IBM Integration Bus

Pattern Authoring Lab 1

Creating a Basic Pattern

June, 2013

Hands-on lab built at product
code level Version 9.0.0.0

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1. Introduction to Pattern Authoring

IBM Integration Bus Version 7 first introduced the capability to create message flows using a pattern-based approach, based on a set of IBM-supplied patterns. Version 7 Fixpacks 1 and 2 (also known as V7.0.0.1/2) extended this facility by allowing you to create your own patterns. Pattern Authoring was further developed in Version 8. This lab has been tested using IBM Integration Bus version 9.0.

This hands-on lab is the first of several labs which show you how to create your own patterns. It starts by taking a simple message flow (an exemplar) and creating a pattern based on this flow. Later labs show you more sophisticated tools that you can use to refine your patterns.

1.1 Lab preparation

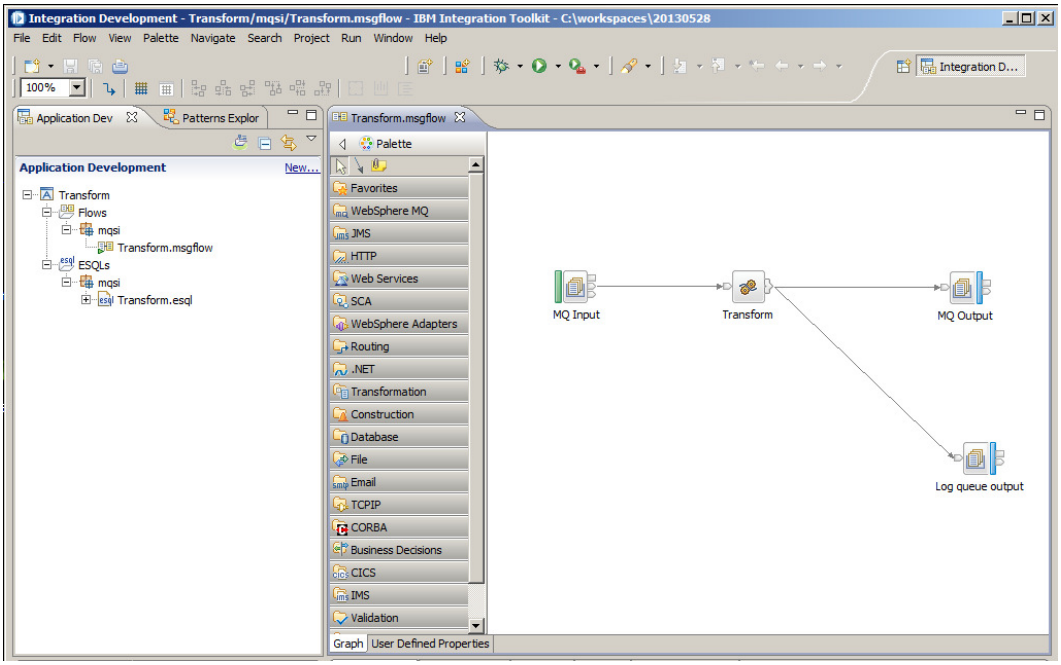
To run this lab, unzip the supplied file patternauth.zip into the directory c:\student directory. This will create a subdirectory called \PatternAuth with several further subdirectories. If you are using the pre-supplied vmware image, this will already be available.

2. Creating your new Pattern

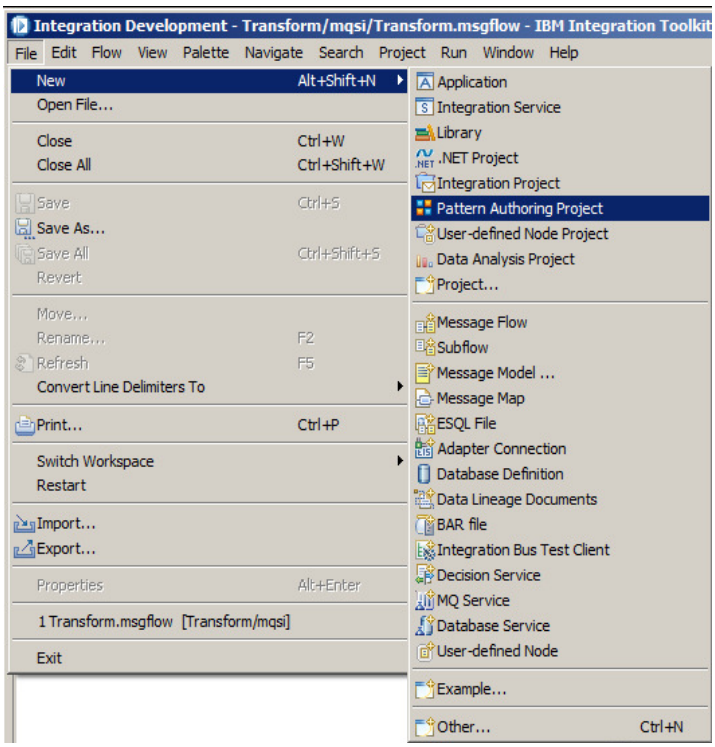
1. If not already started, start the IBM Integration Bus Toolkit by clicking its icon in the quick launch toolbar, or on the desktop.

   Import the project interchange file PatternAuthBasic_ExemplarV8.zip from the c:\student\PatternAuth\resources directory. (File, Import, Other, Project Interchange).

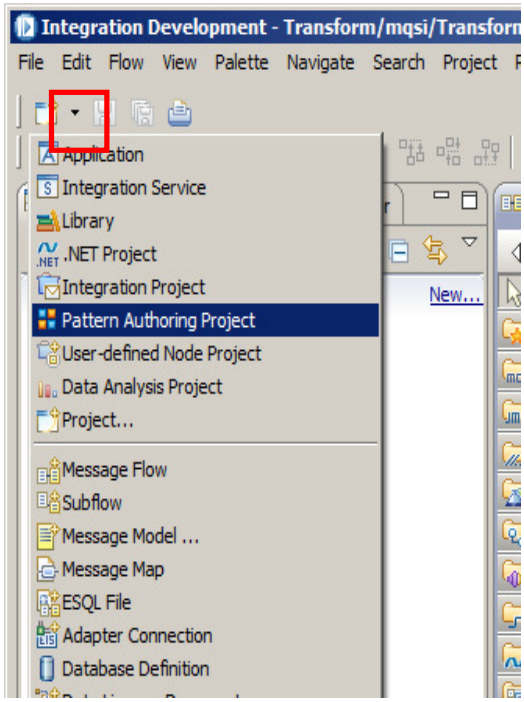
   Select the Transform project; this will load the Transform message flow, contained in the Transform application.

2. 

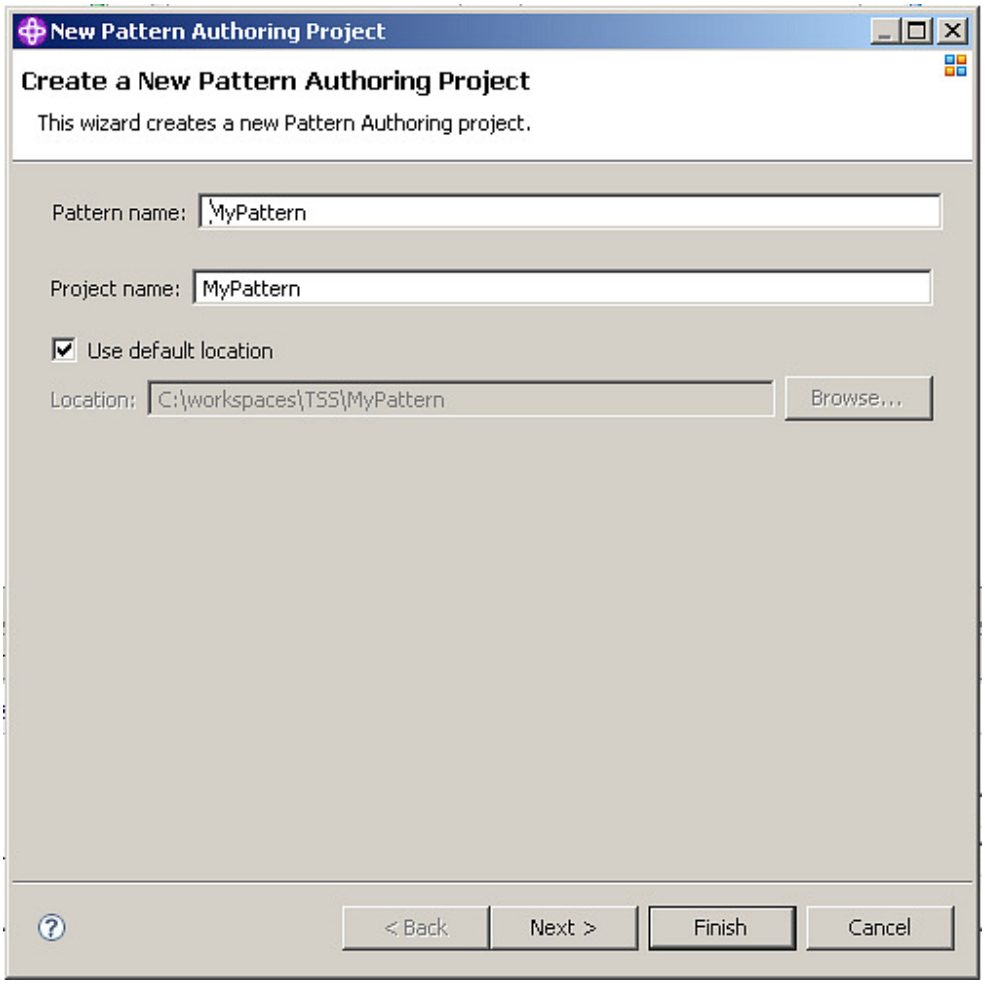
3. Create a Pattern Authoring project. Click File, New, Pattern Authoring project.



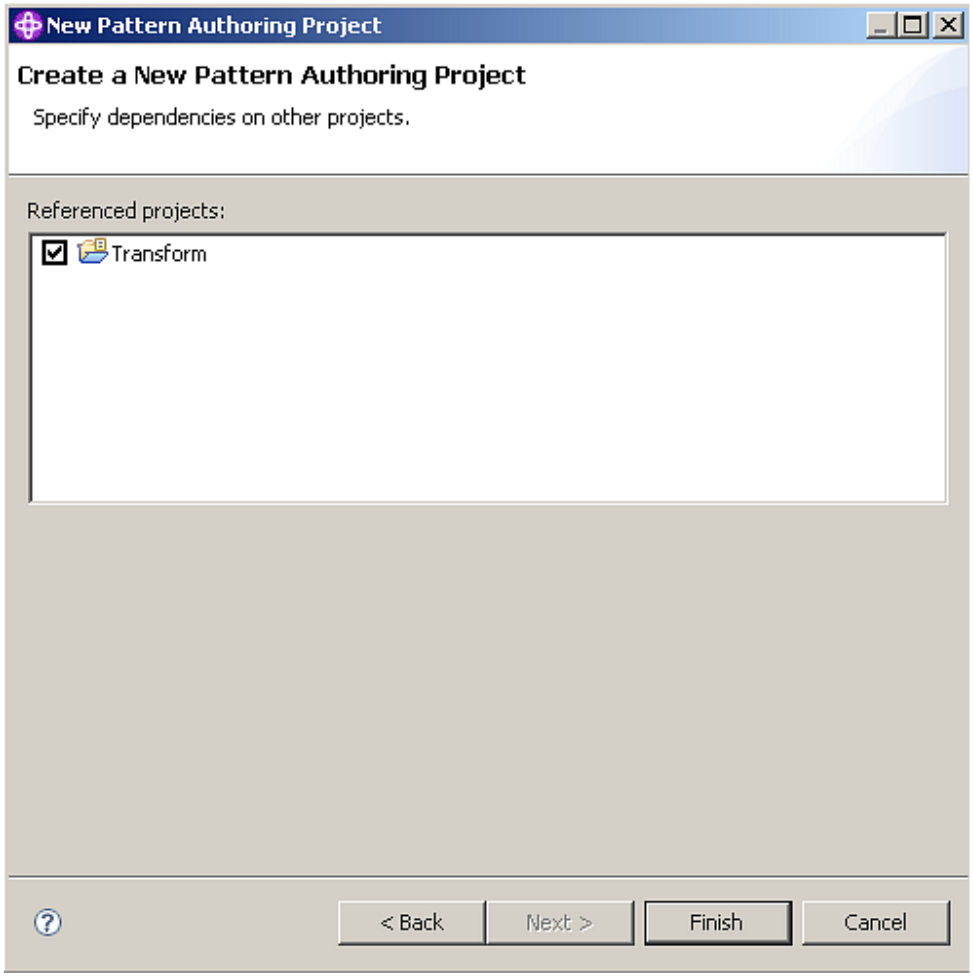
Alternatively, you can just click the drop-down arrow:



4. Call the pattern “MyPattern”, and click Next.



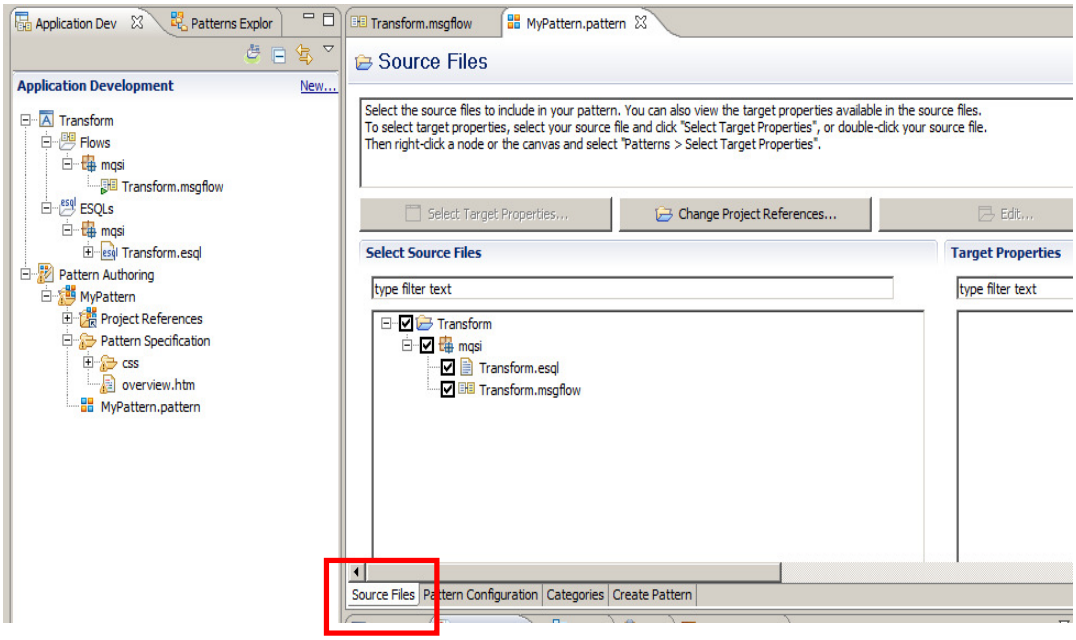
5. Select the required message flow project….. Transform, and click Finish.



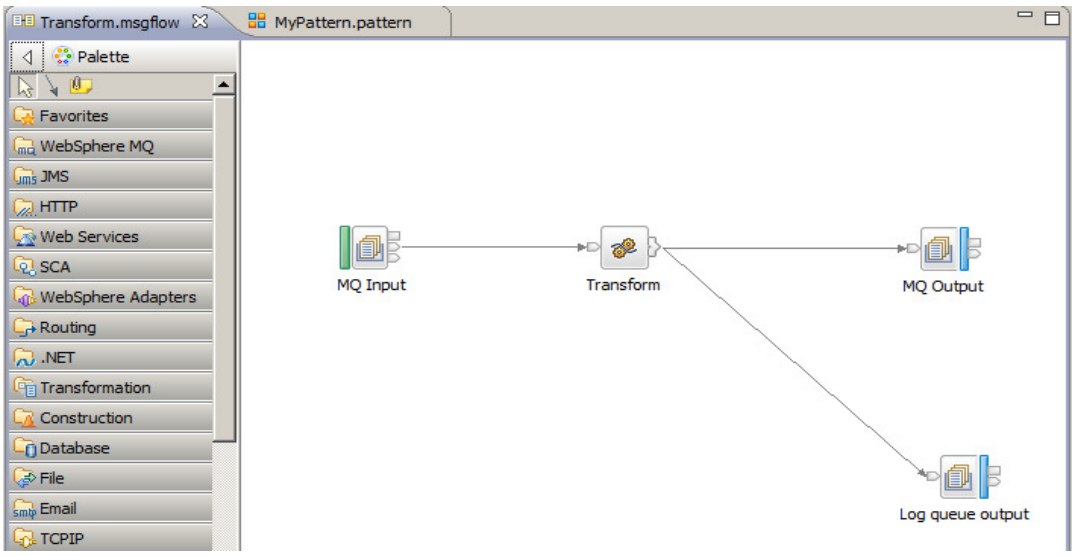
6. This opens the main editing page for Pattern Authoring.

   Note the four primary tabs near the bottom of the window.

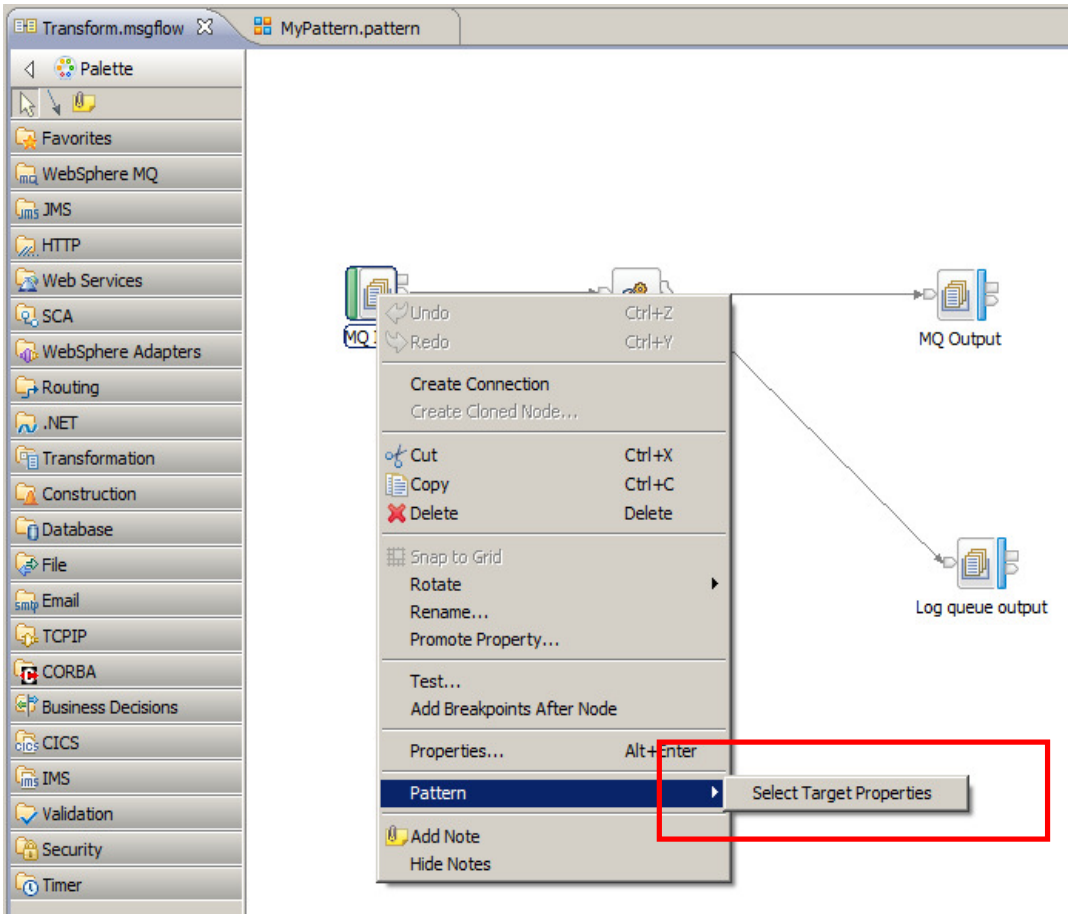
   1) Source Files: this is selected initially, and allows you to select the required files for this pattern.
   2) Pattern Configuration: allows you to edit the pattern definition.
   3) Categories: allows you to create and manage your pattern categories.
   4) Create Pattern: provides the tools to create and manage the pattern plug-ins so they can be used by the pattern user.



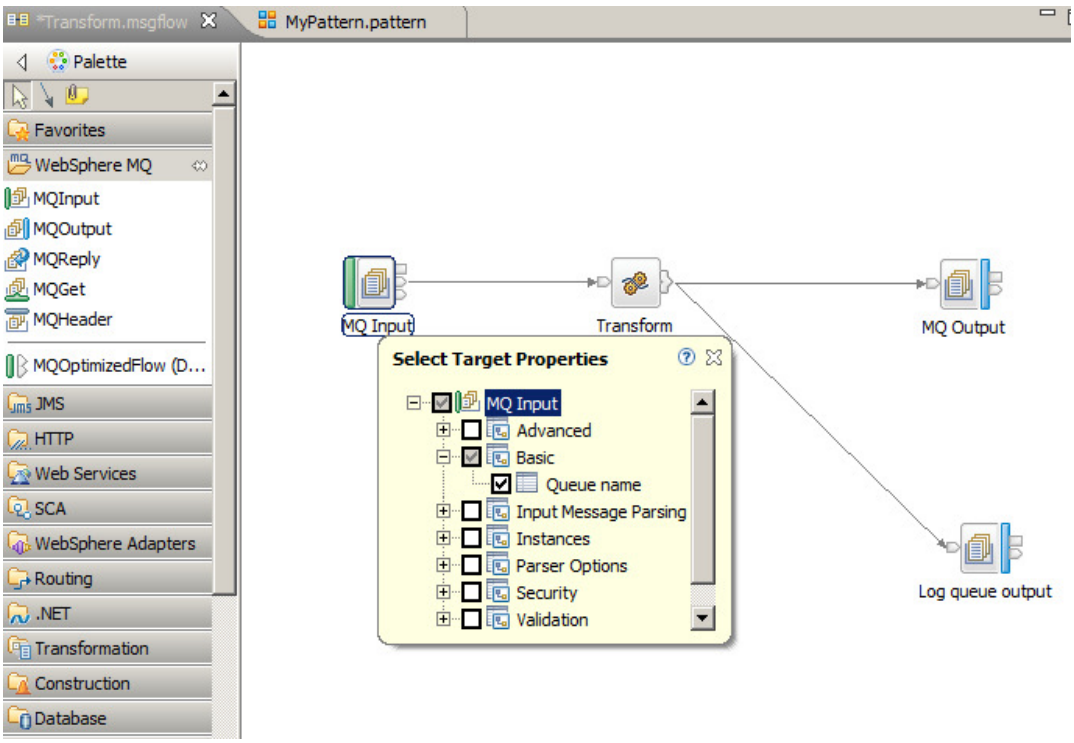
7. Now select the Transform.msgflow editor tab, and return to the flow editor.



8. Right-click the MQInput node, and select Pattern -> “Select Target Properties”.

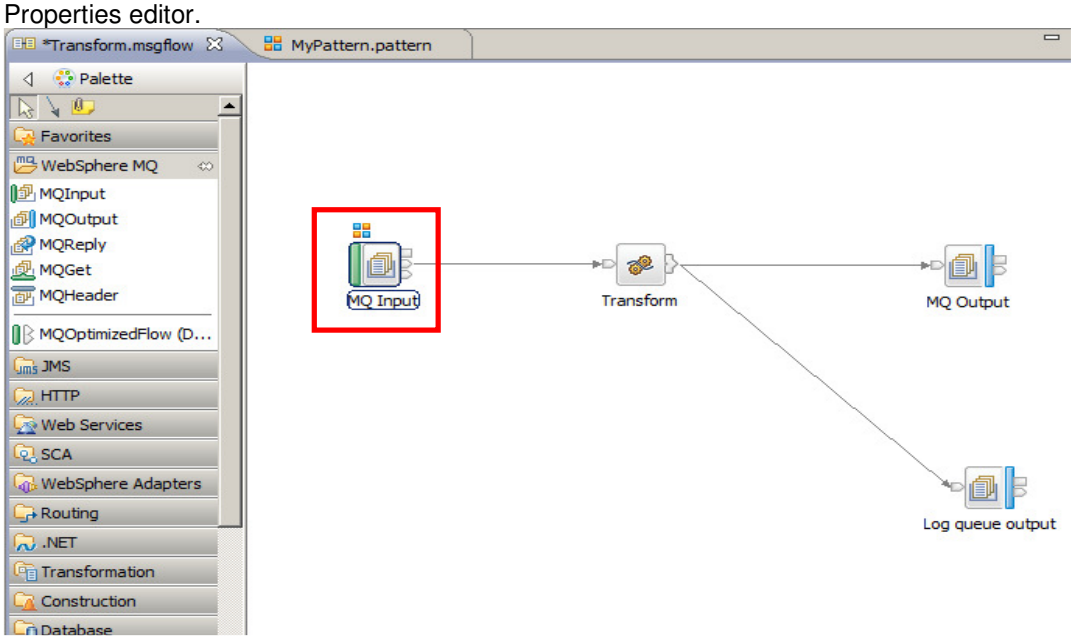


9. Expand the Basic group, and select the “Queue Name” as a target property.

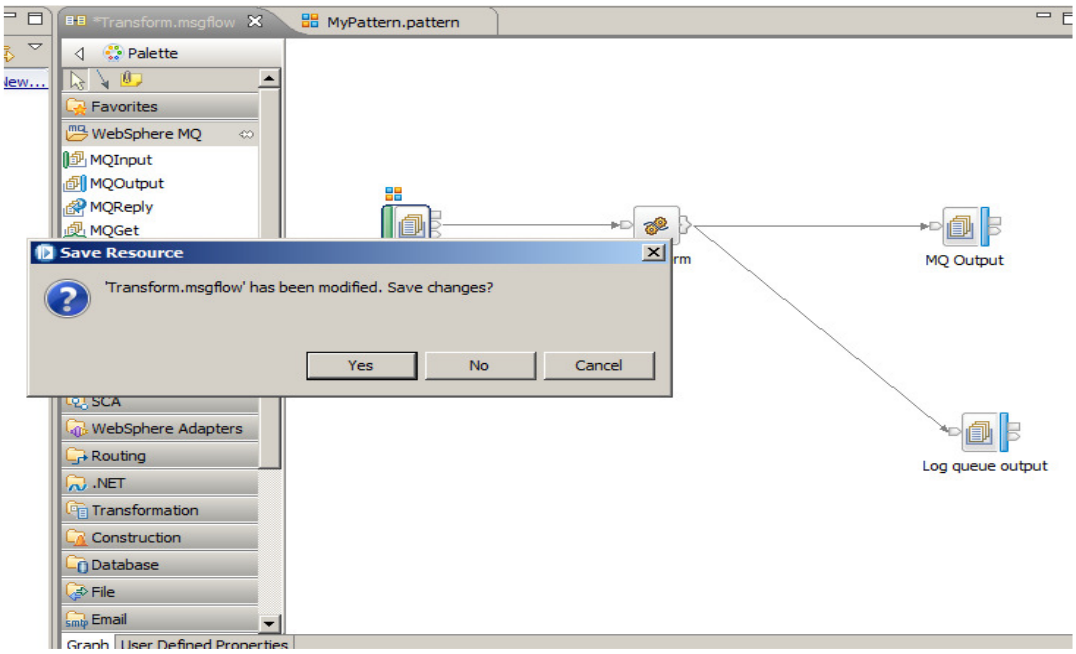


Then close the Target Properties dialogue pop-up, by clicking on the cross (top right).

10. Note that the message flow MQInput node now shows the “Pattern Authoring” icon close to the node itself. This indicates that at least one property of this node has been selected as a Target Property for pattern authoring. You can click directly on this icon to reopen the Target Properties editor.

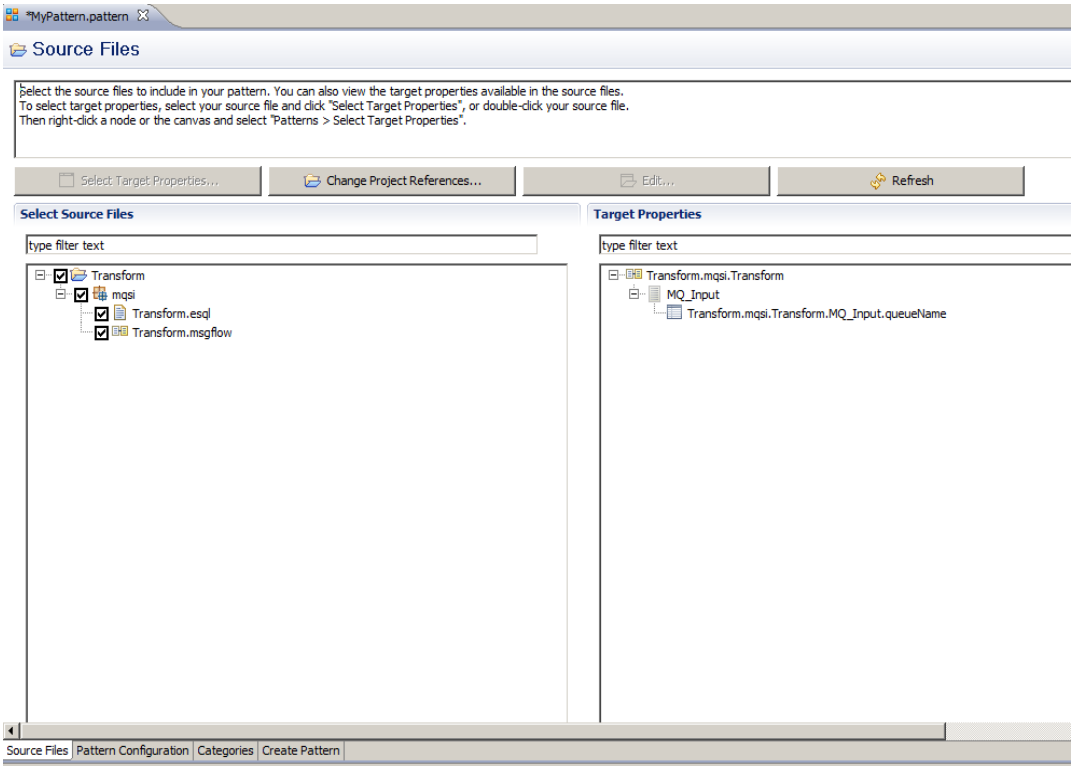


11. Now save and close the message flow in the usual way.



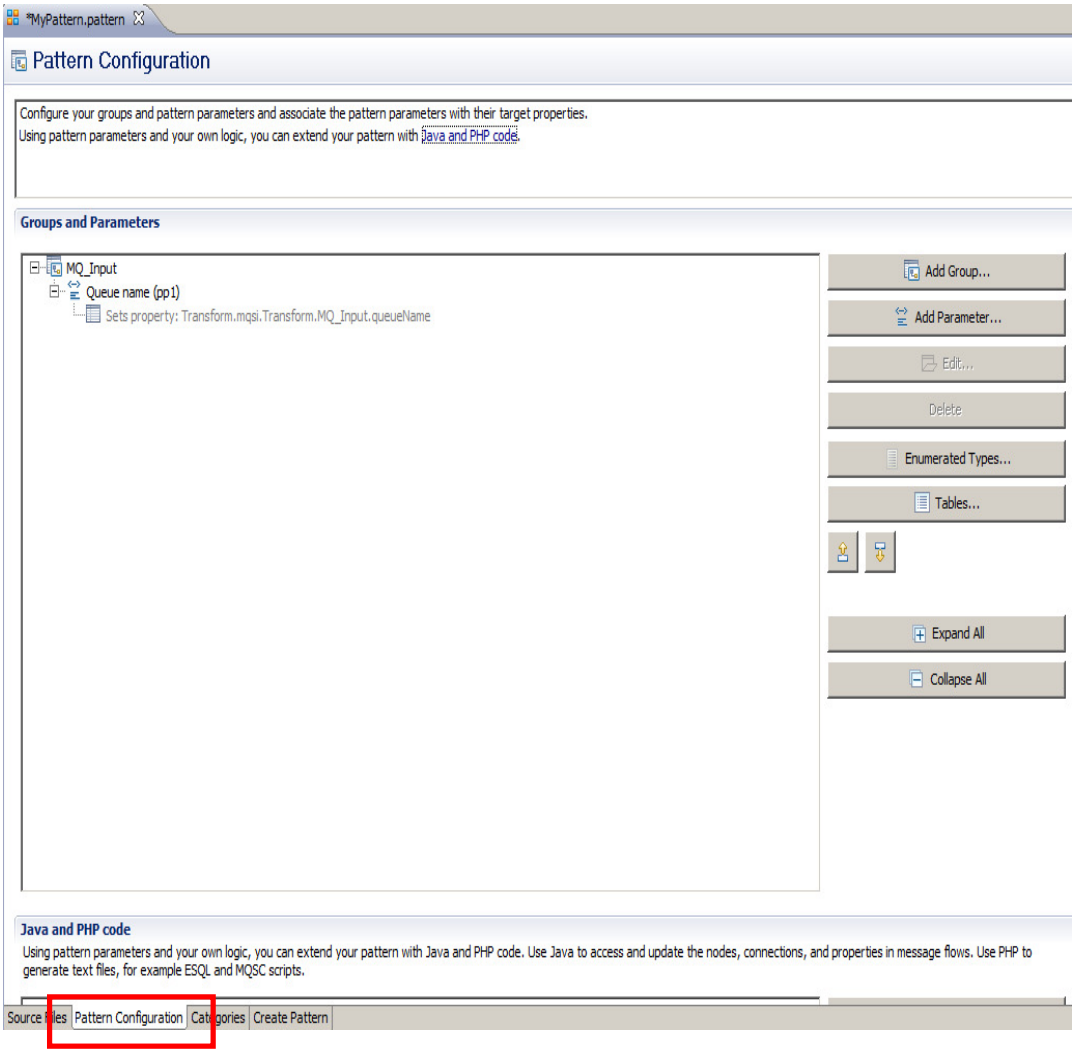
12. You will now see that MyPattern project has been automatically updated to reflect the selected target property.

    The name of the target property is the fully qualified pathname to the property in the workspace. It includes the project name, schema name, message flow name, node name and property name.

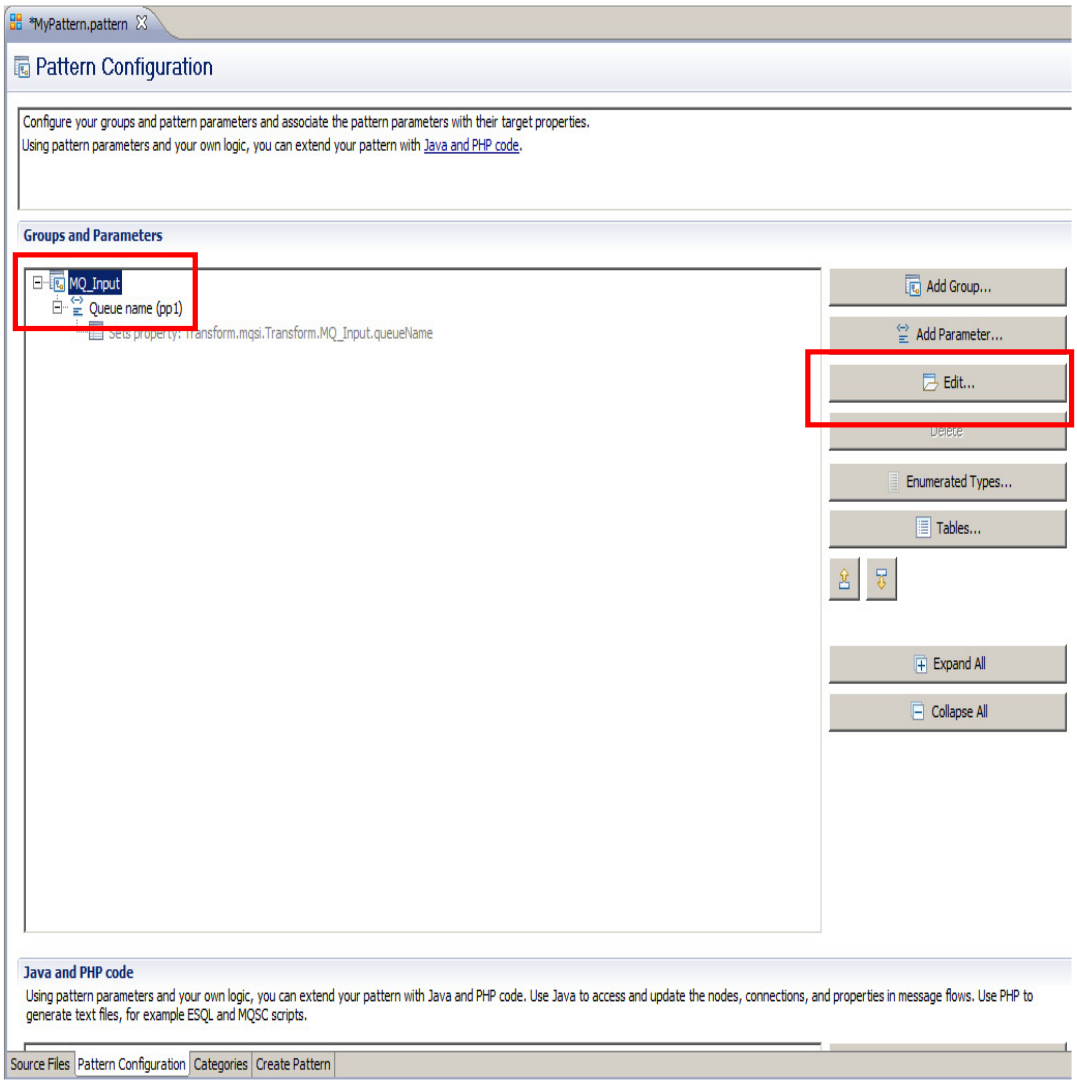


13. Now select the “Pattern Configuration” tab.
Here, we are going to configure the user interface for the pattern.

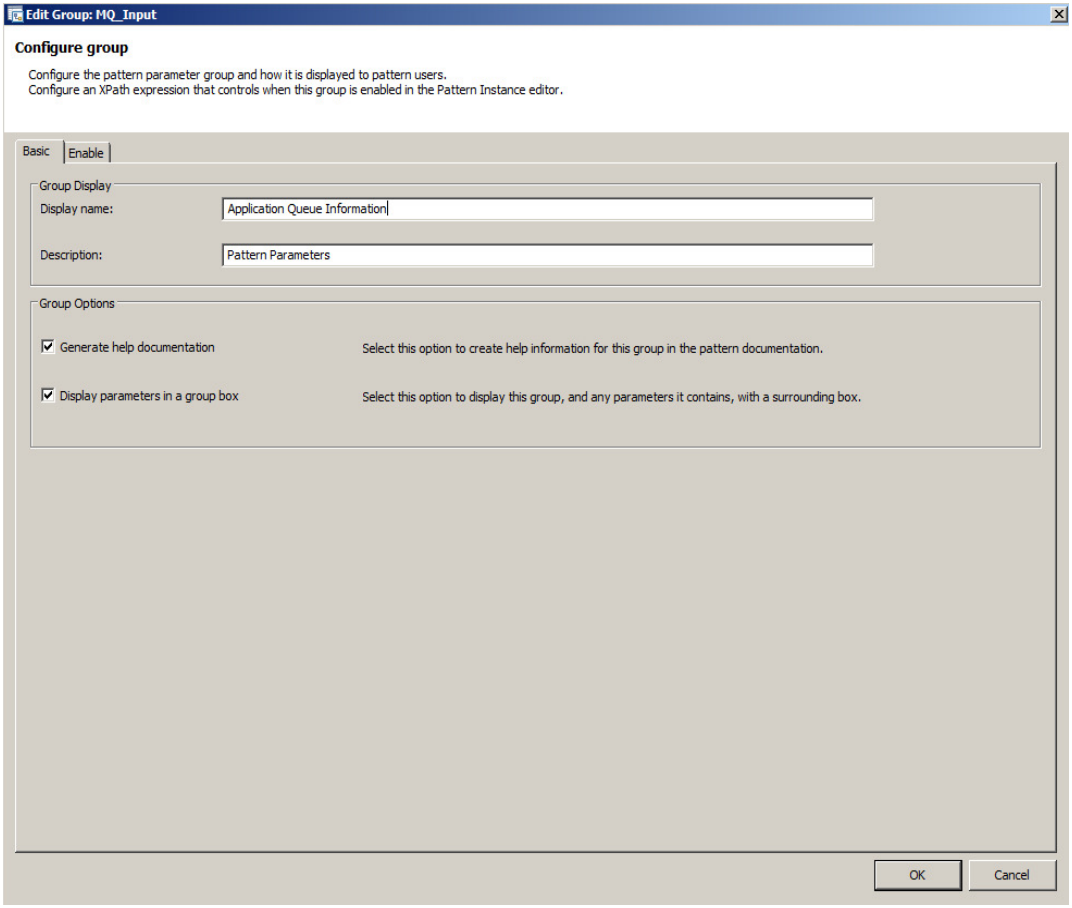
A pattern parameter has been automatically created for the target property. The pattern parameter has been added to a group whose name matches the node.



14. Select (highlight) the MQ_Input group, and the click the Edit button



15. Change the Group name and description text to suitable values for your organization. Click OK.

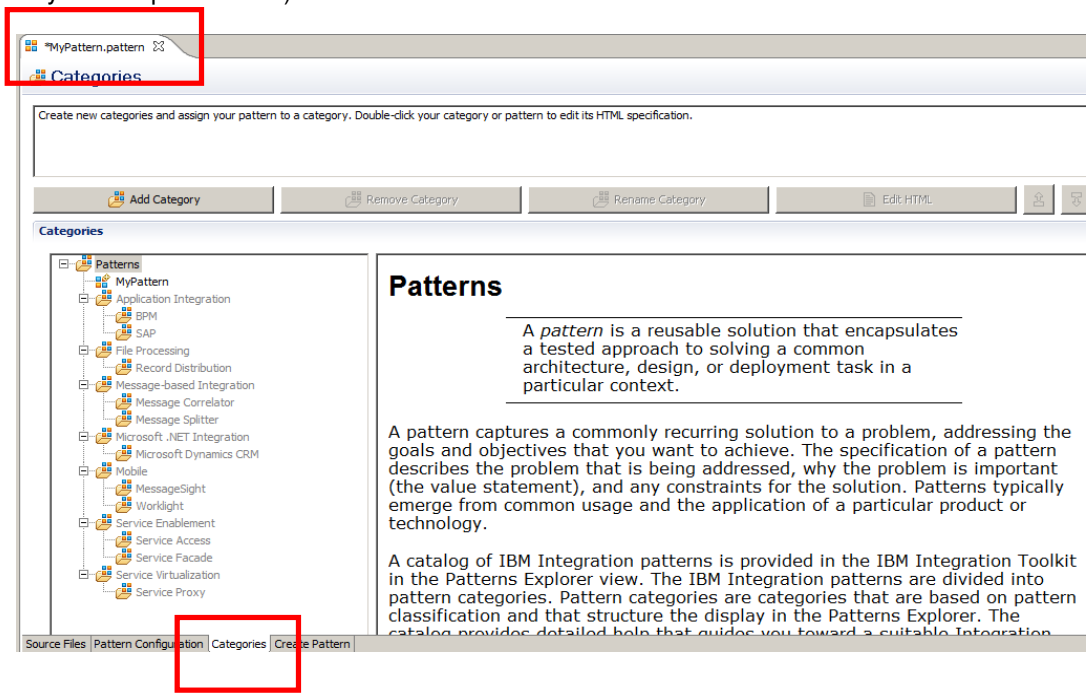


16. Now move on to the Categories tab.

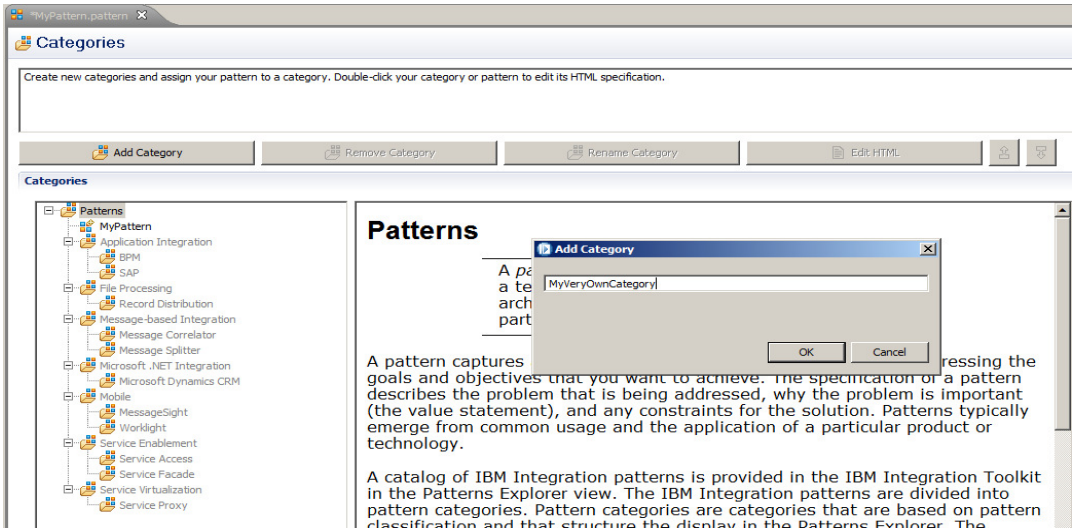
    This page of the Pattern Authoring editor is where you create additional pattern categories. You also choose the category for this new pattern.

    The tree shows all of the categories that are currently available. The page also shows the pattern specification for the selected pattern. Pattern specifications describe the pattern, any constraints and limitations, and when to use it. The specifications are HTML files which you can edit directly.

    To ensure you see all the available buttons, you should maximize the editor (double-click the “MyPattern.pattern” tab).

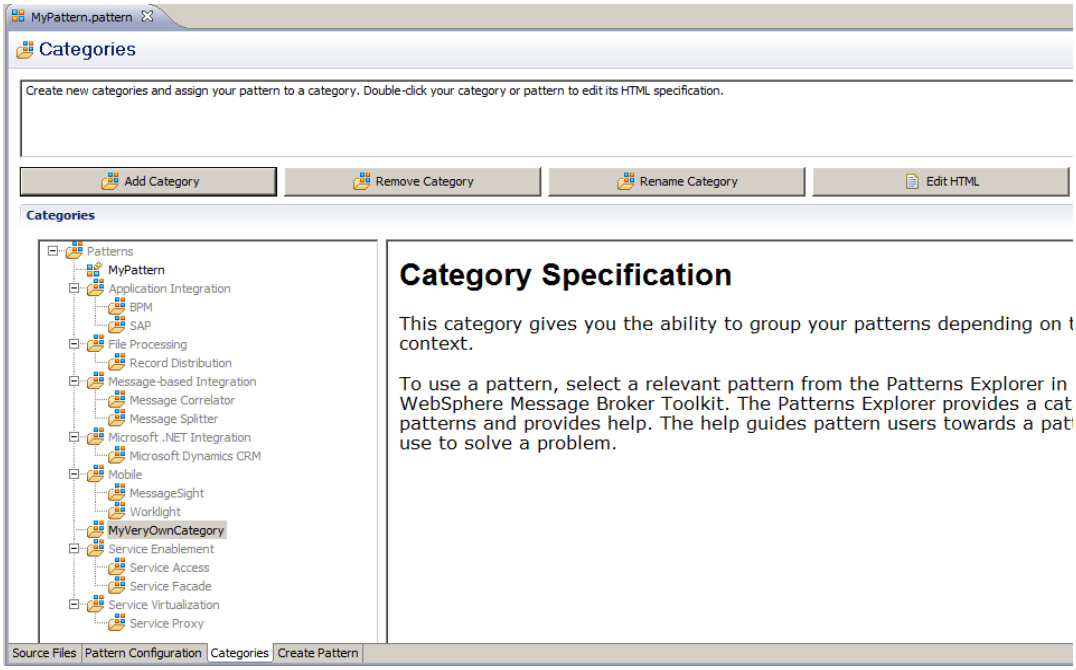


17. Click “Add Category”, and choose a name for your new category (eg. MyVeryOwnCategory). Click OK.

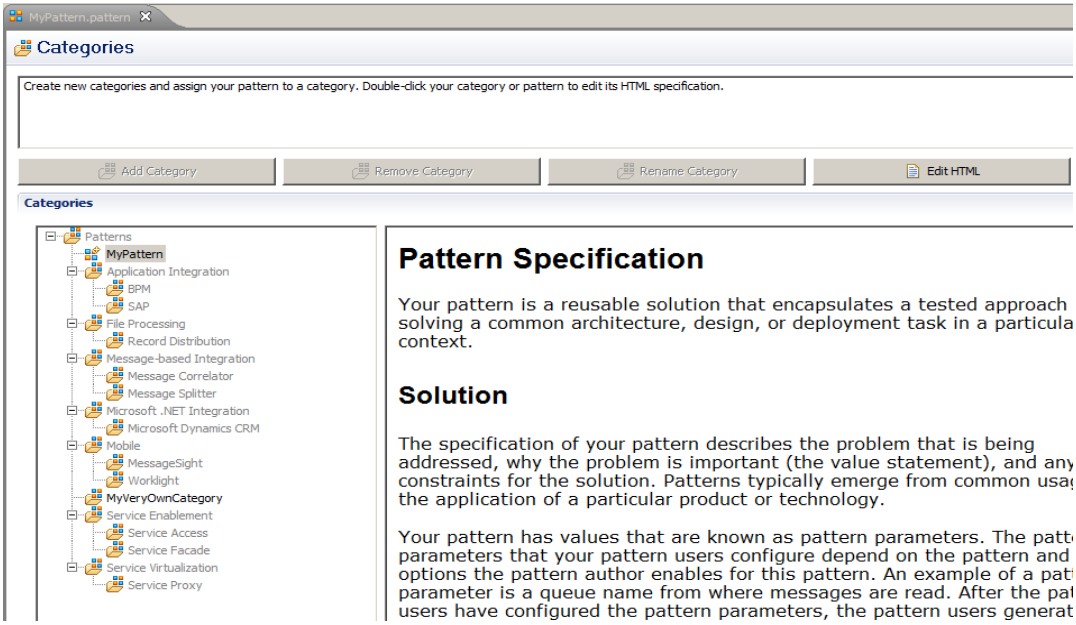


18. Click Yes at the save prompt. You will now see your new category in the pattern menu.

    This should appear in alphabetical order.

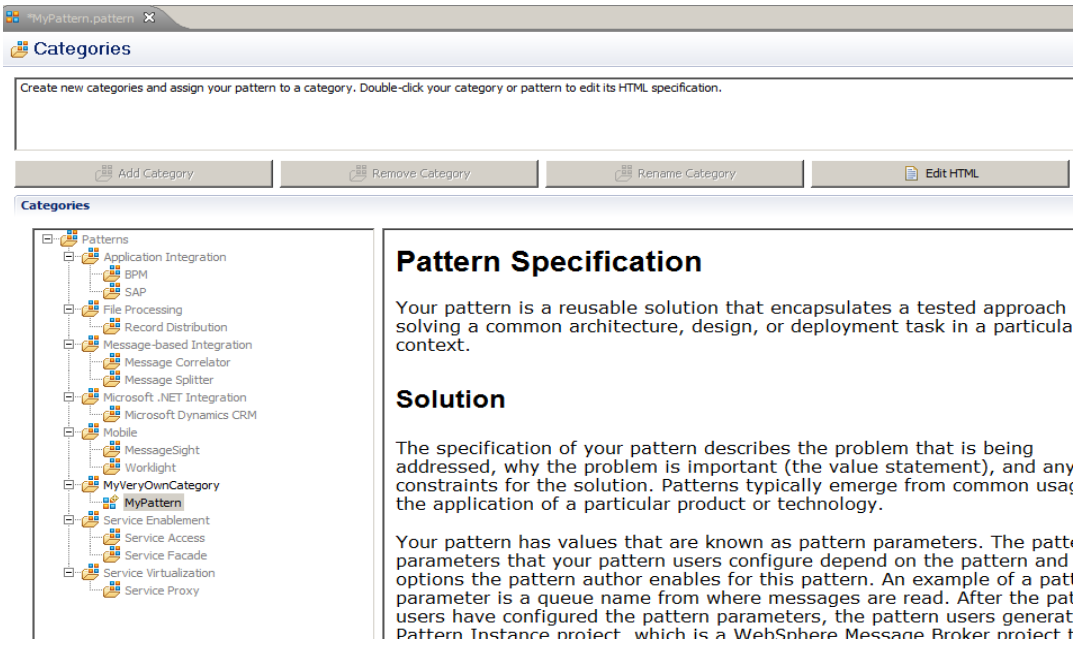


19. Now drag and drop the new pattern 'MyPattern' onto the new category.

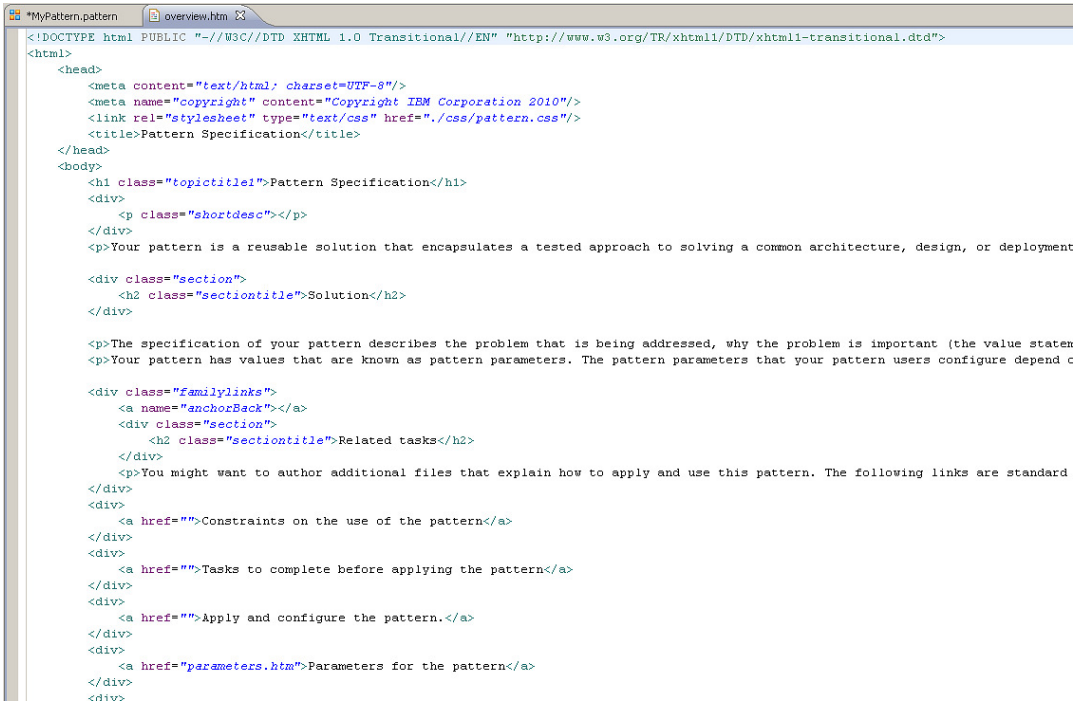


Before:

After:



20. Open the HTML for the specification (click the “Edit HTML” button).

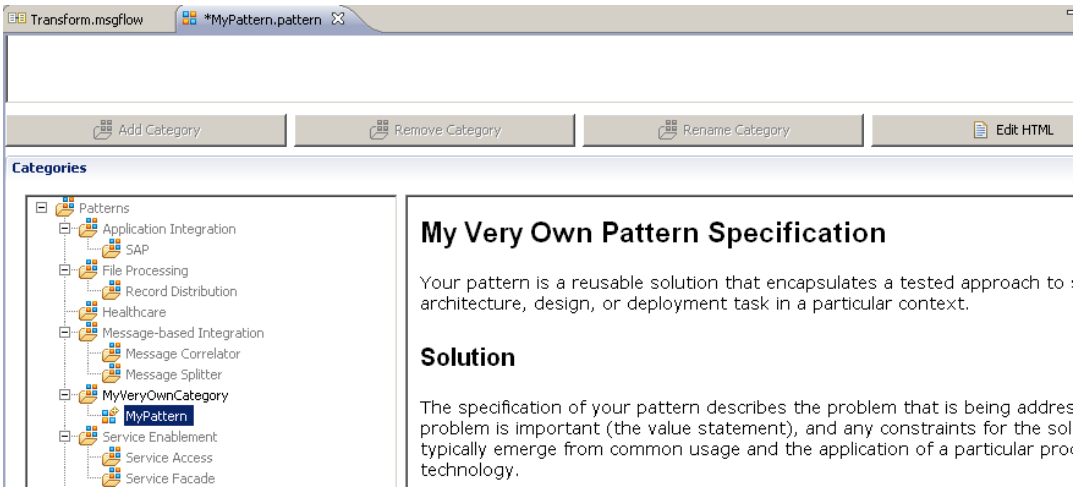


21. You can change the HTML in any way you want, using any standard HTML constructs. We will just change the title, to illustrate how to do this.

    For example, change the title to “My Very Own Pattern Specification”.

22. Save and close the HTML file.

    The pattern specification has been edited and saved. The Pattern Authoring editor has automatically updated the preview.

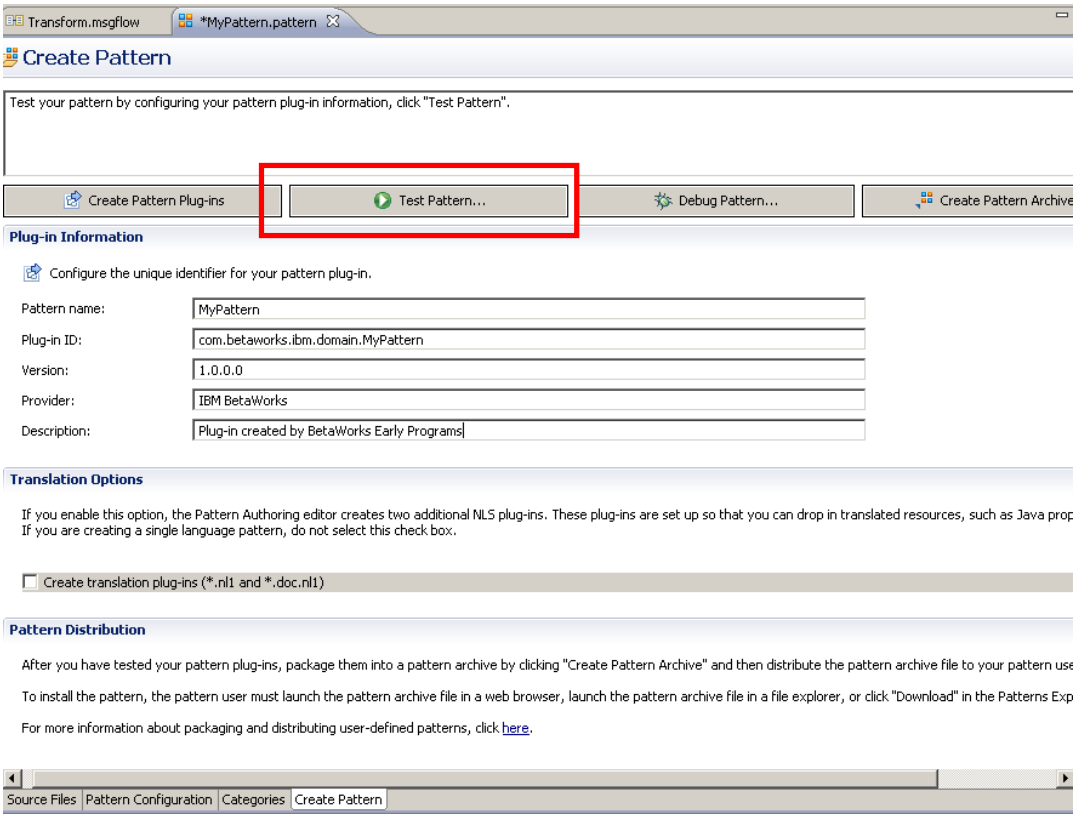


2.1 Test the Pattern

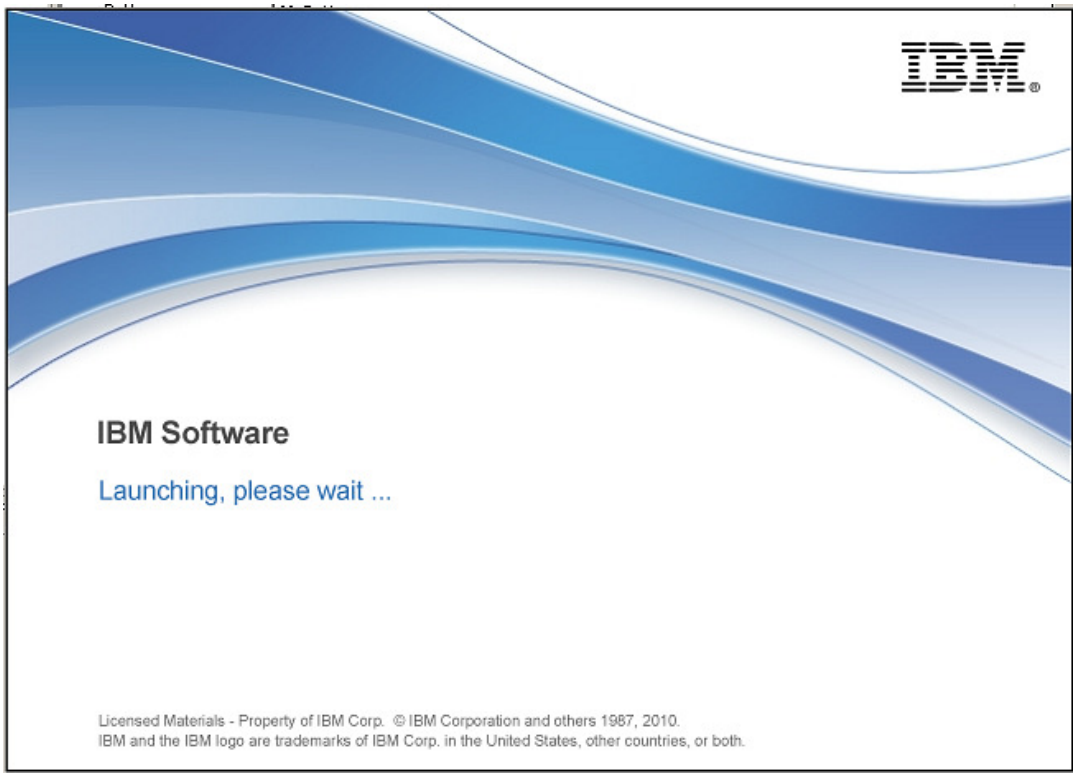
1. To test the pattern, select the “Create Pattern” tab at the bottom of the editor.

   Provide some suitable value for the pattern plug-in information. For example:
   Plug-in ID: com.betaworks.ibm.domain.MyPattern
   Version: 1.0.0.0
   Provider: IBM BetaWorks
   Description: Plug-in created by BetaWorks Early Programs

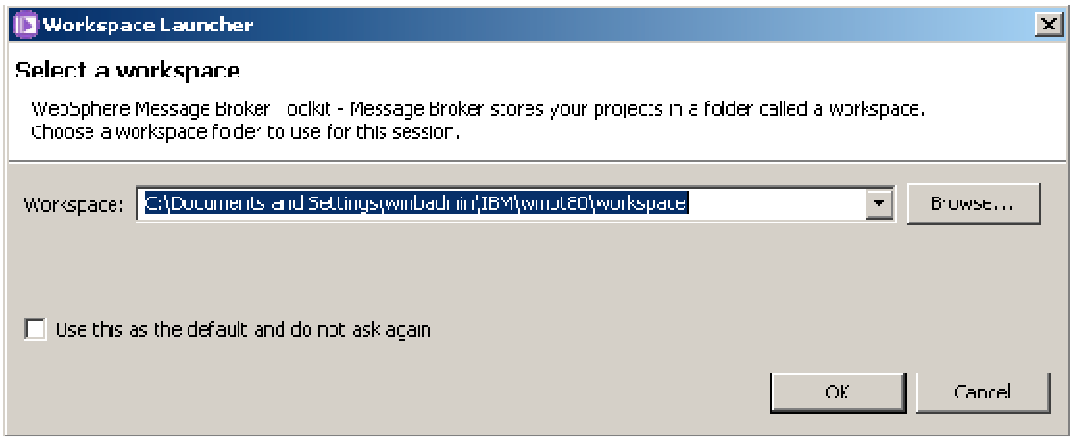
   Click “Test Pattern”. This will build the required pattern plug-ins, and then start a new instance of the IBM Integration Bus Toolkit.



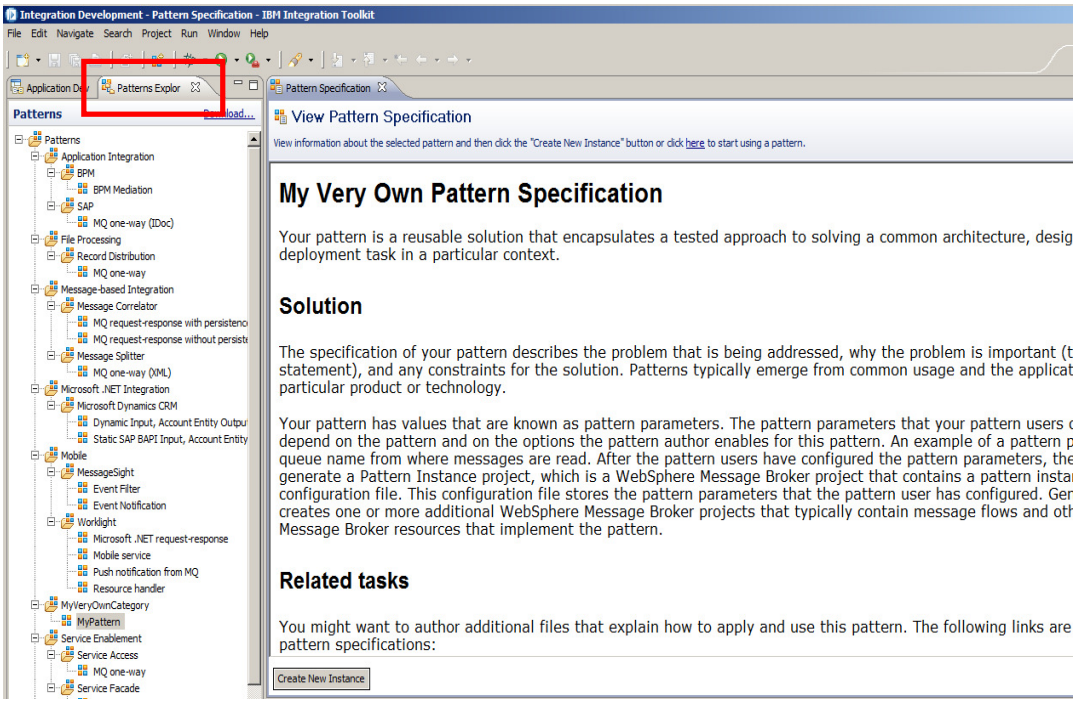
2. During the new Toolkit start-up, you will see this splash screen.



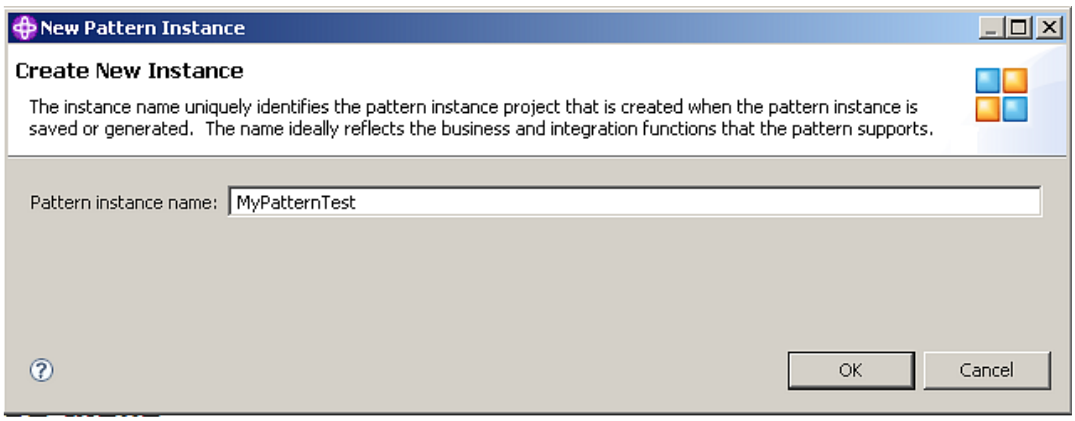
3. When the workspace selection window opens, take the suggested default, and click OK.



4. This is the second instance of the IBM Integration Bus Toolkit. Select the Patterns Explorer view. This includes the pattern we have just created, under the new category (MyVeryOwnCategory).

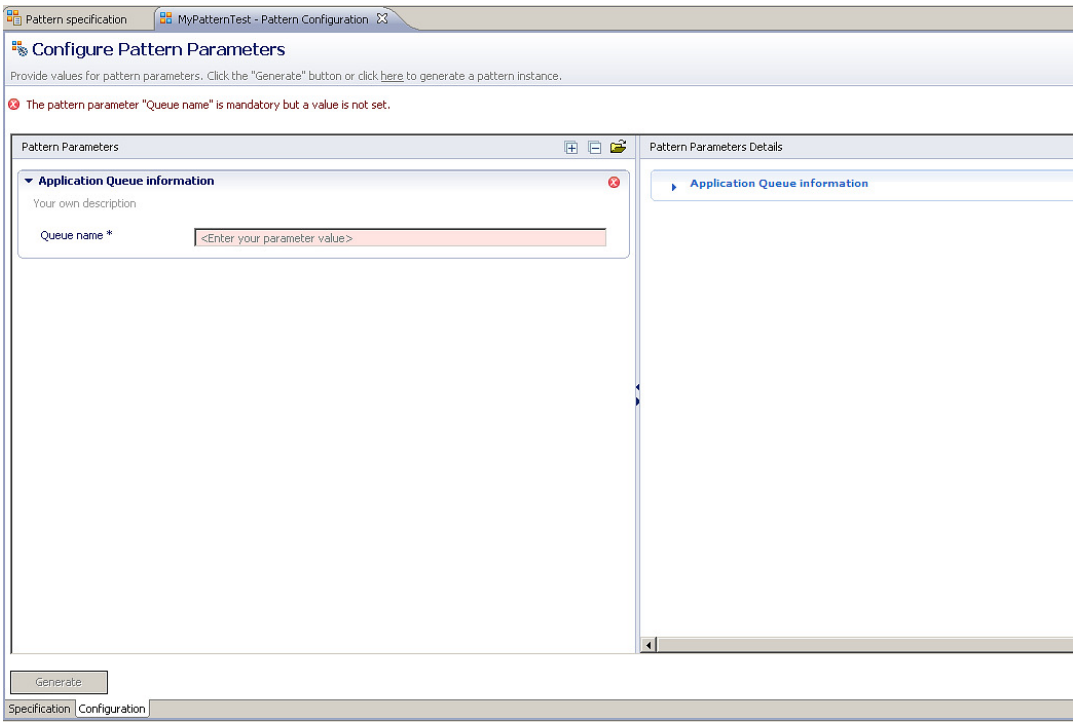


5. Create a new instance of the pattern. click “Create New Instance”.
Provide a suitable name for the new instance, then click OK.

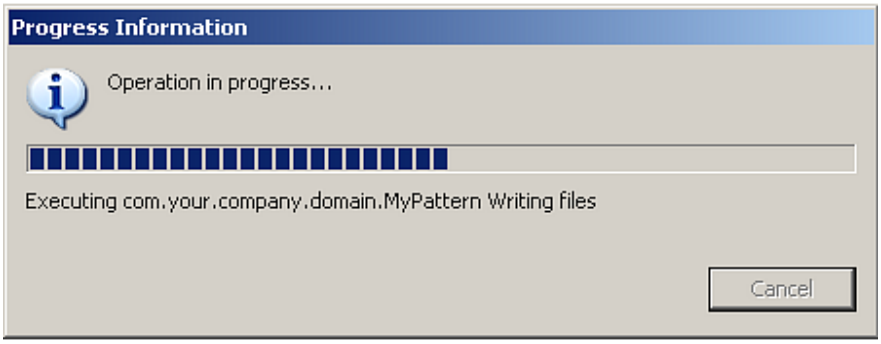


6. Expand the Queue Information link. You will see that the field “Queue name” has been highlighted in pink. This means that it is a required parameter, and must be set before you can generate the new instance.
When creating the pattern, you could have provided a default value for this property, and more detailed help to guide the pattern user. (We will examine this in a further exercise).

   Set a value for the QueueName property, then click “Generate”.

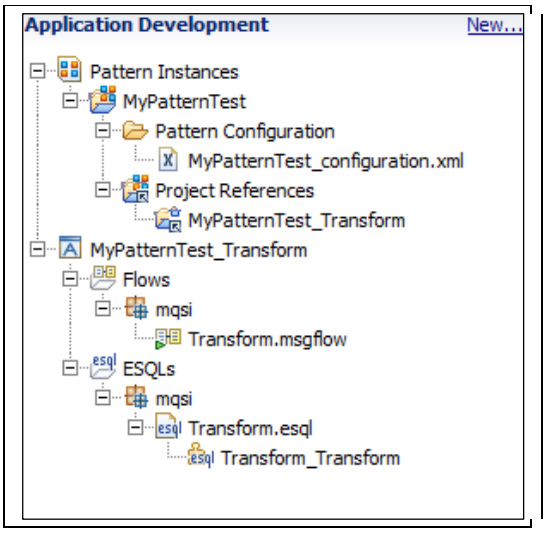


7. You will see a progress pop-up.

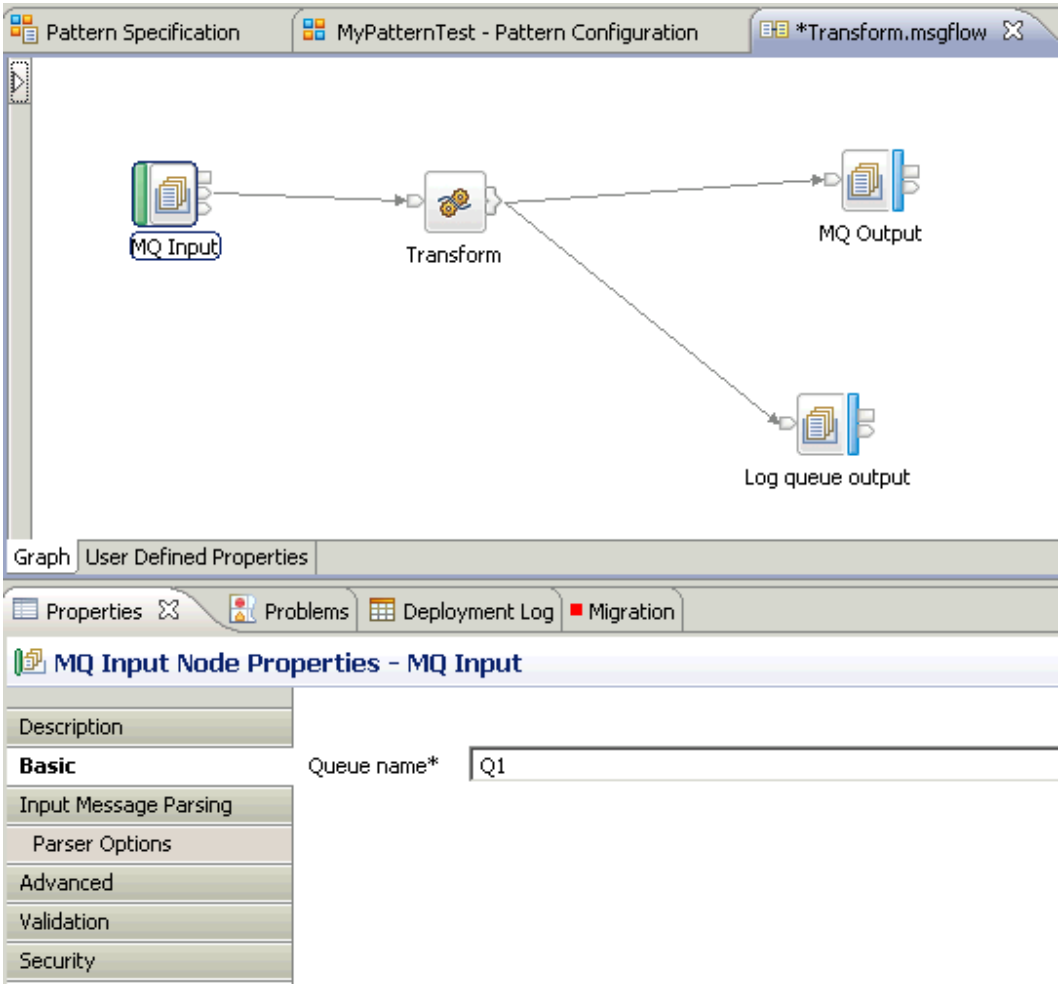


8. This shows the generated pattern instance. A pattern instance project and a message flow project are created. The message flow is created within a IBM Integration Bus Application.

   The message flow project contains the same message flow and ESQL files as the original message flow. The only difference is that the queue name property on the MQInput node has been configured by the pattern user.



9. Open the generated message flow. You will see that this flow is identical to the original flow, except that the name of the input queue has been set by the pattern user.



You can now make further changes to this generated message flow, as required by your own organization's development standards.

This concludes the Pattern Authoring Basic Introduction lab.