IBM[®] Feature Pack for Web Services– LAB EXERCISE

Feature Pack for Web Services Policy set configuration

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What this exercise is about

The objective of this lab is to use the take an existing Web Service and stand-alone Web Services client that uses the Web Service and to enable WS-ReliableMessaging in the service and the client. This will be done by attaching a policy set to both service and client. For the client, you will do this using the IBM WebSphere Application Server Toolkit (AST) and for the service, you will use the administrative console.

Review

A policy set is a grouping of policy or configuration data supporting a quality of service associate with Web Services, such as security or reliable messaging. The individual configuration data represented by policy sets can then be grouped together into policy types based on their usage. Policy types can also be defined based on specific Web Services standards. The Feature Pack for Web Services will ship with various policy sets already defined, that can be used out of the box. Alternatively, these predefined configurations, can be copied, and used to create customer policy configurations.

Once policy sets have been created, they can be associated with bindings that detail specific details about the environment. These can then be applied as a reusable configuration for Web Services in the environment. The Policy Set configurations will be stored at a cell wide level, while the binding data is application specific. Policy sets can then be associated with applications, or their services, endpoints and operations. Policy sets represent reusable configuration data that can easily be applied at a granular level as needed in an environment.

Lab requirements

The system on which you are installing WebSphere Application Server must be running a supported distributed operating system. For more information on supported operating systems, see the WebSphere Application Server V6.1 information center. In addition, the system must have the following resources available:

- An installation of IBM Web Services Feature Pack for WebSphere Application Server V6.1
- An installation of IBM Application Server Toolkit V6.1

What you should be able to do

At the end of this lab you should be able to:

- Use AST to attach a policy set that will enable WS-ReliableMessaging for a Web Services Client.
- Use the Administrative Console to attach a policy set to a Web Service.

Part 1: Create the client project

In this section, you will create a generic project to contain a WSDL file then use that WSDL to create a project for the Web Services client.

____1. Start the AST workspace.

To start the AST:

Using the Start Menu:

Start-> All Programs -> IBM WebSphere -> Application Server Toolkit V6.1-> Application Server Toolkit

2. When prompted to select a workspace, keep the default workspace of C:\Documents and Settings\Administrator\AST\workspace and click OK.

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_____3. This will open the AST. Close the welcome screen by clicking the **X** on the welcome tab and you will see the screen shown below.

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4. In the Project Explorer panel of the AST, right click in the empty space and select **New** then click on **Project**.

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_____ 5. Expand General, select Project, and then click Next.

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- ___6. Enter wsdl for the name of the new project and click Finish.

_____7. Import the wsdl file into the new project by right clicking on **wsdl** in the Project Explorer panel and selecting **Import**.

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8. Choose **File System** as import source and click **Next**.

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9. Browse to C:\Labfiles\Policy and choose the file named wsfpLab1.wsdl and then click Finish.

10. Expand the **wsdl** project in the Project Explorer panel, right click on **wsfpLab1.wsdl**, select **Web Services** and click **Generate Client**.

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11. Change the runtime specified to IBM WebSphere JAX-WS. Click on Web service runtime: IBM WebSphere JAX-RPC. Select the IBM WebSphere JAX-WS runtime and click OK.

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12. Click on the Client project, and change the name to **SimpleWSRMClient**, change the Client Project type to **Java Utility Project** and click **OK**.

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_____ 13. You should see something like the screen below; click **Finish**.

Part 2: Modify the client project

In this section, you will make some necessary modifications to the client project to run in a stand-alone client environment.

____14. In the Project Explorer panel, right click the SimpleWSRMClient project and select Properties.



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_____ 15. Choose **Java Build Path** and then click the tab labeled **Libraries**.

16. Click on Add External Jars. Navigate to \$WAS_HOME\runtimes, click on com.ibm.jaxws.thinclient_6.1.0.jar, and click Open.



_____ 17. Select the entry named:

WebSphere Application Server v6.1 [WebSphere Application Server v6.1 stub]

and click Remove.

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_____ 18. Click OK.

Part 3: Import the client implementation code

In this section, you will import the client implementation code into the client project that was just created. Normally you would write this code yourself but, for purposes of this lab exercise, you will import a file that was previously written.

19. In the Project Explorer panel, expand SimpleWSRMClient, expand src, right click on simple and click Import...





20. Expand General, select File System and click Next.



21. Navigate to C:\Labfiles\Policy and click OK.

🕀 Java - IBM WebSphere Applicatio	n Server Toolkit, V6.1.1	-O×
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22. Click on the box beside MyClient.java and click Finish.

Part 4: Attach the "WS-ReliableMessaging default" policy set to the client

In this section, you will use the AST to attach the "WS-ReliableMessaging default" Policy Set to the client that you created earlier.

_____ 23. Change to the J2EE perspective by clicking on **Window**, select **Open Perspective**, select **Other**.

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24. Choose J2EE and click OK.



25. In the Project Explorer of the AST, expand the folder named "JAX-WS Web Services", expand Clients, and right click SimpleWSRMClient{http://simple}LabService and choose Manage Policy Set Attachment



_____ 26. In the dialog panel, Click Add.

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27. Click the down arrow for the field labeled **Policy Set:** and scroll down and select WSReliableMessaging default. Enter wsrmbinding for the field labeled **Binding**: and click OK.

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_____ 28. Click Finish.

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_ 29. The policy related files are placed under the META-INF files on the client.



Part 5: Install the Web service

This section will describe the process of installing the Web Service. The Web Service is contained in an EAR file on your system. The EAR file is named SimpleWSRMServiceEAR and is found in:

C:\:Labfiles\policySets\SimpleWSRMServiceEAR\ SimpleWSRMServiceEAR.ear

30. Ensure that the WebSphere Application Server is running and start the administrative console by starting your browser and entering:

http://localhost:9060/ibm/console/

in the address field and pressing Enter.



__ 31. Log in as wsdemo.



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 ■ **Enterprise Applications** + Servers Use this page to manage installed applications. A single application can be deployed onto multiple servers. Applications Enterprise Applications Start Stop Install Uninstall Update Rollout Update Remove File Export Export DDL Install New Application 00#9 🕀 Resources Select Name 🛟 Application Status ሷ Gecurity DefaultApplication • 🗄 Environment Services Г ivtApp ٩ \boxdot System administration € query Users and Groups Total 3 🗄 Monitoring and Tuning Troubleshooting **∃** UDDI + + • Done
- _ 32. Expand Applications and click on Enterprise Applications.

_____ 33. Click the **Install** option.

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34. Click Browse.



35. Browse to C:\Labfiles\Policy\SimpleWSRMServiceEAR and select SimpleWSRMServiceEAR.ear and click Open.

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36. At the bottom of the page, click **Next**.



_ 37. At the bottom of the page, click **Next**.



38. At the bottom of the page, click **Next**.



39. At the bottom of the page, click **Finish**.



_____ 40. You should see output similar to the sample below. Press **Save** directly to the master configuration.

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http://localhost:9060/ibm/consol	e/syncworkspace.do?saveaction=save&directsave=true		1

41. You will see a page like the one shown below. Click the box beside **SimpleWSRMService** and click **Start** to start the Web Service.



- lntegrated Solutions Console Mozilla Firef - | | × <u>File Edit View Go B</u>ookmarks <u>T</u>ools <u>H</u>elp 🔹 🔘 😡 💽 123 🔁 beta Team related 📄 Google 📄 IBM Pages 📄 localHost 📄 misc 📾 Merriam-Webster Onl... 📄 WebSvcsPgmingModel 🧊 Building JAX-W5 2.0 ... » Integrated Solutions Console Welcome wsdemo Help | Logout IBM. Close page 🔺 View: All tasks Enterprise Application 7 -Welcome ⊕ Guided Activities
 ■ 🖯 Messages E Servers Application SimpleWSRMServiceEAR on server server1 and node jim667Node01 started successfully. Applications Enterprise Applications Install New Application **Enterprise Applications** 🕀 Resources Use this page to manage installed applications. A single application can be deployed onto multiple servers. E Security 🗄 Environment Start Stop Install Uninstall Update Rollout Update Remove File Export Export DDL Services 00 # 9 E System administration Select Application Status ሷ Name 🛟 H Users and Groups DefaultApplication • 🗄 Monitoring and Tuning SimpleWSRMServiceEAR • Г ivtApp € ∃ UDDI query . Total 4 • • + 4 ١ Done
- ____42. You will see a page like the one below showing the Web Service is active.

Part 6: Attach the "WS-ReliableMessaging default" policy set to the Web service

In this section, you attach the "WS-ReliableMessaging default" Policy Set to the Web Service that you installed and started earlier. Do this using the administrative console.

_ 43. Expand **Services** then click on "**Service providers**" and click on **LabService** for the SimpleWSRMServiceEAR application.



____44. Scroll down on the next page until you see the section for **Policy Set Attachments**.



- ____45. Click on the box beside LabService and then click Attach to see the list of available Policy Sets. Click on the one named WS-ReliableMessaging default.
 - _____a. There is a known defect with the sample. The sample application has an operation name of Submit. This confuses the submit action for the policy attach button. While this will be fixed in the service stream, you can use a work-around. Click the **Detach** button, after you attach the Policy Set, while the drop down list is still shown. This will allow the Policy Set to be attached and refresh the screen.

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🗄 Users and Groups	Close				
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____46. **Save** the changes to the master configuration. Select **LabService** again, and scroll down and insure that the Policy Set was correctly attached.

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47. Now go back to the AST to test the client you configured earlier. In the project explorer, expand the SimpleWSRMClient folder, and then expand src, and finally the simple folder. Right click on MyClient.java. Scroll down to Run As and select the option for Java Application. You should see output like the following, showing the client and service have been properly configured and can communicate using the reliable messaging quality of service.



Summary

In this lab, you reviewed some of the basic concepts associated with Policy Sets and then you proceeded to attach a Policy Set to a Web Service client and a Web Service. You performed the following steps to do this:

- 1. Created a client project in the AST
- 2. Attached a reliable messaging policy set to the client
- 3. Deployed a test service to the application server
- 4. Attached a reliable messaging policy set to the service
- 5. Ran the client to confirm the policy sets worked