



Transformation Manager

Version 5.2

Tutorial 12 - Mode and Priority



Copyright Notice

All information contained in this document is the property of ETL Solutions Limited. The information contained in this document is subject to change without notice and does not constitute a commitment on the part of ETL Solutions Limited. No part of this document may be reproduced in any manner, including storage in a retrieval system, transmission via electronic means or other reproduction medium or method (electronic, mechanical, photocopying, recording or otherwise) without the prior written permission of ETL Solutions Limited.

© 2013 ETL Solutions Limited. All rights reserved.

All trademarks mentioned herein belong to their respective owners.

Table of Contents

Tutorial 12	1
Mode and Priority	1
Prerequisites	1
Concepts	1
Information.....	1
Learning Objectives	2
Using the Mode property for a transform.....	2
Using the Priority property for a transform	2
Exercise 1 - Start Transformation Manager and open the repository	3
Exercise 2 - Create the Mode Project	3
Exercise 3 - Add the Author Relationship to BasicBooksAuthors.....	4
Exercise 4 - Create the Independent Transform for the Mode Project	6
Exercise 5 - Create the First Dependent Mode Transform	7
Exercise 6 - Create the Second Dependent Mode Transform	9
Exercise 7 - Build your Mode Project	10
Exercise 8 - Run the Project.....	11
Exercise 9 - View the Target Data	13
Exercise 10 - Create the Priority Project.....	17
Exercise 11 - Create the First Independent Transform for the Priority Project.....	18
Exercise 12 - Create the Second Independent Transform for the Priority Project.....	20
Exercise 13 - Build your Priority Project.....	21
Exercise 14 - Run the Project	22
Exercise 15 - View the Target Data	25
Exercise 16 - Update the Transform Priority Properties	28
Exercise 17 - Build your Priority Project.....	29
Exercise 18 - Run the Project	29
Exercise 19 - View the Target Data	32

Tutorial 12

Mode and Priority

This tutorial demonstrates the use of the mode and priority properties in transforms. When you have a map between a source element and target element, but want to use it in two differing circumstances and set different values, you can create multiple maps between the same source and target elements, and use MODE to differentiate them. The priority property provides a mechanism to order the sequence for executing independent transforms in a project.

Prerequisites

Before starting this tutorial we recommend that you have completed the following tasks.

- 1) Transformation Manager has been installed.
- 2) An appropriate license has been installed.
- 3) The tutorial resources including data models, samples and source and target data stores have been downloaded and extracted to your Transformation Manager home directory.
- 4) You have completed tutorials 1, 2, 3 and 4.

Concepts

The idea of updating a source and target element more than once in the same project is straightforward to understand. It is a common requirement and supported by use of the mode property on a transform. This lets you update the elements more than once and a calling transform will let you manage the order in which the mode based transforms are executed.

The priority provides a mechanism by which independent transforms can be ordered. A typical example may be in populating a relational database where table A needs to be populated before table B.

Information

This tutorial creates a Mode based project and a Priority based project.

In the first project we will create an independent transform and two dependent transforms with a mode specified on both. These will update the source and target elements with the appropriate writer and ghost writer information. We will create one map from AUTHOR to WRITER as the Main map moving the standard information and providing control over our dependent transforms. Then we will add a map between the same elements to create a ghost writer for each author to satisfy a target requirement. We can create a second map between AUTHOR and WRITER with mode set to GHOST, enabling a new dependent transform to be created with identical source and target elements but different mapping details, with initial always set to "A" and Surname set to "Ghost_" plus the surname.

The tutorial will also use the PUSHMODE() function. This is used to push the given mode value into the transform cascade stack specifying the transform Mode for a given cascade call.

The second project demonstrates the use of the priority property on a transform. In this project the exchange rates need to populate the COUNTRY table before populating the WRITERS table which is

using the COUNTRY table as a lookup in the link COUNTRY.!CODE :=. Maps with a higher priority are run first, hence 10 will run before 5. So, we set the Author to WRITER transform to 10 and Exchange_Rate to COUNTRY to 5. By running them in this order the COUNTRY will be populated too late for the writer to use it as a lookup. Hence the COUNTRY_RESIDENCE_CODE will NOT be set.

Now we will update the priority for this project. We will set the Author to WRITER transform to 5 and Exchange_Rate to COUNTRY to 10. By running them in this order the COUNTRY will be populated before the writer needs to use it as a lookup. Hence the COUNTRY_RESIDENCE_CODE will be set.

Learning Objectives

Using the Mode property for a transform

You will learn how to use the transform property, mode, so that more than one transform can be used to transform data between the same source and target element.

Using the Priority property for a transform

You will learn how to use the priority property of a transform to order the execution of independent transforms in a project.

Exercise 1 - Start Transformation Manager and open the repository

This exercise will start Transformation Manager and open the tutorials repository ready to create a new project.

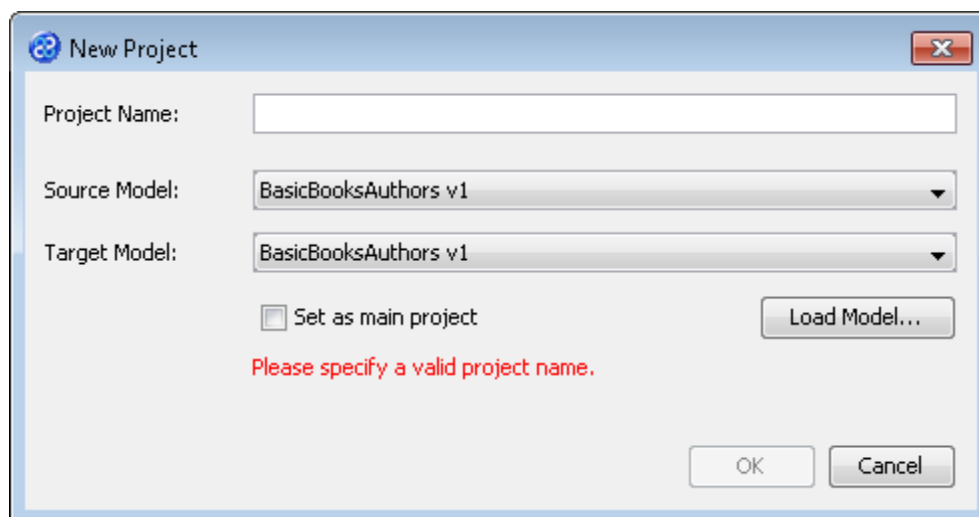


- 1) Looking at your desktop, find the icon that looks like this,
- 2) Then you have two options.
 - a) Using your mouse double-click the icon using the primary mouse button.
 - b) Using your mouse press the secondary mouse button, commonly the right-mouse button, while the cursor is over the icon. This will open the pop-up menu and then select **Open** from the available options.
- 3) Once Transformation Manager has opened and displays its interface connect to your repository, **MyExamples**.

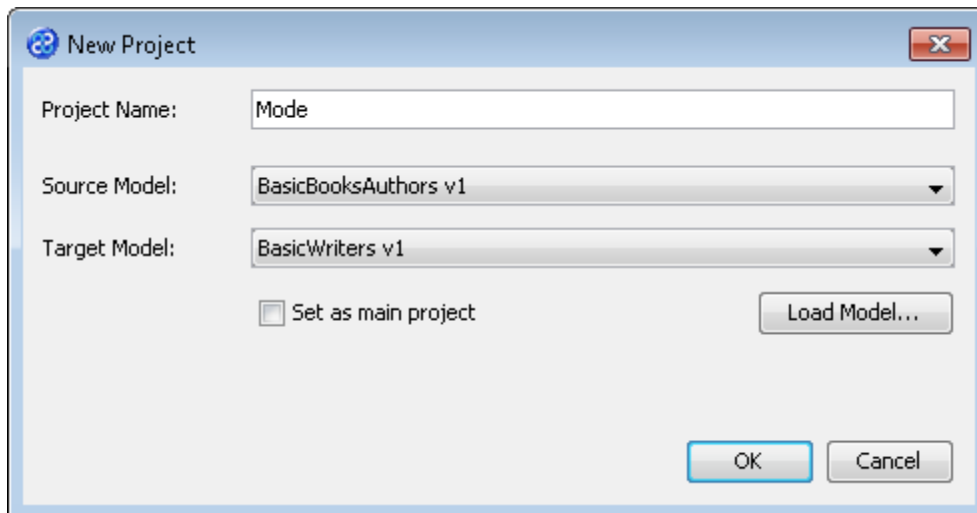
Exercise 2 - Create the Mode Project


This exercise creates a new project where we will use a data model created from an Excel file and a Derby relational database data model. The source data model will be **BasicBooksAuthors v1** and the target data model **BasicWriters v1**. This initial transform will be used to control execution of the dependent transforms using the PUSHMODE() function.

- 1) Using your mouse click on the **File** option from the menu bar of TM Designer.
- 2) From the menu, click once on the **New Project...** option.
- 3) The **New Project** window will open.



- 4) In the **Project Name** field we will provide a name for the project. Let's call our project **Mode** by typing the name into the field.
- 5) Now we must select the target and source models for our project. In the **Source Model** field select **BasicBooksAuthors v1** from the list. In the **Target Model** field select **BasicWriters v1**.

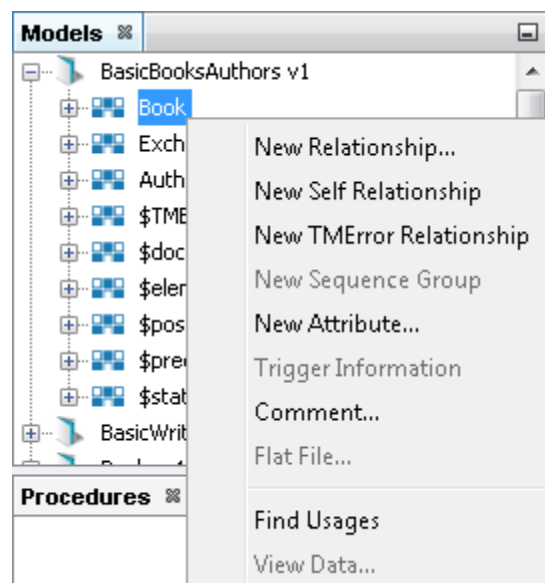


- 6) Now click once on the  button. Your project will be created and be displayed in the **Projects** pane.

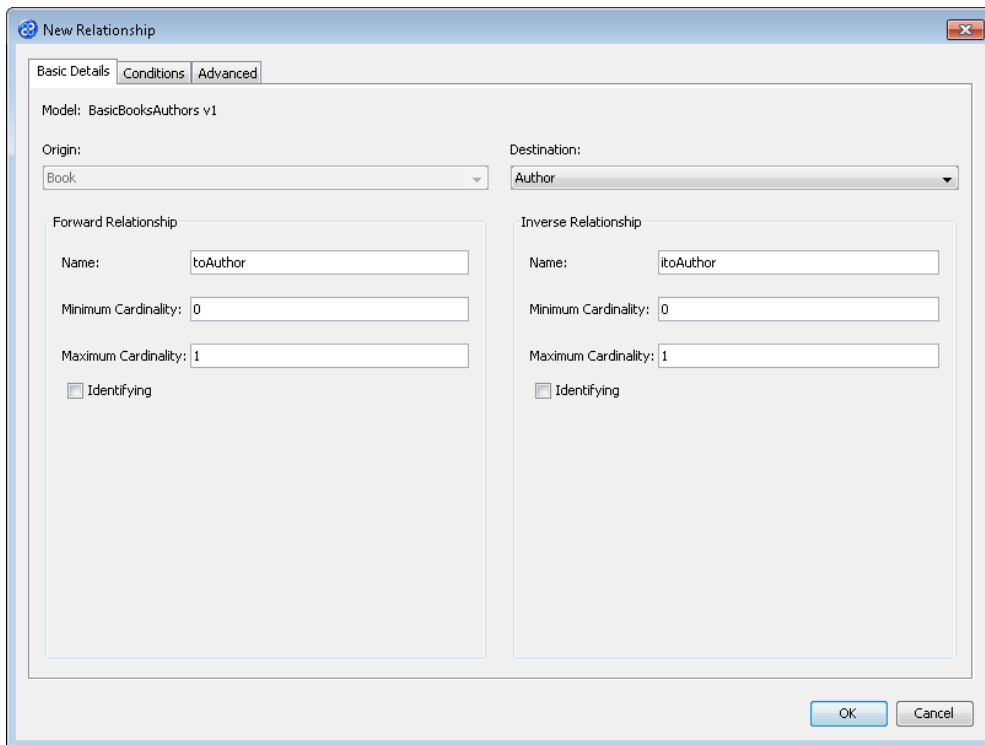
Exercise 3 - Add the Author Relationship to BasicBooksAuthors

This project requires that we identify how books and authors are linked in the data model. We will therefore need to create a new relationship in the source data model.

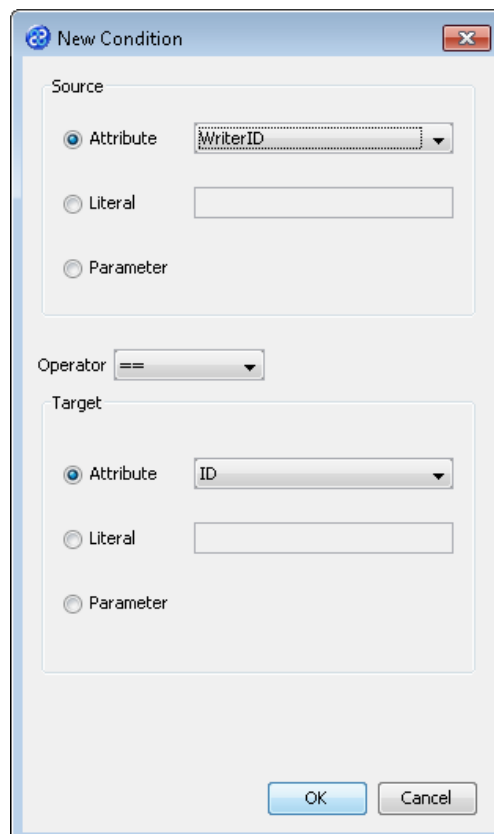
- 1) Use the right or secondary mouse button to click on the Book element in the BasicBooksAuthors v1 data model to display the element context menu as shown below.

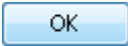
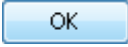


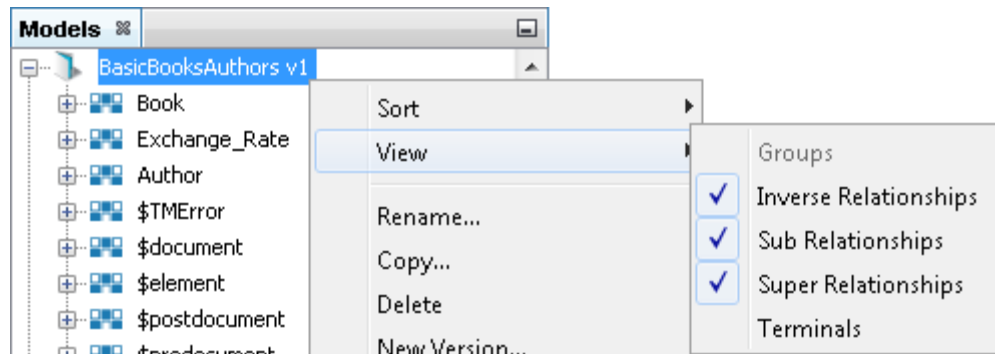
- 2) Click on the **New Relationship...** option to open the **New Relationship** dialog. There are three tabs in the window but we will only require the first two, **Basic Details** and **Conditions**.
- 3) Set the Destination element from the drop down list to **Author**.
- 4) Now let's give the **Forward Relationship** a name calling it **toAuthor** and the **Inverse Relationship** a name calling it **itoAuthor**. This will complete the **Basic Details** tab as shown below.



- 5) Click on the Conditions tab label to display the Conditions tab.
- 6) Click once on the button. This will open the New Condition window.
- 7) Set the **Source** value to **WriterID** and the **Target Attribute** value to **ID** ensuring that the attribute radio button is selected for both.
- 8) Check that the **Operator** is set to **==**. The **New Condition** window should look like the one below.



- 9) Click once on the  button to save the condition and return to the **New Relationship** window.
- 10) Click once on the  button to close the New Relationship window and create the relationship in the data model.
- 11) Right or secondary mouse click on the data model, BasicBooksAuthors v1, in the Models pane to display the context menu as shown below and select the View Inverse Relationships option. A tick will appear next to the option after it has been selected.

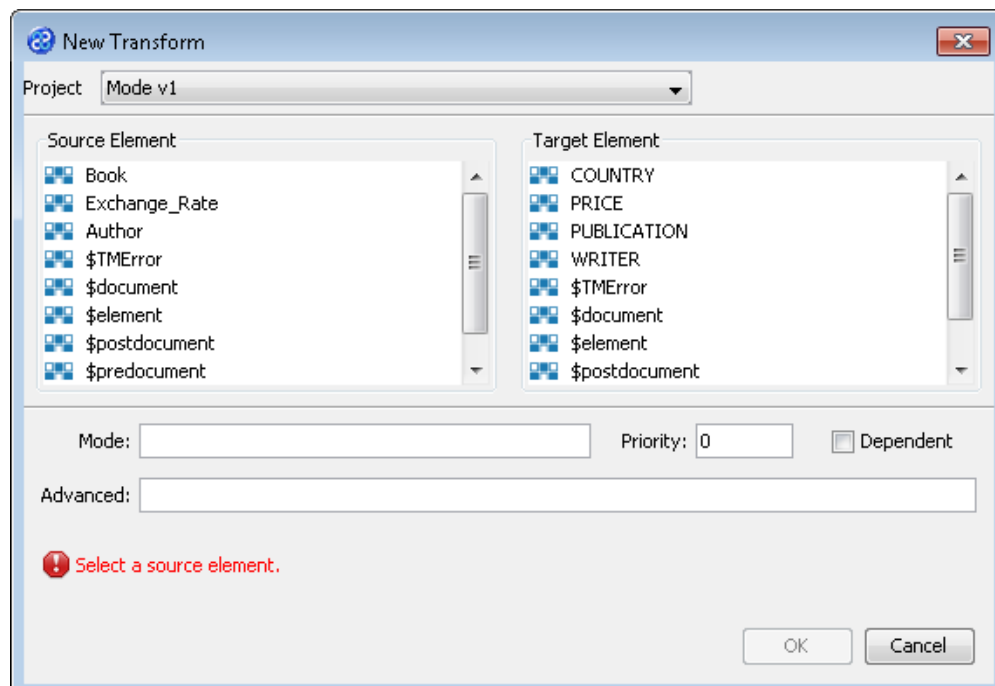


- 12) Expand the Author element and you will see the **itoAuthor** relationship displayed in the data model.

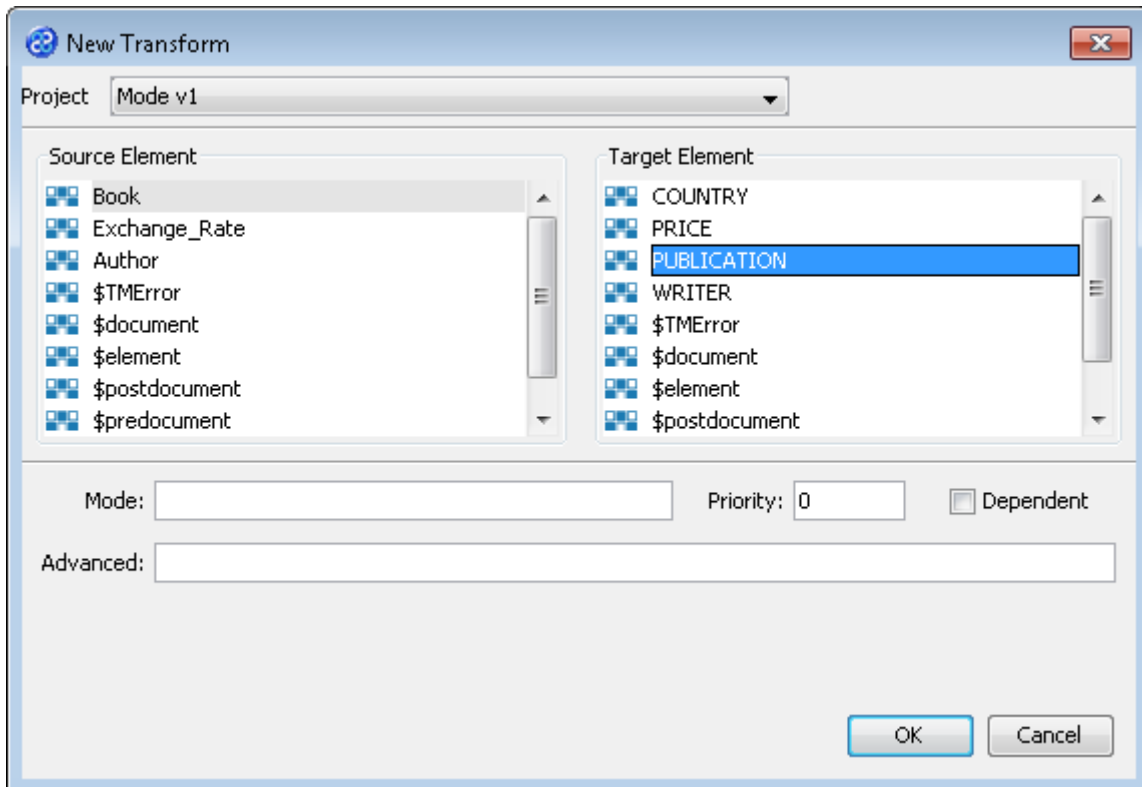
Exercise 4 - Create the Independent Transform for the Mode Project

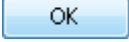
This exercise creates our transform.

- 1) Click once on the **File** menu bar option.
- 2) Click once on the **New Transform...** option from the sub-menu.
- 3) This will open the **New Transform** window. Ensure that you have the correct project selected in the **Project** drop down list, in our case this will be **Mode v1**.



- 4) With the **New Transform** window open, we will select the elements for the source and target. In this case the source element will be **Book** and the target element will be **PUBLICATION**. The **New Transform** window will look like the one below.



- 5) Click once on the  button to create your new transform.
- 6) The Editor pane will open ready for you to write your transform code once the **New Transform** is created.
- 7) Now we will write our transform as shown below. The dependent transforms both require transform code to make use of the PUSHMODE code for 'Main' and 'Ghost' as you can see below. The two transform statements at the top of the code simply assign the respective attributes in the standard way. If you build this transform you will receive an error because we have not yet defined our dependent transforms.

```
CATNUM := Catnum;
NAME := Title;

WRITER := toAuthor[1]+PUSHMODE('Main');
WRITER := toAuthor[1]+PUSHMODE('Ghost');
```

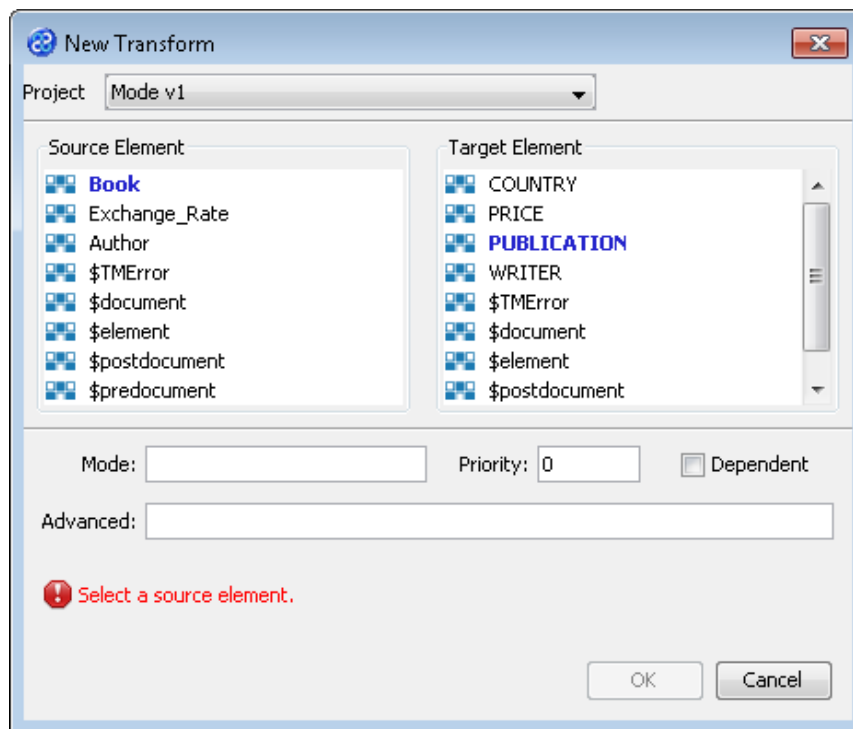
- 8) Click once on the **File** menu bar option.
- 9) Click once on the **Save** menu bar option to save your transform.

Exercise 5 - Create the First Dependent Mode Transform

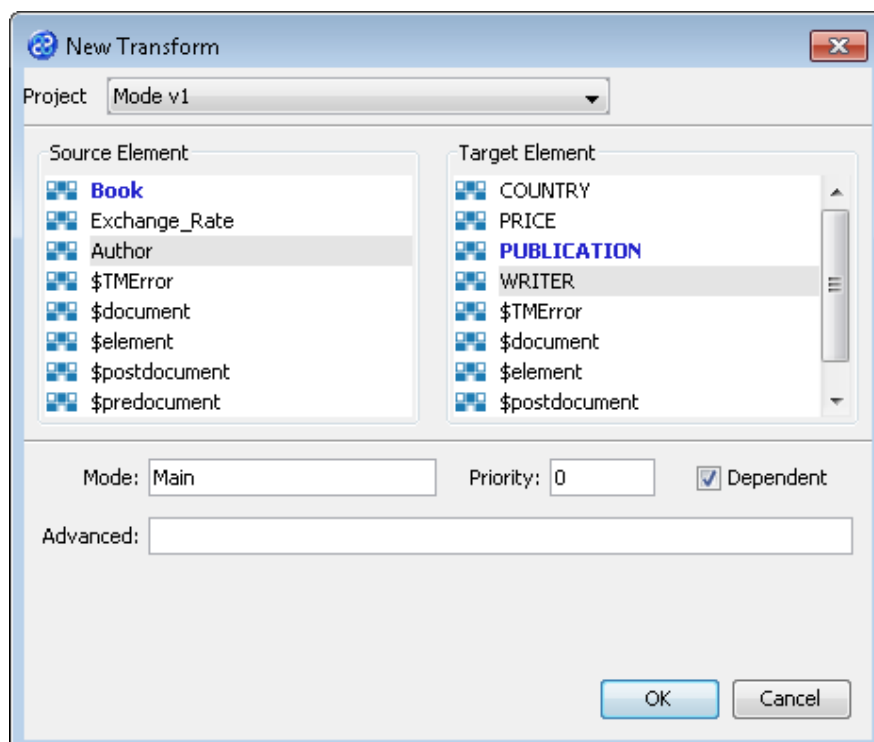
This exercise creates our first dependent transform which will use the mode value 'Main' which is called from the preceding transform created in exercise 3.

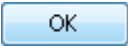
- 1) Click once on the **File** menu bar option.

- 2) Click once on the **New Transform...** option from the sub-menu.
- 3) This will open the **New Transform** window. Ensure that you have the correct project selected in the **Project** drop down list, in our case this will be **Mode v1**.



- 4) With the **New Transform** window open, we will select the elements for the source and target. In this case the source element will be **Author** and the target element will be **WRITER**. This transform is a dependent transform therefore we must place a tick in the **Dependent** tick box. As described previously this transform also needs to have a mode so we will type **Main** into the **Mode** field in the transform window. The **New Transform** window will look like the one below.



- 5) Click once on the  button to create your new transform.
- 6) The Editor pane will open ready for you to write your transform code once the **New Transform** is created.
- 7) Now we will write our transform as shown below. We will substring the NAME attribute to get the initial.

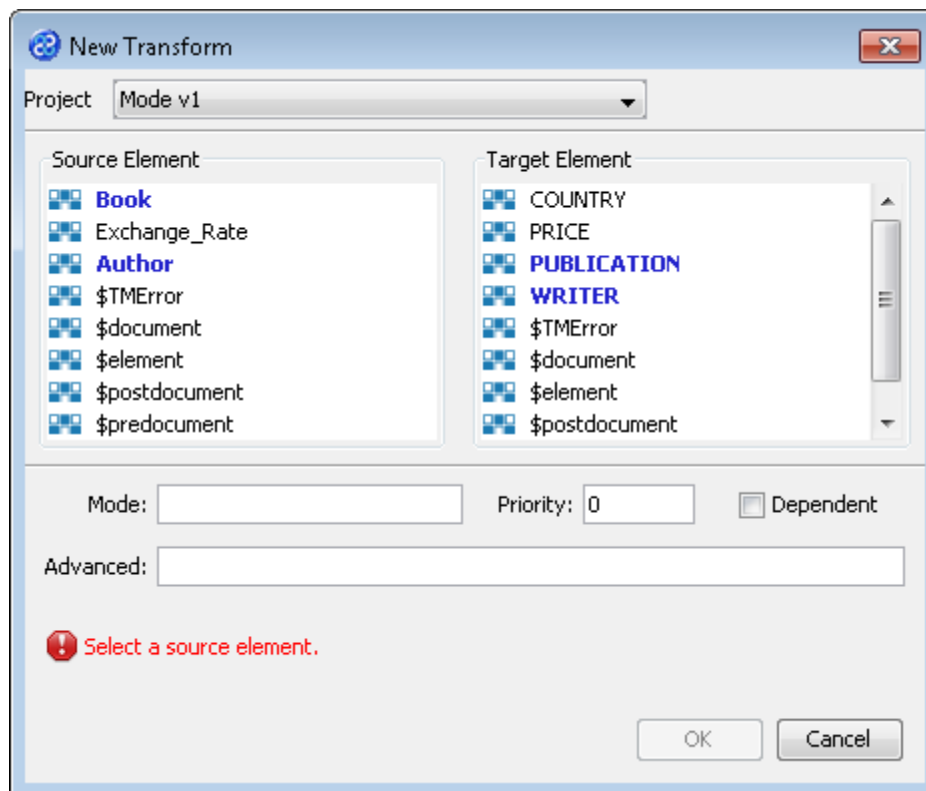
```
<ID> := <ID>;
FIRST_INITIAL := SUBSTRING(Name,1,2);
NAME := Surname;
```

- 8) Click once on the **File** menu bar option.
- 9) Click once on the **Save** menu bar option to save your transform.

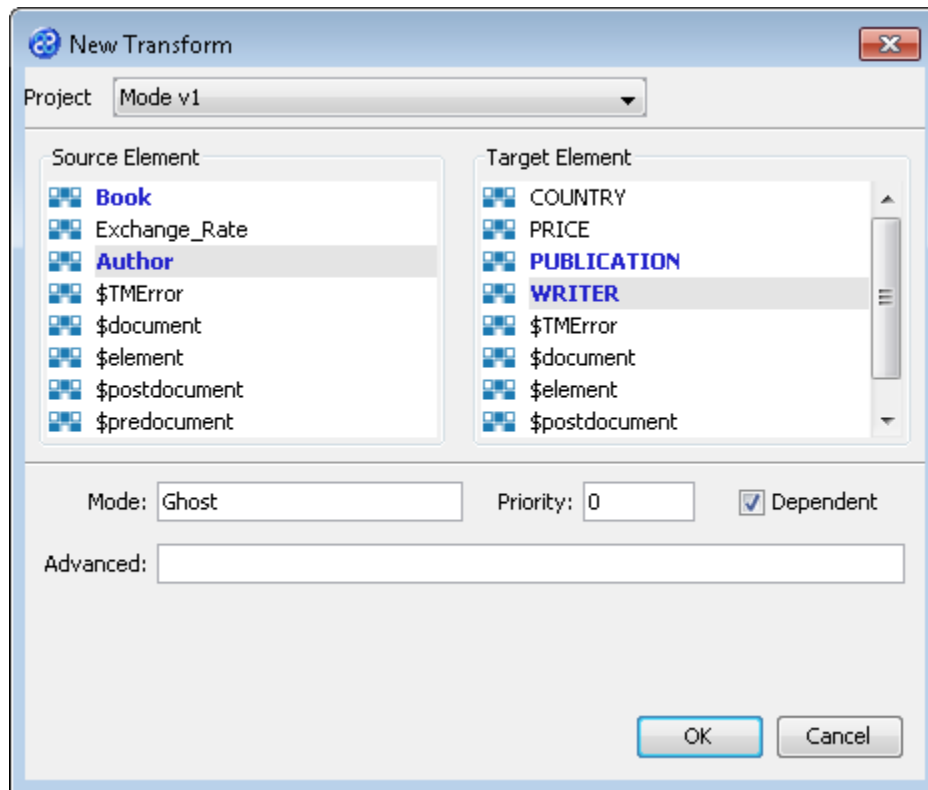
Exercise 6 - Create the Second Dependent Mode Transform

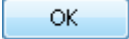
This exercise creates our transform.

- 1) Click once on the **File** menu bar option.
- 2) Click once on the **New Transform...** option from the sub-menu.
- 3) This will open the **New Transform** window. Ensure that you have the correct project selected in the **Project** drop down list, in our case this will be **Mode v1**.



- 4) With the **New Transform** window open, we will select the elements for the source and target. These will be **AUTHOR** and **WRITER** as used in the first dependent transform. This time the mode value will be **Ghost**. The **New Transform** window will look like the one below.



- 5) Click once on the  button to create your new transform.
- 6) The Editor pane will open ready for you to write your transform code once the **New Transform** is created.
- 7) Now we will write our transform as shown below.

```

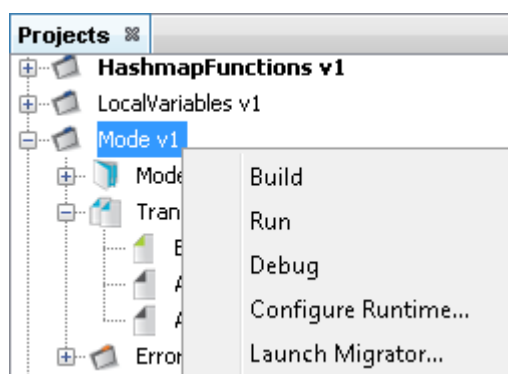
<ID> := <ID>+10000;
FIRST_INITIAL := SUBSTRING(Name,1,2);
NAME := 'Ghost_' & Surname;
```

- 8) Click once on the **File** menu bar option.
- 9) Click once on the **Save** menu bar option to save your transform.

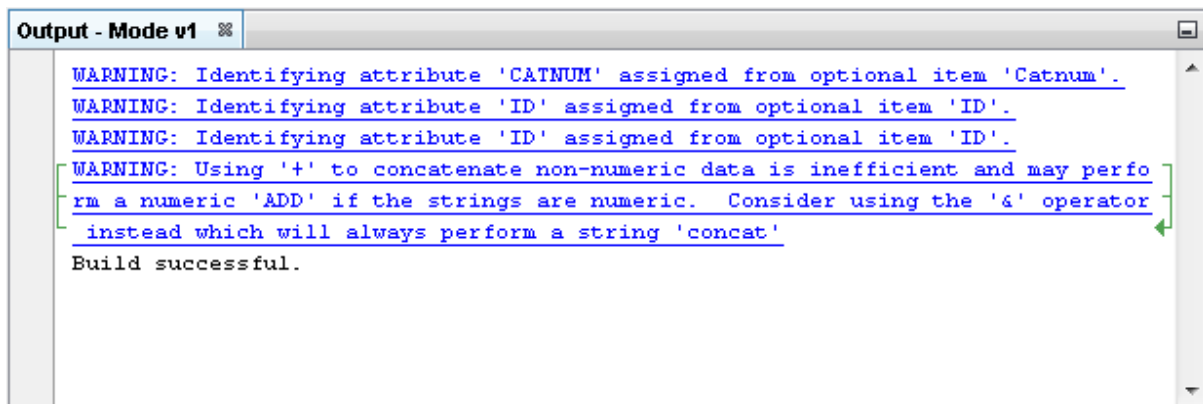
Exercise 7 - Build your Mode Project

Now we will build our project, that is the independent and dependent transforms together.

- 1) Move your mouse pointer so that it is over the title of the project you are working on and use the right mouse or secondary mouse button to display the context menu.



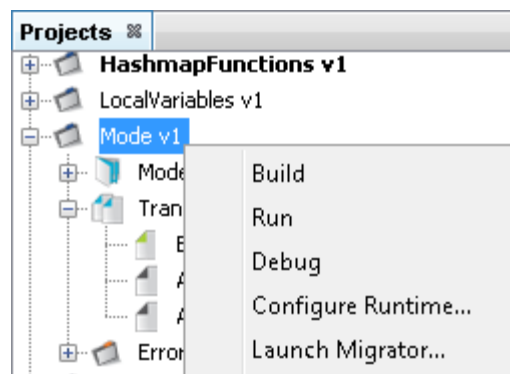
- 2) Click once on the **Build** option from the menu.
- 3) The **Output** pane will open and show you if there are any errors in your transform code. In this exercise you should not have any error messages and you should see a message stating **Build successful**.



Exercise 8 - Run the Project

Now let's Run our transformation to see what results are produced.


- 1) Move your mouse pointer so that it is over the title of the project you are working on and use the right mouse or secondary mouse button to display the context menu.



- 2) Click the **Run** option from the menu. TM Designer will now open the New Project Configuration window where you will set the connection information for the project.

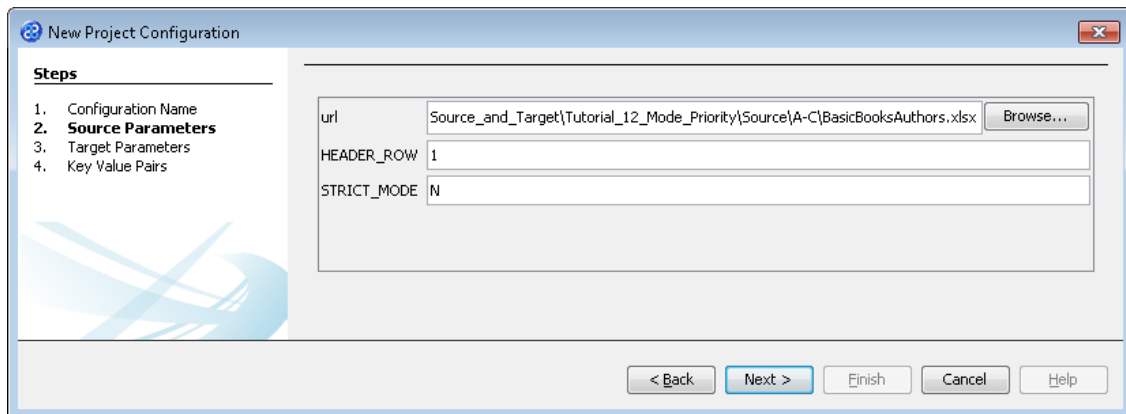


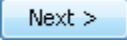
- 3) Let's give this configuration the name Config1. Type **Config1** into the **Name** field.

- 4) Click the  button to move to **Step 2. Source Parameters** where we will provide the details for the source data store connection.
- 5) Go to the **url** field. In this field we will specify the location of the target data store.
- 6) You can type the path and file name manually or you can use the button to select the directory and file. This will be in the following directory.

[TMHOME]\Tutorials\Source_and_Target\Tutorial_12_Mode_Priority\Source\A-C

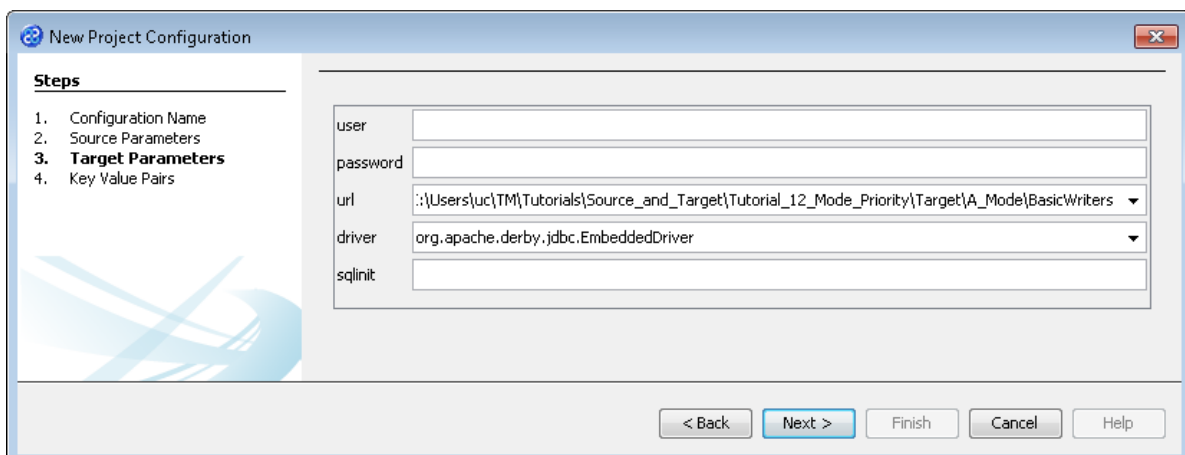
- 7) The **Source Parameters** step should look similar to the image below.



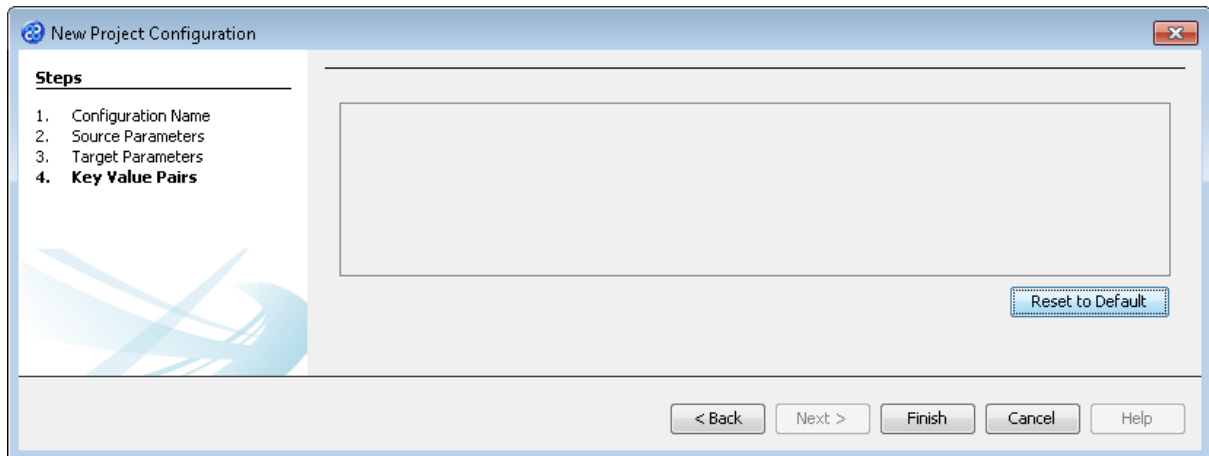
- 8) Click the  button to move to **Step 3. Target Parameters** where we will provide the details for the target data store connection.
- 9) Go to the **url** field. You will now need to provide the details of where to go to connect to the source data. View the list of options and select the option called **jdbc:derby:<YOUR_NAME>** from the drop down list. Now replace the <YOUR_NAME> part of the list item, including the angle brackets with the directory where the Derby database is stored. This will be in the following location.

[TMHOME]\Tutorials\Source_and_Target\Tutorial_12_Mode_Priority\Target\A_Mode\BasicWriters

- 10) Go to the driver field and display the list of options available. Select the option called **org.apache.derby.jdbc.EmbeddedDriver**. The New Project Configuration window will look similar to the image below. **user**, **password** and **sqlinit** do not require values.
- 11) The **Target Parameters** step should look similar to the image below.

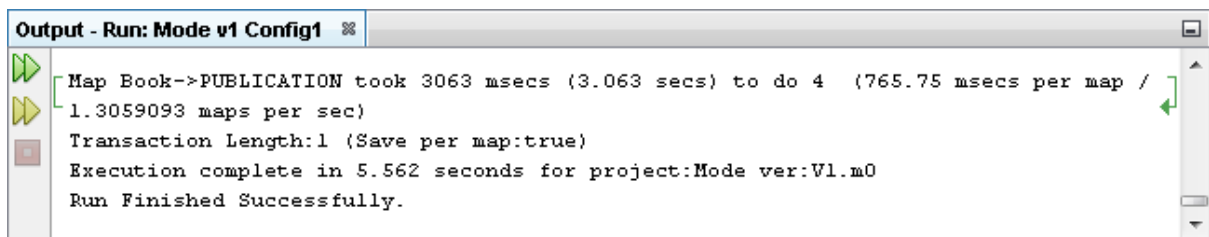


- 12) Click the **Next >** button to move to **Step 4. Key Value Pairs**. We do not need to specify any key value pairs in this exercise.



- 13) Click the **Finish** button to save the project configuration and to run the project within TM Designer. This performs the same execution as the **Launch Migrator...** option from the project context menu.

- 14) TM Designer will open the Output - Run pane with the results of running the project as shown below.

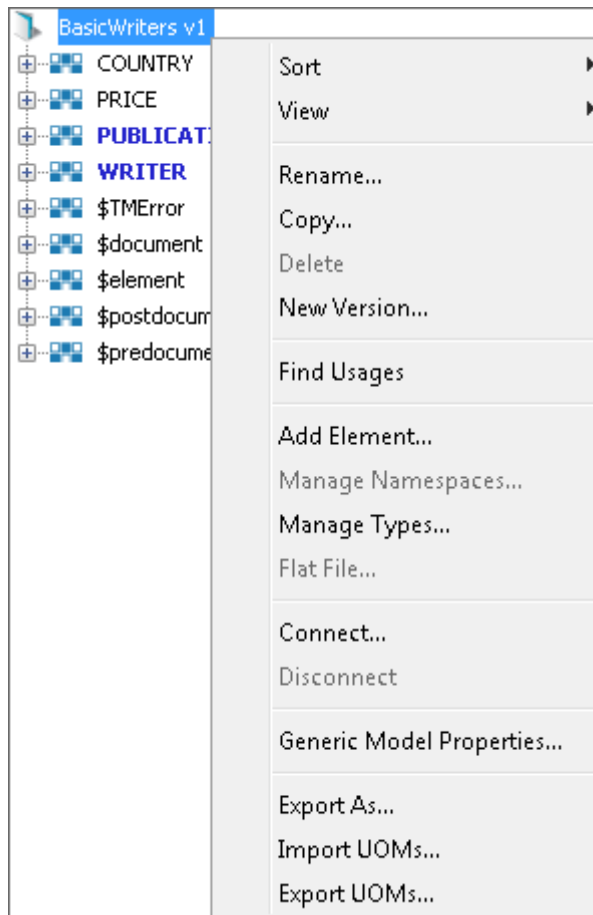


- 15) Let's now check the data using the **View Data...** functionality.

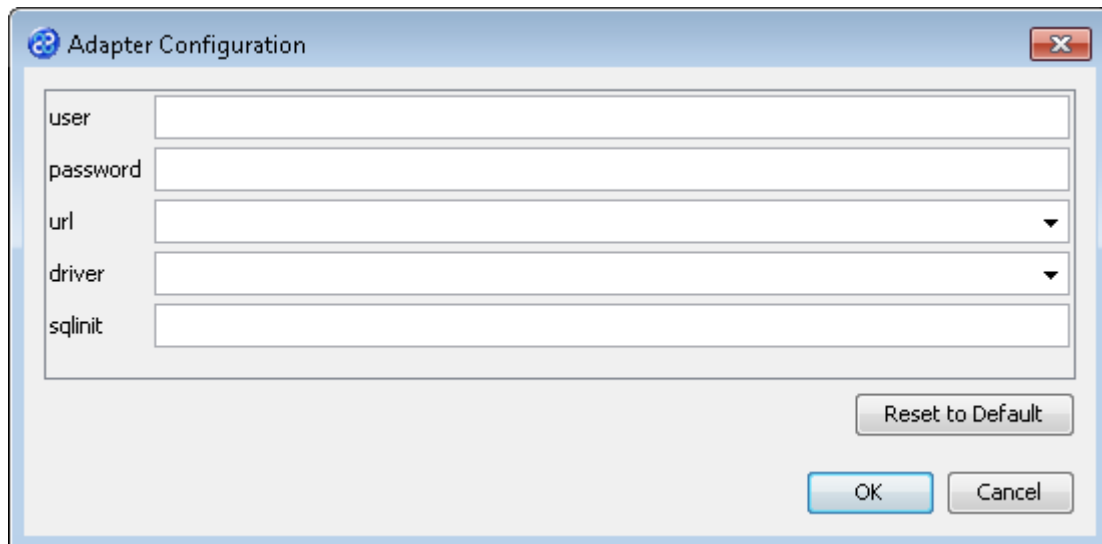
Exercise 9 - View the Target Data

Now let's check our target data store to see if our data has been transformed as expected. We will connect and look at the two files or elements that we have created.

- 1) With the Editor pane still open, move the cursor over the name of the data model in the **Transform Target** pane and display the context menu for the data model.



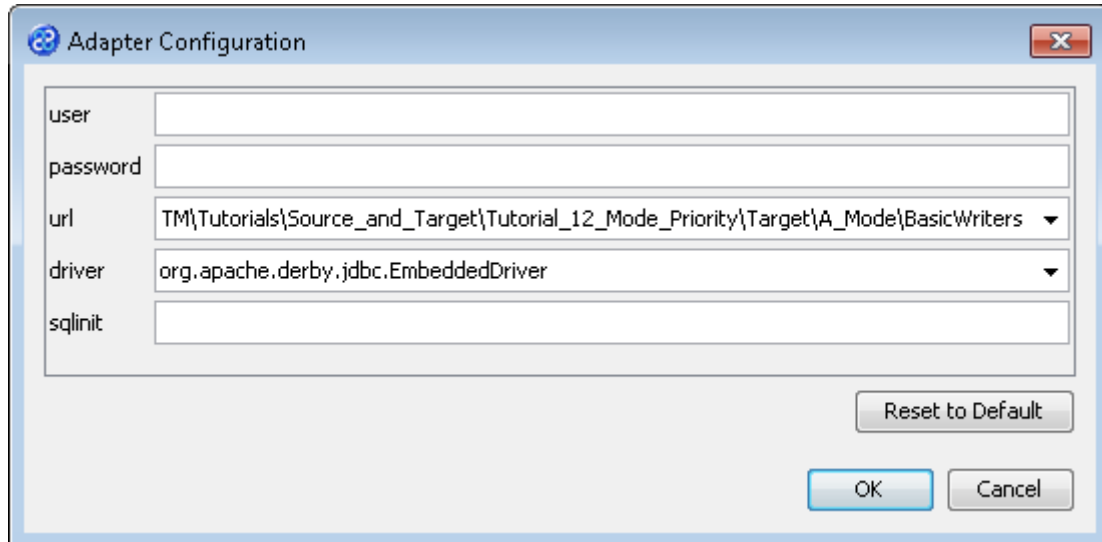
- 2) Select the **Connect...** option from the menu. The Adapter Configuration window will open ready for the connection details to be entered for the target data store. Note that we will be connecting to two elements in two separate files therefore we need to provide the destination for both files.



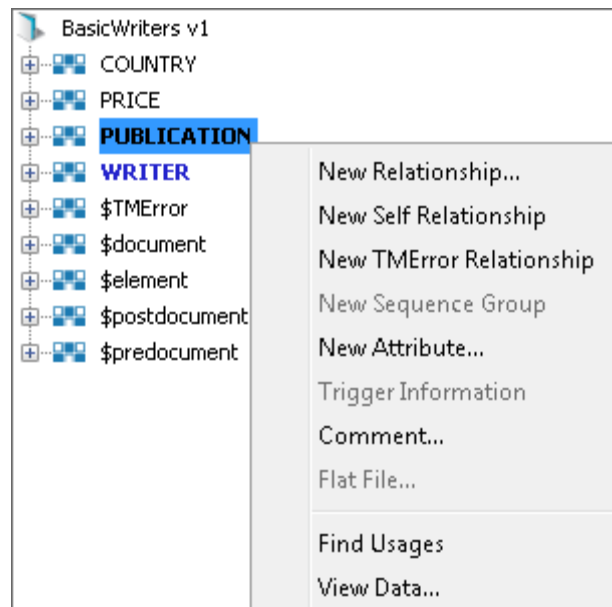
- 3) Go to the **url** field. You will now need to provide the details of where to go to connect to the source data. View the list of options and select the option called **jdbc:derby:<YOUR_NAME>** from the drop down list. Now replace the **<YOUR_NAME>** part of the list item, including the angle brackets with the directory where the Derby database is stored. This will be in the following location.

[TMHOME]\Tutorials\Source_and_Target\Tutorial_12_Mode_Priority\Target\A_Mode\BasicWriters

- 4) Go to the driver field and display the list of options available. Select the option called **org.apache.derby.jdbc.EmbeddedDriver**. The New Project Configuration window will look similar to the image below. **user**, **password** and **sqlinit** do not require values.
- 5) The adapter configuration should look similar to the one below.



- 6) Click the **OK** button to connect to the data store. A message box will appear telling you that the connection is being made.
- 7) Move your cursor over the **PUBLICATION** element in the data model and display the context menu for the element.



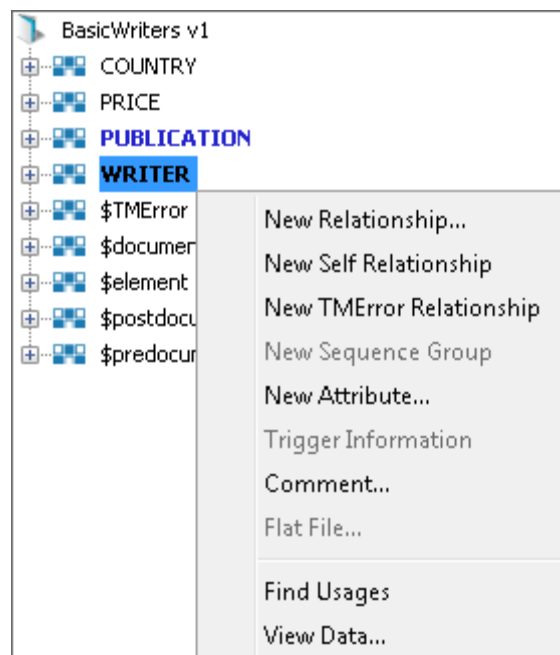
- 8) Select the **View Data...** option from the menu. This will open a new pane in the Editor pane displaying the writer data as shown below.

BasicWriters v1 : PUBLICATION ⌵

WRITER_ID	CATNUM	NAME
10001	111	Grass
10002	222	Trees
10002	333	Soil
10003	444	Soot

Hide empty columns
 Rows 4
Maximum Rows

- 9) Move your cursor over the **WRITER** element in the data model and display the context menu for the element.



- 10) Select the **View Data...** option from the menu. This will open a new pane in the Editor pane displaying the writer data as shown below.

BasicWriters v1 : WRITER ⌵

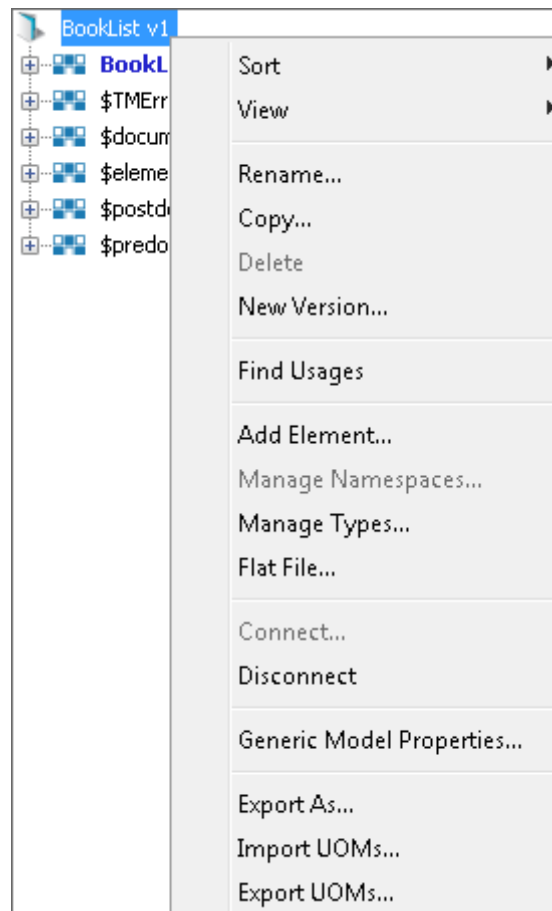
ID	FIRST_INITIAL	NAME
1	G	Green
10001	G	Ghost_Green
2	B	Brown
10002	B	Ghost_Brown
3	J	Black
10003	J	Ghost_Black

Hide empty columns
 Rows 6
Maximum Rows

- 11) In this example we can see that the two dependent transforms have executed, the first adding the writers and the second their ghost names but both have executed between the same two elements.

- 12) Let's close the data pane and disconnect from the data store. Click on the ⌵ icon to close the data view pane.

- 13) Now move the cursor over the name of the data model in the **Transform Target** pane again and display the context menu for the data model.

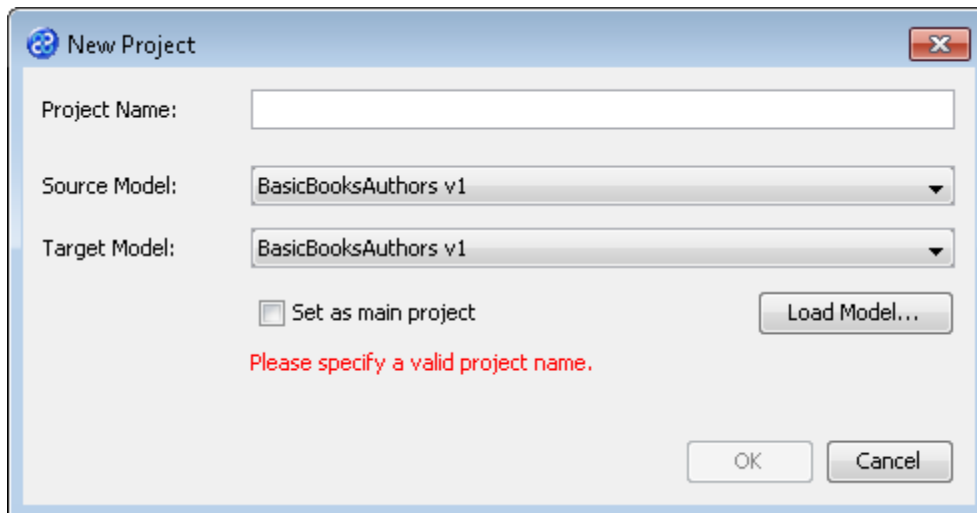


- 14) Note that the **Disconnect** option is active now. Click on this to disconnect from the data store.

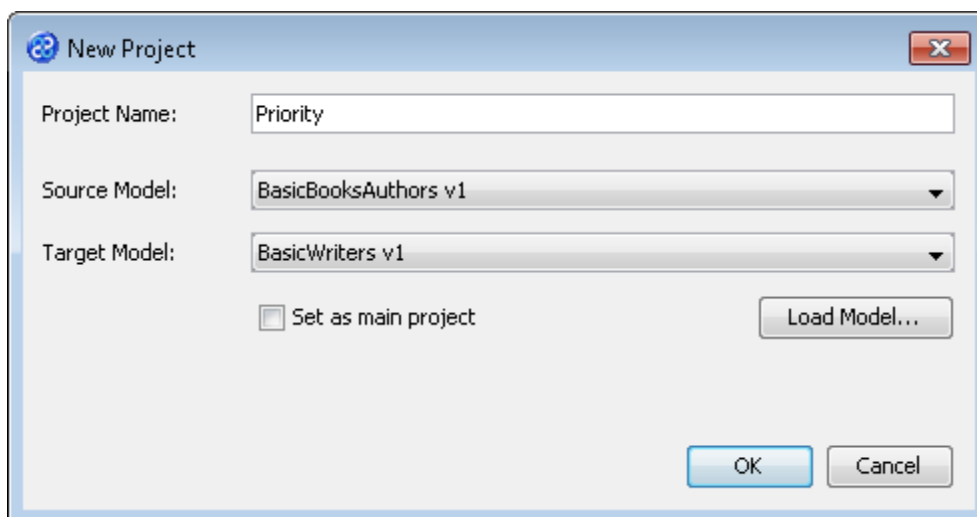
Exercise 10 - Create the Priority Project


This exercise creates a new project where we will use a data model created from an Excel file and a Derby relational database data model. The source data model will be **BasicBooksAuthors v1** and the target data model **BasicWriters v1**. We will create two independent transforms and control the execution order using the priority property.

- 1) Using your mouse click on the **File** option from the menu bar of TM Designer.
- 2) From the menu, click once on the **New Project...** option.
- 3) The **New Project** window will open.



- 4) In the **Project Name** field we will provide a name for the project. Let's call our project **Priority** by typing the name into the field.
- 5) Now we must select the target and source models for our project. In the **Source Model** field select **BasicBooksAuthors v1** from the list. In the **Target Model** field select **BasicWriters v1**.

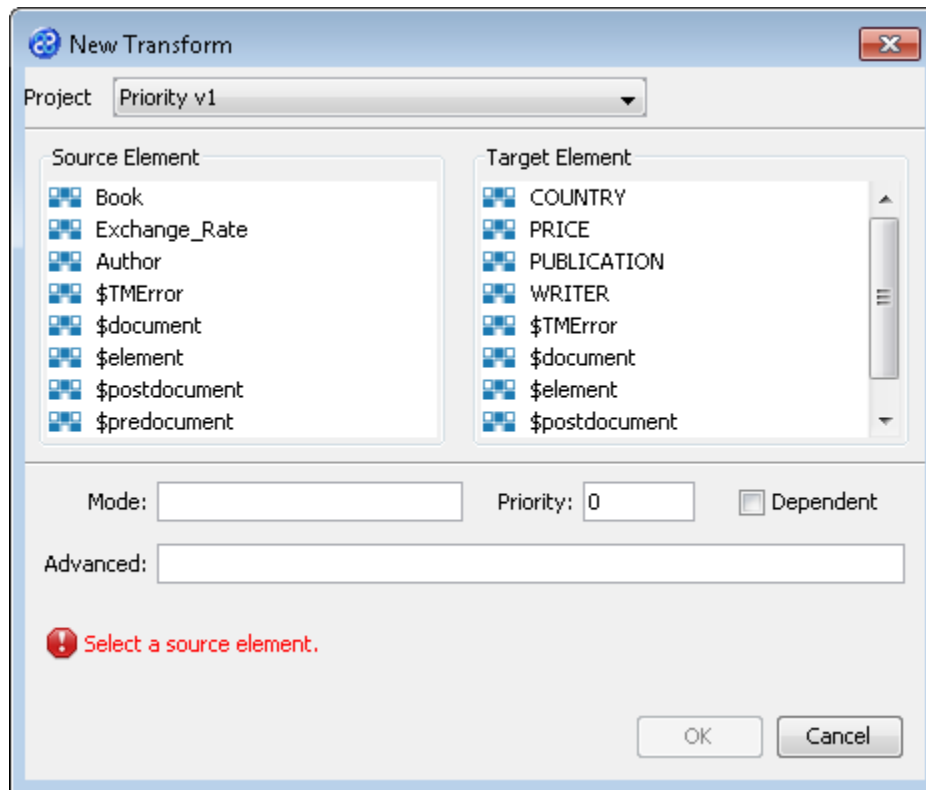


- 6) Now click once on the  button. Your project will be created and be displayed in the **Projects** pane.

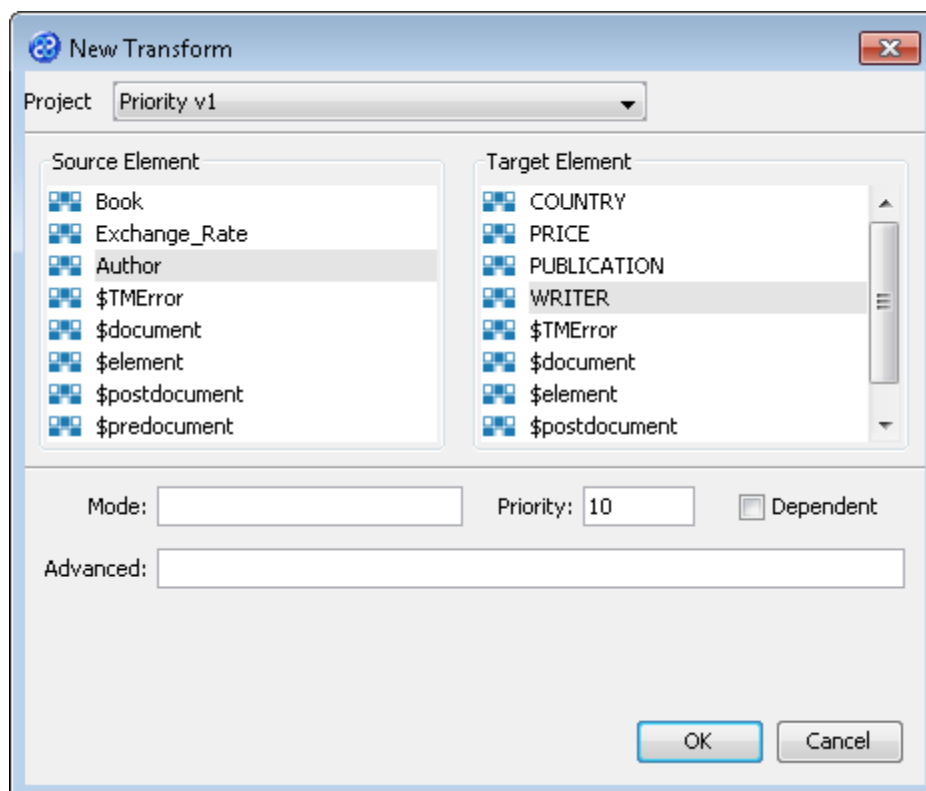
Exercise 11 - Create the First Independent Transform for the Priority Project

This exercise creates our first independent transform.

- 1) Click once on the **File** menu bar option.
- 2) Click once on the **New Transform...** option from the sub-menu.
- 3) This will open the **New Transform** window. Ensure that you have the correct project selected in the **Project** drop down list, in our case this will be **Priority v1**.



- 4) With the **New Transform** window open, we will select the elements for the source and target. In this case the source element will be **Author** and the target element will be **WRITER**.
- 5) Now we will set the **Priority** property for this independent transform. Type **10** into the **Priority** field. The **New Transform** window will look like the one below.



- 6) Click once on the  button to create your new transform.

- 7) The Editor pane will open ready for you to write your transform code once the **New Transform** is created.
- 8) Now we will write our transform as shown below.

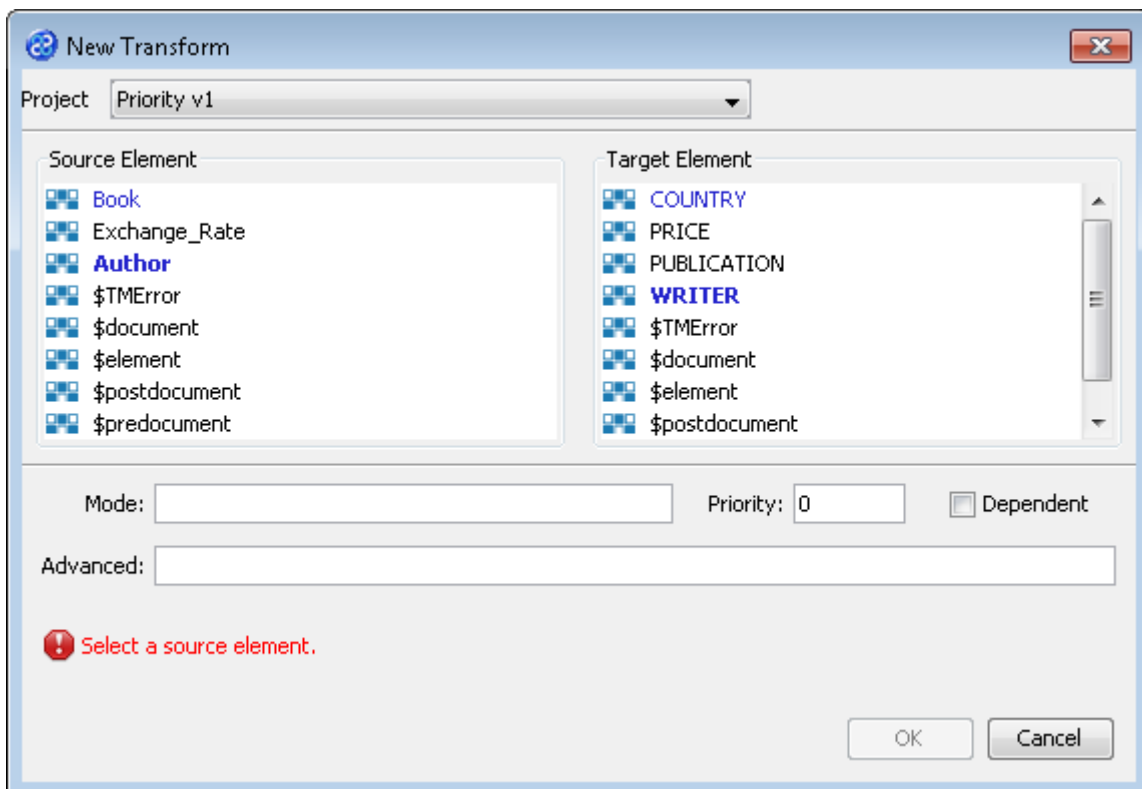
```
<ID> := <ID>;
FIRST_INITIAL := SUBSTRING(Name,1,2);
NAME := Surname;
COUNTRY.!CODE := itoAuthor.Currency;
```

- 9) Click once on the **File** menu bar option.
- 10) Click once on the **Save** menu bar option to save your transform.

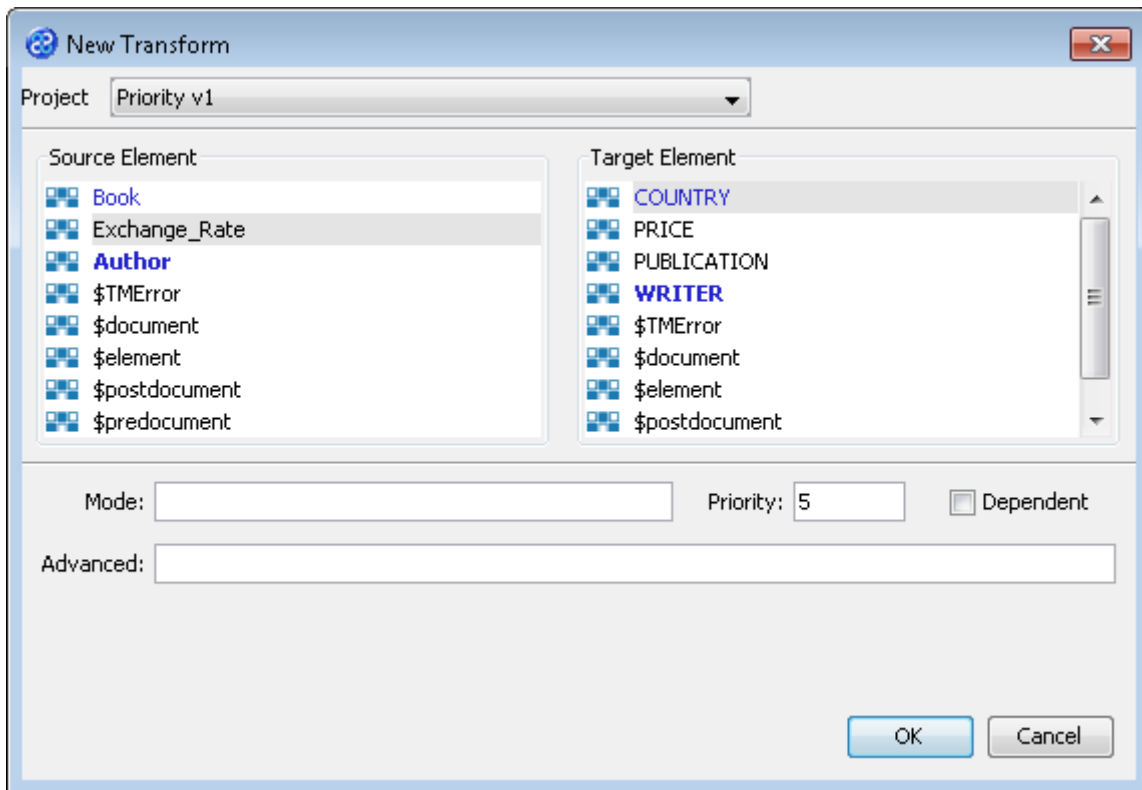
Exercise 12 - Create the Second Independent Transform for the Priority Project


This exercise creates our first independent transform.

- 1) Click once on the **File** menu bar option.
- 2) Click once on the **New Transform...** option from the sub-menu.
- 3) This will open the **New Transform** window. Ensure that you have the correct project selected in the **Project** drop down list, in our case this will be **Priority v1**.



- 4) With the **New Transform** window open, we will select the elements for the source and target. In this case the source element will be **Exchange_Rate** and the target element will be **COUNTRY**.
- 5) Now we will set the **Priority** property for this independent transform. Type **5** into the **Priority** field. The **New Transform** window will look like the one below.



- 6) Click once on the  button to create your new transform.
- 7) The Editor pane will open ready for you to write your transform code once the **New Transform** is created.
- 8) Now we will write our transform as shown below.

```

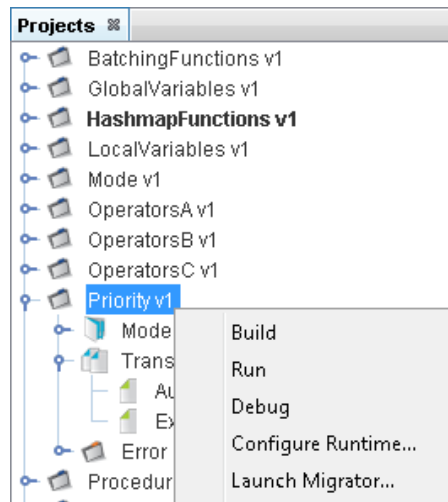
DOLLAR_EXCHANGE_RATE := RATE;
CODE := CURRENCY_FROM;
CASE CURRENCY_FROM OF
'USD': BEGIN
NAME := 'United States of America';
END;
'GBP': BEGIN
NAME := 'United Kingdom';
END;
OTHERWISE : BEGIN
NAME := 'Unknown';
END;
END_CASE;
```

- 9) Click once on the **File** menu bar option.
- 10) Click once on the **Save** menu bar option to save your transform.

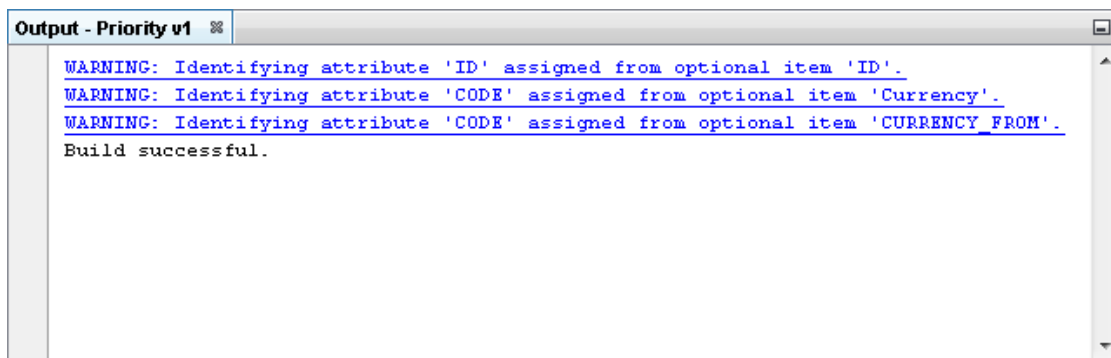
Exercise 13 - Build your Priority Project

Now we will build and test our cascade which includes our two independent transforms with priority set.

- 1) Move your mouse pointer so that it is over the title of the project you are working on and use the right mouse or secondary mouse button to display the context menu.



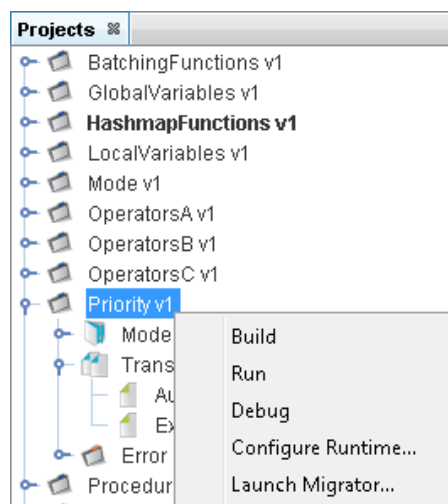
- 2) Click once on the **Build** option from the menu.
- 3) The **Output** pane will open and show you if there are any errors in your transform code. In this exercise you should not have any error messages and you should see a message stating **Build successful**.



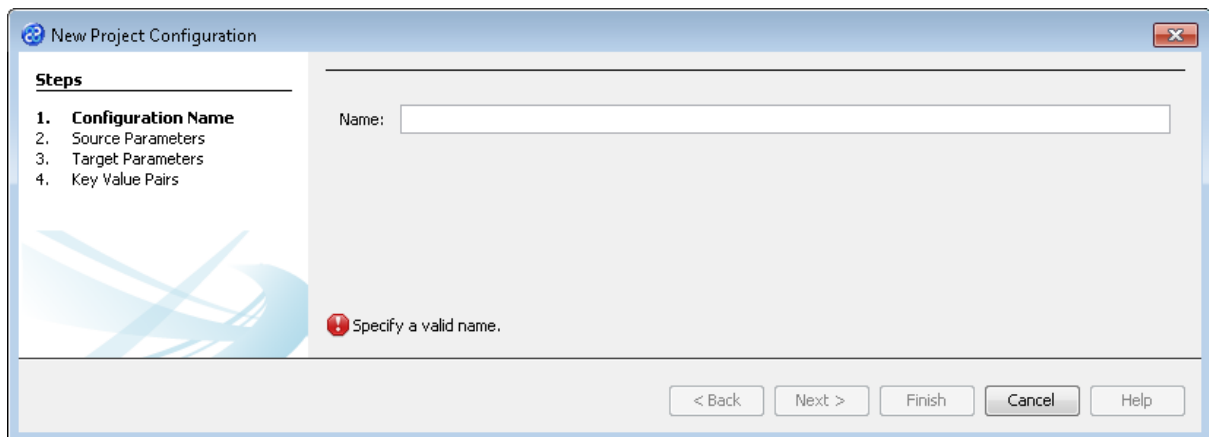
Exercise 14 - Run the Project

Now let's Run our transformation to see what results are produced.

- 1) Move your mouse pointer so that it is over the title of the project you are working on and use the right mouse or secondary mouse button to display the context menu.



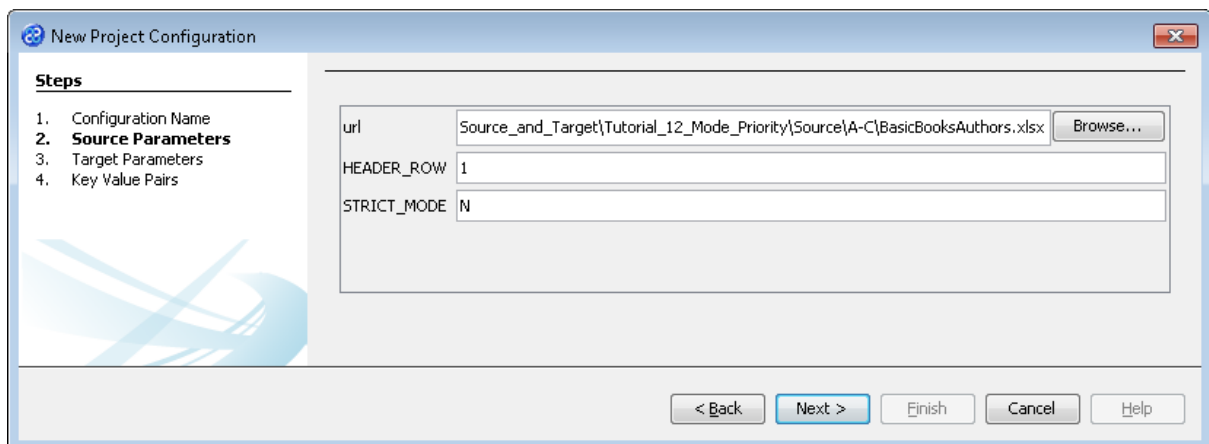
- 2) Click the **Run** option from the menu. TM Designer will now open the New Project Configuration window where you will set the connection information for the project.



- 3) Let's give this configuration the name Config1. Type **Config1** into the **Name** field.
- 4) Click the **Next >** button to move to **Step 2. Source Parameters** where we will provide the details for the source data store connection.
- 5) Go to the **url** field. In this field we will specify the location of the target data store.
- 6) You can type the path and file name manually or you can use the button to select the directory and file. This will be in the following directory.

[TMHOME]\Tutorials\Source_and_Target\Tutorial_12_Mode_Priority\Source\A-C

- 7) The **Source Parameters** step should look similar to the image below.

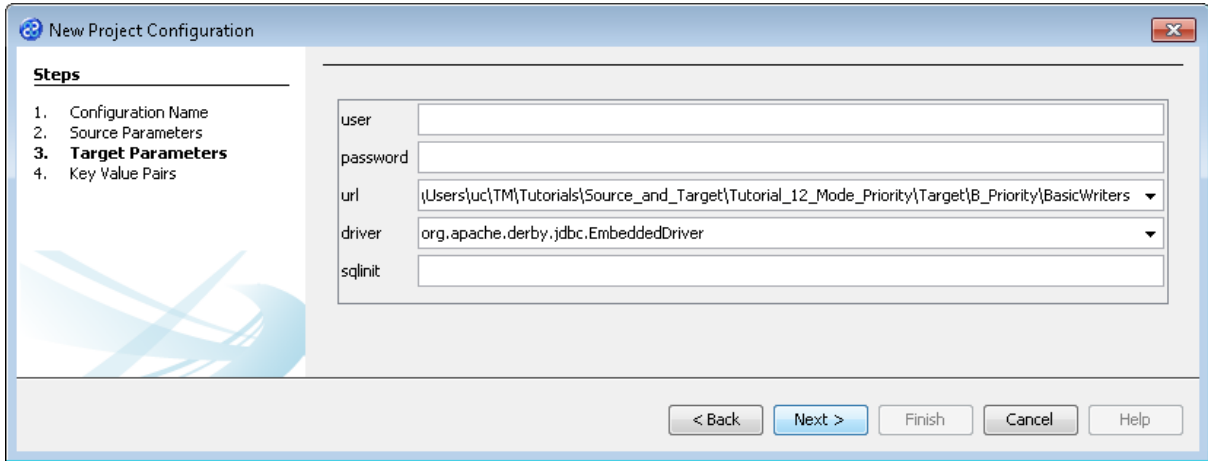


- 8) Click the **Next >** button to move to **Step 3. Target Parameters** where we will provide the details for the target data store connection.
- 9) Go to the **url** field. You will now need to provide the details of where to go to connect to the source data. View the list of options and select the option called **jdbc:derby:<YOUR_NAME>** from the drop down list. Now replace the **<YOUR_NAME>** part of the list item, including the angle brackets with the directory where the Derby database is stored. This will be in the following location.

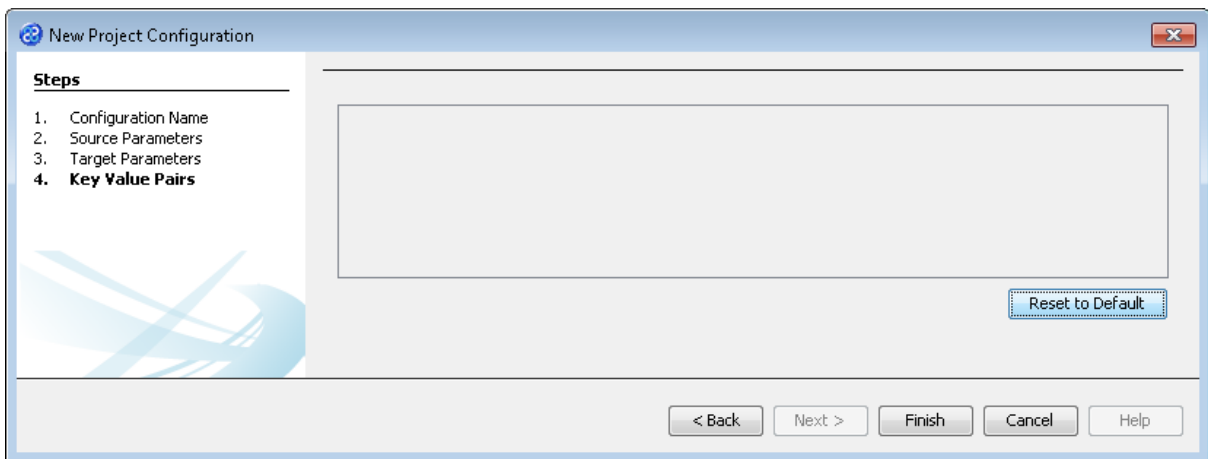
[TMHOME]\Tutorials\Source_and_Target\Tutorial_12_Mode_Priority\Target\B_Priority\Basicwriters

10) Go to the driver field and display the list of options available. Select the option called **org.apache.derby.jdbc.EmbeddedDriver**. The New Project Configuration window will look similar to the image below. **user**, **password** and **sqlinit** do not require values.

11) The **Target Parameters** step should look similar to the image below.

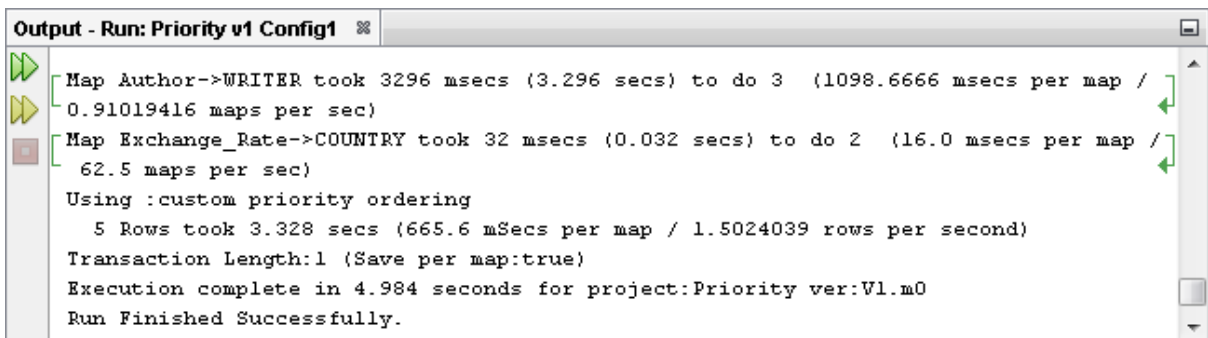


12) Click the **Next >** button to move to **Step 4. Key Value Pairs**. We do not need to specify any key value pairs in this exercise.



13) Click the **Finish** button to save the project configuration and to run the project within TM Designer. This performs the same execution as the **Launch Migrator...** option from the project context menu.

14) TM Designer will open the Output - Run pane with the results of running the project as shown below.

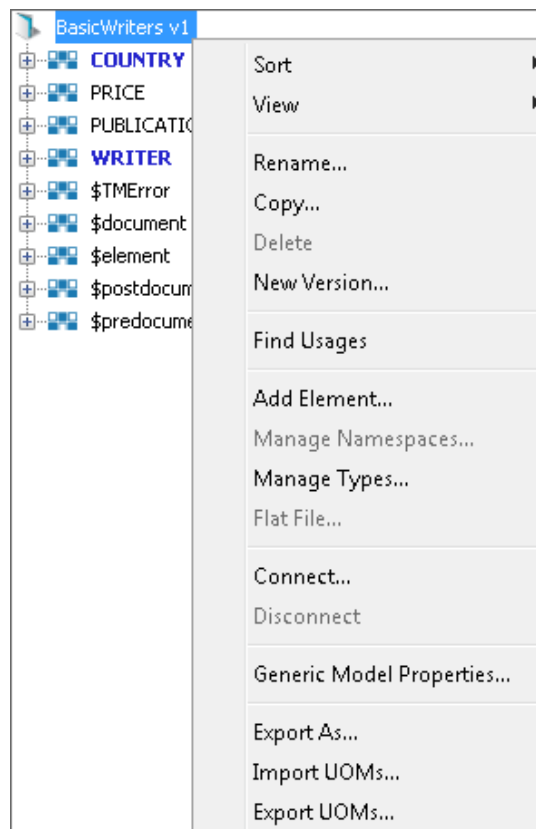


15) Let's now check the data using the [View Data...](#) functionality.

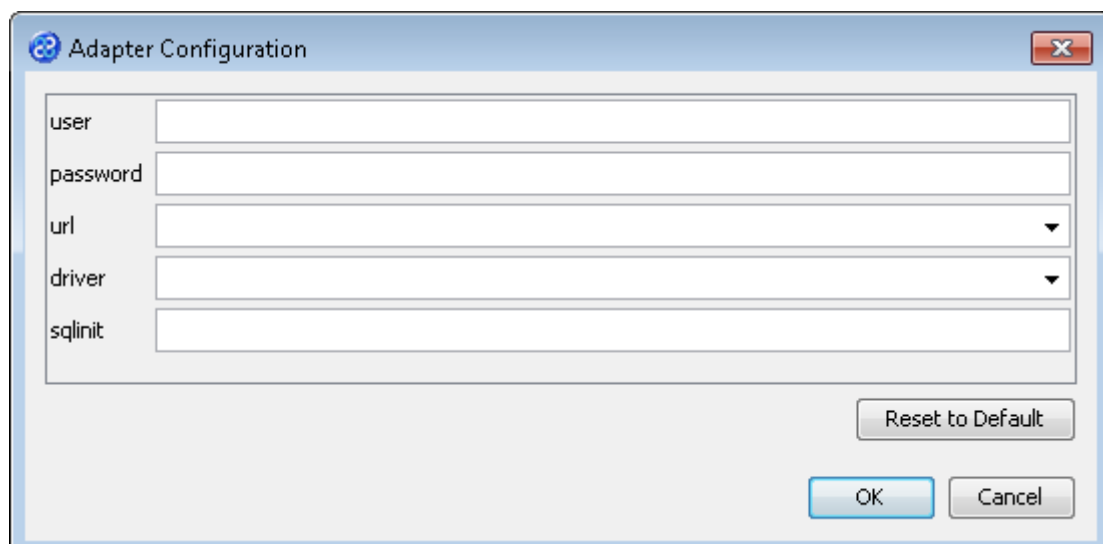
Exercise 15 - View the Target Data

Now let's check our target data store to see if our data has been transformed as expected. We will connect and look at the two files or elements that we have created.

- 1) With the Editor pane still open, move the cursor over the name of the data model in the **Transform Target** pane and display the context menu for the data model.



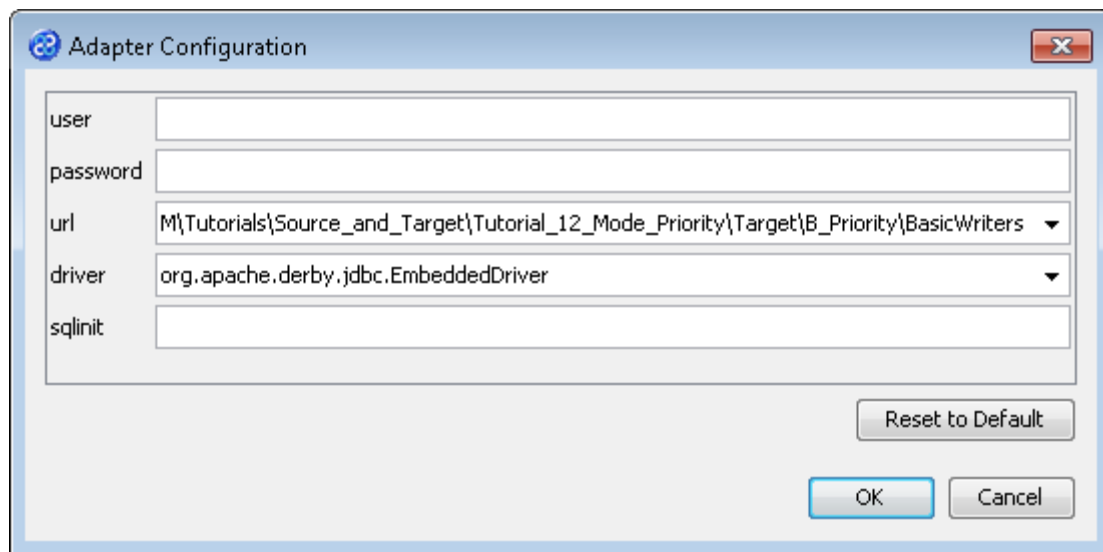
- 2) Select the [Connect...](#) option from the menu. The Adapter Configuration window will open ready for the connection details to be entered for the target data store. Note that we will be connecting to two elements in two separate files therefore we need to provide the destination for both files.

A screenshot of the 'Adapter Configuration' dialog box. It has a title bar with a blue icon and the text 'Adapter Configuration'. The dialog contains five input fields: 'user', 'password', 'url', 'driver', and 'sqlinit'. The 'url' and 'driver' fields have dropdown arrows. At the bottom right, there are three buttons: 'Reset to Default', 'OK', and 'Cancel'.

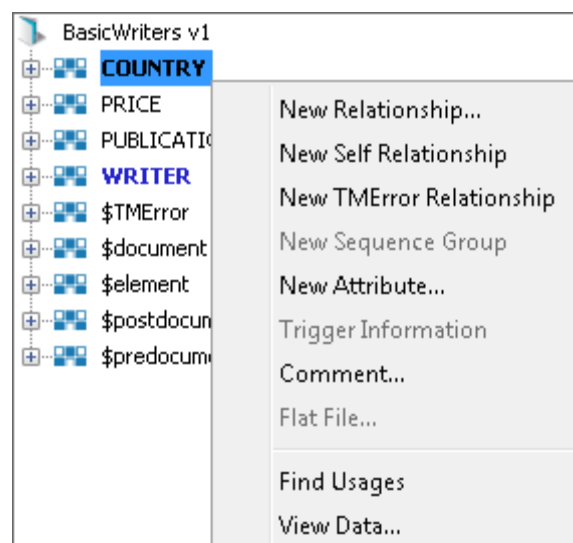
- 3) Go to the **url** field. You will now need to provide the details of where to go to connect to the source data. View the list of options and select the option called **jdbc:derby:<YOUR_NAME>** from the drop down list. Now replace the <YOUR_NAME> part of the list item, including the angle brackets with the directory where the Derby database is stored. This will be in the following location.

[TMHOME]\Tutorials\Source_and_Target\Tutorial_12_Mode_Priority\Target\B_Priority\Basicwriters

- 4) Go to the driver field and display the list of options available. Select the option called **org.apache.derby.jdbc.EmbeddedDriver**. The New Project Configuration window will look similar to the image below. **user**, **password** and **sqlinit** do not require values.
- 5) The adapter configuration should look similar to the one below.



- 6) Click the **OK** button to connect to the data store. A message box will appear telling you that the connection is being made.
- 7) Move your cursor over the **COUNTRY** element in the data model and display the context menu for the element.



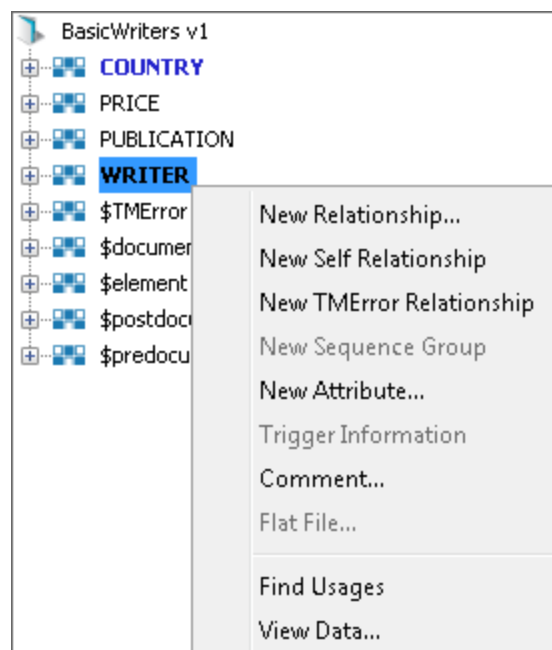
- 8) Select the **View Data...** option from the menu. This will open a new pane in the Editor pane displaying the writer data as shown below.

BasicWriters v1 : COUNTRY ✖

NAME	DOLLAR_EXCHANGE_RATE	CODE
United Kingdom	1.60	GBP
United States of Amer...	0.63	USD

Hide empty columns
 Rows 2
Maximum Rows
Refresh

- 9) Move your cursor over the **WRITER** element in the data model and display the context menu for the element.



- 10) Select the **View Data...** option from the menu. This will open a new pane in the Editor pane displaying the writer data as shown below.

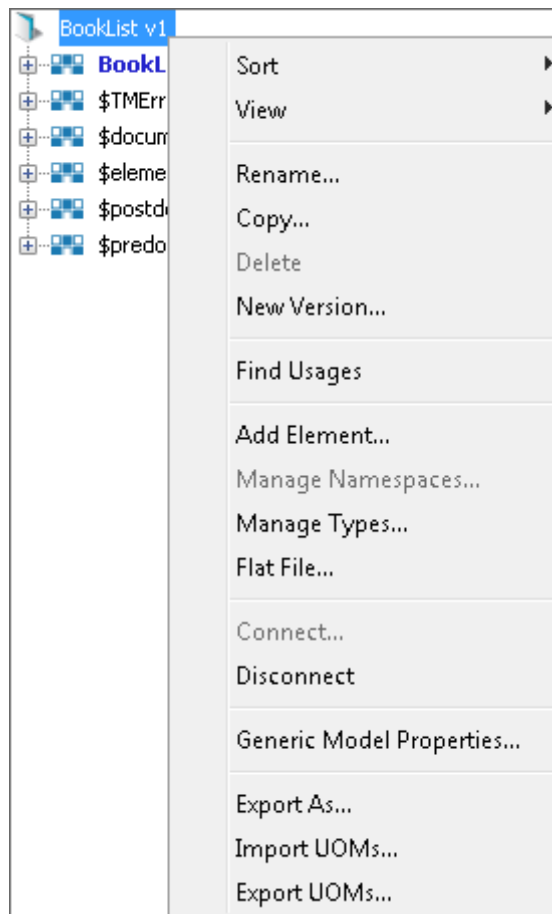
BasicWriters v1 : WRITER ✖

ID	FIRST_INITIAL	NAME
1	G	Green
2	B	Brown
3	J	Black

Hide empty columns
 Rows 3
Maximum Rows
Refresh

- 11) In this example we can see that the WRITER table COUNTRY_RESIDENCE_CODE column has not been updated. This is as expected because the execution order for the independent transforms meant we did not have the lookup values required when the table was populated.
- 12) Let's close the data panes for the COUNTRY and WRITER elements and disconnect from the data store. Click on the ✖ icon to close the data view pane.

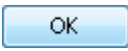
- 13) Now move the cursor over the name of the data model in the **Transform Target** pane again and display the context menu for the data model.

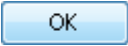


- 14) Note that the **Disconnect** option is active now. Click on this to disconnect from the data store.

Exercise 16 - Update the Transform Priority Properties

In this exercise we will change the priorities property for each of the independent transforms. This will ensure that the **Exchange_Rate to COUNTRY** transform will be executed prior to the **Author to WRITER** transform and therefore will allow the update of the WRITER table.

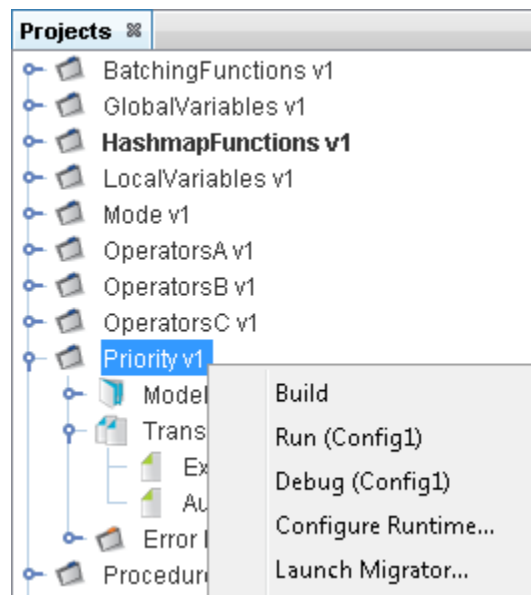
- 1) Place the mouse pointer over the name of the first transform in the Projects pane, Author to WRITER.
- 2) Display the context menu using your secondary or right mouse button.
- 3) Select the option called Change Properties... The Change Properties window will open.
- 4) Change the Priority value from 10 to 5.
- 5) Click once on the  button to save your change.
- 6) Place the mouse pointer over the name of the second transform in the Projects pane, Exchange_Rate to COUNTRY.
- 7) Display the context menu using your secondary or right mouse button.
- 8) Select the option called Change Properties... The Change Properties window will open.

- 9) Change the Priority value from 5 to 10.
- 10) Click once on the  button to save your change.

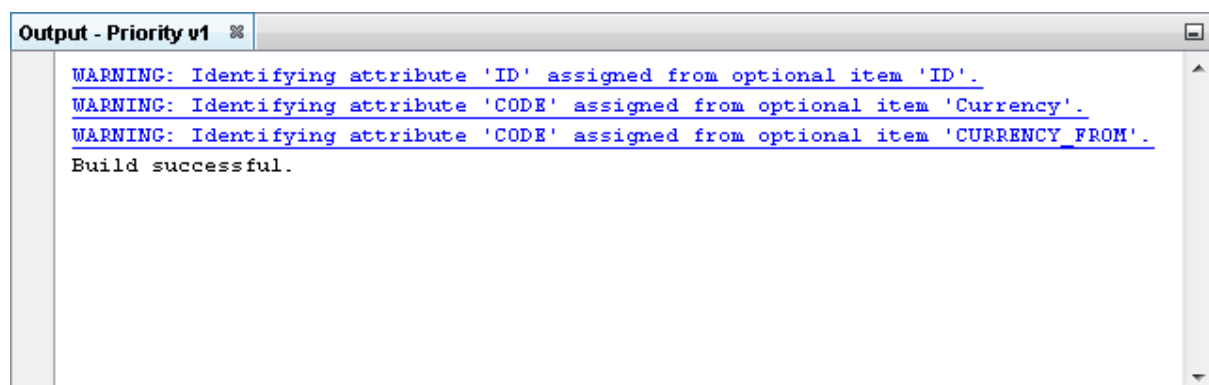
Exercise 17 - Build your Priority Project

Now we will re-build our project.

- 1) Move your mouse pointer so that it is over the title of the project you are working on and use the right mouse or secondary mouse button to display the context menu.



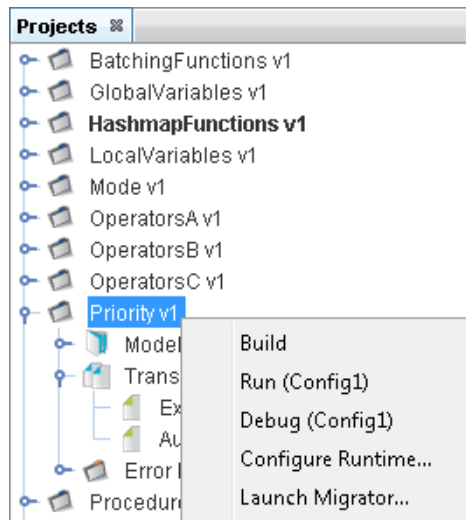
- 2) Click once on the **Build** option from the menu.
- 3) The **Output** pane will open and show you if there are any errors in your transform code. In this exercise you should not have any error messages and you should see a message stating **Build successful**.



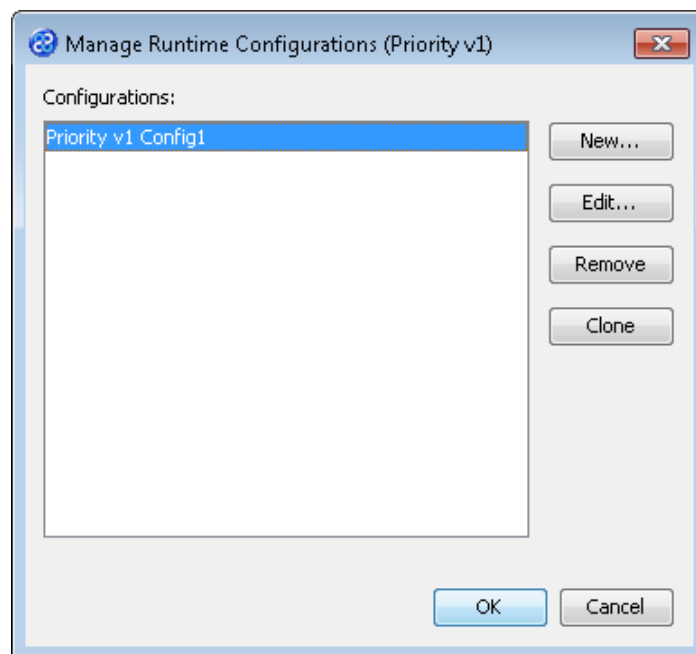
Exercise 18 - Run the Project

Now let's Run our transformation to see what results are produced. We will need to update the runtime configuration for this project.

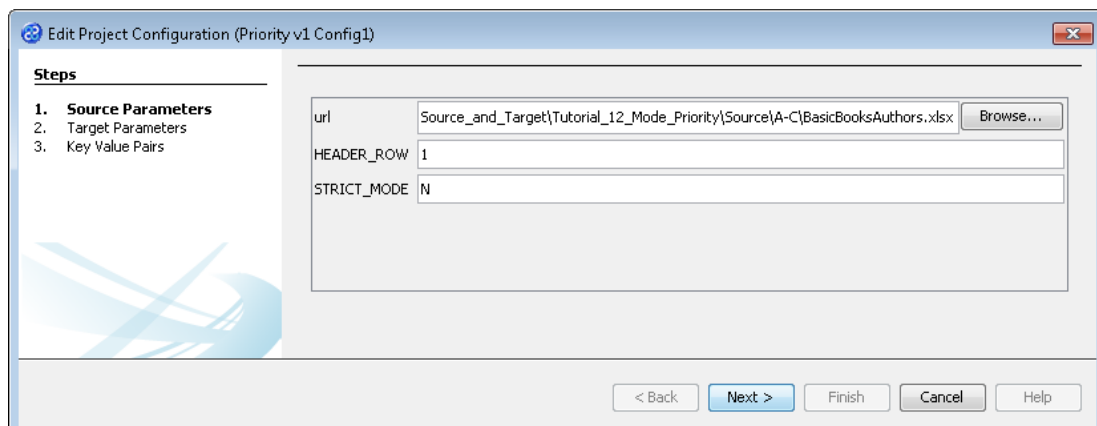
- 1) Move your mouse pointer so that it is over the title of the project you are working on and use the right mouse or secondary mouse button to display the context menu.




- 2) Click once on the **Configure Runtime...** option. This will open the **Manage Runtime Configurations** window as shown below.

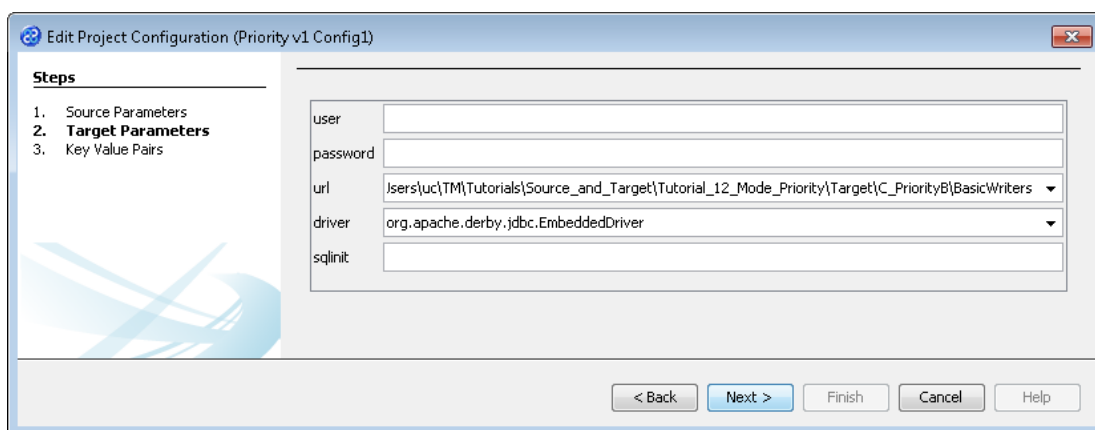



- 3) Click the button with the **Priority v1 Config 1** item selected. This will open the **Edit Project Configuration** window on **Step 1 Source Parameters**. We do not need to change the source parameter as it is the correct source data store for our project.

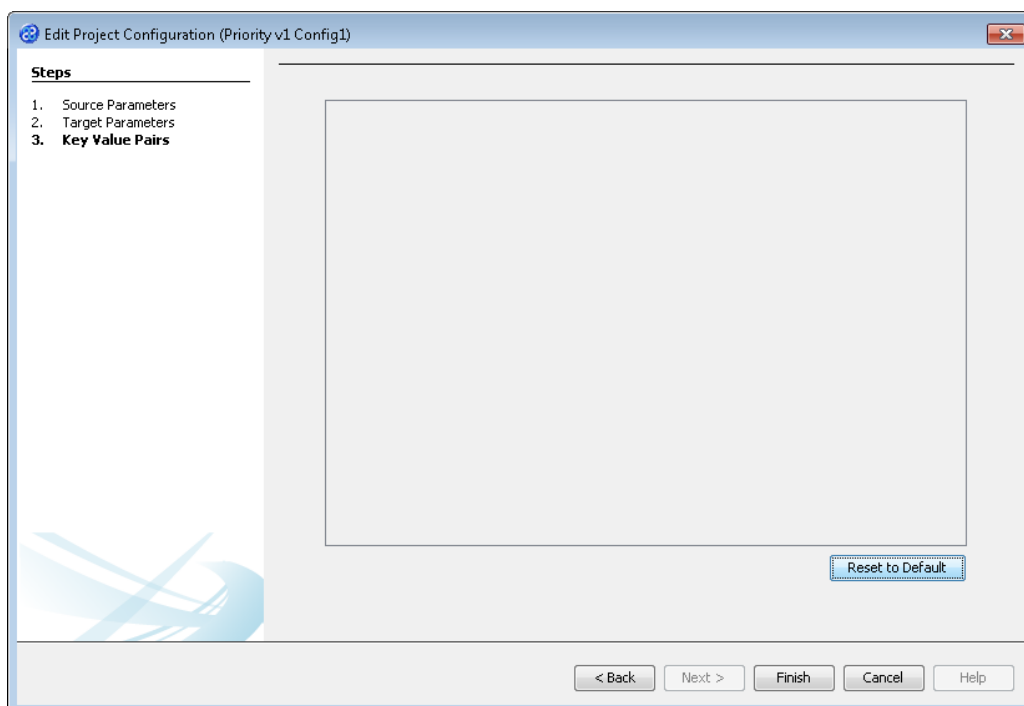


- 4) Click the  button to move to **Step 2. Target Parameters**. We will need to change the target data store information.
- 5) Go to the **url** field. You will now need to provide the details of where to go to connect to the source data. View the list of options and select the option called **jdbc:derby:<YOUR_NAME>** from the drop down list. Now replace the <YOUR_NAME> part of the list item, including the angle brackets with the directory where the Derby database is stored. This will be in the following location.

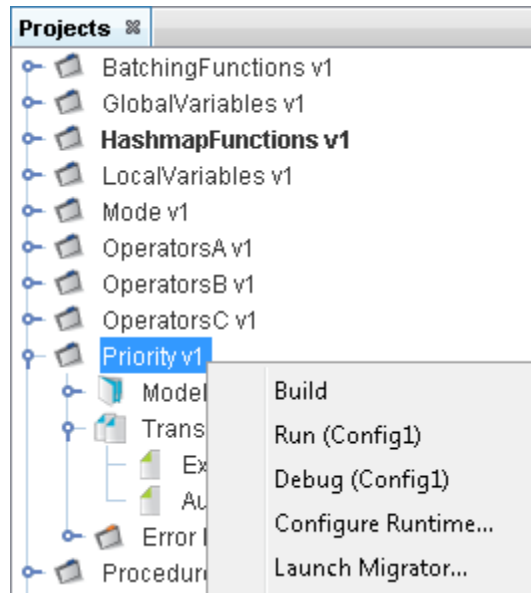

```
[TMHOME]\Tutorials\Source_and_Target\Tutorial_12_Mode_Priority\Target\C_PriorityB\BasicWriters
```
- 6) Go to the driver field and display the list of options available. Select the option called **org.apache.derby.jdbc.EmbeddedDriver**. The New Project Configuration window will look similar to the image below. **user**, **password** and **sqlinit** do not require values.
- 7) The **Target Parameters** step should look similar to the image below.



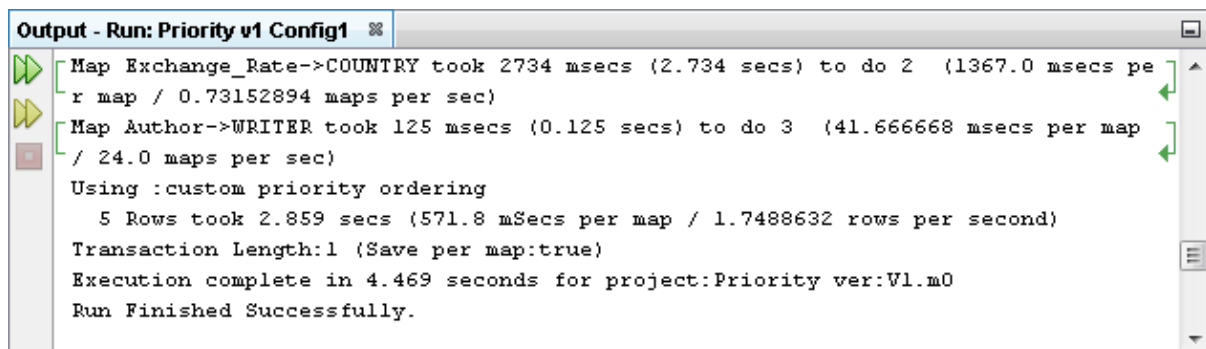
- 8) Click the  button to move to **Step 3. Key Value Pairs**. We do not need to specify any key value pairs in this exercise.



- 9) Click the **Finish** button to save the project configuration and return to the **Manage Runtime Configurations** window.
- 10) Click the **OK** button to close the **Manage Runtime Configurations** window.
- 11) Move your mouse pointer so that it is over the title of the project you are working on and use the right mouse or secondary mouse button to display the context menu.



- 12) Click the **Run (Config1)** option from the menu. TM Designer will now open the New Project Configuration window where you will set the connection information for the project.
- 13) TM Designer will open the Output - Run pane with the results of running the project as shown below.

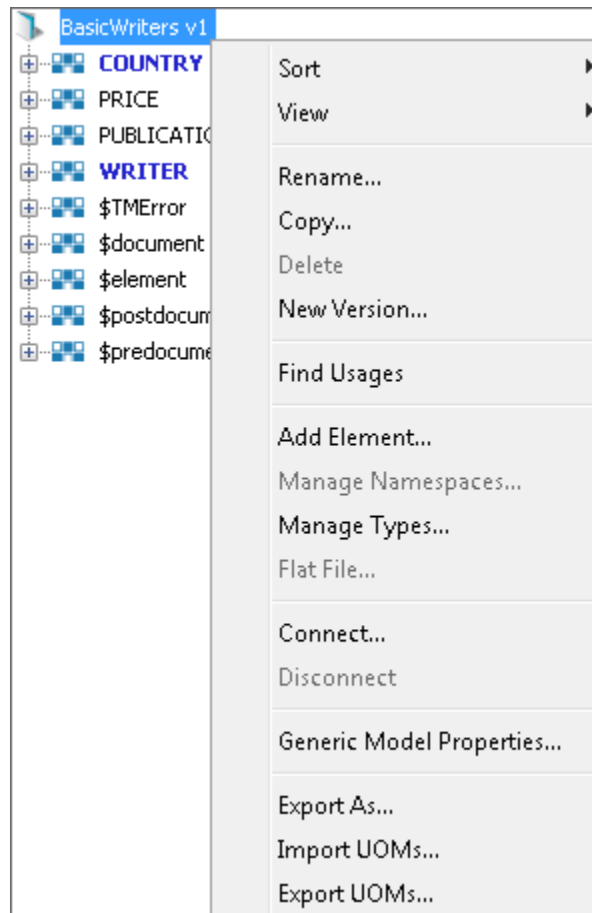


- 14) Let's now check the data using the **View Data...** functionality.

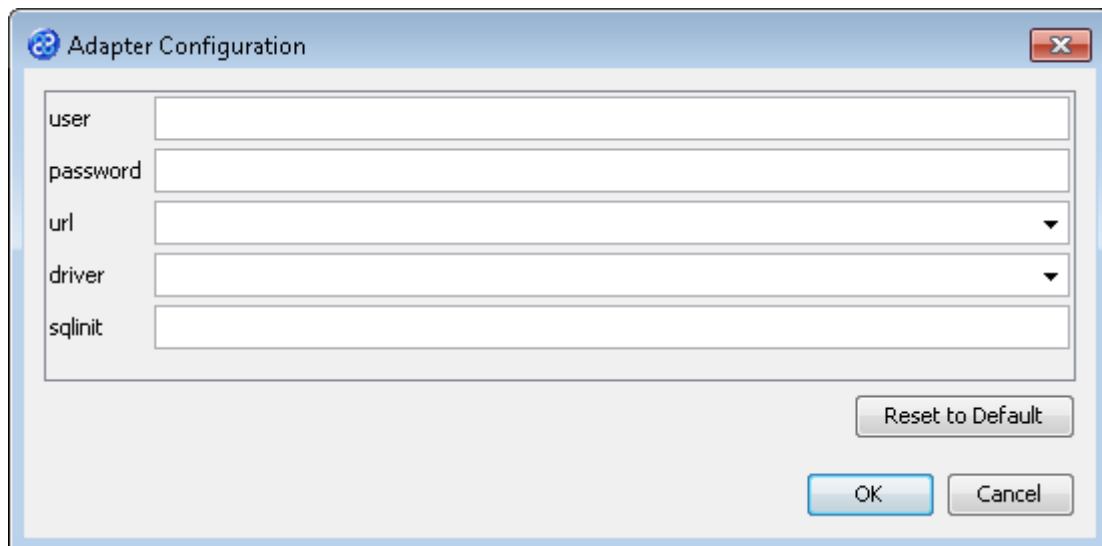
Exercise 19 - View the Target Data

Now let's check our target data store to see if our data has been transformed as expected. We will connect and look at the two files or elements that we have created.

- 1) With the Editor pane still open, move the cursor over the name of the data model in the **Transform Target** pane and display the context menu for the data model.



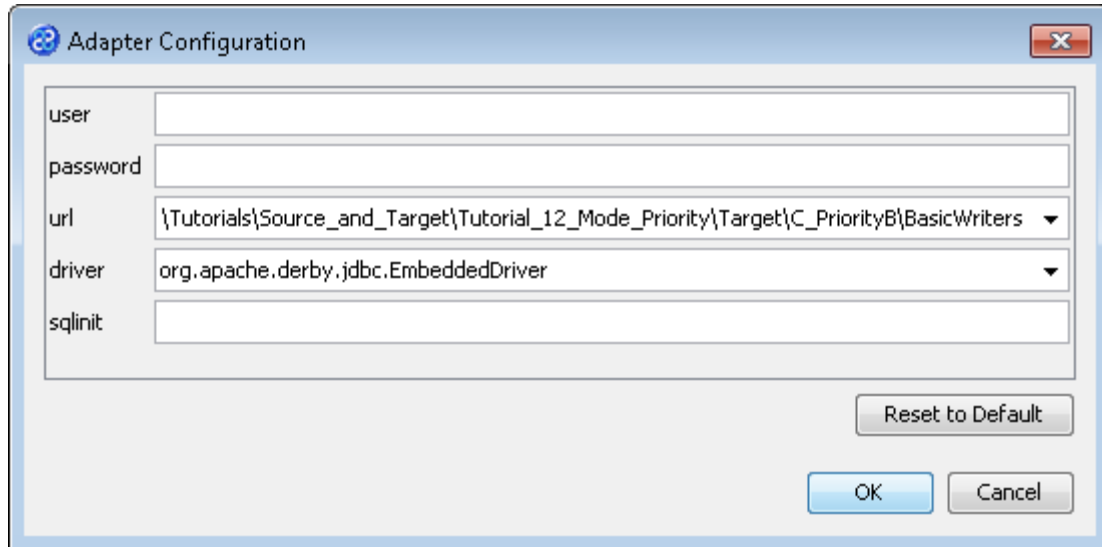
- 2) Select the **Connect...** option from the menu. The Adapter Configuration window will open ready for the connection details to be entered for the target data store. Note that we will be connecting to two elements in two separate files therefore we need to provide the destination for both files.




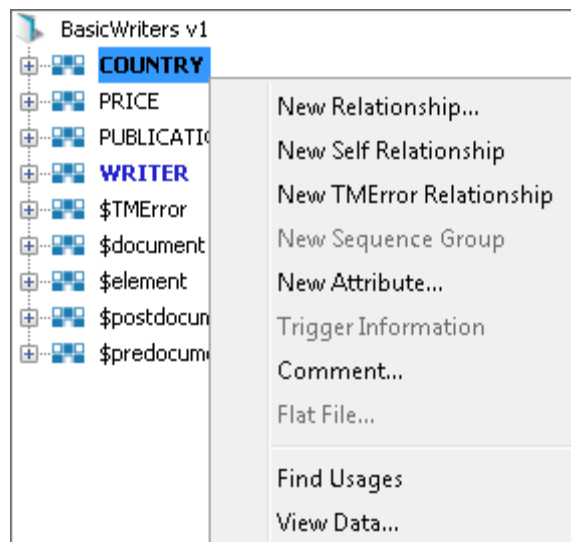
- 3) Go to the **url** field. You will now need to provide the details of where to go to connect to the source data. View the list of options and select the option called **jdbc:derby:<YOUR_NAME>** from the drop down list. Now replace the **<YOUR_NAME>** part of the list item, including the angle brackets with the directory where the Derby database is stored. This will be in the following location.

[TMHOME]\Tutorials\Source_and_Target\Tutorial_12_Mode_Priority\Target\C_PriorityB\BasicWriters

- 4) Go to the driver field and display the list of options available. Select the option called **org.apache.derby.jdbc.EmbeddedDriver**. The New Project Configuration window will look similar to the image below. **user**, **password** and **sqlinit** do not require values.
- 5) The adapter configuration should look similar to the one below.



- 6) Click the  button to connect to the data store. A message box will appear telling you that the connection is being made.
- 7) Move your cursor over the **COUNTRY** element in the data model and display the context menu for the element.



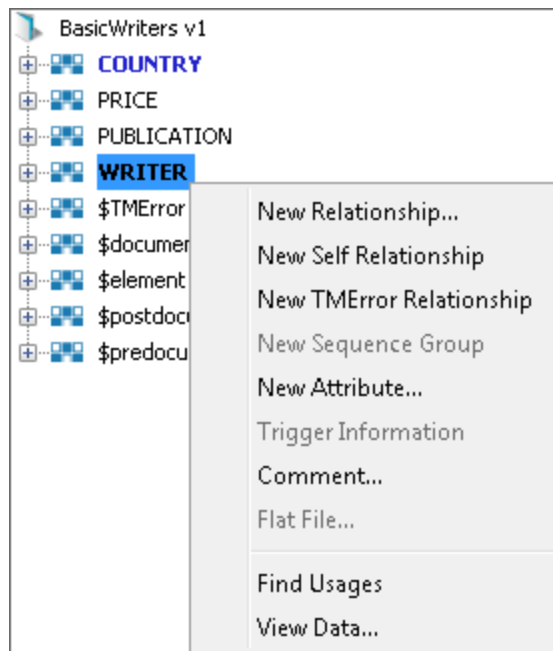
- 8) Select the **View Data...** option from the menu. This will open a new pane in the Editor pane displaying the writer data as shown below.

BasicWriters v1 : COUNTRY

NAME	DOLLAR_EXCHANGE_RATE	CODE
United Kingdom	1.60	GBP
United States of Amer...	0.63	USD

Hide empty columns
 Rows 2
Maximum Rows 200
Refresh

- 9) Move your cursor over the **WRITER** element in the data model and display the context menu for the element.



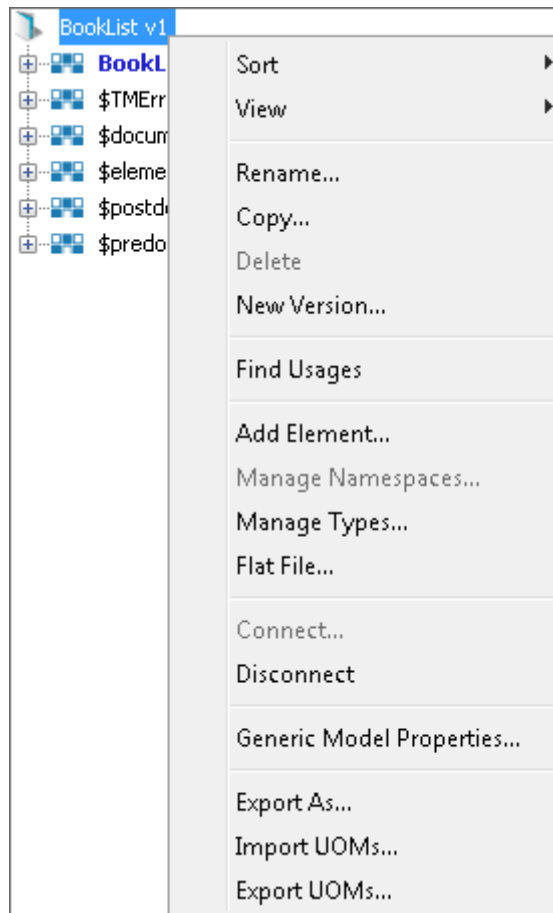
- 10) Select the **View Data...** option from the menu. This will open a new pane in the Editor pane displaying the writer data as shown below.

BasicWriters v1 : WRITER

ID	COUNTRY_RESIDENCE_CODE	FIRST_INITIAL	NAME
1	GBP	G	Green
2	USD	B	Brown
3	GBP	J	Black

Hide empty columns
 Rows 3
Maximum Rows 200
Refresh

- 11) In this example we can see that the WRITER table COUNTRY_RESIDENCE_CODE column has been updated. This is as expected because the execution order for the independent transforms has been reversed and we do have the lookup values required when the table was populated.
- 12) Let's close the data panes for the COUNTRY and WRITER elements and disconnect from the data store. Click on the icon to close the data view pane.
- 13) Now move the cursor over the name of the data model in the **Transform Target** pane again and display the context menu for the data model.



14) Note that the **Disconnect** option is active now. Click on this to disconnect from the data store.