

E-mail Outbound Lab

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What this exercise is about

The objective of this lab is to provide you with an understanding of the WebSphere Adapter for Email and outbound processing. In this lab you will deploy the WebSphere Adapter for Email using WebSphere Integration Developer, and integrate it with an SCA application that processes outbound requests to the remote file system.

Lab Requirements

List of system and software required for the student to complete the lab.

- WebSphere Integration Developer V6.0.2 installed
- WebSphere Process Server V6.0 Test Environment installed
- WebSphere Adapter for EMail V6.0.2 installed
- Unzip LabFiles602.zip to your C:\ (your root) drive
- Complete WPIv602_AdapterInstallEmailServer lab successfully

What you should be able to do

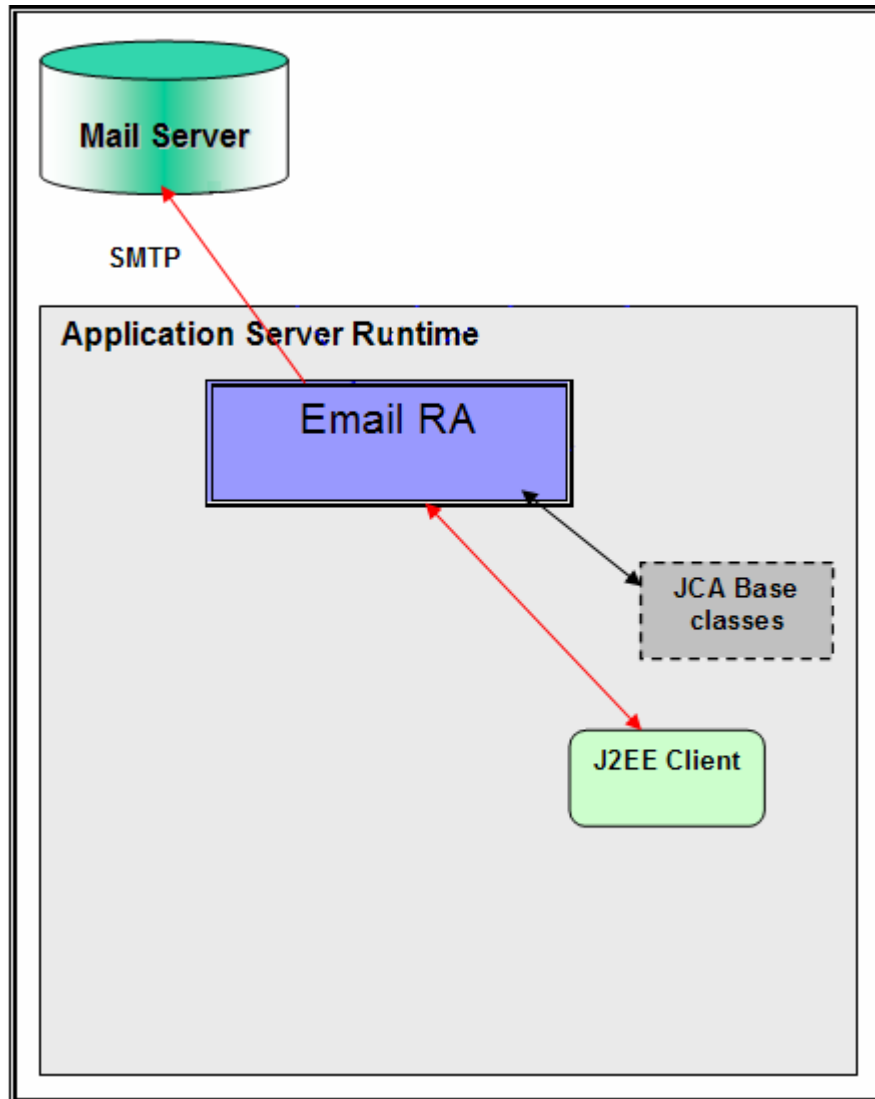
At the end of this lab you should be able to:

- Import Email adapter RAR file into WebSphere Integration Developer
- Use Enterprise Service Discovery wizard to configure the Email Managed Connection Factory Properties Resource Adapter Properties to generate Business Objects and other artifacts
- Deploy the adapter application onto the WebSphere Process Server test environment

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- Test the above deployed application using WebSphere Process Server test environment
- Restore the server configuration

Introduction



The adapter receives an Email BO instance from the J2EE Client during outbound. The request to the Email RA from a J2EE client would indicate information required for creating an e-mail and the same is contained in the EmailBO. The information on the mail server to connect, and the authentication details to connect can be provided both in Connection Spec and MCF properties. As a part of the Email BO request, the J2EE client needs to send the e-mail header information, like the mail addresses to which the mail needs to be sent, e-mail attachments if any, location of any files that need to be attached to the e-mail, and so on.

The Email RA transforms the Email BO into an E-mail. Based on all the provided information, the content within the mailContent attribute of the Email BO gets transformed into an e-mail with all specified attachments. You can optionally specify a set of files from the file system to be attached to the e-mail. The

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Email RA would then pick the files from the file system at paths specified by the user, and attaches the files to the e-mail that would be created as response. The Email RA sends the created e-mail using SMTP to the configured server.

Exercise Instructions

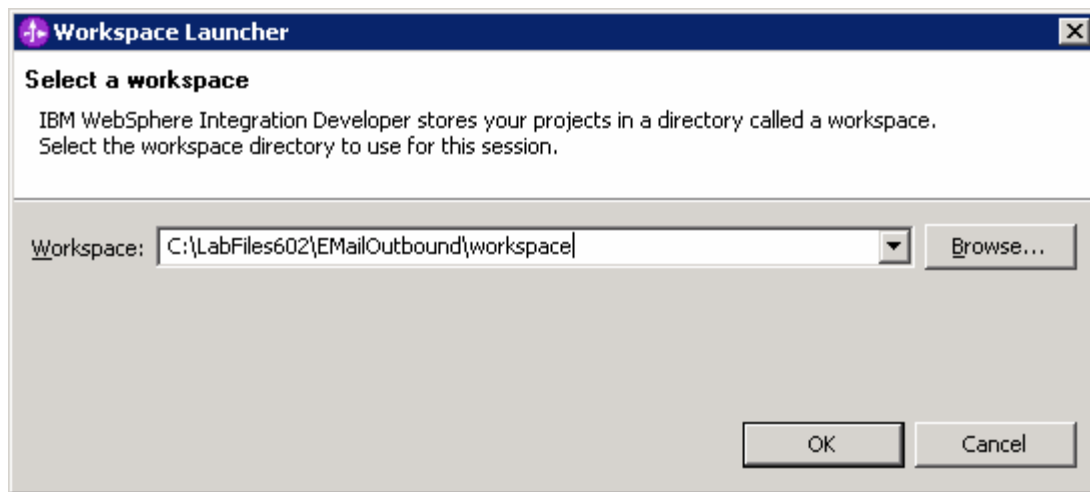
Some instructions in this lab may be Windows operating-system specific. If you plan on running the lab on an operating-system other than Windows, you will need to run the appropriate commands, and use appropriate files (.sh vs. .bat) for your operating system. The directory locations are specified in the lab instructions using symbolic references, as follows:


Reference Variable	Windows Location	AIX/UNIX Location
<WID_HOME>	C:\Program Files\IBM\WebSphere\6.0	
<WPS_HOME>	<WID_HOME>\runtimes\bi_v6	
<EMAILADAPTER_HOME>	C:\Program Files\IBM\ResourceAdapters\Email\adapter\Email	
<WORKSPACE>	C:\LabFiles602\EMailOutbound\workspace	
<LAB_FILES>	C:\Labfiles602	/tmp/Labfiles602
<TEMP>	C:\temp	/tmp

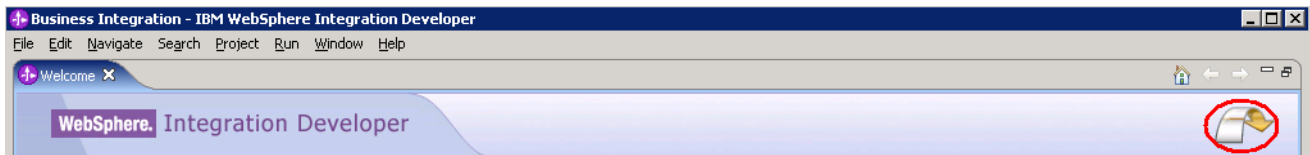
Windows users note: When directory locations are passed as parameters to a Java program such as EJBdeploy or wsadmin, it is necessary to replace the backslashes with forward slashes to follow the Java convention. For example, C:\LabFiles60\ would be replaced by C:/LabFiles60/

Part 1: Import RAR into WebSphere Integration Developer

- ___ 1. Start the WebSphere Integration Developer V6.0.2 with a new workspace
 - ___ a. Select **Start > Programs > IBM WebSphere > Integration Developer V6.0.2 > WebSphere Integration Developer V6.0.2**
 - ___ b. From the Workspace Launcher window, enter **<WORKSPACE>** for the Workspace field

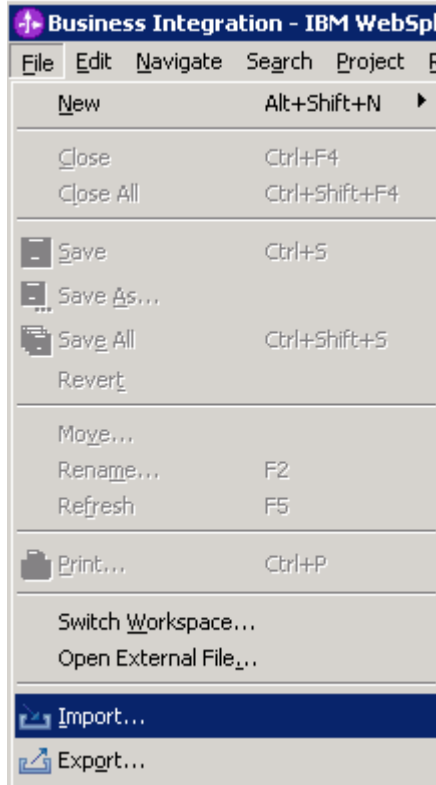


- ___ c. Click on the  button on the right hand corner to close the Welcome page and proceed with the workbench.

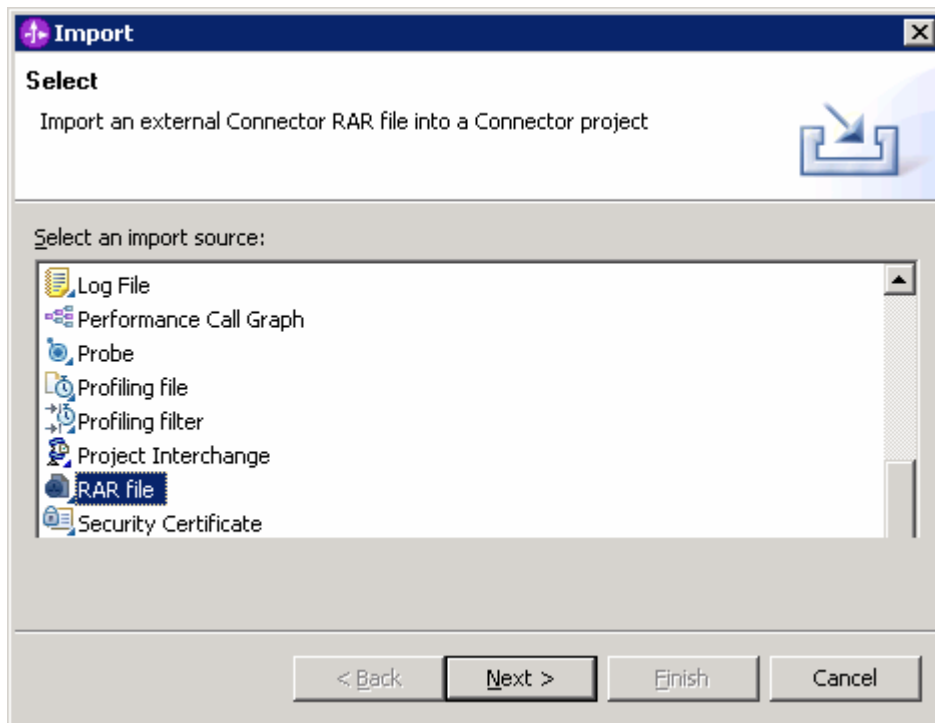


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- ___ 2. Import Email Adapter RAR file
 - ___ a. From main menu, select **File > Import...**

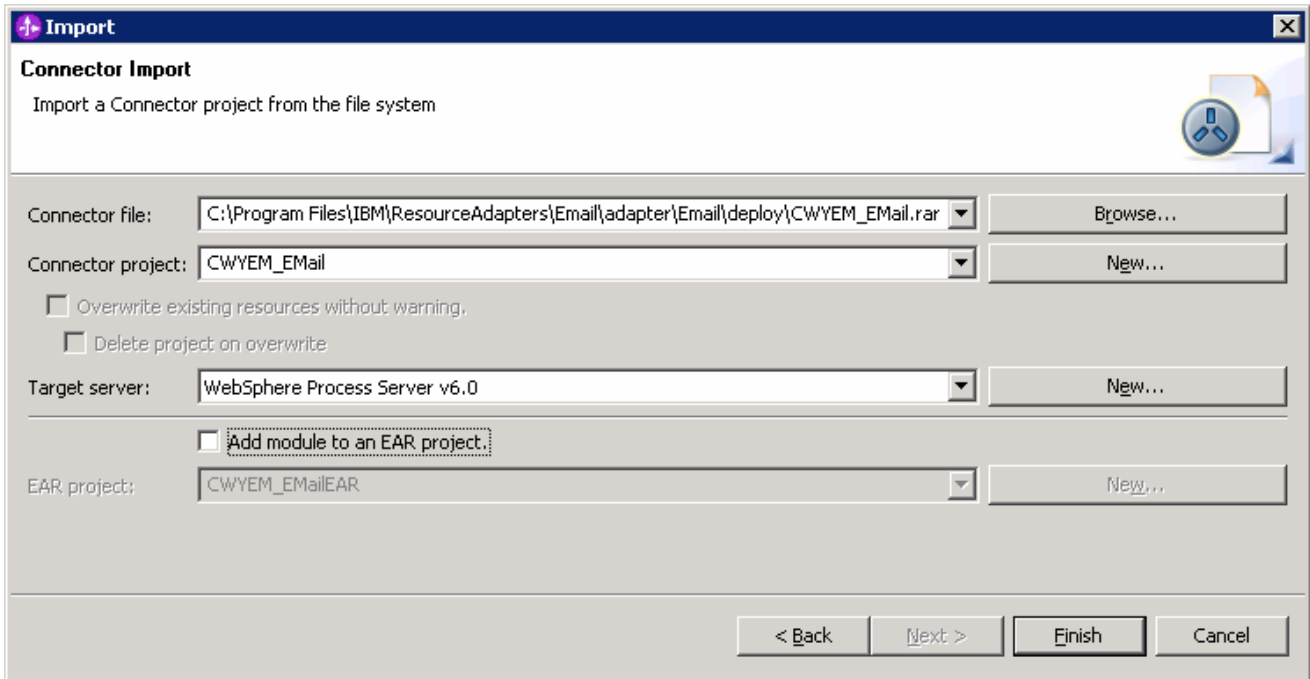


- ___ b. Select **RAR file** from the Import window and then click **Next**

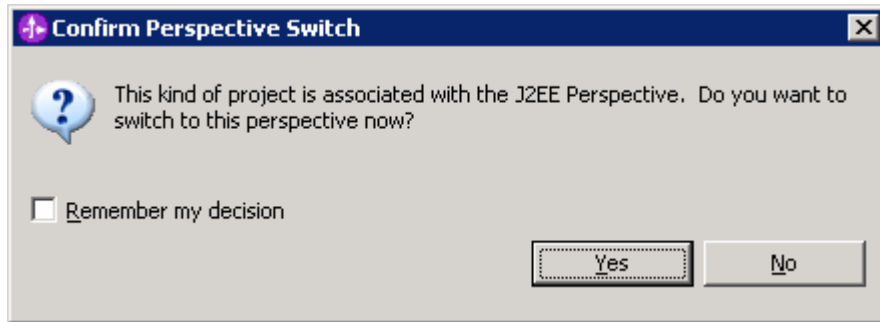


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- ___ c. Click on the **Browse...** button next to the **Connector file** field to select **<EMAILADAPTER_HOME>\deploy\CWYEM_Email.rar**
- ___ d. Uncheck the check box next to **Add module to and EAR project** and click **Finish**

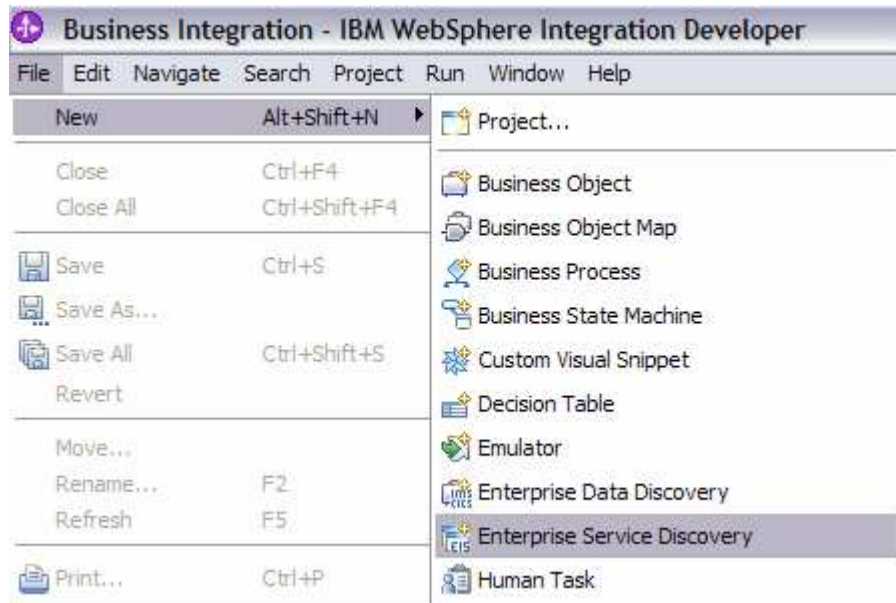


- ___ e. Click on **No** from Confirm Perspective Switch window to continue in Business Integration perspective

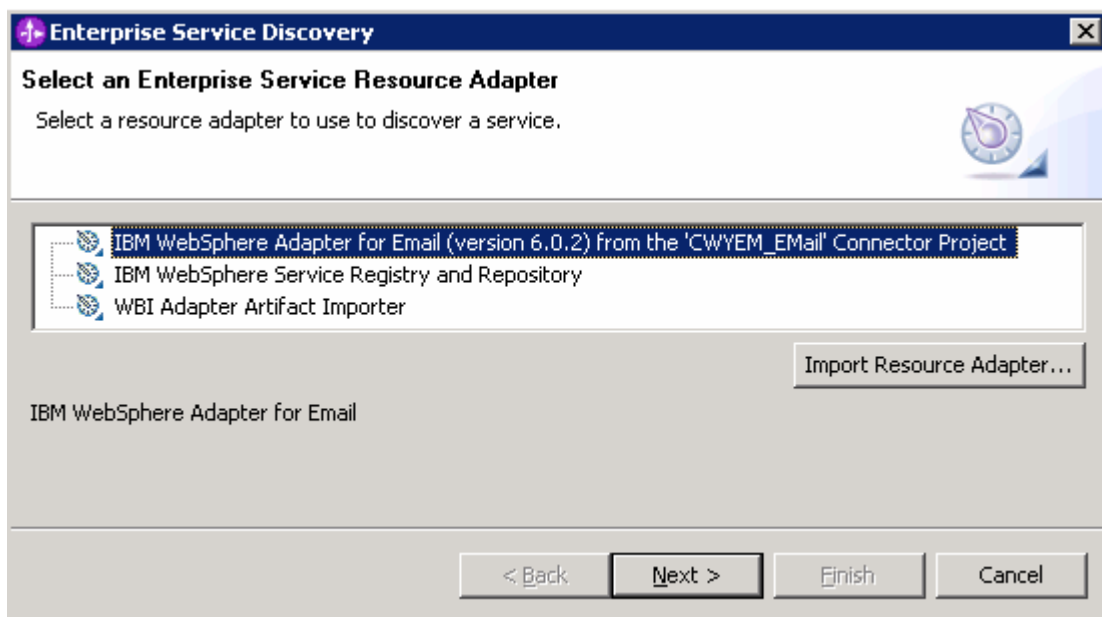


Part 2: Use ESD Wizard to Generate Business Objects and other Artifacts

- ___ 1. Launch the Enterprise Service Discovery wizard
 - ___ a. Select **File > New > Enterprise Service Discovery**



- ___ 2. Select **IBM WebSphere Adapter for Email (version 6.0.2) from the 'CWYEM_Email' Connector Project** and click **Next**



- ___ 3. Configure settings for the Discovery agent

You will specify the properties to initialize the Resource Adapter and Enterprise Service Discovery agent.

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- ___ a. Unzip the **XSDs.zip** file under **<EMAILADAPTER_HOME>\Samples**. You will now see a XSDs folder under **<EMAILADAPTER_HOME>\Samples**
- ___ b. Click the **Browse...** button next to the **Folder Name** field and select the folder **<EMAILADAPTER_HOME>\Samples\XSDs**, that contains the **Wbiaddress and Wbiphone** XSD files

Note: For your convenience, **Wbiaddress** and **Wbiphone** xsd files are placed under **<LAB_FILES>\EmailFiles**

- ___ c. Select **US-ASCII** from the drop down list for the **Character Set** field
- ___ d. Select **text/xml** for the **Content Type** field. When you select the content type, the **DataBinding Type** will be automatically set to **XMLBOSerializerDataBinding**

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- ___ e. Click the **Show Advanced >>** button to see the Log file location and Logging level options for discovery log and click **Next** leaving the default log file location

Enterprise Service Discovery

Configure Settings for Discovery Agent

Specify the properties to initialize the resource adapter and the enterprise service discovery agent.

Connection Configuration

Folder Name: C:\Program Files\IBM\ResourceAdapters\Email\adapter\Email\Samples\XSDs Browse...

Charater Set: US-ASCII

Content Type: text/xml

DataBinding Type: XMLBOSerializerDataBinding

Specify BO Properties

BiDi Properties

Bidi transformation

Bidi ordering schema: Implicit

Text direction: LTR

Bidi SymmetricSwapping

Bidi shaping: Nominal

Bidi numeric shaping: Nominal

Hide Advanced <<

Logging options

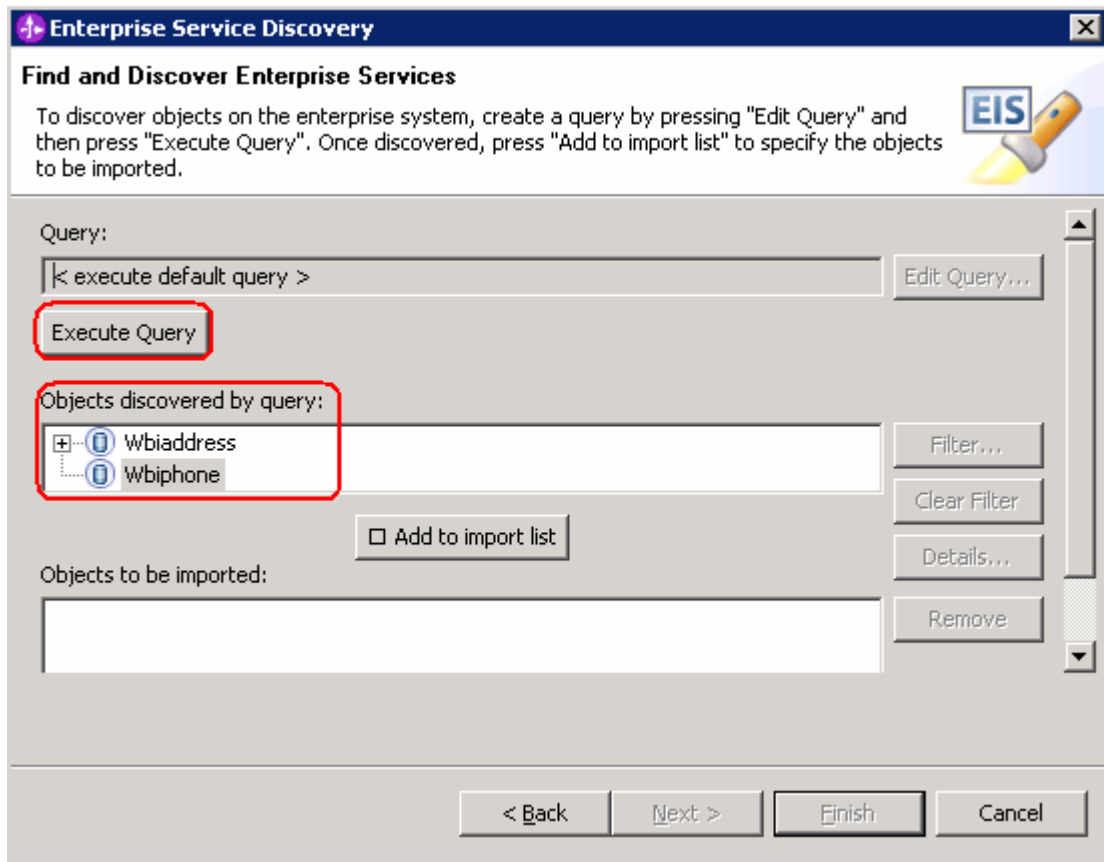
Log file output location:* C:\Labfiles602\EMailInbound\workspace\,metadata\EmailMetadataDiscovery.log Browse...

Logging Level: SEVERE

< Back Next > Finish Cancel

- ___ 4. Find and discover the enterprise services. In this step you will select the business objects and services to be used with the adapter
- ___ a. From the Enterprise Service Discovery window, click on **Execute Query** button. You will see a **Wbiaddress** and **Wbiphone** business object under **Objects discovered by query**

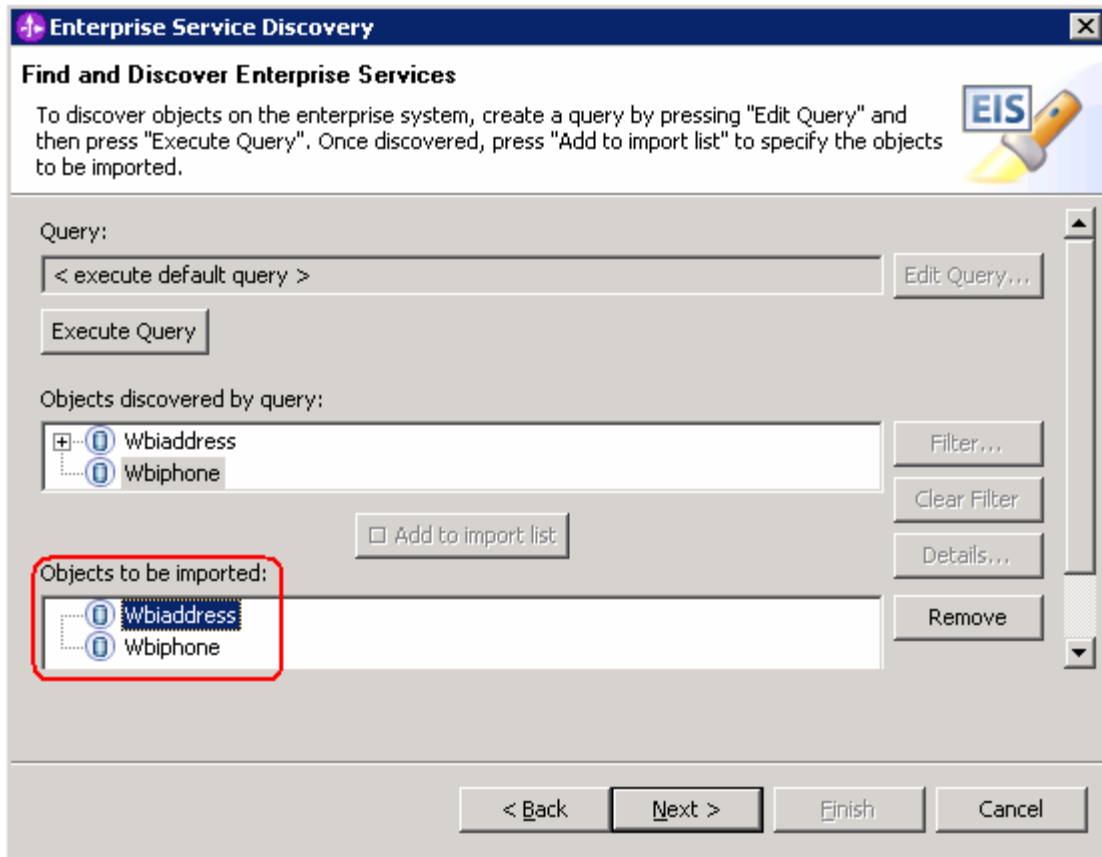
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- ___ b. Select **Wbiaddress** business object and click **Add to import list** button. The Wbiaddress business object will now be displayed under the **Objects to be imported**
- ___ c. Repeat the above step to add **Wbiphone** business object

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___ d. You should now see the two business objects – Wbiaddress and Wbiphone under **Objects to be imported** area



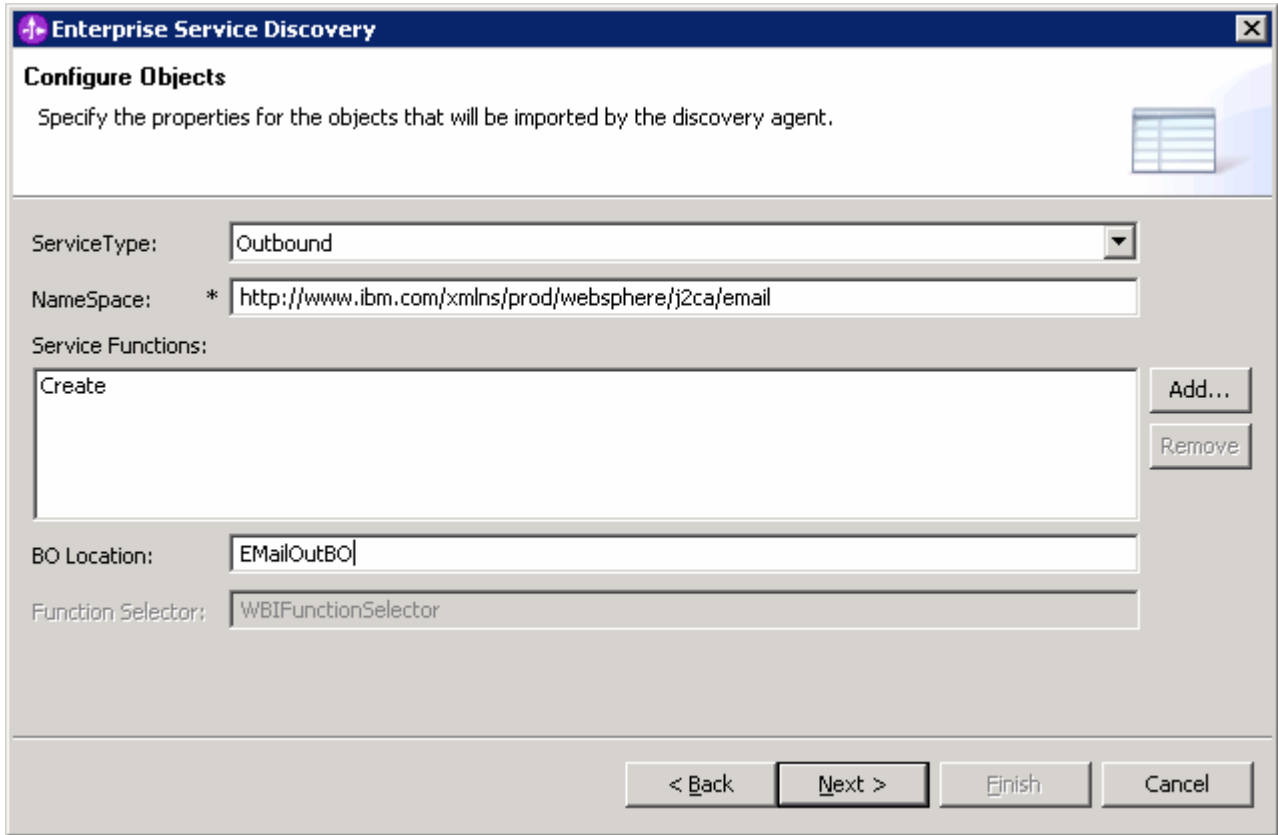
___ e. Click **Next**

___ 5. Configure the objects that will be imported by the discovery agent

___ a. From the Configure objects window, select **Outbound** from the dropdown menu for the **Service Type**. Note the operations available for the selected Service Type

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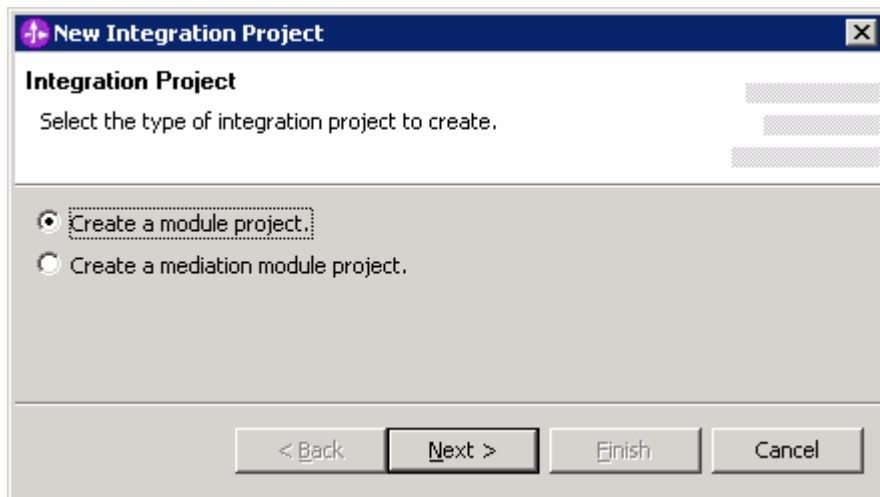
__ b. Enter the **BO Location** as **EmailOutBO** and click **Next**



___ 6. Specify the properties for the artifacts that will be generated in your workspace

__ a. Create a new module

- 1) Click on the **New...** button next to the **Module** field
- 2) From the New Integration Project window, ensure that the radio button next to **Create a module project** is selected and click **Next**



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- 3) Enter **EEmailOutboundModule** for the **Module Name** field and click **Finish**

- ___ b. The module which is created above will appear under the **Module** field of the Generate Artifacts window
- ___ c. From Generate Artifacts window, select the radio button next to **Use discovered connection properties**. This will make the Managed Connection Factory and Resource Adapter Properties visible
- ___ d. Enter these values for Managed Connection Factory Properties:

Note: You will use the configured details of the QPlv602_AdapterInstallEmailServer lab for this step.

- 1) HostName: **localhost**
 - 2) PortNumber: **25**
 - 3) UserName: **<user>@<domain_name>** (Ex: Emailuser1@aimcp3x4.rchland.ibm.com)
 - 4) Password: **<password for the user>** (Ex: password1)
- ___ e. You can also enter the log and trace file locations under Resource Adapter Properties:
- 1) Log file name[String]: **C:\EmailRA\Outlog.txt**
 - 2) Trace file name[String]: **C:\EmailRA\Outtrace.txt**
- ___ f. Click **Finish**

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Enterprise Service Discovery

Generate Artifacts

Specify the properties for the artifacts that will be generated in your workspace.

Properties for Interface

Module: E-MailOutboundModule New...

Namespace: http://E-MailOutboundModule/E-MailOutboundInterface

Use Default Namespace

Folder: Browse...

Name: * E-MailOutboundInterface

Description: Edit operation names...

Deploy connector with module

Specify the connection properties which will be used to connect to the Enterprise Information System at runtime:

Use connection properties specified on server

Use discovered connection properties

J2C Authentication Data Entry:

Managed Connection Factory Properties

HostName: * localhost

PortNumber: * 25

Protocol: smtp

UserName: Emailuser1@aimcp3x4.rchland.ibm.com

Password: password1

Resource Adapter Properties

Logging and Tracing

Adapter ID [String]: * ResourceAdapter

Log file size [Integer]: 0

Log file name [String]: C:\E-MailRA\Outlog.txt

Log Files [Integer]: 1

Trace file size [Integer]: 0

Trace file name [String]: C:\E-MailRA\Outtrace.txt

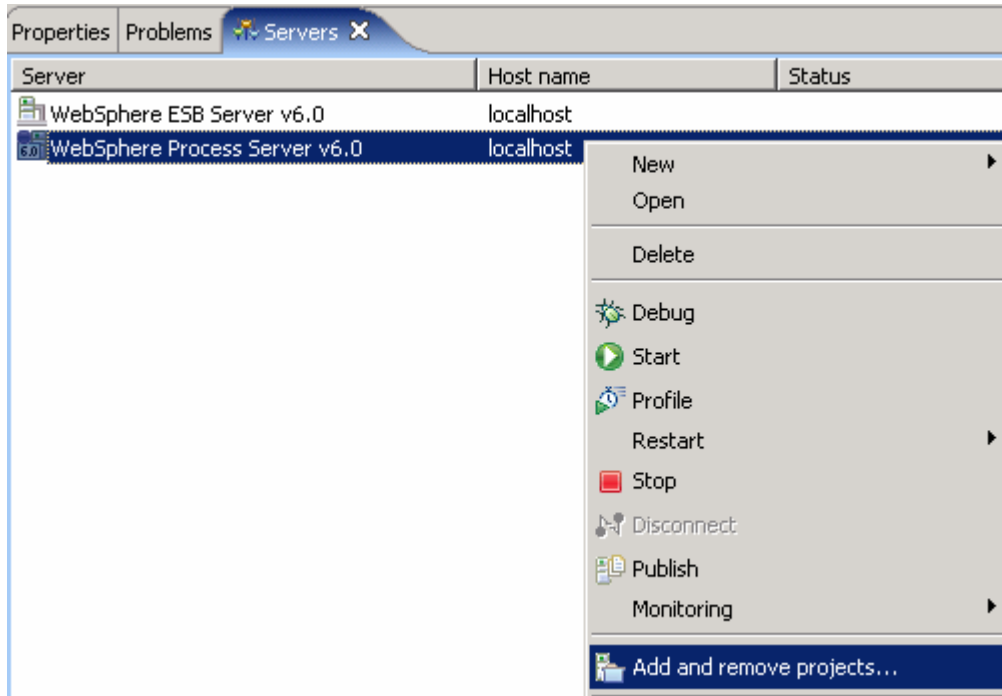
Trace files [Integer]: 1

< Back Next > Finish Cancel

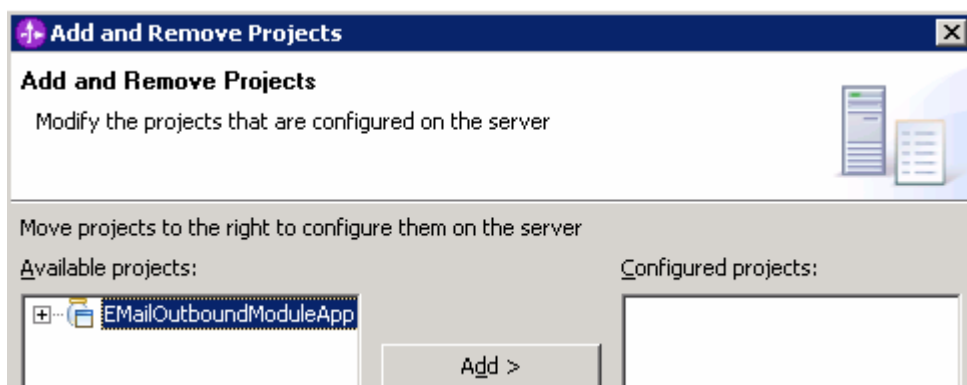
Part 3: Test the Adapter Application using WebSphere Process Server Test Environment

In this part of the lab, you will use the WebSphere Process Server Test Environment to test the SCA application outbound processing.

- ___ 1. Add the project to the WebSphere Process Server Test Environment
 - ___ a. Right-click on **WebSphere Process Server v6.0** under the server view and **select Add and remove projects...** from the popup menu

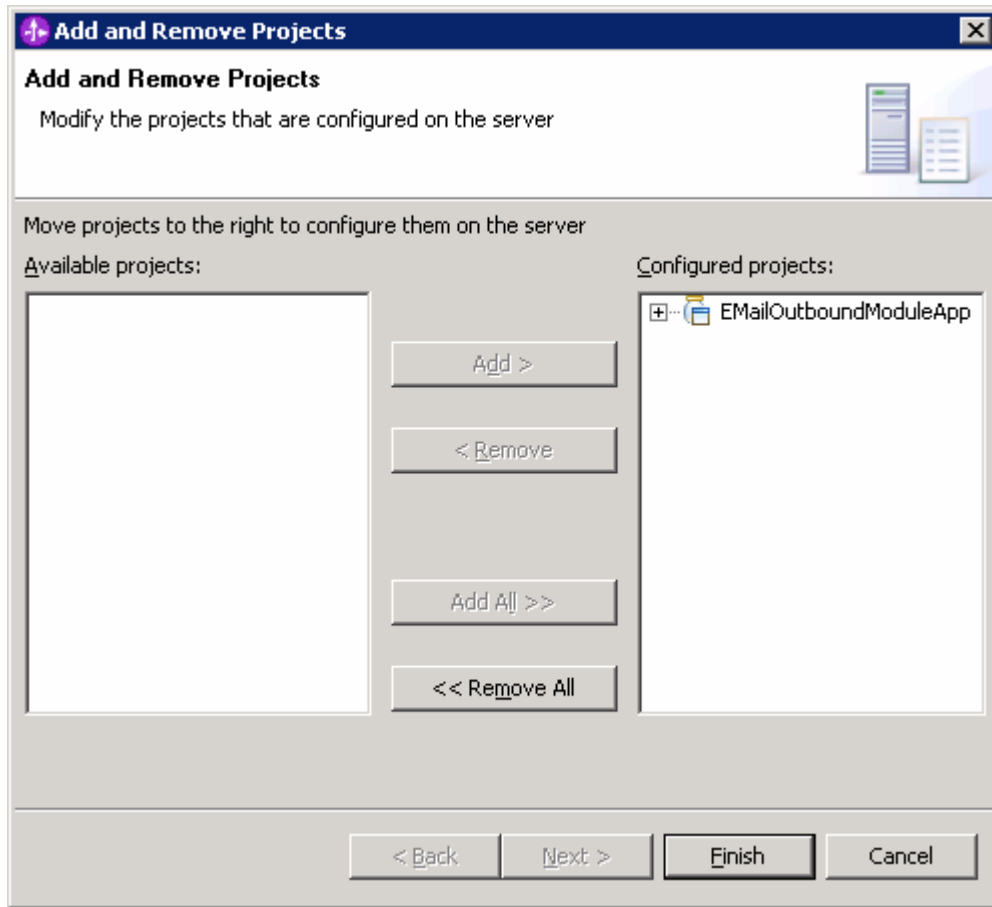


- ___ b. From the Add and Remove Projects window, select **EEmailOutboundModuleApp** under Available projects panel and click **Add >**

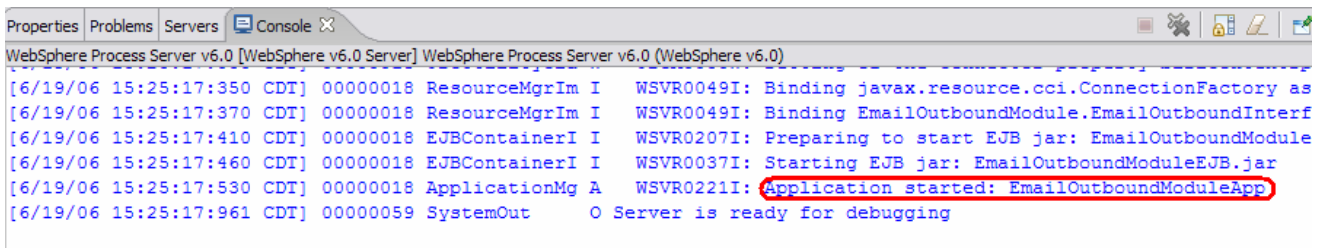


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- c. You will now see the **EEmailOutboundModuleApp** added to the **Configured projects**. Click **Finish**



- 2. Wait until the application gets published and started. The server will be started in Debug Mode

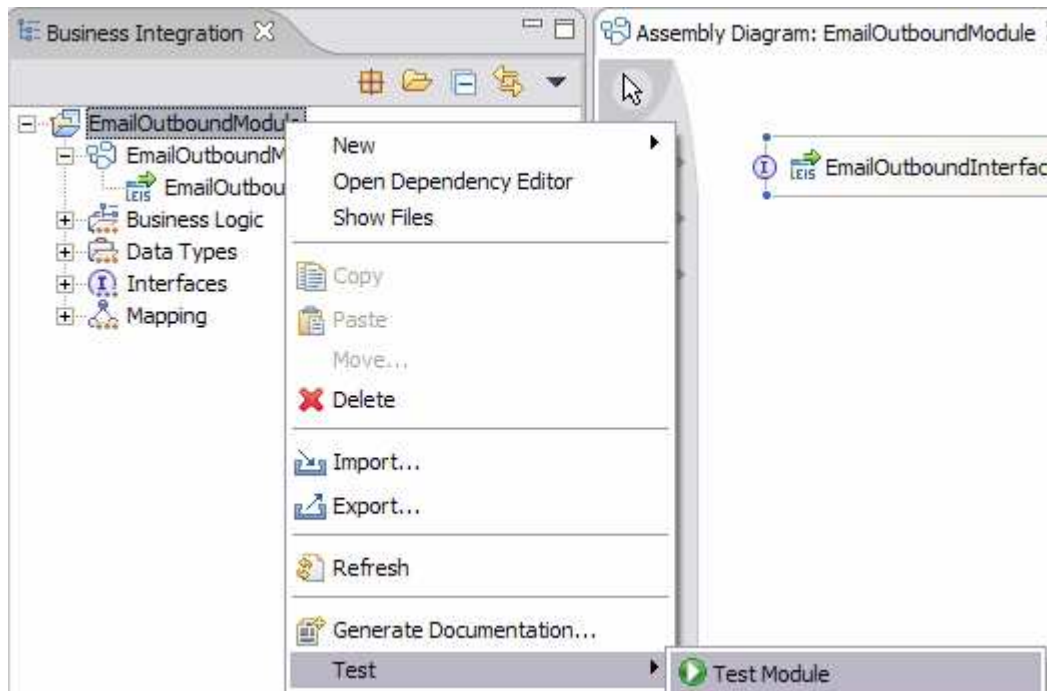


- 3. **Test Scenario:** Unstructured Content

Note: You will use the configured details of the WPIv602_AdapterInstallEmailServer lab here.

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___ a. Right-click **EmailOutboundModule** and select **Test > Test Module**



___ b. Ensure that the **Operation** selected is **createEmail**

___ c. Add required headers

- 1) From Initial Request Parameters, right click on the column that contains **headerList** and select **Add Element**

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▶ General Properties

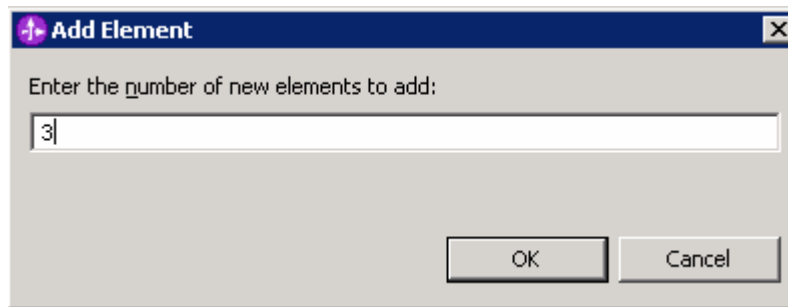
▼ Detailed Properties

Configuration:	Default Module Test
Module:	EmailOutboundModule
Component:	EmailOutboundInterface
Interface:	EmailOutboundInterface
Operation:	createEmail

Initial request parameters

Name	Type	Value
[-] createEmailInput	EmailBG	
verb	string	<null>
[-] Email	Email	
headerList	Header []	
Encoding	string	
mailContent	anyType [anyType]	
mailAttachments	MailAttachment []	
fileReferences	string []	

Set Value...
 Set to Unset
 Set to Null
 Set to Default
Add Element

2) Enter **3** from the Add Element window


The dialog box titled "Add Element" has a close button (X) in the top right corner. It contains the text "Enter the number of new elements to add:" followed by a text input field containing the number "3". At the bottom right, there are two buttons: "OK" and "Cancel".

3) Enter the following for added headerList[0]:

- a) headerName: **To**
- b) headerValue: **<user1>@<domain_name>** (Ex: Emailuser1@aimcp3x4.rchland.ibm.com)


4) Enter the following for headerList[1] :

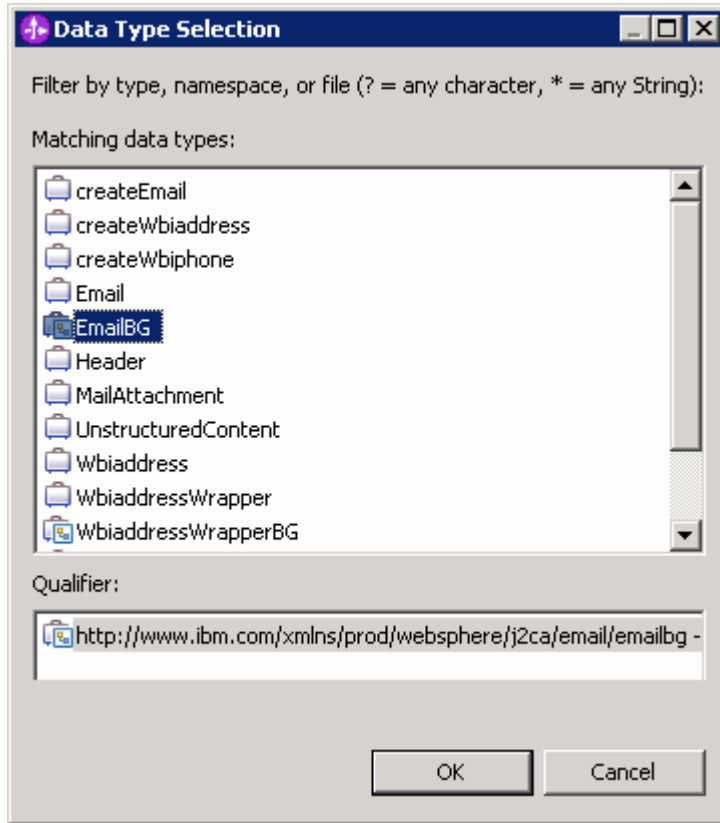
- a) headerName: **from**
- b) headerValue: **<user2>@<domain_name>** (Ex: Emailuser2@aimcp3x4.rchland.ibm.com)


5) Enter the following for headerList[2] :

- a) headerName: **subject**
- b) headerValue: **test mail**

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- ___ d. Click on the row that contains **mailContent** in the **Type** column and click on  to select a Data Type
- ___ e. Select **EmailBG** from the Data Type Selection window and click **OK**



- ___ f. Click on the row that contains **mailContent** in the **Type** column, under Email and then click on 
- ___ g. Select **UnstructuredContent** from Data Type Selection window and then click **OK**
- ___ h. Enter **text/plain** for the **ContentType**
- ___ i. Enter any data for **AsText** and **asBinary** fields

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___ j. Your Initial Request Parameters should look like this:

► **General Properties**

▼ **Detailed Properties**

Configuration: Default Module Test

Module: EmailOutbound

Component: EmailOutboundInterface

Interface: EmailOutboundInterface

Operation: **createEmail**

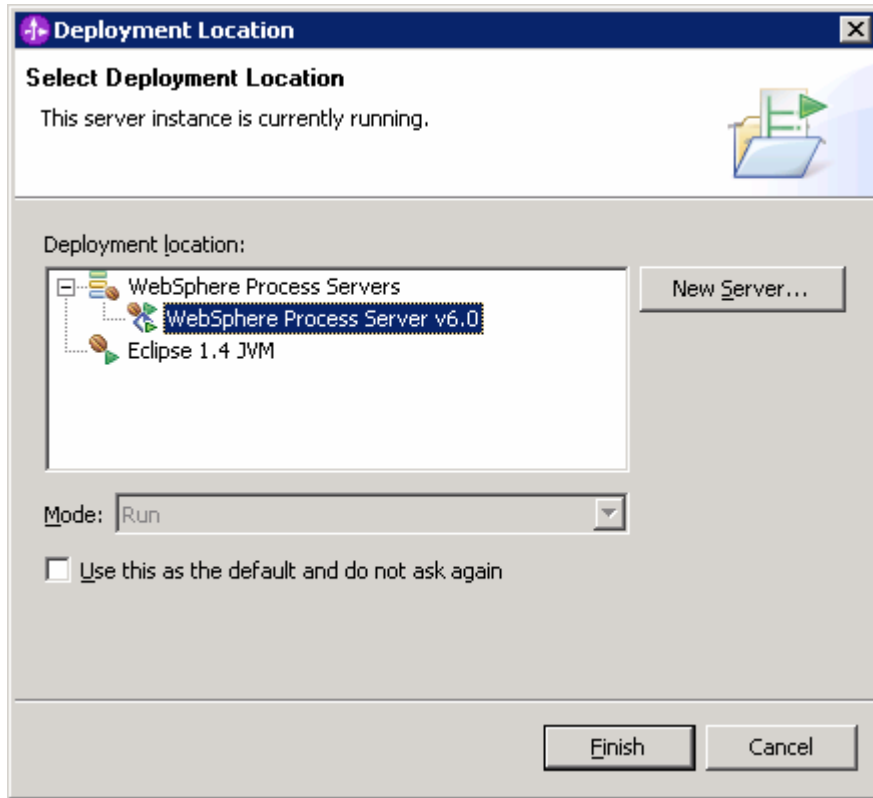
Initial request parameters

Name	Type	Value
[-] createEmailInput	EmailBG	
verb	string	<null>
[-] Email	Email	
[-] headerList	Header []	
[-] headerList[0]	Header	
headerName	string	To
headerValue	string	Emailuser1@rdyavana.austin.ibm.com
[-] headerList[1]	Header	
headerName	string	from
headerValue	string	Emailuser2@rdyavana.austin.ibm.com
[-] headerList[2]	Header	
headerName	string	subject
headerValue	string	Email test mail
Encoding	string	
[-] mailContent	EmailBG [anyType]	
verb	string	<null>
[-] Email	Email	
headerList	Header []	<null>
Encoding	string	
[-] mailContent	UnstructuredContent [anyType]	
ContentType	string	
ObjectName	string	
AsText	string	Testing Email pass through
AsBinary	hexBinary	0
mailAttachments	MailAttachment []	<null>
fileReferences	string []	<null>
mailAttachments	MailAttachment []	<null>
fileReferences	string []	<null>

___ k. Click **Continue**

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- ___ I. Select **WebSphere Process Servers > WebSphere Process Server v6.0** from Deployment Location window and click **Finish**



- ___ 4. Verify your results

- ___ a. You will see the following message in your console (or SystemOut.log file):

```

from: Emailuser2@rdyavana.austin.ibm.com
To: Emailuser1@rdyavana.austin.ibm.com
subject: Email test mail
Mime-Version: 1.0
Content-Type: multipart/mixed;
    boundary="-----=_Part_7_379318589.1162854249261"

-----=_Part_7_379318589.1162854249261
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit



Testing Email pass through
-----=_Part_7_379318589.1162854249261--

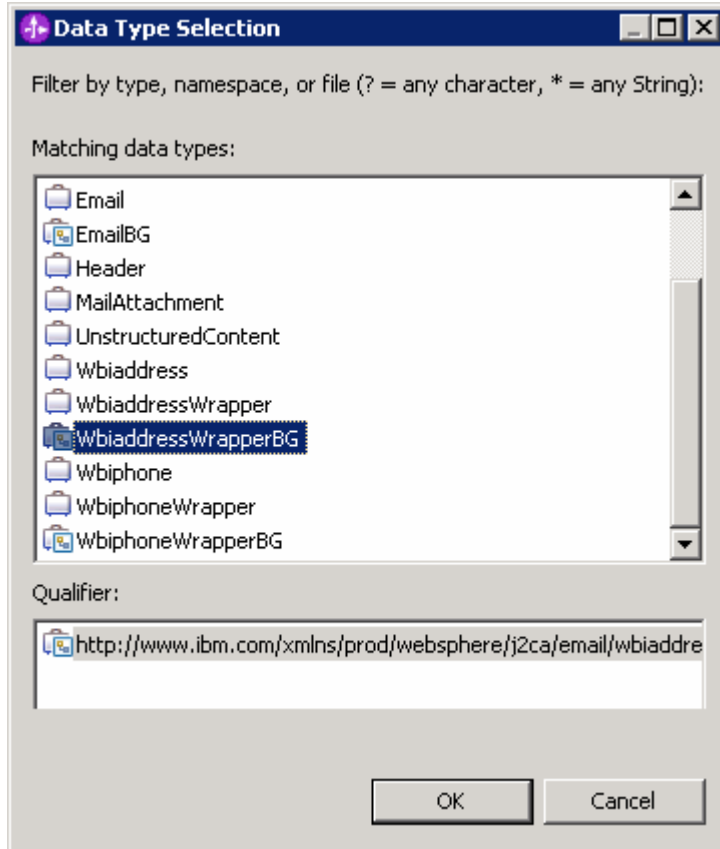
[11/6/06 17:04:09:301 CST] 0000008e SystemOut      O 250 Mail queued for delivery.
[11/6/06 17:04:09:311 CST] 0000008e ResourceAdapt I
com.ibm.j2ca.email.EmailInteraction execute CWYEM0016I: The Email resource
adapter has successfully sent the e-mail to all recipients.
    
```

- ___ b. You can also check your inbox for the mail received with the subject test mail and the contents as given in the previous steps

- ___ 5. **Test Scenario:** Wbiaddress

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- ___ a. Click on the Invoke  button at the right hand top corner EMailOutboundModule_Test window
- ___ b. Ensure that the **Operation** selected is **createEmail**
- ___ c. Follow step **3-c** to add the same three headers
- ___ d. Double-click on the row that contains **mailContent** in the **Type** column and click on  to select a Data Type
- ___ e. Select **WbiaddressWrapperBG** from the Data Type Selection window and click **OK**



- ___ f. Enter any data for the fields – Addressid, Addressline1, Addressline2, Customercity, Customerstate, Customerzip, Customercountry

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___ g. Your Initial Request Parameters should look like this:

► **General Properties**

▼ **Detailed Properties**

Configuration: Default Module Test

Module: EmailOutbound

Component: EmailOutboundInterface

Interface: EmailOutboundInterface

Operation: createEmail

Initial request parameters

Name	Type	Value
[-] createEmailInput	EmailBG	
verb	string	<null>
[-] Email	Email	
[-] headerList	Header []	
[-] headerList[0]	Header	
headerName	string	To
headerValue	string	Emailuser1@rdyavana.austin.ibm.com
[-] headerList[1]	Header	
headerName	string	from
headerValue	string	Emailuser2@rdyavana.austin.ibm.com
[-] headerList[2]	Header	
headerName	string	subject
headerValue	string	WbiAddress test
Encoding	string	
[-] mailContent	WbiaddressWrapperBG [anyType]	
verb	string	<null>
[-] WbiaddressWrapper	WbiaddressWrapper	
[-] Content	Wbiaddress	
Addressid	integer	1
Addrline1	string	11501
Addrline2	string	Burnet Rd
Customercity	string	Austin
Customerstate	string	TX
Customerzip	string	78758
Customercountry	string	USA
Wbiphone	Wbiphone []	<null>
mailAttachments	MailAttachment []	<null>
fileReferences	string []	<null>

___ h. Click **Continue**

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Ignore the same exception that you got for the Unstructured content test scenario.

___ 6. Verify your results

___ a. You will see the following message in your console (or SystemOut.log file):

```

from: Emailuser2@rdyavana.austin.ibm.com
To: Emailuser1@rdyavana.austin.ibm.com
subject: WbiAddress test
Mime-Version: 1.0
Content-Type: multipart/mixed;
    boundary="-----_Part_9_439038261.1162855192698"

-----_Part_9_439038261.1162855192698
Content-Type: text/xml; charset=us-ascii
Content-Transfer-Encoding: 7bit

<?xml version="1.0" encoding="UTF-8"?>
[11/6/06 17:19:52:718 CST] 0000009c SystemOut      O <wbiaddress:Wbiaddress
xsi:type="wbiaddress:Wbiaddress" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance"
xmlns:wbiaddress="http://www.ibm.com/xmlns/prod/websphere/j2ca/email/wbiaddress">
  <Addressid>1</Addressid>
  <Addrline1>11501</Addrline1>
  <Addrline2>Burnet Rd</Addrline2>
  <Customercity>Austin</Customercity>
  <Customerstate>TX</Customerstate>
  <Customerzip>78758</Customerzip>
  <Customercountry>USA</Customercountry>
</wbiaddress:Wbiaddress>

-----_Part_9_439038261.1162855192698--

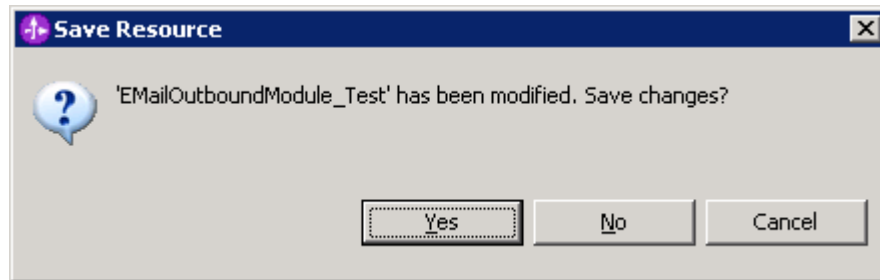
.
[11/6/06 17:19:52:728 CST] 0000009c SystemOut      O 250 Mail queued for delivery.
[11/6/06 17:19:52:728 CST] 0000009c ResourceAda.

```

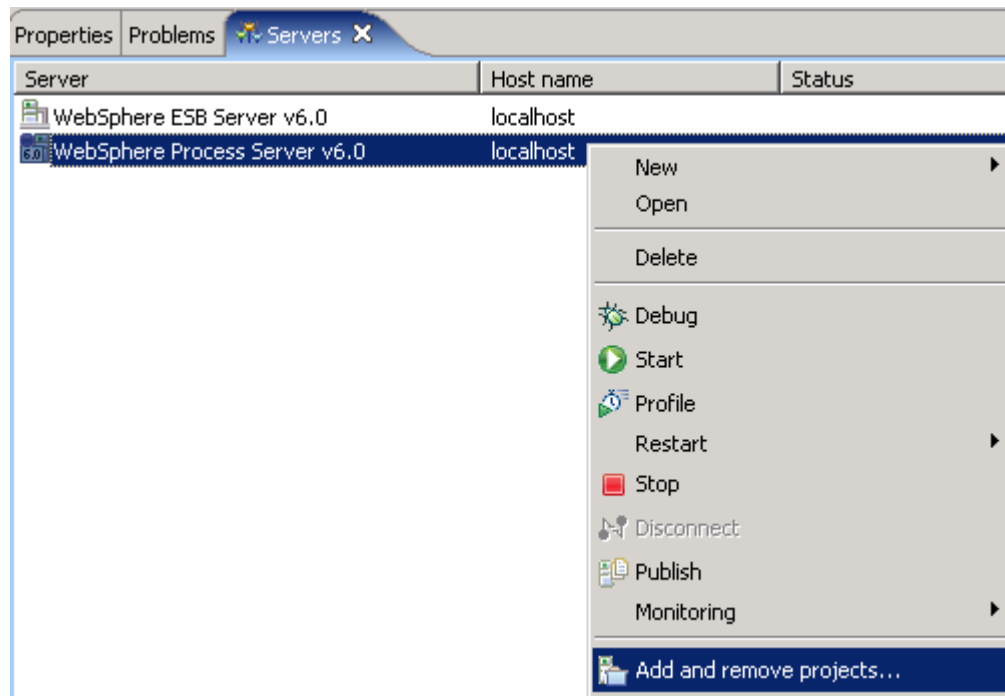
___ b. You can also check your inbox for the mail received with the subject test mail and the contents as given in the previous steps

Part 4: Restore Server Configuration

- ____ 1. Close the **EMailOutboundModule_Test** window and click **No** for the Save Resources window

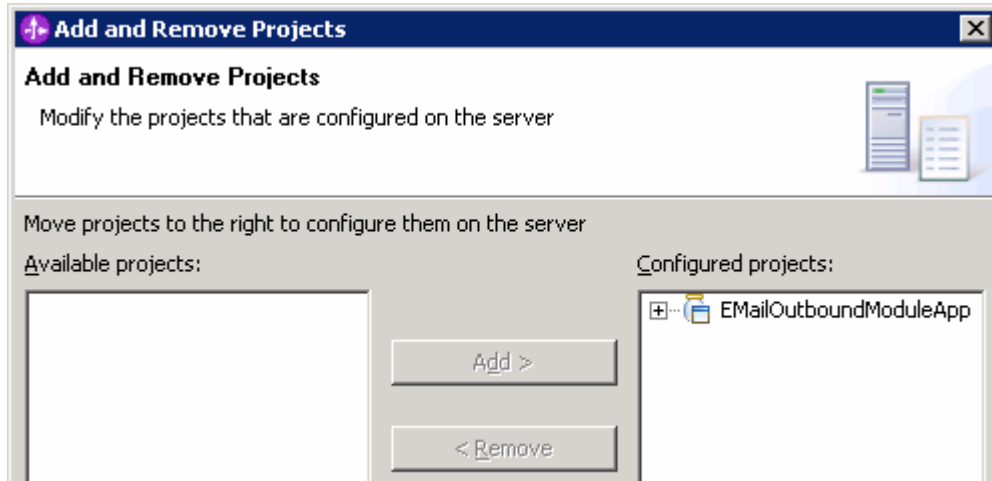


- ____ 2. Right-click on **WebSphere Process Server v6.0** under the Servers view and select **Add and remove projects...** from the context menu

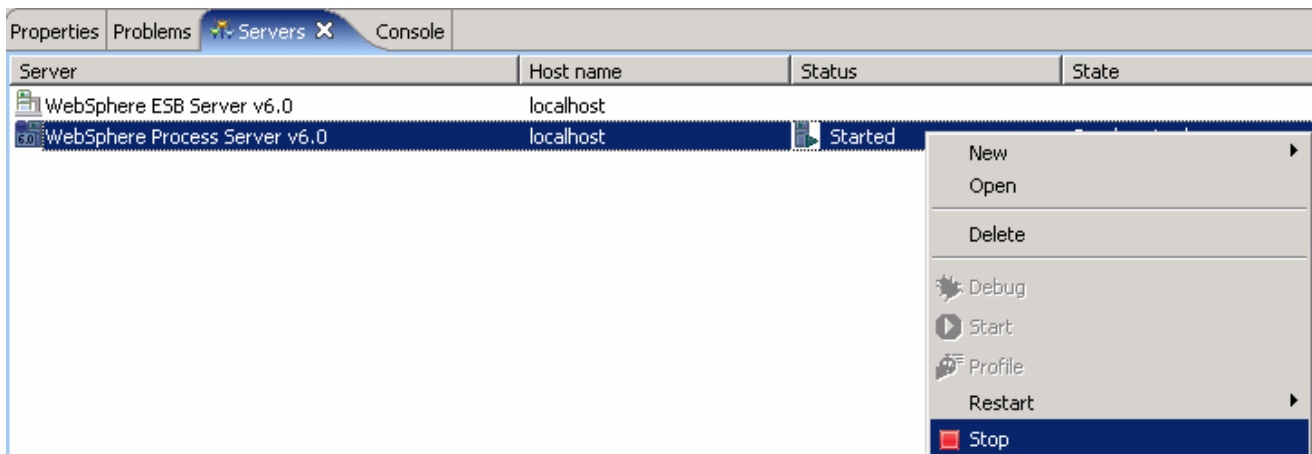


IBM WEBSHERE ADAPTER 6.0.2 – LAB EXERCISE

- ___ 3. Select **EEmailOutboundModuleApp** under Configured projects and click **< Remove**.



- ___ 4. Click **Finish** after you see the application moved to Available projects. Wait until the application is unpublished.
- ___ 5. Right-click on **WebSphere Process Server v6.0** from the Servers view and select **Stop** from the context menu.



What you did in this exercise

In this lab, you imported the Email Adapter RAR file into your WebSphere Integration Developer workspace and integrated it into an SCA application that creates a file to the file system.

You made use of Enterprise Service Wizard available in WebSphere Integration Developer to specify Managed Connection Factory Properties and Resource Adapter Properties which, after deploying onto the server will generate Business Objects and other artifacts.

In the end you deployed and then tested the adapter application for the operations available.

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