

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.

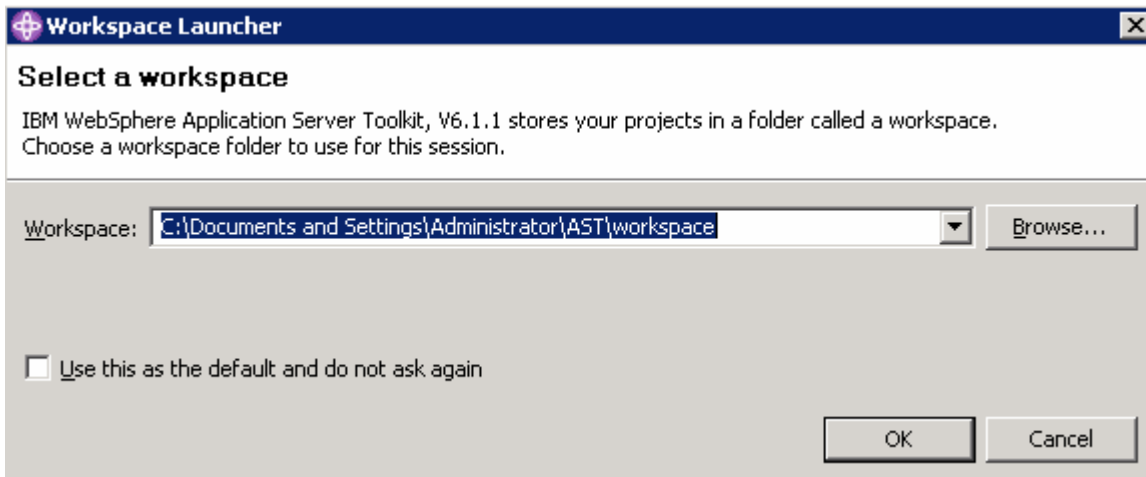
- ____ 1. Start the AST workspace.

To start the AST:

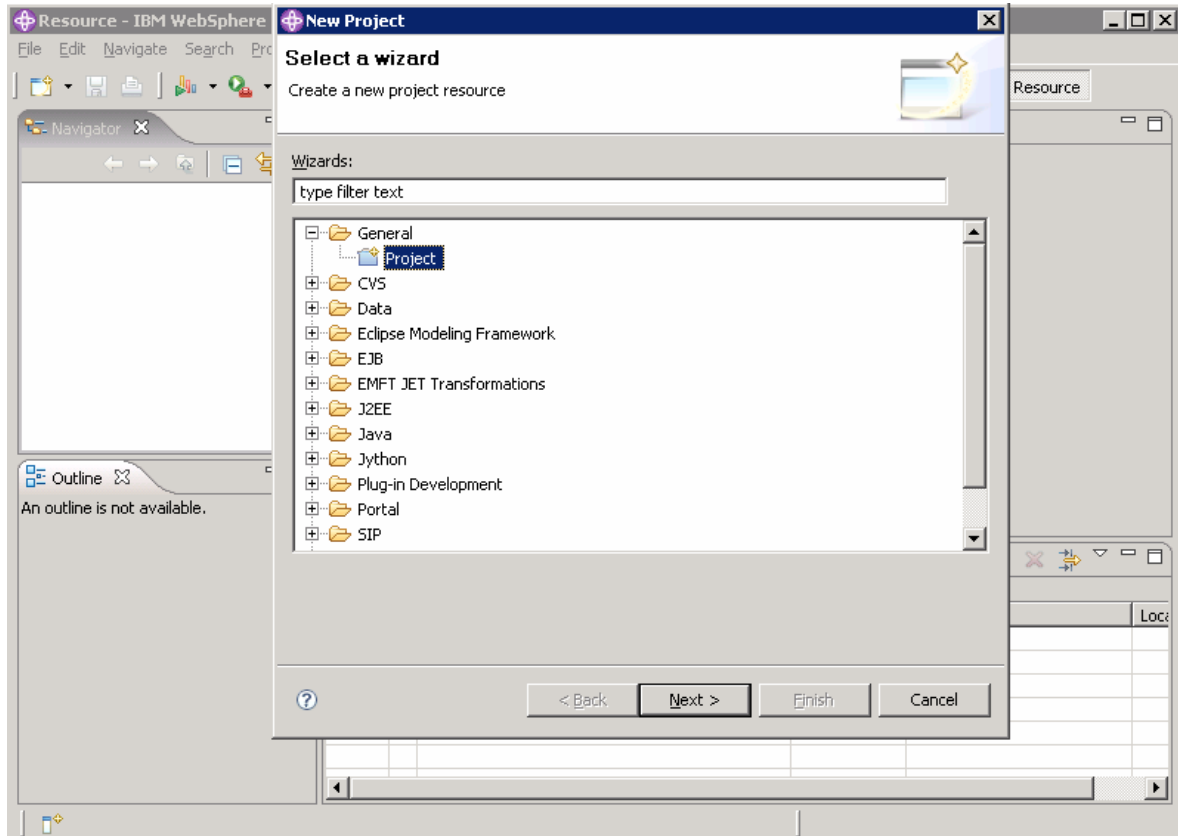
Using the Start Menu:

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

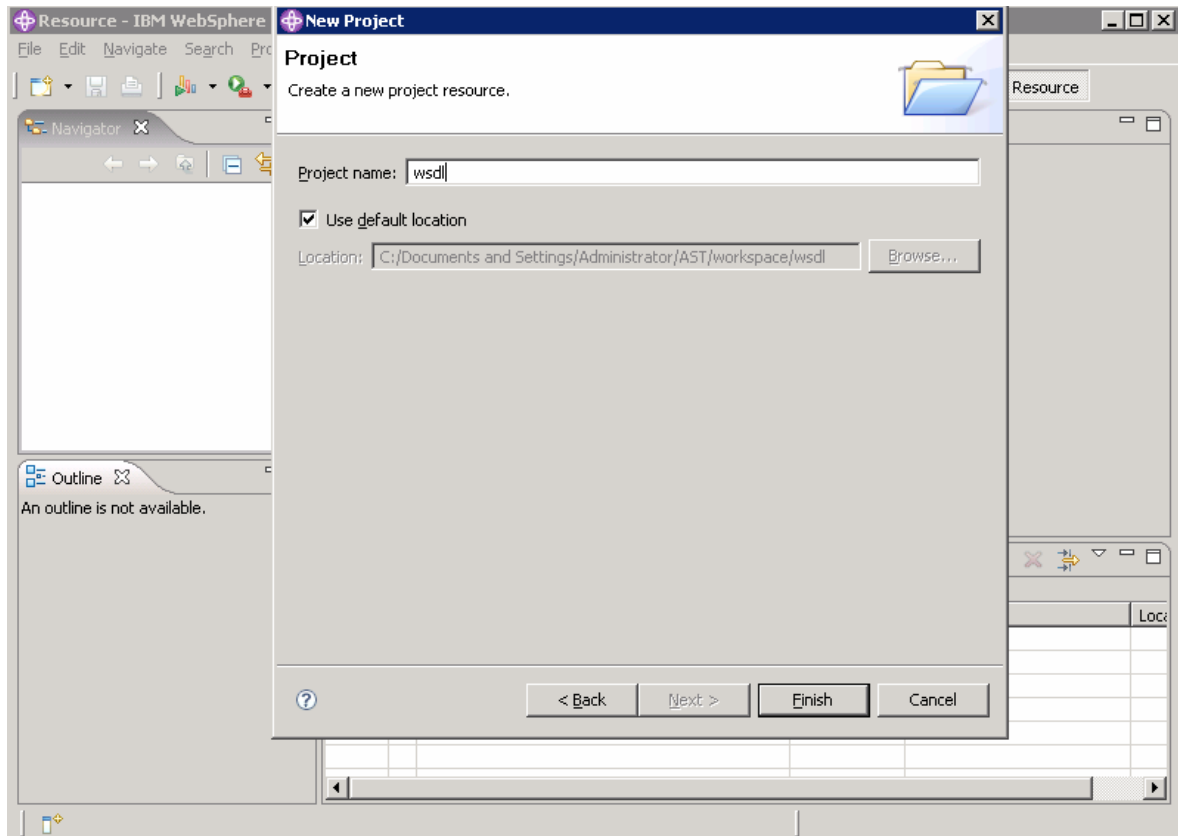
- ____ 2. When prompted to select a workspace, keep the default workspace of **C:\Documents and Settings\Administrator\AST\workspace** and click **OK**.



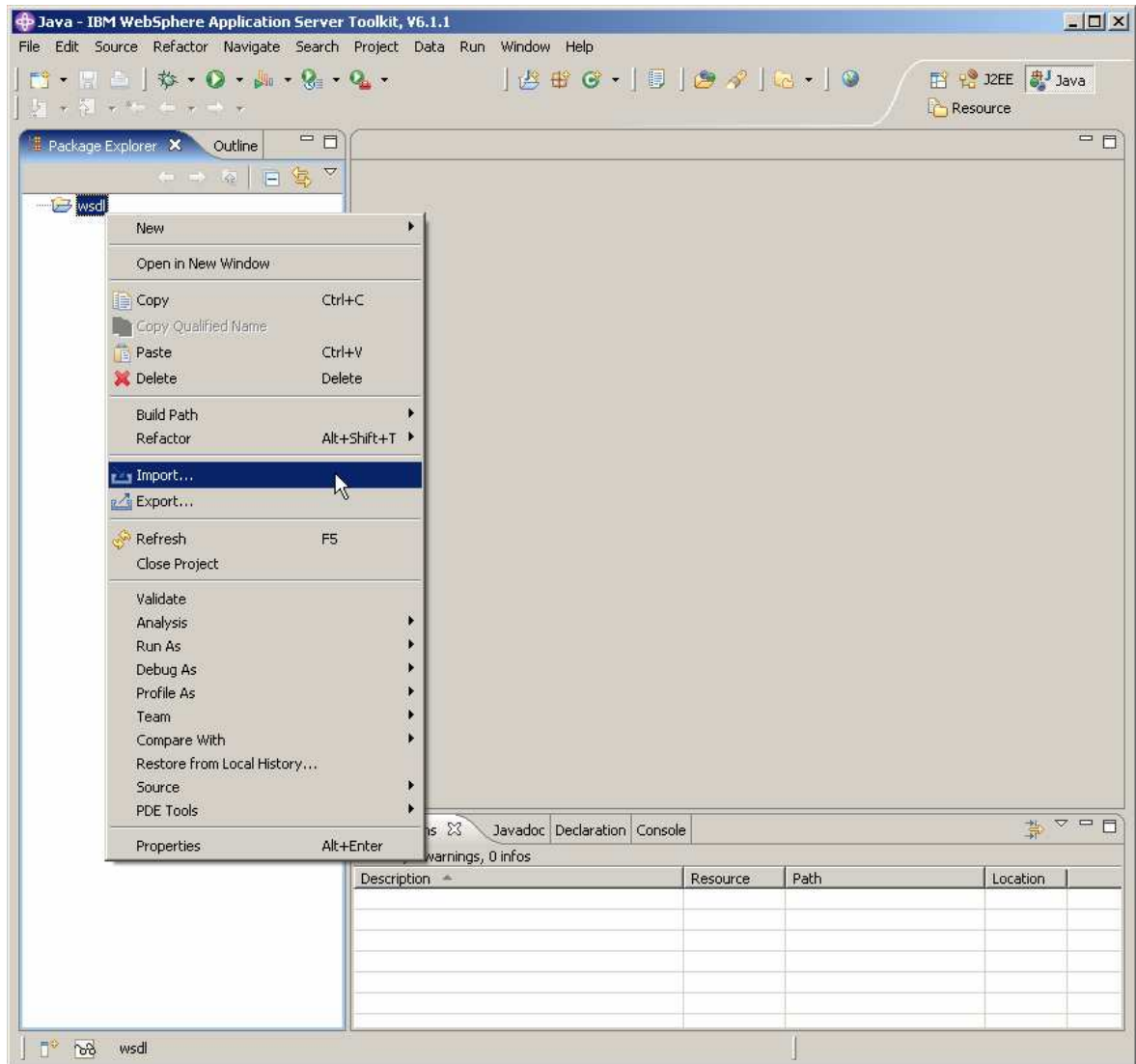
5. Expand **General**, select **Project**, and then click **Next**.



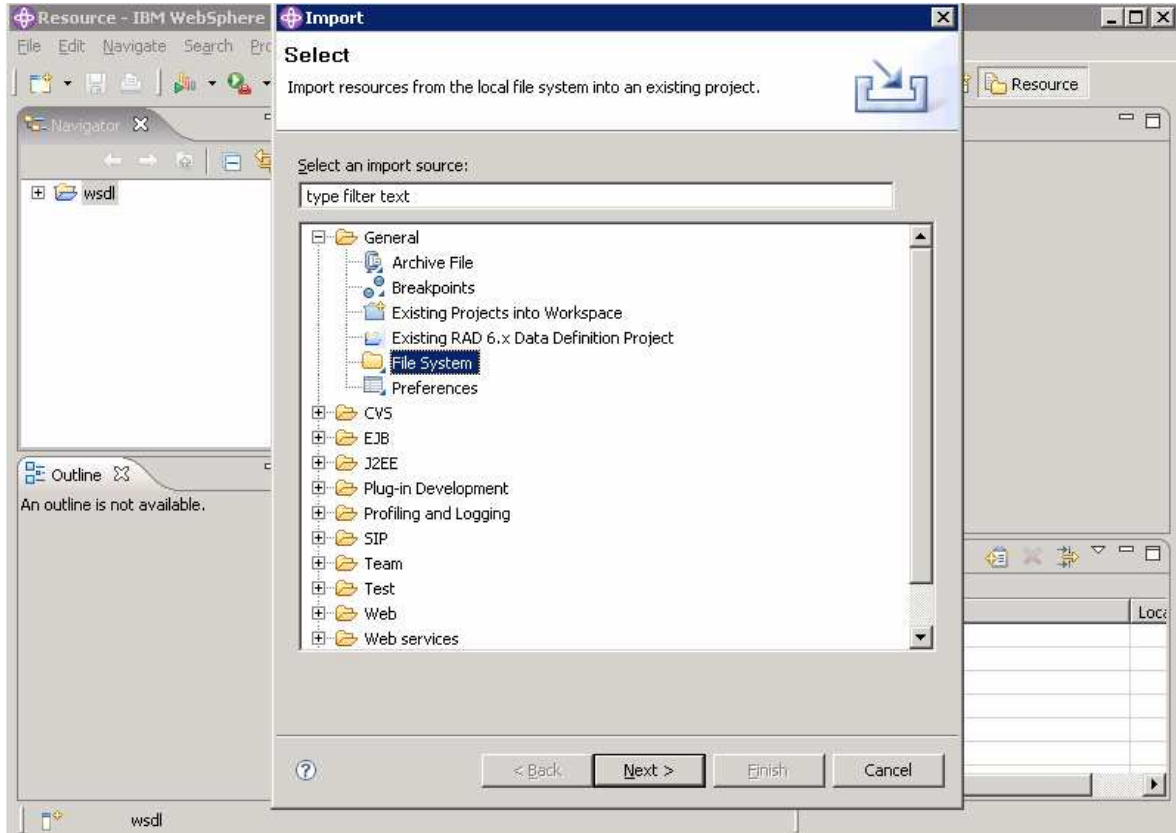
____ 6. Enter wsdl for the name of the new project and click Finish.



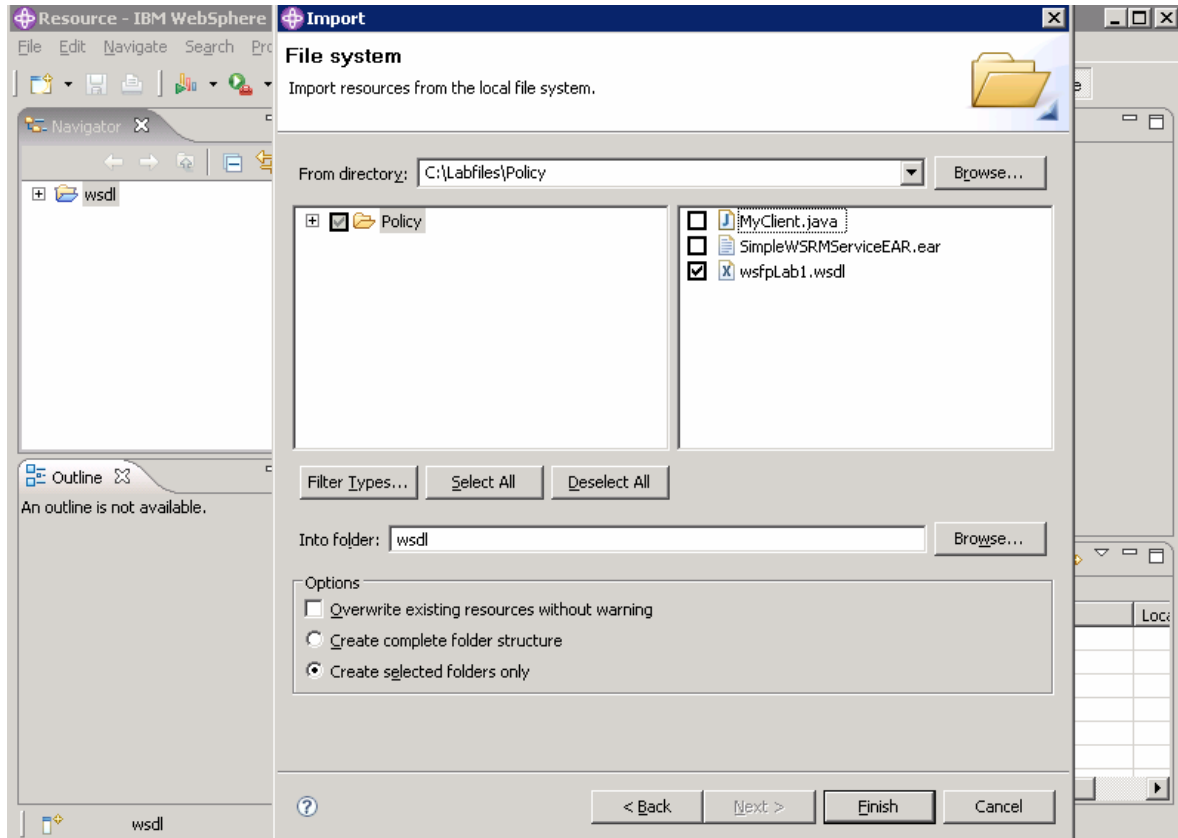
7. Import the wsdl file into the new project by right clicking on **wsdl** in the Project Explorer panel and selecting **Import**.



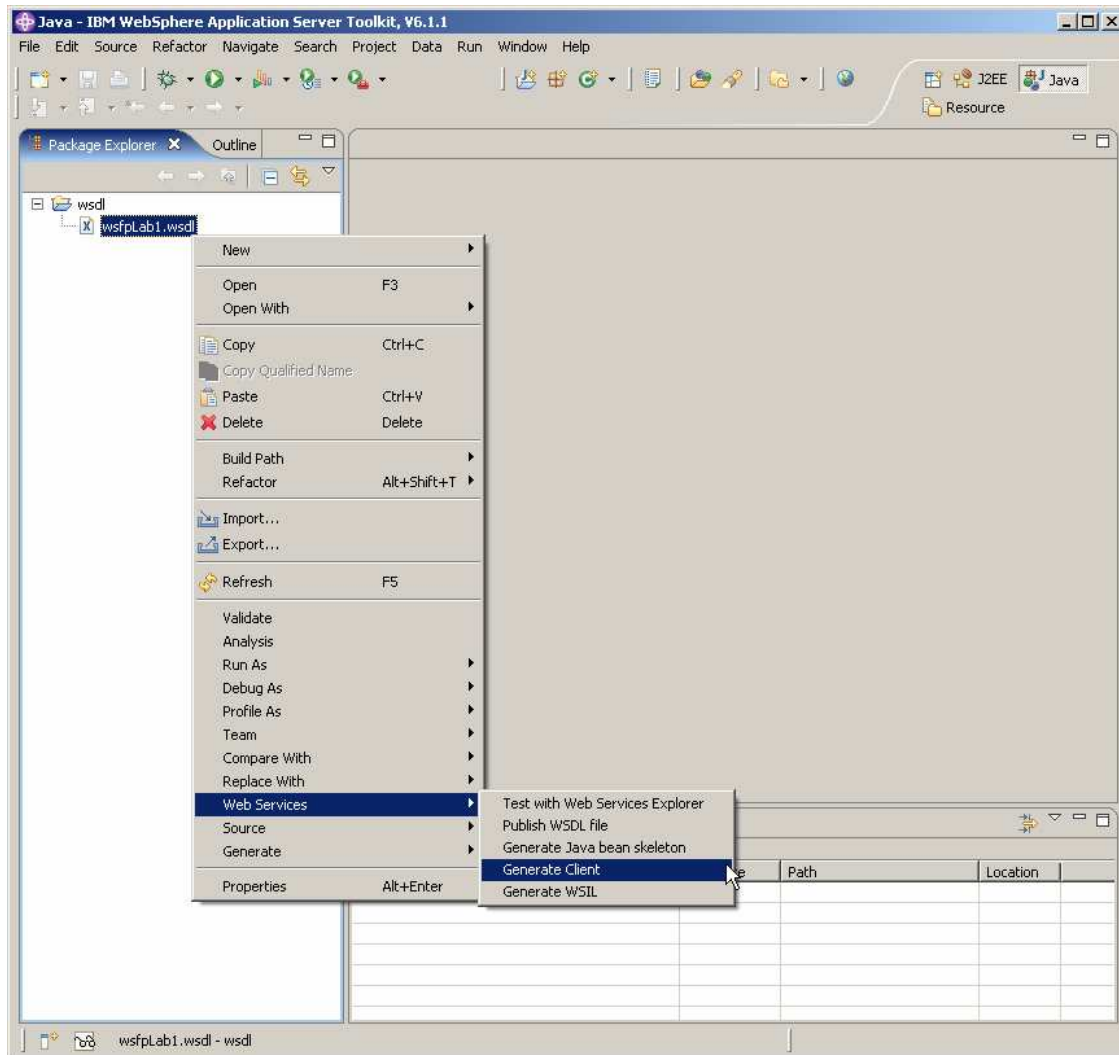
___ 8. Choose **File System** as import source and click **Next**.



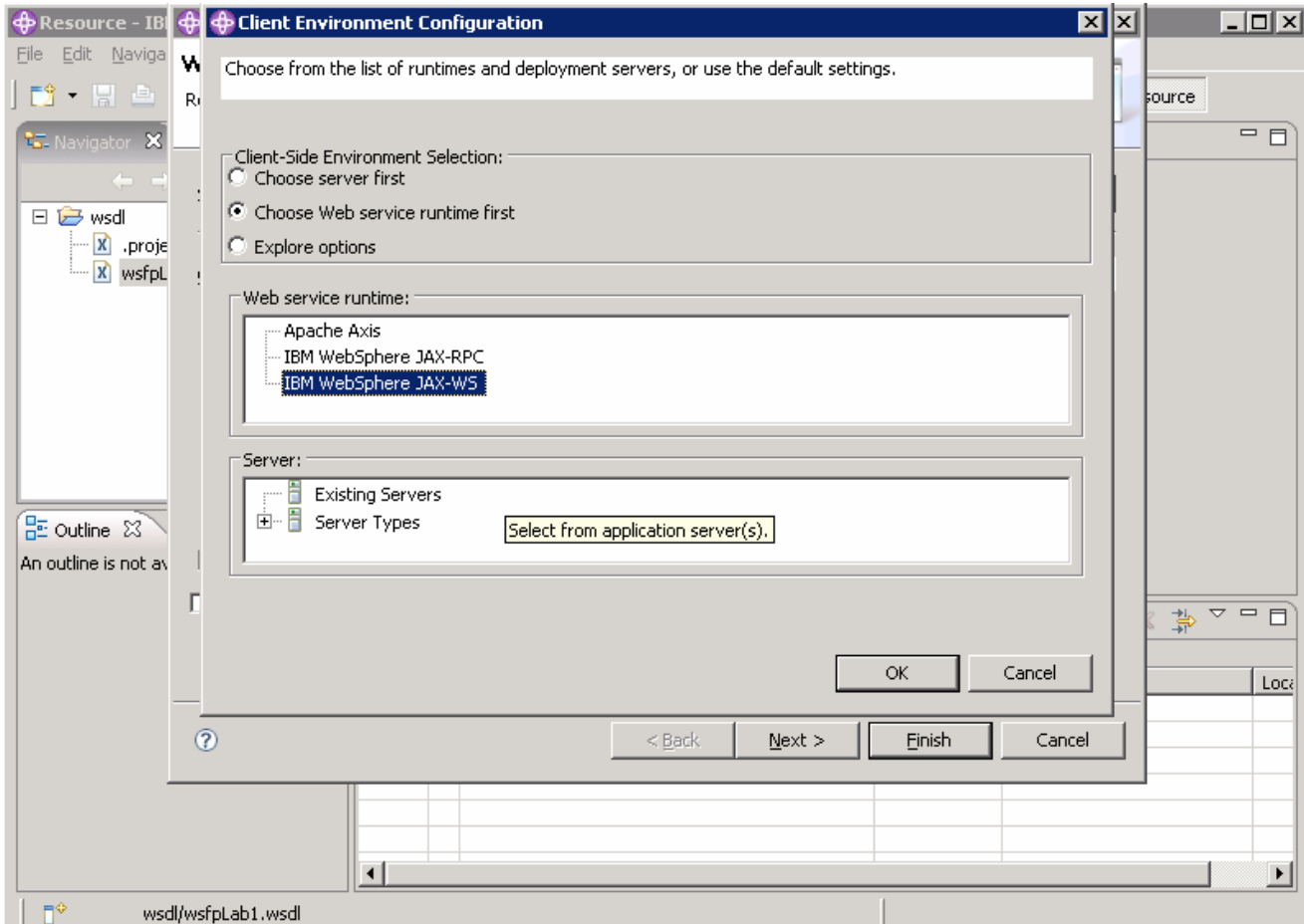
9. Browse to **C:\Labfiles\Policy** and choose the file named **wsfpLab1.wsdl** and then click **Finish**.



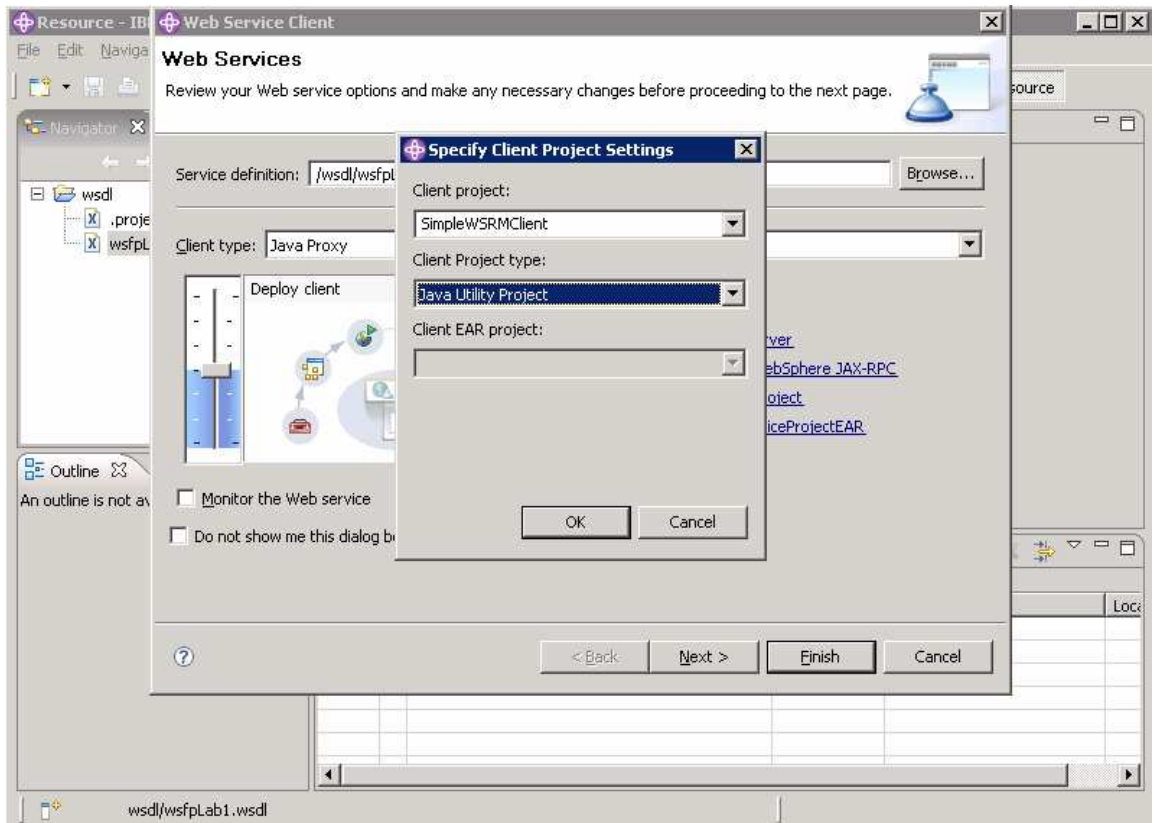
10. Expand the **wSDL** project in the Project Explorer panel, right click on **wsfpLab1.wsdl**, select **Web Services** and click **Generate Client**.



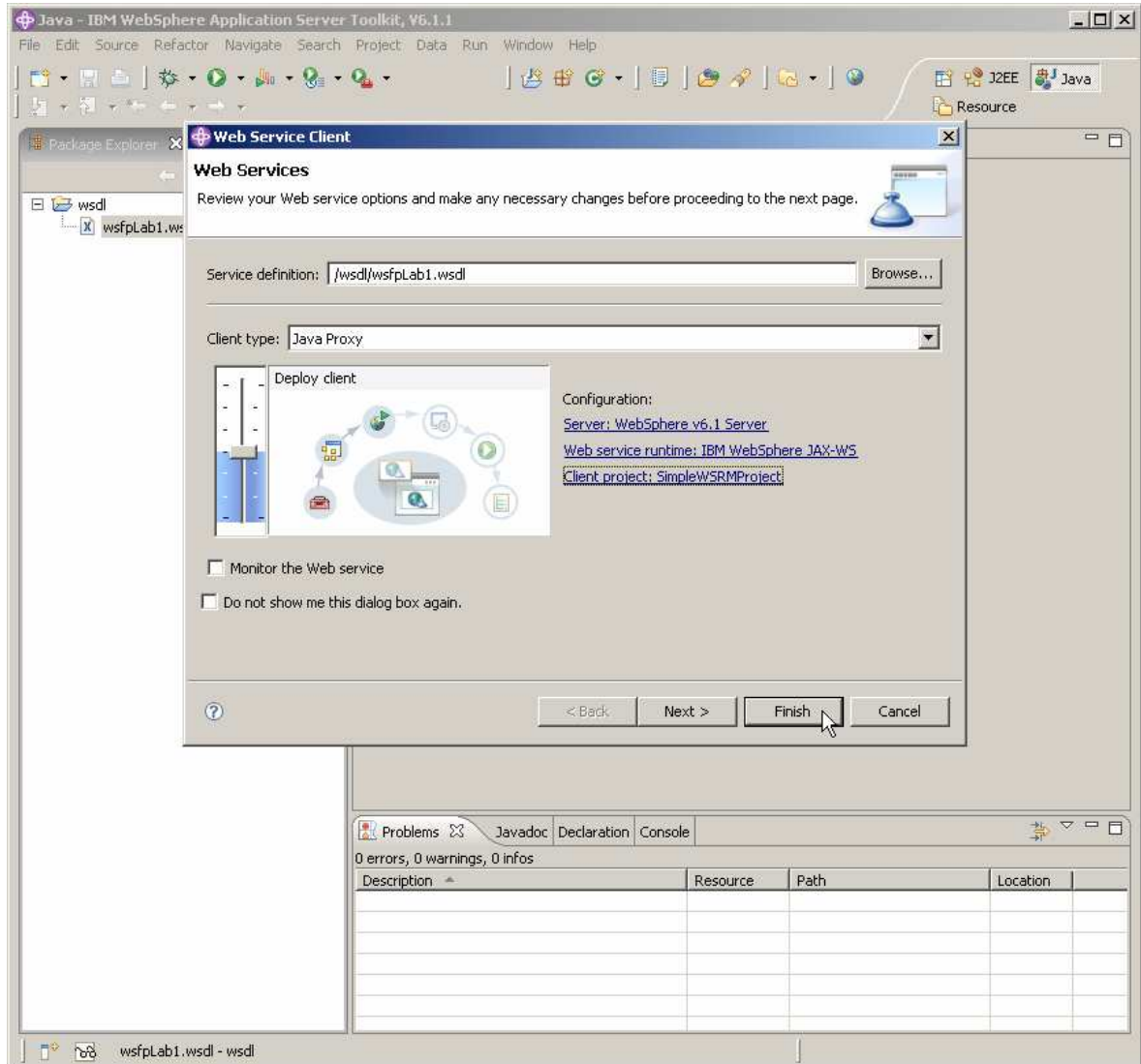
11. Change the runtime specified to **IBM WebSphere JAX-WS**. Click on **Web service runtime: IBM WebSphere JAX-RPC**. Select the **IBM WebSphere JAX-WS** runtime and click **OK**.



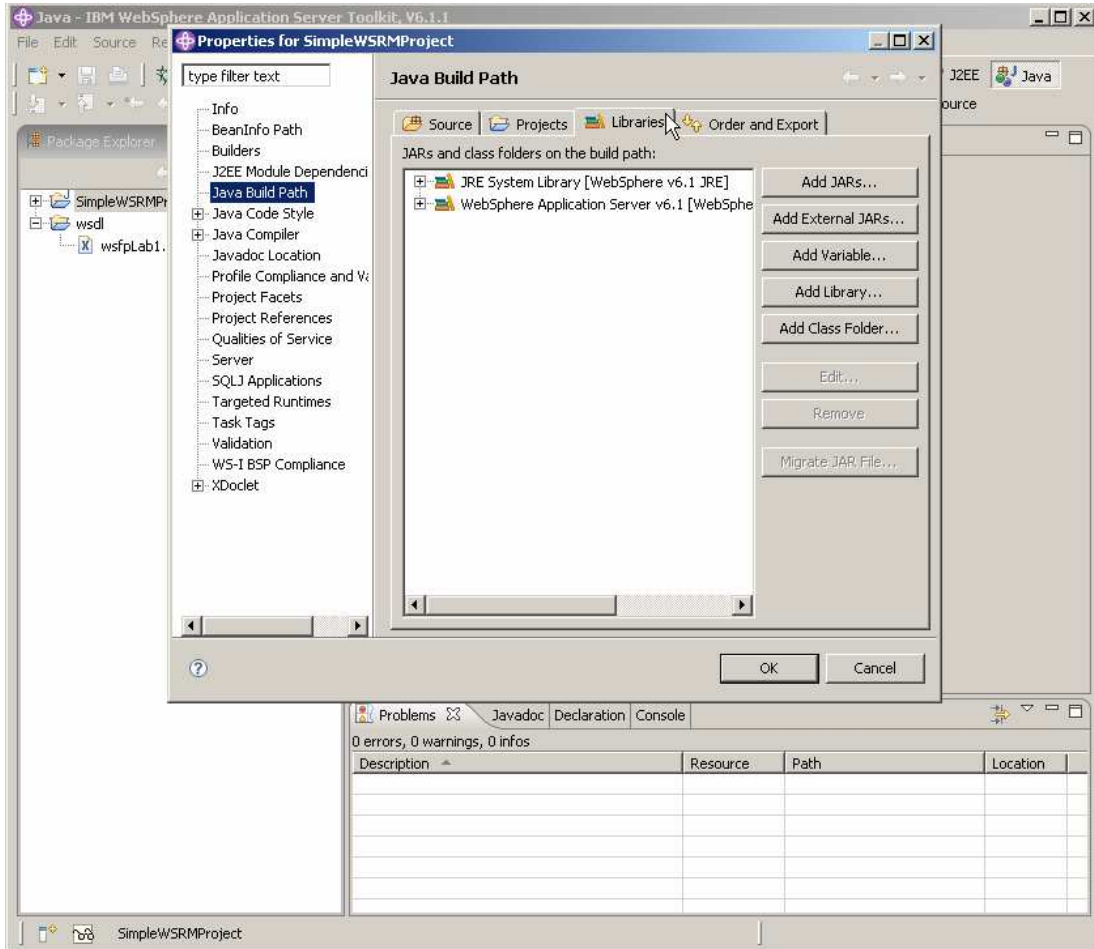
12. Click on the Client project, and change the name to **SimpleWSRMClient**, change the Client Project type to **Java Utility Project** and click **OK**.



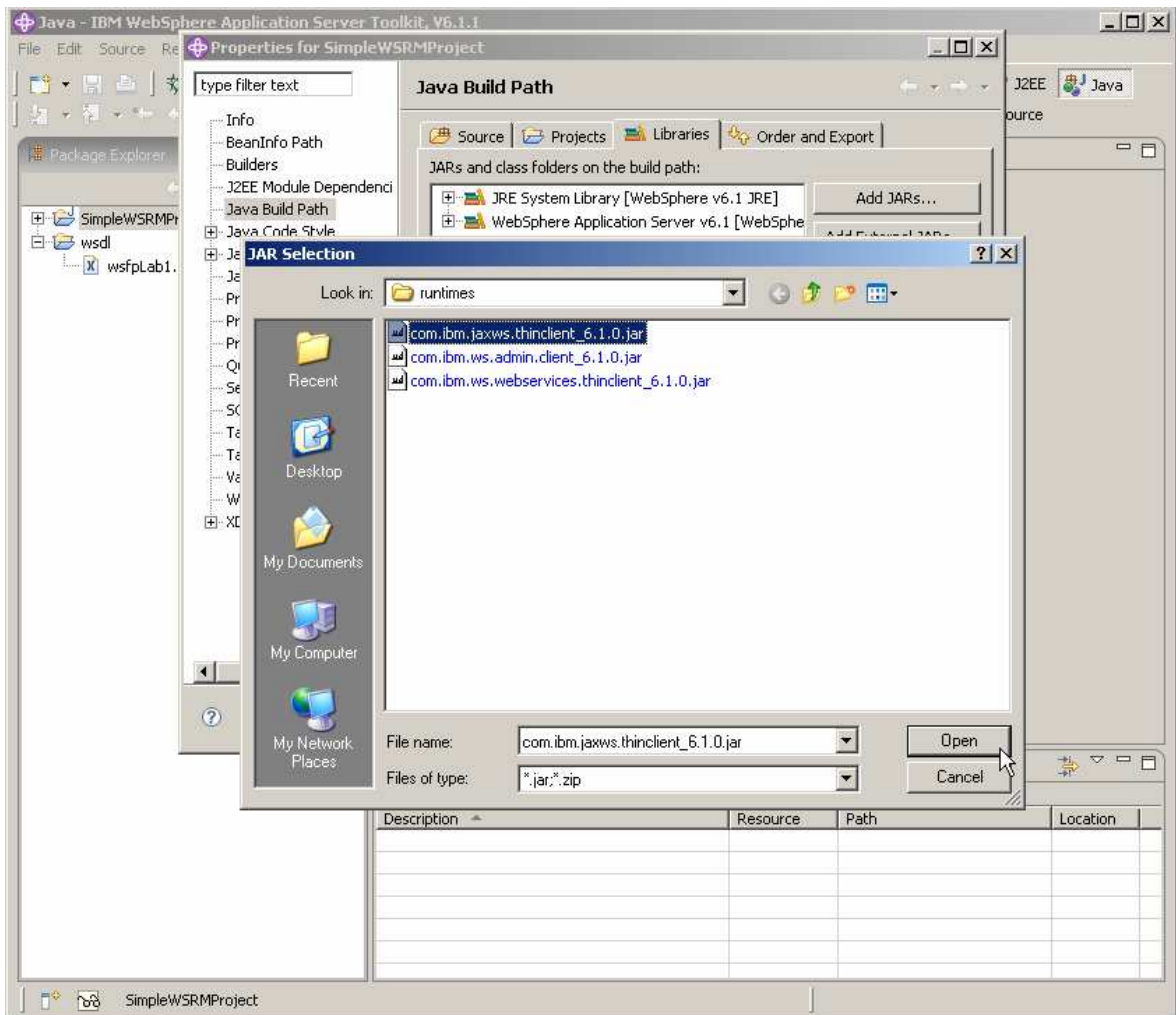
13. You should see something like the screen below; click **Finish**.



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



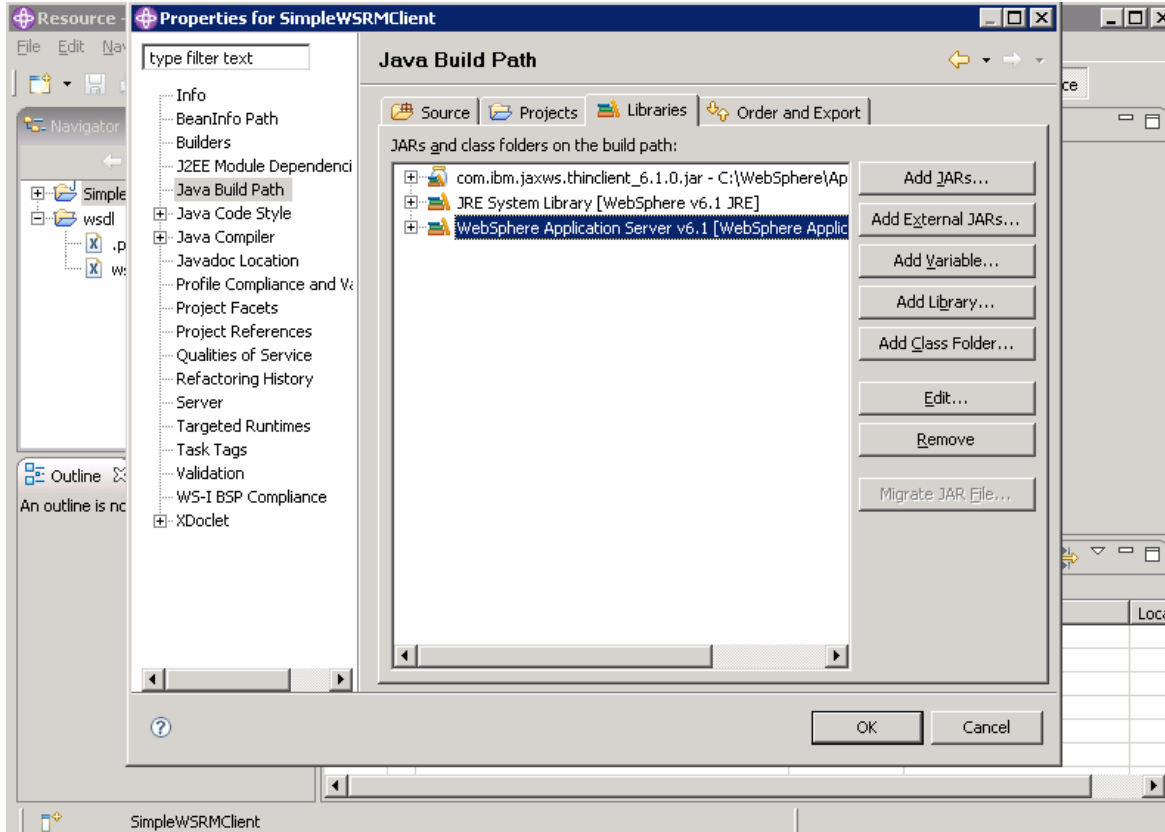
16. Click on **Add External Jars**. Navigate to **\$WAS_HOME\runtimes**, click on **com.ibm.jaxws.thinclient_6.1.0.jar**, and click **Open**.



____ 17. Select the entry named:

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

and click **Remove**.

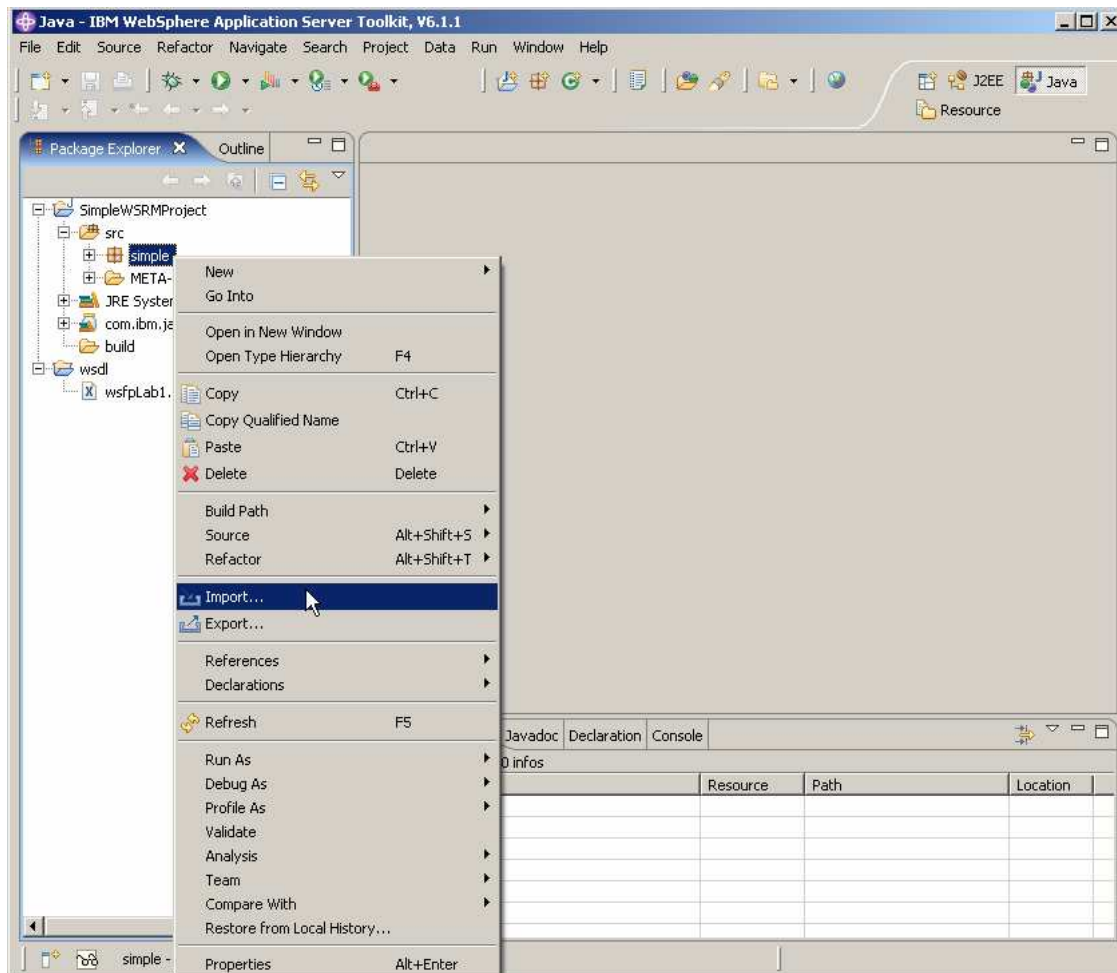


____ 18. Click **OK**.

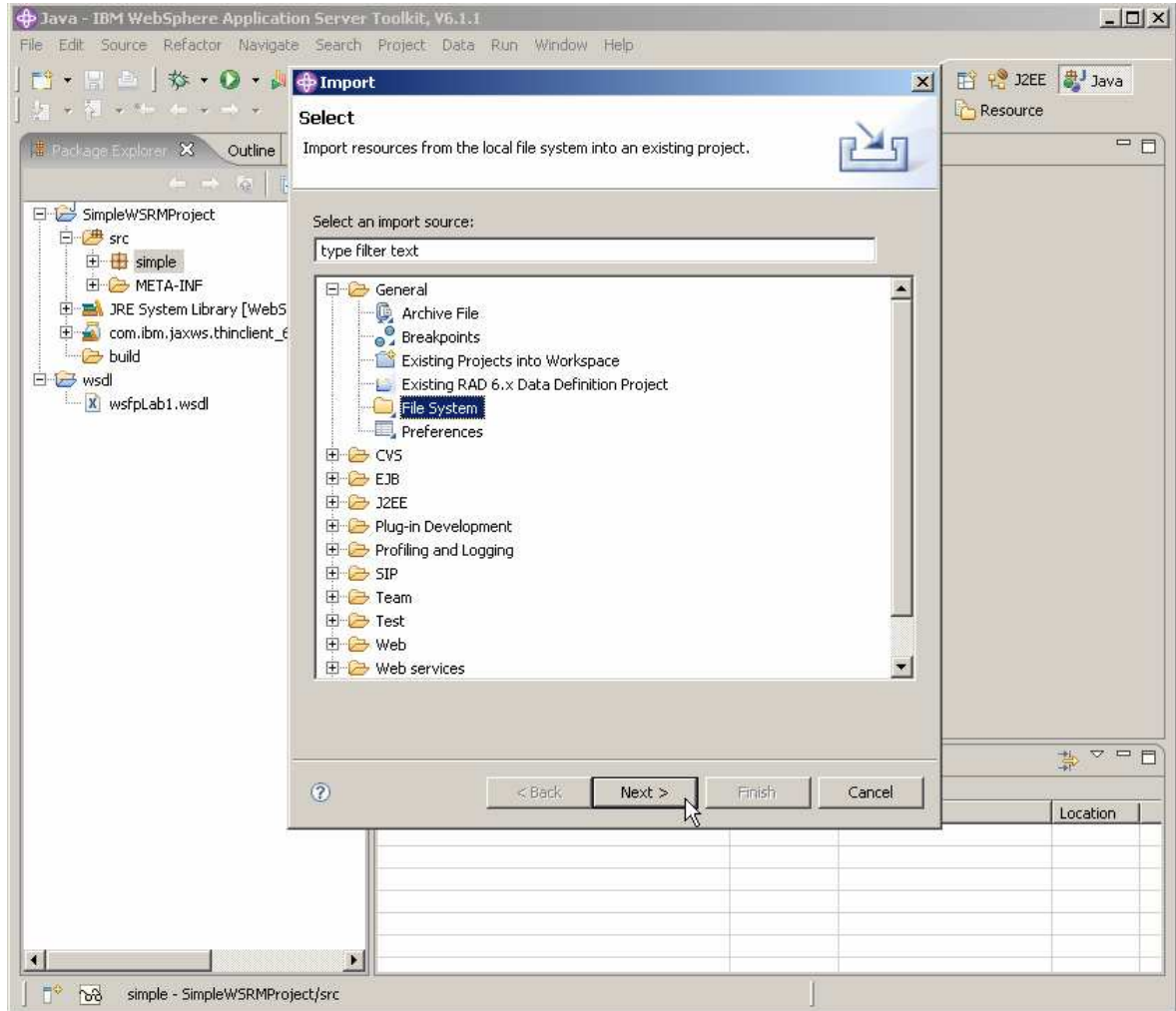
Part 3: Import the client implementation code

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.

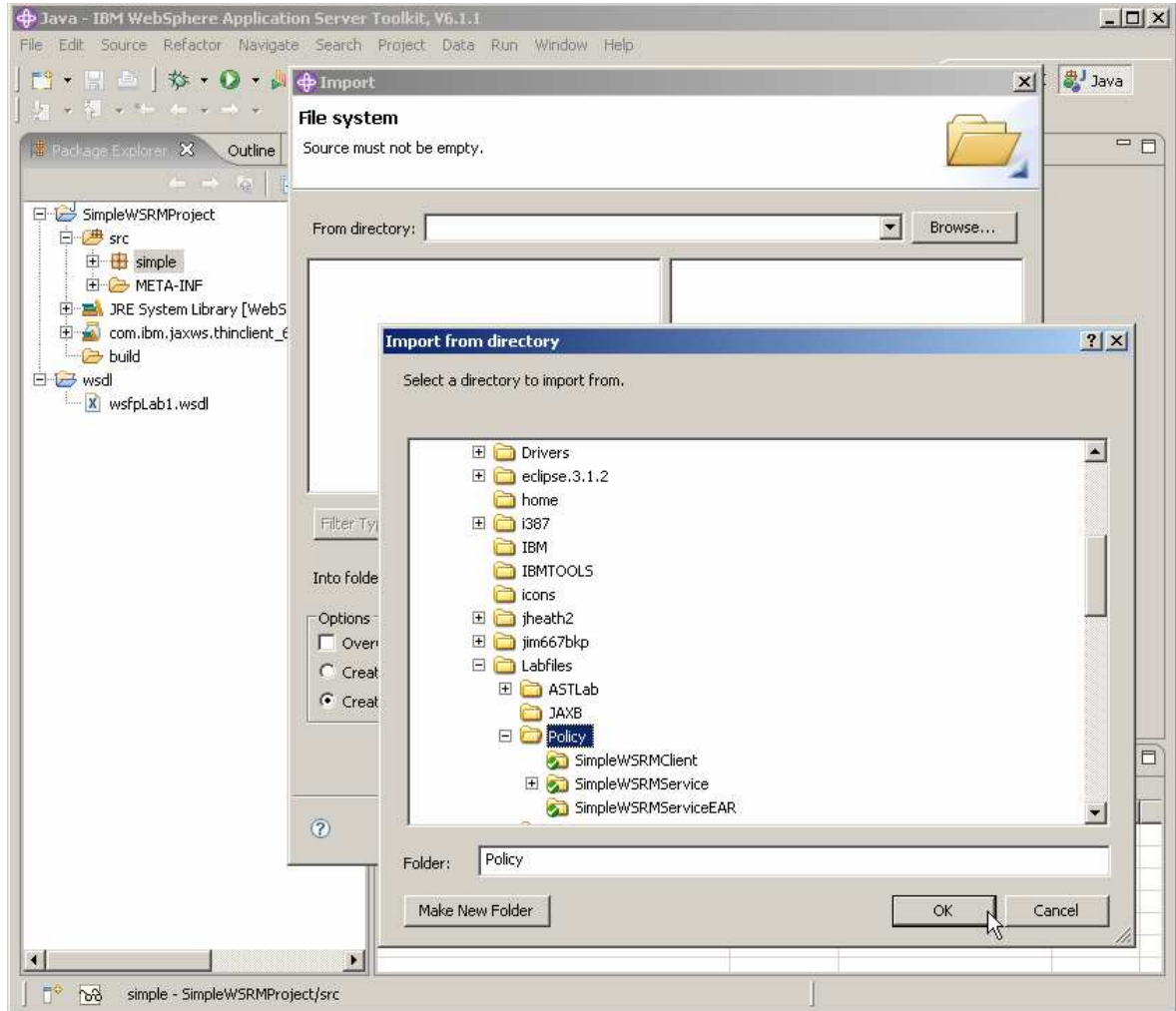
- ___ 19. In the Project Explorer panel, expand **SimpleWSRMClient**, expand **src**, right click on **simple** and click **Import...**



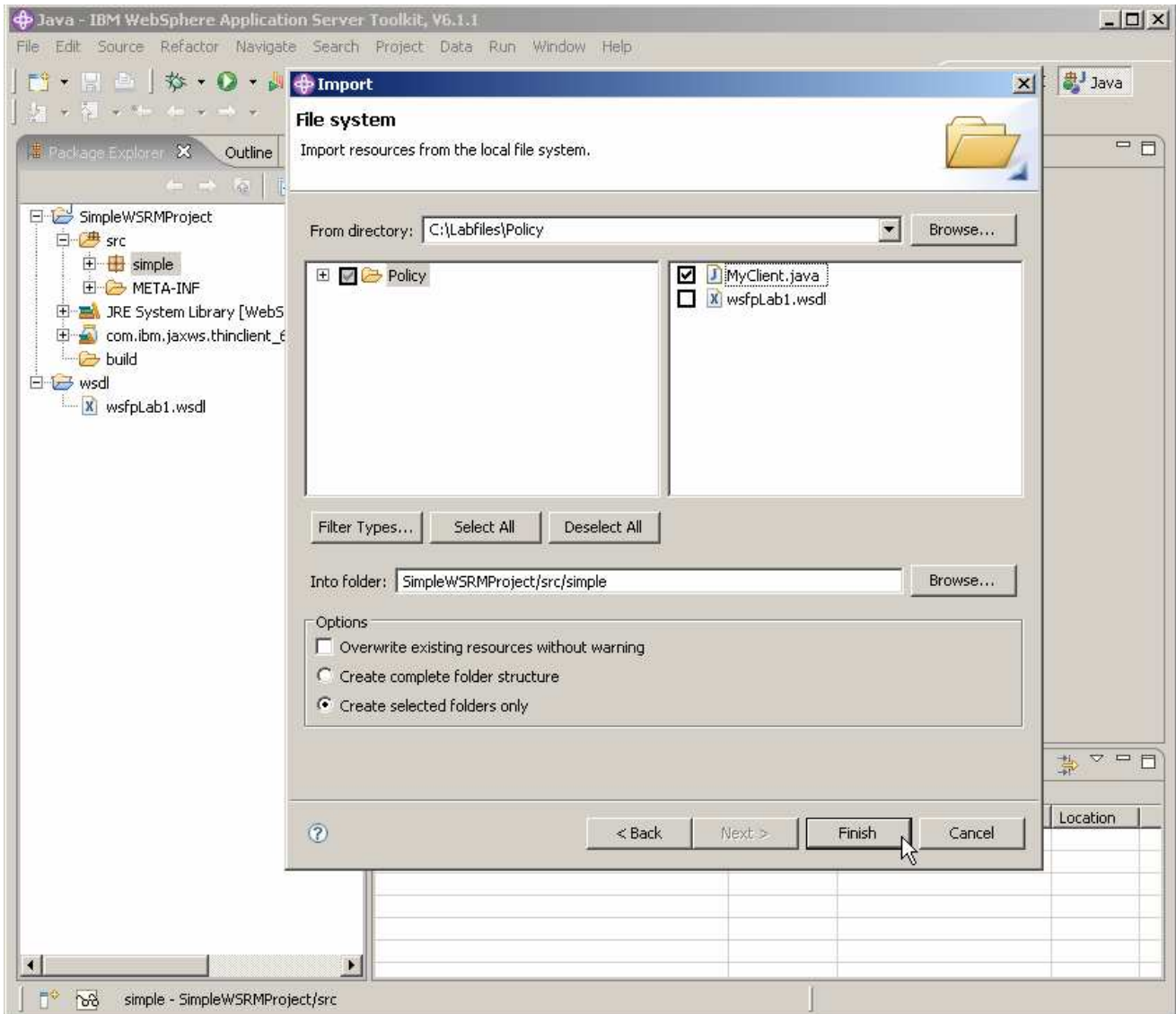
20. Expand **General**, select **File System** and click **Next**.



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



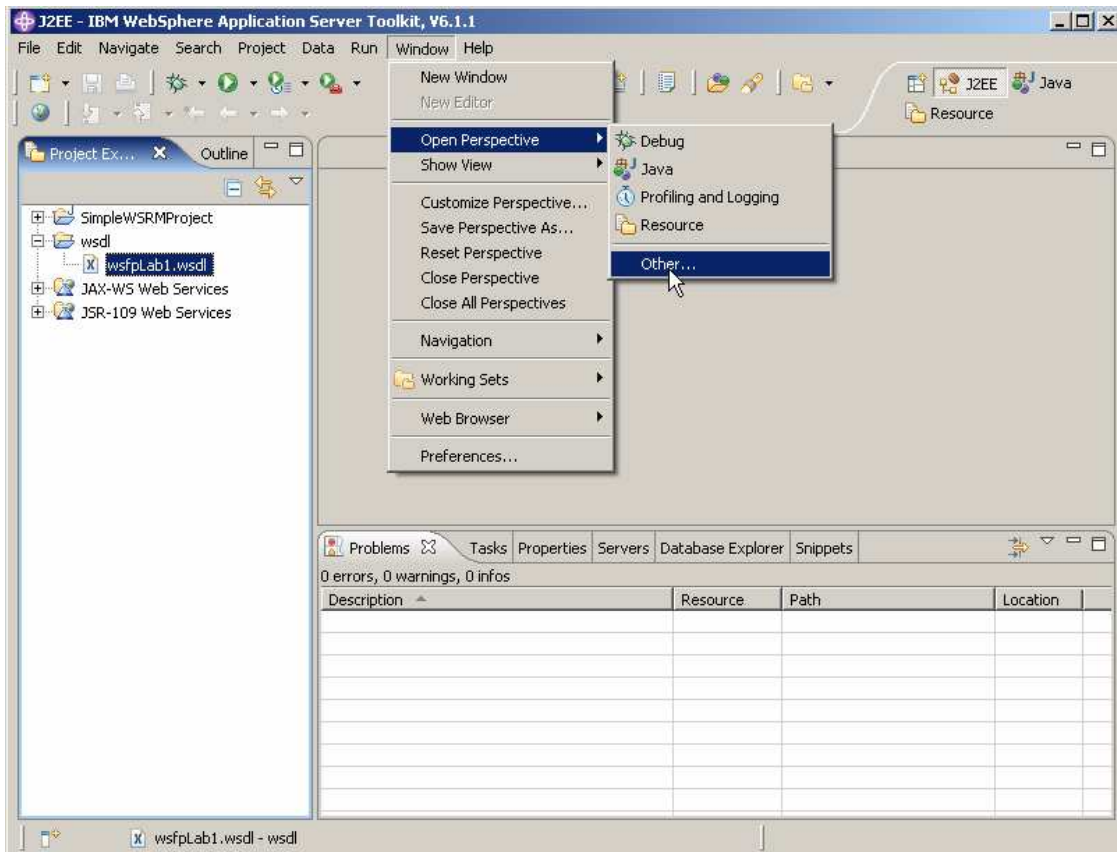
22. Click on the box beside **MyClient.java** and click **Finish**.



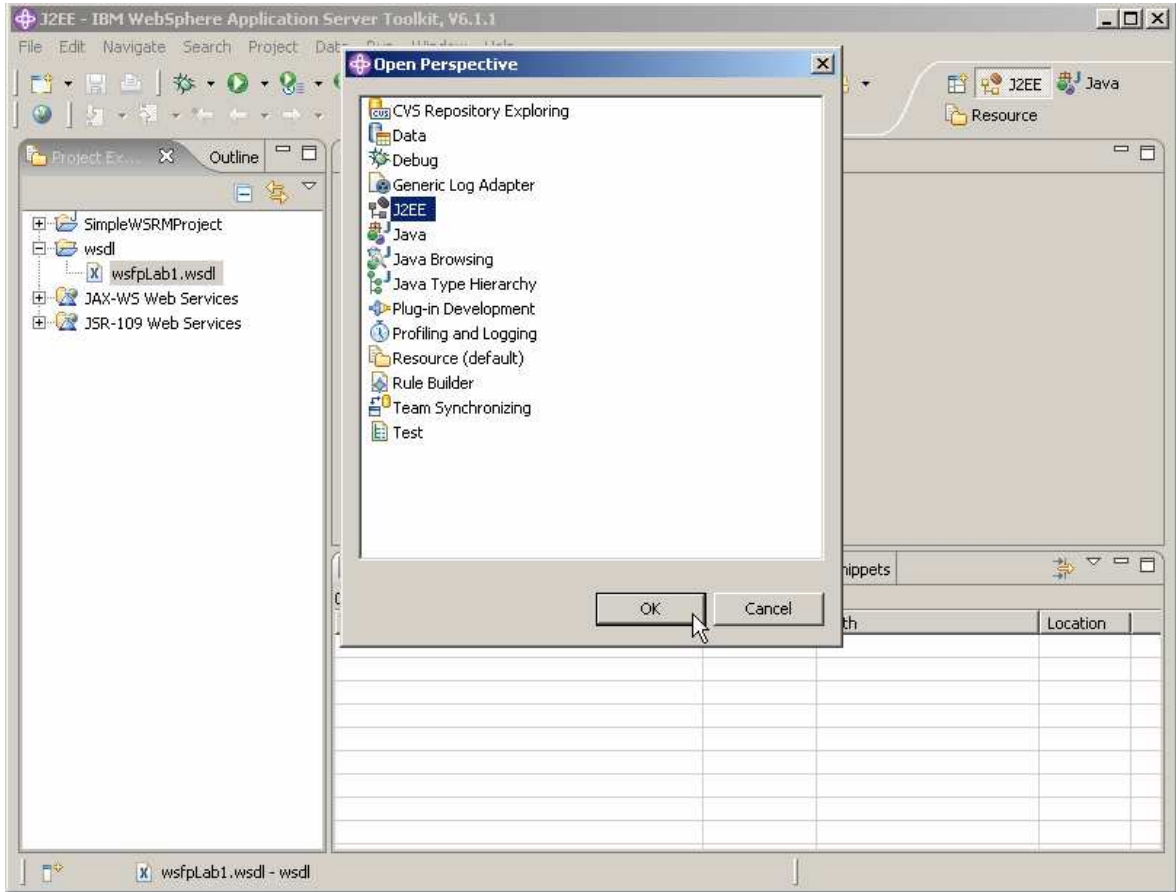
Part 4: Attach the “WS-ReliableMessaging default” policy set to the client

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

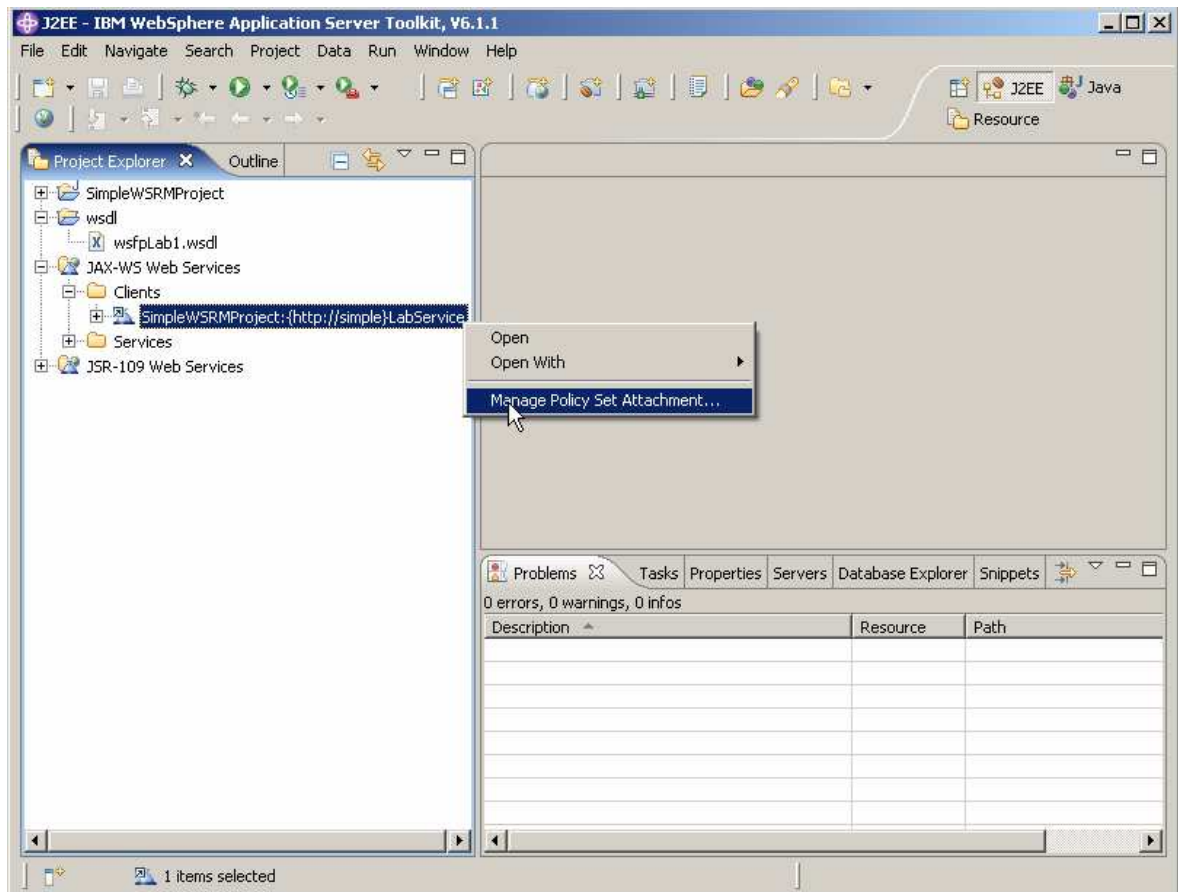
___ 23. Change to the J2EE perspective by clicking on **Window**, select **Open Perspective**, select **Other**.



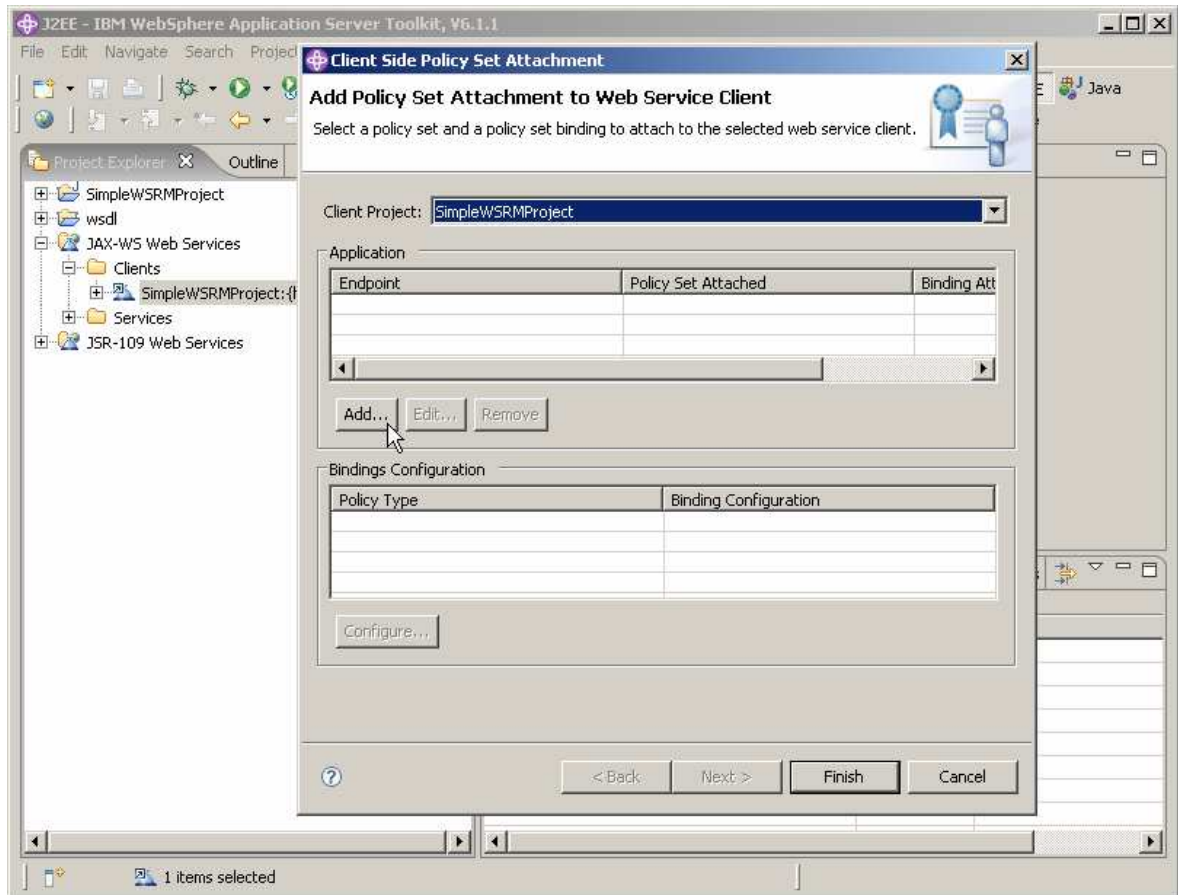
___ 24. Choose **J2EE** and click **OK**.



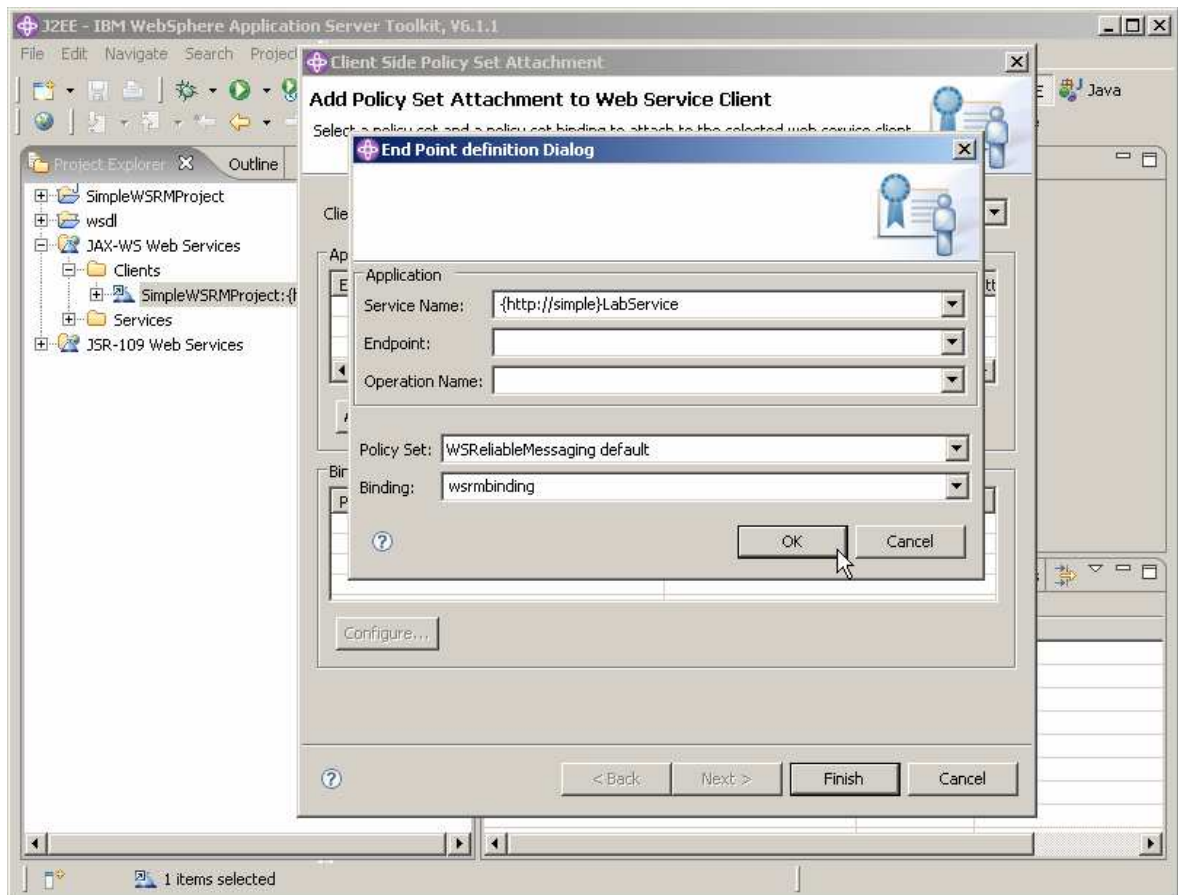
25. In the Project Explorer of the AST, expand the folder named “**JAX-WS Web Services**”, expand **Clients**, and right click **SimpleWSRMClient{http://simple}LabService** and choose **Manage Policy Set Attachment . . .**



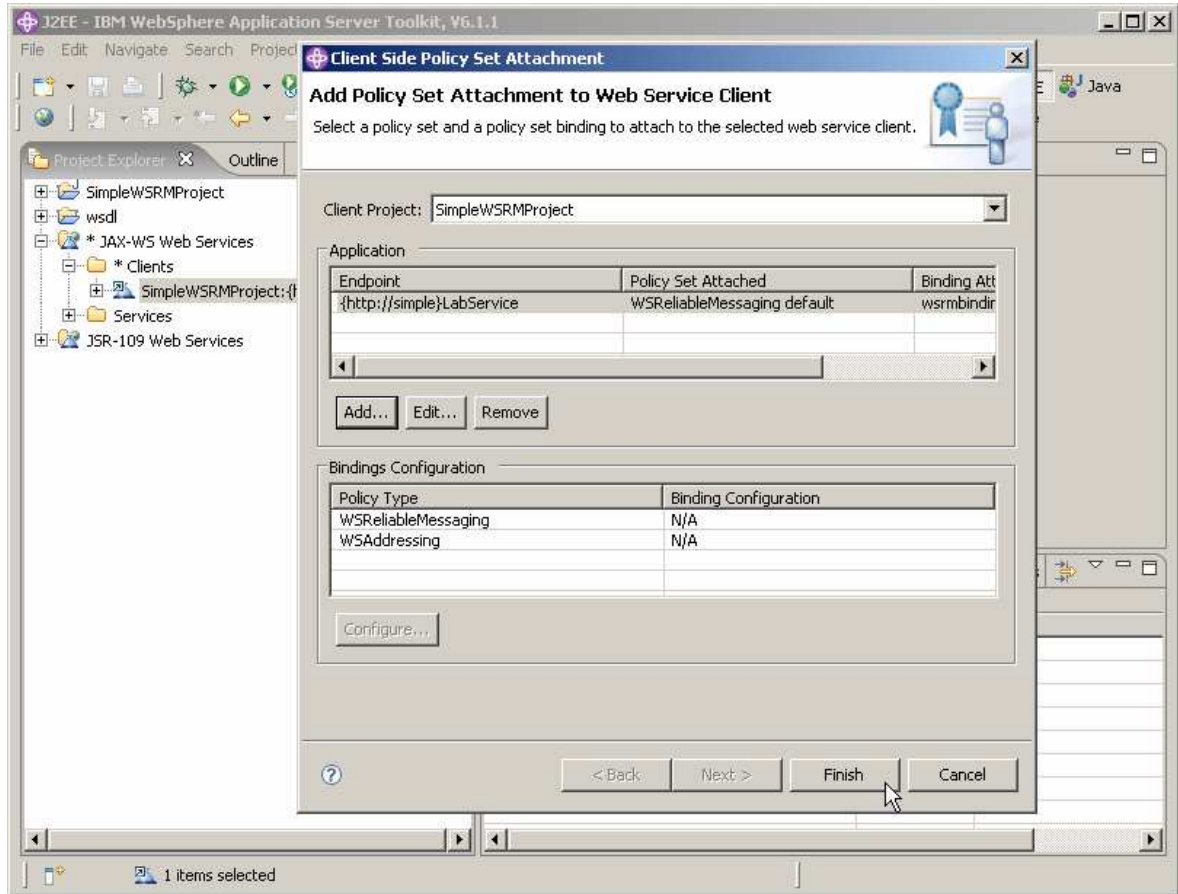
26. In the dialog panel, Click **Add**.



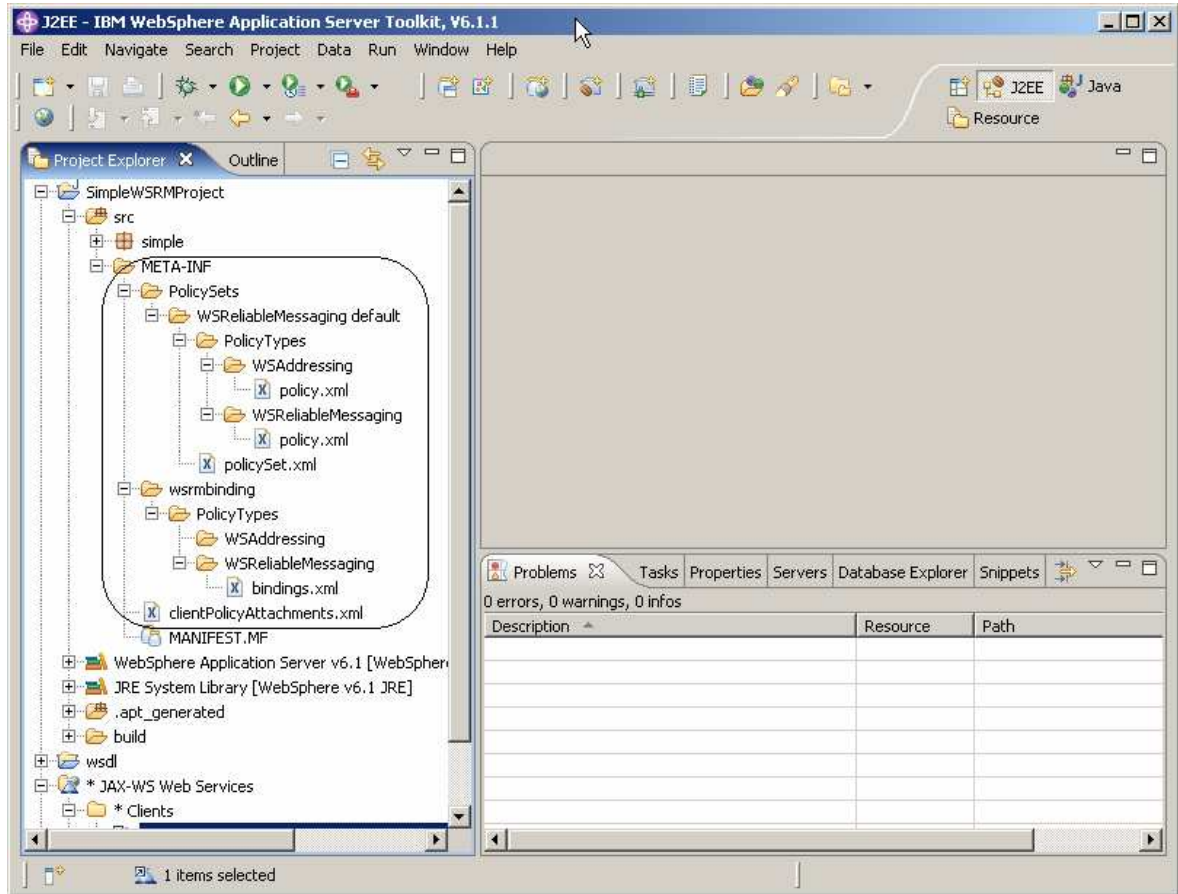
27. Click the down arrow for the field labeled **Policy Set:** and scroll down and select **WSReliableMessaging default**. Enter **wsrmbinding** for the field labeled **Binding:** and click **OK**.



28. Click **Finish**.



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



Part 5: Install the Web service

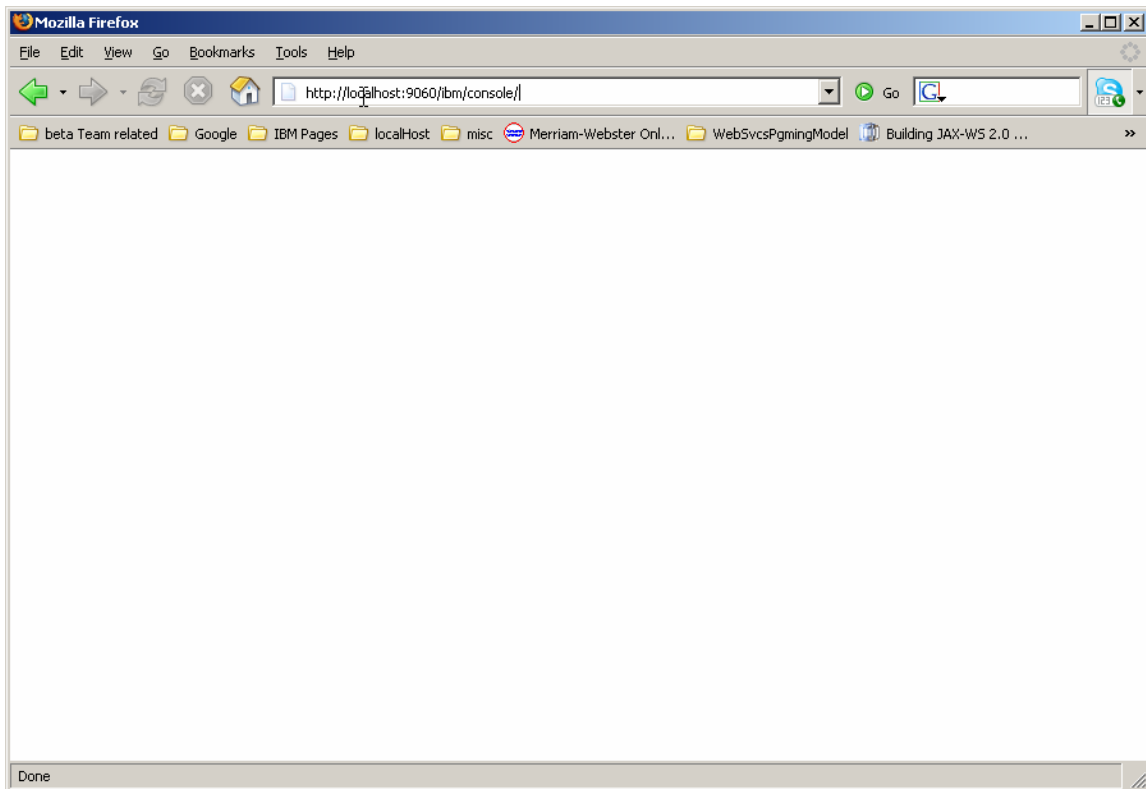
This section will describe the process of installing the Web Service. The Web Service is contained in an EAR file on your system. The EAR file is named SimpleWSRMSERVICEEAR and is found in:

C:\Labfiles\policySets\SimpleWSRMSERVICEEAR\ SimpleWSRMSERVICEEAR.ear

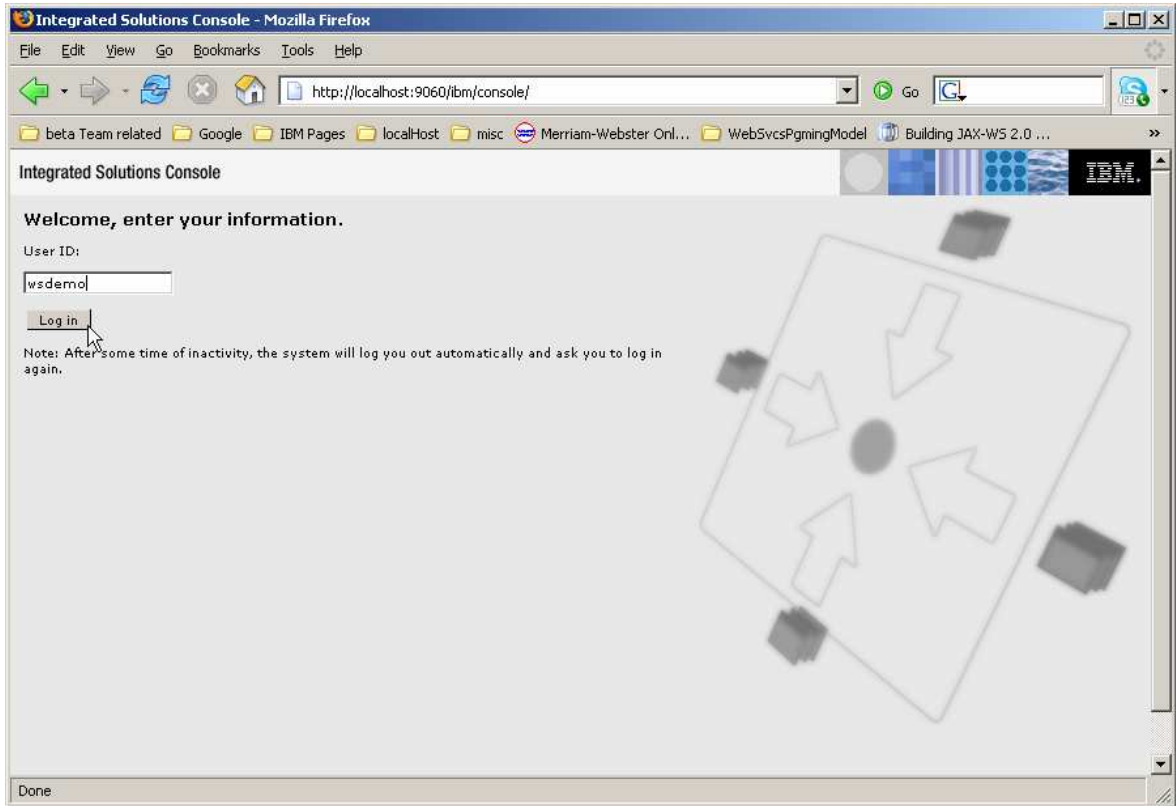
30. Ensure that the WebSphere Application Server is running and start the administrative console by starting your browser and entering:

<http://localhost:9060/ibm/console/>

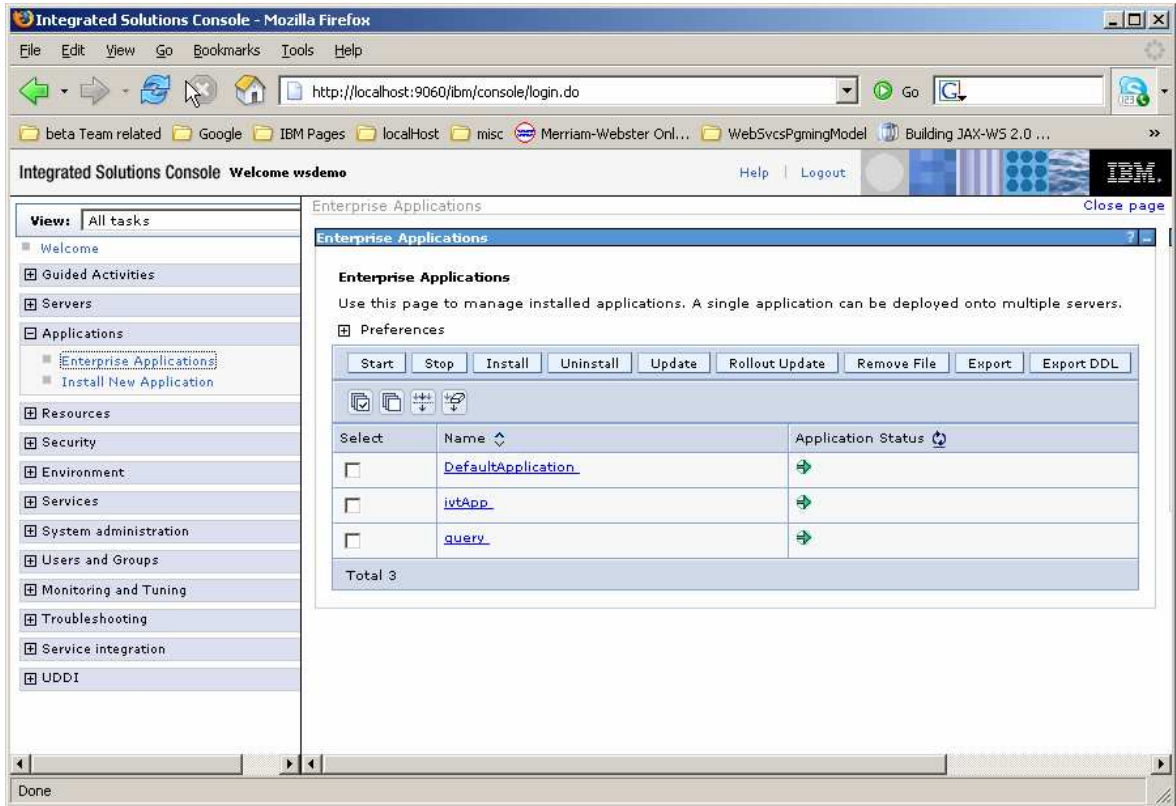
in the address field and pressing Enter.



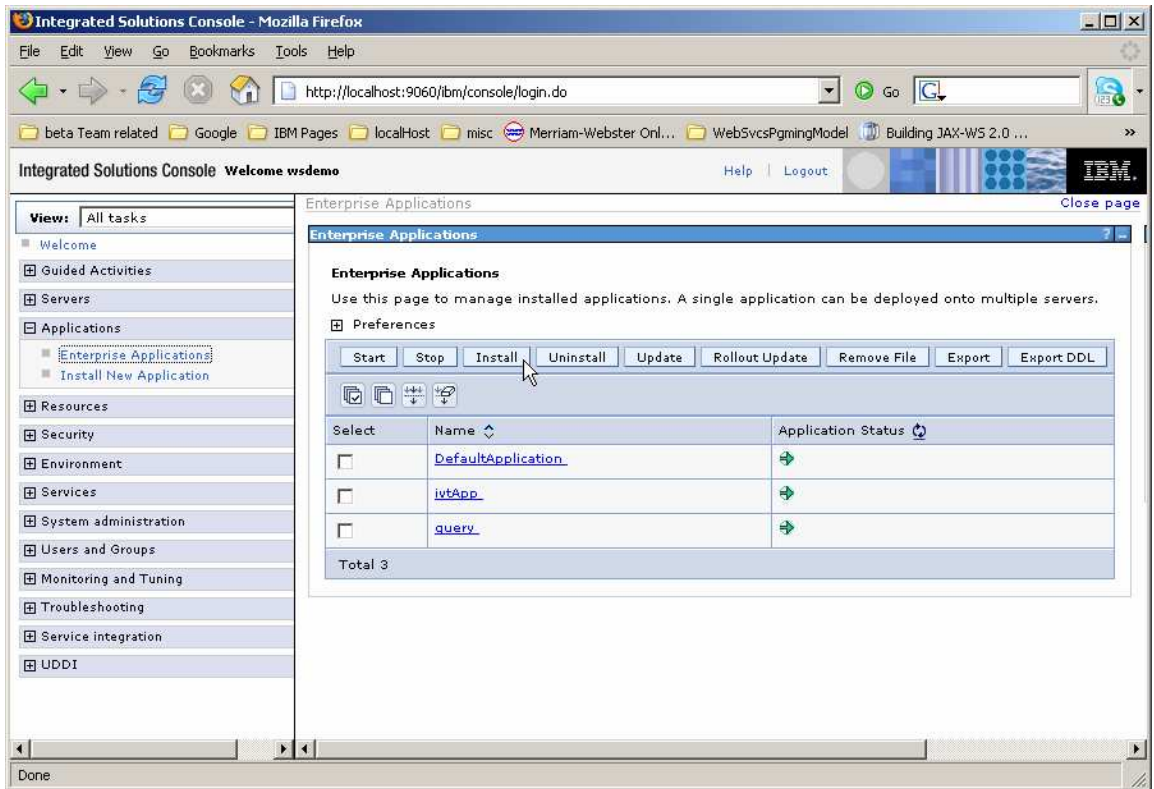
___ 31. **Log in** as wsdemo.



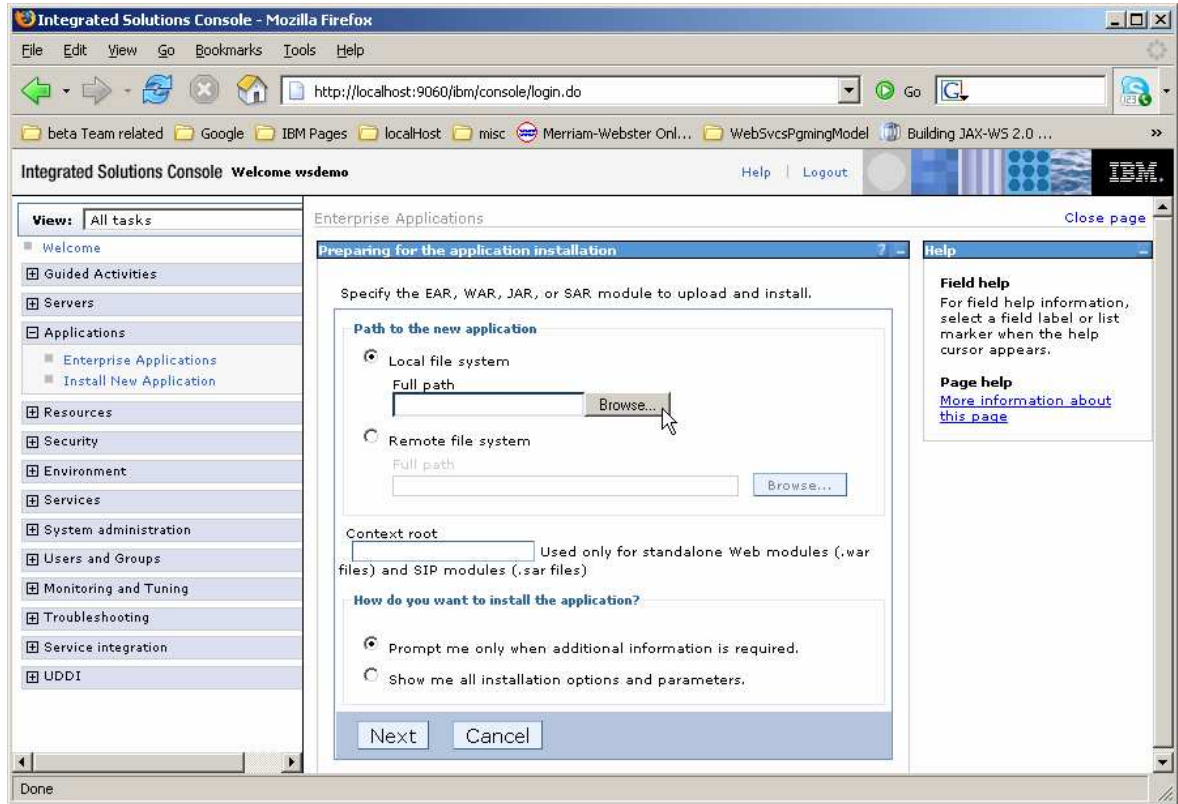
32. Expand **Applications** and click on **Enterprise Applications**.



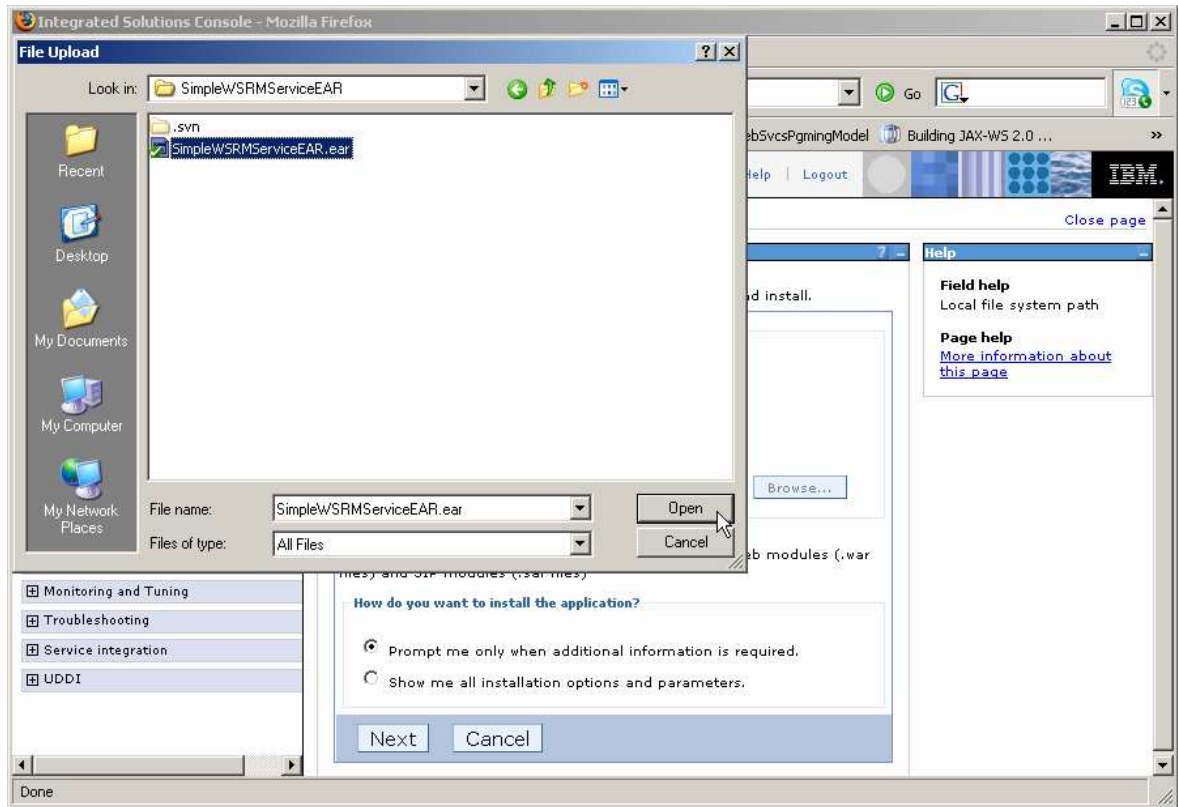
33. Click the **Install** option.



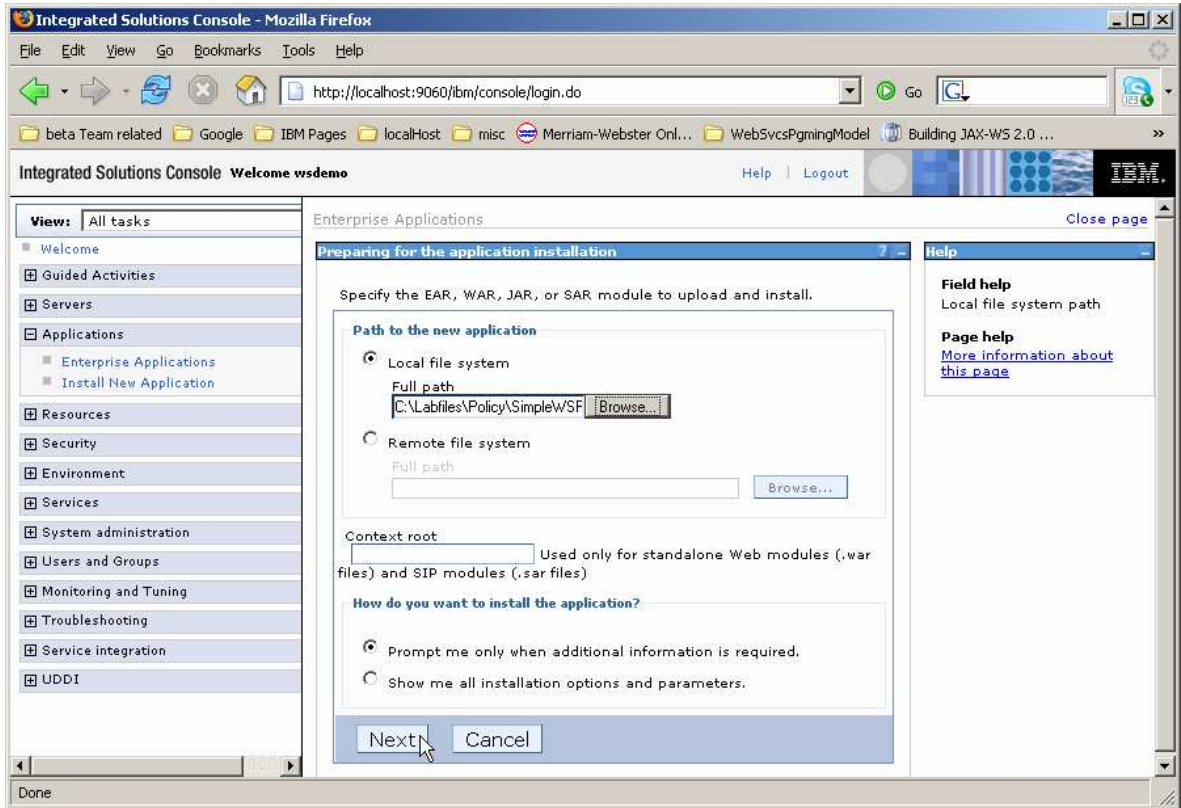
34. Click **Browse**.



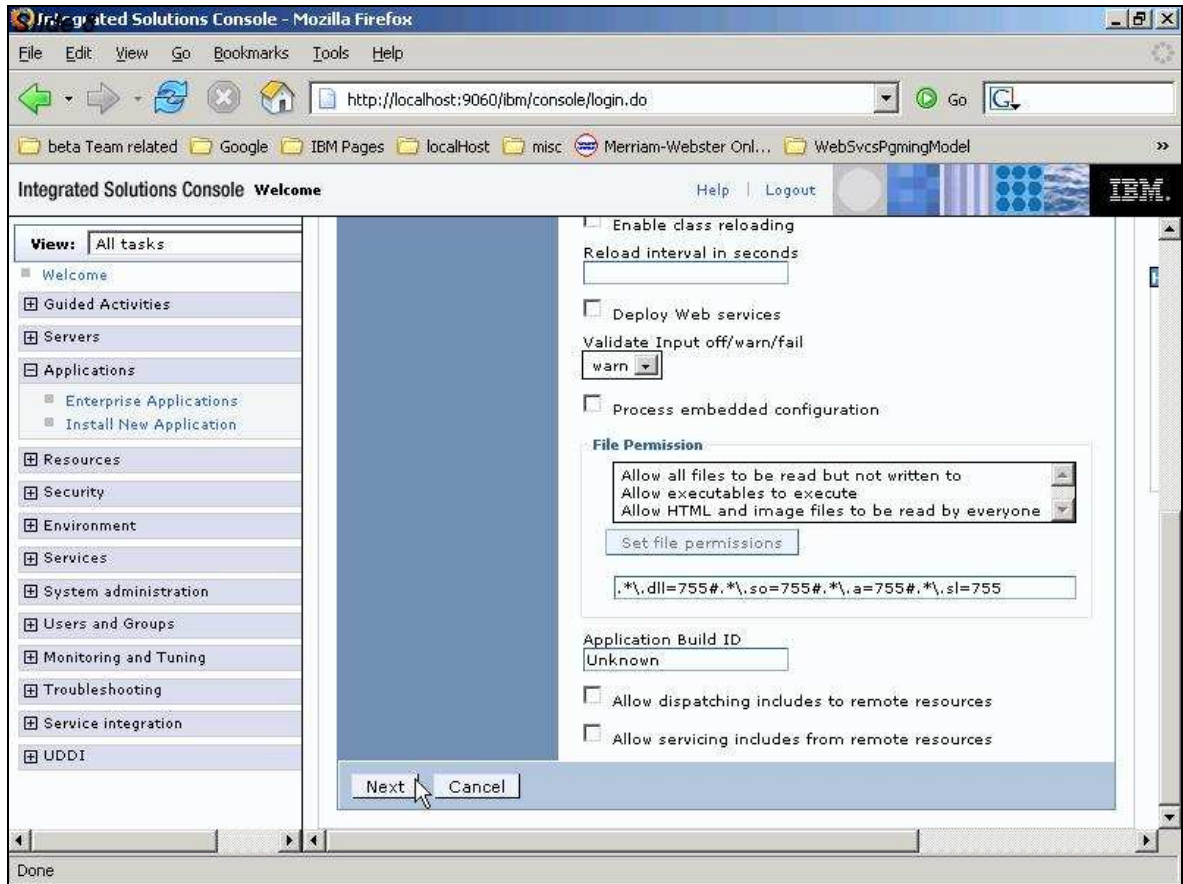
35. Browse to **C:\Labfiles\Policy\SimpleWSRMSERVICEEAR** and select **SimpleWSRMSERVICEEAR.ear** and click **Open**.



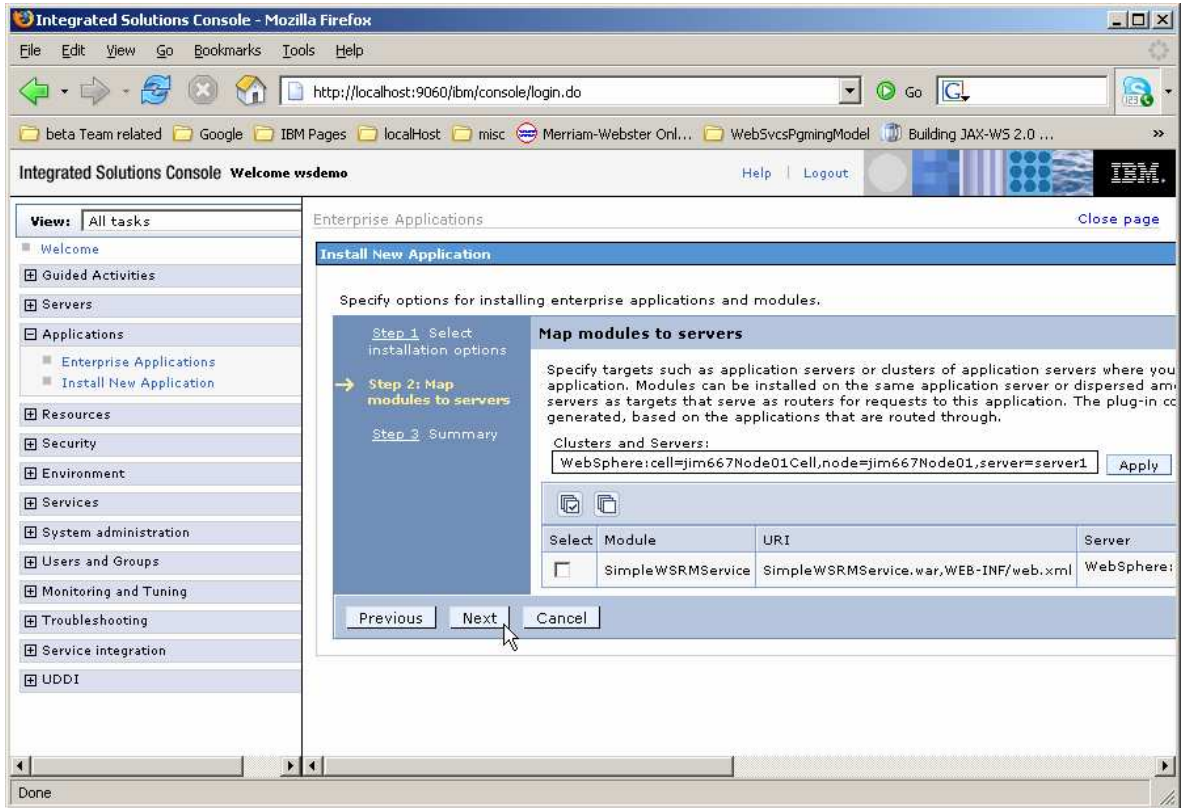
36. At the bottom of the page, click **Next**.



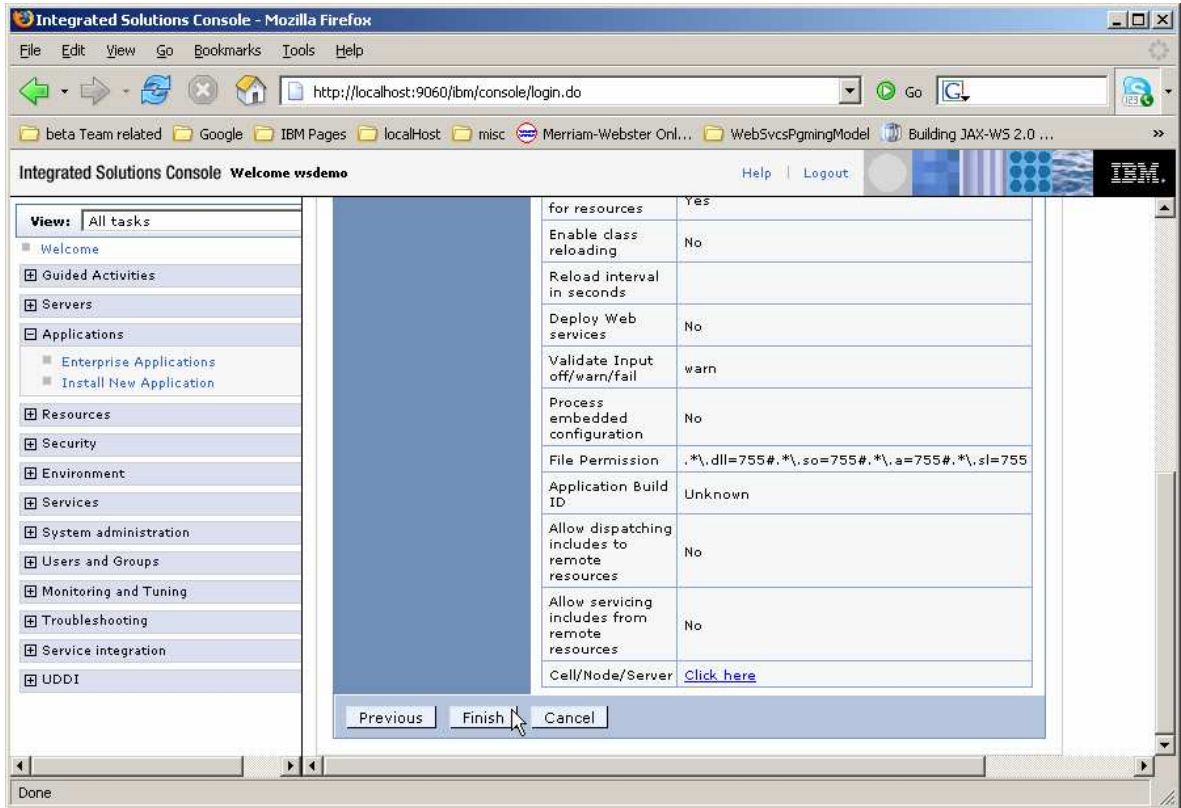
37. At the bottom of the page, click **Next**.



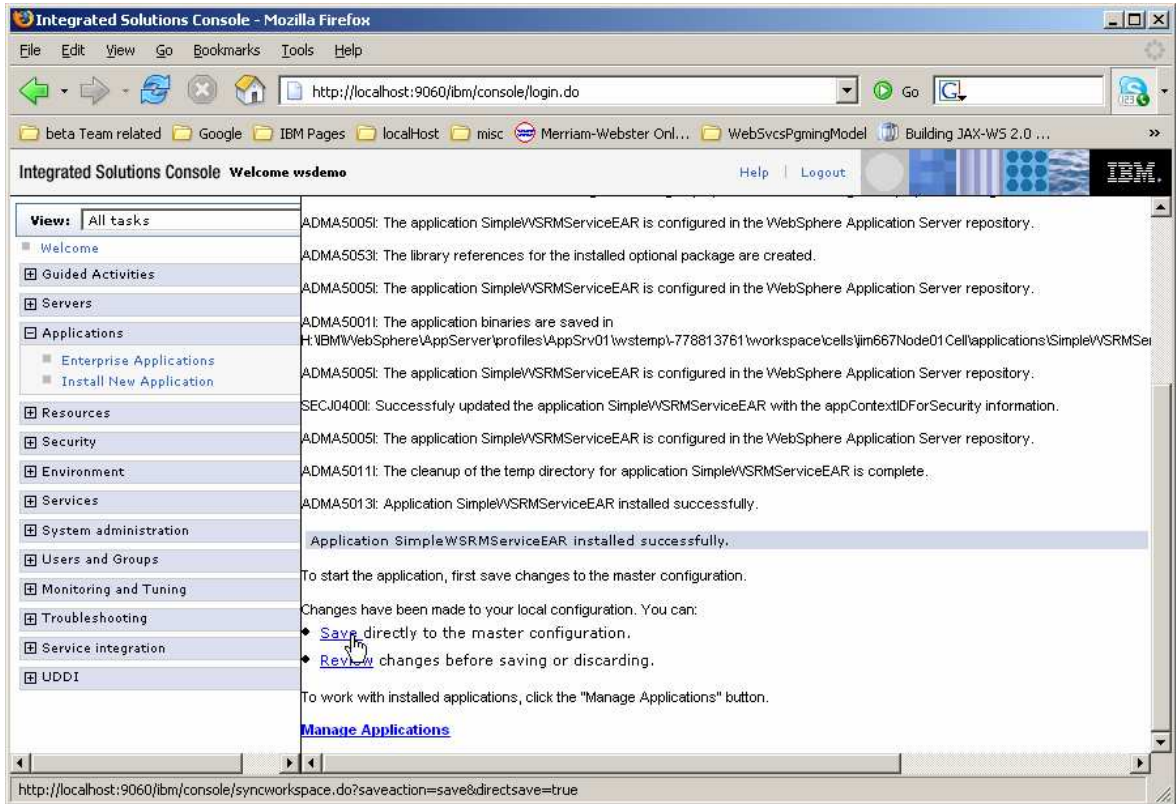
38. At the bottom of the page, click **Next**.



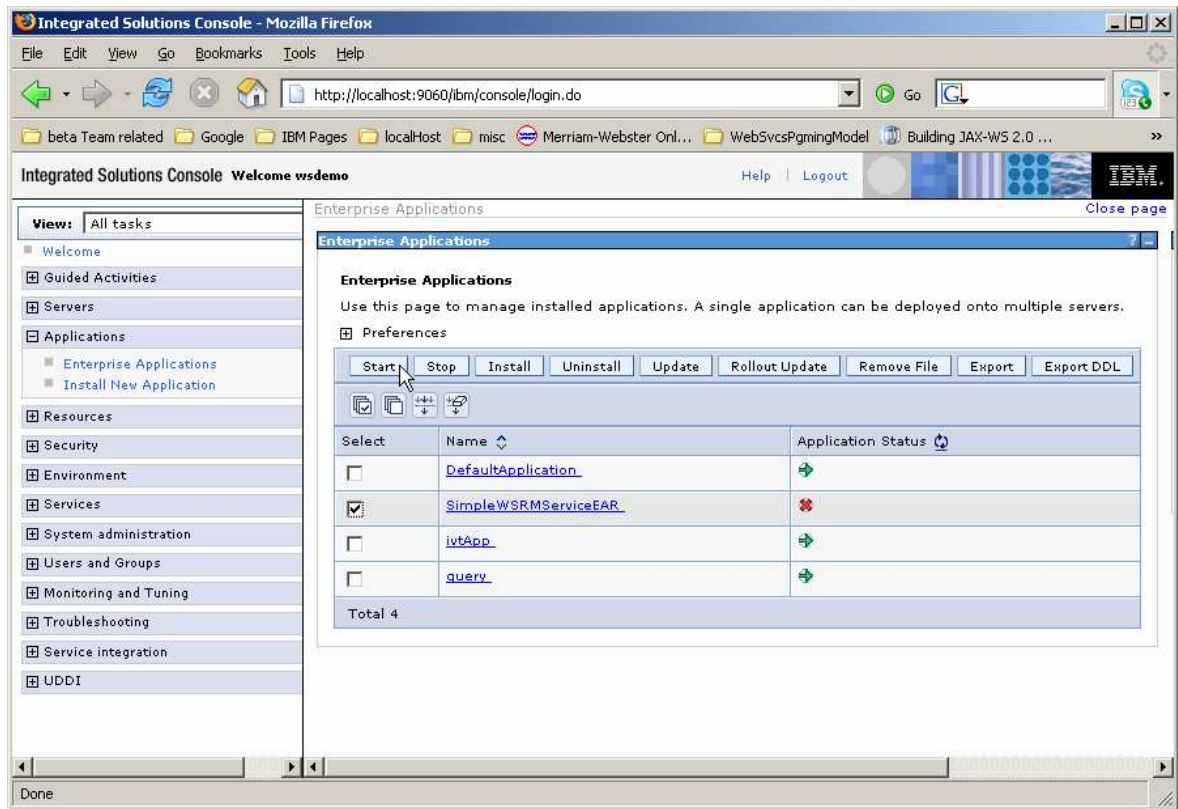
39. At the bottom of the page, click **Finish**.



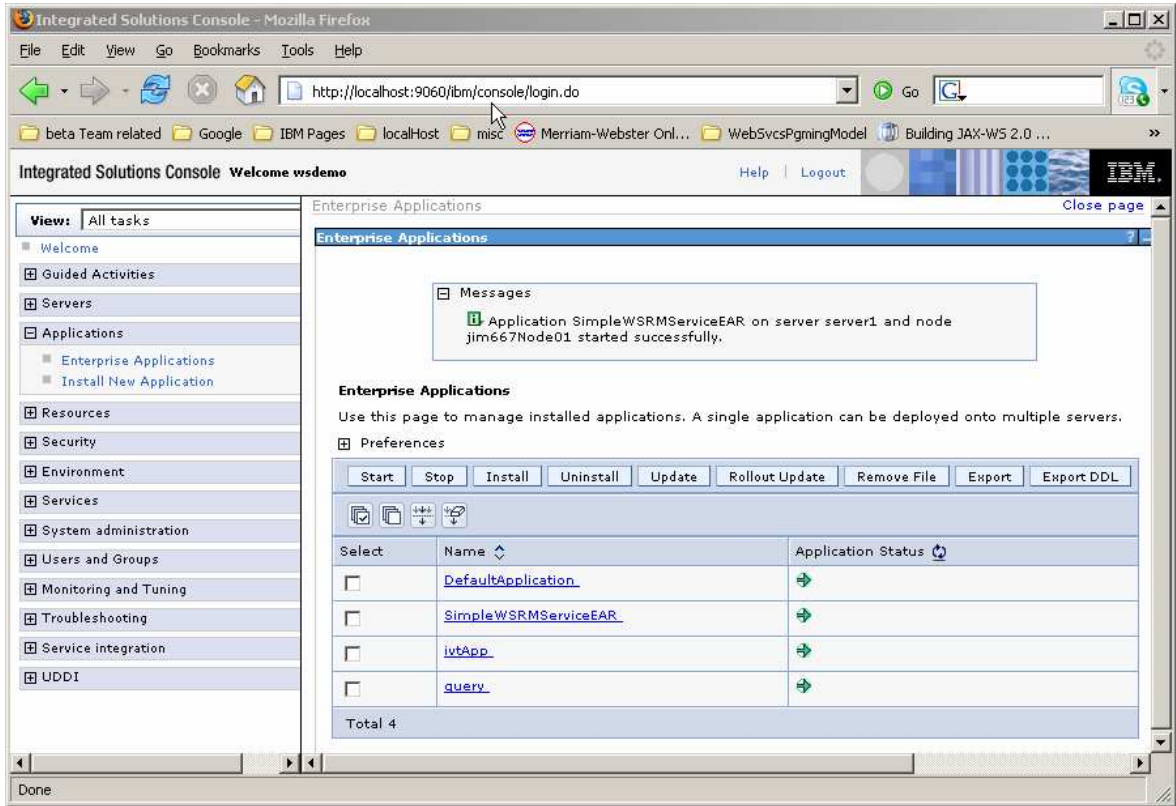
40. You should see output similar to the sample below. Press **Save** directly to the master configuration.



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



___ 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.

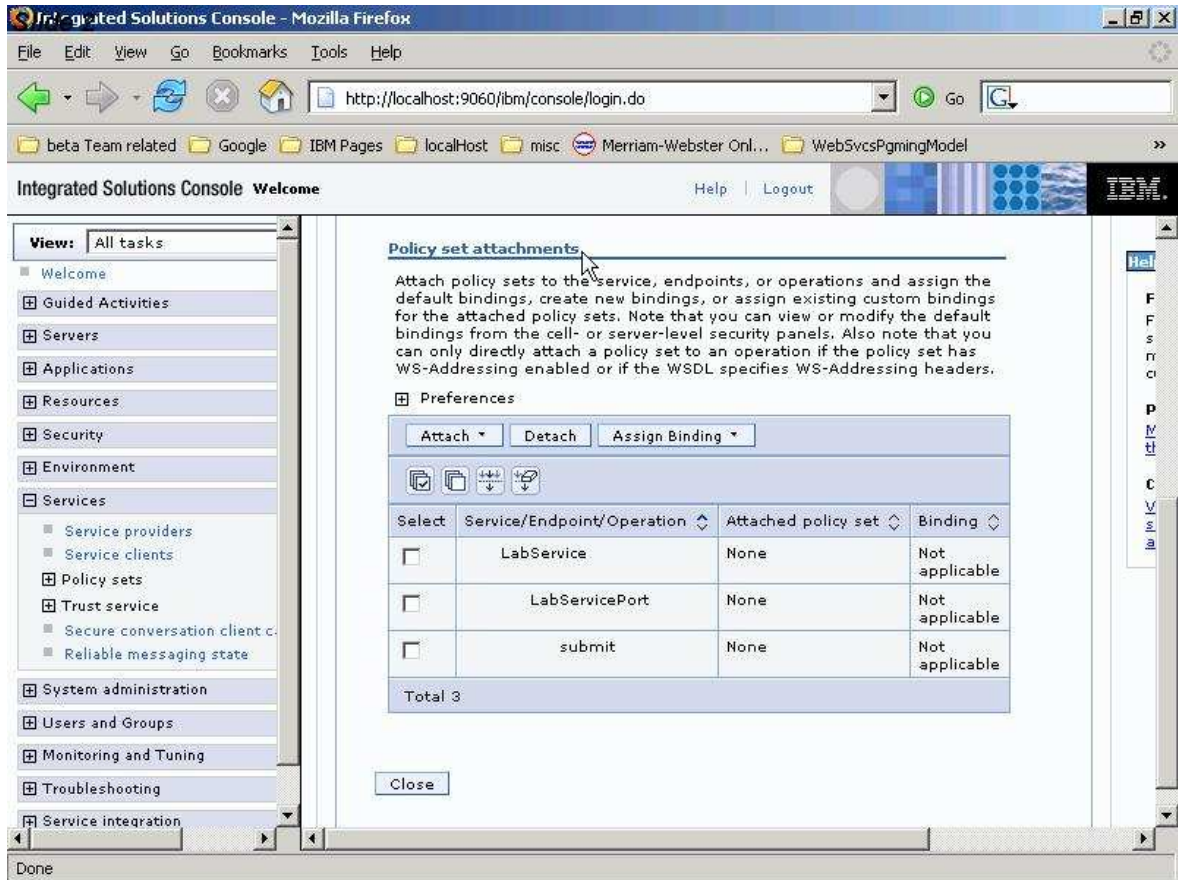
43. Expand **Services** then click on “**Service providers**” and click on **LabService** for the SimpleWSRMSERVICEEAR application.

The screenshot shows the Integrated Solutions Console interface in a Mozilla Firefox browser window. The address bar shows the URL: `http://localhost:9060/ibm/console/login.do`. The main content area displays the 'Service providers' page. A table lists the service providers, with 'LabService' selected. The table has columns for 'Select', 'Name', 'Type', 'Application', and 'Application status'. Below the table, it indicates 'Total 1'.

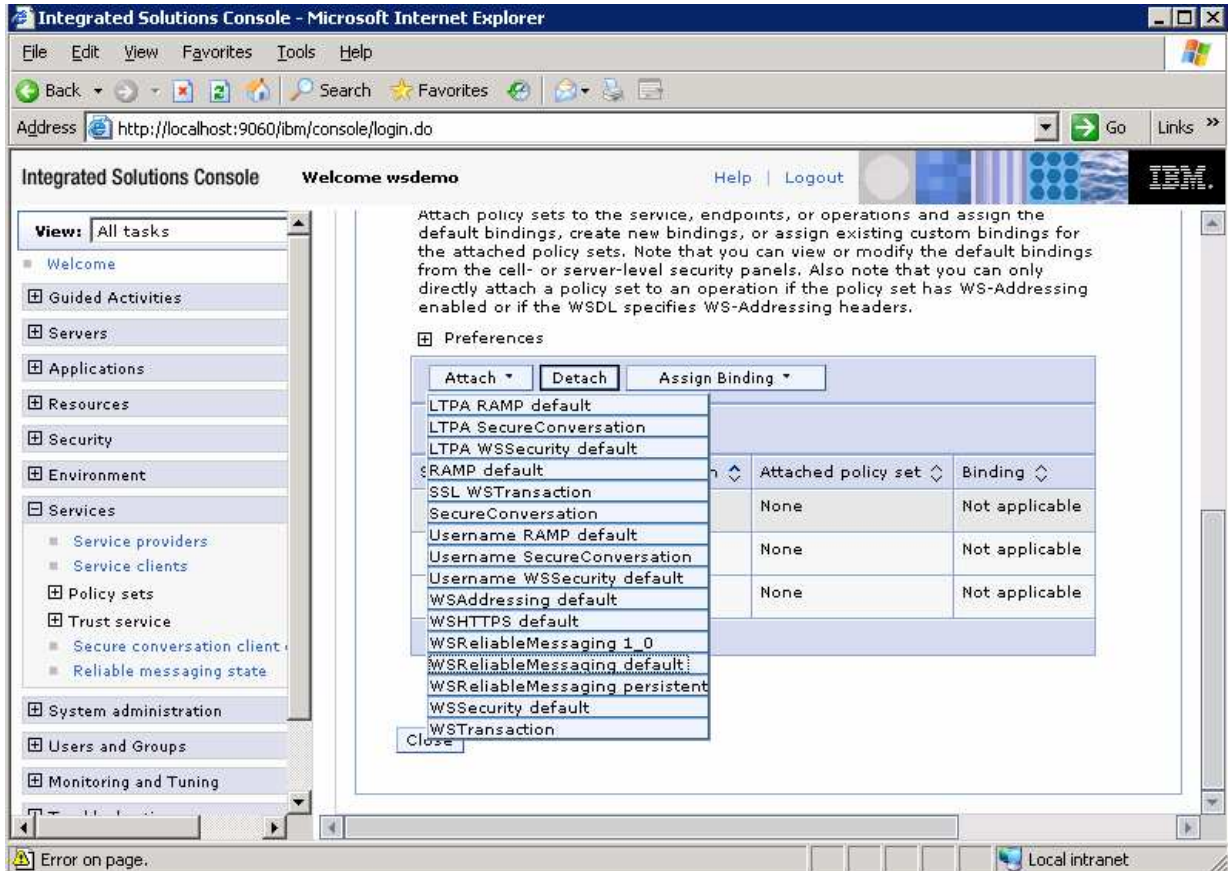
Select	Name	Type	Application	Application status
<input type="checkbox"/>	LabService	JAX-WS	SimpleWSRMSERVICEEAR	➔

Total 1

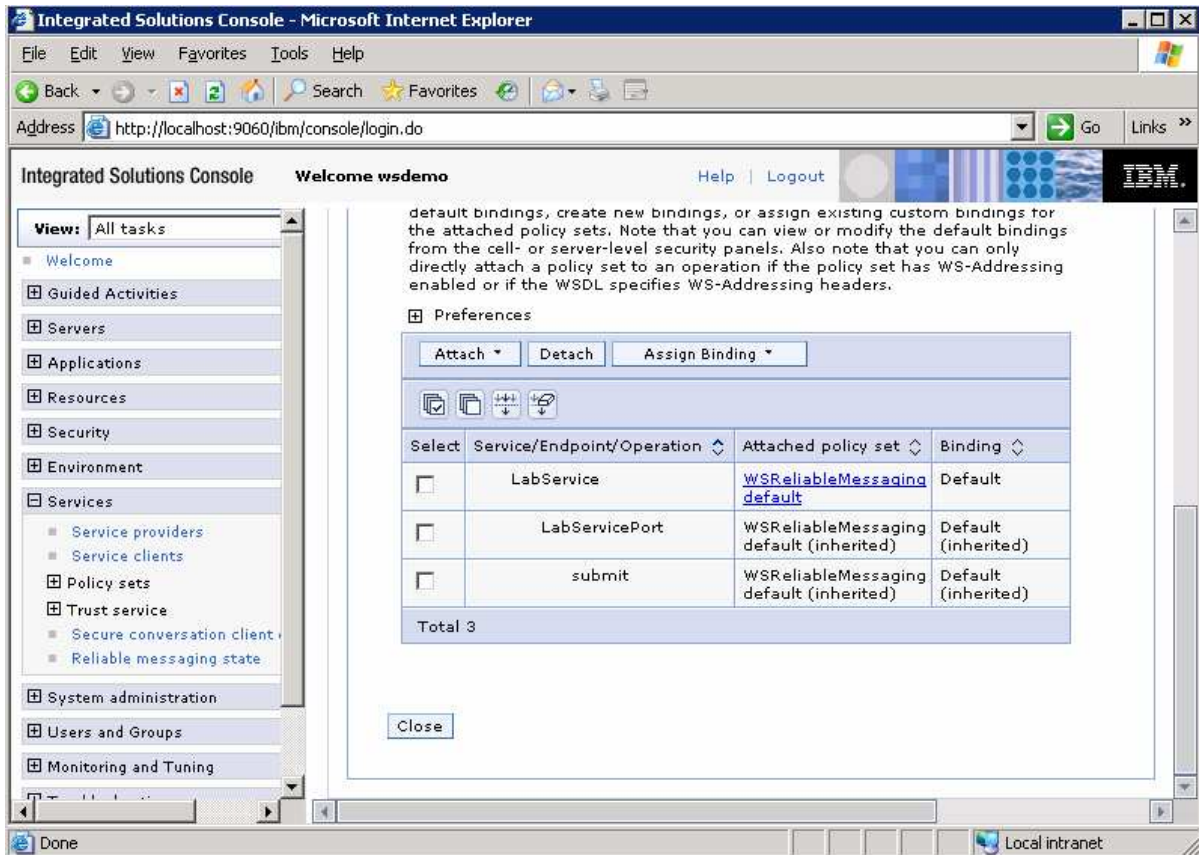
44. Scroll down on the next page until you see the section for **Policy Set Attachments**.



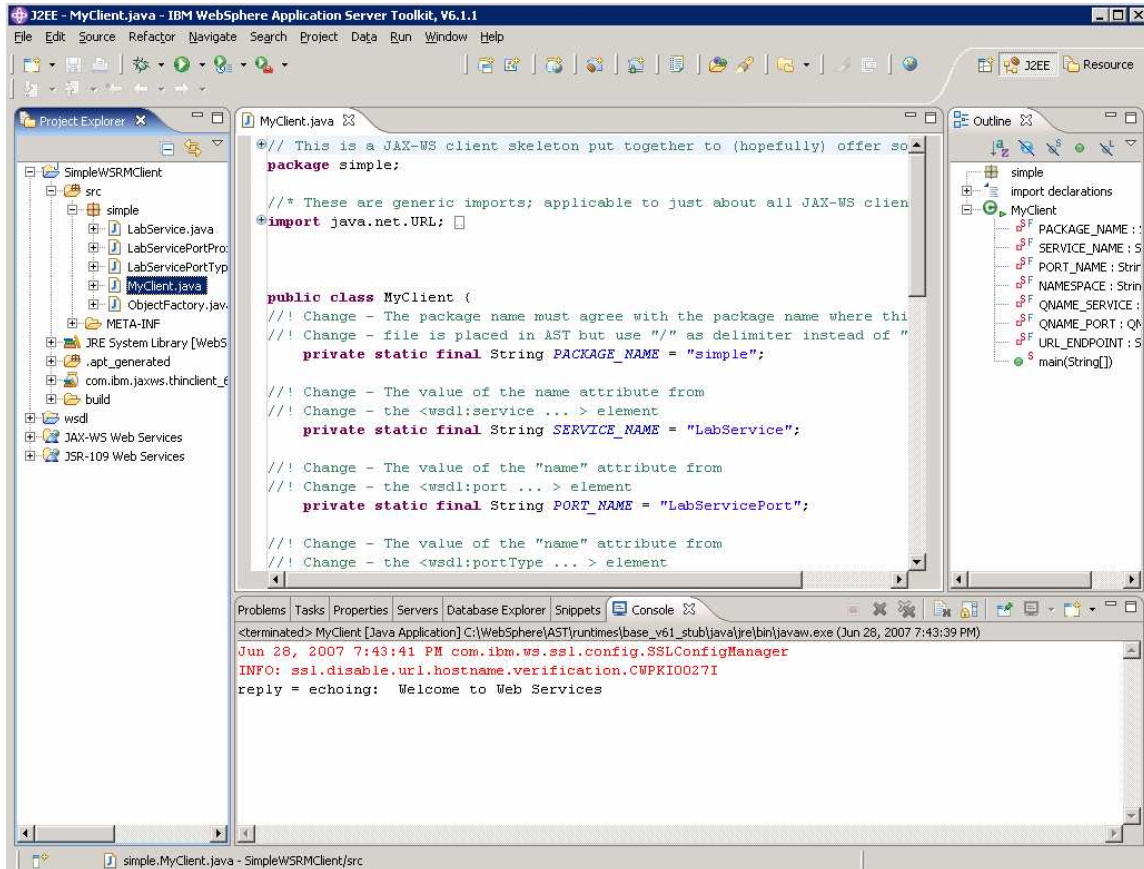
45. Click on the box beside **LabService** and then click **Attach** to see the list of available Policy Sets. Click on the one named **WS-ReliableMessaging default**.
- a. There is a known defect with the sample. The sample application has an operation name of **Submit**. This confuses the submit action 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.



46. **Save** the changes to the master configuration. Select **LabService** again, and scroll down and insure that the Policy Set was correctly attached.



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