

IBM Integration Bus

Pattern Authoring Lab 5

User Customisation

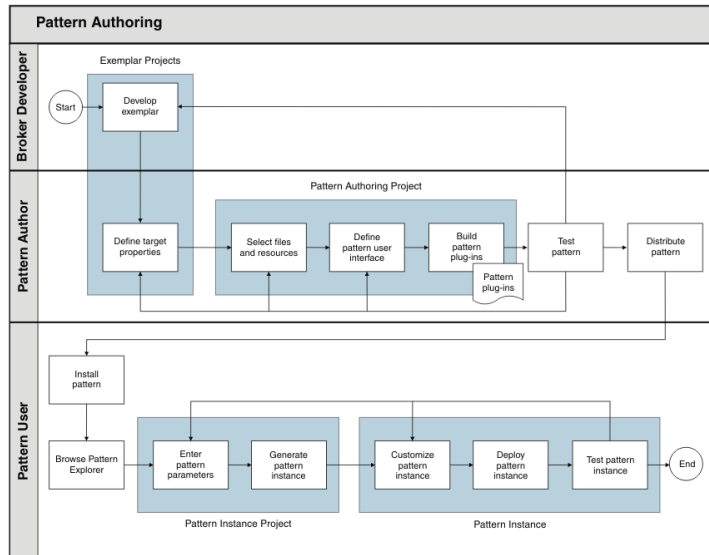
June, 2013

Hands-on lab built at product
code level Version 9.0.0.0

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1. Introduction - User Customisation

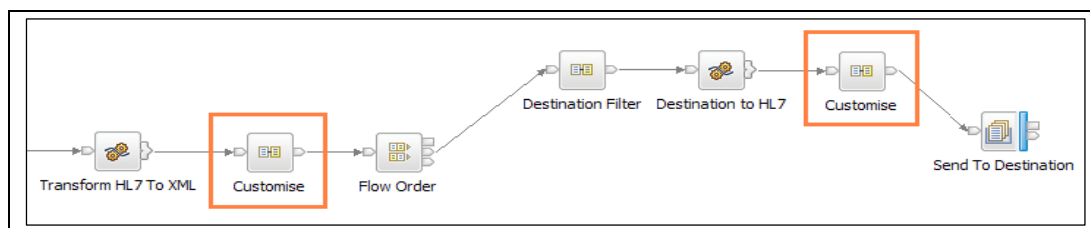
When it comes to user-defined patterns authoring, the usual workflow is the following:



It is the "Pattern Author" who defines the patterns, and a "Pattern User" who instantiates them. The pattern user usually needs to introduce some modifications to the Pattern to adapt it to the scenario.

To allow that, a new feature was introduced in Message Broker version 8 to enable the Pattern User to customise the message flows without overwriting the changes every time he re-generates the Pattern instance.

To be able to do that, the Pattern Author must include customisation subflows in the main message flow, which will be held in a separate project or Library. This library, which will contain all the customisation subflows, will have the new feature enabled, so that when the Pattern User re-generates a pattern instance, the subflows are not overwritten.



In this lab you will explore this by first creating a pattern as usual, without enabling the new feature, and then secondly with it enabled, to test its effects.

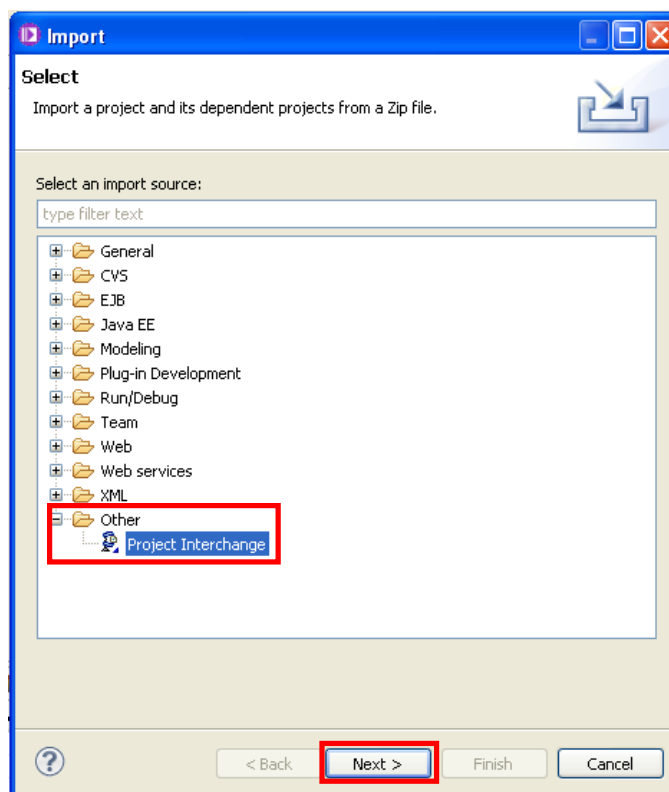
2. Create the Message Flows

1. If not already started, start the Integration Toolkit by clicking its icon in the quick launch toolbar or on the desktop. Accept the default workspace (C:\workspaces\IBWorkshop).

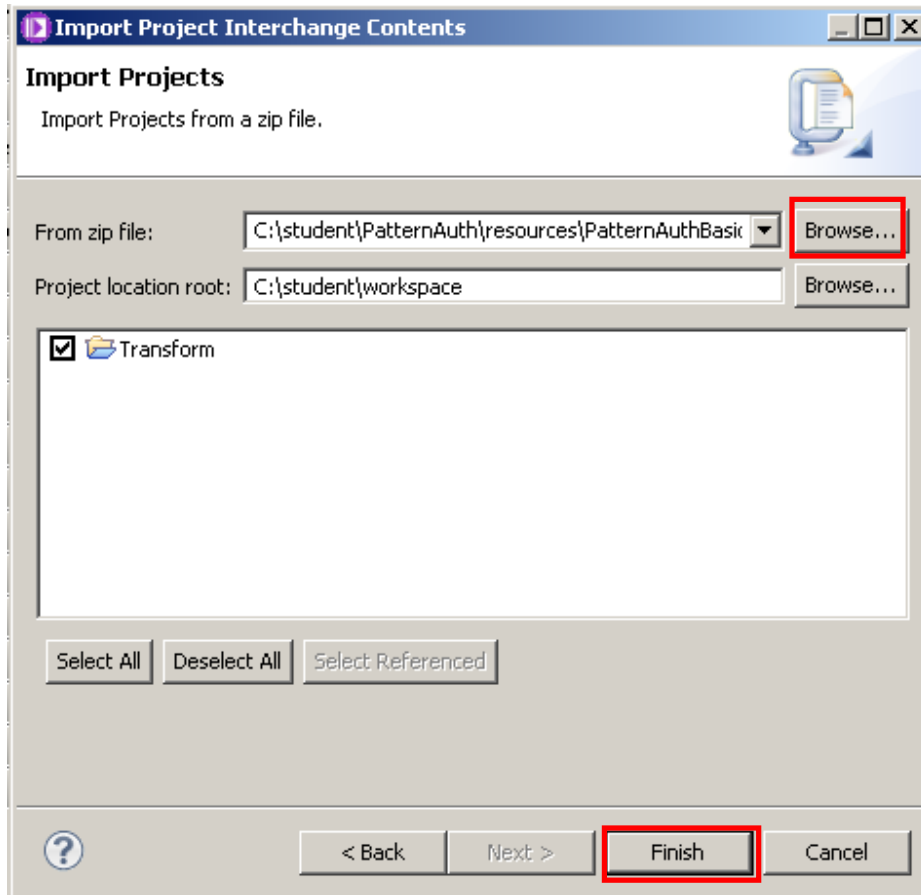
You are going to import the same base message flow you used in the earlier pattern authoring labs.

2. Import the project interchange file by clicking on File->Import.

Select Other-> Project Interchange, and click Next.

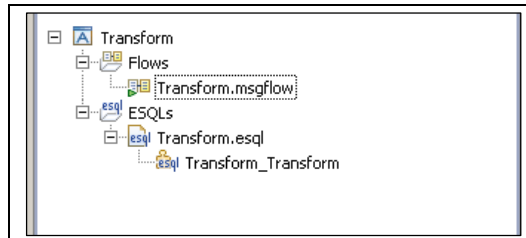


- Click on the Browse button and navigate to "C:\student\PatternAuth\resources" and select the PatternsAuthBasic_ExemplarV8.zip.



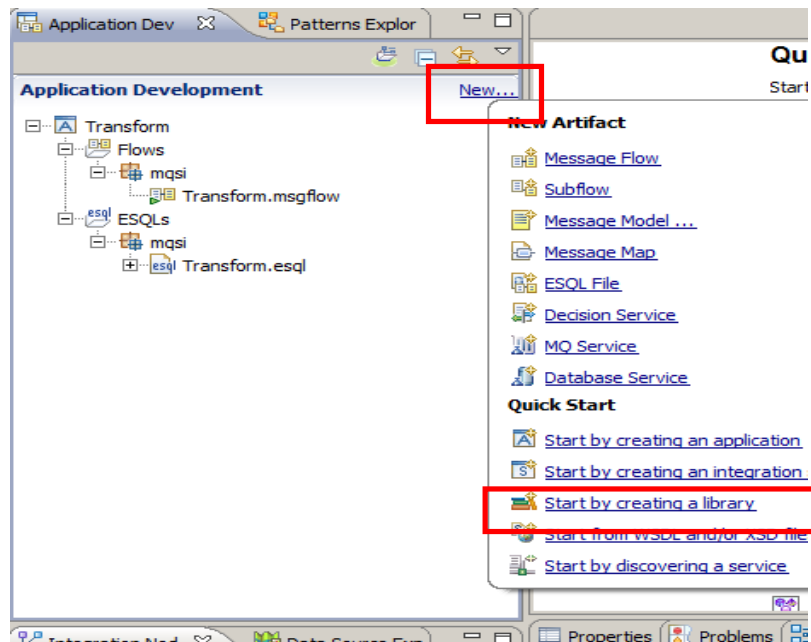
Make sure the Transform project is selected, and click Finish.

- Your projects view should look like this. Note that the PI file has been imported as an Integration Bus Application.

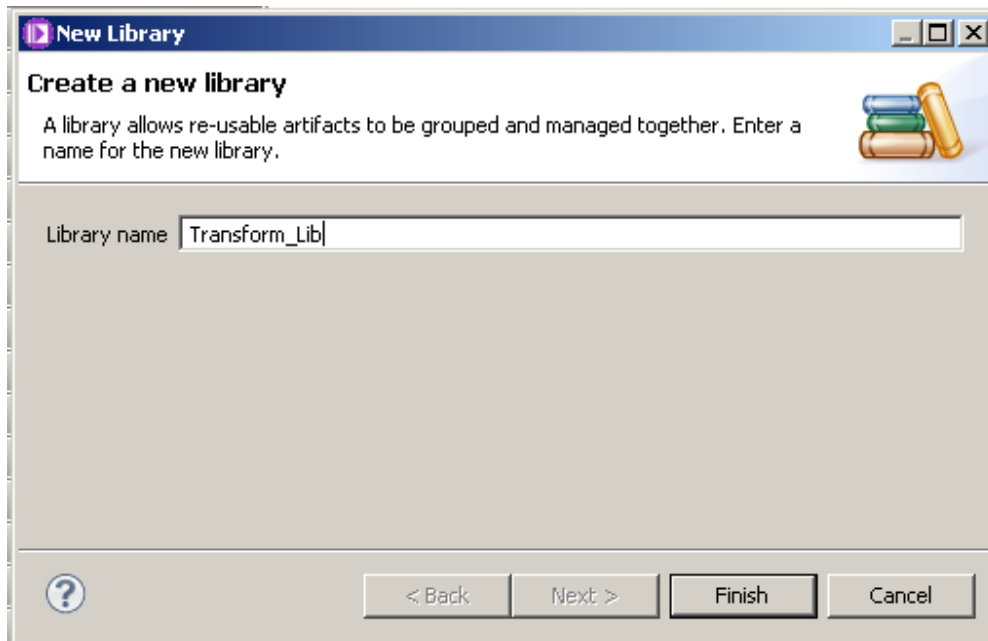


- Create a subflow to be used as a customisation node in the main message flow. This new subflow will be stored in a Library, so first we first need to create a new Library.

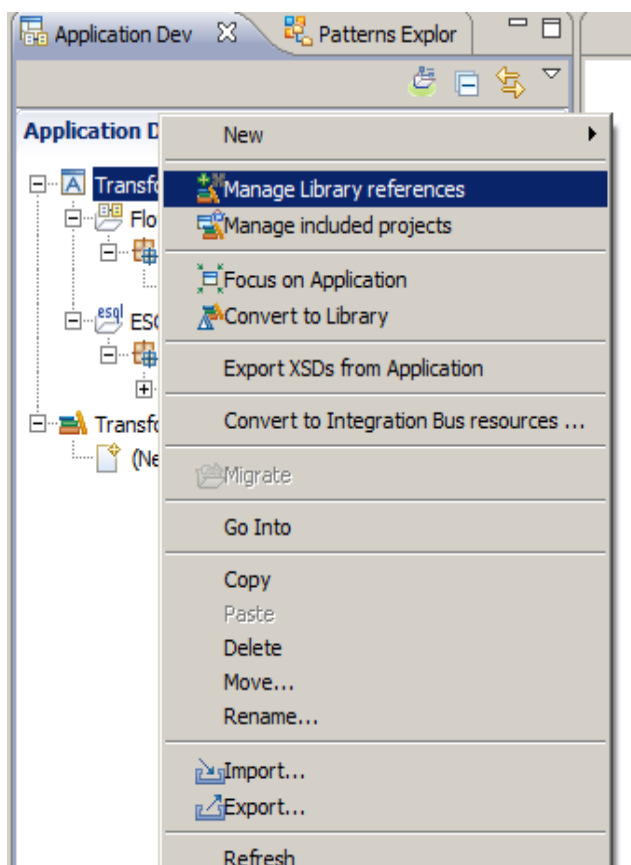
In the navigator, click New, then click “Start by creating a library”.



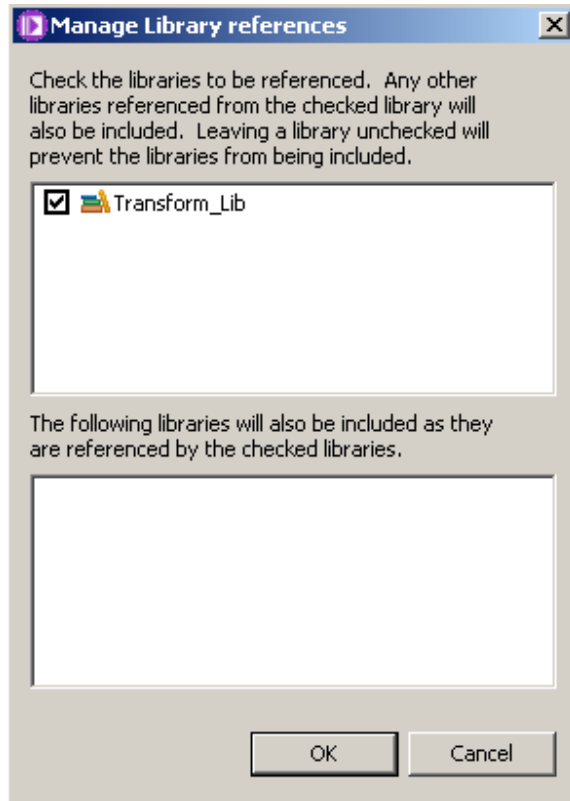
6. Name the library Transform_Lib and click Finish.



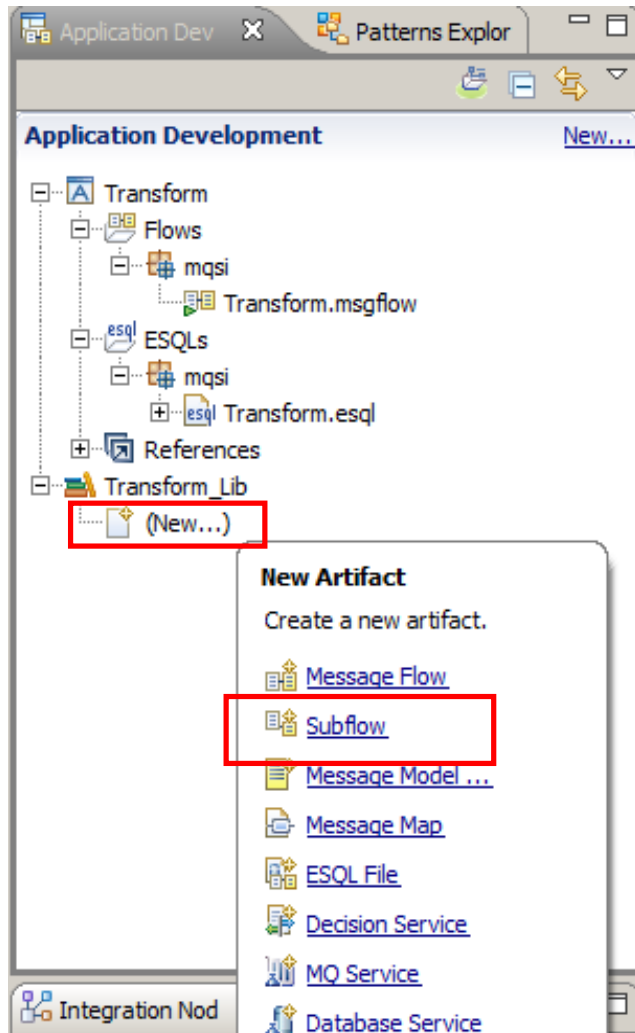
7. Right-click the Transform application, and select Manage Library References.



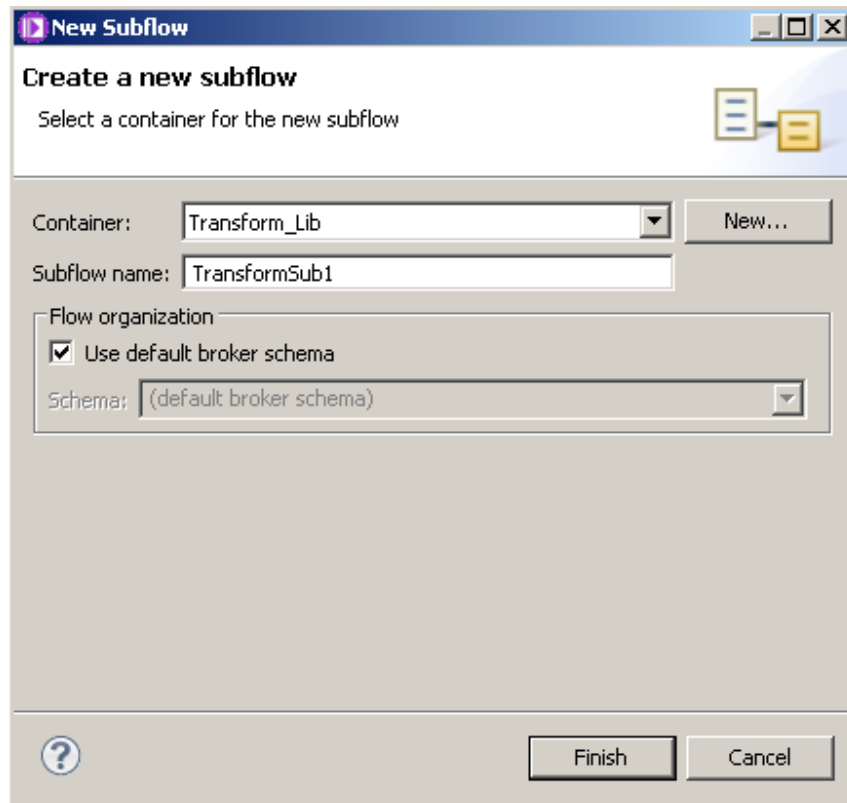
8. Select Transform_Lib and click OK.



9. In the new library, Transform_Lib, click (New...) to create a new subflow. On the dialogue box, click Subflow.

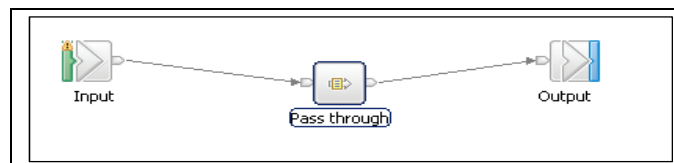


10. Name the subflow TransformSub1 and click Finish.



11. When the flow editor opens, it will already have placed an Input and Output node into the flow.

Place a passthrough node between these and wire them as shown.



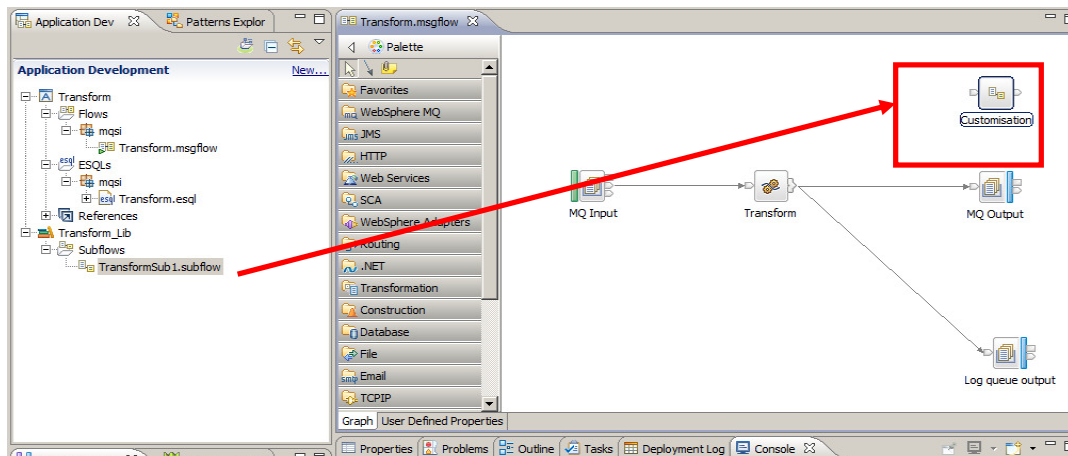
12. Press Ctrl+S or File->Save to save the message flow.

Close the message flow editor.

- Now you are going to include the subflow in the Transform message flow.

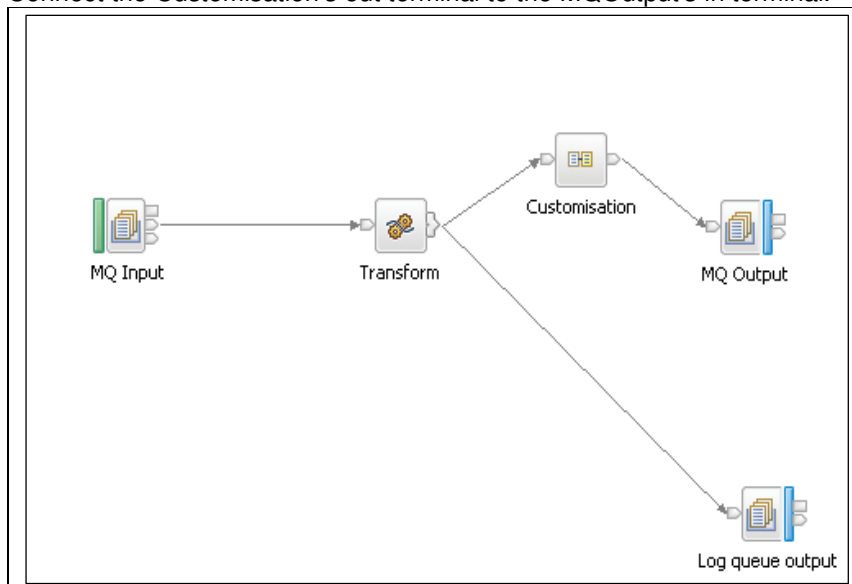
Open the Transform message flow by double-clicking on its name.

Drag and drop the subflow on to the flow editor. Rename the Subflow node to "Customisation".



- Connect the out terminal of the Transform node to the Customisation's in terminal.

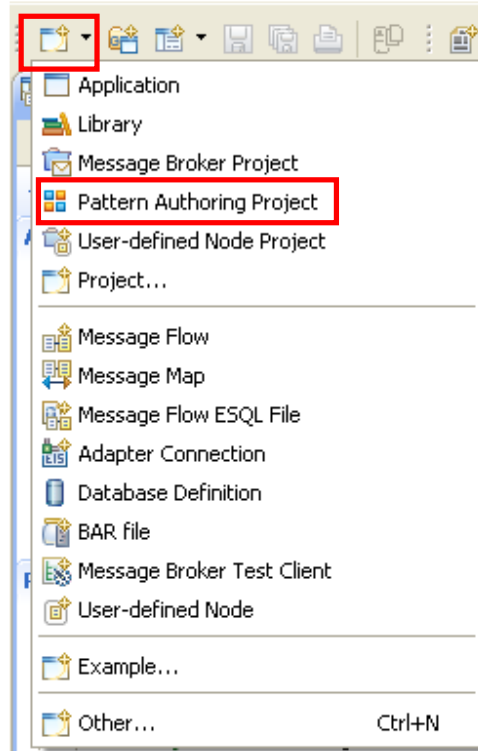
Connect the Customisation's out terminal to the MQOutput's in terminal.



- Save the message flow by pressing Ctrl+S or File->Save.

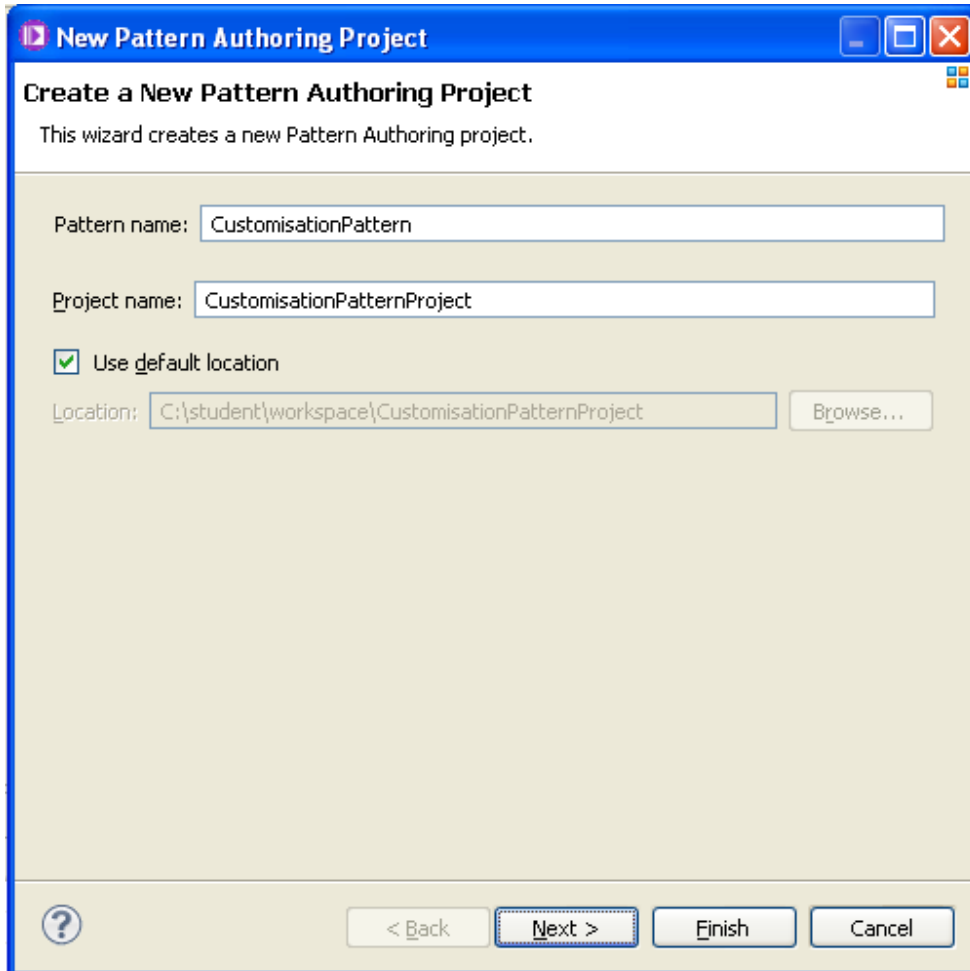
3. Create the Pattern

1. Create a new Pattern, by clicking File-> New -> Pattern Authoring Project or clicking on the New icon:



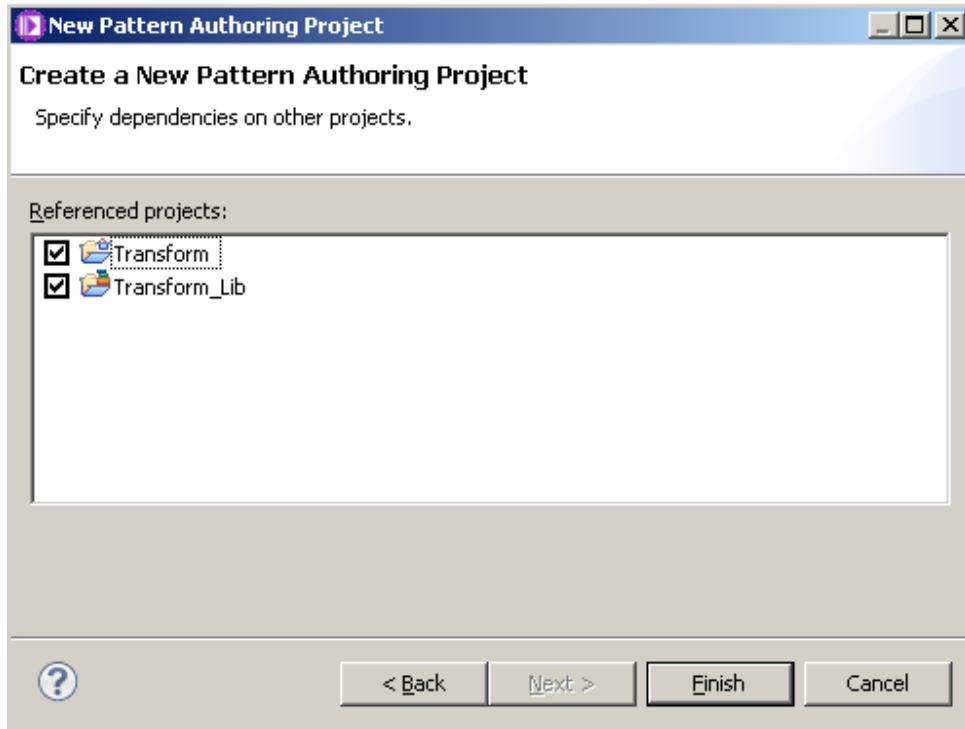
2. Enter "CustomisationPattern" as the pattern name, and "CustomisationPatternProject" as the project name.

Click Next.



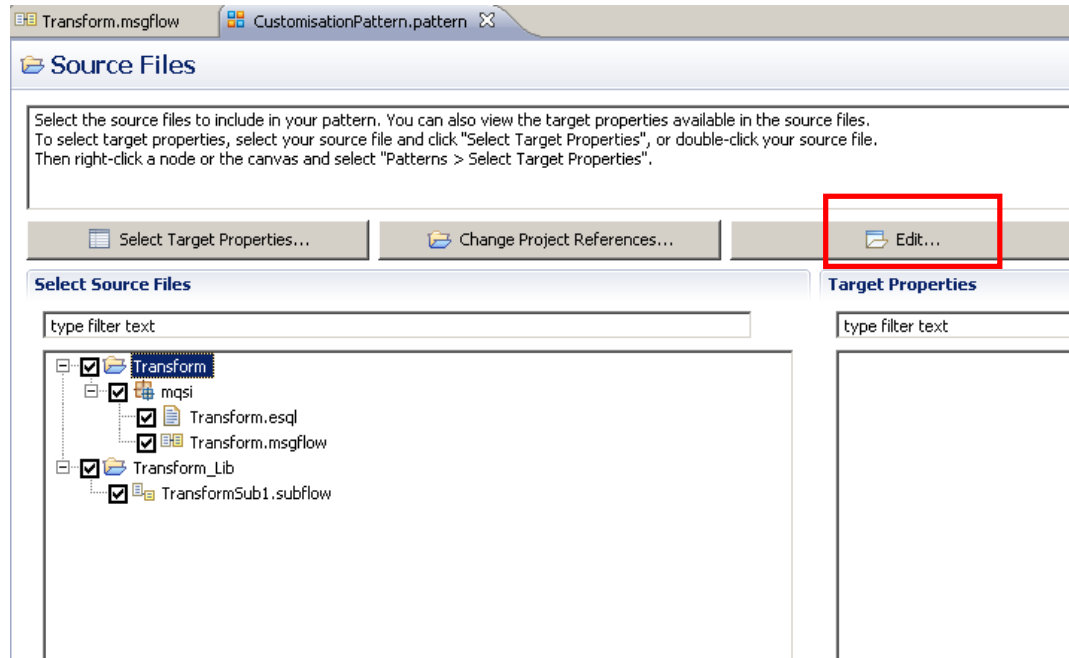
The screenshot shows a Windows-style dialog box titled "New Pattern Authoring Project". The main heading is "Create a New Pattern Authoring Project". Below the heading, it says "This wizard creates a new Pattern Authoring project." There are two text input fields: "Pattern name:" with the value "CustomisationPattern" and "Project name:" with the value "CustomisationPatternProject". A checkbox labeled "Use default location" is checked. Below the checkbox is a "Location:" label followed by a text box containing "C:\student\workspace\CustomisationPatternProject" and a "Browse..." button. At the bottom of the dialog, there are four buttons: a help button (question mark in a circle), "< Back", "Next >" (which is highlighted with a dashed border), "Finish", and "Cancel".

3. Select the two projects and click Finish.

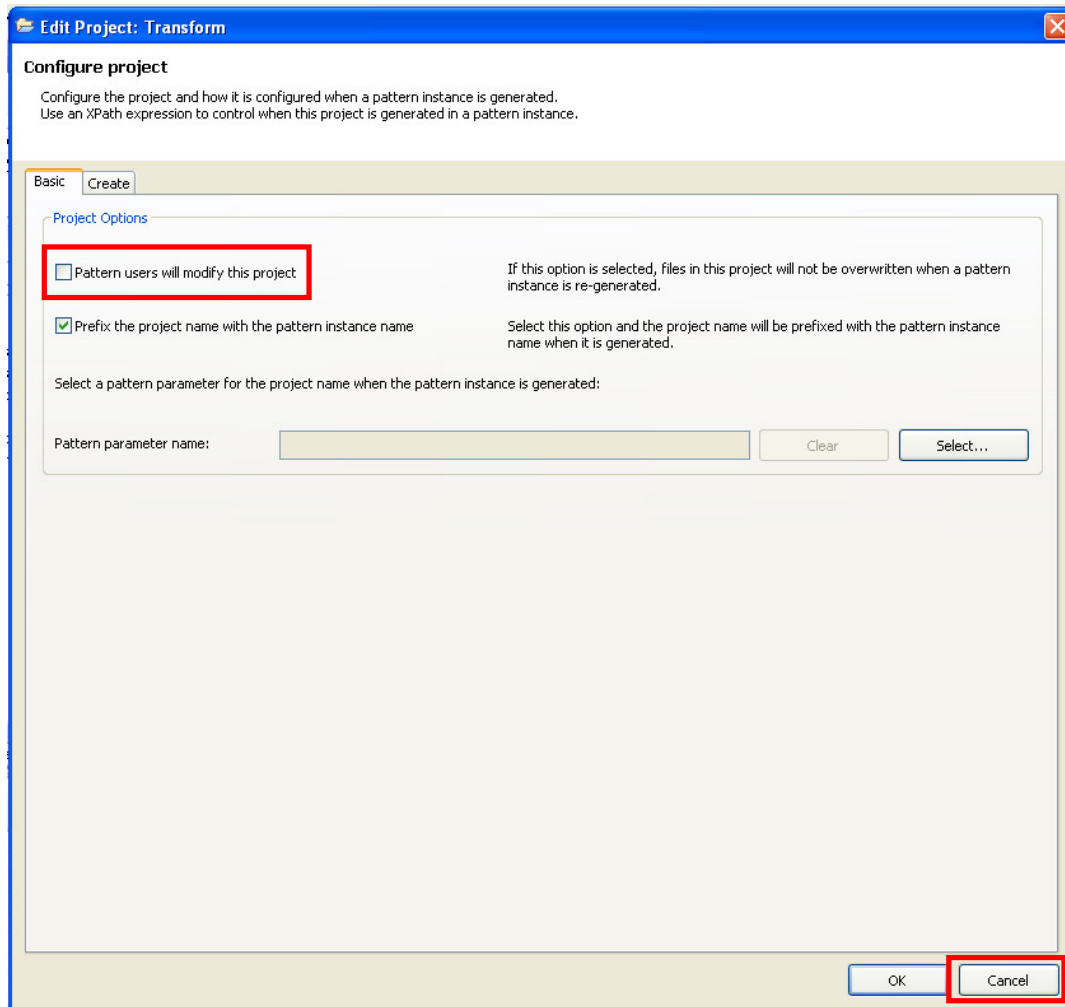


4. The Pattern Authoring Editor will open with the newly created CustomisationPattern.

Select the Transform project and click on the Edit button.



5. Make sure the "Pattern users will modify this project" is unchecked. Click Cancel.



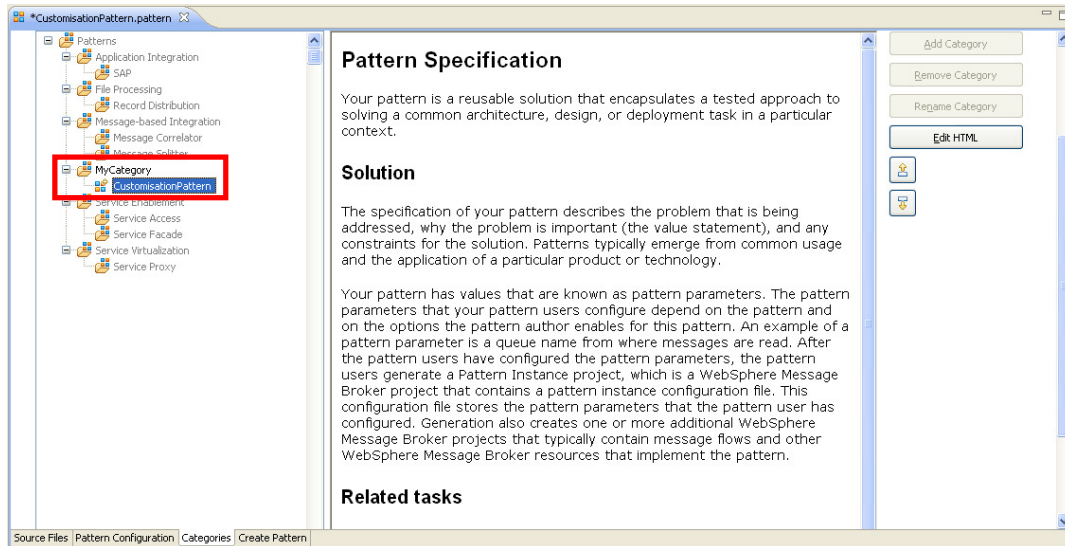
Repeat this step with the Transform_Lib project.

6. In the Pattern Authoring Editor, click on the Categories tab.

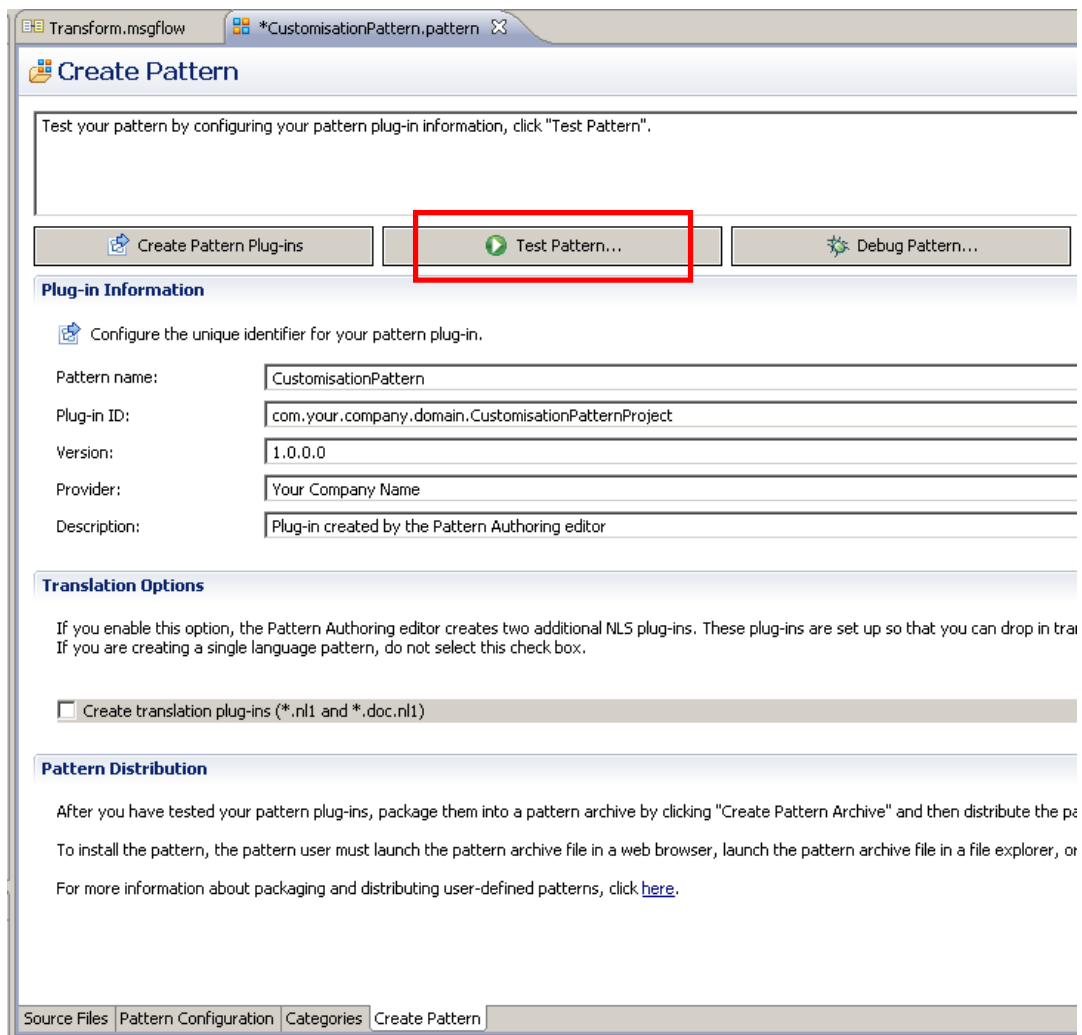
Then click on the "Add Category" button. Enter "MyCategory" as the category name and click OK.

A popup will appear asking you to save your pattern. Click Yes.

- Now drag the CustomisationPattern and drop it under the newly created MyCategory category.

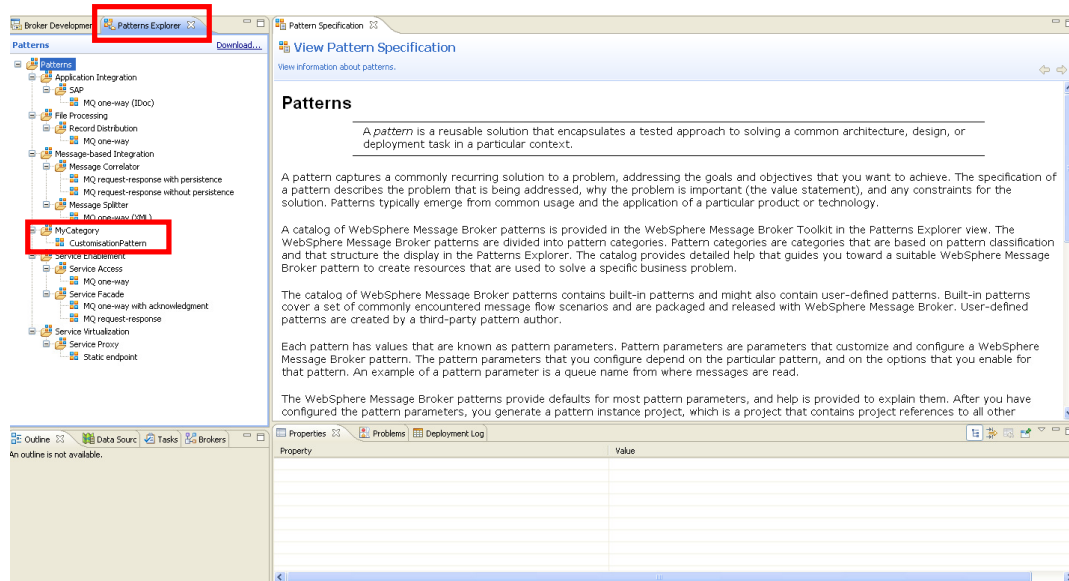


- In to the "Create Pattern" tab and click on the "Test Pattern" button. This will start a new IBM Integration Toolkit instance.



- In the workspace selection window, accept the default workspace and click OK.

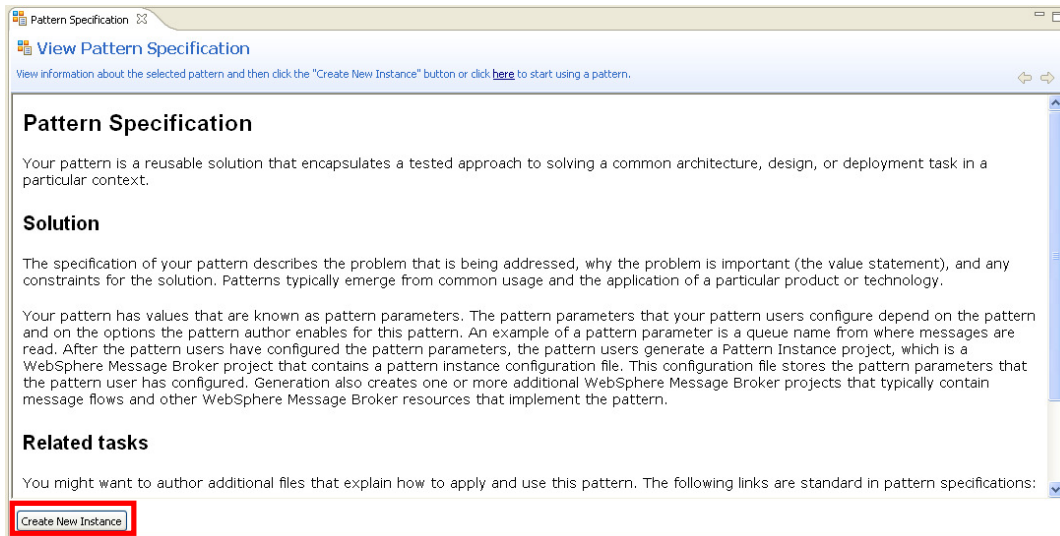
- Go to the Patterns Explorer view, by clicking on the tab.



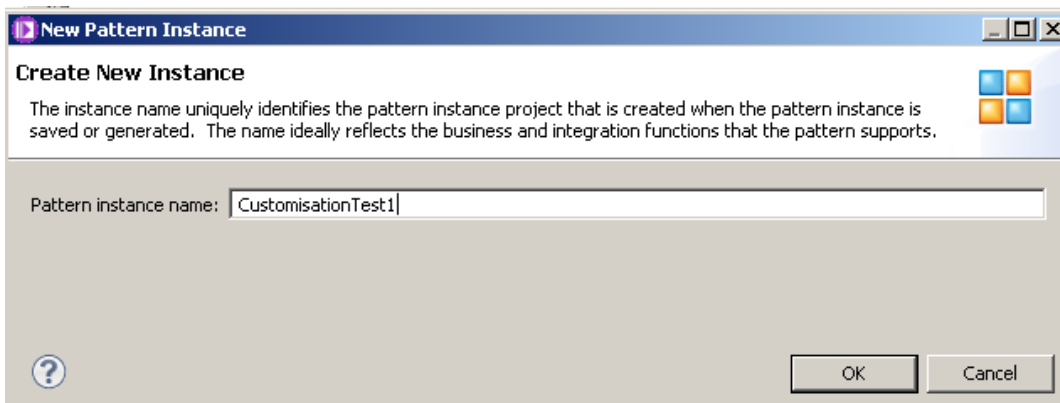
Note that the created pattern "CustomisationPattern" is under "MyCategory".

4. Instantiate the Pattern

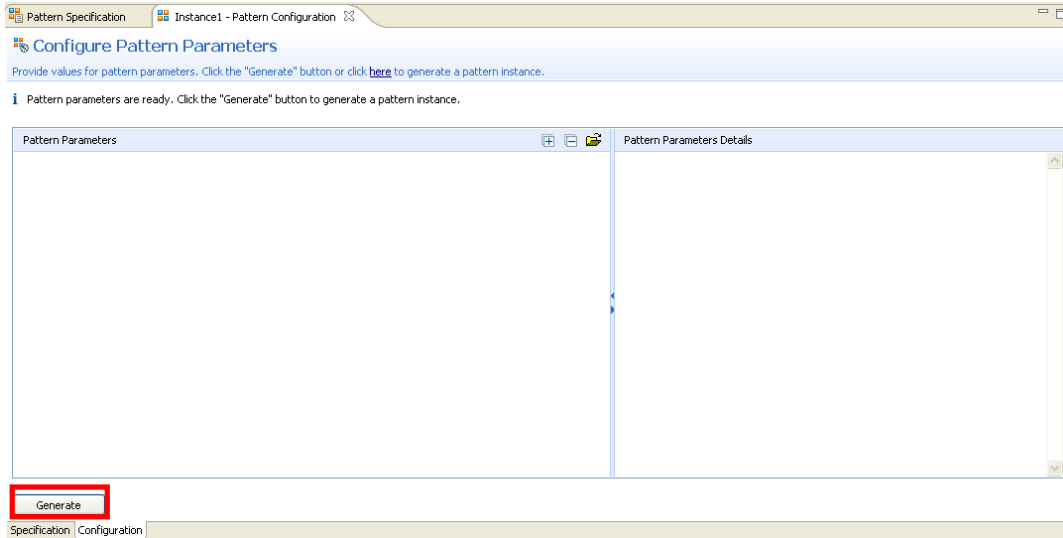
1. Click on "CustomisationPattern" and when its specification opens, click on the "Create New Instance" button.



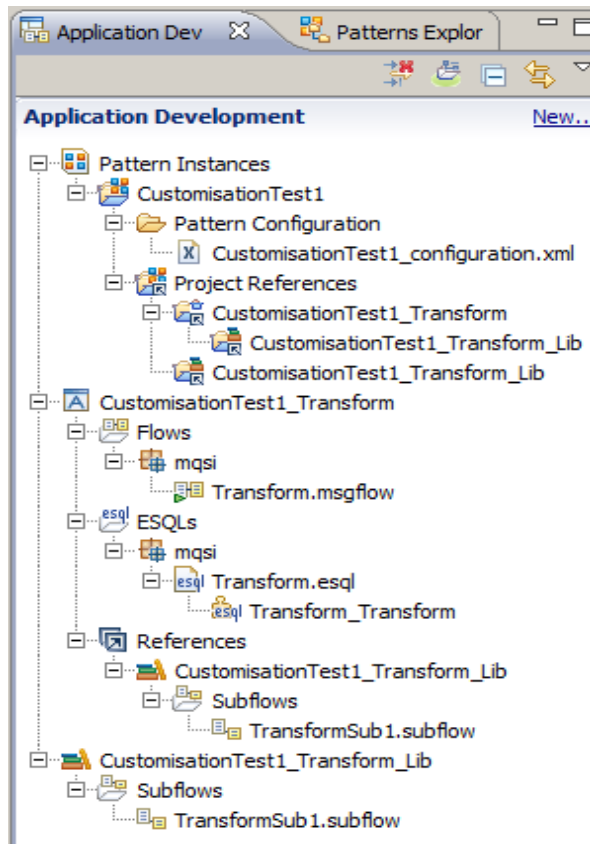
2. Enter "CustomisationTest1" as the name for the instance and click OK.



- Now click on the Generate button. Note that no pattern parameters will be shown because we haven't defined any in the template.



This will create a new Application and Library, along with the associated Library Reference. They will be prefixed CustomisationTest1, since our pattern chose to keep these prefixes.

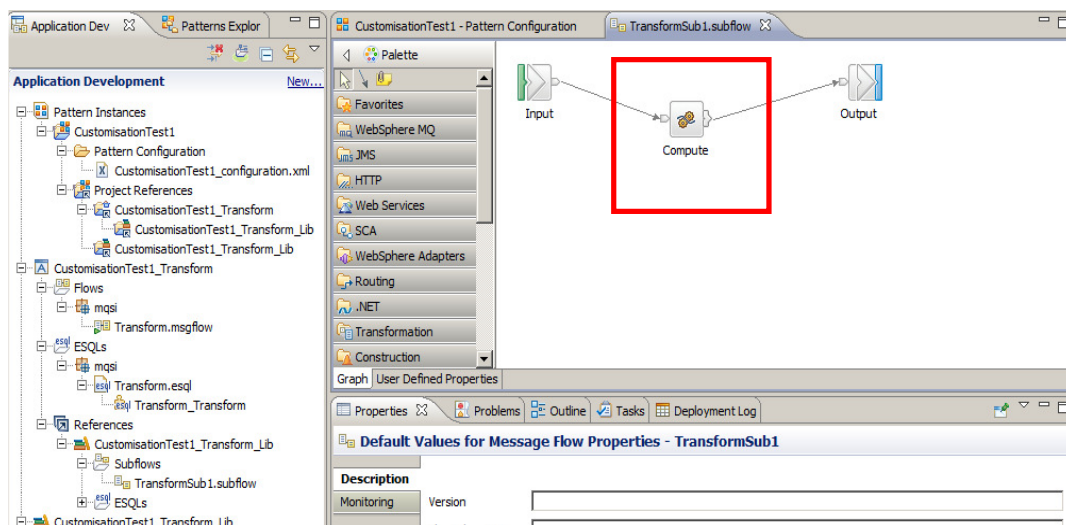


5. Customise the Message Flow

- Next you are going to make a change to the Subflow, and see what happens when you re-generate the pattern instance.

In the second (test) workspace, open the Subflow message flow TransformSub1 by double-clicking on its name in the Library (or direct from the Library Reference).

Replace the Passthrough node with a Compute node as shown.



Connect the three nodes:

Input (out) -> Compute (in)
 Compute (out) -> Output (in)

- Double-click on the Compute node to generate the default ESQL file.

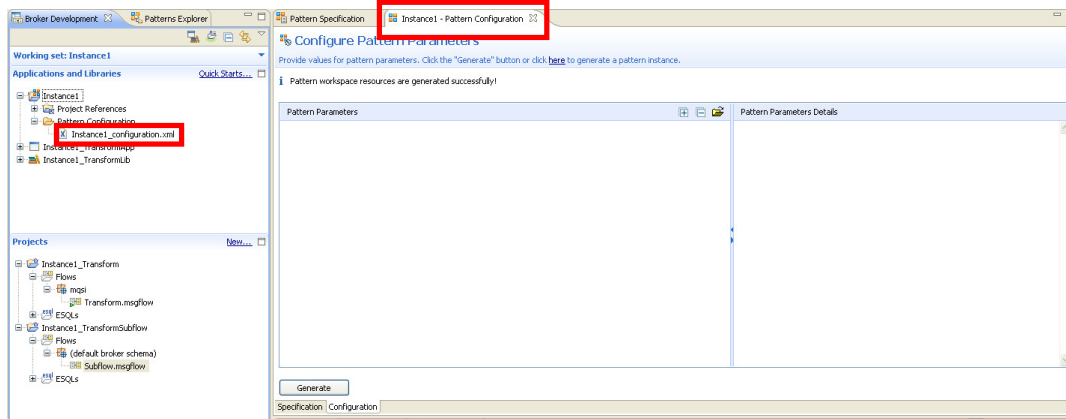
Close it by clicking on the "X".

- Save the subflow by pressing Ctrl+S or File->Save.

Close the Subflow message flow.

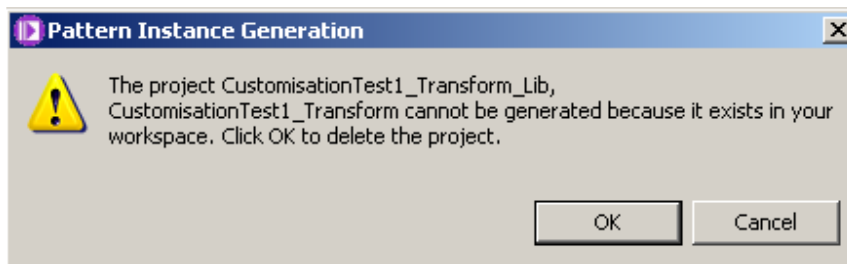
6. Regenerate the Pattern Instance

1. Return to the Pattern Instance configuration by clicking on the "CustomisationTest1 - Pattern Configuration" tab, or double-clicking on the "CustomisationTest1_configuration.xml" file under CustomisationTest1 -> Pattern Configuration.

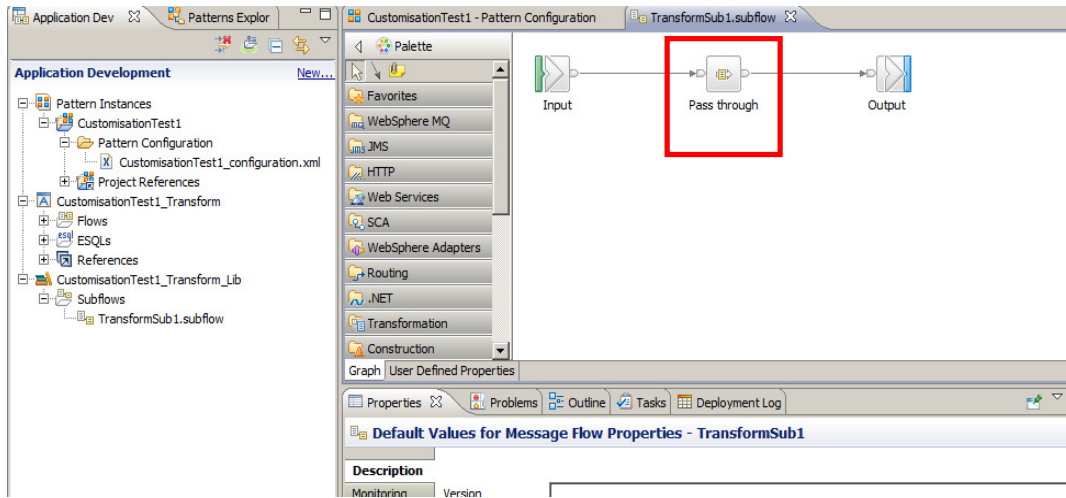


2. Click on the Generate button.

A popup window will appear asking if you want to overwrite the existing instance. Click OK.



3. Now open the "CustomisationTest1_Transform_Lib" and open the TransformSub1 subflow.



Note that the changes you've made (replacing the passthrough node with a compute node) are gone. The re-generation of the pattern's instance has overwritten your customisation.

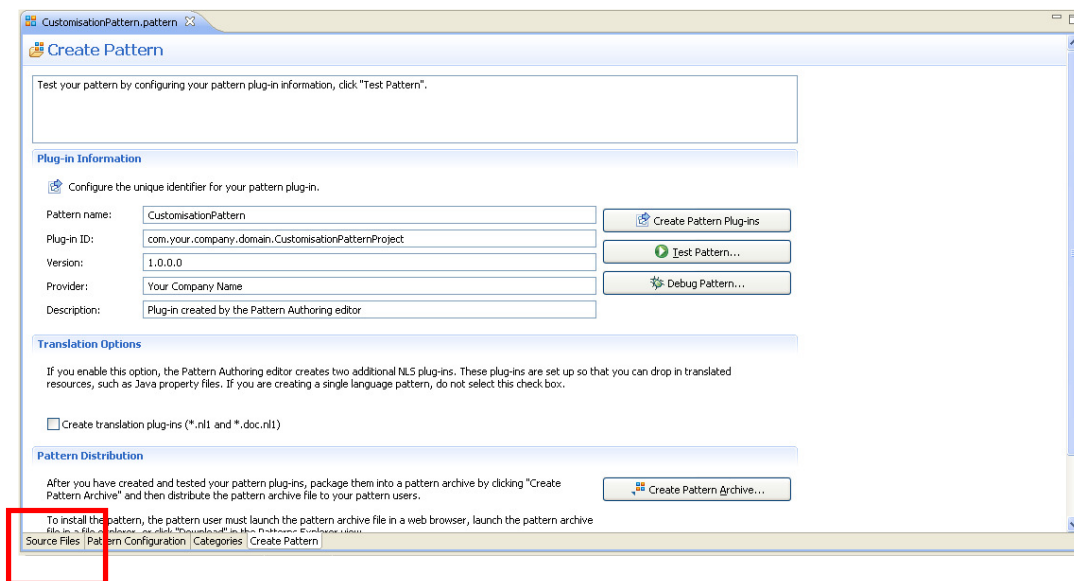
7. Modifying the Pattern Configuration

1. Using a new feature in Pattern Authoring, available since Message Broker Version 8, you are going to overcome this issue.

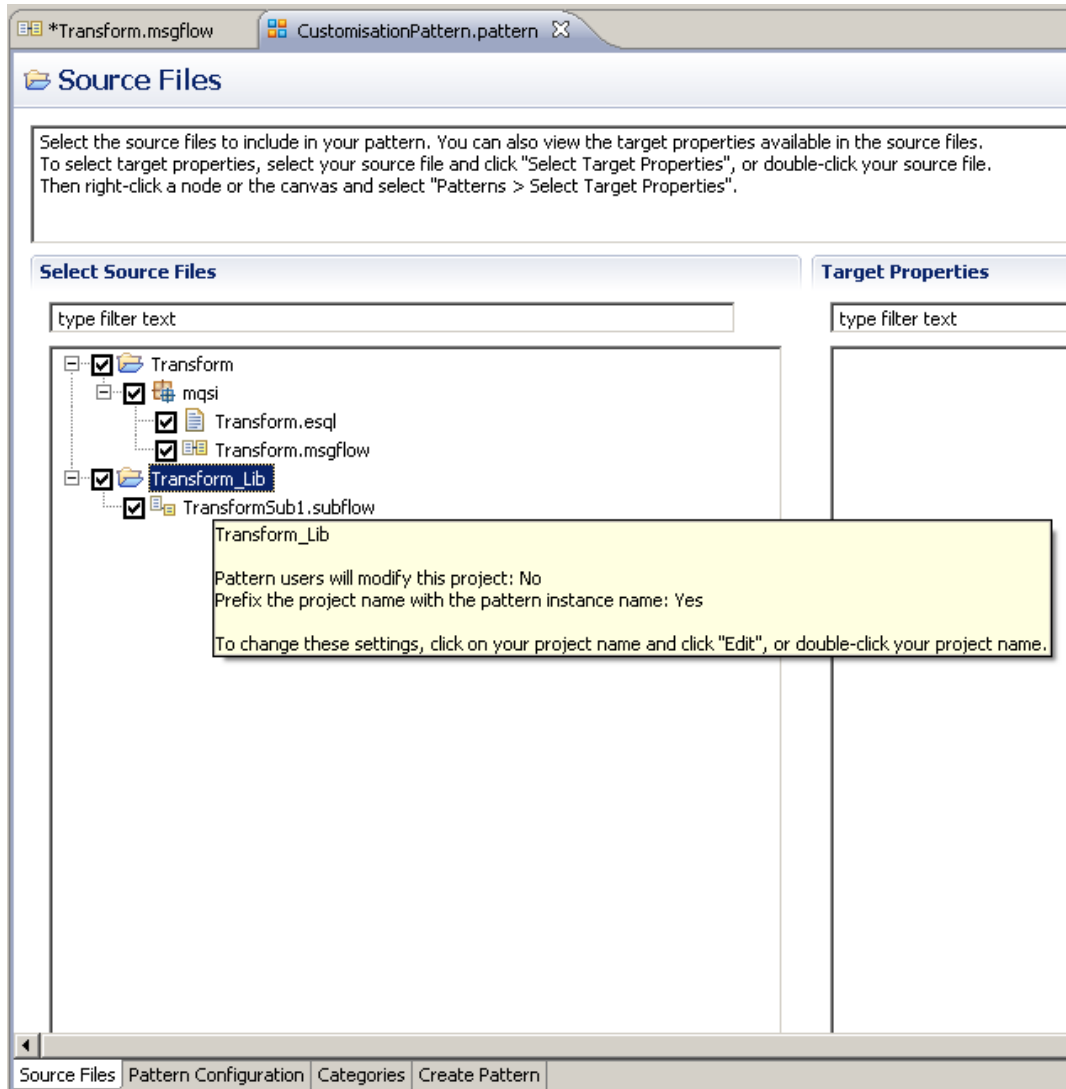
Close the current Integration Bus Pattern Instance Test Toolkit and go back to the original Toolkit instance.

You should be in the Pattern Authoring Editor with the CustomisationPattern pattern open.

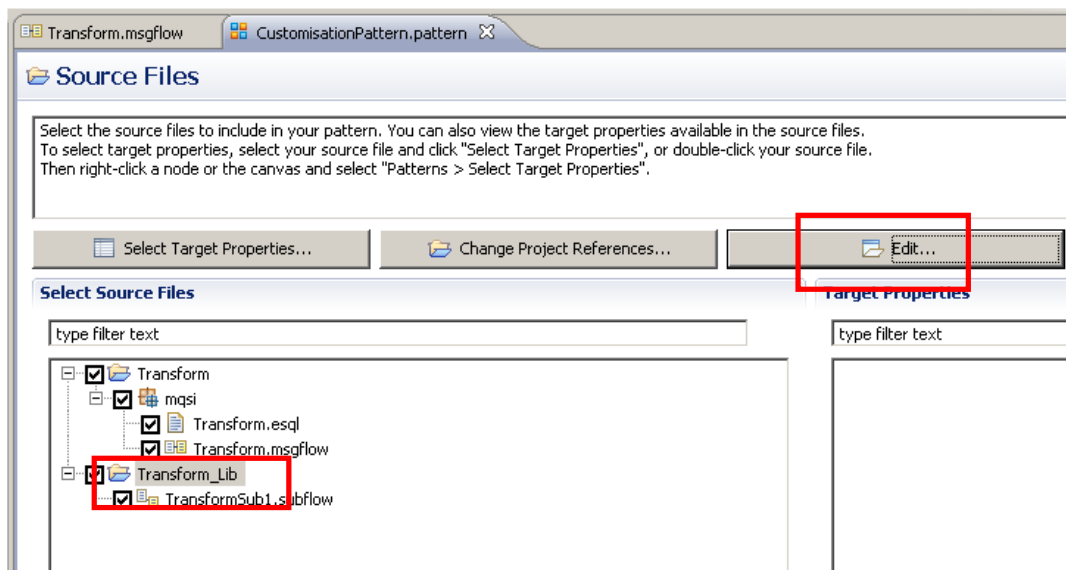
Click on the "Source Files" tab.



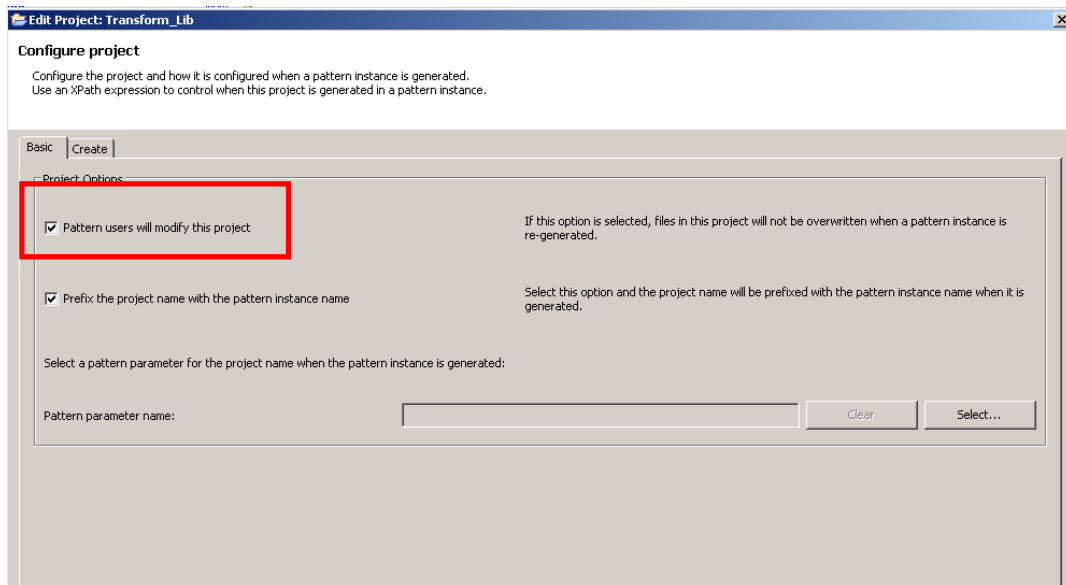
- In the "Source Files" section select the TransformLib project. Note that hovering over the Transform_Lib will show a pop-up with brief details of the configuration.



Click on the Edit button.



3. Check the "Pattern users will modify this project" and click OK.

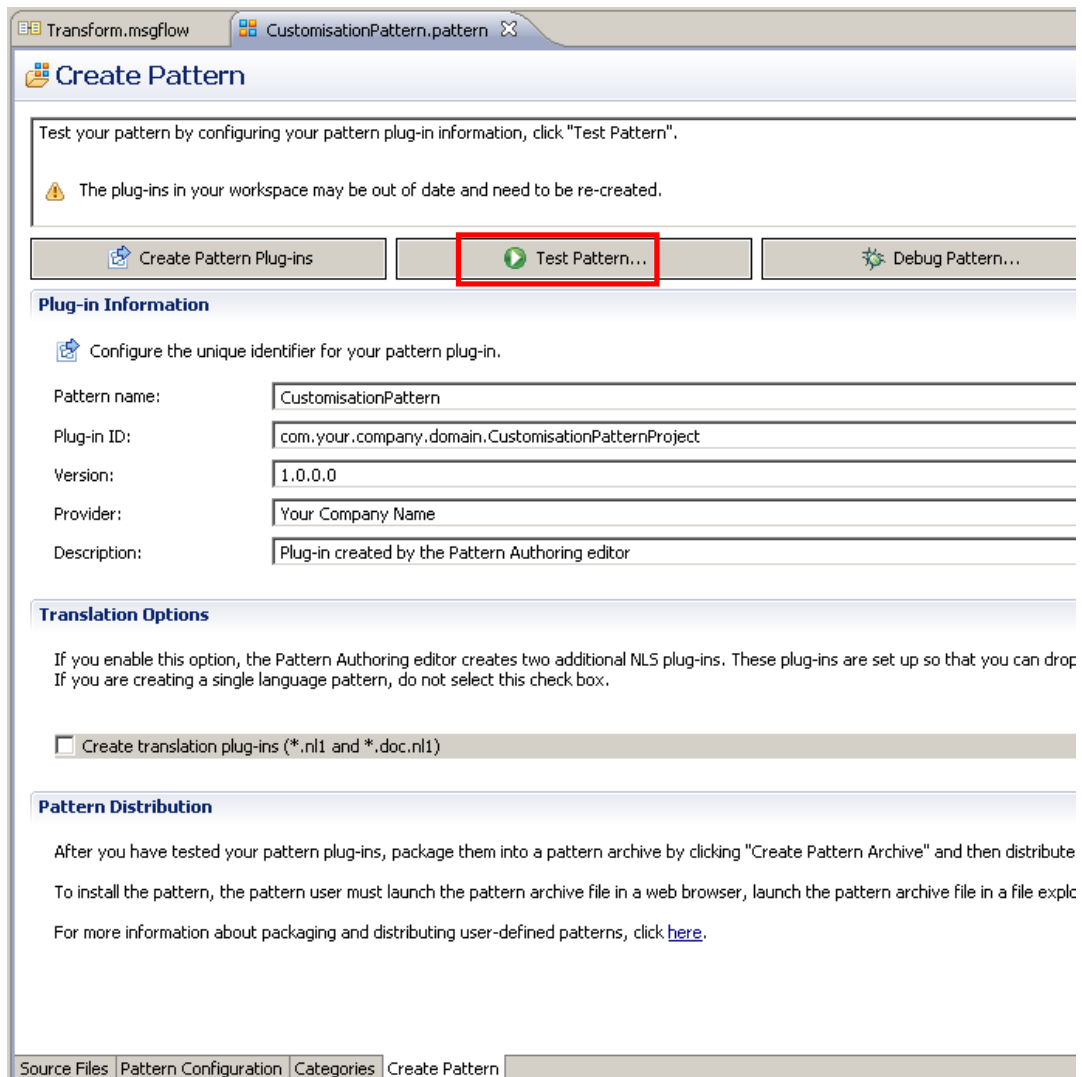


Save the CustomisationPattern.pattern.

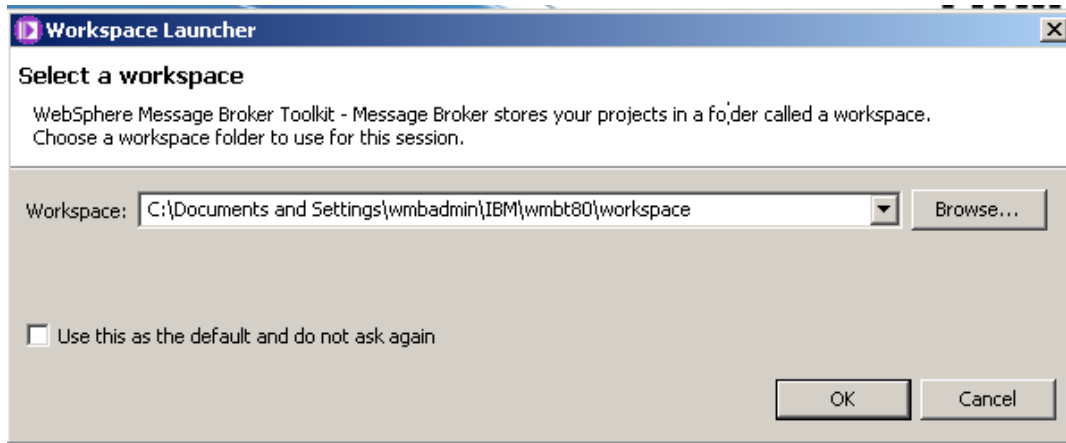
4. Click on the "Create Pattern" tab.

Click "Create Pattern Plug-ins".

When complete, click on the "Test Pattern" button.

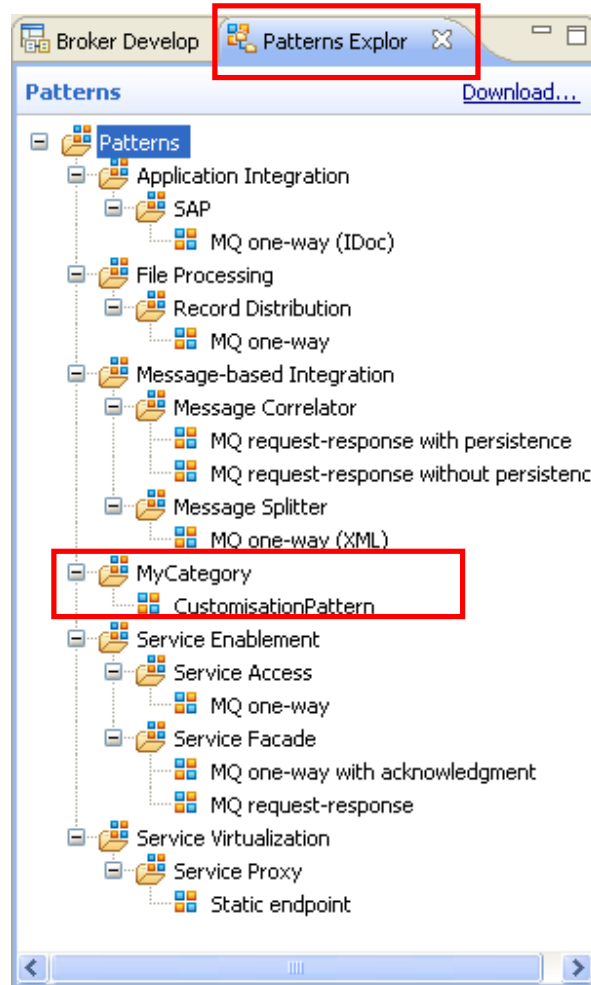


5. When the new Integration Toolkit instance starts accept the default workspace location and click OK.

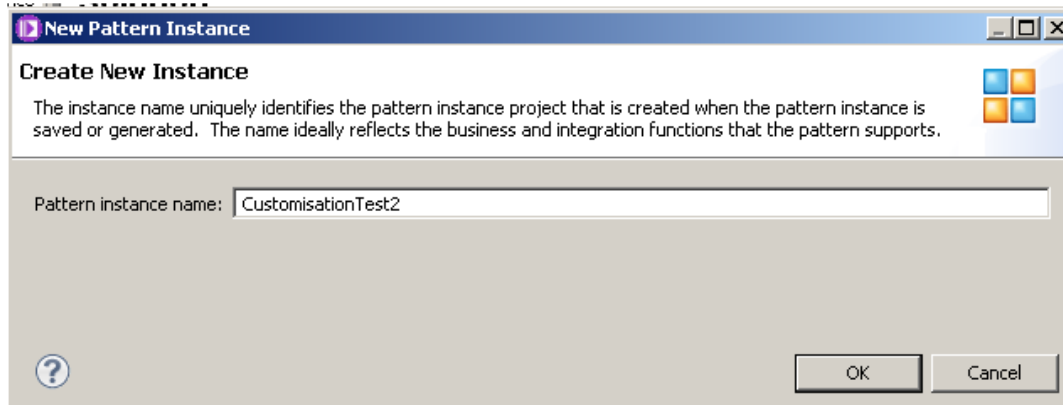


8. Instantiate the Modified Pattern

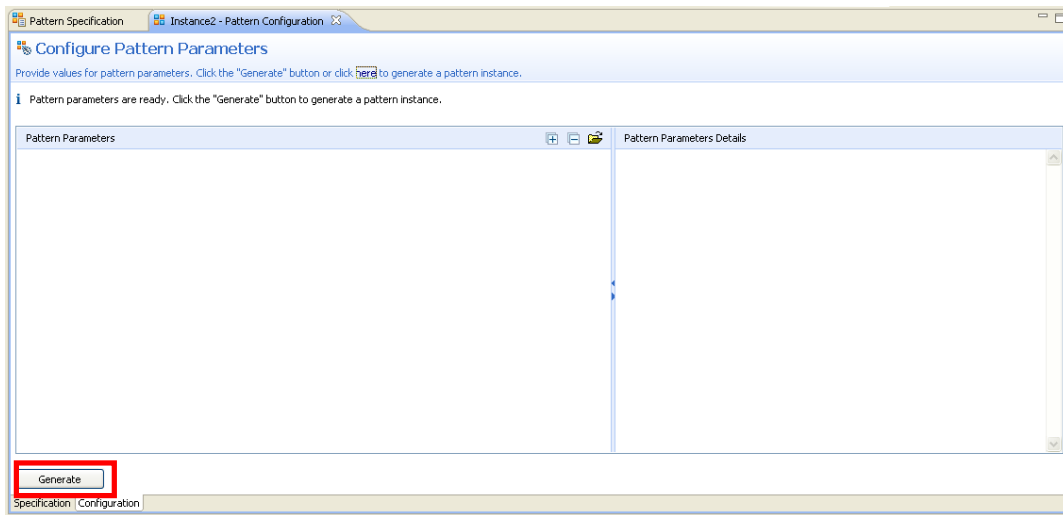
1. Go to the Pattern Explorer view, by clicking on its tab:



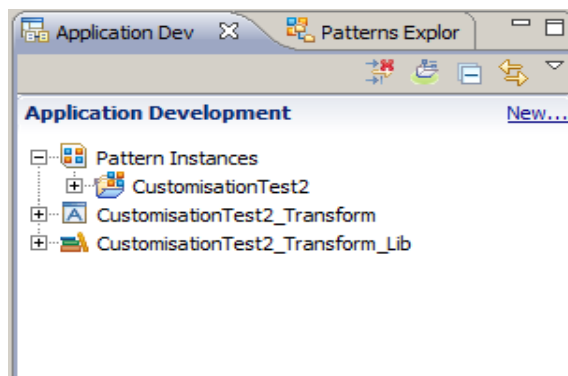
Double-click on CustomisationPattern to create a new instance. Enter "CustomisationTest2" as its name and click OK.



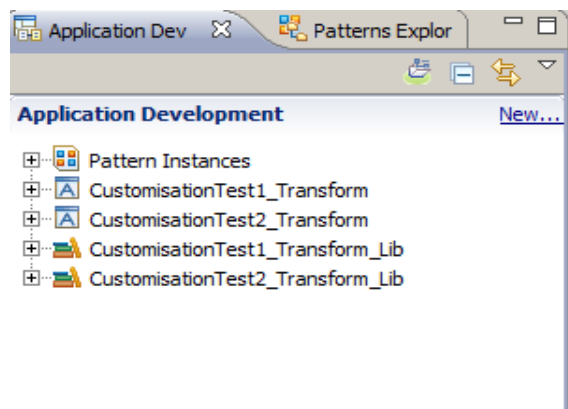
- Click on the Generate button.



- The new pattern instances will be created with the prefix CustomisationTest2. Note that the navigator has filters applied which will show only the newly generated projects.



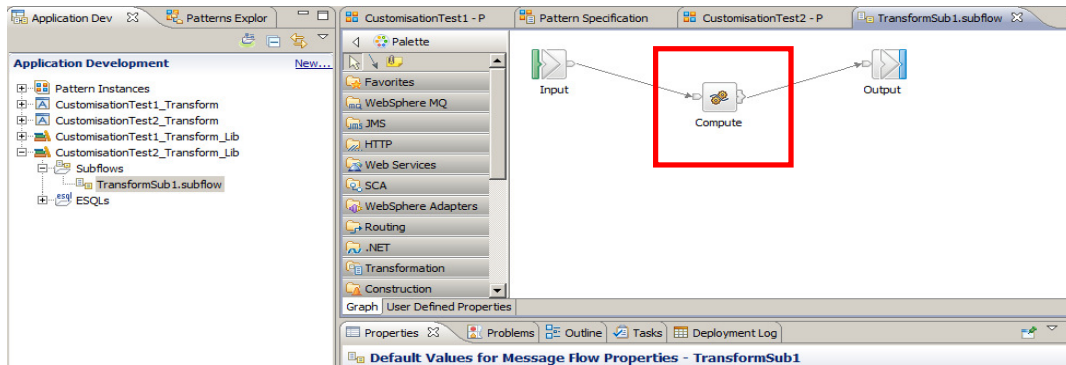
You can remove the filters by clicking the icon at the top of the navigator (red cross). If you do this, you will see the generated application and library from CustomisationTest1.



9. Customise the Message Flow again

1. In the CustomisationTest2 library, open the TransformSub1 subflow, delete the Passthrough node and replace it with a Compute node, as before.

Connect the nodes as the follows.



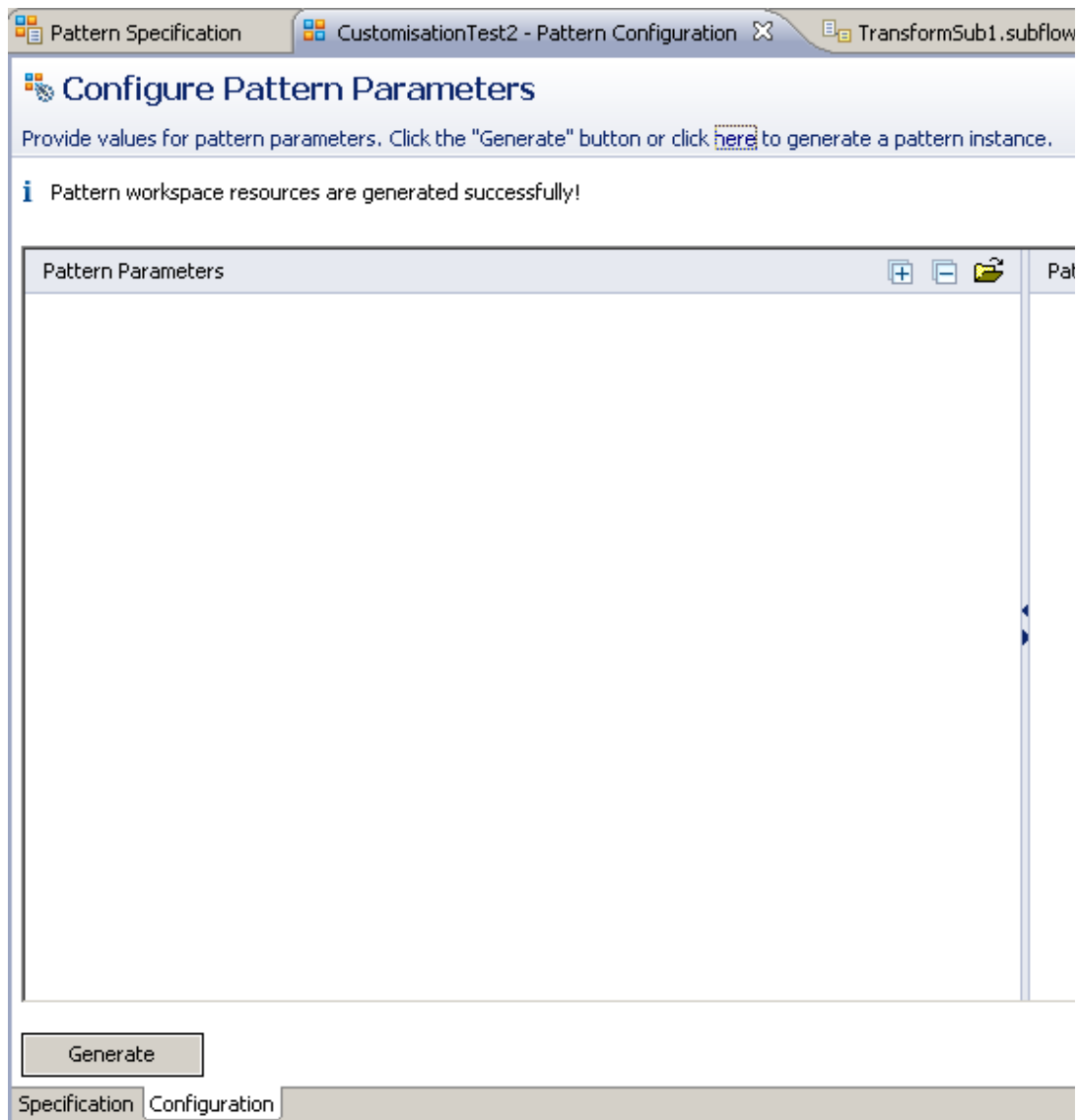
Double-click on the Compute node to generate the default ESQL file.

Save the message flow by pressing Ctrl+S or File->Save and close it.

10. Regenerate the Pattern Instance again

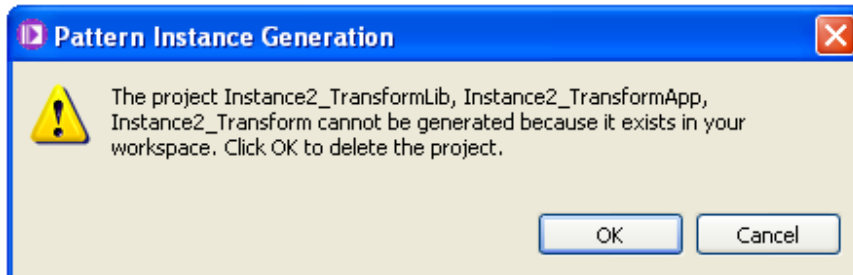
1. Now you will re-generate the pattern instance and check that the customisation you've made to the subflow isn't overwritten.

Go back to "CustomisationTest2 - Pattern Configuration".

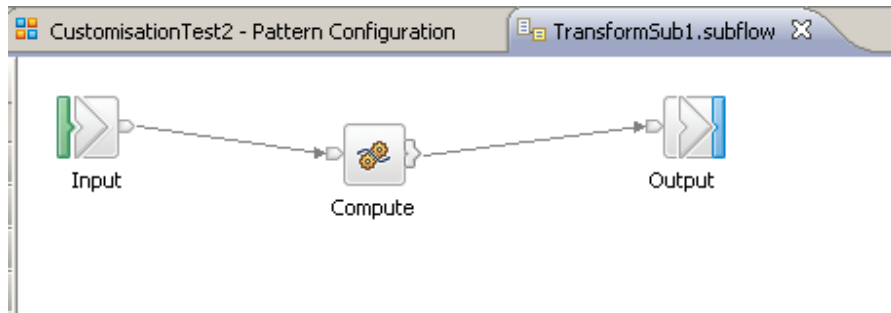


2. Click on the Generate button.

A popup window will appear asking if you want to overwrite the existing instance. Click OK.



3. Now open the generated TransformSub1 subflow again.



Note that after re-generating the pattern instance, the customised subflow kept all the changes you've made, (demonstrated by the fact that the Compute node is still there).

This concludes the Customisation section of the Pattern Authoring lab.