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| **Sno** | **Description** | |
|  | **Use case Description:**  **🡪**Front End (Service consumer) will send the request in the form of XML to the DataPower.  🡪DataPower will send same request to backend services.  🡪Backend services respond back with an XML to datapower.  🡪Datapower will transform the XML by counting the number of authors using XSLT and append same then send to front end.  🡪Pre-requisites:  🡪Following service must be up and running. (Eg. on Tomcat)  🡪http://localhost:9000/XMLSenderServicesForDP/BooksStoreXMLSender  🡪Following URL will be used to access the same service via Datapower.  🡪http://192.168.1.41:9005/XMLSenderServicesForDP/BooksStoreXMLSender | |
| **🡪Following is the XML that Front End (Eg. Netool / SOAP UI), will send to Datapower.**    <?xml version=*"1.0"* encoding=*"UTF-8"*?>  <bookstore>  <book category=*"COOKING"*>  <title lang=*"en"*>Everyday Italian</title>  <author>Giada De Laurentiis</author>  <year>2005</year>  <price>30.00</price>  </book>  <book category=*"CHILDREN"*>  <title lang=*"en"*>Harry Potter</title>  <author>J K. Rowling</author>  <year>2005</year>  <price>29.99</price>  </book>  <book category=*"WEB"*>  <title lang=*"en"*>XQuery Kick Start</title>  <author>James McGovern</author>  <author>Per Bothner</author>  <author>Kurt Cagle</author>  <author>James Linn</author>  <author>Vaidyanathan Nagarajan</author>  <year>2003</year>  <price>49.99</price>  </book>  <book category=*"WEB"*>  <title lang=*"en"*>Learning XML</title>  <author>Erik T. Ray</author>  <year>2003</year>  <price>39.95</price>  </book>  </bookstore> | **🡪Following is the Response XML modified by the Datapower**  <?xml version=*"1.0"* encoding=*"UTF-8"*?>  <bookstore>  <book category=*"COOKING"*>  <title lang=*"en"*>Everyday Italian</title>  <author>Giada De Laurentiis</author>  <year>2005</year>  <price>30.00</price>  </book>  <NoOfAuthors>1</NoOfAuthors>  <book category=*"CHILDREN"*>  <title lang=*"en"*>Harry Potter</title>  <author>J K. Rowling</author>  <year>2005</year>  <price>29.99</price>  </book>  <NoOfAuthors>1</NoOfAuthors>  <book category=*"WEB"*>  <title lang=*"en"*>XQuery Kick Start</title>  <author>James McGovern</author>  <author>Per Bothner</author>  <author>Kurt Cagle</author>  <author>James Linn</author>  <author>Vaidyanathan Nagarajan</author>  <year>2003</year>  <price>49.99</price>  </book>  <NoOfAuthors>5</NoOfAuthors>  <book category=*"WEB"*>  <title lang=*"en"*>Learning XML</title>  <author>Erik T. Ray</author>  <year>2003</year>  <price>39.95</price>  </book>  <NoOfAuthors>1</NoOfAuthors>  </bookstore> |
|  | **Usecase Requirements :** Eclipse-DataPower-Nettoolor SOAP UI. | |
|  | Step 1: First of all we need to select XML Firewall from below shown Screen shot. | |
|  | **Step 2 : On clicking the XML Firewall we will have following screen.**    🡪On clicking 'Add Advanced' following default screen will appear, which will be filled appropriately. | |
|  | **Step 3 :** Fill out the following basic information as it does not require any explicit configuration.  🡪Firewall Name (Any Logical name. Eg. AuthorElementCounter\_XMLFirewall)  🡪Comments (Optional comments can be entered)  🡪Firewall Type (In this demo we will use Static Backend)  🡪Back End Remote Host (Back IP Address where services are running. Eg. 192.168.1.178)  🡪Back End Remote Port (Back end port where services are exposed. Eg. 9000)  🡪Response Type (Here, our back end is responding with XML message, so we use XML )  🡪Request Type (Here, our front end will be sending XML message, so we use XML)  🡪Front End Local Address (We will keep 0.0.0.0, so that it can accept on any IP at DP  🡪Front End Port number (We will provide a port that is vacant or not being used on DP machine. Eg. 9005)  🡪Note that these are the basic details that do not require any configuration.  🡪For PROCESSING POLICY, we are required to do an additional configuration, that is explained below in screen shots. | |
|  | Step 4: Click on the Plus (+) sign to add the processing policy. | |
|  | **INFORMATION :**  On click of the Plus symbol we will have following default screen where, we need to configure the Policy.    🡪Here, we will have to provide a logical Policy name for the policy.  🡪Create two rules by using 'New Rule' button.  🡪One rule will be from Client to Server, that will be applied or invoked while Front end is requesting a service on Back end via Datapower.  🡪Second rule will be from Server to Client, that will be applied or invoked while Back end is responding to a service request via Datapower.  🡪For Client to server, we will have a simple passthrough, where datapower will not perform any action, but simply call the back end service.  🡪For Server to Client, however, we will perform some transformation on the response that is returned by the Back end server. | |
|  | Step 5 :  🡪Provide a logical policy name. Eg. AuthorElementCounter\_Policy.  🡪The name is give such, as the DP while send response back to front end will append an extra element which has total number of <author> elements in the response.  🡪Click on the 'New Rule' button and DP presents following screen.  🡪DP will provide a logical Rule name by itself. We can override the same too.  🡪In this demo, we are leaving it as is.    🡪Double click the Yellow Box and DP presents following screen.    🡪On clicking the Plus symbol, following screen is presented.    🡪On clicking the 'Add' button, DP presents following screen, where we will configure the matching rules.    🡪On clicking 'Apply', 'Apply' and 'Done', we need to press the 'Apply-Policy once again so as to save the configuration to the Policy.  🡪Once 'Apply Policy' is clicked, the configuration will have a Result Icon embedded automatically by the DP.  🡪Screen shot is as below.    🡪Following is the screen, where Circled options are required to be modified from Auto to Output. | |
|  | **Step 5:** Till above, we have configured Processing policy and rule for Client To Server. Below, we will see the rule being configured for Server to Client interaction. Notice that, we can use the same policy for creation of the rule from Server to Client. Here, we will not see some of the screen shots as they will be same. The screenshots that are different from previous ones will be presented below.  🡪Click on the 'New Rule' to get the configuration panel.  🡪Choose the 'Server to Client' direction.  🡪Double click the Yellow box to get the Matching rule configuration window.  🡪Here, we will be using the previous rule and need not create afresh.  🡪Note that for this example, we will allow the Server to Client (Back end to Datapower) any type of URL and not enforcing anything.  🡪Hence, the previously created Rule will be used. Same can be noticed in the below screen shot..    🡪Once selected, Click on the 'Done' Button. | |
|  | **Step 6 :** Drag and Drop the Transformation Action Icon onto the process. Note that this is to be applied for Server to Client interaction.    🡪In the transformation configuration we will apply the XSLT logic, which transforms the Back End XML, by appending an extra element that has <author> element count.  🡪On clicking the Yellow Box above, Datapower presents following screen for configuration. | |
|  | Step 7 : Upload following XSLT file using the Upload button.  <?xml version="1.0" encoding="UTF-8"?>  **<xsl:stylesheet version**=*"1.0"* **xmlns:xsl**=*"http://www.w3.org/1999/XSL/Transform"*  **xmlns:dp**=*"http://www.datapower.com/extensions"*  **extension-element-prefixes**=*"dp"*  **exclude-result-prefixes**=*"dp"***>**  <!-- standard copy template -->  **<xsl:template match**=*"@\*|node()"***>**  **<xsl:copy>**  **<xsl:apply-templates select**=*"@\*"***/>**  **<xsl:apply-templates/>**  **</xsl:copy>**  **</xsl:template>**    **<xsl:template match**=*"book"***>**  **<xsl:copy-of select**=*"."***/>**  <NoOfAuthors> **<xsl:value-of select** = *"count(author)"* **/>** </NoOfAuthors>  **</xsl:template>**  **</xsl:stylesheet>**  🡪Following are screen shots for Uploading, Continue, Done actions. | |
|  | Step 8 : Drag and drop the Results Action icon on the process. Double click on the Action tag to apply following configuration as show in the screen shot.  🡪Notice the Input option has 'PIPE', which concatenates Input message with output message.    🡪Click apply policy and close window options.  🡪Fill out the any unfilled options.  🡪The configuration are done for XML Firewall and can be tested.  🡪Following is the screen shot for XML Firewall configuration where, circled ones are the ones that have been changed and any default values if exists are over-ridden.    🡪Once the 'Apply' button is clicked, if all the configuration settings are done correctly, we can see the XML Firewall status as UP and Firewall Name text box in disabled state. Same are circled in below screen shot. | |
|  | Now we can test this either in SOAP UI or in Net tool by <http://192.168.41:16018/DP-XSL-Copy-Demo/SimpleXSLCopy> as URL and XML as request. The DataPower will give the response in the form of XSL with current Date. (Where 192.168.1.41 is the Data Power Server, 16018 is the Port Number which we have specified in Front End Port Number, DP\_XSL-Copy\_Demo is the Backend Application name & SimpleXSLCopy is the Java Class Name). | |
|  | There are many Example XSL files for XML Firewall Labs. Procedure remains the same. Only XSL file has to be changed. | |