WebSphere Message Broker
Version 7.0.0.1

Pattern Authoring Lab 3

Setting parser properties with XPath expressions

September, 2010

Version 1.0

Hands-on lab built at product code level version 7.0.0.1

1. Lab Objectives

In this lab, you will see how to configure the parser properties on an MQInput node. Configuring the message domain, set, type and format properties on input nodes is a very common requirement in pattern authoring.

This lab uses a simple message flow with an MQ Input node. The lab will develop the pattern built in the first and second labs. The MQ Input node requires the specification of parser properties (even if defaulted). If the XMLNSC domain is selected, the message set, format and type parameters are not used. If the MRM domain is selected, the other parser parameters are required. This pattern enables these parameters to be specified according to selected domain.

The starting point for this demonstration is the same message flow and pattern that were created in labs 1 and 2.

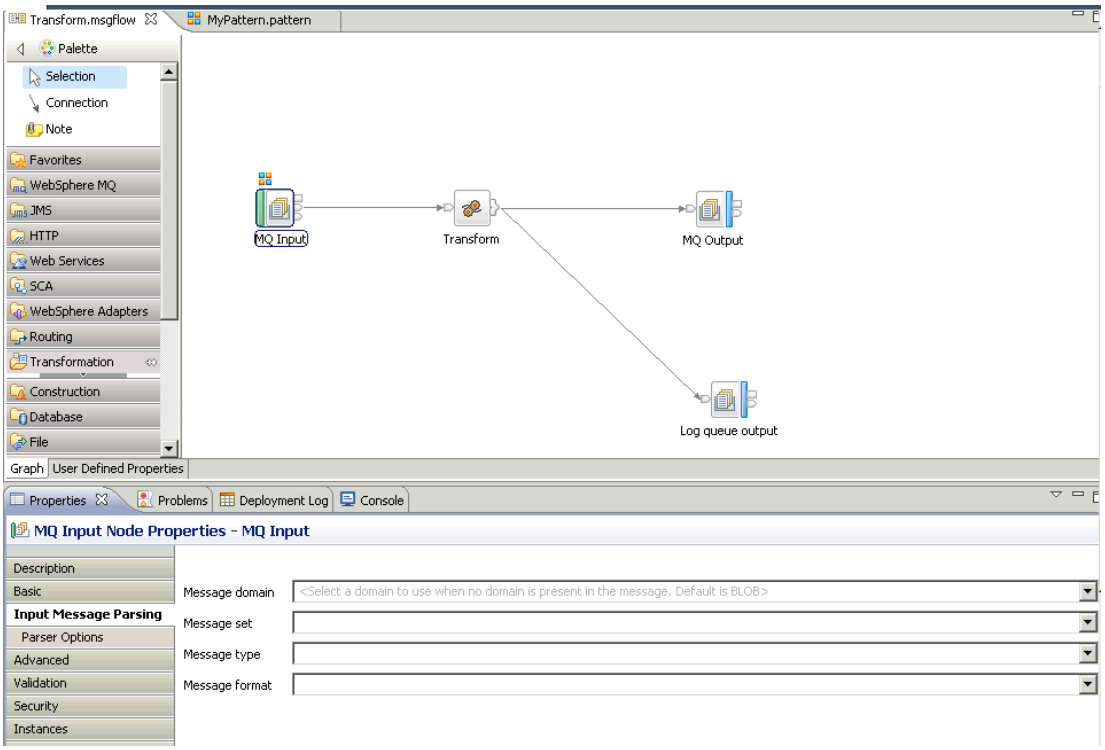
This approach can be extended to many similar functions with the Message Broker Toolkit.

Extending the pattern to specify parser properties

1. Start this lab with the Pattern Authoring editor for the pattern “MyPattern”, as used in the previous lab session.

   If you have still got the second open instance of the Broker Toolkit, close it now, and use the primary instance.

   Select the message flow Transform.msgflow (you may need to open it from the Transform project).



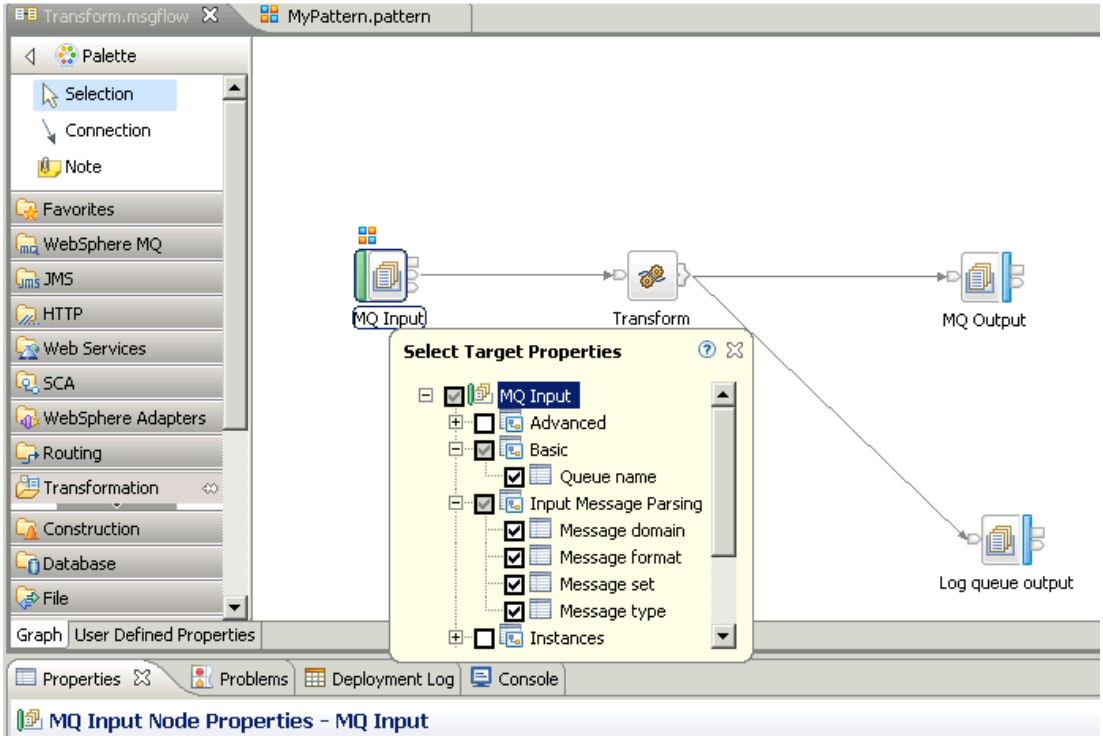
   This shows the message parsing properties of the MQ Input node. The default message domain is XMLNSC. This pattern will allow the pattern user to choose between XMLNSC and MRM. Other options will be removed from the selection list.

2. Right-click the MQ Input node, and select Patterns -> Select Target Properties (or you can click on the icon directly).

   Expand the MQ Input node, expand Input Message Parsing.

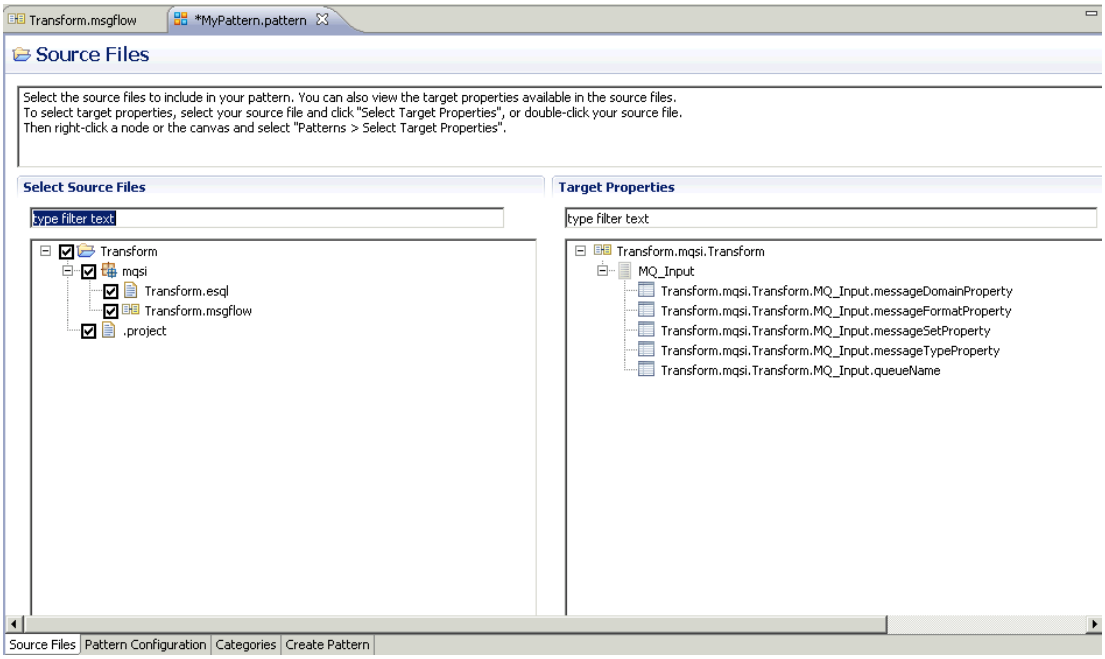
   Select all the properties in the parsing group (or select the parsing group itself).

   Close the Target Properties pop-up.



Save the updated message flow, and close the flow editor.

3. In the pattern editor, select the “Source Files” tab. See the new Target Properties have been added (right pane).



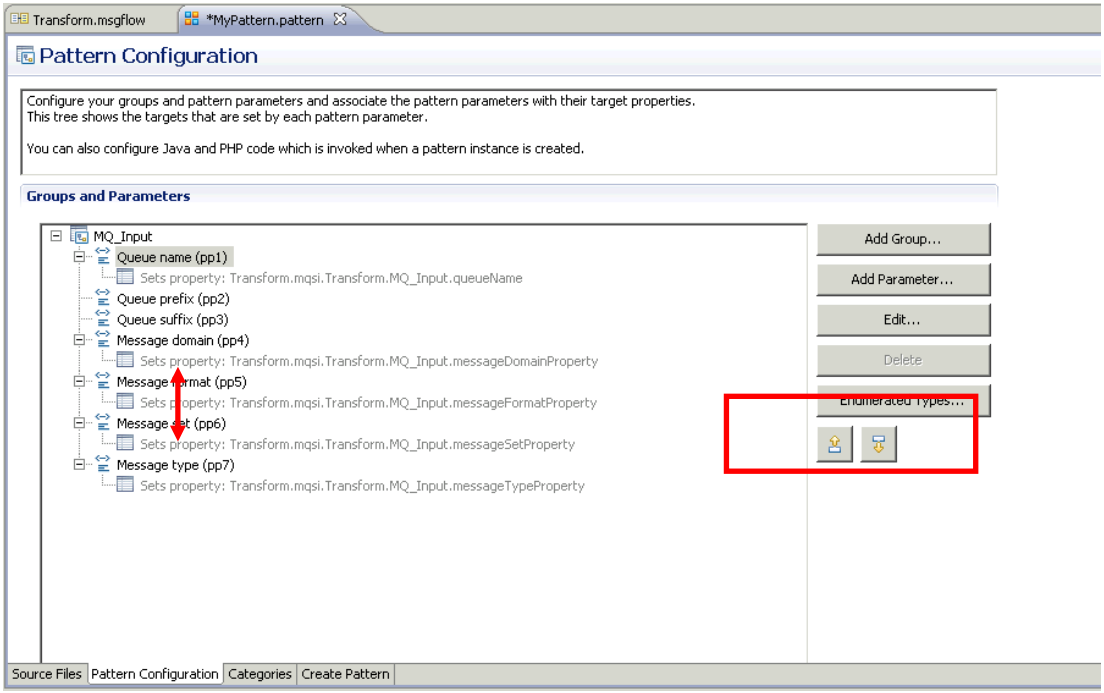
4. Switch to the Pattern Configuration tab.

   The parser properties are initially not in the correct logical order. Use the Up and Down buttons (highlighted) to correct the order. (For example, highlight “Message Set”, and click the Up button).

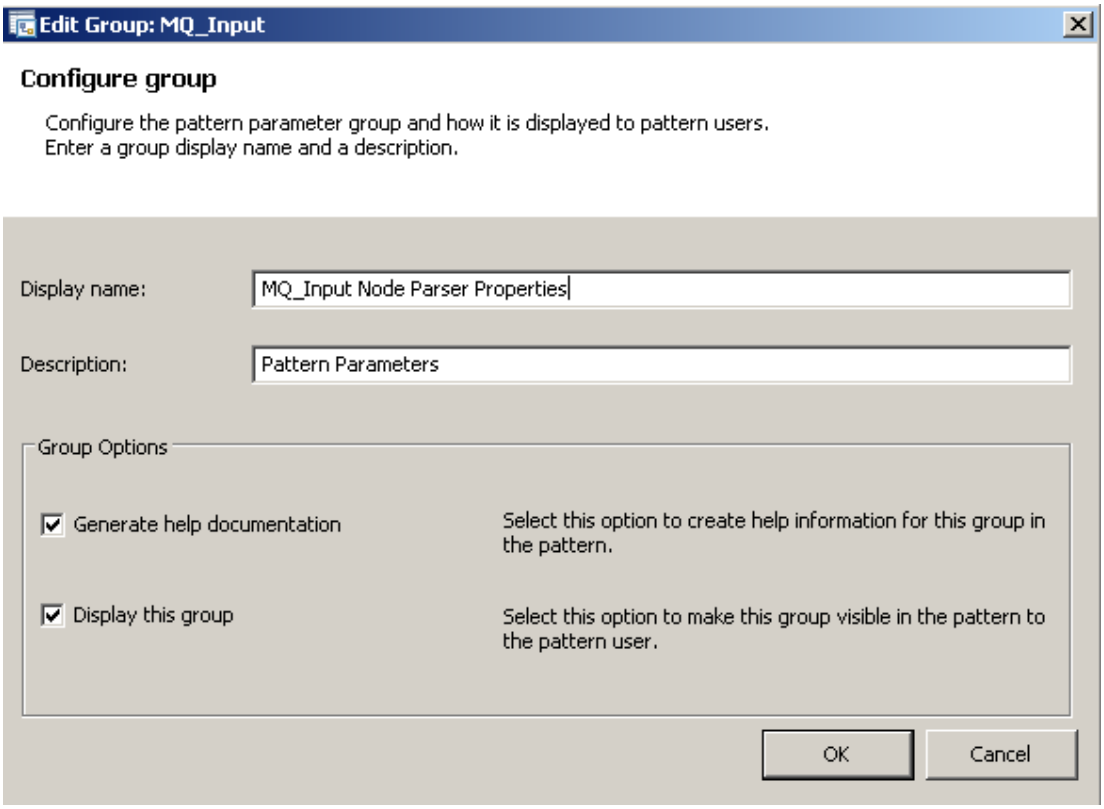
   Alternatively, you can drag and drop the Parameter names within the list.

   Change the order to:

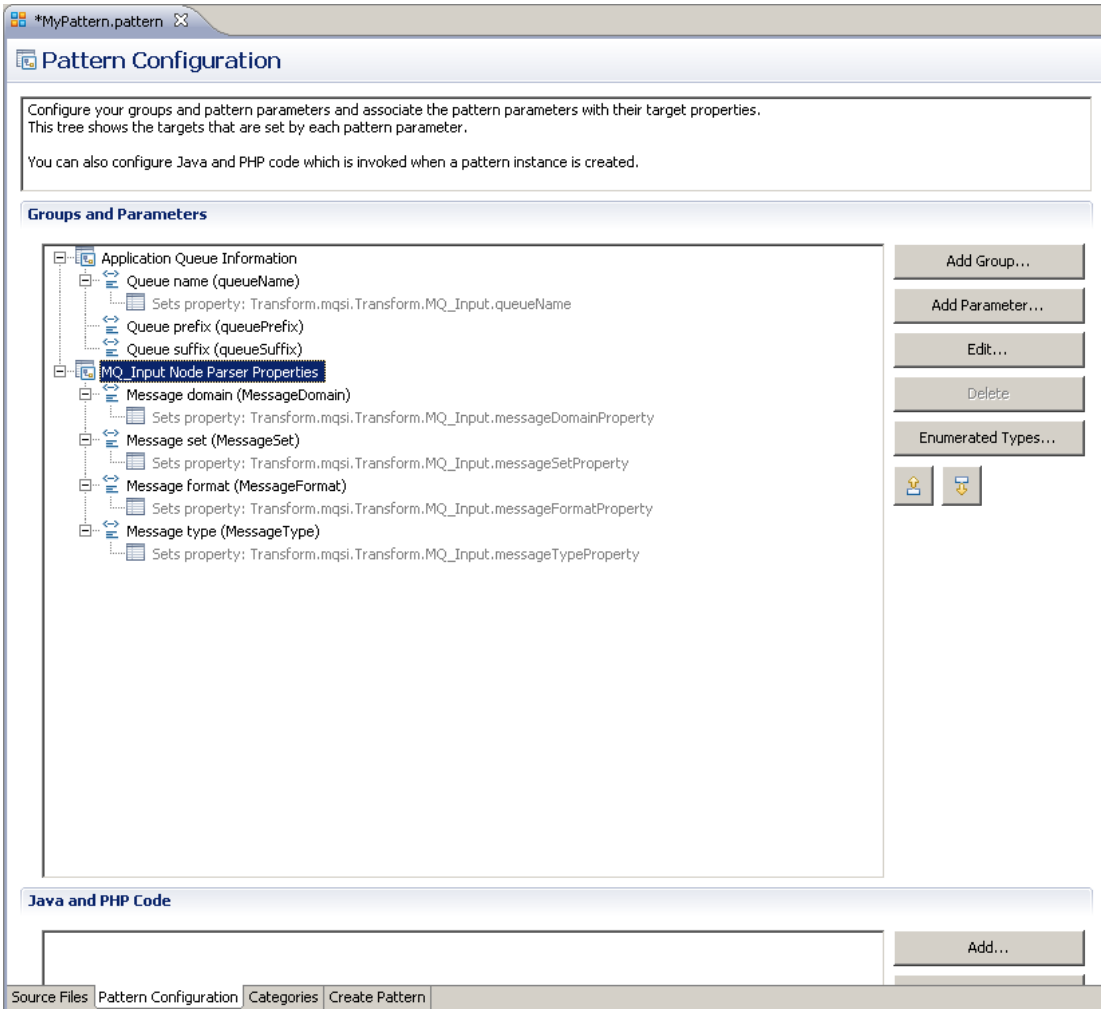
   1. Message Domain
   2. Message Set
   3. Message Format
   4. Message Type



5. Finally, change the name of the parser properties group for the MQ Input node. Double-click the MQ_Input group, and change the name as shown. Click OK.



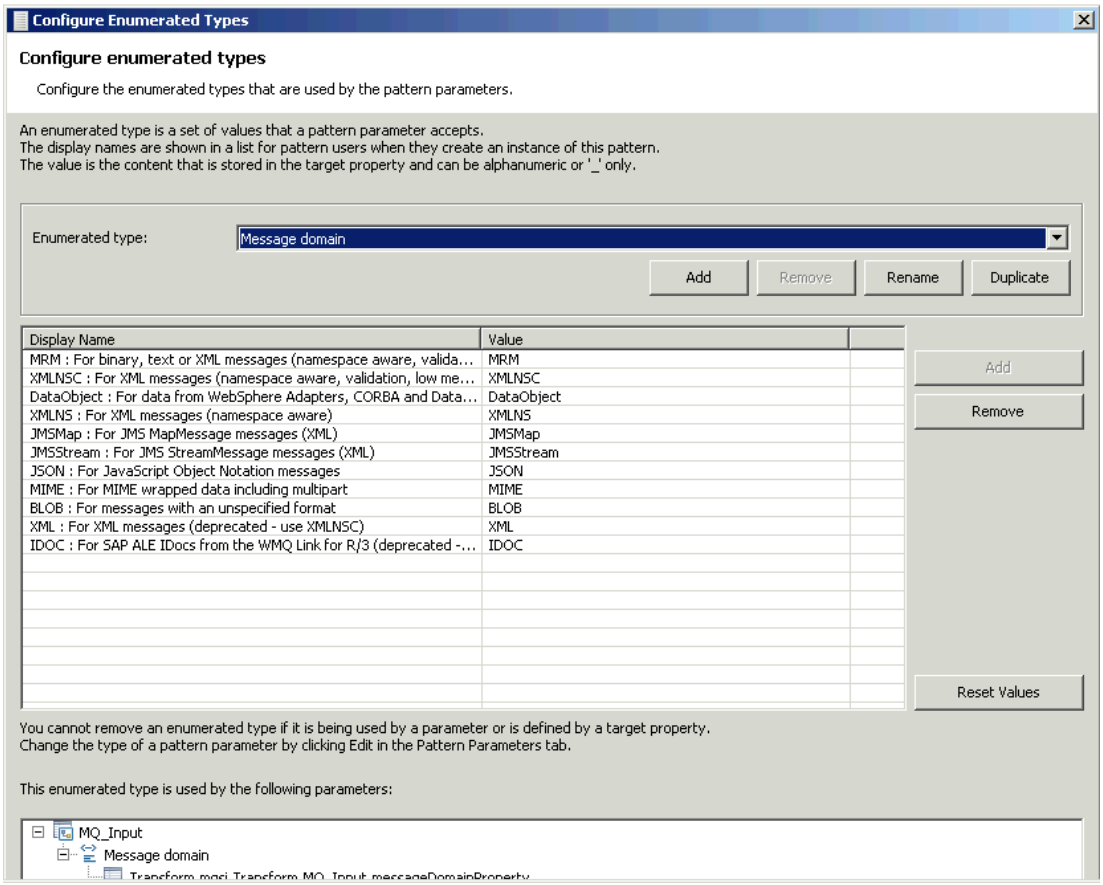
6. After making these changes, you should have something like this:



7. The Message Domain is an interesting target property, because it has a pre-defined list of permissible values. This is called an enumerated type in pattern authoring. We will configure constraints on this property now, to reflect these values.

   Click Message Domain, and click Enumerated Types. This will open this window.

   This dialogue allows you to look at and configure enumerated types. When the message domain target property was added to this pattern, the Pattern Authoring editor automatically created an enumerated type for it. The permissible values for the enumerated type are shown here. Each entry has a display name, and a value which the target property can be configured with (such as MRM and XMLNSC).

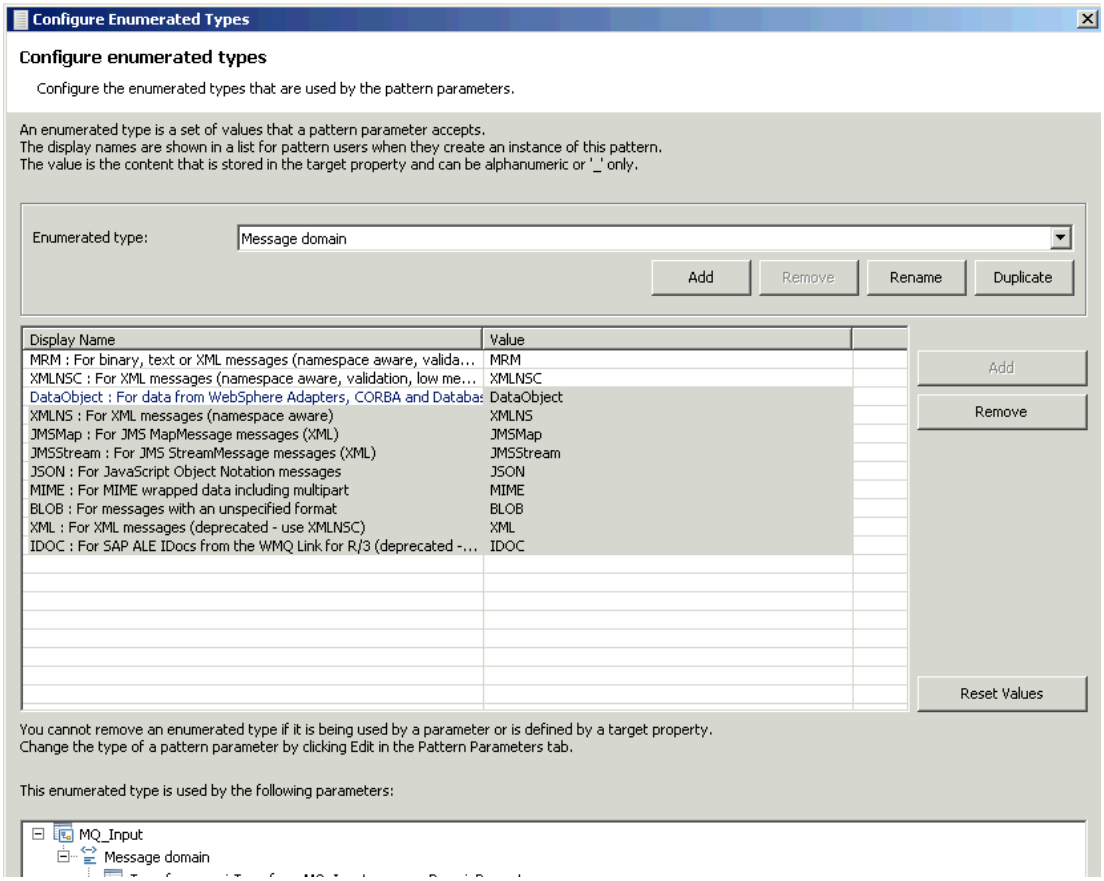


8. We will remove all the entries in this list except for XMLNSC and MRM. If you make a mistake, you can reset this list by clicking on the Reset Values button below. You can also see at the bottom of this dialog, that the message domain pattern parameter is using this enumerated type.

   Select the multiple lines from DataObject line to the bottom of the list (use upper-case and left-click, as in multiple selections in Windows Explorer), and click Remove.

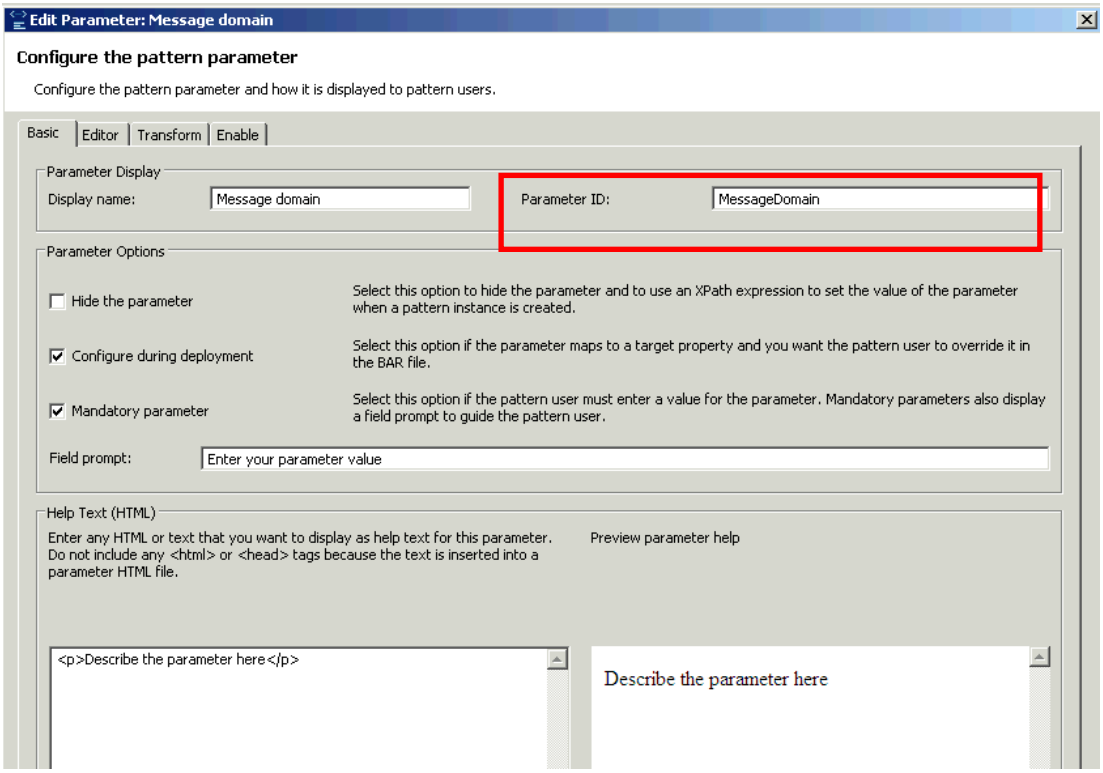
   Alternatively, just click Remove several times, and remove the unwanted lines one by one.

   Click OK to return to the Pattern Configuration window.



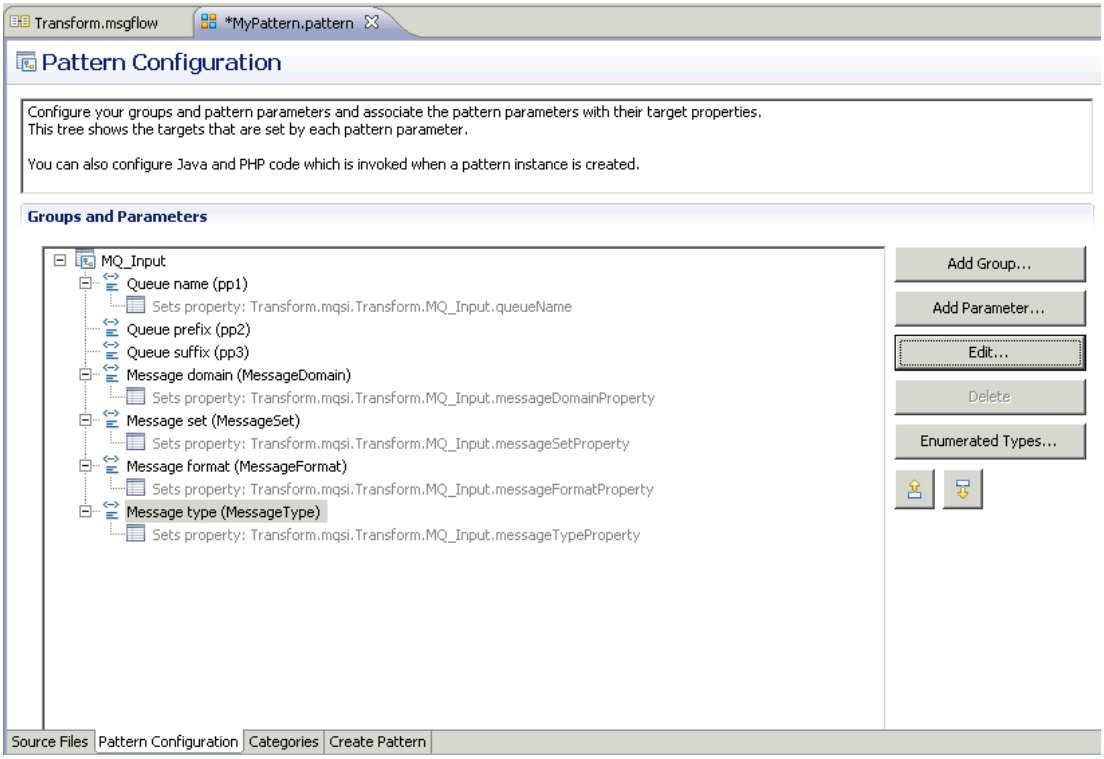
9. At this point, it would be sensible to change the generated pattern parameter ID to something more useful. For the Message Domain, we will change it to MessageDomain.

   To do this, highlight the Message Domain property, and click Edit. Change the Parameter ID field, and click OK.



10. Make similar changes to the other parser pattern parameter IDs. Set them to MessageSet, MessageFormat and MessageType.

    At this point, the pattern configuration should look like this. Note that the Parameter IDs for each of the properties is shown in brackets, following the name of the property.



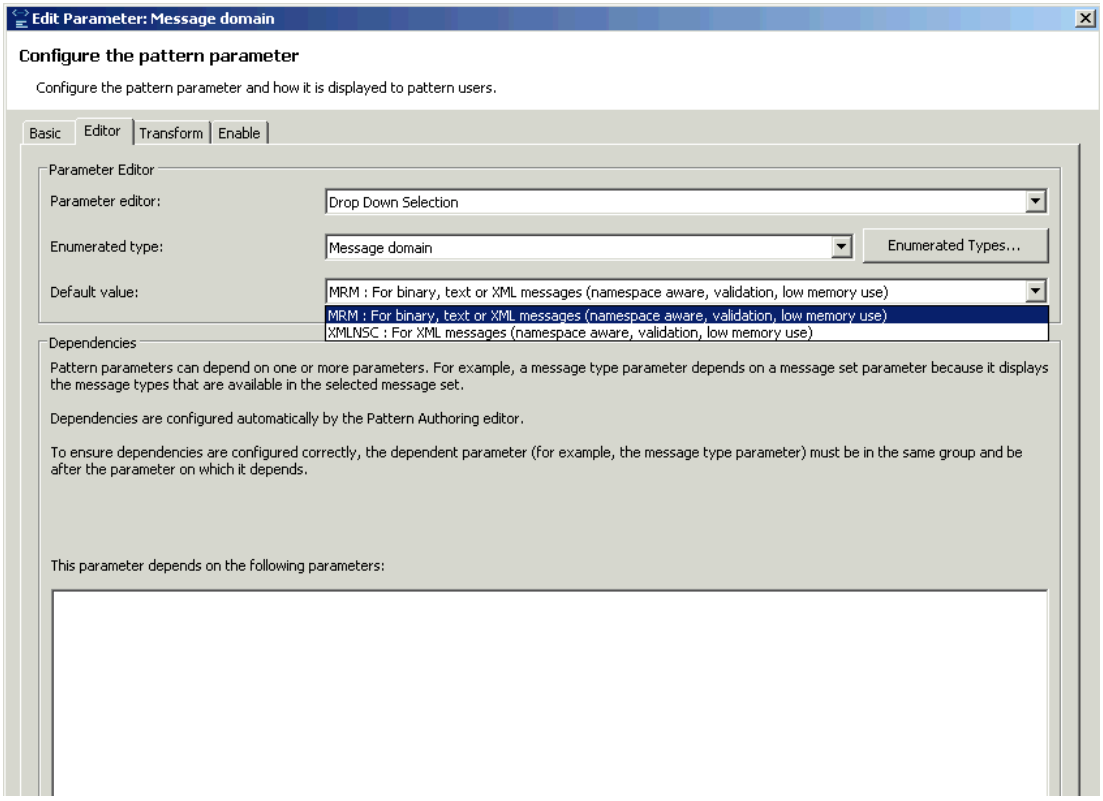
11. Now we are going to create expressions which will dynamically enable or disable parser properties, based on the selected Message Domain.

    Select the Message Domain property, and click Edit.

    Select the Editor tab. You will see that the “Parameter editor” has automatically been set to Drop Down Selection, and the default values are restricted to MRM and XMLNSC.

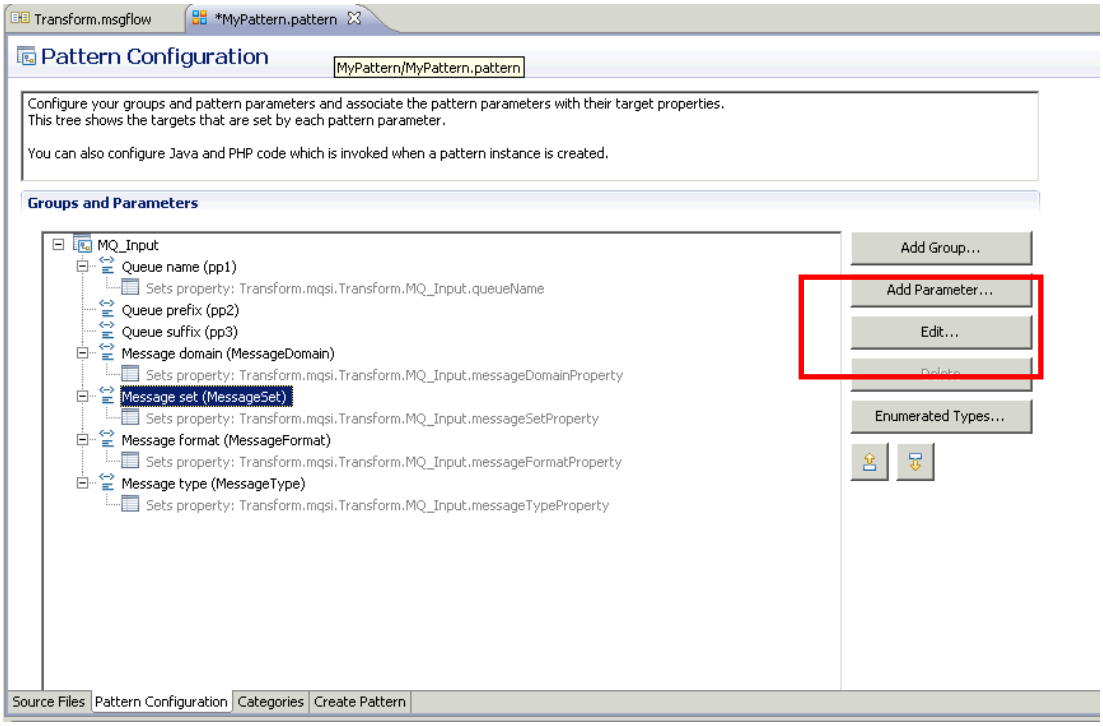
    Set the default value to MRM.

    Click OK.



12. If the pattern user selects XMLNSC, then you will want to disable the option of selecting the MRM parser properties (message set, type and format). We will do this by constructing an XPath expression for the other parser parameters.

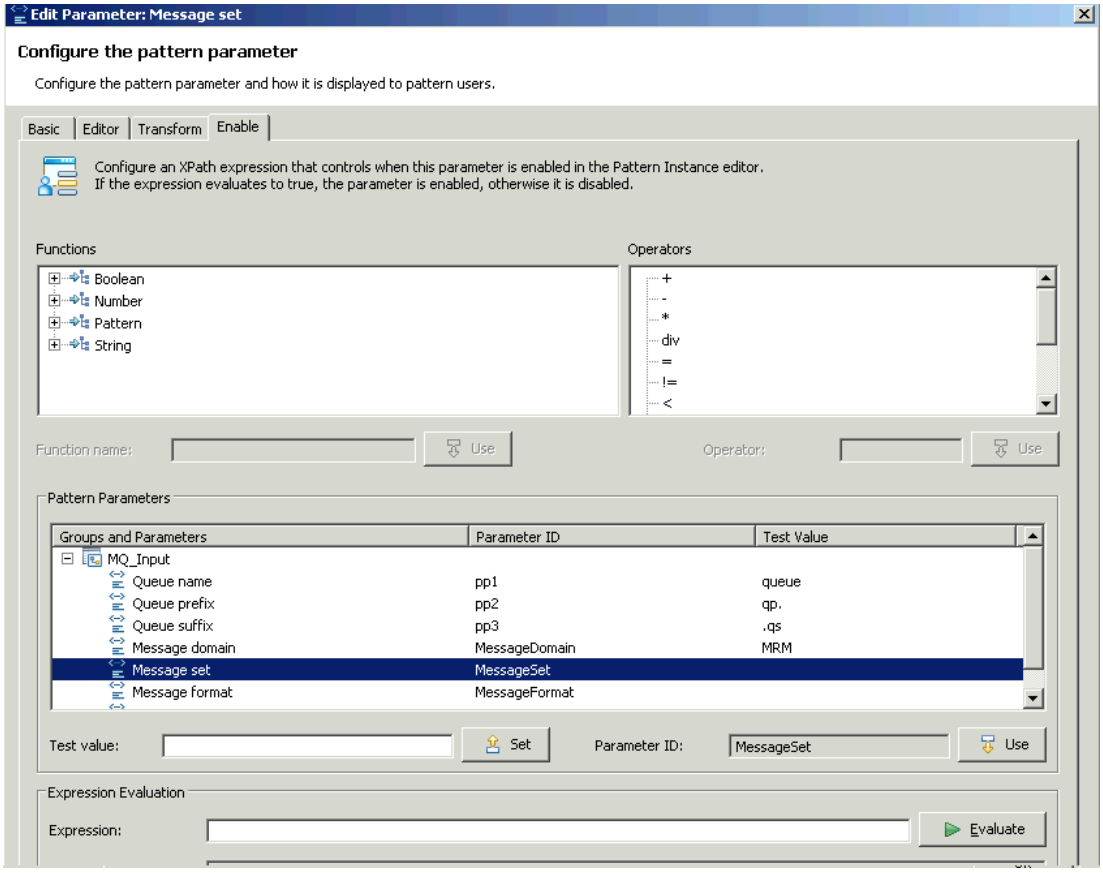
    Highlight the Message Set property, and click Edit.



13. Select the Enable tab, and highlight the Message Set parameter.

    Using the Expression field, we will construct an XPath expression. This will enable or disable the Message Set property, based on the value of the Message Domain parameter entered by the pattern user.

    If the expression evaluates to “true”, then the field will be displayed to the pattern user. If it evaluates to false, it will not be displayed.



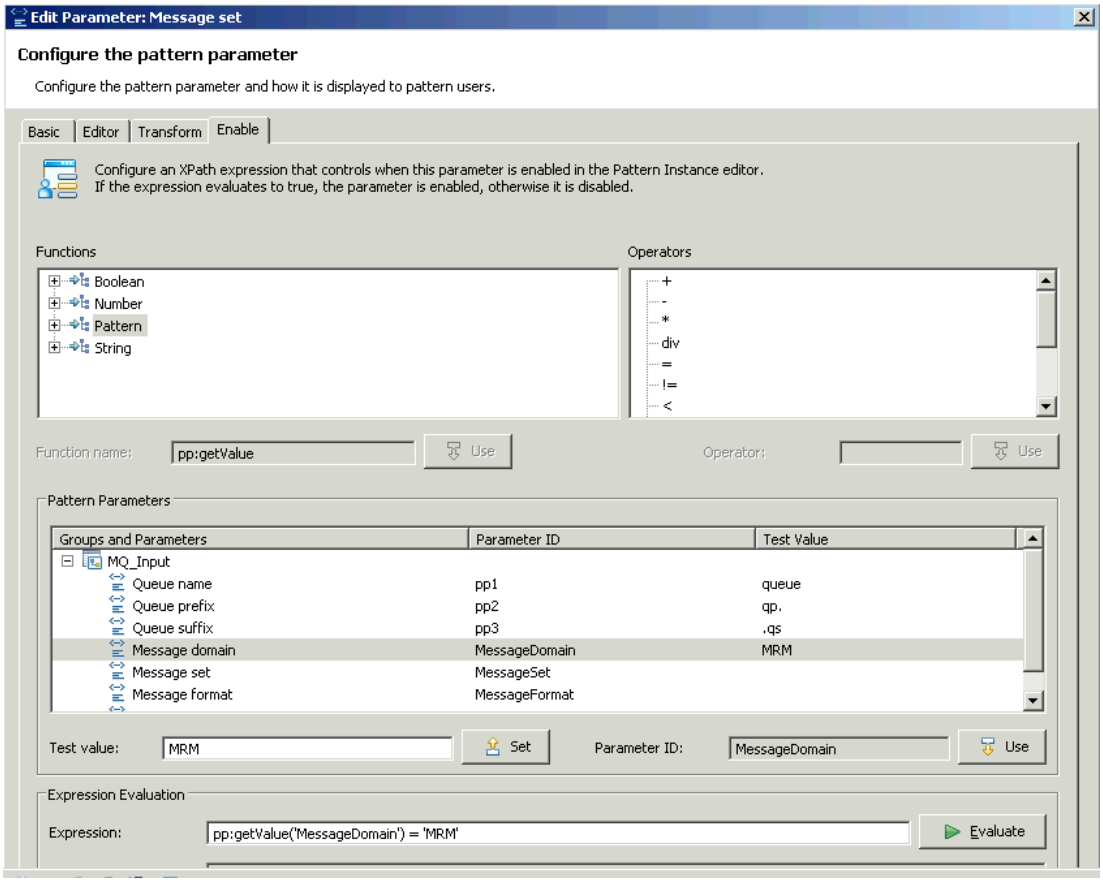
14. Double-click the Message Domain field. This will populate the Expression field with

```
pp:getValue('MessageDomain')
```

Complete the expression by typing the value to compare the expression with, as follows:

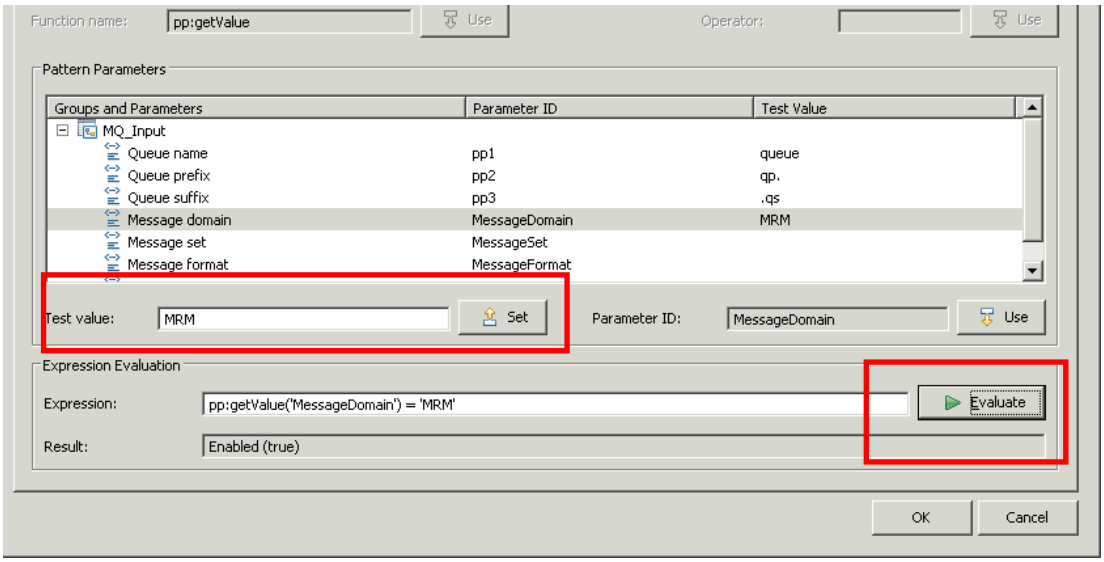
```
pp:getValue('MessageDomain') = 'MRM'
```

This will Enable or Disable the Message Set property, based on the value of the Message Domain property.



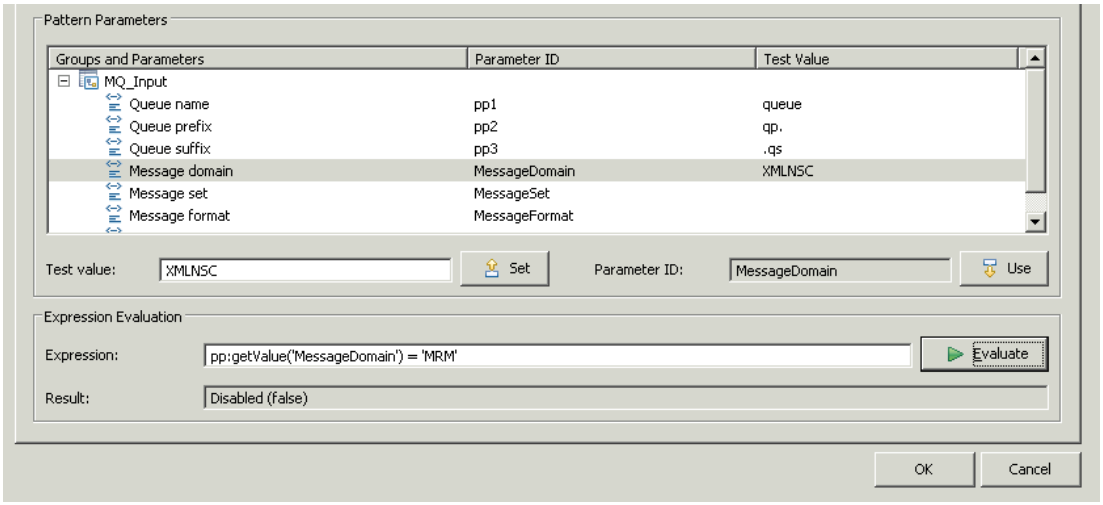
15. Check the XPath expression by using the Evaluate button. Here is the expected output.

    Use the “Test value” field and the Set button to check correct operation of the expression.



16. Check to see what happens if the domain is XMLNSC. In the “Test value” field, enter XMLNSC and click Set.

    Click Evaluate. The expected output this, where the result is “Disabled(false)”. In this case, the message set field would not be shown.



Before we leave this parameter, copy the value in the Expression field to the clipboard; we will use it for the remaining parser properties.

Click OK to complete the Message Set properties.

17. Now repeat the same configuration for the Message Format and Message Type properties (steps 11 to 15).

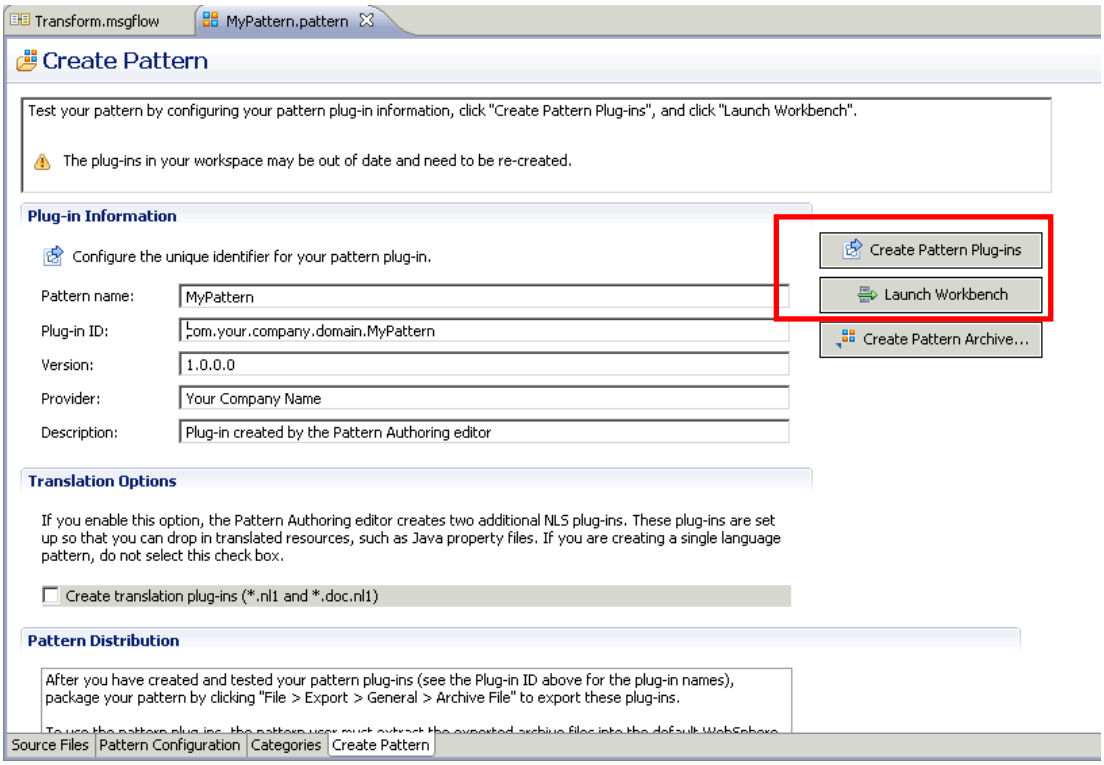
    Highlight each property in turn, click Edit, select the Enable tab, and paste the contents of the clipboard into the Expression field.

    Click OK.

18. You're done with pattern configuration. Now you need to rebuild the pattern plug-ins.

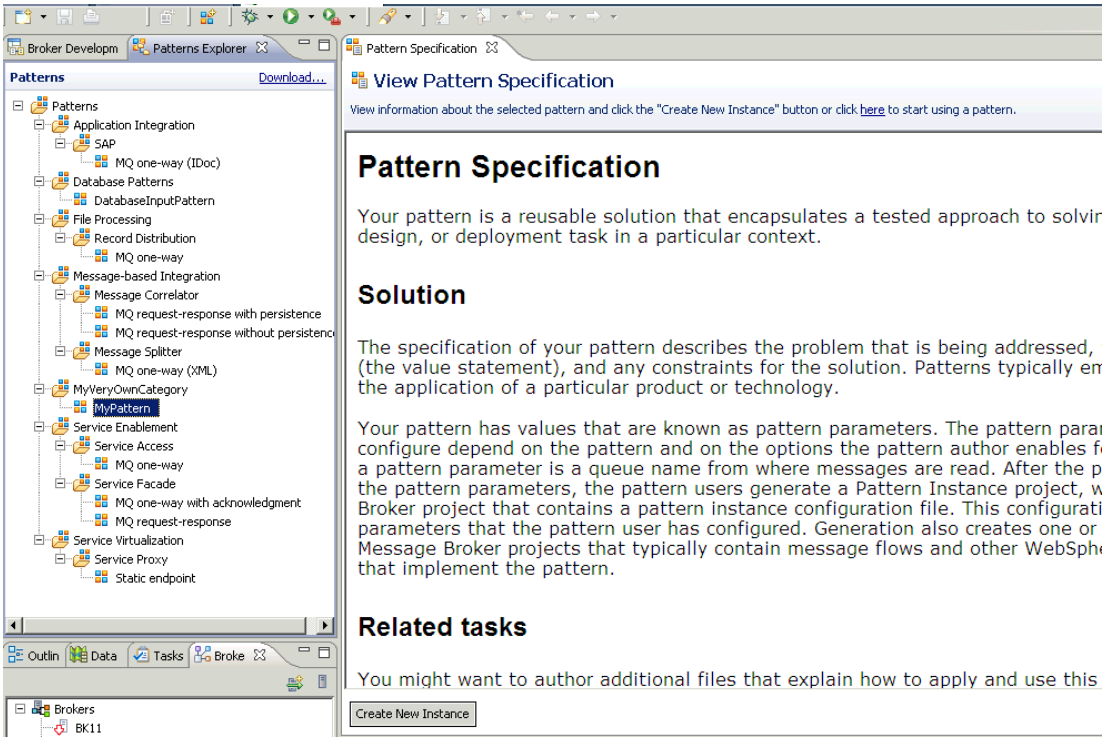
    On the "Create Pattern" tab, click Create Pattern Plug-ins.

    When this is complete, click Launch workbench.

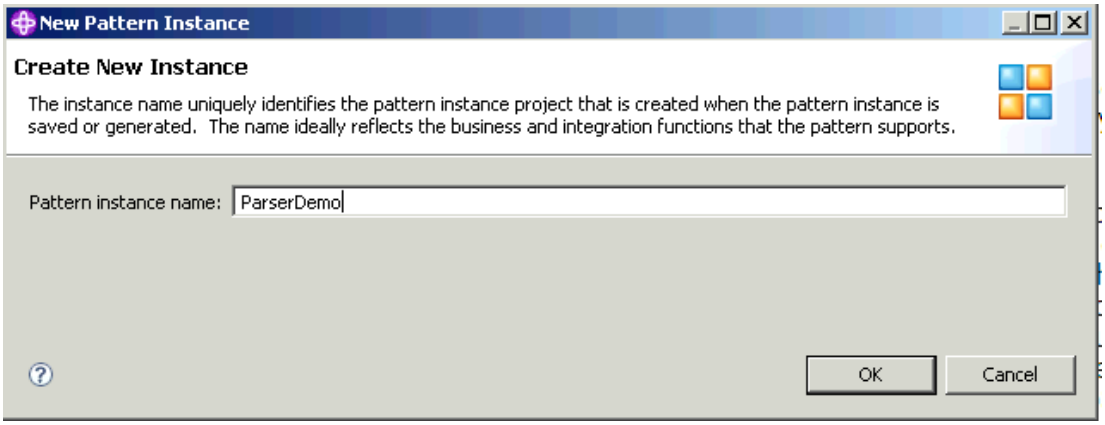


19. Accept the location of the second workspace.

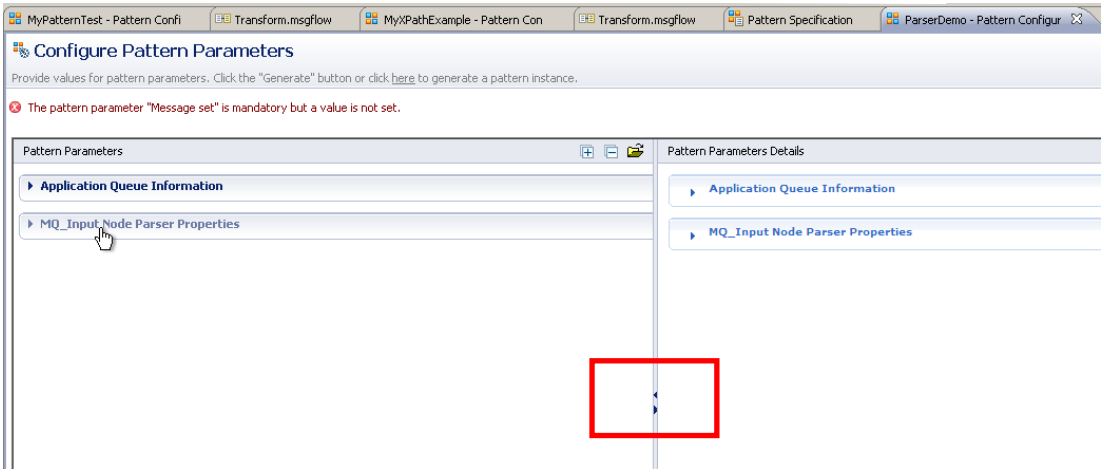
20. If not automatically selected, click on Patterns Explorer, and click MyPattern.



21. Click “Create New Instance”, provide a name, and click OK.



22. First, to see the full details, click on the small arrow on the centre pane divider to expand the left pane, or slide the divider to the right



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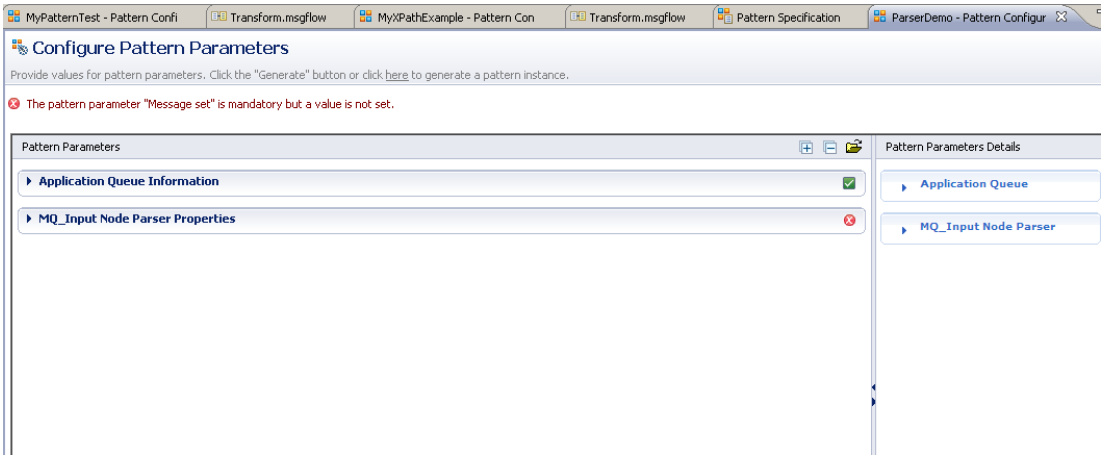
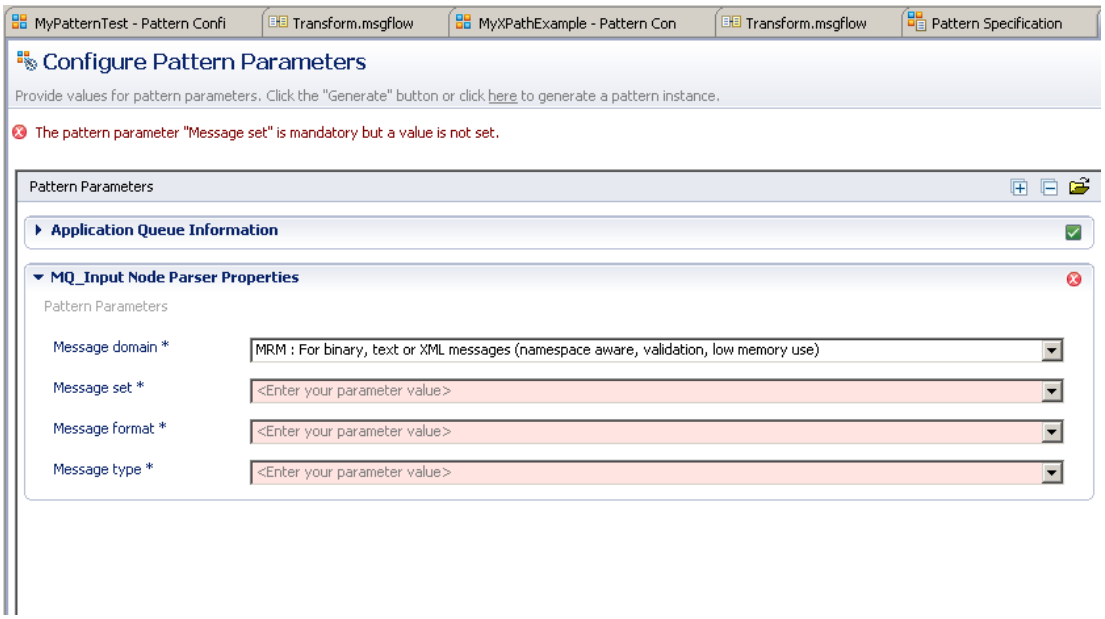


23. Expand the MQ Input Node Parser Properties group.

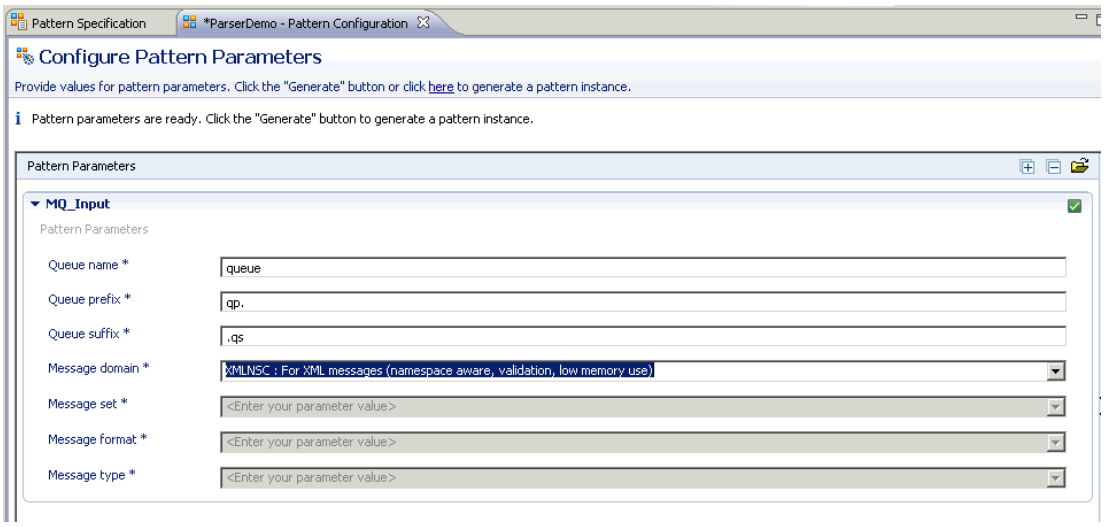
    The default value for Message Domain is MRM. In this case, the Message set, format and type parameters must be provided.

    For this pattern to be generated, an appropriate message set must be present in the workspace, so this is the limit of the part of the task.



24. On the other hand, if the Message Domain is set to 'XMLNSC', then the remaining parser properties are greyed out, and will not be specified.

    In this case, you can proceed to generate a new pattern instance. Use the same approach as in the earlier labs, and observe the resulting MQ Input node properties in the generated message flow.



This concludes the Pattern Authoring Parser Properties lab.