



# Defining Repository Data

## Procedure

1. In the Project Explorer, create a new repository model under the **Repository Models** folder.
2. Right click the **Repository Models** folder, select **New > Repository Model**, and follow the wizard.
3. Call the file Tutorial.rep.
4. Double click the newly created .rep file and create the following repository and relationship structure.

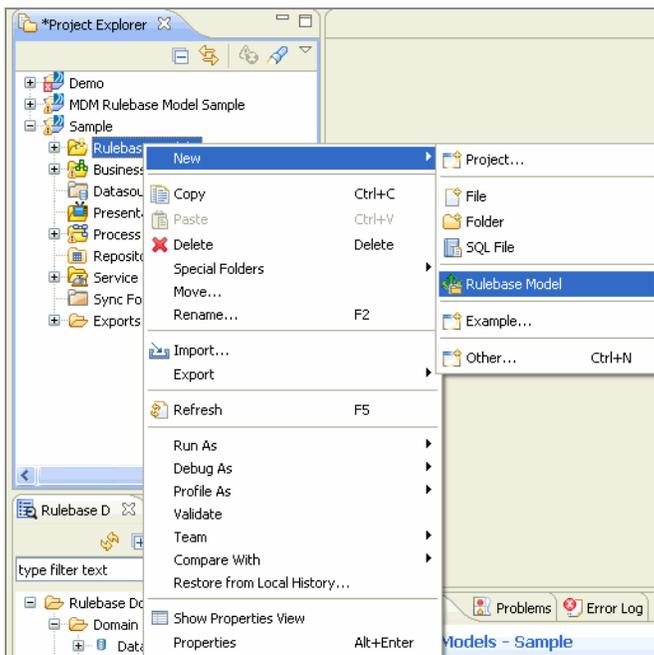


This will form the base data on which a rulebase will be created.

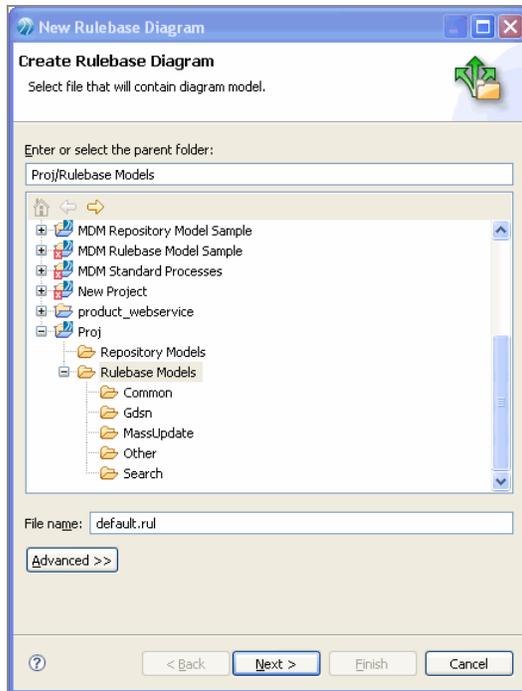
# Creating Rulebase Model

## Procedure

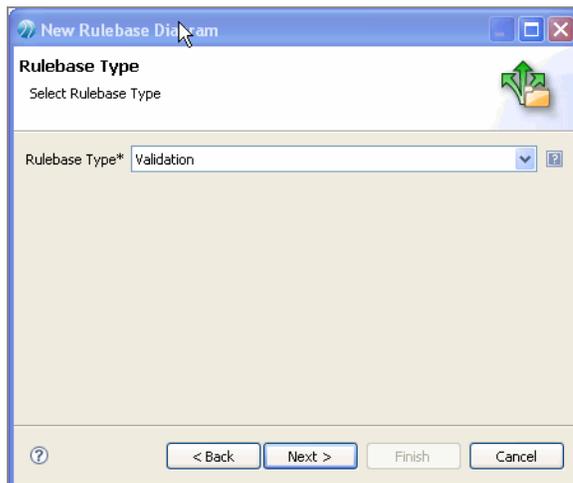
1. Right-click the **Rulebase Models** folder in the Project Explorer and select **New > Rulebase Model**.



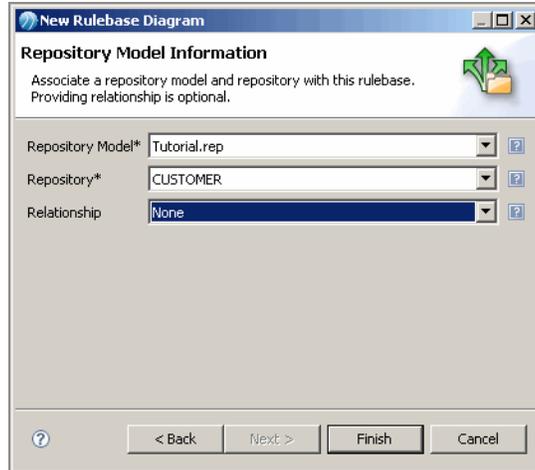
2. Accept the default name for the rulebase model (default.rul) and location or enter a new location and name. Click **Next**.



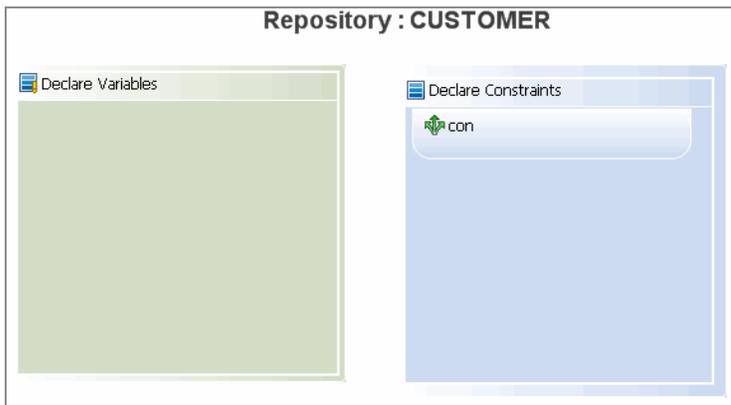
3. Select the Rulebase type as **Validation**. Click **Next**.



4. Associate repository data with your rulebase.
- Select **RepositoryModel** as **Tutorial.rep**
  - Select Repository as **Customer**.
  - Select Relationship as **None**.



5. Click **Finish**.
6. After creating a new rulebase model, the Editor displays the basic rulebase diagram. The associated repository is displayed at the top (**Customer** , in this case).
7. Use the palette to start building the rulebase by declaring variables and adding constraints.

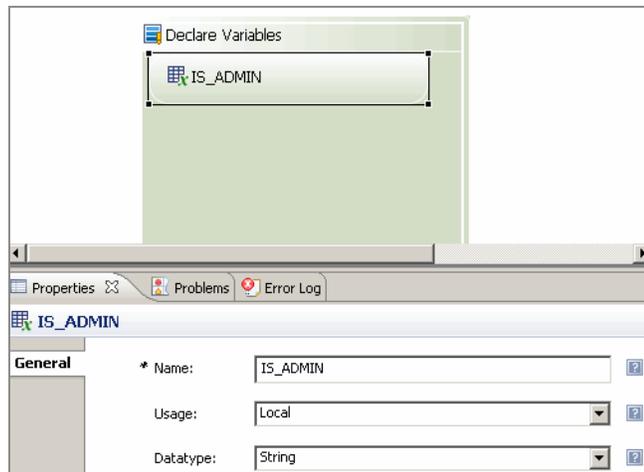


# Declaring Variables

First, declare a **Data-type** variable to check for the current user role.

## Procedure

1. In the Palette, click the  **Data-type** icon in the **Declare Variables** section and then click in the **Declare Variables** compartment to add the variable.
2. Provide the following details for the variable in the **Properties** Window:
  - Name as **IS\_ADMIN**
  - Usage as **Local**
  - Datatype as **String**



## Add Constraints

In this section, the following constraints are added:

- [Adding Constraint for Gender Selection](#)
- [Adding Constraint to generate Customer ID](#)
- [Adding Constraint for Mandatory Attributes Check](#)
- [Adding Constraint to Get Current User Role](#)
- [Adding Constraint to Hide Maiden Name for Male Customers](#)
- [Adding Constraint to Generate Preferred Name](#)
- [Adding Constraint to Ensure Date of Birth is Less than the Current Date](#)
- [Add Constraints to Create a Dependent Drop-down](#)
- [Adding Constraint to assign values to Country](#)
- [Adding Constraint to Populate US States](#)

# Adding Constraint for Gender Selection

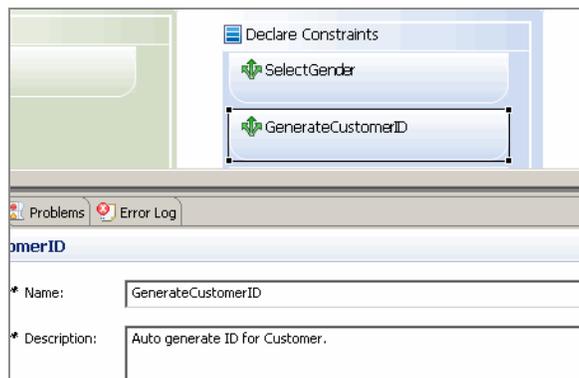
## Procedure

1. In the Palette, click the **Constraint** icon in the **Declare Constraint** section and then click the **Declare Constraints** compartment to add the constraint.
2. Provide the following details for the constraint in the **Properties** window:
  - Name as **SelectGender**.
  - Description as **Select the Gender**.
  - In the Use for variables section, select the **Gender** checkbox.
3. Double click the **SelectGender** constraint to open up the Expression Editor.
4. From the **Actions** Palette, click the  **Select Action** icon and then click in the **Actions** compartment to insert it. Provide the following properties:
  - Name as **ActionName**
  - No value as **Default**
  - Select Type as **Enum**
  - In the **Attributes** section, click the **Add** icon to add two literals: **Male** and **Female**.

## Adding Constraint to generate Customer ID

### Procedure

1. In the Palette, click the **Constraint** icon in the **Declare Constraint** section and then click the **Declare Constraints** compartment to add the constraint.
2. Provide the following details for the constraint in the **Properties** window:
  - Name as **GenerateCustomerID**
  - Description as **Auto generate ID for Customer.**

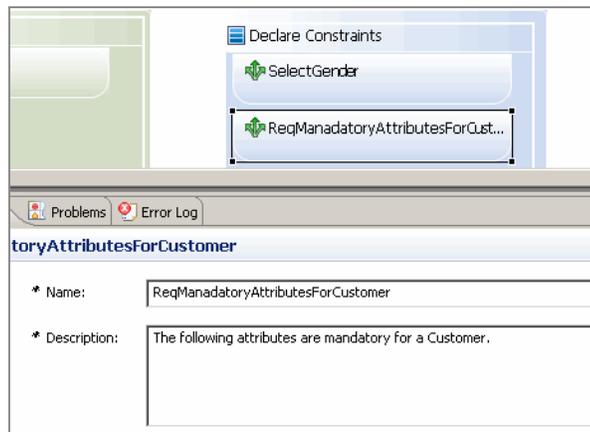


3. Double click the **GenerateCustomerID** constraint to open up the Expression Editor.
4. From the **Actions** Palette, click the  **Assign Action** icon and then click in the **Actions** compartment to insert it. Provide the following properties:
  - Name as **ActionName**
  - Select **PRODUCTID** from the **Assign** drop-down.
  - In the Expression Editor, enter the following: **sequence('MQ\_SEQUENCE\_1')**

## Adding Constraint for Mandatory Attributes Check

### Procedure

1. In the Palette, click the **Constraint** icon in the **Declare Constraint** section and then click in the **Declare Constraints** compartment to add the constraint.
2. Provide the following details for the constraint in the **Properties** window:
  - Name as **ReqManadatoryAttributesForCustomer**.
  - Description as **The following attributes are mandatory for a Customer**.
  - In the Use for variables section, select the **FirstName** and **LastName** checkbox.



3. Double click the **ReqManadatoryAttributesForCustomer** constraint to open up the Expression Editor.
4. From the **Actions** Palette, click the  **Check** **Check Action** icon and then click in the **Actions** compartment to insert it. Provide the following properties:
  - Explanation as **FirstName and LastName are mandatory fields**.
  - Expression as **defined(useforvars)**

The screenshot displays the TIBCO MDM Studio Rulebase Designer interface. At the top, a rule structure is visible with an 'If' condition leading to a decision diamond, which then branches into a 'Then' clause. This 'Then' clause is linked to an 'Actions' panel containing a 'Check' action, represented by a green box with a checkmark icon.

Below the rule diagram, there is a configuration panel for the 'Check' action. It includes the following fields:

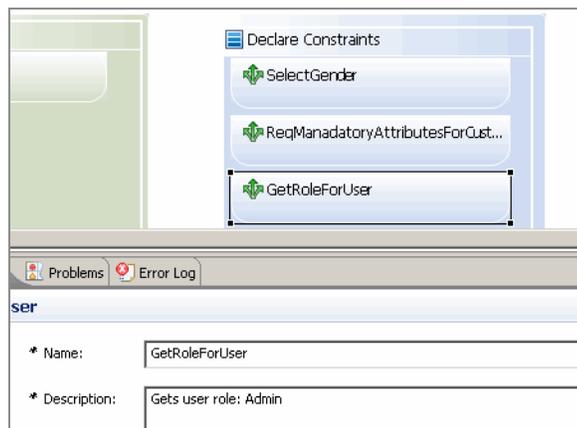
- Name:** Check
- Explanation:** FirstName and LastName are mandatory fields.
- Information:** (Empty field)
- Expression:** *defined,useforvars*

The interface also features a 'Problems' and 'Error Log' tab at the top of the configuration area.

## Adding Constraint to Get Current User Role

### Procedure

1. In the Palette, click the **Constraint** icon in the **Declare Constraint** section and then click in the **Declare Constraints** compartment to add the constraint.
2. Provide the following details for the constraint in the **Properties** window:
  - Name as **GetRoleForUser**.
  - Description as **Gets user role: Admin**.

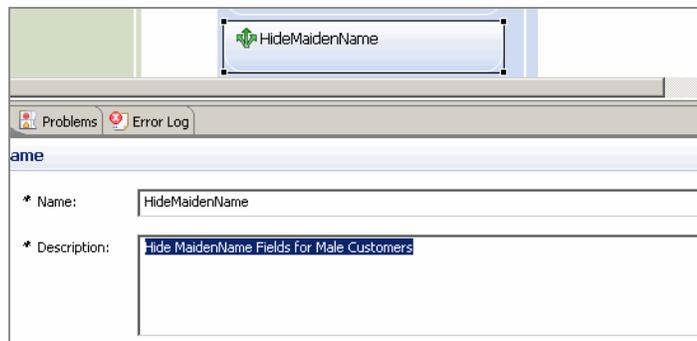


3. Double click the **GetRoleForUser** constraint to open up the Expression Editor.
4. From the **Actions** Palette, click the **Assign** **Assign Action** icon and then click in the **Actions** compartment to insert it. Provide the following properties:
  - Name as **Assign**
  - Select **IS\_ADMIN** from the **Assign** drop-down

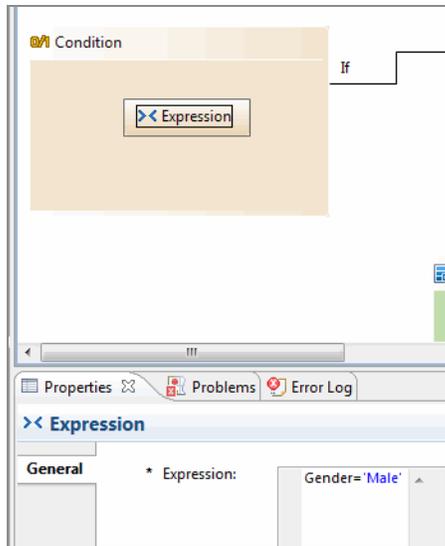
## Adding Constraint to Hide MaidenName for Male Customers

### Procedure

1. In the Palette, click the **Constraint** icon in the **Declare Constraint** section and then click the **Declare Constraints** compartment to add the constraint.
2. Provide the following details for the constraint in the **Properties** window:
  - Name as **HideMaidenName**.
  - Description as **Hide MaidenName Fields for Male Customers**.
  - In the Use for variables section, select the **MaidenName** checkbox.



3. Double click the **HideMaidenName** constraint to open up the Expression Editor.
4. From the **Condition Expression** Palette, click the **Expression** icon and then click in the **Condition** compartment to insert it.
5. In the Expression Properties, provide **Gender = 'Male'**



6. From the **Actions** Palette, click the  **Access Action** icon and then click in the **Actions** compartment to insert it. Provide the following properties:
- Name as **Access**
  - Mode as **Hide**
  - Applies To as **Use for Vars**

## Adding Constraint to Generate PreferredName

### Procedure

1. In the Palette, click the **Constraint** icon in the **Declare Constraint** section and then click the **Declare Constraints** compartment to add the constraint.
2. Provide the following details for the constraint in the **Properties** window:
  - Name as **AssignPreferredName**.
  - Description as **Build Preferred name if not entered**.
3. Double click the **AssignPreferredName** constraint to open up the Expression Editor.
4. From the **Condition Expression** Palette, click the **Expression** icon and then click in the **Condition** compartment to insert it.
5. In the Expression Properties, provide **undefined(PreferredName)**.
6. From the **Actions** Palette, click the  **Assign Action** icon and then click in the **Actions** compartment to insert it. Provide the following properties:
  - Name as **ActionName**
  - Select PreferredName from the Assign dropdown.
  - In the Expression Editor, enter the following: **concat(FirstName, '\_', LastName)**

## Adding Constraint to Ensure Date of Birth is Less than the Current Date

### Procedure

1. In the Palette, click the **Constraint** icon in the **Declare Constraint** section and then click the **Declare Constraints** compartment to add the constraint.
2. Provide the following details for the constraint in the **Properties** window:
  - Name as **DOBCheck**.
  - Description as **Check for date of birth**.
3. Double click the **DOBCheck** constraint to open up the Expression Editor.
4. From the **Actions** Palette, click the  **Check Action** icon and then click in the **Actions** compartment to insert it. Provide the following properties:
  - Explanation as **DateofBirth check (not greater than current date)**.
  - Expressions as `DateOfBirth < SESSION.DATE`.

## Add Constraints to Create a Dependent Drop-down

This is to create a dependent drop-down listing the States depending on the Country. For example, if country is selected as US, the States drop-down is populated with US States.

Three constraints are used to achieve this.

To create a dependent drop-down, create a new rulebase model on Address repository. For more information on how to create rulebase model, refer to [Creating Rulebase Model](#).

## Adding Constraint to assign values to Country

### Procedure

1. In the Palette, click the **Constraint** icon in the **Declare Constraint** section and then click in the **Declare Constraints** compartment to add the constraint.
  - Name as **AssigningValuesToCountry**.
  - Description as **Assigning Values to Country**.
  - In the Use for variables section, select the **Country** checkbox.
2. Double click the **AssigningValuesToCountry** constraint to open up the Expression Editor.
3. From the **Actions** Palette, click the  **Select Action** icon and then click in the **Actions** compartment to insert it. Provide the following properties:
  - No value as **No**.
  - Select Type as **Enum**.
  - Column as **1**.
  - Select the **Header** checkbox.
  - In the Attributes section, click the Add icon to add the following attributes: **Country Name, US, UK, India**.

# Adding Constraint to Populate US States

## Procedure

1. In the Palette, click the **Constraint** icon in the **Declare Constraint** section and then click in the **Declare Constraints** compartment to add the constraint.
  - Name as **USStates**.
  - Description as **Dependent drop-down for state if country US**.
  - In the Use for variables section, select the **AddressState** checkbox.
2. Double click the **USStates** constraint to open up the Expression Editor.
3. From the **Condition Expression** Palette, click the **Expression** icon and then click in the **Condition** compartment to insert it.
4. In the Expression Properties, provide **Country='US'**
5. From the **Actions** Palette, click the  **Select Action** icon and then click in the **Actions** compartment to insert it. Provide the following properties:
  - No value as **No**.
  - Select Type as **Enum**.
  - Column as **1**.
  - Select the **Header** checkbox.
  - In the Attributes section, click the Add icon to add the following attributes: **State, California, New Jersey, Texas**.



**Note:** Only 3 states are added as an example. The whole list of states can be populated by providing the names as attributes.

## Deploy the Rulebase Model

The created Rulebase model can be directly deployed to TIBCO MDM.

For deployment steps, see the **Deployment** chapter in the TIBCO MDM Studio *Rulebase Designer User Guide*.

# 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 Studio 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](#).

# Legal and Third-Party Notices

---

SOME CLOUD SOFTWARE GROUP, INC. (“CLOUD SG”) SOFTWARE AND CLOUD SERVICES EMBED, BUNDLE, OR OTHERWISE INCLUDE OTHER SOFTWARE, INCLUDING OTHER CLOUD SG SOFTWARE (COLLECTIVELY, “INCLUDED SOFTWARE”). USE OF INCLUDED SOFTWARE IS SOLELY TO ENABLE THE FUNCTIONALITY (OR PROVIDE LIMITED ADD-ON FUNCTIONALITY) OF THE LICENSED CLOUD SG SOFTWARE AND/OR CLOUD SERVICES. THE INCLUDED SOFTWARE IS NOT LICENSED TO BE USED OR ACCESSED BY ANY OTHER CLOUD SG SOFTWARE AND/OR CLOUD SERVICES OR FOR ANY OTHER PURPOSE.

USE OF CLOUD SG SOFTWARE AND CLOUD SERVICES IS SUBJECT TO THE TERMS AND CONDITIONS OF AN AGREEMENT FOUND IN EITHER A SEPARATELY EXECUTED AGREEMENT, OR, IF THERE IS NO SUCH SEPARATE AGREEMENT, THE CLICKWRAP END USER AGREEMENT WHICH IS DISPLAYED WHEN ACCESSING, DOWNLOADING, OR INSTALLING THE SOFTWARE OR CLOUD SERVICES (AND WHICH IS DUPLICATED IN THE LICENSE FILE) OR IF THERE IS NO SUCH LICENSE AGREEMENT OR CLICKWRAP END USER AGREEMENT, THE LICENSE(S) LOCATED IN THE “LICENSE” FILE(S) OF THE SOFTWARE. USE OF THIS DOCUMENT IS SUBJECT TO THOSE SAME TERMS AND CONDITIONS, AND YOUR USE HEREOF SHALL CONSTITUTE ACCEPTANCE OF AND AN AGREEMENT TO BE BOUND BY THE SAME.

This document is subject to U.S. and international copyright laws and treaties. No part of this document may be reproduced in any form without the written authorization of Cloud Software Group, Inc.

TIBCO, the TIBCO logo, the TIBCO O logo, BusinessConnect, ActiveMatrix BusinessWorks, and Enterprise Message Service are either registered trademarks or trademarks of Cloud Software Group, Inc. in the United States and/or other countries.

All other product and company names and marks mentioned in this document are the property of their respective owners and are mentioned for identification purposes only. You acknowledge that all rights to these third party marks are the exclusive property of their respective owners. Please refer to Cloud SG’s Third Party Trademark Notices (<https://www.cloud.com/legal>) for more information.

This document includes fonts that are licensed under the SIL Open Font License, Version 1.1, which is available at: <https://scripts.sil.org/OFL>

Copyright (c) Paul D. Hunt, with Reserved Font Name Source Sans Pro and Source Code Pro.

Cloud SG software may be available on multiple operating systems. However, not all operating system platforms for a specific software version are released at the same time. See the “readme” file for the availability of a specific version of Cloud SG software on a specific operating system platform.

THIS DOCUMENT IS PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

THIS DOCUMENT COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THIS DOCUMENT. CLOUD SG MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S), THE PROGRAM(S), AND/OR THE SERVICES DESCRIBED IN THIS DOCUMENT AT ANY TIME WITHOUT NOTICE.

THE CONTENTS OF THIS DOCUMENT MAY BE MODIFIED AND/OR QUALIFIED, DIRECTLY OR INDIRECTLY, BY OTHER DOCUMENTATION WHICH ACCOMPANIES THIS SOFTWARE, INCLUDING BUT NOT LIMITED TO ANY RELEASE NOTES AND "README" FILES.

This and other products of Cloud SG may be covered by registered patents. For details, please refer to the Virtual Patent Marking document located at <https://www.cloud.com/legal>.

Copyright © 2007-2024. Cloud Software Group, Inc. All Rights Reserved.