

## **IBM WebSphere Adapter for Email 7.0.0.0**

### **Quick Start Tutorials**

**Note:** Before using this information and the product it supports, read the information in "Notices" on page 182.

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# Chapter 1. Introduction

Email Resource Adapter (Email RA) enables connectivity for integration across Emailing Systems (EIS which communicates via emails).

Email Resource Adapter supports integration through sending and receiving mails to/from different mail servers using email protocols like SMTP, IMAP and POP3. During inbound operational mode, the Email Resource Adapter can read mails from the mailbox convert the mail into a WebSphere Business Integration Business Object and send the business object across to the Application server. During outbound operational mode, the Email Resource Adapter will receive an appropriate business object from the application server, convert the same to an email and sends the email to the mail server.

In this release, the adapter can now be deployed on WebSphere Process Server, WebSphere Enterprise Server Bus and also can be run in non managed mode. The introduction of Data Exchange SPI (DESPI) (for more details see IBM WebSphere Adapter Foundation Classes 2.0.0 FS Section 6.8) enables adapter interoperability with other Business Integration environments like WebSphere Message Broker, WebSphere DataStage TX, WebSphere Information Integrator, Tivoli Data Interchange and WebSphere Partner Gateway.

**Note:** Email Adapter is not released with WebSphere Application Server and hence will not support on WebSphere Application Server platform. The databinding and the JavaBean used are only with respective WebSphere Process Server environment.

To gain practical knowledge in setting up and deploying the adapter, complete one or more of the tutorials. Everything you need to complete each tutorial is contained in the tutorial. If you have performed the prerequisite tasks, you can complete each tutorial in within an hour.

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## Learning Objectives

After completing a tutorial, you should be able to perform the following tasks:

1. Create an adapter project in WebSphere Integration Developer.
  2. Discover services and associated business objects from the enterprise information system (EIS) and make them part of the adapter project.
  3. Create a deployable module that you install on WebSphere Process Server or WebSphere Enterprise Service Bus.
  4. Test the module and validate the results.
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## Audience

These tutorials are for integration developers who design, assemble, test, and deploy business integration solutions.

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## Software prerequisites

To use these tutorials, you must have the following applications installed:

1. WebSphere Integration Developer version 7.0.0.0
  2. WebSphere Process Server version 7.0.0.0
  3. Lotus Domino Mail Server(6.5 or above version)
  4. Mail Client (any for example, Outlook Express any appropriate version)
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## Chapter 2. Preparing to run the tutorial

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### Configuration prerequisites

Before doing any tutorial testing, complete the following tasks:

For running Inbound operations of the adapter, create three directories and name them accordingly as staging directory, archive folder, and FailedEvents folder. For the tutorials a folder called InProgress has been created under the “C:\Documents and Settings\Administrator\My Documents\InProgress” and this will be used as the staging directory. The other two directories archive and failedEvents folders are optional and are not used for our tutorials and is thereby left undefined

Configuring the mail server: The mail server to be used by the user for running the tutorials and the sample needs to be configured prior to running the sample. The mail server would be the Enterprise Integration System which the Email Resource Adapter polls. In Appendix A of the document, very detailed instructions have been provided for the installation and configuration of the IBM Domino mail server version 6.5. Clear steps have been provided for administering the server instance, including the creation of necessary user accounts. The users internal to IBM can use the Domino server instructions as-is. The external users can opt for any freeware or licensed mail servers, but will need to configure the users as specified in Appendix A.

For the tutorials, it has been assumed that the mail server is installed on a remote system with IP address as 9.121.219.72 and thereby all references to the mail server will be as ‘9.121.219.72’, with ports for each protocol as SMTP 25, IMAP 143 and POP3 as 110.

**Note:** The default ports are SMTP-25, IMAP-143, and POP3-110. If the mail server is installed locally then the host name would be localhost.

The user can install or configure the mail server on any system, in which case, the Host property, which determines the IP address of the mail server and the ports, must be changed appropriately in the Email Resource Adapter Activation Specification properties.

Alternatively you would need to set these on the Activation Specification custom properties from the WebSphere Process Server Administrative Console.

If the Port number on which the mail server is listening differs from the default port number for the protocol, the corresponding port number value must be set on the Activation Specification custom properties from the WebSphere Process Server Administrative Console.

**Note:** Detailed instructions over doing the same is given in Appendix in “Using the Project Interchange Samples shipped along with the adapter installation -> Changing the Email Connection details”

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**1) Configuring the mail Server for SSL:** WebSphere Adapter for Email now supports SSL for IMAP, POP3, and SMTP. For making use of SSL Support, the mail server and WebSphere Process Server in which the Email Resource Adapter is deployed needs to be configured for SSL. Detailed steps are given in the Appendix in “Configuring Email adapter 7.0.0.0 and Domino 7.0 mail server for SSL” where there is a description about configuring Lotus Domino server for SSL and also about configuring WebSphere Process Server for the same. For the scenarios it has been assumed that the IP address for the mail server with SSL configuration is ‘9.121.219.72’.

**Note:** For SSL enablement IMAP and POP3 uses different port numbers. For POP3 SSL and IMAP SSL the port numbers are 995 and 993 respectively.

**2) Configure the mail Client:** The mail client is essential for creating the events on inbound. Also it is helpful in verifying that the right events have been placed for polling. The user can configure any mail client (popular one being Microsoft Outlook Express, and Lotus Notes mail clients) to access the mail account with the mail server that you configured in the previous step.

During the configuration, make sure the client is configured with mail server, right protocol and port number, which were mentioned in the previous step.

---

## Extracting the sample files

Replicas of the artifacts that you create when using the external service wizard are provided as sample files for your reference. Use these files to verify that the files you create with the external service wizard are correct.

Go to the “<WID\_installation>\ResourceAdapters\JDE\_7.0.0.0\samples\referencefiles” folder and unzip Scenario1.zip, Scenario2.zip, Scenario3.zip, Scenario4.zip, Scenario5.zip, Scenario6.zip, Scenario7.zip or Scenario8.zip into a directory of your choice (you may want to create a new directory).

Tutorial	Artifacts Generated	Comments
Tutorial 1 Email Inbound With without Business Graph	FunctionSelectorConfiguration.bcfg	Configured Function Selector
	EmailInboundDTFWwithoutBG.export	SCDL File for Inbound
	EmailInboundDTFWwithoutBG.wsdl	Service description
	Wbiaddress.xsd	User Defined datatypes

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	Wbiphone.xsd	shipped with the Samples
	genericdb/DataHandlerConfiguration.bcfg	Configured Data Binding
	xml dh/DataHandlerConfiguration.bcfg	Configured Data Handler
	CommonSchemas	Common Email
	Email.xsd	Datatypes
	Header.xsd	Email is the wrapper
	MailAttachment.xsd	HeaderList for Email
	UnstructuredContent.xsd	Headers
Tutorial 2	FunctionSelectorConfiguration.bcfg	Configured Function Selector
Email Inbound Pass-through With Business Graph	EmailInboundPTWithBG.export	Service description
	EmailInboundPTWithBG.wsdl	SCDL File for Inbound
	CommonSchemas	Common Email Datatypes
	Email.xsd	Email is the wrapper
	EmailBG.xsd	HeaderList for Email Headers
	Header.xsd	EmailBG is the Wrapper BG file
	MailAttachment.xsd	
	UnstructuredContent.xsd	
	genericdb/DataHandlerConfiguration.bcfg	Configured Data Binding
Tutorial 3	genericdb/DataHandlerConfiguration.bcfg	Configured Data Binding
Email Outbound	xml dh/DataHandlerConfiguration.bcfg	Configured Datahandler

DTF Without Business Graph	FunctionSelectorConfiguration.bcfg	Configured Function Selector
	Wbiaddress.xsd	User defined data types
	Wbiphone.xsd	
	MailSendFault.xsd	Fault Schemas for Outbound
	MissingDataFault.xsd	
	PrimaryKeyPairType.xsd	
	WBIFault.xsd	
	CommonSchemas	Common Email Datatypes Email is the wrapper HeaderList for Email Headers
Email.xsd		
EmailBG.xsd		
Header.xsd		
MailAttachment.xsd		
UnstructuredContent.xsd		
EmailOutboundDTFWithoutBG.import	SCDL File for Outbound	
EmailOutboundDTFWithoutBG.wsdl	Service description	
Tutorial 4	genericdb/DataHandlerConfiguration.bcfg	Configured Data Binding
Email Outbound	simpledb/DataHandlerConfiguration.bcfg	Configured Datahandler
Pass-through with	EmailOutboundPTWithBG.import	SCDL File for Outbound
Business Graph	EmailOutboundPTWithBG.wsdl	Service Description
	MailSendFault.xsd	Fault Schemas for Outbound
	MissingDataFault.xsd	

	PrimaryKeyPairType.xsd WBIFault.xsd	
	CommonSchemas Email.xsd EmailBG.xsd Header.xsd MailAttachment.xsd UnstructuredContent.xsd	Common Email Datatypes Email is the wrapper HeaderList for Email Headers
Tutorial 5  Email Oubound Simple	simpledb/DataHandlerConfiguration.bcfg	Configured DataBinding
	Common Schemas SimpleAlertEmail.xsd	Simple Email Schema
	EmailOutboundPTWithBG.import	SCDL File for Outbound
	EmailOutboundPTWithBG.wsdl	Service Description
	MailSendFault.xsd MissingDataFault.xsd PrimaryKeyPairType.xsd	Fault Schemas for Outbound
Tutorial 6  Email Inbound Pass-Through For SSL	genericdb/DataHandlerConfiguration.bcfg	Configured DataBinding
	FunctionSelectorConfiguration.bcfg	Configured Function Selector
	EmailInboundForSSL.wsdl	Service Description
	EmailInboundForSSL.export	SCDL File for Inbound

	<p>CommonSchemas</p> <p>Email.xsd</p> <p>Header.xsd</p> <p>MailAttachment.xsd</p> <p>UnstructuredContent.xsd</p>	<p>Common Email Datatypes</p> <p>Email is the wrapper</p> <p>HeaderList for Email Headers</p>
<p>Tutorial 7</p> <p>Email Outbound</p> <p>User-defined type</p> <p>with Data</p> <p>Transformation</p>	fixedstructuredb/DataHandlerConfiguration.bcfg	Configured DataBinding
	xmlhdh/DataHandlerConfiguration.bcfg	Configured DataHandler
	EmailOutboundFixedStructureD'TF.import	SCDL File for Inbound
	EmailOutboundFixedStructureD'TF.wsdl	Service Description
	<p>MailSendFault.xsd</p> <p>MissingDataFault.xsd</p> <p>PrimaryKeyPairType.xsd</p> <p>WBIFault.xsd</p>	Fault Schemas for Outbound
	Header.xsd	
<p>Tutorial 8</p> <p>Email Inbound</p> <p>User-defined type</p> <p>with Data</p> <p>Transformation</p>	fixedstructuredb/DataHandlerConfiguration.bcfg	Configured DataBinding
	xmlhdh/DataHandlerConfiguration.bcfg	Configured DataHandler
	EmailInboundFixedStructureD'TF.export	SCDL File for Outbound
	EmailInboundFixedStructureD'TF.wsdl	Service Description
	Header.xsd	Schema for mail Header

	CustomEmail.xsd	Configured Custom DataType
	Wbiaddress.xsd Wbiphone.xsd	User Defined Data Types

**Note:** Detailed instructions over using the samples shipped are given is in Appendix section.

## Chapter 3. **Tutorial 1: Email inbound with DTF without EmailBG**

This tutorial demonstrates how to use WebSphere Adapter for Email without using business graphs in data transformation mode for polling emails. In data transformation mode, the adapter transforms structured contents (e-mail body or attachments) to specific business objects using data handlers (For example, XML Data handler).

**Note:** With version 7.0.0.0 Email Adapter, business graphs are not mandatory.

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### **Scenario**

Consider an organization where the important medium of communication is E-mail. All the customer complaints are received through email and the business process wants to pick up the mails and store it in a database from it can be either accessed through a customer service portal or queried by a customer relationship officer for further processing of the complaint.

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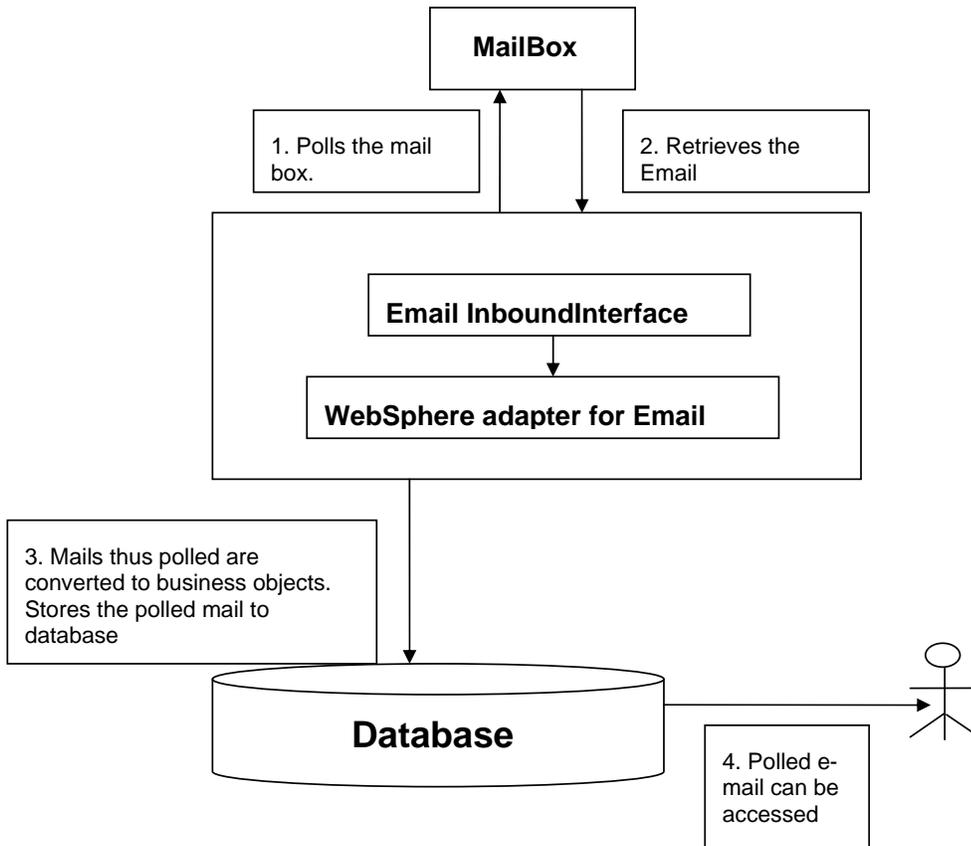


Figure: Email inbound with DTF without EmailBG

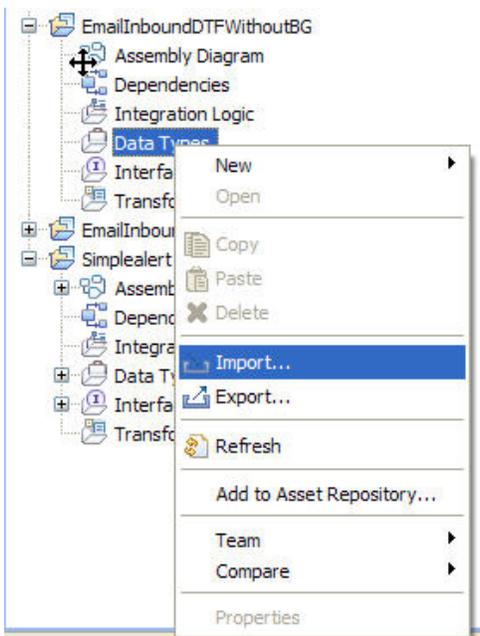
Here, WebSphere Adapter for Email can play a key role in picking up the e-mail from the specified folder and processing it to the end point. The adapter picks up the emails that are ready to be processed from the mailbox and converts them into the business object and forwards it to the export component from where it reaches the consumer service.

## Configuring the adapter for inbound processing

Run the external service wizard to specify business objects, services, and configuration to be used in this tutorial.

### Creating the project

1. Switch to the Business Integration perspective in WebSphere Integration Developer by clicking Window -> Open Perspective Business Integration.
2. Create a new module by clicking File -> New -> Module.
3. Enter the Module name as **EmailInboundDTFWithoutBG** and click **Finish**.
4. Import the XSDs into the module created. Right-click the DataTypes under the module **EmailInboundDTFWithoutBG** and select Import.



*Figure: Import the datatypes into the module*

5. Select FileSystem from the General category and click Next.

6. Browse and choose the sample business object Wbiaddress.xsd and Wbiphone.xsd in this case from the xsd folder.

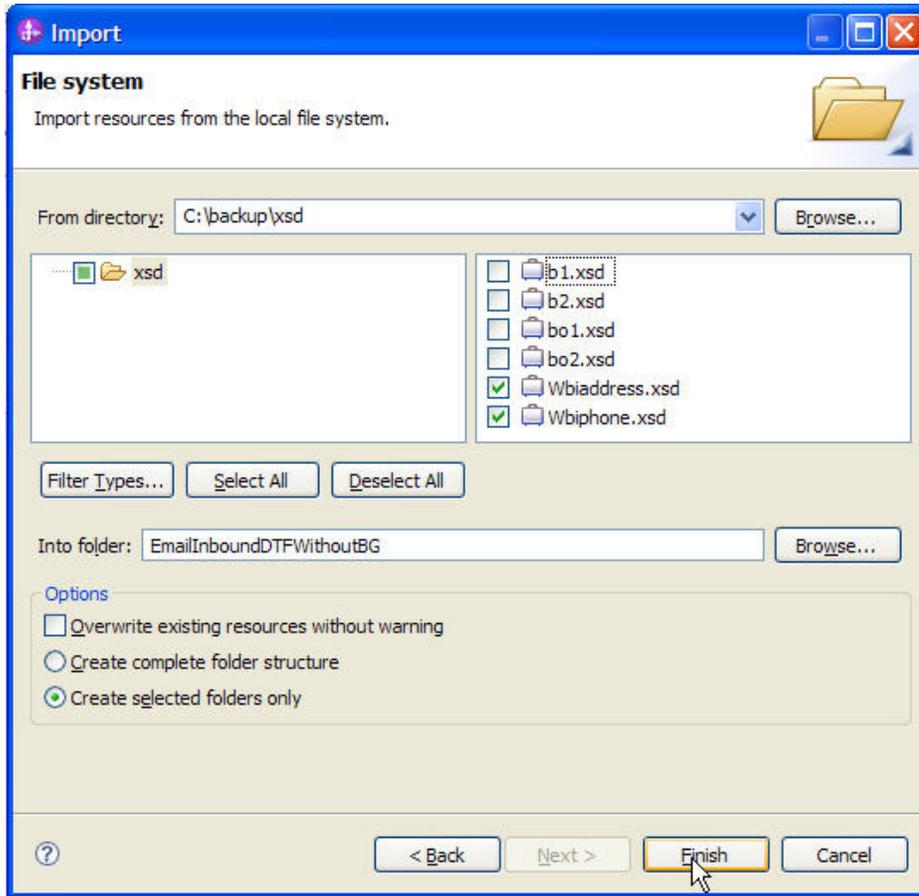


Figure: Import the XSDs

7. The Wbiaddress.xsd and Wbiphone.xsd can be seen under the data types.

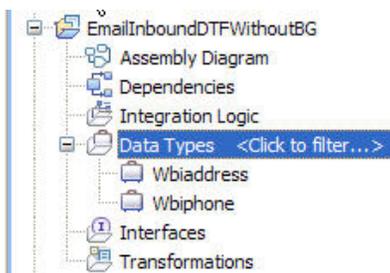


Figure: Expand Data Types.

8. Start the external service wizard by clicking **File-> New -> External Service**
9. Expand Adapters and click the plus sign to expand and select **E-mail**. Select **Advanced: Create an e-mail service using the complete wizard** and click **Next**.

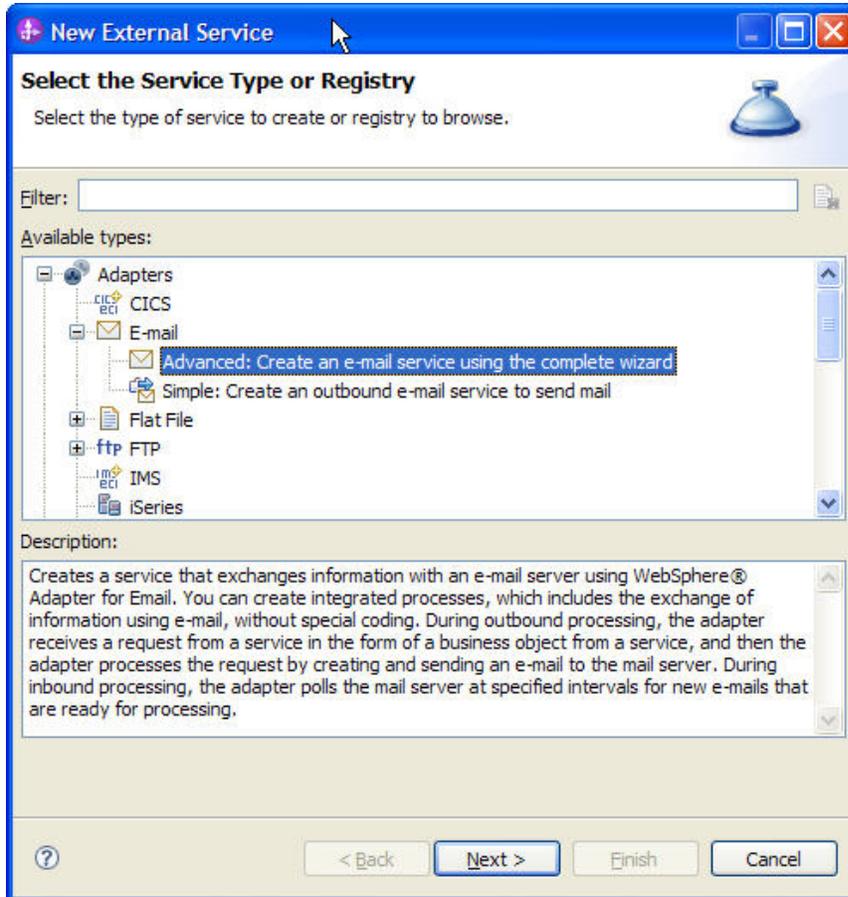
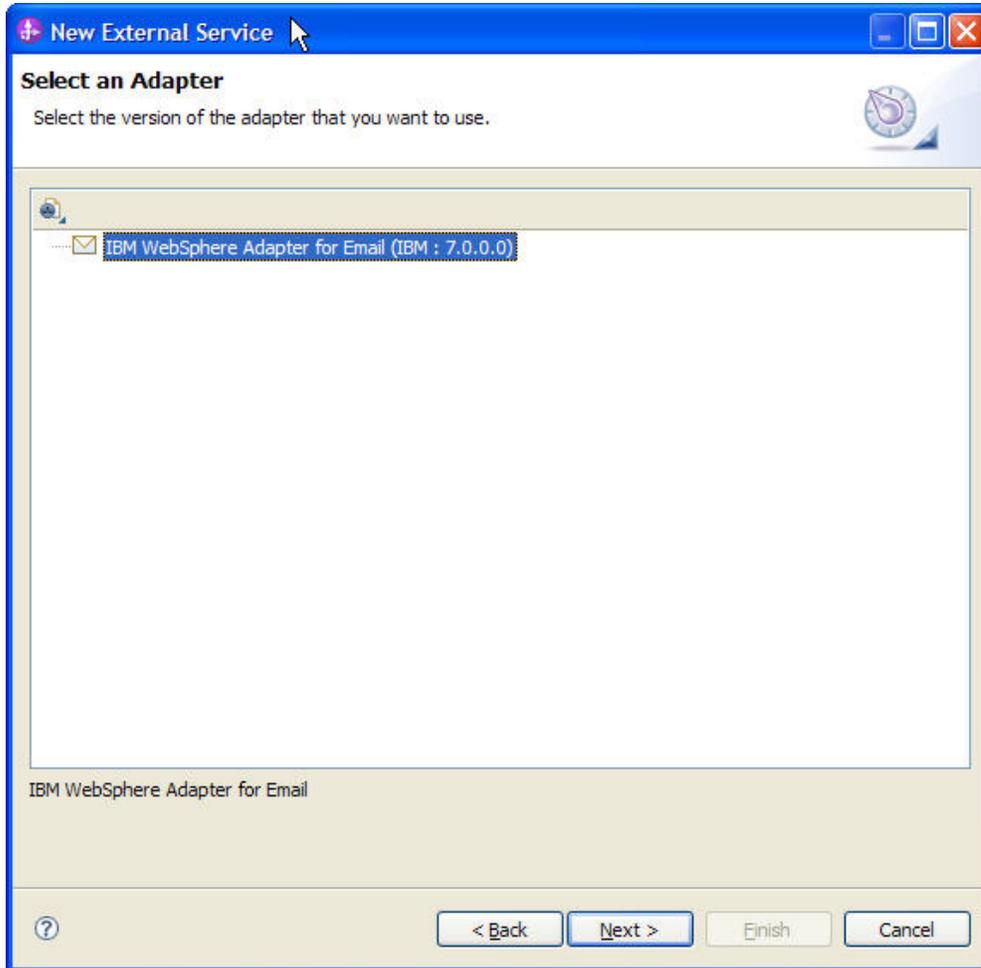


Figure: Select the service type

10. In the Select an Adapter window, you can either create a new project or select an existing project.

To create a new project, perform the following steps:

a) Select **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)** as shown in the following figure.



*Figure: Select IBM WebSphere Adapter for Email*

b) Click **Next**.

c) In the Adapter Import window, either accept the default name for the project (**CWYEM\_EMail**) or provide another name in the **Connector project** field.

11. Select the server from the **Target runtime** list (for example, **WebSphere Process Server v7.0.0.0**), and click **Next**.

To select an existing project, perform the following steps:

- a) Expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0.0)**.
  - b) Select a project. For example, if you have an existing project named **CWYEM\_EMail**, you can expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0.0) CWYEM\_EMail**, then select the connection information.
  - c) Click **Next**.
12. Select the processing direction as **Inbound** and click **Next**.

### Setting connection properties for the external service wizard

1. To connect to Email server the following information is necessary: hostname, username, password, port, protocol, location of the staging directory, and optionally location of the Archive folder and Failed Events Folder. Provide this information in the wizard.

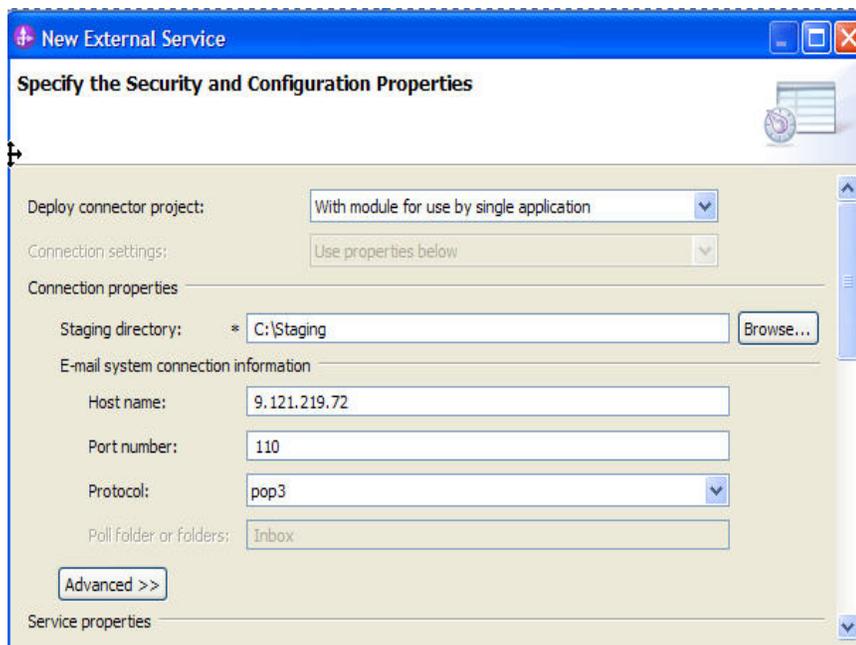


Figure: Enter the connection information

2. In **Service properties**, select **Using security properties from the activation specification** and provide the necessary credentials.
3. Select the **Specify a data format for each operation** from the **Data format options** list.

Service properties

How do you want to specify the security credentials?

Using an existing JAAS alias (recommended)

Java Authentication and Authorization Services (JAAS) alias is the recommended way for specifying security credentials.

J2C authentication data entry:

Using security properties from the activation specification

The security properties will not be encrypted and will be stored as plain text.

User name:

Password:

Other

Other security mechanisms native to the enterprise system, or if security is not required by the enterprise system.

Function selector options:

Function selector:

Data format options:

Data format:

Figure: Specify the service properties

4. Click **Next**.

### Generating business object definitions and related artifacts

Follow these steps to generate the business object definitions.

1. In the **Operation** window, click **Add**.
2. Select the data type as **Generic e-mail business object** and click **Next**.

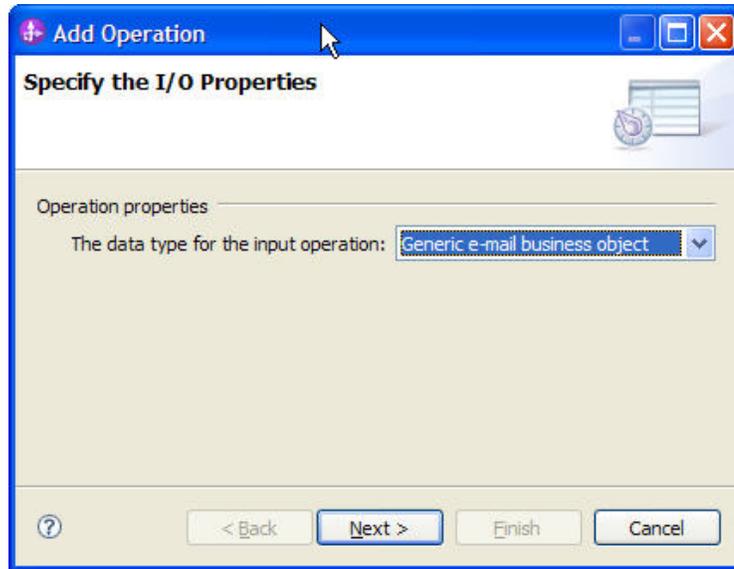


Figure: Select the operation

3. Click **Select** to create a new **Data format** type.

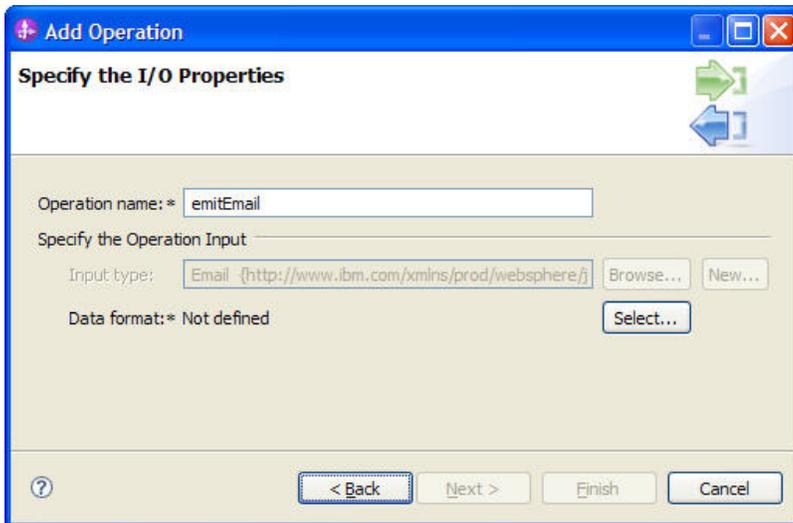
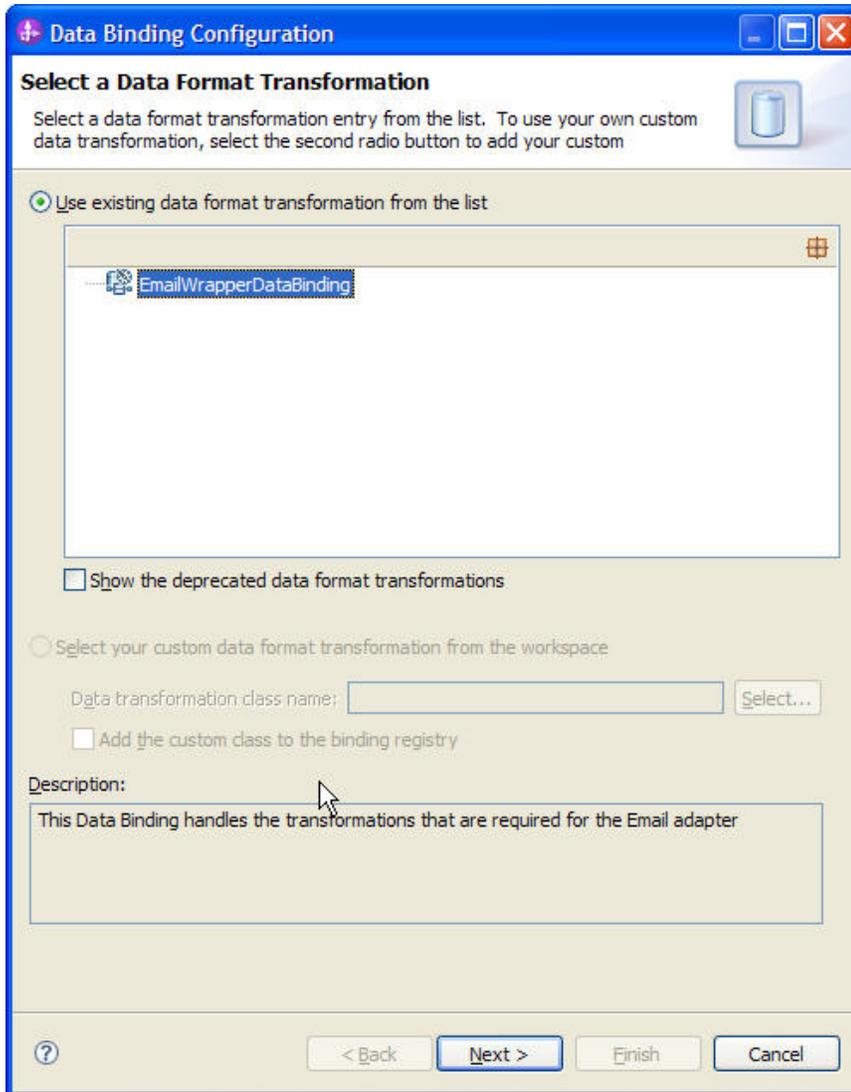


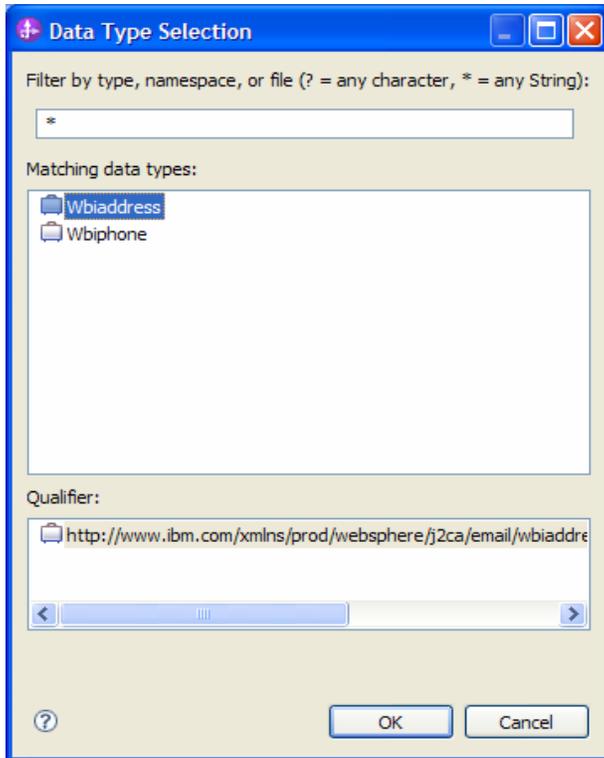
Figure: Create a new data format type

4. Select **EmailWrapperDataBinding** and click **Next**.



*Figure: Select an existing data format transformation*

5. Click **Add** and then click on browse to select the **Business object type**.
6. Browse and select the business object type as **Wbiaddress**.



*Figure: Select the business object type*

7. Click **OK**.

8. In the Add/Edit properties, select the Mime type as **text/xml**.

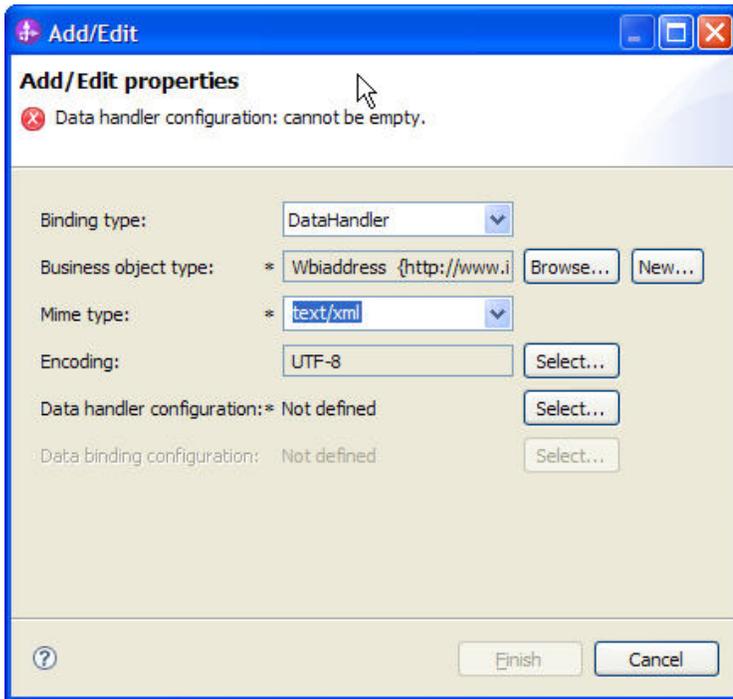


Figure: Select the mime type

9. In the **Data handler Configuration**, select **Use existing data format transformation from the list** to configure the XML datahandler.

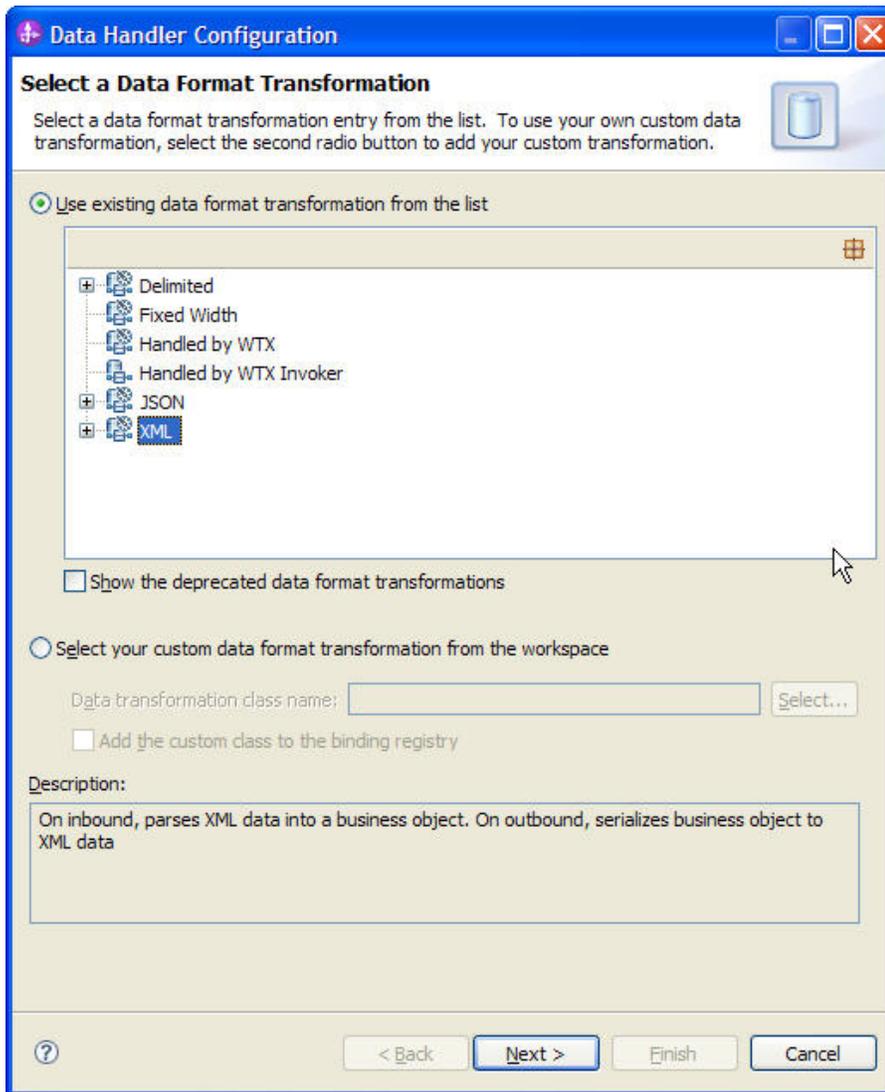
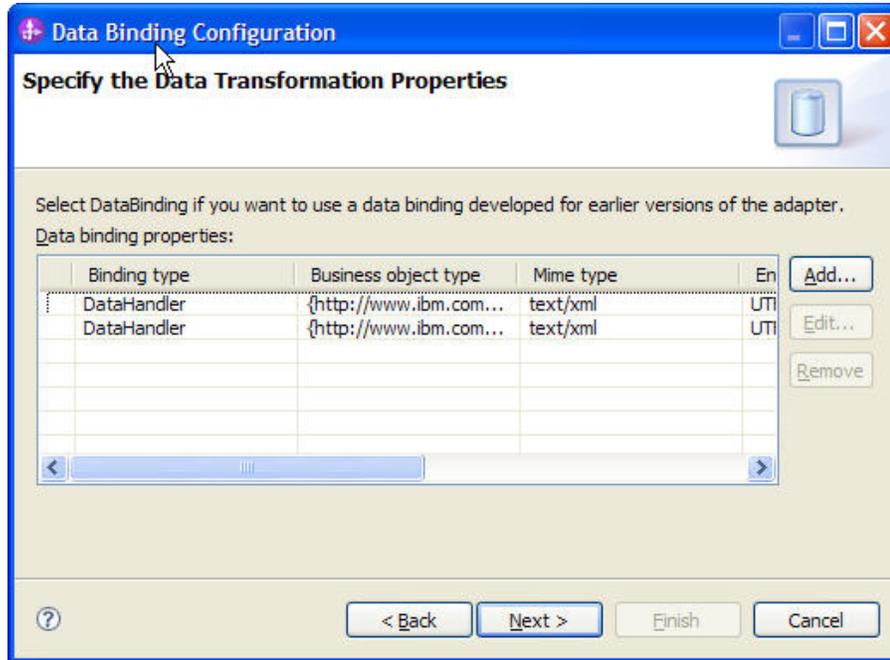


Figure: Select the XML data handler

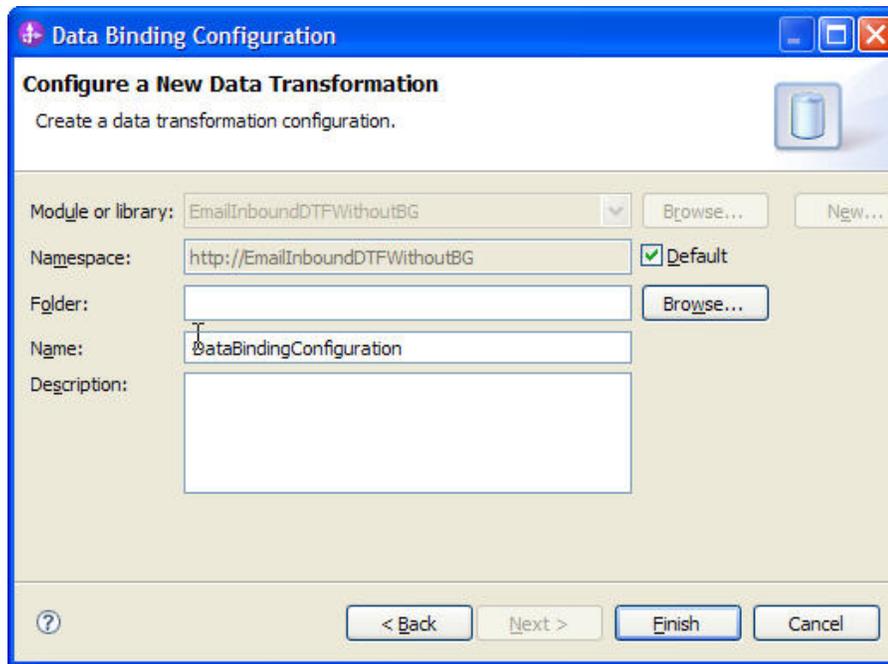
10. Select **XML** and Click **Next**.
11. Click **Next** again and then click **Finish**.
12. Repeat steps five to nine to select **Wbiphone**.

13. Click **Next**.



*Figure: Specify the data binding properties*

14. Click **Browse** to select the module for which the external service has been run and click **Finish**.



*Figure: Select the module*

15. Click **Next**, and then click **Finish**. This completes setting up of the external service.
16. Verify the results.

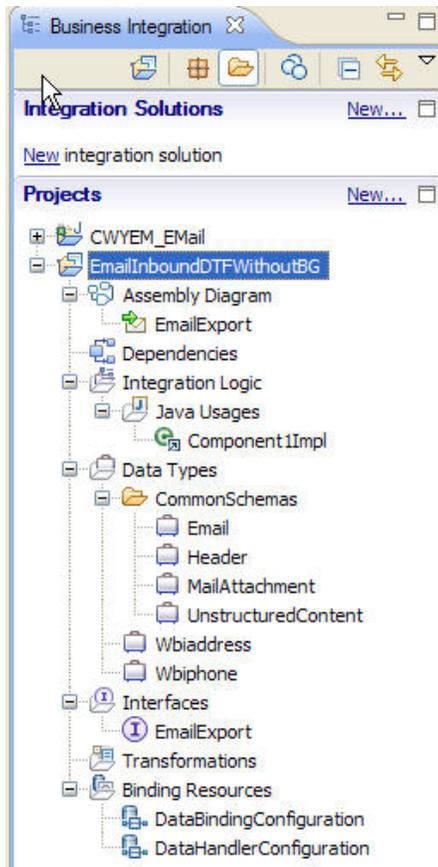


Figure: Expand the created module

17. Open the Assembly diagram for the module. Click Java Component from the palette, drag and drop the same into the assembly diagram.

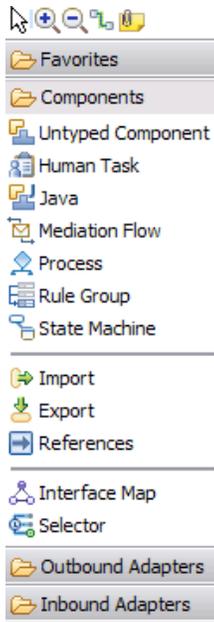


Figure: Open the assembly diagram for the module

18. Rename the Java Component as **EndPoint** and wire the export to the Java Component.

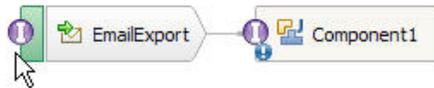


Figure: Rename the Java component

19. Right-click the Java Component (Endpoint) created earlier and click **Generate Implementation**.

20. Choose **Default package**. A java class file implementation is generated for the same.

```
import commonj.sdo.DataObject;

public class EndPointImpl {
    /**
     * Default constructor.
     */
    public EndPointImpl() {
        super();
    }

    /**
     * Return a reference to the component service instance for this implementation
     * class. This method should be used when passing this service to a partner reference
     * or if you want to invoke this component service asynchronously.
     *
     * @generated (com.ibm.wbit.java)
     */
    @SuppressWarnings("unused")
    private Object getMyService() {
        return (Object) ServiceManager.INSTANCE.locateService("self");
    }
}
```

*Figure: Review the Java class file implementation*

---

## Deploying the module to the test environment

The result of running the external service wizard is an SCA module that contains an Enterprise Integration System (EIS) import or export. Install this SCA module in WebSphere Integration Developer integration test client.

1. Add the module you created earlier to the server using the server panel in the WebSphere Integration Developer. Right-click the server, and then select **Add and Remove Projects**.

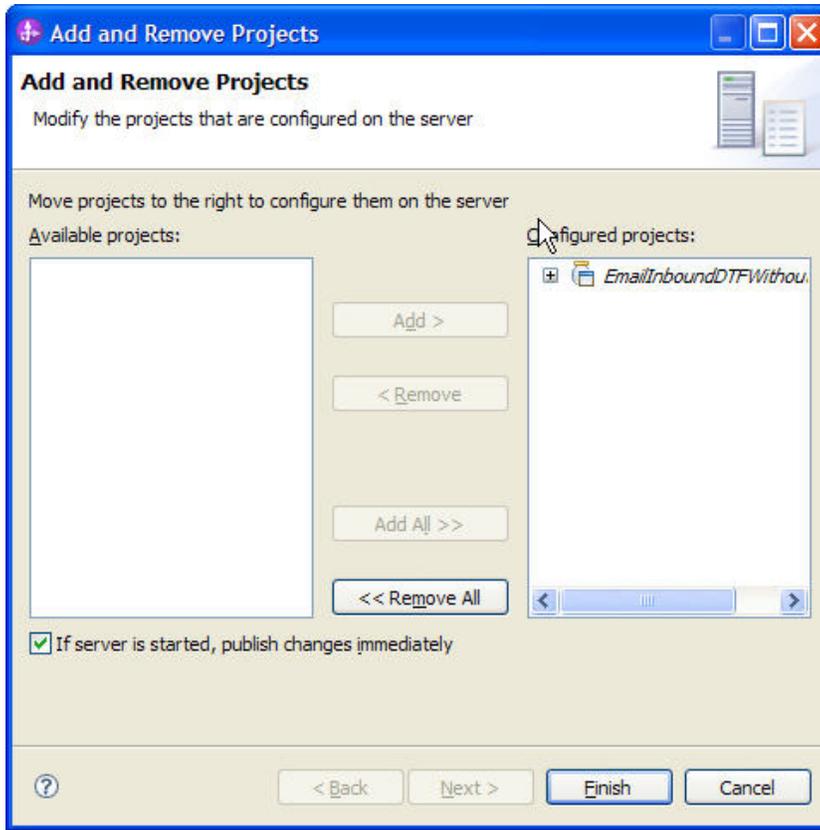


Figure: Add the module

2. Add the SCA module to the server.
3. Click **Finish**.

---

## Testing the assembled adapter application

Test the assembled adapter application using the WebSphere Integration Developer integration test client.

1. Select any service you want, and click **Test > Test Attach**.
-

2. Click **Continue**  to run the service.
3. Go to <WID\_installation>\ResourceAdapters\ Email\_7.0.0.0\_IF01\Samples location. Unzip EmailEventCreator.tar or EmailEventCreator.zip file. The utilities are extracted under folder **EmailEventCreator**.
4. Create events using the createEvents\_sample\_nonpassthroughWithFileContent.bat file.

available under the **EmailEventCreator** folder that was extracted.

The example contents of the file are as shown below:

```
java -cp .;\mail.jar;\activation.jar EmailEventCreatorNew "9.121.219.72" 25 2 "tester@ibm"
ejca@ibm ejca@ibm ejca@ibm "test subject" "<WID_installation>\ResourceAdapters\
Email_7.0.0.0\Samples\EmailEventCreator\WbiAddress.xml"
"<WID_installation>\ResourceAdapters\
Email_7.0.0.0\Samples\EmailEventCreator\WbiPhone.xml" "false"
```

**Note:** Use the Files WbiAddress.xml and WbiPhone.xml in **EmailEventCreator** folder to test the scenario.

This will create two events from the user tester@ibm on the mail server with 9.121.219.72as the IP address, WbiAddress.xml as the content and WbiPhone.xml file as the mail attachment. The other attributes of the mail specified by the user will be incorporated on each mail event that is created. More information on creating the events and the EmailEventCreator is provided in the appendix section **Creating Events**.

The mail is processed by the Email Resource Adapter and the business object is received via the Endpoint java component as shown in the following figure. Observe that Mail Content and Mail Attachment are MyAddress.xml and MyPhone.xml data types.

Module: [EmailInboundDTFWithoutBG](#)  
 Source component: [EmailExport](#)  
 Source reference: <export >  
 Target component: [EndPoint](#)  
 Target interface: [EmailExport](#)  
 Target operation: [emitEmail](#)

Request parameters

Name	Type	Value
emitEmailInput	Email	✓
To	string	✓ emailjca@rajan
From	string	✓ tester@ibm
CC	string	✓ epop3@ibm
BCC	string	✗
Reply-To	string	✗
Subject	string	✓ test subject
Encoding	string	✗
Date	string	✓ Tue, 20 Nov 2007 17:01:49 +0530 (IST)
mailContent	Wbiaddress	✓
Addressid	integer	✓ 0
Addrline1	string	✓ EGL Business Park
Addrline2	string	✓ Kormangala
Customercity	string	✓ Bangalore

*Figure: Review the values for mail content and the mail attachment*

---

## Clearing the sample content

Return the data to its original state by removing the module created earlier from the WebSphere Process Server.

1. Right-click the server and select **Add and Remove Projects**.
2. Choose the module.
3. Click on **Remove**, and then click **Finish**.

Nothing is required to clean up after this tutorial.

---

---

## Chapter 4. **Tutorial 2: Email inbound pass-through with EmailBG**

This tutorial describes how to use WebSphere Adapter for Email with Business graphs to poll for emails. This scenario does not handle any data transformation. The content of each email is fetched into UnstructuredContent business object without performing data transformation. The content is filled into either AsText or AsBinary business objects accordingly.

---

### **Scenario**

This scenario plays a role in a situation where the organization may not be able to predict the content of email that they might need to process. For example, there may be a customer who may have the privilege of sending email in any format. The customer can lodge a complaint with just the description of the problem and not mention his customer number or his identity. It would be the responsibility of the organization and the customer to He may not be compelled or asked to send an email in a particular structure. In order to process such emails, the adapter for Email can be configured in such a way that it can process any kind of email, let the content be text or binary.

---

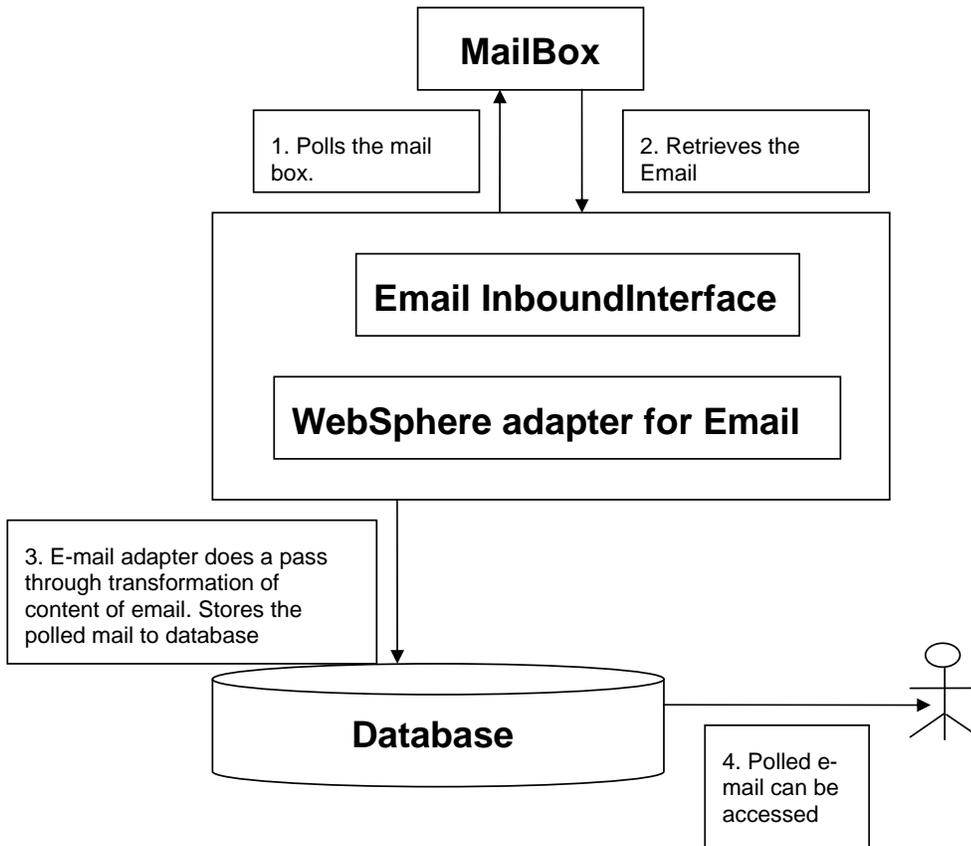


Figure: Email inbound pass-through with EmailBG

The adapter does a pass through transformation of the content of the e-mail, that is it does not perform any data transformation of the content. The content is directly converted to a business object and forwarded to the export component from where it is directed to the end point.

---

## Configuring the adapter for inbound processing

Run the external service wizard to specify business objects, services, and configuration to be used in this tutorial.

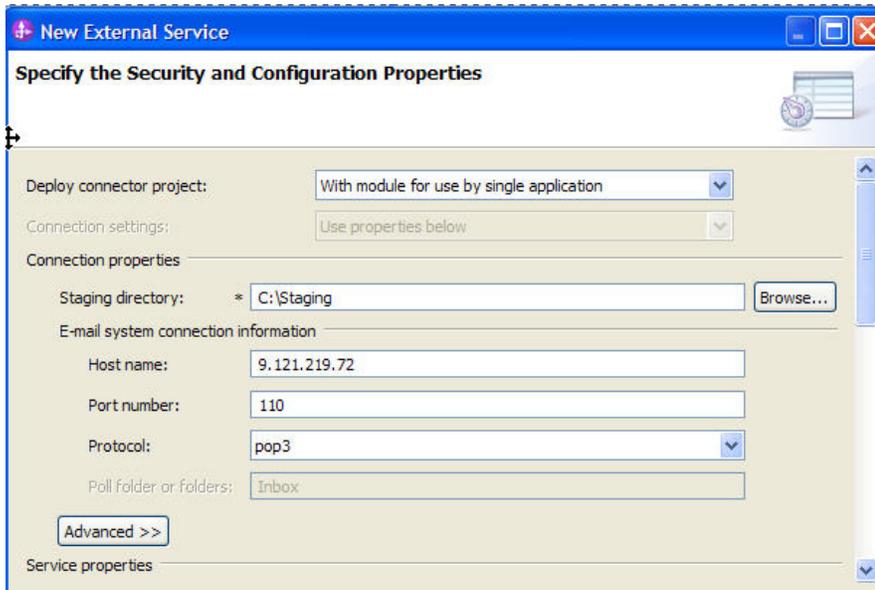
---

## Creating the project

1. Switch to the Business Integration perspective in WebSphere Integration Developer by clicking **Window -> Open Perspective Business Integration**.
2. Create a new module by clicking: **File -> New -> Module**.
3. Enter the module name as **EmailInboundPTWithBG** and click **Finish**.
4. Start the external service wizard by clicking: **File-> New -> External Service**.
5. Select **Adapters** and click **Next**.
6. In the Select an Adapter window, select you can either create a new project or select an existing project.
7. To create a new project, perform the following steps:
  - a) In the **Select and Adapter** window, select **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
  - b) Click **Next**.
  - c) In the **Adapter Import** window, either accept the default name for the project (**CWYEM\_EMail**) or provide another name in the **Connector project** field. Select the server from the **Target runtime** list (for example, **WebSphere Process Server v7.0.0.0**), then click **Next**.
8. To select an existing project, perform the following steps:
  - a) Expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
  - b) Select a project. For example, if you have an existing project named **CWYEM\_EMail**, you can expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0) CWYEM\_EMail**, then select the connection information.
  - c) Click **Next**.
9. Select the processing direction as **Inbound** and click **Next**.

## Setting connection properties for the external service wizard

1. To connect to Email server the following information is necessary: hostname, username, password, port and protocol, location of the staging directory and optionally location of the Archive folder and Failed Events Folder. Provide this information in the wizard.
-



*Figure: Enter the connection information*

2. In **Service Properties**, select **Using security properties from the activation specification** and provide the necessary credentials.
3. Select the **Specify a data format for each operation** from the **Data format options** list.

Service properties

How do you want to specify the security credentials?

Using an existing JAAS alias (recommended)

Java Authentication and Authorization Services (JAAS) alias is the recommended way for specifying security credentials.

J2C authentication data entry:

Using security properties from the activation specification

The security properties will not be encrypted and will be stored as plain text.

User name:

Password:

Other

Other security mechanisms native to the enterprise system, or if security is not required by the enterprise system.

Function selector options:

Function selector:

Data format options:

Data format:

Figure: Specify the service properties

4. Click **Next**.

### Generating business object definitions and related artifacts

Follow these steps to generate the business object definitions.

1. In the **Operations** window, click **Add**.
2. Select the data type as **Generic e-mail business object with business graph** and Click **Next**.

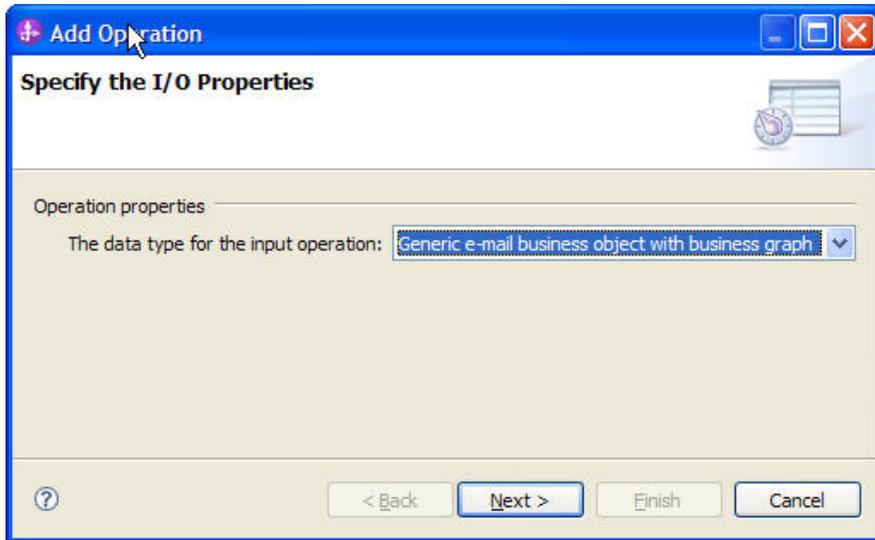


Figure: Select the data type

3. Click **Select** to create a new **Data format** type.

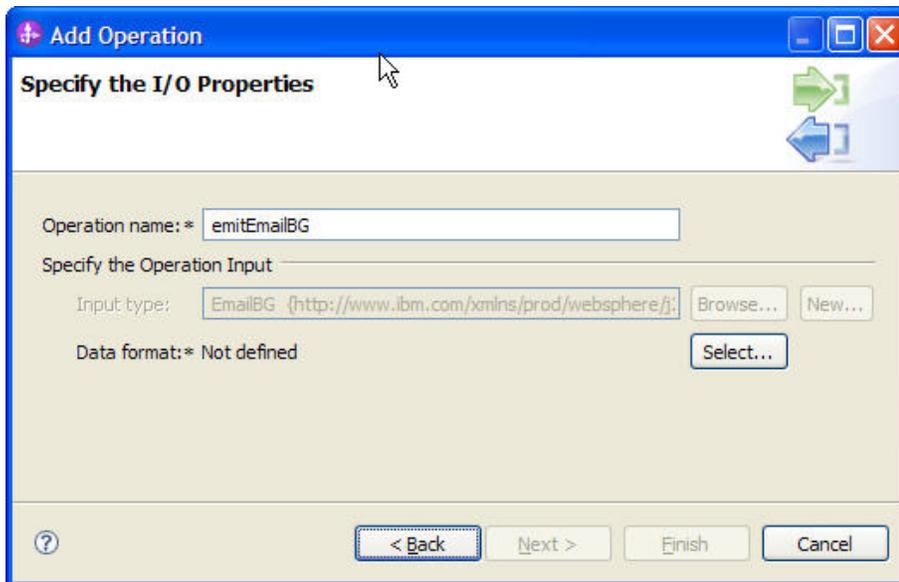
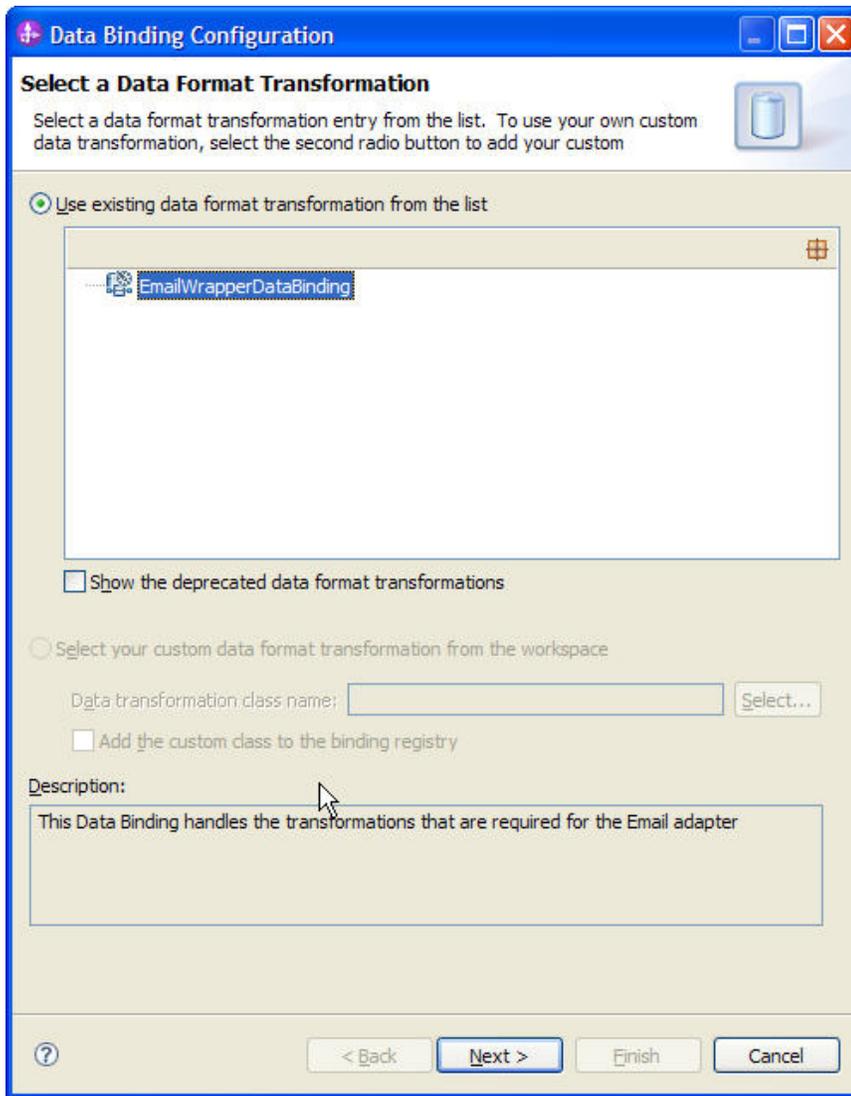


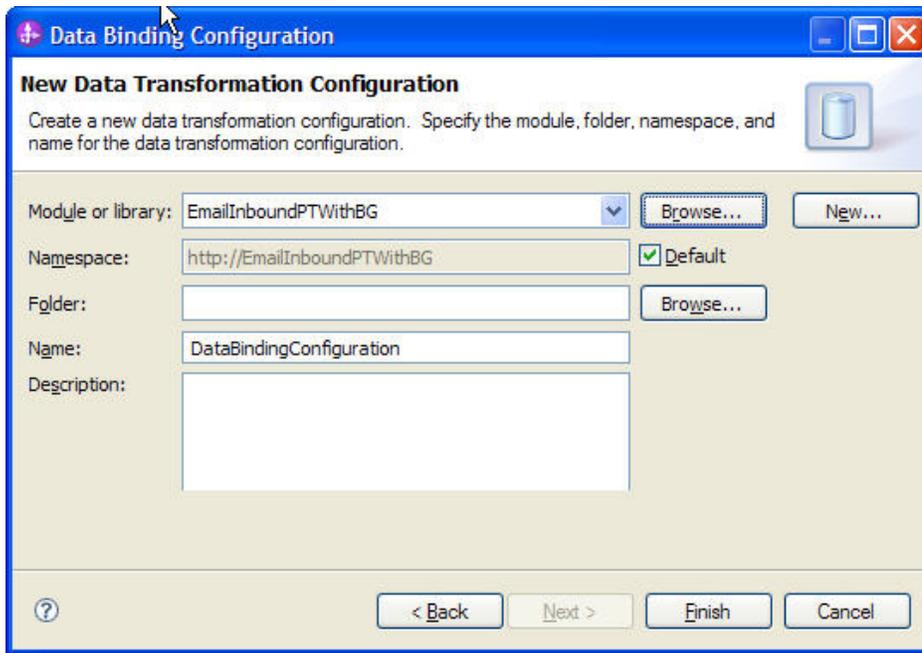
Figure: Create a new data format type

4. Select **EmailWrapperDataBinding** and click **Next**.



*Figure: Select an existing data format transformation*

5. Click **Next**.



*Figure: Select the module*

6. Click **Finish** twice.
7. Click **Next**, and click **Finish**.

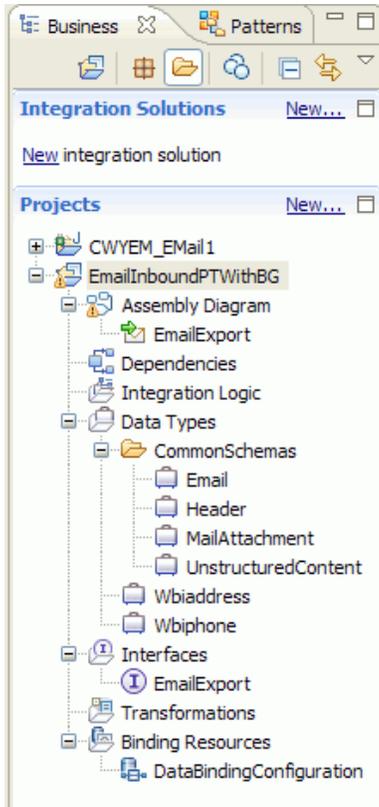


Figure: Expand the created module

8. Open the Assembly diagram for the module. Click **Java Component** from the palette. Drag and drop the same into the assembly diagram.

9. Name the Java Component as **EndPoint** and wire the export to the Java Component.

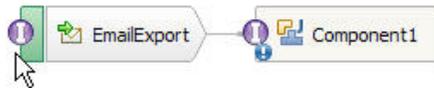


Figure: Rename the Java component

10. Right-click the Java Component (EndPoint) created earlier and click **Generate Implementation**. Choose **Default package**. A java class file implementation is generated for the same.

```
import common.sdo.DataObject;

public class EndPointImpl {
    /**
     * Default constructor.
     */
    public EndPointImpl() {
        super();
    }

    /**
     * Return a reference to the component service instance for this implementation
     * class. This method should be used when passing this service to a partner referenc
     * or if you want to invoke this component service asynchronously.
     *
     * @generated (com.ibm.wbiit.java)
     */
    @SuppressWarnings("unused")
    private Object getMyService() {
        return (Object) ServiceManager.INSTANCE.locateService("self");
    }
}
```

Figure: Review the Java class file implementation

---

## Deploying the module to the test environment

The result of running the external service wizard is an SCA module that contains an EIS import or export. Install this SCA module in WebSphere Integration Developer integration test client.

1. Add the module you created earlier to the server using the server panel in WebSphere Integration Developer. Right-click the server, and select **Add and Remove Projects**.
2. Add the SCA module to the server.
3. Click **Finish**.

---

## Testing the assembled adapter application

1. Test the assembled adapter application using the WebSphere Integration Developer integration test client.
  2. Select the service you want, and click **Test --> Test Attach**.
-

3. Click **Continue**  to run the service.
4. Go to the <WID\_installation>\ResourceAdapters\Email\_7.0.0.0\Samples location. Unzip EmailEventCreator.tar or EmailEventCreator.zip. The utilities are extracted under folder **EmailEventCreator**.
5. Create **Events** using the createEvents\_sample\_passthrough.bat file.

The sample contents of the file are as shown here:

```
java -cp .;\mail.jar;\activation.jar EmailEventCreator "9.121.219.72" 25 2 "tester@ibm"
emailjca@ibm emailpop3@ibm emailpop3@ibm "test subject" "Sample Content"
"<WID_installation>\ResourceAdapters\
Email_7.0.0.0\Samples\EmailEventCreator\WbiAddress.xml" "true"
```

**Note:** Use the files WbiAddress.xml and WbiPhone.xml which are there under EmailEventCreator folder test the scenario.

This will create two events from the user tester@ibm on the mail server with 9.121.219.72 as IP address with the content as “Sample Content” and with the mail attachment as MyAddress.xml. The other attributes of the mail specified by the user will be incorporated on each mail event that is created. More information on creating the events and the EmailEventCreator is provided in the appendix section, **Creating Events**.

---

The mail is processed by the Email Resource adapter and the business object is received via the EndPoint java component as shown in the following figure.

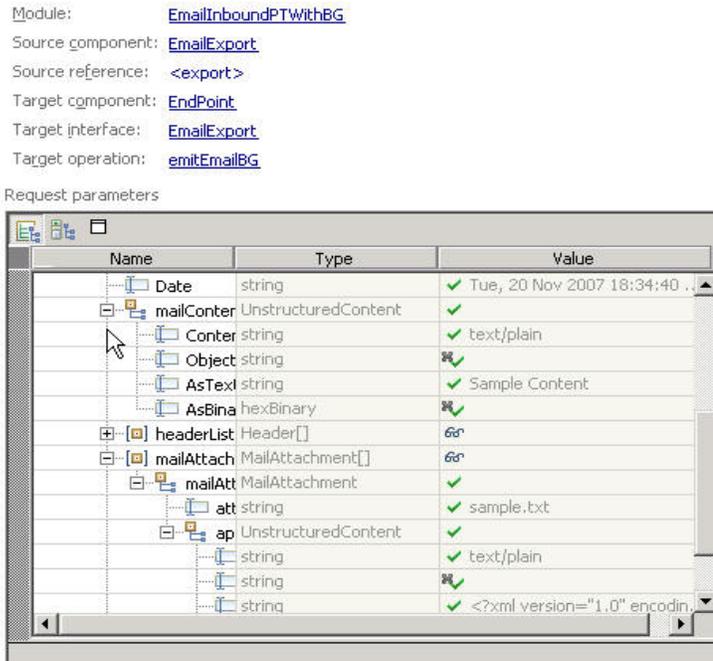


Figure: Review the values for mail content and the mail attachment

## Clearing the sample content

Return the data to its original state by removing the module created earlier from the WebSphere Process Server.

1. Right-click the server, and then select **Add and Remove Projects**.
2. Choose the module.
3. Click **Remove** and then click **Finish**.

Nothing is required to clean up after this tutorial.

---

## Chapter 5. Tutorial 3: Email outbound with DTF without EmailBG

This tutorial demonstrates how to use WebSphere Adapter for Email without using Business graphs in data transformation mode for sending emails. In data transformation mode, the adapter transforms configured business objects into structured contents (Email body or attachments) using data handlers (For example, XML Data handler).

**Note:** With version 7.0.0.0 Email Adapter, Business Graphs are not mandatory.

---

### Scenario

The following tutorial explains the configuration of Email adapter to send emails with a particular format to the recipients.

Consider an educational institution where the management wants to send out a monthly report to all the parents over e-mail. The report would be in a standard format. In this situation, the adapter can be used to send the email to all the parents.

---

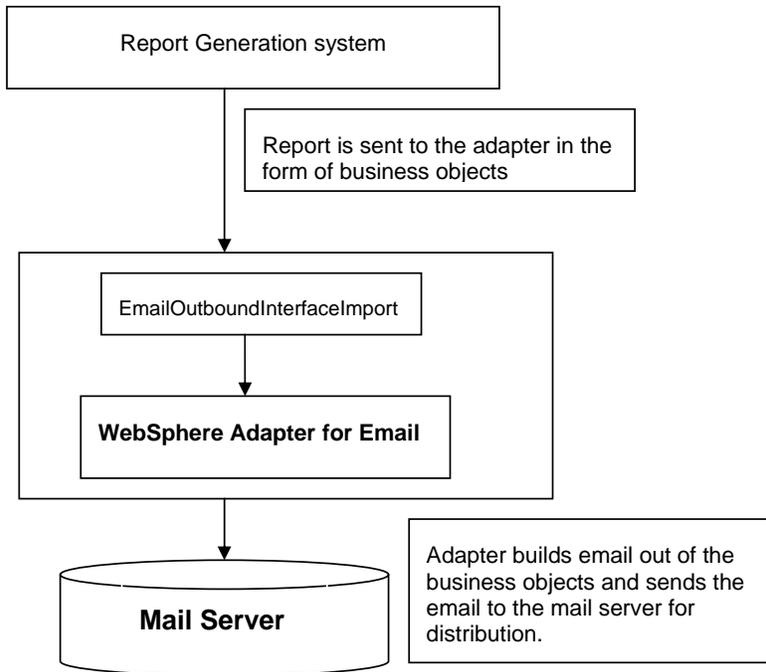


Figure: Email outbound with DTF without EmailBG

The report reaches the adapter in the form of a business object, out of which the adapter builds an e-mail message. This e-mail is then forwarded to the mail server for distribution.

---

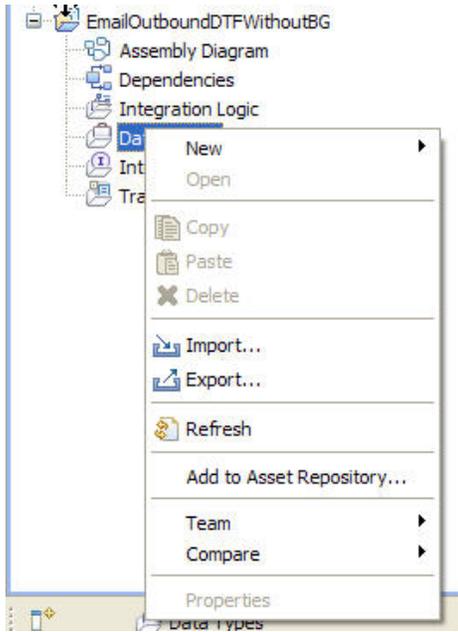
## Configuring the adapter for outbound processing

Run the external service wizard to specify business objects, services, and configuration to be used in this tutorial.

### Creating the project

1. Switch to the Business Integration perspective in WebSphere Integration Developer by clicking **Window -> Open Perspective Business Integration**.
2. Create a new module by clicking: **File -> New -> Module**.

3. Enter the Module name as **EmailOutboundDTFWithoutBG** and click **Finish**.
4. Import the XSDs into the module created. Right click the DataTypes under the module **EmailOutboundDTFWithoutBG** and select **Import**.



*Figure: Import DataTypes*

5. Select **FileSystem** from the General category and click **Next**.

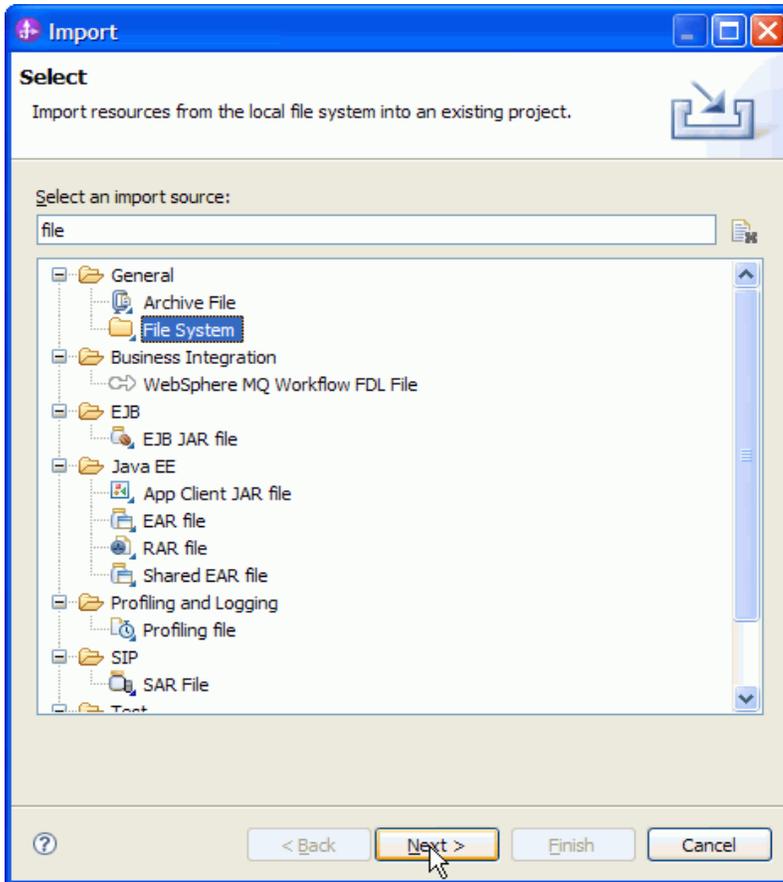


Figure: Select File System

6. Browse and choose the sample business object Wbiaddress.xsd and Wbiphone.xsd in this case from the xsd folder.

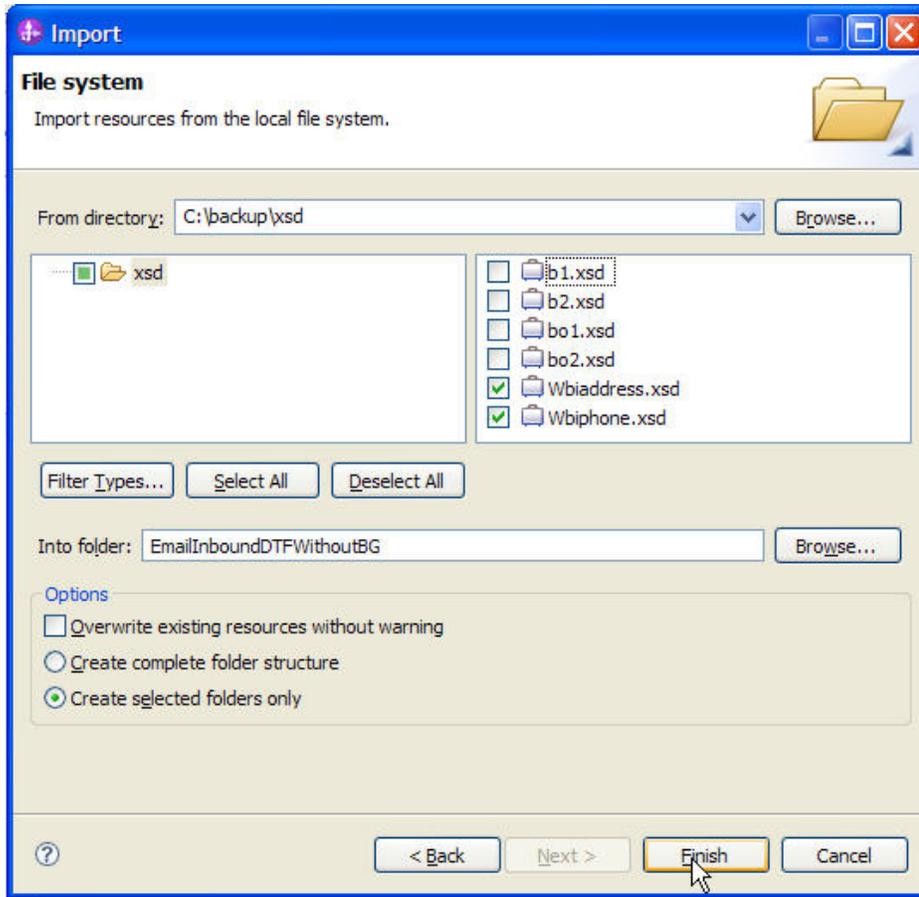


Figure: Import the data types

7. The Wbiaddress.xsd and Wbiphone.xsd can be seen under the data types.

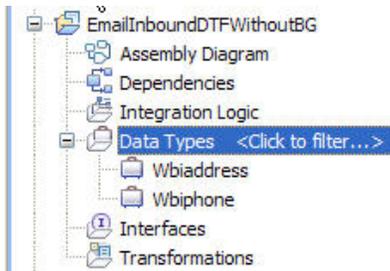


Figure: Expand Data Types

8. Start the external service wizard by clicking **File-> New -> External Service**
9. Expand **Adapters**, and click the plus sign(+) to expand **E-mail**. Select **Advanced: Create an e-mail service using the complete wizard** and click **Next**.

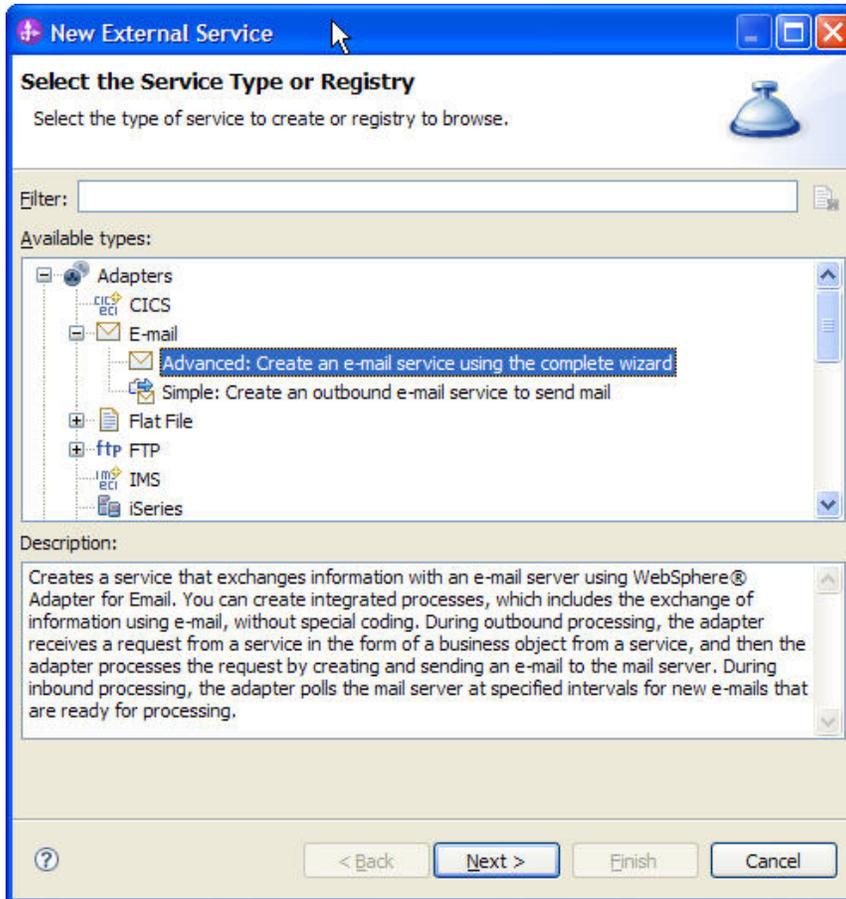


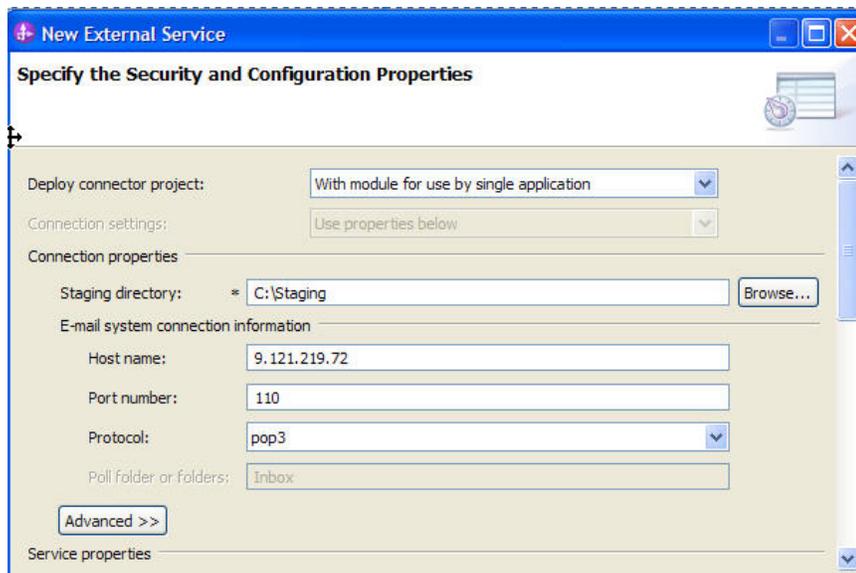
Figure: Select the Service Type

10. Start the external service wizard by clicking: **File-> New -> External Service**. Expand **Adapters** and select **E-mail**, and click **Next**.
11. In the Select an Adapter window, you can either create a new project or select an existing project.  
To create a new project, perform the following steps:

- a) In the Select an Adapter window, select **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
  - b) Click **Next**.
  - c) In the **Adapter Import** window, either accept the default name for the project (**CWYEM\_EMail**) or provide another name in the **Connector project** field. Select the server from the **Target runtime** list (for example, **WebSphere Process Server v7.0.0.0**), and then click **Next**.
12. To select an existing project, perform the following steps:
- a) Expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
  - b) Select a project. For example, if you have an existing project named **CWYEM\_EMail**, you can expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0) CWYEM\_EMail**, then select the connection information.
  - c) Click **Next**.
13. Select the processing direction as **Outbound** and click **Next**.

### Setting connection properties for the external service wizard

1. To connect to Email server the following information is necessary hostname, username, password, port and protocol. Provide this information in the wizard.



The screenshot shows the 'New External Service' wizard window, specifically the 'Specify the Security and Configuration Properties' step. The window has a blue title bar and a light beige background. The 'Deploy connector project' dropdown is set to 'With module for use by single application'. The 'Connection settings' dropdown is set to 'Use properties below'. Under 'Connection properties', the 'Staging directory' is 'C:\Staging' with a 'Browse...' button. The 'E-mail system connection information' section includes: 'Host name' (9.121.219.72), 'Port number' (110), 'Protocol' (pop3), and 'Poll folder or folders' (Inbox). There is an 'Advanced >>' button at the bottom left and a 'Service properties' section at the bottom right.

*Figure: Enter the connection information*

2. In **Service Properties**, select **Using security properties from the activation specification** and provide the necessary credentials.
3. Select the **Specify a data format for each operation** from the **Data format** options list.

Service properties

How do you want to specify the security credentials?

Using an existing JAAS alias (recommended)

Java Authentication and Authorization Services (JAAS) alias is the recommended way for specifying security credentials.

J2C authentication data entry:

Using security properties from the managed connection factory

The security properties will not be encrypted and will be stored as plain text.

User name:

Password:

Other

Other security mechanisms native to the enterprise system, or if security is not required by the enterprise system.

Data format options:

Data format: Not defined

Change logging properties for wizard

*Figure: Specify the service properties*

4. Click **Next**.

### Generating business object definitions and related artifacts

Follow these steps to generate the business object definitions.

1. In the **Operations** window, click **Add**.
2. Select the data type as **Generic e-mail business object** and click **Next**.

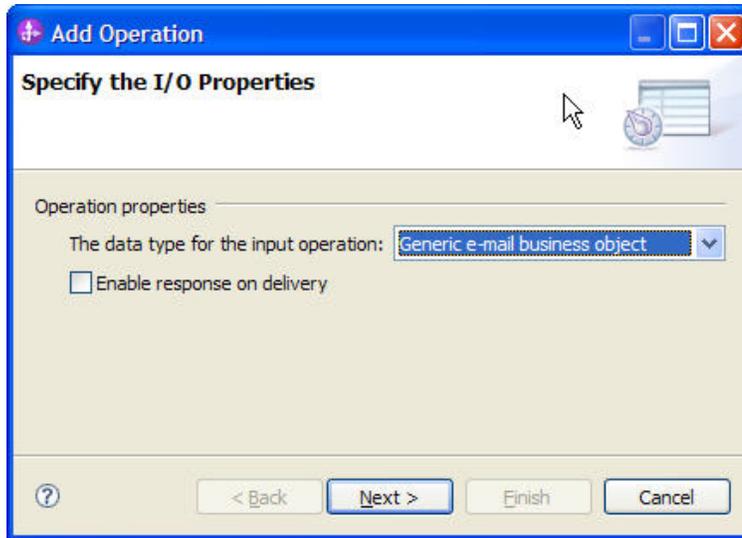


Figure: Select the data type

3. Click **Select**, to create the **Data format** type.

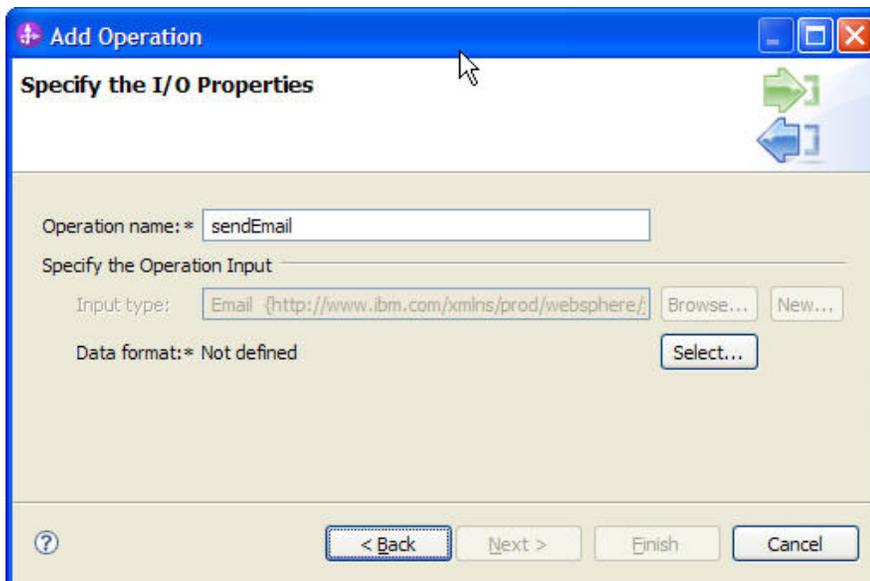
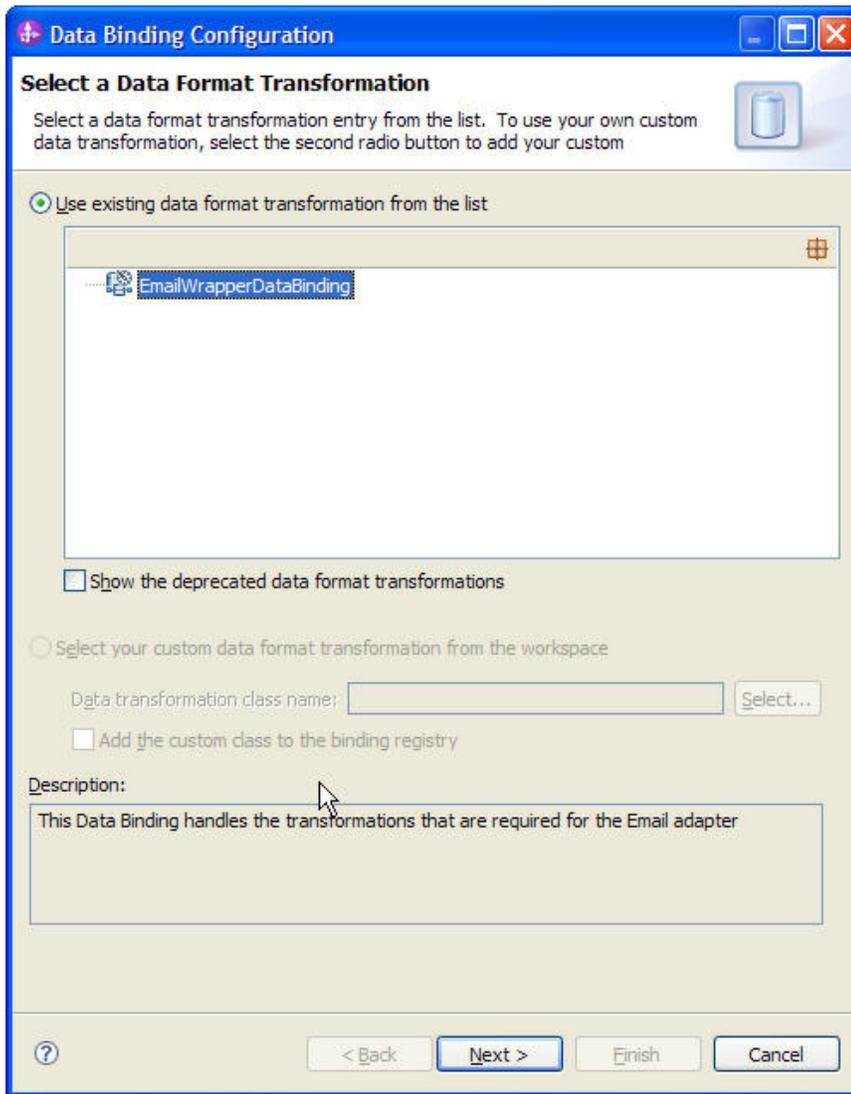


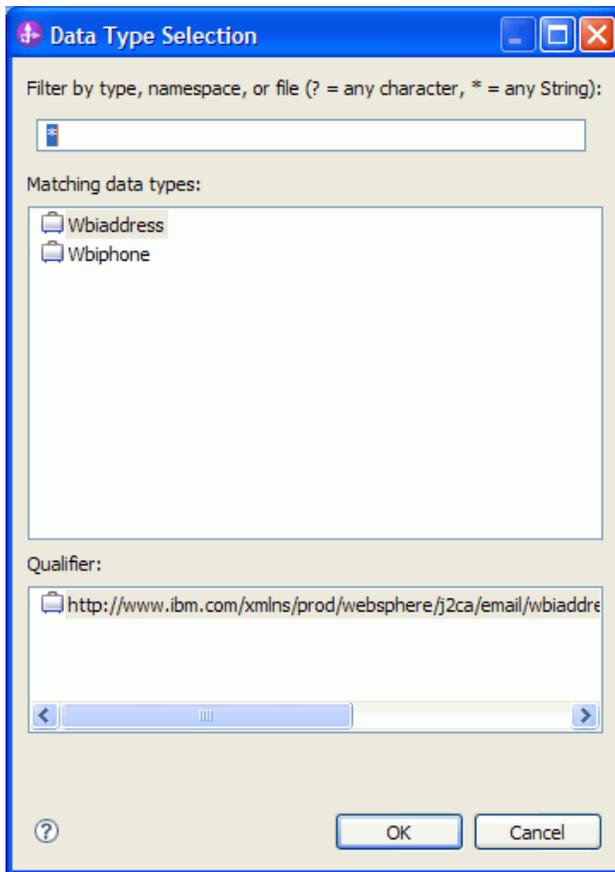
Figure: Create a new data format type

4. In the **Data Binding Configuration** window, select **EmailWrapperDataBinding** and click **Next**.



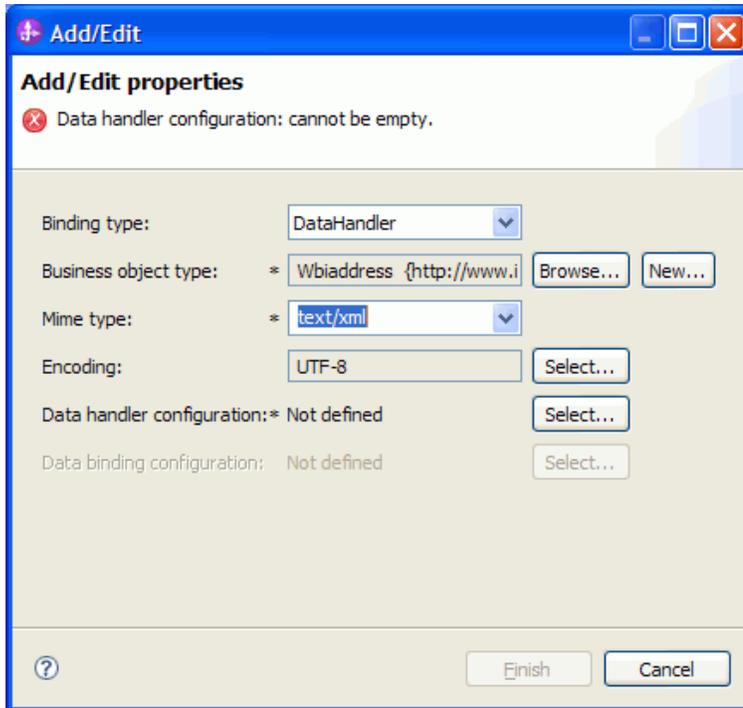
*Figure: Select an existing data format transformation*

5. In the **Data Transformation Properties** window, Click **Add**.
6. Browse and select the **Business object type** as **Wbiaddress** and click **OK**.



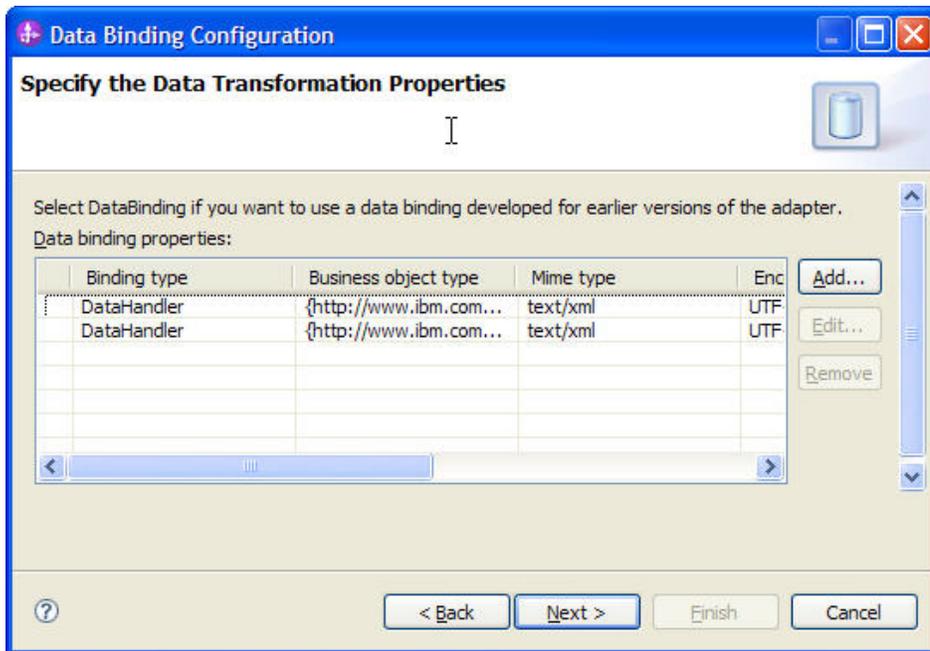
*Figure: Select the business object type*

7. Enter the **Mime type** as **text/xml**.
8. In the **Data Handler Configuration**, click **Select** to configure the XML datahandler.



*Figure: Select the mime type*

9. In the New Data Handler Configuration window, select **XML** and click **Next**.
  10. Click **Next**.
  11. Select **Encoding** as **UTF-8** and click **Next**.
  12. Click **Finish**.
  13. In the **Data Binding Properties** window, click **Add** to add the Business Object Type.
  14. Browse and select the **Business object type** as **Wbiphone**.
  15. Choose the **Mime type** as **text/xml**.
  16. Browse and select the xml datahandler created in the previous step.
  17. Click **Finish**.
  18. In the Data Binding Properties window, click **Finish**.
-



*Figure: Specify the data binding properties*

19. Click **Finish**.

20. Click **Next** and then click **Finish** to complete the external service wizard and verify the result.

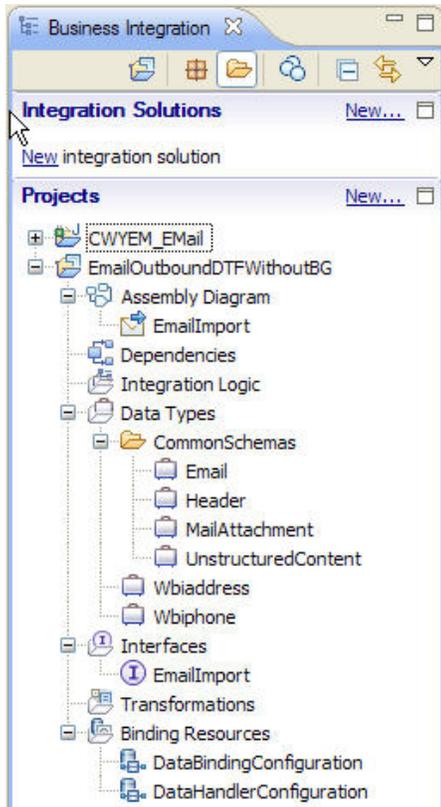


Figure: Expand the created module

---

## Deploying the module to the test environment

The result of running the external service wizard is an SCA module that contains an EIS import or export. Install this SCA module in WebSphere Integration Developer integration test client.

1. Add the module you created earlier to the server using the server panel in WebSphere Integration Developer. Right-click the server and select **Add and Remove Projects**.
  2. Add the SCA module to the server.
-

3. Click **Finish**.

## Testing the assembled adapter application

Test the assembled adapter application using the WebSphere Integration Developer integration test client.

1. Select the service you want, and click **Test > Test Module**.
2. Populate the values for the To, From, Subject, and the mail content as Wbiaddress type and mail attachment as Wbiphone type. Populate the values as required
3. Click **Continue**  to execute the service.

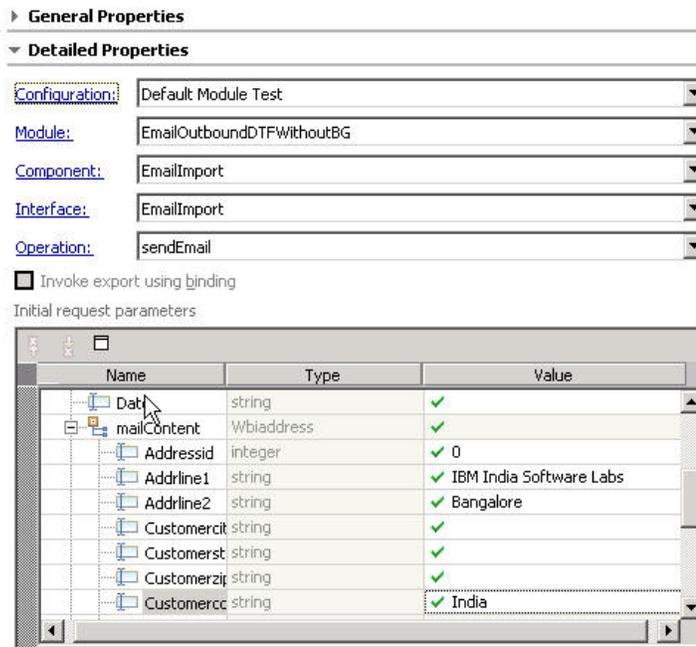


Figure: Review the values for mail content

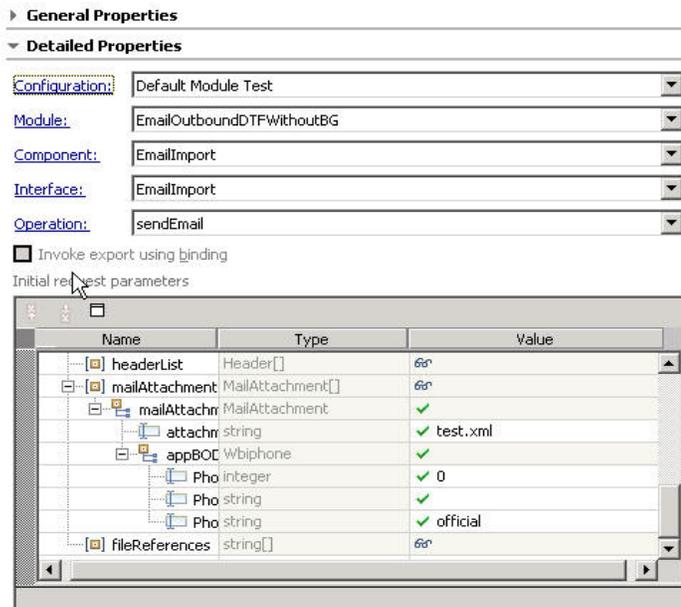


Figure: Review the values for mail attachment

4. Check the output of the service, and check the data in the EIS to ensure it matches expected values.

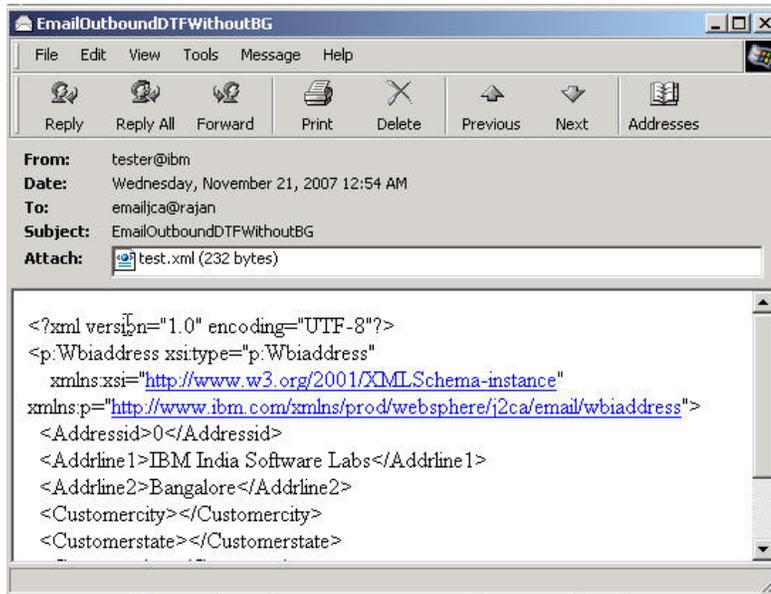


Figure: Check the output of the service

5. The sample output from the test module is as shown here.

```
<?xml version="1.0" encoding="UTF-8" ?>
- <p:Wbiphone xsi:type="p:Wbiphone" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:p="http://www.ibm.com/xmlns/prod/websphere/j2ca/email/wbiphone">
  <Phoneid>0</Phoneid>
  <Phonenumber />
  <Phonetype>official</Phonetype>
</p:Wbiphone>
```

*Figure: Review the sample output*

---

## Clearing the sample content

Return the data to its original state.

Remove the module created earlier from the WebSphere Process Server.

1. Right-click the server, and then select **Add and Remove Projects**.
2. Choose the module.
3. Click on **Remove** and then click **Finish**.

Nothing is required to clean up after this tutorial.

---

---

## Chapter 6. **Tutorial 4: Email outbound pass-through with EmailBG**

This tutorial demonstrates how to use WebSphere Adapter for Email with business graphs to send emails. This scenario does not handle any data transformation. The content of UnstructuredContent business object is transformed into corresponding email contents and attachments without performing the data transformation.

---

### **Scenario**

The following tutorial explains the configuration of Email adapter to send emails to any number of recipients with the mail content in any structure such as text or binary (such as rich text, PDF, or images).

Consider an organization that provides tourism packages. For such an organization, it becomes a necessity to broadcast emails to its members with the new packages that they are providing. In this scenario, most of the times the person receiving the email would be very much interested in having a glance at the pictures of the places.

Sending an email with binary content (say images, PDF etc) becomes inevitable in such situations. It is in this scenario that the current configuration of Email adapter plays a role.

The mail content can be composed with binary content or text format and sent for a broadcast for a large group of members.

---

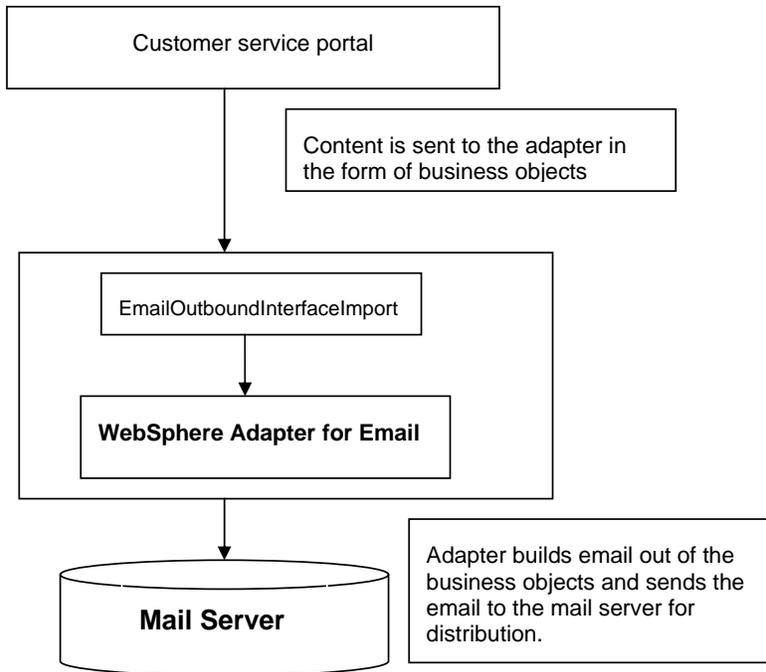


Figure: Email outbound pass-through with EmailBG

When a request is received by the adapter, the adapter takes the information stored in the business object and creates an e-mail. This e-mail is then forwarded to the mail server for distribution. The adapter does not perform any transformation on the content of the e-mail since it is selected to go with a pass through kind of outbound processing.

---

## Configuring the adapter for outbound processing

Run the external service wizard to specify business objects, services, and configuration to be used in this tutorial.

### Creating the project

1. Switch to the Business Integration perspective in WebSphere Integration Developer by clicking **Window -> Open Perspective Business Integration**.
  2. Create a new module by clicking **File -> New -> Module**.
-

3. Enter the module name as **EmailOutboundPTWithBG** and click **Finish**.
4. Start the external service wizard by clicking: **File-> New -> External Service**.
5. Expand **Adapters** and select **E-Mail** then click **Next**.
6. In the Select an Adapter window, you can either create a new project or select an existing project.

To create a new project, perform the following steps:

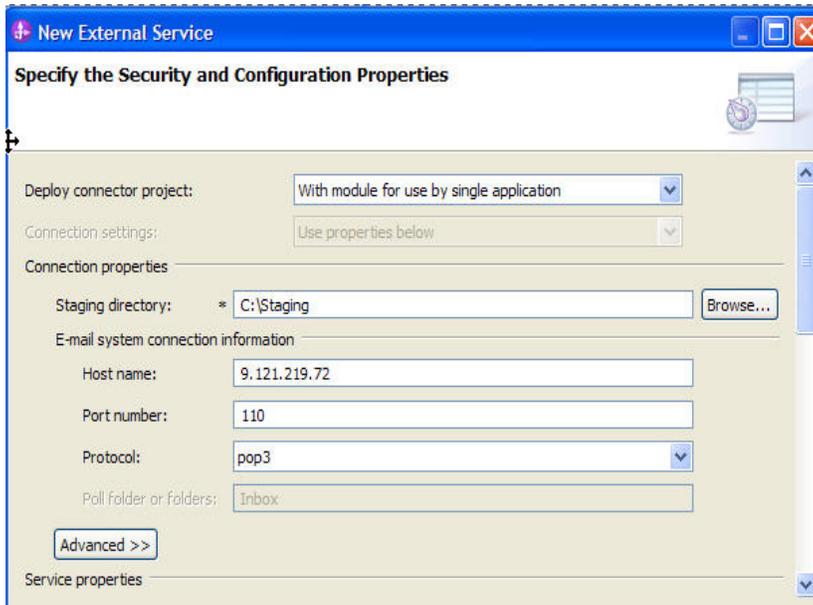
- a) In the Select an Adapter window, **select IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
- b) Click **Next**.
- c) In the **Adapter Import** window, either accept the default name for the project (**CWYEM\_EMail**) or provide another name in the **Connector project** field.
- d) Select the server from the **Target runtime** list (for example, **WebSphere Process Server v7.0.0.0**), then click **Next**

To select an existing project, perform the following steps:

- a) Expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
  - b) Select a project. For example, if you have an existing project named **CWYEM\_EMail**, you can expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0) CWYEM\_EMail**, then select the connection information.
  - c) Click **Next**.
7. Select the processing direction as **Outbound** and click **Next**.

### **Setting connection properties for the external service wizard**

1. To connect to Email server the following information is necessary: hostname, username, password, port and protocol. Provide this information in the wizard.
-



*Figure: Enter the connection information*

2. In **Service Properties**, select **Using security properties from the (activation specification)** and provide the necessary credentials.
3. Select the **Specify a data format for each operation** from the list.

Service properties

How do you want to specify the security credentials?

Using an existing JAAS alias (recommended)

Java Authentication and Authorization Services (JAAS) alias is the recommended way for specifying security credentials.

J2C authentication data entry:

Using security properties from the managed connection factory

The security properties will not be encrypted and will be stored as plain text.

User name:

Password:

Other

Other security mechanisms native to the enterprise system, or if security is not required by the enterprise system.

Data format options:

Data format:

Change logging properties for wizard

Figure: Specify the service properties

4. Click **Next**.

### Generating business object definitions and related artifacts

Follow these steps to generate the business object definitions.

1. In the Operations window, click **Add**.
2. Select the data type as **Generic e-mail business object with business graph** and click **Next**.

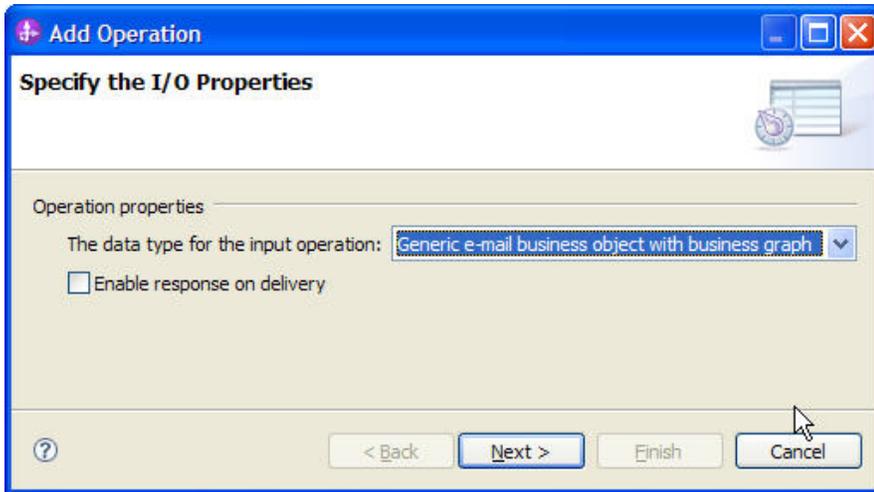


Figure: Select the data type

3. Click **Select** to create the **Data format** type.

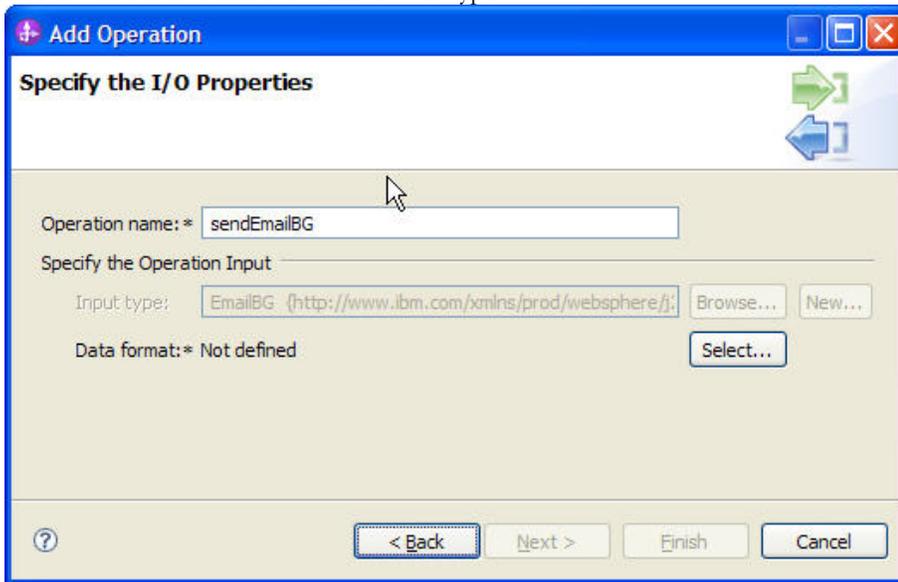
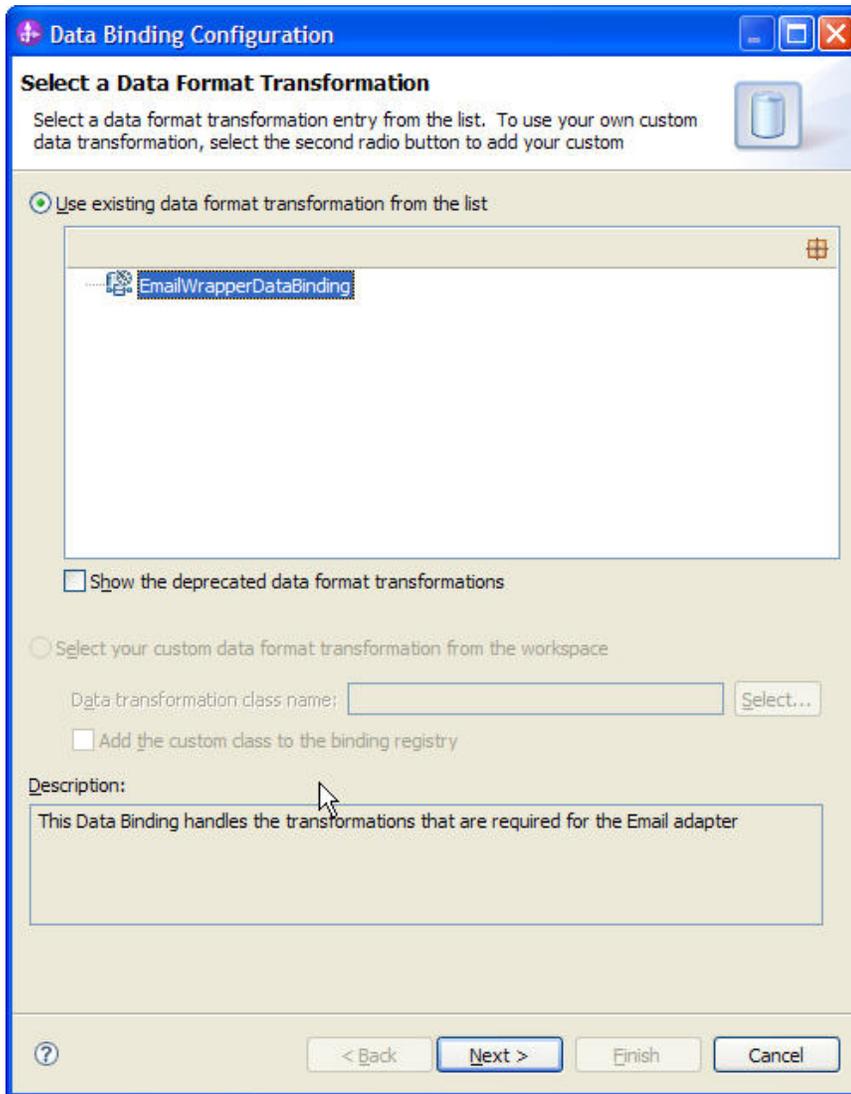


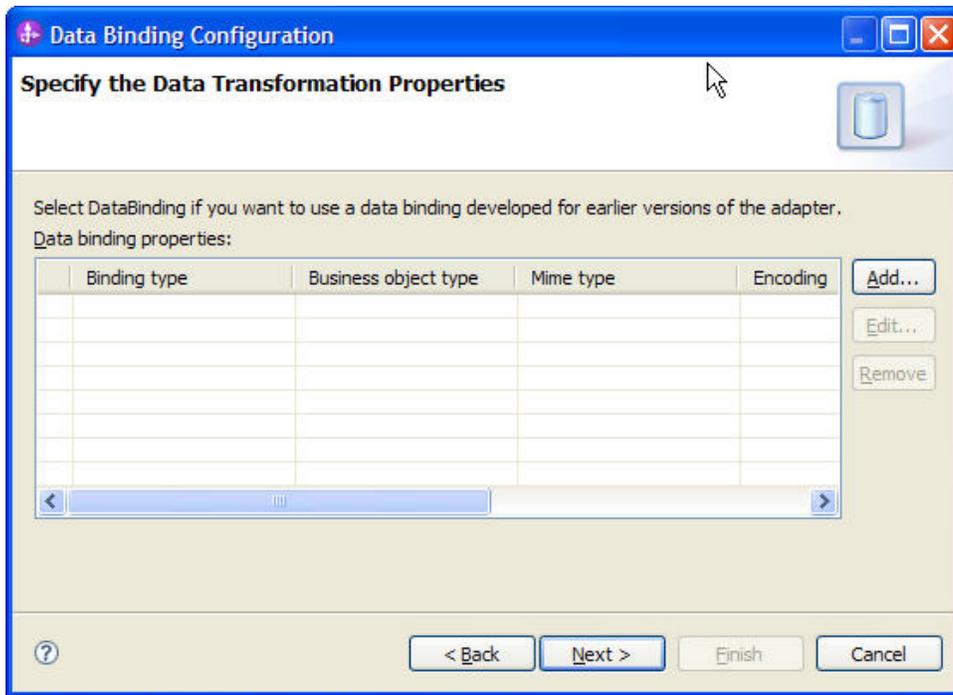
Figure: Create a new data format type

4. In the Data Binding Configuration window, select **EmailWrapperDataBinding** and click **Next**.



*Figure: Select an existing data format transformation*

5. Click the **Next**.



*Figure: Specify the data binding properties*

6. Click **Finish** twice.

7. Click **Next** and then click **Finish**.

8. Click **Finish** and verify the results. Observe the EmailBG Wrapper in the **Data Types > Common Schemas**

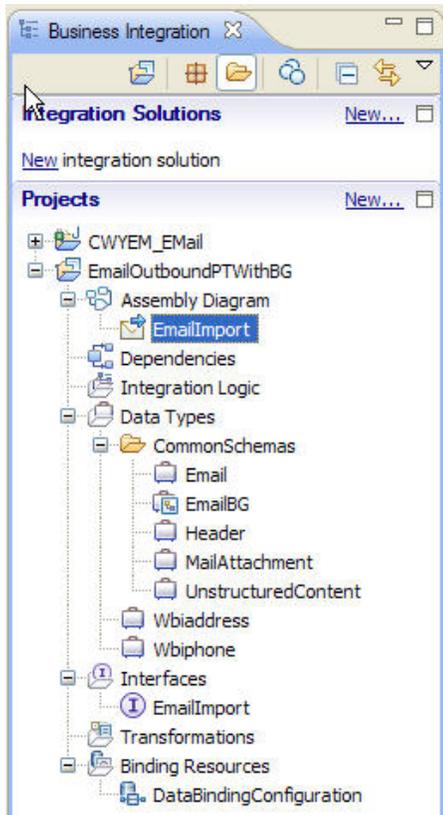


Figure: Review the details for EmailBG wrapper

---

## Deploying the module to the test environment

The result of running the external service wizard is an SCA module that contains an EIS import or export. Install this SCA module in WebSphere Integration Developer integration test client.

1. Add the module you created earlier to the server using the server panel in WebSphere Integration Developer. Right-click the server and then select **Add and Remove Projects**.
  2. Add the SCA module to the server.
  3. Click **Finish**.
-

## Testing the assembled adapter application

Test the assembled adapter application using the WebSphere Integration Developer integration test client.

1. Select the service you want, and click **Test > Test Module**.
2. Populate the values for the To, From, Subject and the mail content as unstructured type and mail attachment as unstructured type.
3. Populate the values as required.
4. Click **Continue**  and run the service.

► **General Properties**

▼ **Detailed Properties**

**Configuration:** Default Module Test

**Module:** EmailOutboundPTWithBG

**Component:** EmailImport

**Interface:** EmailImport

**Operation:** sendEmailBG

Invoke export using binding

Initial request parameters:

Name	Type	Value
Subject	string	✓ EmailOutboundPTWithBG
Encoding	string	✓ utf-8
Date	string	✓
mailContent	UnstructuredContent	✓
Content	string	✓ text/plain
Object	string	✓
AsText	string	✓ This is a test
AsBinary	hexBinary	✓ 0
headerList	Header[]	66

Figure: Review the values for mail content

► **General Properties**

---

▼ **Detailed Properties**

**Configuration:** Default Module Test

**Module:** EmailOutboundPTWithBG

**Component:** EmailImport

**Interface:** EmailImport

**Operation:** sendEmailBG

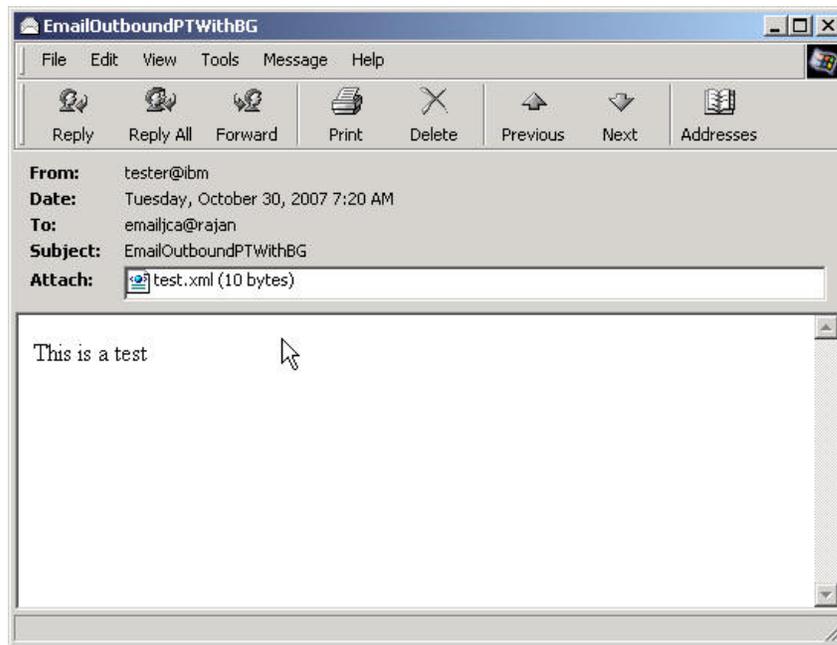
Invoke export using binding

Initial request parameters

Name	Type	Value
mailAttachm	MailAttachment[]	60
mailAtt	MailAttachment	✓
atta	string	✓ test.xml
app	UnstructuredContent	✓
	string	✓ text/plain
	string	✓
	string	✓ This is a test
	hexBinary	✓ 0
fileReferenc	string[]	60

*Figure: Review the values for mail attachment*

5. Check the output of the service, and check the data in the EIS to ensure it matches expected values.



*Figure: Review the sample output*

6. The sample output from the attached test.xml file reads as shown in the preceding figure.

---

## Clearing the sample content

Return the data to its original state.

Remove the module created earlier from the WebSphere Process Server.

1. Right-click the server, and select **Add and Remove Projects**.
2. Choose the module.
3. Click on **Remove**, and then click **Finish**.

Nothing is required to clean up after this tutorial.

---

---

## Chapter 7. **Tutorial 5: Simple Email outbound**

This tutorial demonstrates how to use the WebSphere Adapter for Email for sending simple **Hello World** emails.

---

### **Scenario**

The following tutorial explains the configuration of email adapter to send plain text emails to the recipients.

Consider the business scenario where this particular behavior of Email adapter plays a role.

A Business process where a Customer relationship officer receives a new complaint from a customer through a customer services portal and wants to alert all the people who are supposed to take active participation in resolving the complaint lodged.

Here, the E-mail adapter can be used to send an e-mail broadcasting the customer's complaint to a large group of e-mail addresses. Outbound processing begins with the adapter receiving a request in the form of a business object from a service. The adapter is triggered by an EmailOutboundInterfaceImport as depicted in the following figure.

---

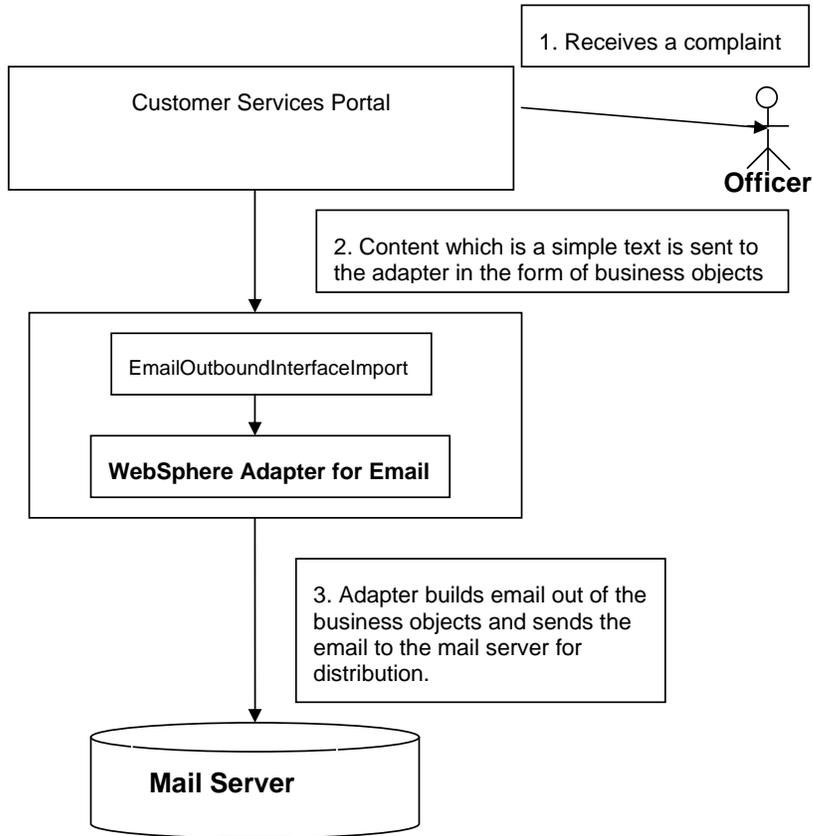


Figure: Simple E-mail outbound

When a request is received by the adapter, the adapter takes the information stored in the business object and creates an e-mail. This e-mail is then forwarded to the mail server for distribution.

---

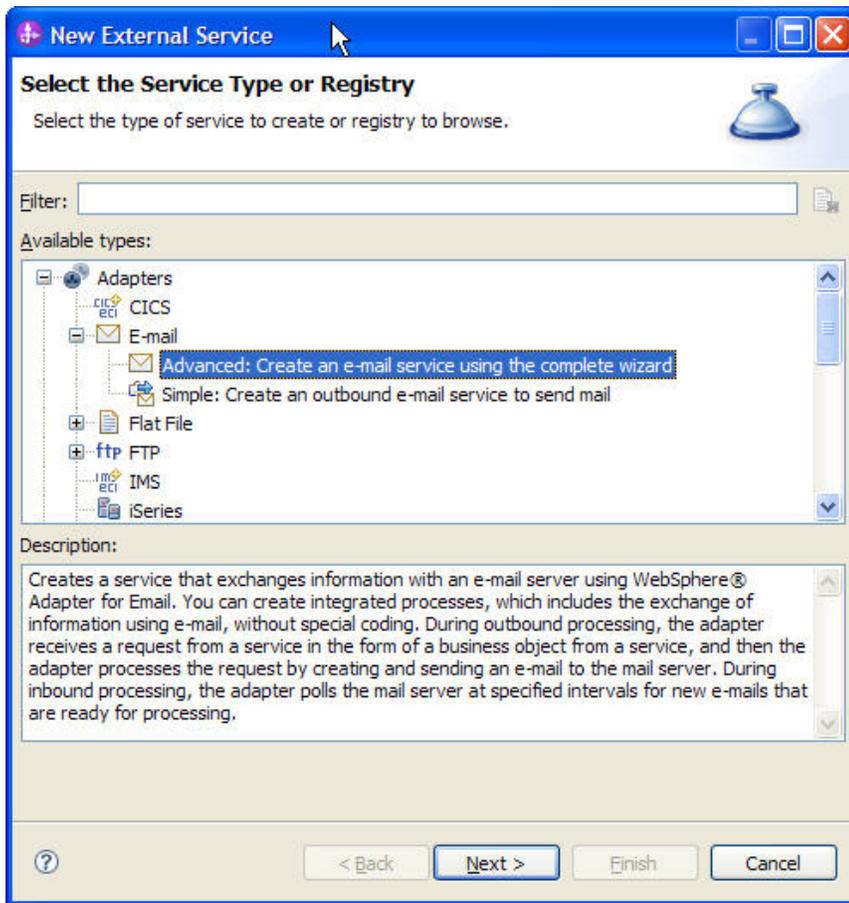
---

## Configuring the adapter for outbound processing

Run the external service wizard to specify business objects, services, and configuration to be used in this tutorial.

### Creating the project

1. Switch to the Business Integration perspective in WebSphere Integration Developer by clicking **Window -> Open Perspective Business Integration**.
  2. Create a new module by clicking **File -> New -> Module**.
  3. Enter the **Module** name as **EmailOutboundSimple** and click **Finish**.
  4. Start the external service wizard by clicking **File-> New -> External Service**.
  5. Expand **Adapters** and click the plus sign to expand **E-Mail**. Select **Advanced: Create an e-mail server using the complete wizard** and click **Next**.
-



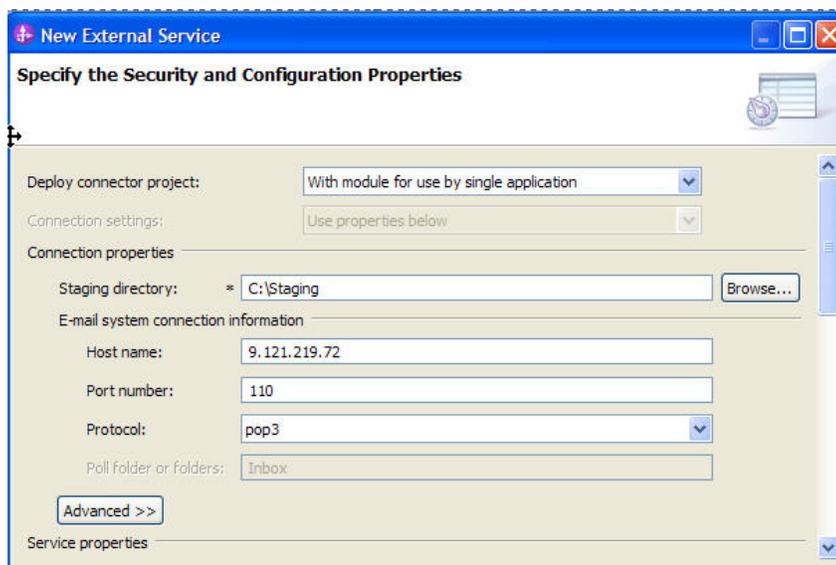
*Figure: Select the service type*

6. In Select an Adapter window, you can either create a new project or select an existing project.
  7. To create a new project, perform the following steps:
    - a) In the Select an Adapter window select **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
    - b) Click **Next**.
    - c) In the **Adapter Import** window, either accept the default name for the project (**CWYEM\_EMail**) or provide another name in the **Connector project** field.
    - d) Select the server from the **Target runtime** list (for example, **WebSphere Process Server v7.0.0.0**), then click **Next**.
  8. To select an existing project, perform the following steps:
-

- a) Expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
  - b) Select a project. For example, if you have an existing project named **CWYEM\_EMail**, you can expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0) CWYEM\_EMail**, then select the connection information.
  - c) Click **Next**.
9. Select the processing direction as **Outbound** and click **Next**.

### Setting connection properties for the external service wizard

1. To connect to Email server the following information is necessary hostname, username, password, port and protocol. Provide this information in the wizard.



*Figure: Enter the connection information*

2. In **Service Properties**, select **Using security properties from the (activation specification)** and provide the necessary credentials.
3. Select the **Specify a data format for each operation** from the **Data format** options list.

Figure: Specify the service properties

4. In **Service Properties**, select **Using security properties from the activation specification** and provide the necessary credentials.
5. Select the Data binding as **Specify a databinding for each operation**.
6. Click **Next**.

### Generating business object definitions and related artifacts

Follow these steps to generate the business object definitions.

1. In the **Operations** window, click **Add**.
2. Select the data type as **Simple e-mail**.
3. Select the **Enable response on delivery** check box and click **Next**.

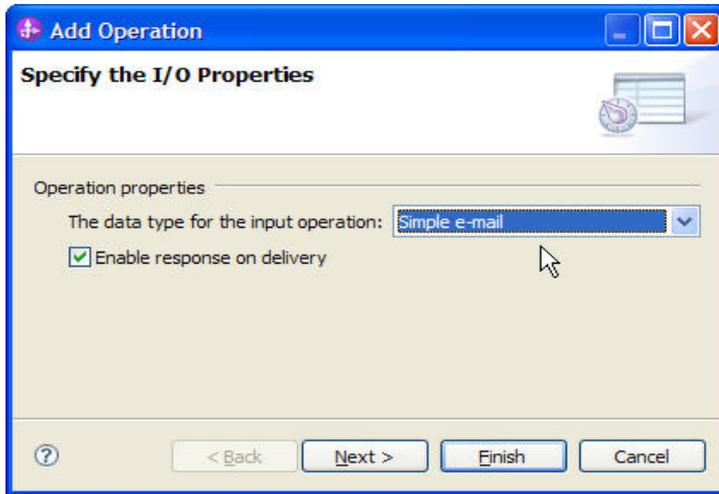


Figure: Select the enable response on delivery check box

4. Click **Finish** and then click **Next**.

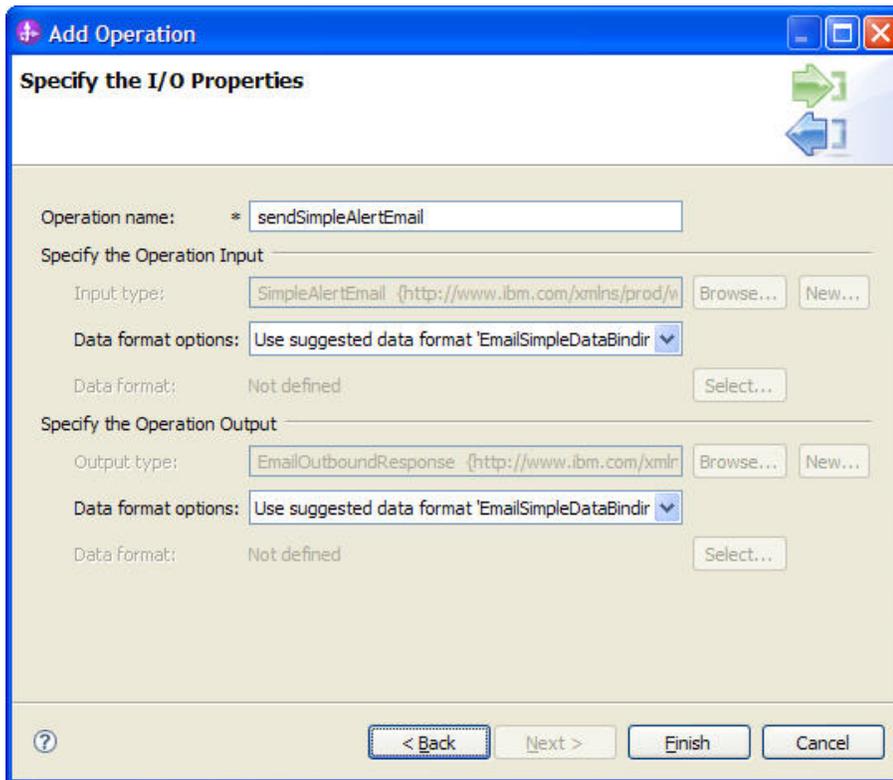


Figure: Add the operation

5. Click **Finish** and verify the results.

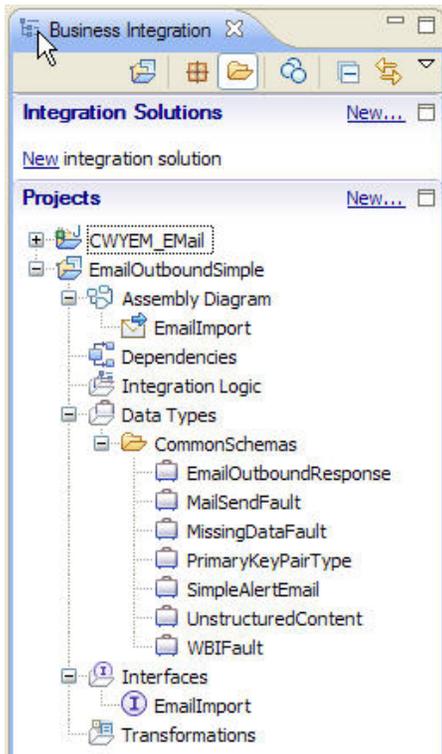


Figure: Verify the results

---

## Deploying the module to the test environment

The result of running the external service wizard is an SCA module that contains an EIS import or export. Install this SCA module in WebSphere Integration Developer integration test client.

1. Add the module you created earlier to the server using the server panel in WebSphere Integration Developer. Right-click the server, and then select **Add and Remove Projects**.
  2. Add the SCA module to the server.
  3. Click **Finish**.
-

## Testing the assembled adapter application

Test the assembled adapter application using the WebSphere Integration Developer integration test client.

1. Select the service, and click **Test > Test Module**.
2. Populate the values for the To, From, Subject and the mail content as required.
3. Click **Continue**  and run the service.

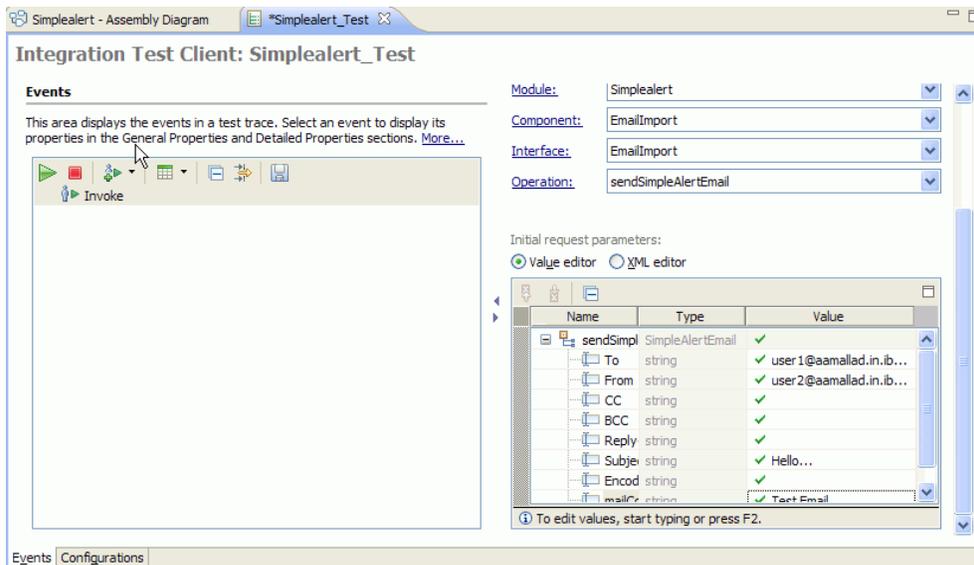


Figure: Enter the values to test the module

4. The response business object is returned.

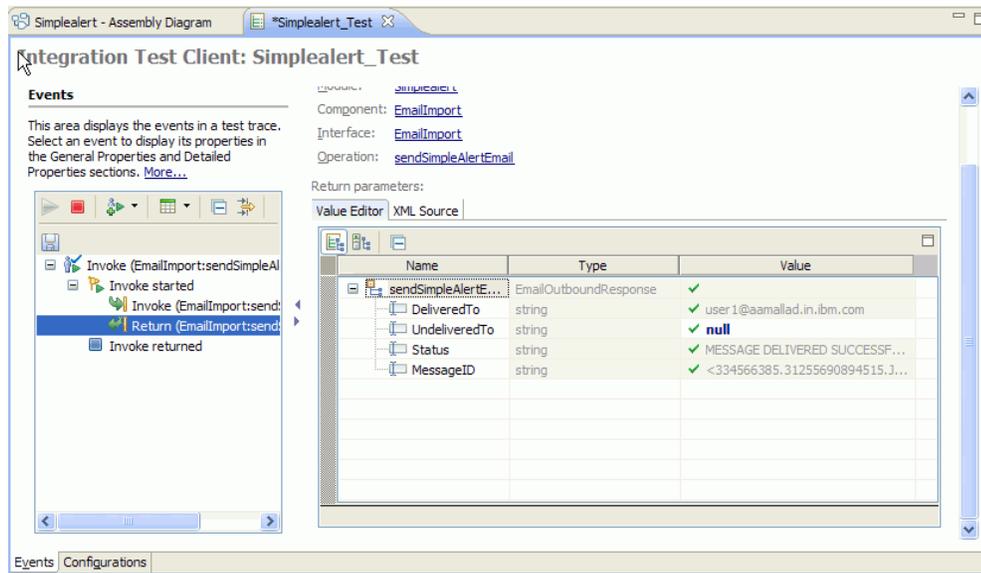


Figure: Check the output of the service

5. The fault business object is shown in the following figure. Set the **Encoding** to an invalid value say 'abcd', and then click **Continue**. This results in a fault business object.

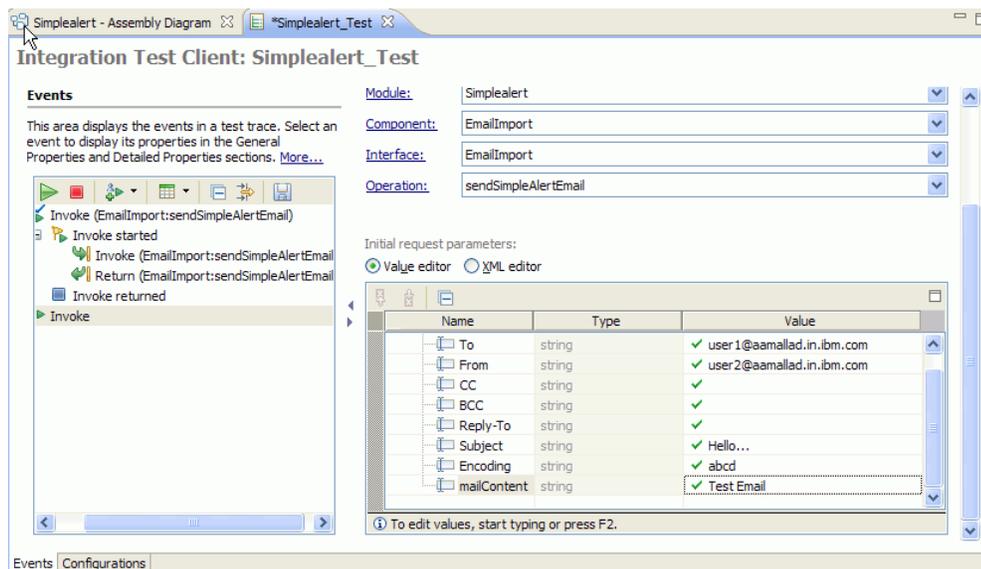


Figure: Response Business Object

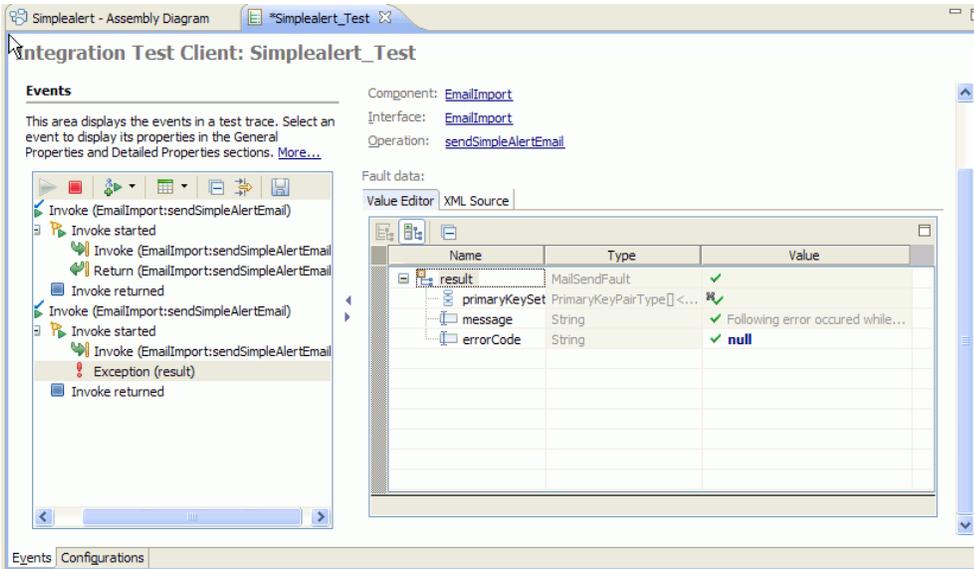


Figure: Fault Business Object

6. The missing data fault is shown here. Do not specify any value in the **From** field.

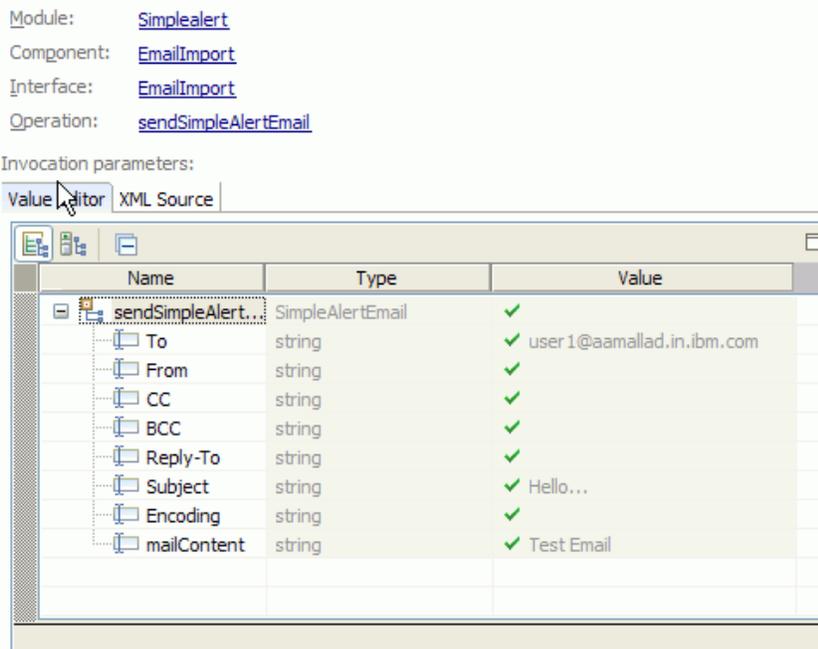
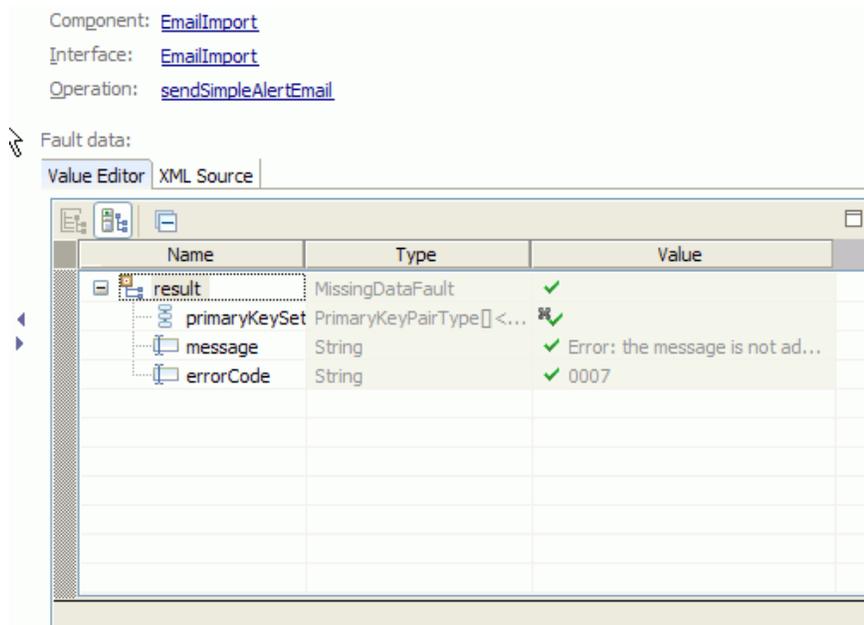


Figure: Enter the values to test the module



*Figure: Fault Business Object*

---

## Clearing the sample content

Return the data to its original state.

Remove the module created earlier from WebSphere Process Server.

1. Right-click the server and then select **Add and Remove Projects**.
2. Select the module.
3. Click **Remove** and then click **Finish**

Nothing is required to clean up after this tutorial.

---

---

## Chapter 8. **Tutorial 6: Email inbound pass-through with SSL support using Lotus Domino**

This tutorial demonstrates how to use WebSphere Adapter for Email to poll for emails over SSL.

---

### **Scenario**

E-mails passing through the mail server are vulnerable to third party interference when SSL is not configured for use with the adapter. Using SSL prohibits data from being modified either intentionally or unintentionally during transport and protects data from being intercepted. It is effective because it uses several cryptographic processes public key cryptography for authentication with the mail server and secret key cryptography and digital signatures for privacy and data integrity. SSL allows the adapter to authenticate the identity of the mail server and, when necessary, for the mail server to authenticate the identity of the mail client.

In a credit card system, information related to the credit card holder is confidential. It is very much necessary for organizations that provides the credit cards to safe guard and protect the sensitive information of its customers. Consider a situation where such an organization needs to update the address and contact details of the customer in the database. The customer would have sent a mail and in this scenario the adapter for e-mail can be configured to pick up mails from the mailbox over SSL, so that it is ensured that no data is modified during the process.

---

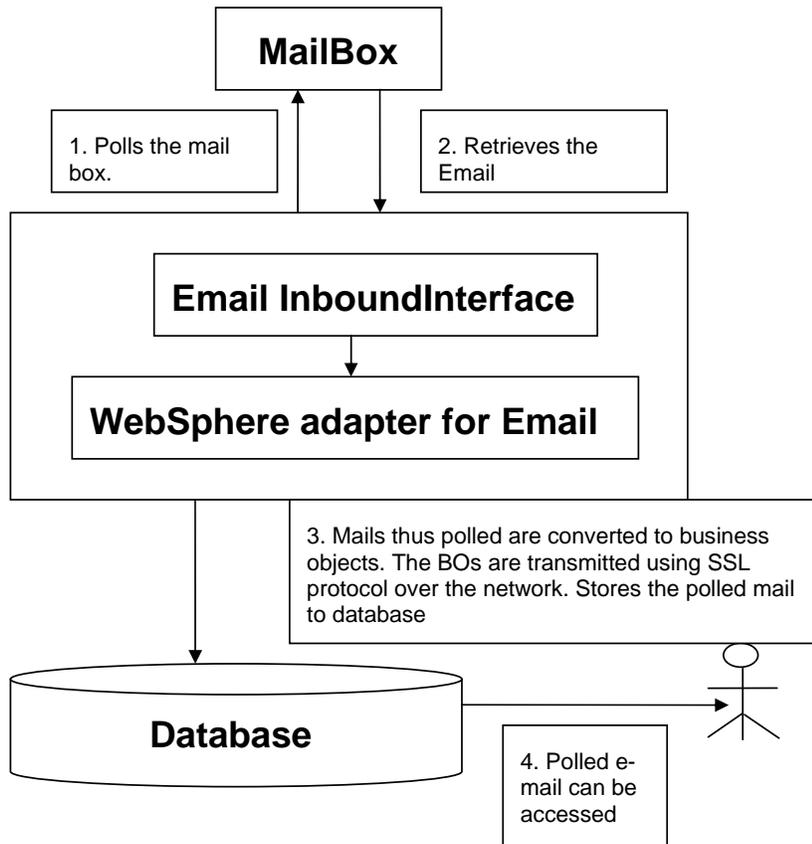


Figure: Email inbound pass-through with SSL support using Lotus Domino

Here, WebSphere Adapter for Email can play a key role in picking up the e-mail from the specified

The adapter picks up the emails that are ready to be processed from the mailbox and converts them into the business object and forwards it to the export component from where the address is updated in the database.

## Configuring the adapter for inbound processing

Run the external service wizard to specify business objects, services, and configuration to be used in this tutorial.

### Creating the project

Set up the Mail Server and WebSphere Process Server for SSL. (See Appendix for more details under sections 'Configuring Email adapter 7.0.0.0 and Domino 7.0 mail server for SSL' and 'Configuring the WebSphere Process Server for Email adapter to support SSL')

1. Switch to the Business Integration perspective in WebSphere Integration Developer by clicking **Window -> Open Perspective Business Integration**.
  2. Create a new module by changing: **File -> New -> Module**.
  3. Enter the **Module** name as **EmailInboundPTWithSSL** and click **Finish**.
  4. Start the external service wizard by clicking: **File-> New -> External Service**.
  5. Expand adapters and select **E-Mail** and click **Next**.
  6. In Select an Adapter window, you can either create a new project or select an existing project.  
To create a new project, perform the following steps:
    - a) In the Select an Adapter window, select **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
    - b) Click **Next**.
    - c) In the Adapter Import window, either accept the default name for the project (**CWYEM\_EMail**) or provide another name in the **Connector project** field.
    - d) Select the server from the **Target runtime** list (for example, **WebSphere Process Server v7.0.0.0**), then click **Next**.To select an existing project, perform the following steps:
    - a) Expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
    - b) Select a project. For example, if you have an existing project named **CWYEM\_EMail**, you can **expand IBM WebSphere Adapter for Email (IBM: 7.0.0.0) CWYEM\_EMail**, then select the connection.
    - c) Click **Next**.
  7. Select the processing direction as **Inbound** and click **Next**.
-

### Setting connection properties for the external service wizard

1. To connect to Email server the following information is necessary: hostname, username, password, port, protocol and location of the staging directory and optionally location of the Archive folder and Failed Events Folder. Provide this information in the wizard.

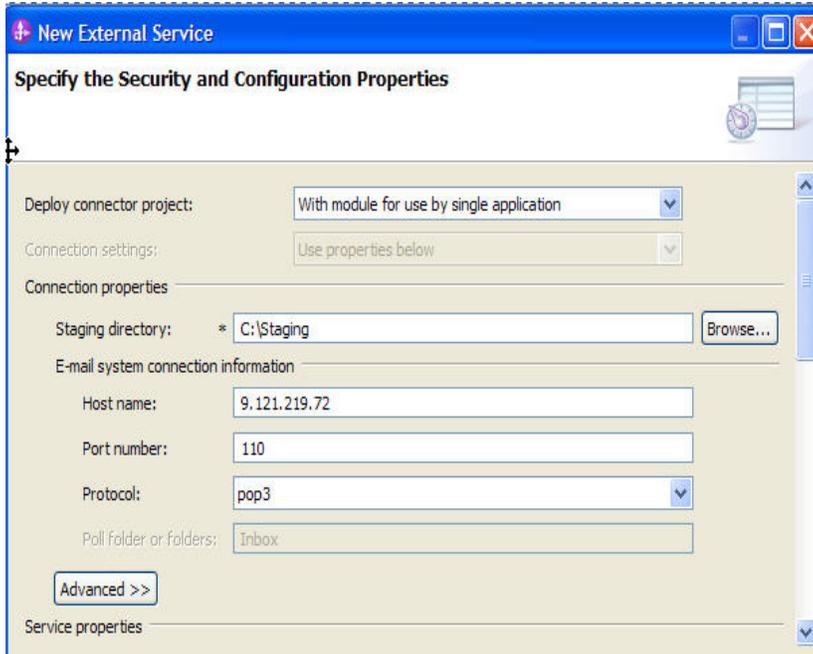
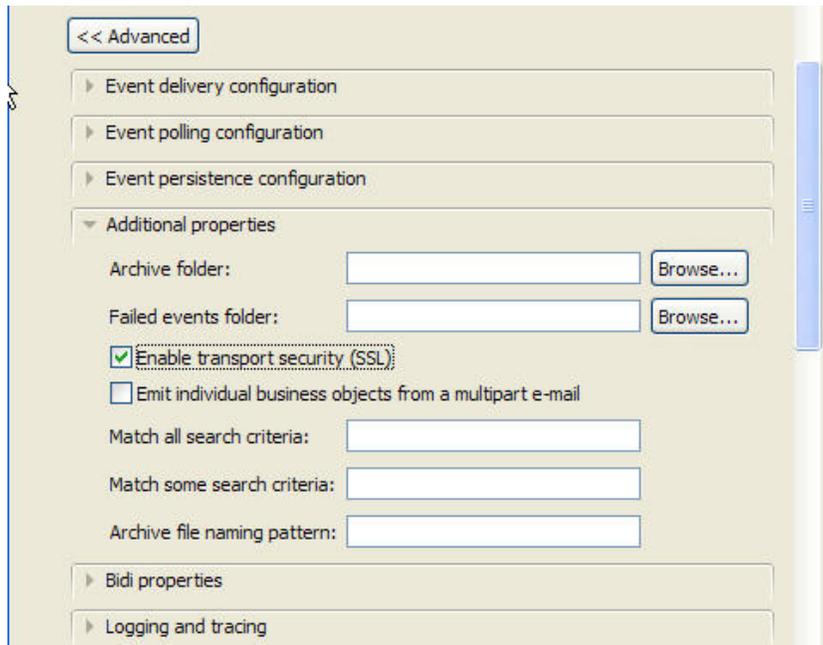


Figure 1: Enter the connection information

2. Check Select the **Enable transport security (SSL)** check box under **Additional properties**.



*Figure: Select the Enable transport security (SSL) check box*

3. In **Service Properties**, select **Using security properties from the activation specification** and provide the necessary credentials.

4. Select the **Specify a data format for each operation** from the **Data format** options list.

Service properties

How do you want to specify the security credentials?

Using an existing JAAS alias (recommended)

Java Authentication and Authorization Services (JAAS) alias is the recommended way for specifying security credentials.

J2C authentication data entry:

Using security properties from the activation specification

The security properties will not be encrypted and will be stored as plain text.

User name:

Password:

Other

Other security mechanisms native to the enterprise system, or if security is not required by the enterprise system.

Function selector options:

Function selector:

Data format options:

Data format:

Figure: Specify the service properties

5. Click **Next**.

### Generating business object definitions and related artifacts

Follow these steps to generate the business object definitions.

1. In the Operations window and click **Add**.
2. Select the data type as **Generic e-mail business object**. Click **Next**.

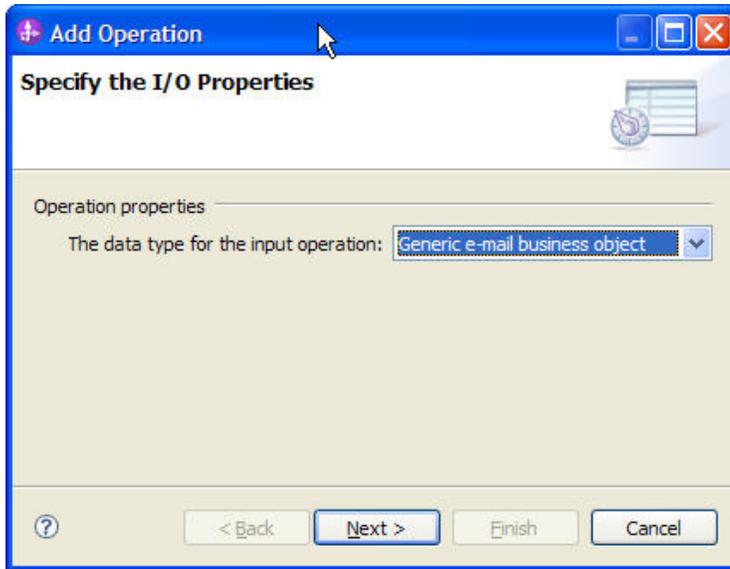


Figure: Select the data type

3. Click **Select** to create a new Data format type.

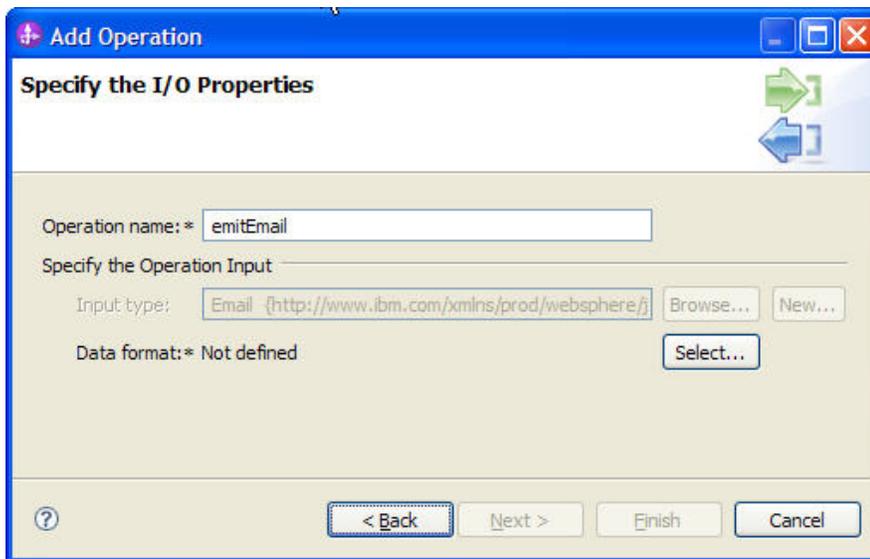


Figure: Create a new data format type

4. Select the Data Binding type as **EmailWrapperDataBinding** and click **Next**.

---

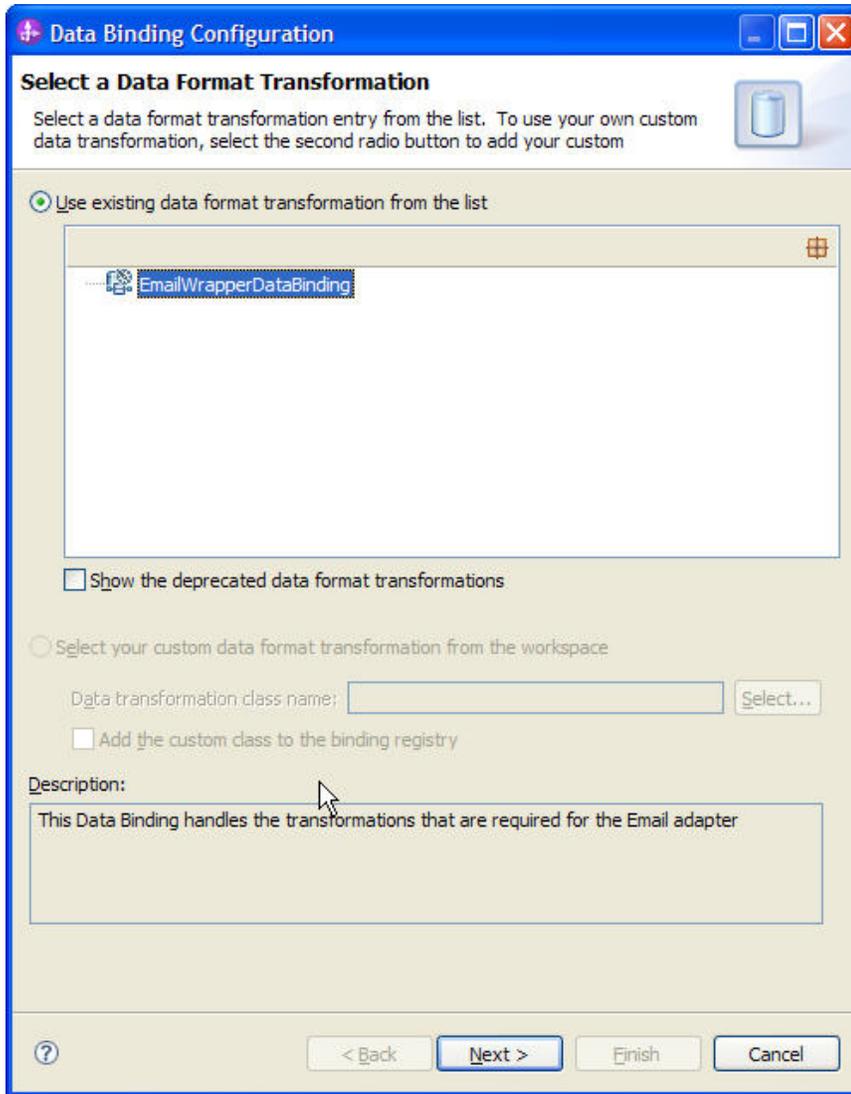


Figure2: Select an existing data format transformation

5. Click **Next**. In the **Data Bindings Properties** window and click **Finish**.
6. Click **Finish** twice and then click **Next**.
7. Click **Finish** and verify the results.

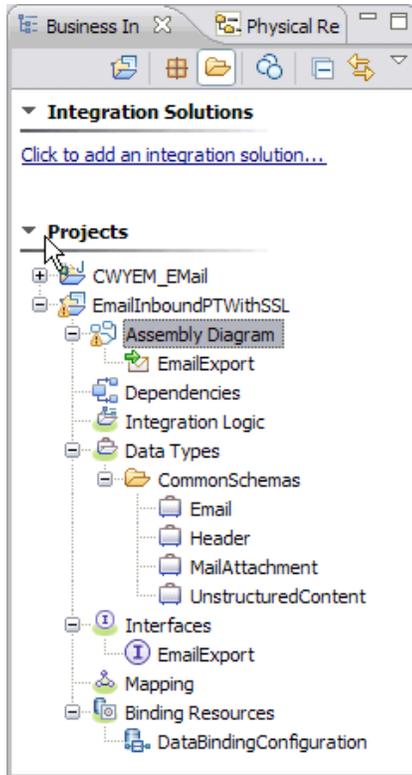


Figure: Verify the results

8. Open the Assembly diagram for the module. Click the Java Component from the palette. Drag and drop the same into the assembly diagram.
9. Name the Java Component as **EndPoint** and wire the export to the Java Component.

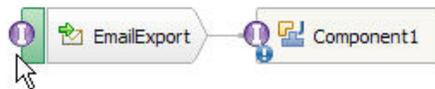


Figure: Rename the Java component

10. Right-click the Java Component(EndPoint) and click **Generate Implementation**.
11. Select **Default package**. A java class file implementation is generated for the same.

```
@import common].ado.DataObject;

public class EndPointImpl {
    /**
     * Default constructor.
     */
    public EndPointImpl() {
        super();
    }

    /**
     * Return a reference to the component service instance for this implementation
     * class. This method should be used when passing this service to a partner reference
     * or if you want to invoke this component service asynchronously.
     *
     * @generated (com.ibm.wbit.java)
     */
    @SuppressWarnings("unused")
    private Object getMyService() {
        return (Object) ServiceManager.INSTANCE.locateService("self");
    }
}
```

*Figure: Review the Java class file implementation*

---

## Deploying the module to the test environment

The result of running the external service wizard is an SCA module that contains an EIS import or export. Install this SCA module in WebSphere Integration Developer integration test client.

1. Add the module you created earlier to the server using the server panel in WebSphere Integration Developer. Right-click the server and then select **Add and Remove Projects**.
  2. Add the SCA module to the server.
  3. Click **Finish**.
-

## Testing the assembled adapter application

Test the assembled adapter application using the WebSphere Integration Developer integration test client.

1. Select the service you want, and click **Test > Test Attach**.
2. Click **Continue**  to run the service.
3. Go to the “<WID\_installation>\ResourceAdapters\Email\_7.0.0.0\Samples” location. Unzip the EmailEventCreator.tar or EmailEventCreator.zip file. The utilities are extracted under folder EmailEventCreator.
4. Create Events using the createEvents\_sample\_passthrough.bat file.

The contents of the file are shown here:

```
java -cp .\;\mail.jar;\activation.jar EmailEventCreator " 9.121.219.72" 25 1 "tester@ibm" ejca@ibm
emailpop3@ibm emailpop3@ibm "test subject" "Sample Content"
"<WID_installation>\ResourceAdapters\
Email_7.0.0.0\Samples\EmailEventCreator\WbiAddress.xml" "true"
```

**Note:** Use the files WbiAddress.xml and WbiPhone.xml within EmailEventCreator folder to test the scenario.

This will create one event from the user tester@ibm on the mail server with 9.121.219.72 as IP address, with the content as “Sample Content” and with the mail attachment as that of the xml file MyAddress.xml. The other attributes of the mail specified by the user will be incorporated on each mail event that is created. More information on creating the events and the EmailEventCreator is provided in the appendix section, **Creating Events**.

The mail is processed by the Email Resource adapter and the business object is received via the EndPoint java component as shown in the figure below. Observe the Mail Content as well as the Mail Attachment as Unstructured types.

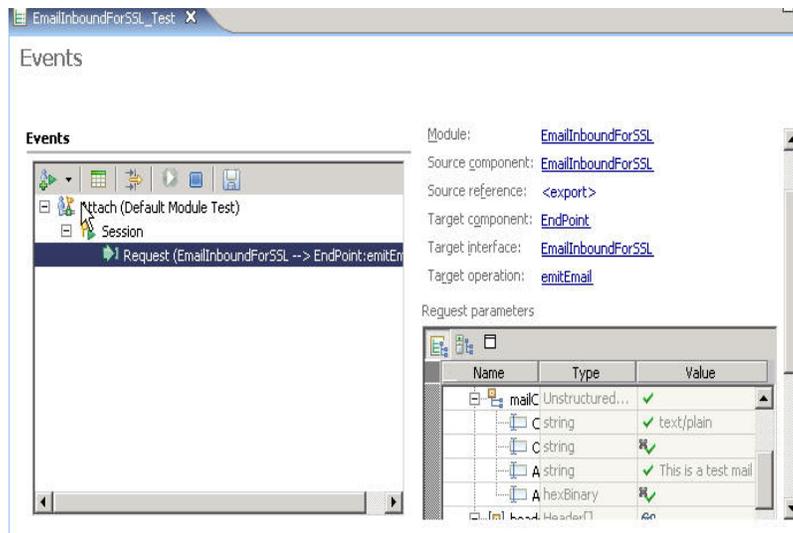


Figure: Review the values for mail content and the mail attachment

## Clearing the sample content

Return the data to its original state.

Remove the module created earlier from the WebSphere Process Server.

1. Right-click the server and select **Add and remove projects**.
2. Select the module.
3. Click **Remove** and then click **Finish**.

Nothing is required to clean up after this tutorial.

---

## Chapter 9. Tutorial 7: Email Outbound user-defined type with DTF

This tutorial demonstrates a new feature in version 7.0.0.0 of WebSphere Adapter for Email, which allow user to build user-defined wrappers.

This tutorial demonstrates how to build user-defined wrappers and use it in the outbound. This feature can be used when you know the exact structure of email you want to send for all requests.

---

### Scenario

The following tutorial explains the configuration of the Email adapter to send fixed structure emails. By selecting the user-defined data type in the external service wizard, you can define your own fixed structure wrapper business object. By doing this, you can use ordinary mapping tools to consume and work with your business objects without having to determine the business object type at runtime.

This scenario plays a role in a situation where the finance department of any organization has to send its annual reports to the concerned and authorized people with consolidated report as mail content and all the monthly reports as attachments. All the monthly reports are to be sent in a particular order (in the order of months for example, report of month January should be followed by February and not by April or May) which gives clarity to the person viewing the reports. The configuration of adapter with user defined type helps in sending such emails to the recipients where the order of attachments matters.

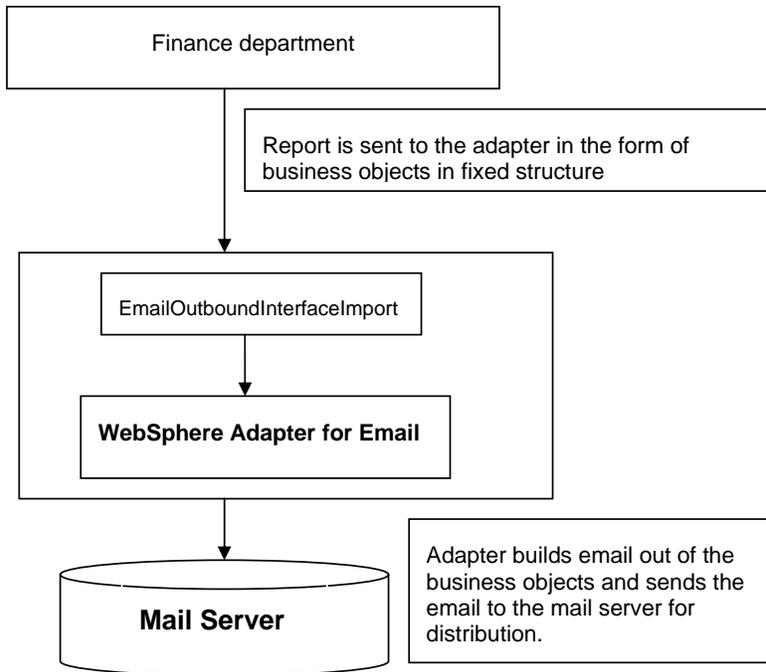


Figure: Email Outbound user-defined type with DTF

When a request is received by the adapter, the adapter takes the information stored in the business object and creates an e-mail. This e-mail is then forwarded to the mail server for distribution.

---

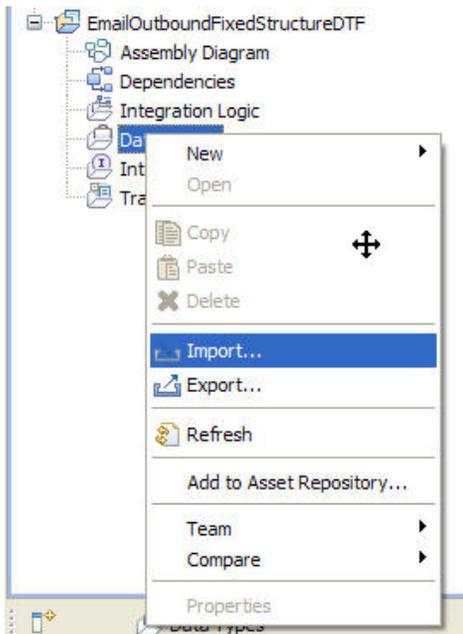
## Configuring the adapter for outbound processing

Run the external service wizard to specify business objects, services, and configuration to be used in this tutorial.

### Creating the project

1. Switch to the Business Integration perspective in WebSphere Integration Developer by clicking **Window -> Open Perspective Business Integration**.
2. Create a new module by clicking **File -> New -> Module**.

3. Enter the Module name as **EmailOutboundFixedStructureDTF** and click **Finish**.
4. Import the Customer xsd into the module created. Right-click the DataTypes under the module **EmailOutboundFixedStructureDTF** and select **Import**.



*Figure: Import the datatypes into the module*

5. Select **FileSystem** from the General category and click **Next**.

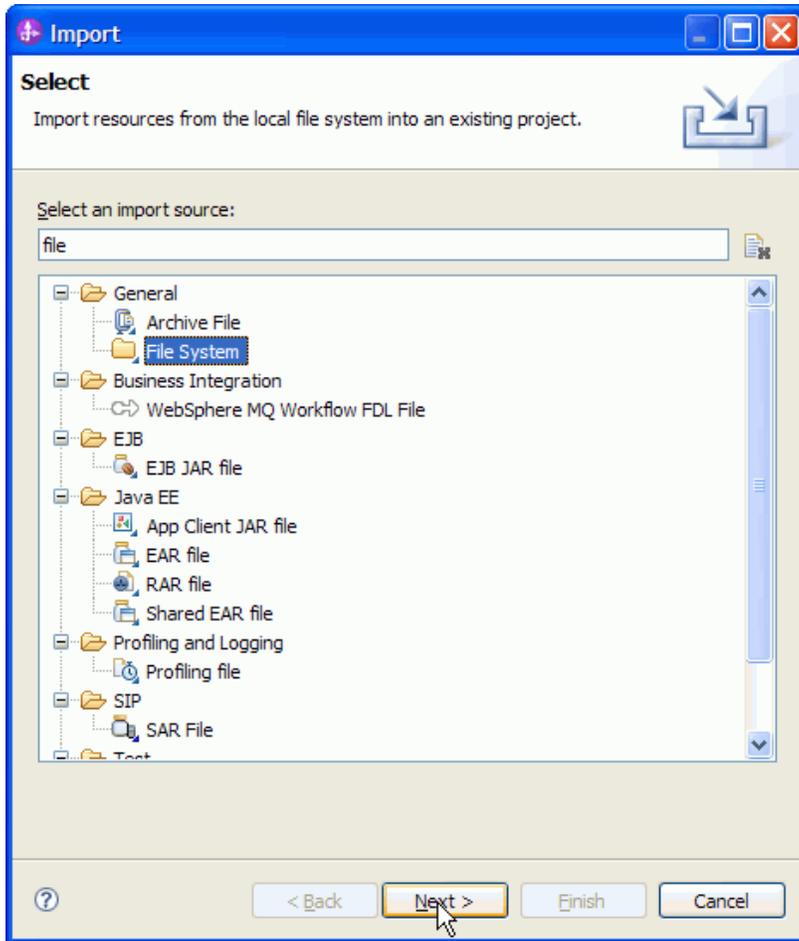


Figure: Select the option file system

6. Browse and select the sample business object Wbiaddress.xsd and Wbiphone.xsd in this case from the xsd folder.

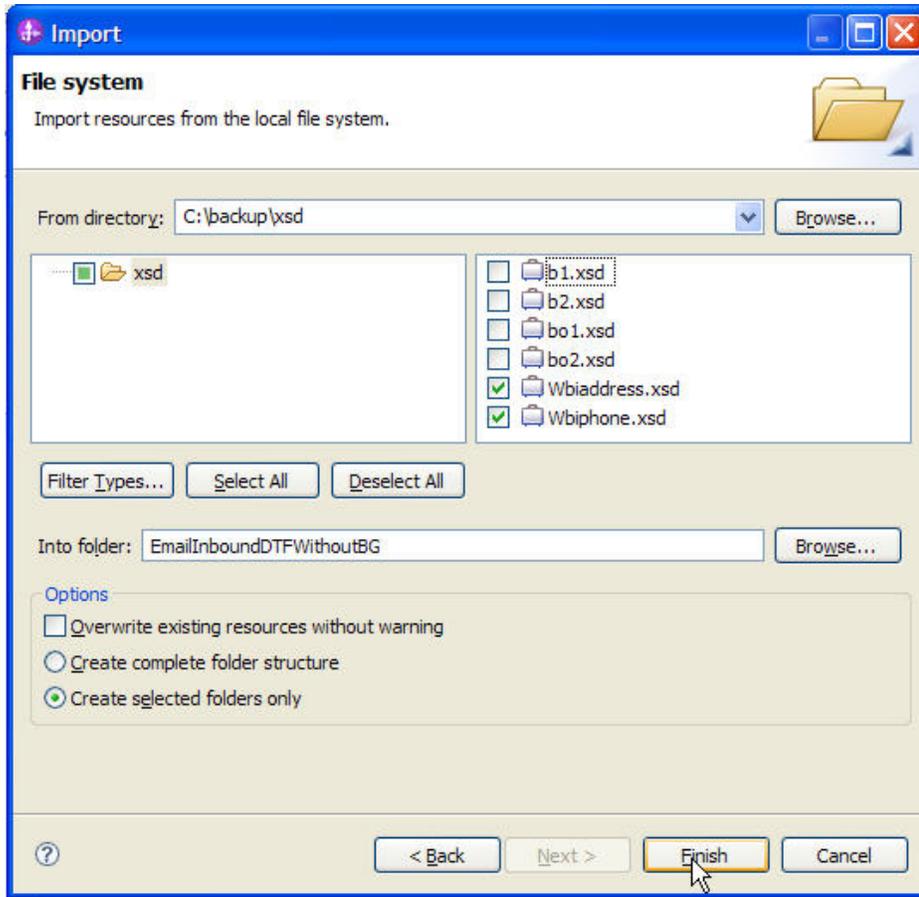
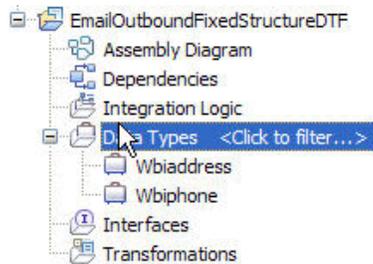


Figure: Import the XSDs

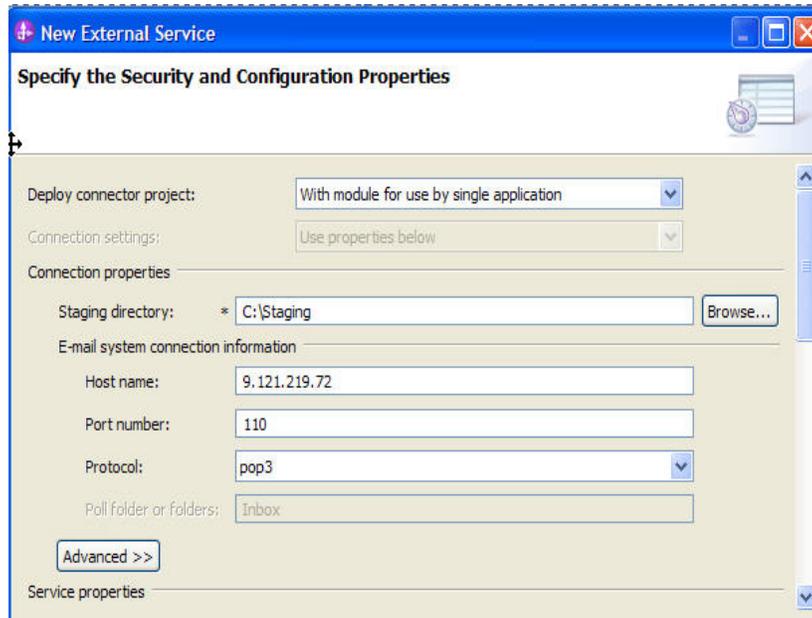
7. The Wbiaddress.xsd and Wbiphone.xsd can be seen under the data types.



8. Start the external service wizard by selecting: **File-> New -> External Service**
9. Expand **Adapters**, select **E-Mail** and then click **Next**.
10. In the Select an Adapter window, you can either create a new project or select an existing project.
11. To create a new project, perform the following steps:
  - a) In the Select an Adapter window, select **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
  - b) Click **Next**.
  - c) In the Adapter Import window, either accept the default name for the project (**CWYEM\_EMail**) or provide another name in the **Connector project** field.
  - d) Select the server from the **Target runtime** list (for example, **WebSphere Process Server v7.0.0.0**), then click **Next**.
12. To select an existing project, perform the following steps:
  - a) Expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
  - b) Select a project. For example, if you have an existing project named **CWYEM\_EMail**, you can expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0) CWYEM\_EMail**, then select the connection information.
  - c) Click **Next**.
13. Select the processing direction as **Outbound** and click **Next**.

### **Setting connection properties for the external service wizard**

1. To connect to Email server the following information is necessary: hostname, username, password, port and protocol. Provide this information in the wizard.



*Figure: Enter the connection information*

2. In **Service Properties**, select **Using security properties from the (activation specification)** and provide the necessary credentials.
3. Select the **Specify a data format for each operation** from the **Data format** options list.

Service properties

How do you want to specify the security credentials?

Using an existing JAAS alias (recommended)

Java Authentication and Authorization Services (JAAS) alias is the recommended way for specifying security credentials.

J2C authentication data entry:

Using security properties from the managed connection factory

The security properties will not be encrypted and will be stored as plain text.

User name:

Password:

Other

Other security mechanisms native to the enterprise system, or if security is not required by the enterprise system.

Data format options:

Data format: Not defined

Change logging properties for wizard

Figure: Specify the service properties

4. Click **Next**.

### Generating business object definitions and related artifacts

Follow these steps to generate the business object definitions.

1. In the Operations window, click **Add**.
2. Select the data type as **User defined email business object** and Click **Next**.

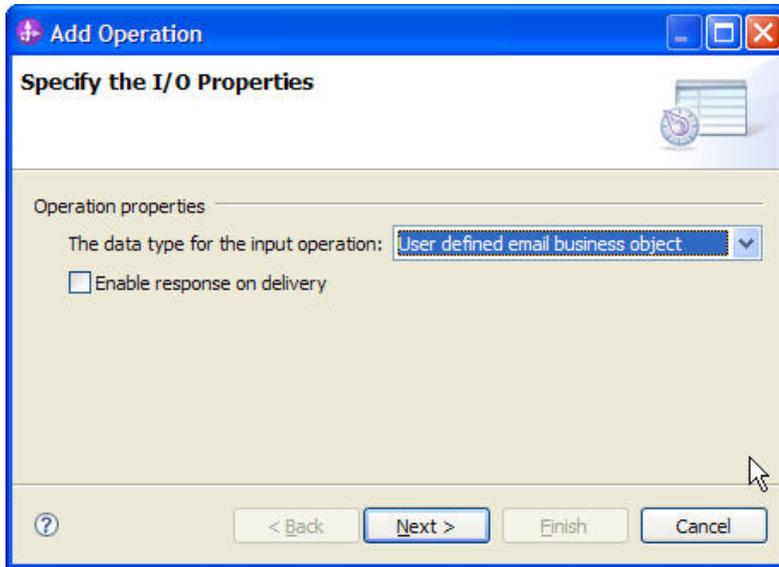


Figure: Select the data type

3. In the Add Operation window, click **New** to specify the **Input Type**.
4. Specify the folder name (Optional) and click **Next**.

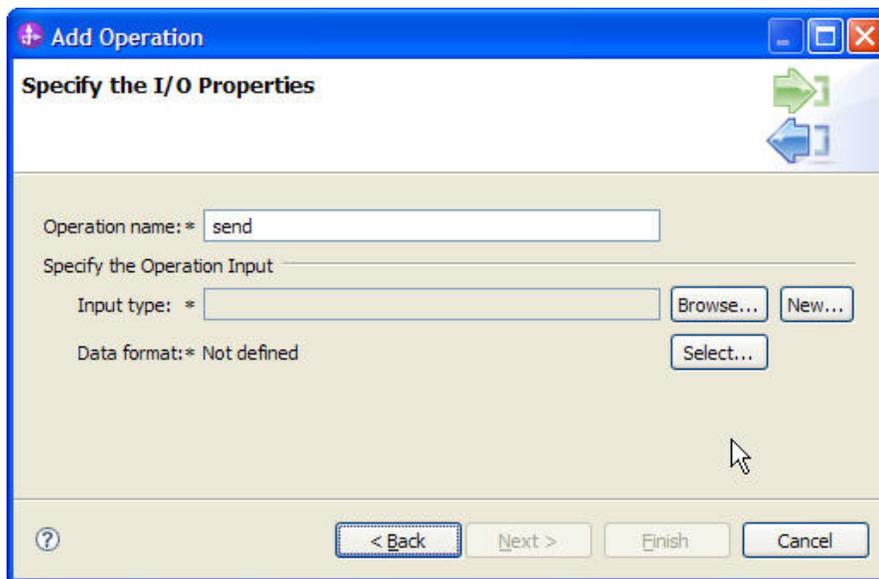
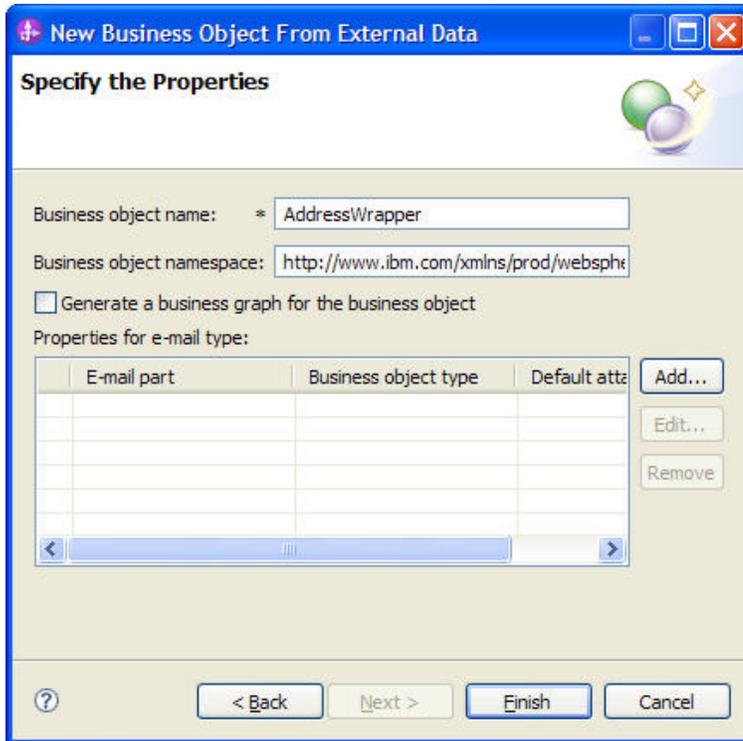


Figure: Specify the Input Type

5. Specify the Business object name as **AddressWrapper**.



*Figure: Specify the business object properties*

6. Click **Add**.

7. Select **Wbiaddress** and click **Finish**.

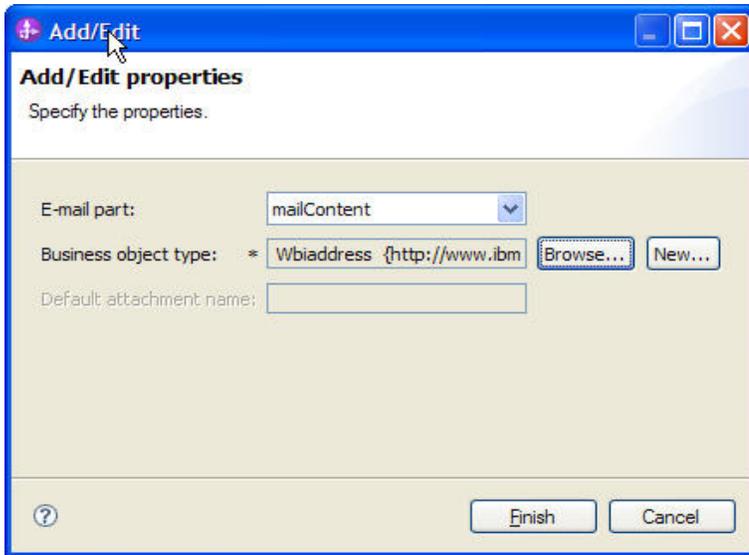


Figure: Select the business object type

8. Repeat the steps six and seven to add **Wbiphone**.

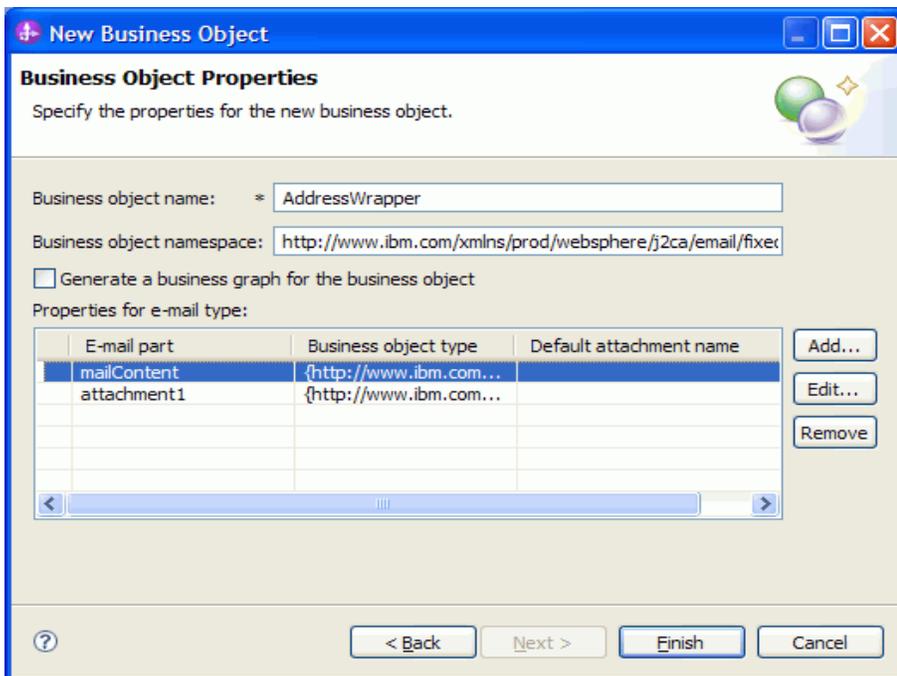
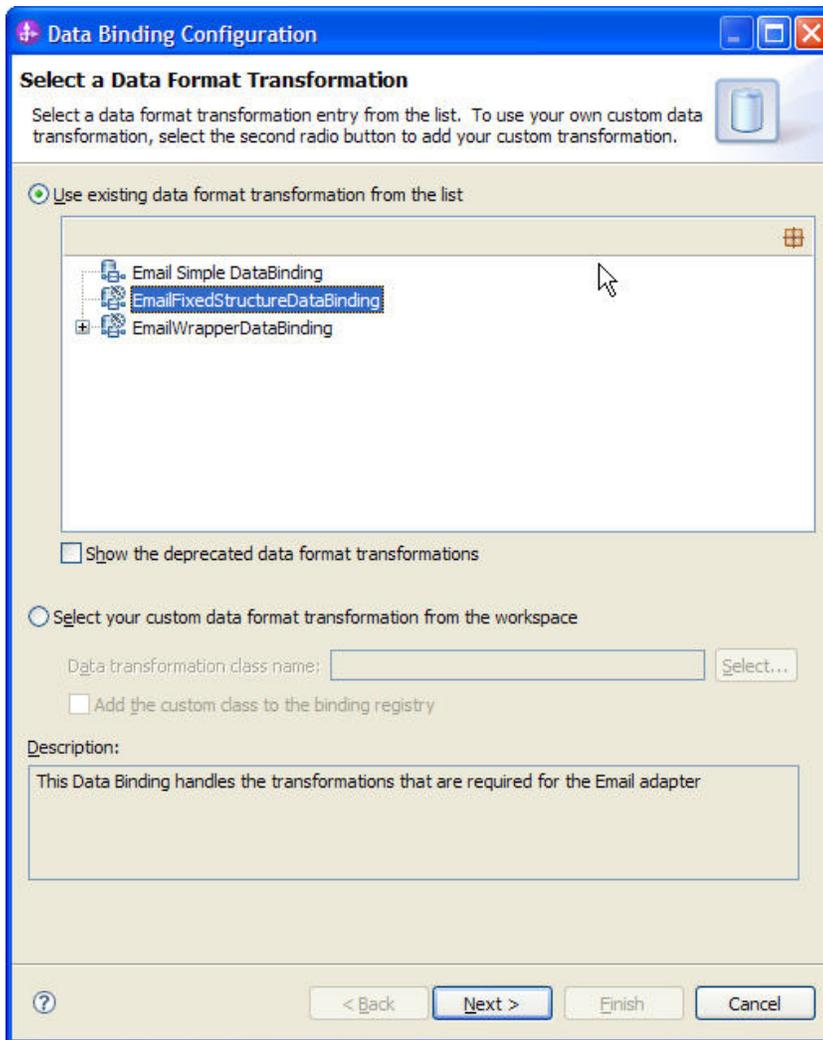


Figure: Specify the business object properties

9. Click **Finish**.
10. Select the Data binding as **EmailFixedStructureDataBinding**.



*Figure: Select an existing data format transformation*

11. Click **Next**.

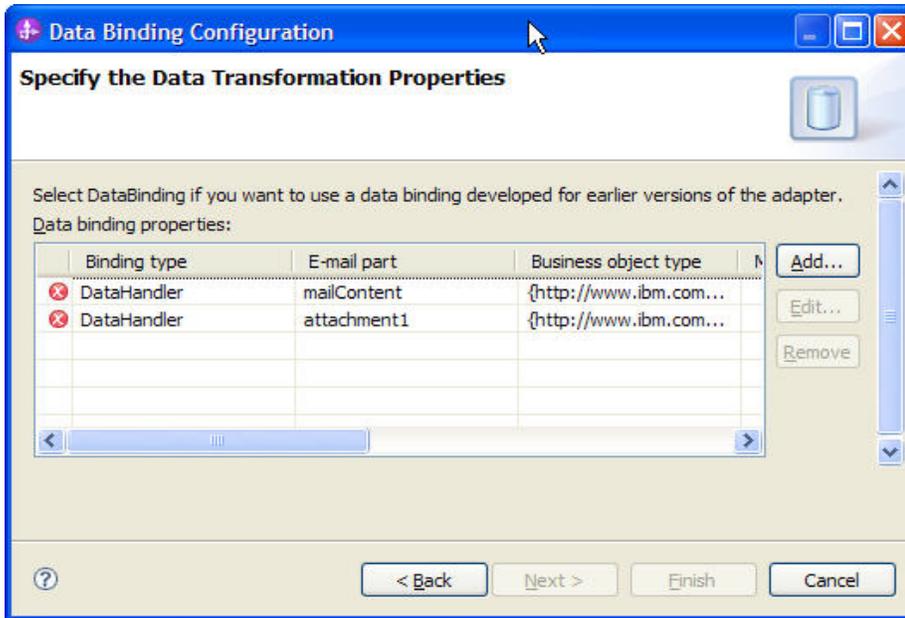


Figure: Modify the data binding properties

12. Edit each of the elements in the table.
13. Select the **MimeType** as **text/xml**.

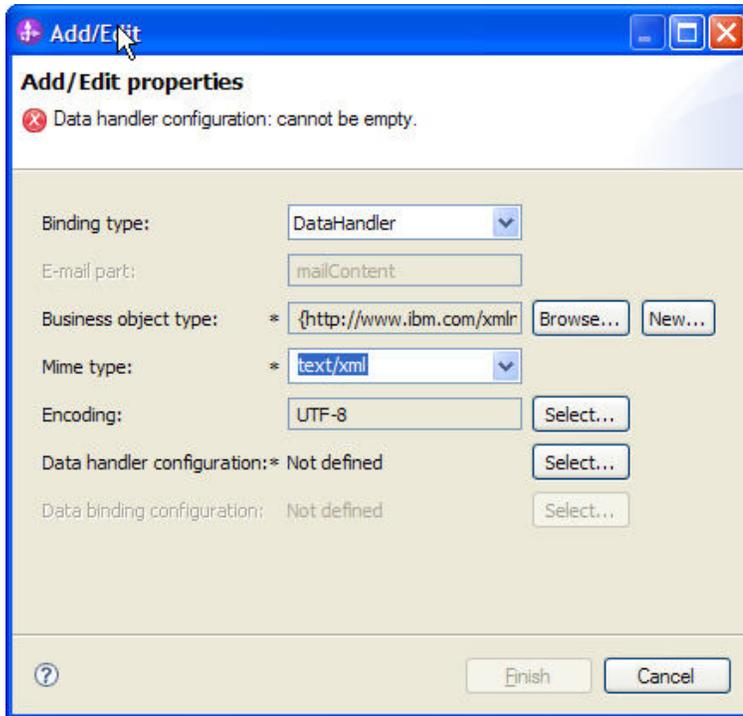
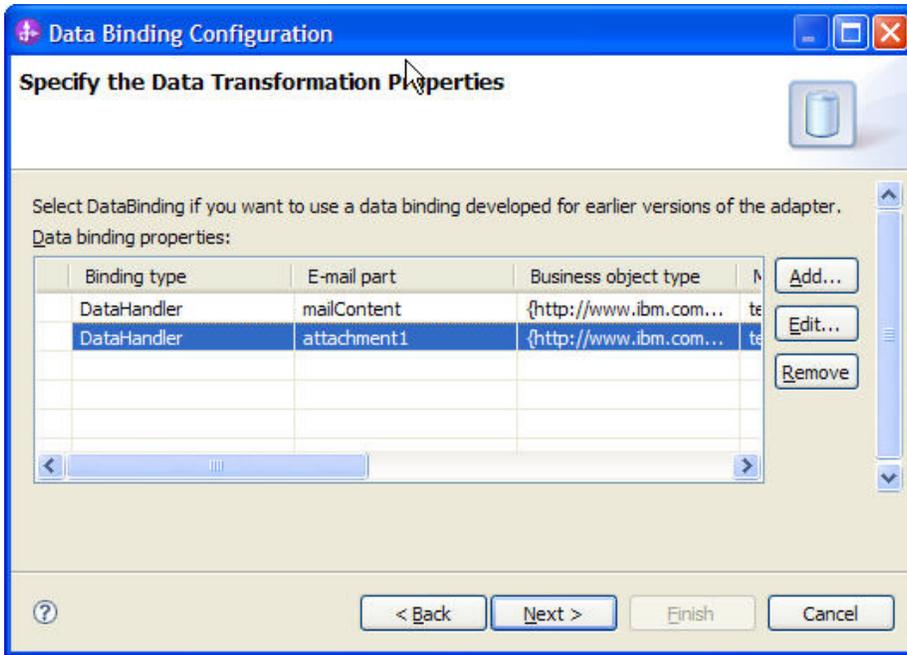


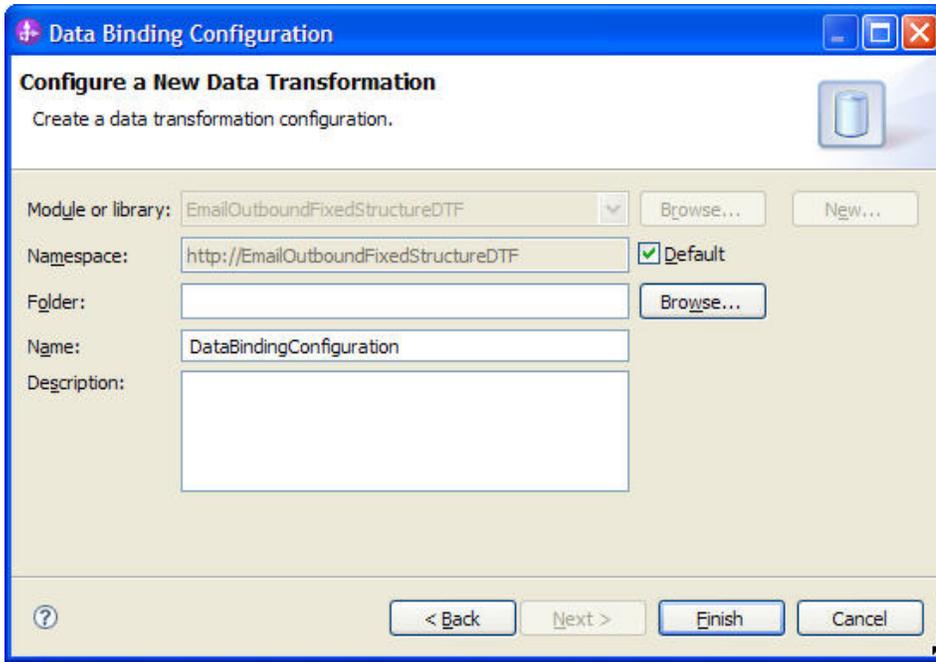
Figure: Configure the data handler

14. In the **DataHandlerConfiguration**, click **Select**, to select the Data handler configuration
15. Select **XML** and click **Next**.
16. Repeat Steps 12 to 14 for **Wbiphone**.
17. Click **Next**.



*Figure: Specify the data binding properties*

18. Click **Next**.
19. Click **Finish** twice.
20. Click **Next**, and then click **Finish**.



*Figure: Complete the new data transformation configuration*

21. Check the output of module and verify results

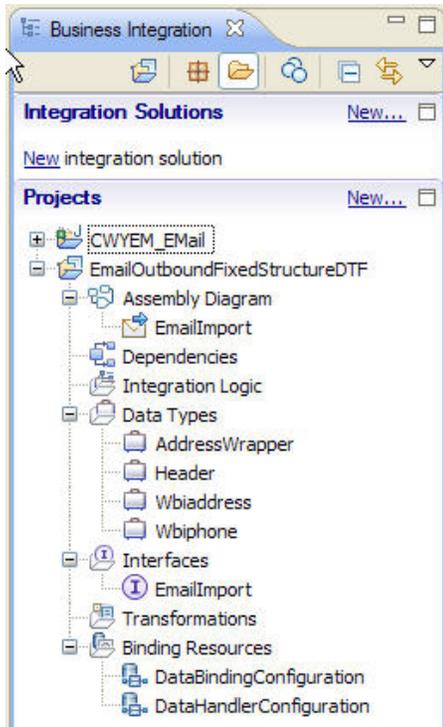


Figure: Check the output of the module

---

## Deploying the module to the test environment

The result of running the external service wizard is an SCA module that contains an EIS import or export. Install this SCA module in WebSphere Integration Developer integration test client.

1. Add the module you created earlier to the server using the server panel in WebSphere Integration Developer. Right-click the server and then select **Add and Remove Projects**.
2. Add the SCA module to the server.
3. Click **Finish**.

## Testing the assembled adapter application

Test the assembled adapter application using the WebSphere Integration Developer integration test client.

1. Select the service you want, and click **Test > Test Module**.
2. Populate the values for the To, From, Subject and the user-defined mail content and mail attachment.
3. Click **Continue**  to run the service.

Initial request parameters

Name	Type	Value
sendInput	CustomEmail	
To	string	✓ emailca@rajan
From	string	✓ tester@ibm
CC	string	✓
BCC	string	✓
Reply-To	string	✓
Subject	string	✓ EmailOutboundFixedStructureDTF
Encoding	string	✓ utf-8
Date	string	✓
HeaderList	Header[]	6p
mailContent	Wbiaddress	✓
Addressid	integer	✓ 0
Addrline1	string	✓ IBM India Software Labs
Addrline2	string	✓ Bangalore
Customercity	string	✓
Customerstate	string	✓
Customerzip	string	✓
Customercountry	string	✓ India
Wbiphone	Wbiphone[]	6p
attachment1	Wbiphone	✓
Phoned	integer	✓ 0
Phonenumber	string	✓ official
Phonetype	string	✓
attachment1Name	string	✓ test.xml

Figure: Enter the values to test the module

4. Check the output of the service, and check the data in the EIS to ensure it matches expected values.

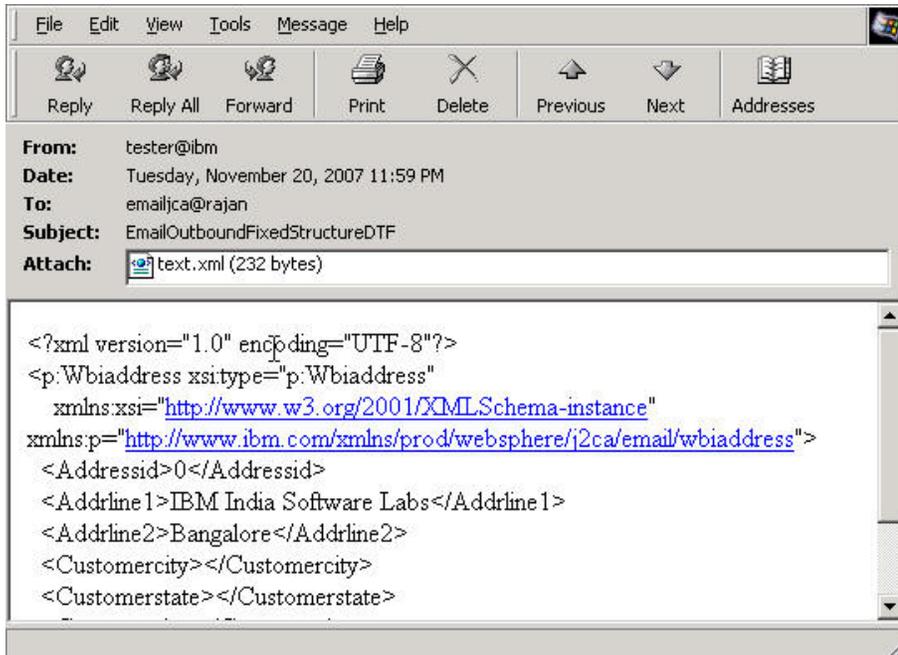


Figure: Check the output of the service

5. Check the sample output values as shown here.

```
<?xml version="1.0" encoding="UTF-8" ?>
- <p:Wbiphone xsi:type="p:Wbiphone" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:p="http://www.ibm.com/xmlns/prod/websphere/j2ca/email/wbiphone">
  <Phoneid>0</Phoneid>
  <Phonenumber />
  <Phonetype>official</Phonetype>
</p:Wbiphone>
```

Figure: Review the sample output

---

## Clearing the sample content

Return the data to its original state.

Remove the module created earlier from the WebSphere Process Server.

1. Right-click the server, and then select **Add and Remove Projects**.
2. Select the module.
3. Click **Remove** and then click **Finish**.

Nothing is required to clean up after this tutorial.

## Chapter 10. **Tutorial 8: Email inbound user-defined type with DTF**

This tutorial demonstrates a new feature in version 7.0.0.0 of WebSphere Adapter for Email, which allows the user to build user-defined wrappers.

This tutorial demonstrates how to build user-defined wrappers and use it in inbound. This feature can be used when you know that all emails you receive are of the same structure.

---

### **Scenario**

The following tutorial explains the configuration of the Email adapter to pick up fixed structure emails. By selecting the user-defined data type in the external service wizard, you can define your own fixed structure wrapper business object. By doing this, you can use ordinary mapping tools to consume and work with your business objects without having to determine the business object type at runtime.

During inbound processing with user-defined type, the adapter will only process events symmetric to the User defined Email business objects that you define in the EmailFixedStructureDataBinding data binding. If the adapter receives an event that is not symmetric to the specified custom data type, it will not process the event. Instead, the adapter will throw an exception with the appropriate error message.

This scenario plays a role where an organization, say a banking system uses e-mail as primary mode of communication with its customers. All the complaints lodged by the customers are over email. In this scenario, it would become very difficult for the banking system to process the complaints unless and until a particular structure is followed. The organization might now come up with a standard format to be followed by the customer to login a complaint. The structure can be something like the first attachment being the customer details, Customer ID, Name, Contact Number, Account Type and the second attachment being the Complaint. Any mail that does not confirm to this structure would not be considered and further processed.

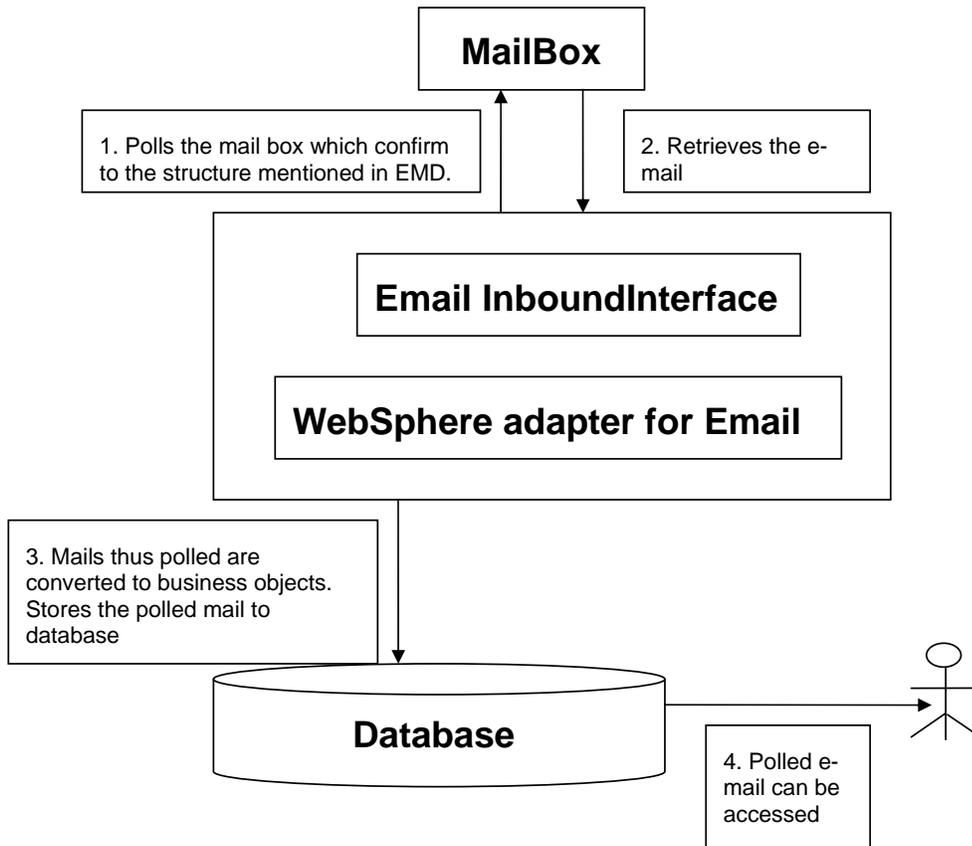


Figure: Email inbound user-defined type with DTF

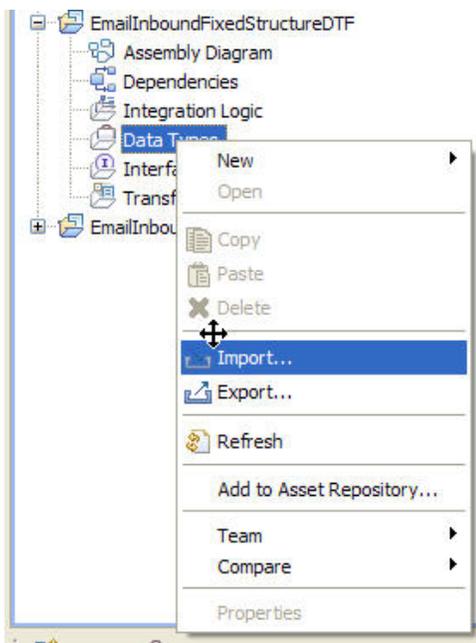
All the complaints would be sent to [customercare@bank.com](mailto:customercare@bank.com) from where the adapter would pick up mails for processing using this particular configuration. Fixed structure inbound configuration will read all the mails convert them to business objects and handle the info to any available external SCA component that can handle customer's compliant.

## Configuring the adapter for inbound processing

Run the external service wizard to specify business objects, services, and configuration to be used in this tutorial.

### Creating the project

1. Switch to the Business Integration perspective in WebSphere Integration Developer by clicking **Window -> Open Perspective Business Integration**.
2. Create a new module by clicking: **File -> New -> Module**.
3. Enter the module name as **EmailInboundFixedStructureDTF** and click **Finish**.
4. Import the Customer xsd into the module created. Right-click the DataTypes under the module **EmailInboundFixedStructureDTF** and select Import.



*Figure: Import the datatypes into the module*

5. Select **FileSystem** from the General category and click **Next**.

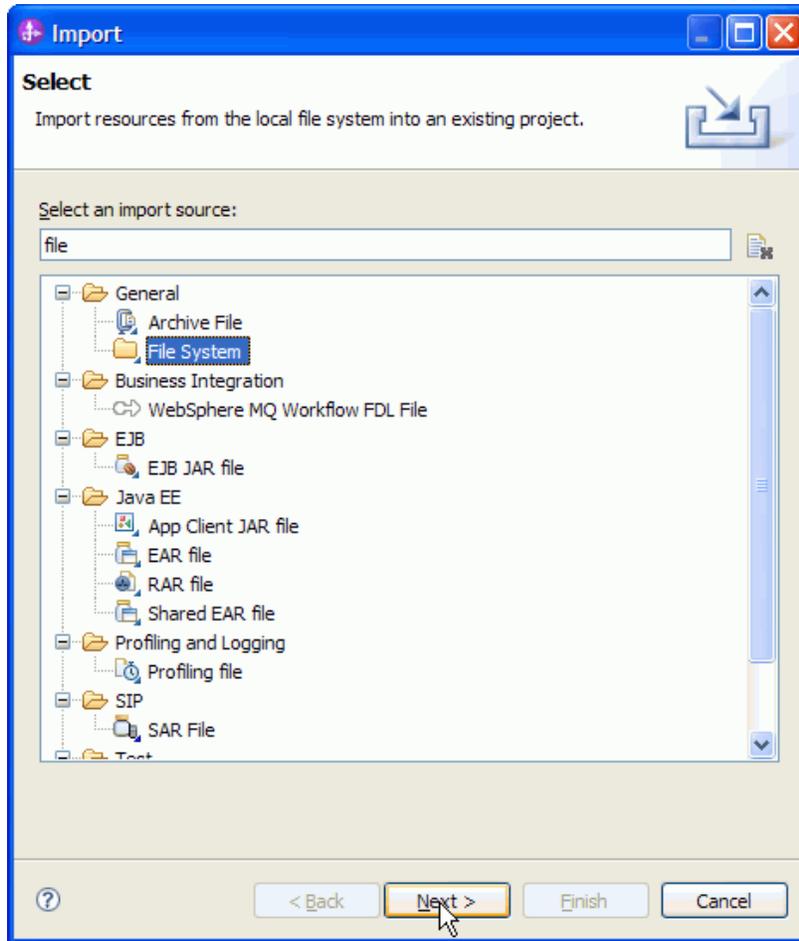


Figure: Select the option file system

6. Browse and choose the sample business object Wbiaddress.xsd and Wbiphone.xsd in this case from the xsd folder.

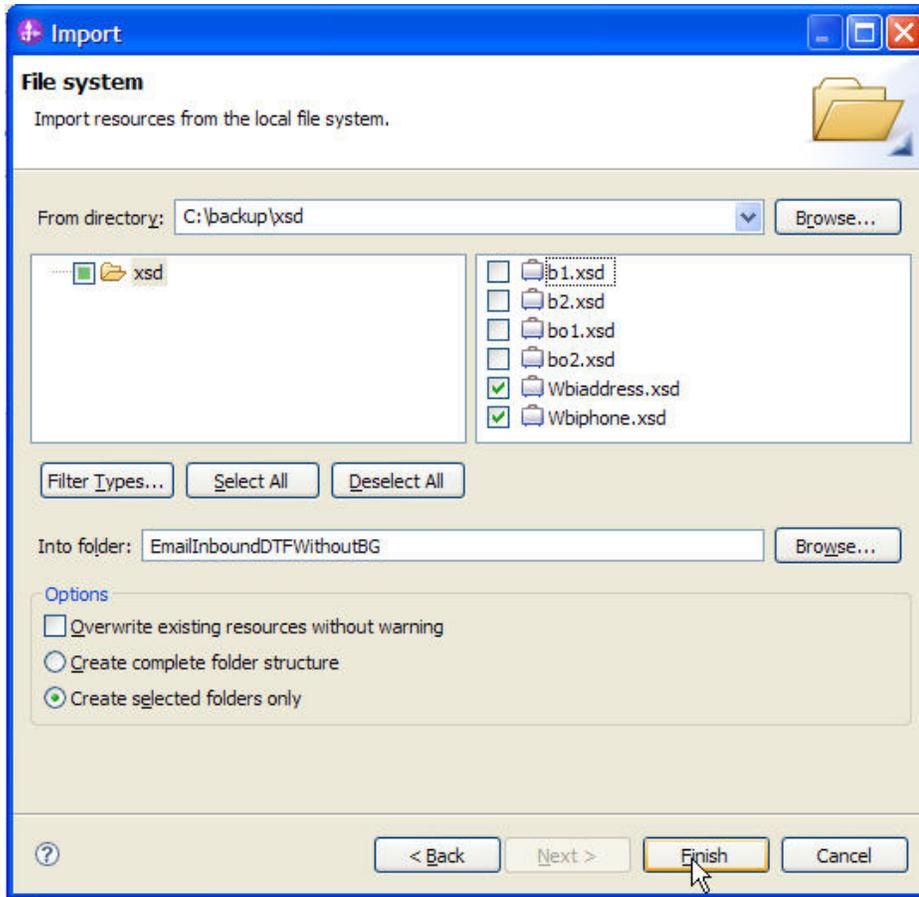


Figure: Import the XSDs

7. The Wbiaddress.xsd and Wbiphone.xsd can be seen under the data types.

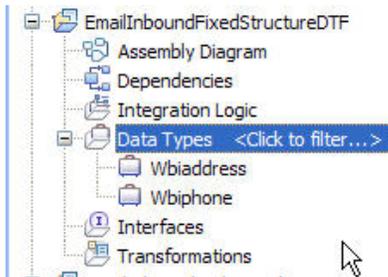


Figure: Expand Data Types

8. Start the external service wizard by clicking: **File-> New -> External Service**
9. Expand Adapters and select **Email**, and then click **Next**.
10. In the Select an Adapter window, you can either create a new project or select an existing project.
11. To create a new project, perform the following steps:
  - a) In the Select an Adapter window, select **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
  - b) Click **Next**.
  - c) In the Adapter Import window, either accept the default name for the project (**CWYEM\_EMail**) or provide another name in the **Connector project** field.
  - d) Select the server from the **Target runtime** list (for example, **WebSphere Process Server v7.0.0.0**), and then click **Next**.
12. To select an existing project, perform the following steps:
  - a) Expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
  - b) Select a project. For example, if you have an existing project named **CWYEM\_EMail**, you can **expand IBM WebSphere Adapter for Email (IBM: 7.0.0.0) CWYEM\_EMail**, then select the connection information.
  - c) Click **Next**.
13. Choose the processing direction as **Inbound** and click **Next**.

### **Setting connection properties for the external service wizard**

1. To connect to Email server the following information is necessary: hostname, username, password, port, protocol, location of the staging directory and optionally location of the Archive folder and Failed Events Folder. Provide this information in the wizard.

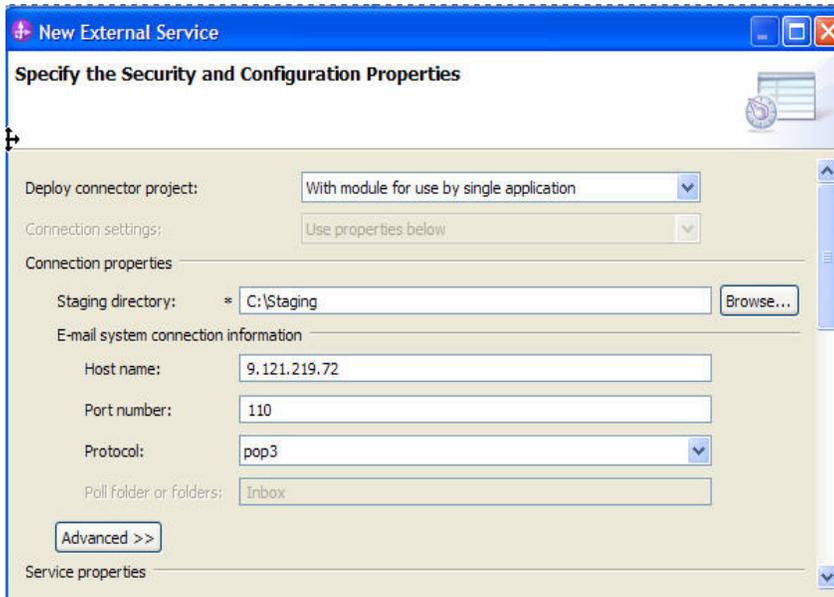


Figure3: Enter the connection information

2. Clear the **Specify a Java Authentication and Authorization Services (JAAS) alias security credential**.
3. Select the **Specify a data format for each operation** from the **Data format** options list.

**Service properties**

How do you want to specify the security credentials?

Using an existing JAAS alias (recommended)  
Java Authentication and Authorization Services (JAAS) alias is the recommended way for specifying security credentials.  
J2C authentication data entry:

Using security properties from the activation specification  
The security properties will not be encrypted and will be stored as plain text.  
User name:   
Password:

Other  
Other security mechanisms native to the enterprise system, or if security is not required by the enterprise system.

Function selector options:

Function selector:

Data format options:

Data format:

*Figure: Specify the service properties*

4. Click **Next**.

### Generating business object definitions and related artifacts

Follow these steps to generate the business object definitions.

1. In the Operations window, click **Add**.
2. Select the data type as **User defined email business object** and click **Next**.

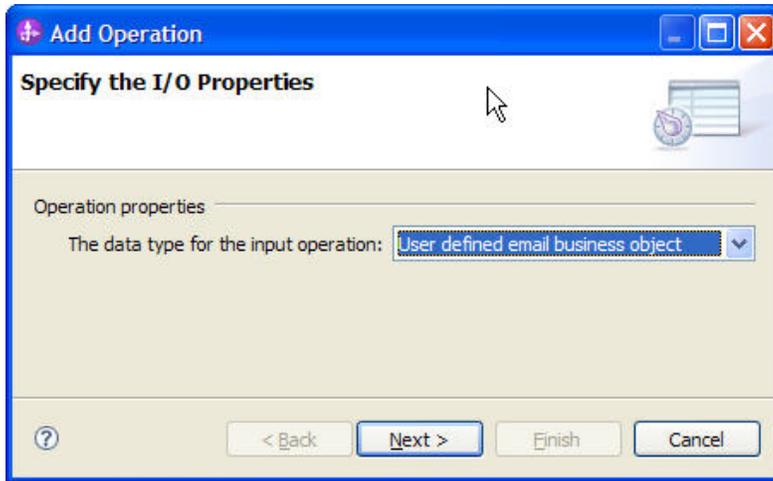


Figure: Select the data type

3. In the Add Operation window, click **New**, to create a new **Input type**.

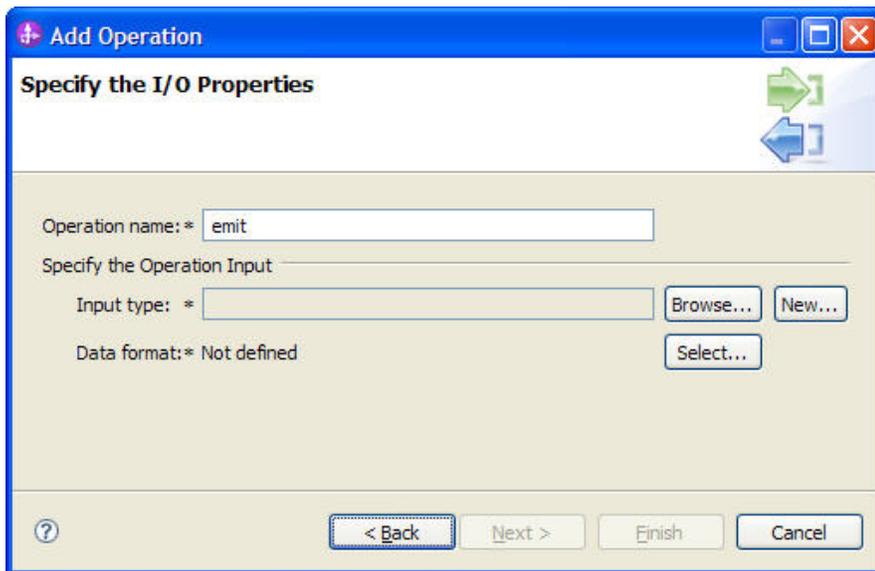


Figure: Create a new data format type

4. Click **Next**.

5. Type the **Business object name** as **CustomEmail**.

6. In Specify the Properties window, click **Add** to add an e-mail type.

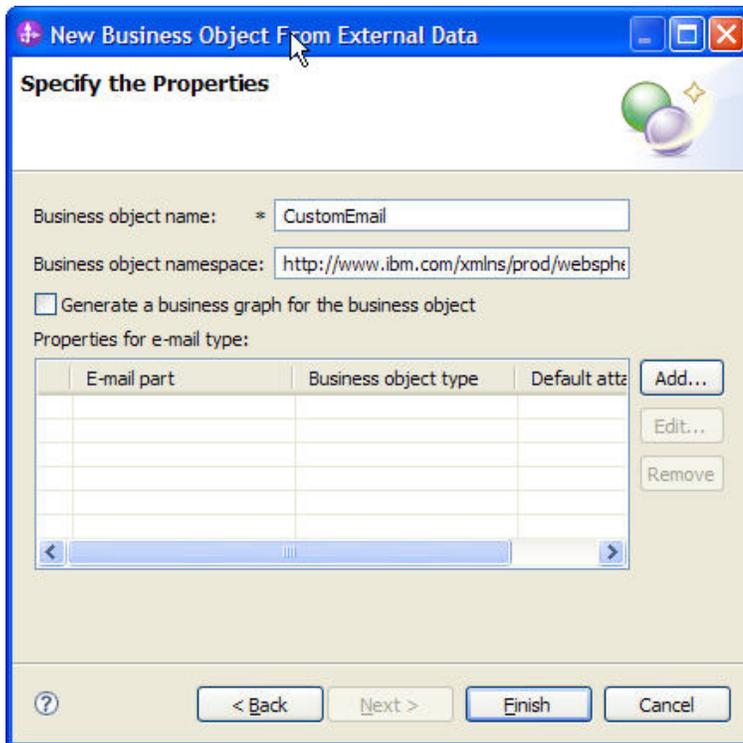
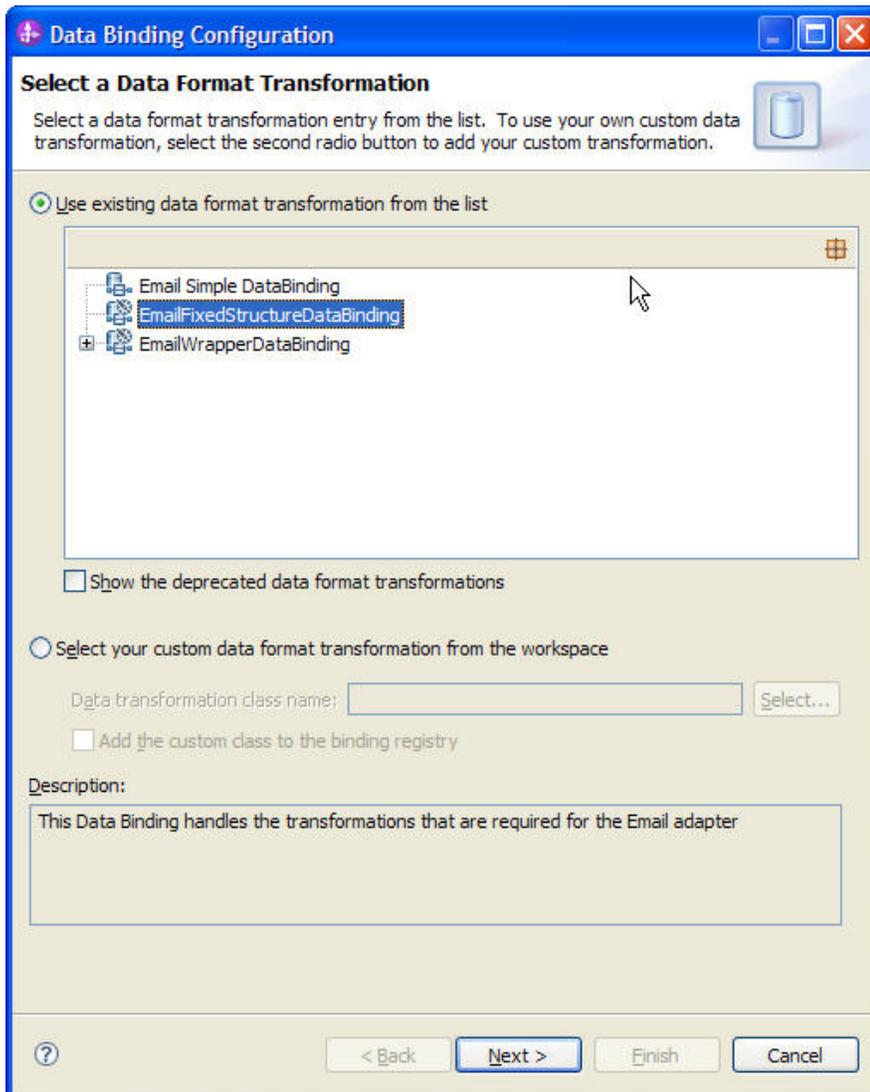


Figure: Add an e-mail type

7. In the Add/Edit properties window, browse and select the malcontent as **Wbiaddress** and **Wbiphone** as attachment.

8. Click **Finish** twice.

9. Select the DataBinding as **EmailFixedStructureDataBinding** and click **Next**.



*Figure: Select an existing data format transformation*

10. Select the **MimeType** as **text/xml**.

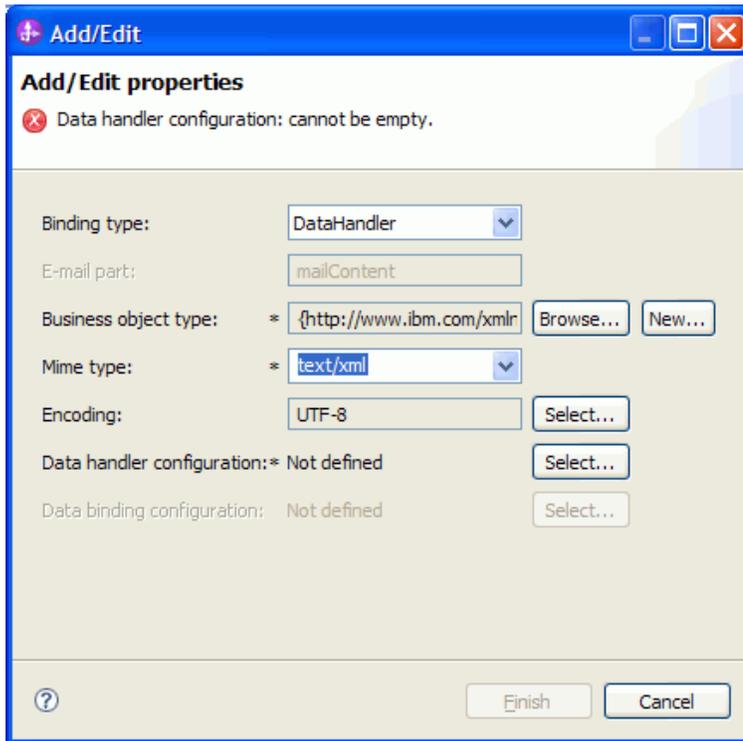


Figure: Configure the data handler

11. In the Data handler configuration, click **Select** to select the **DataHandlerConfiguration**.

12. Select **XML** and click **Next**.

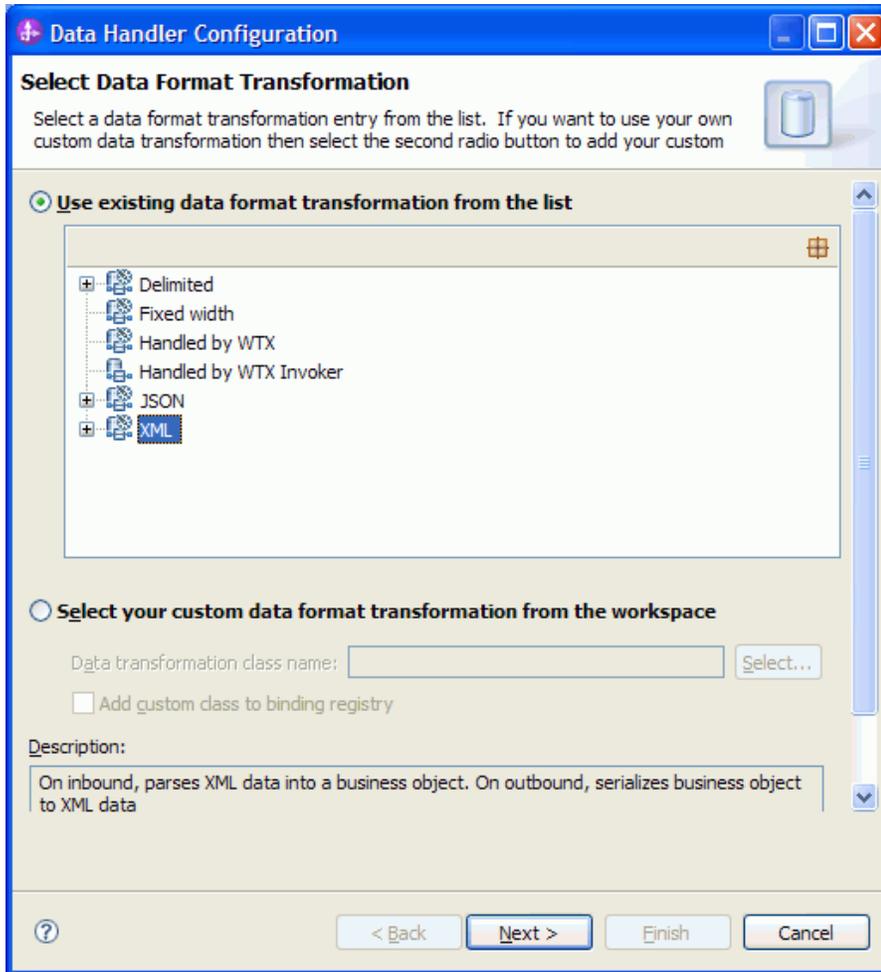


Figure: Select the XML data handler

13. Click **Next** and then click **Finish**.
14. Repeat Steps 10 to 13 to add **Wbiphone**.
15. Click **Next**.

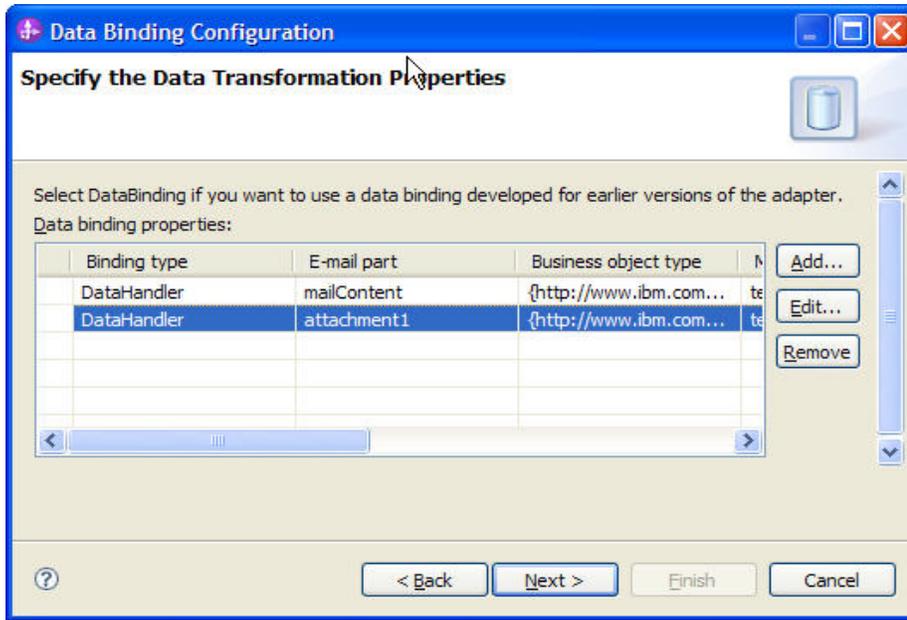


Figure: Specify the data binding properties

16. Click **Finish**.

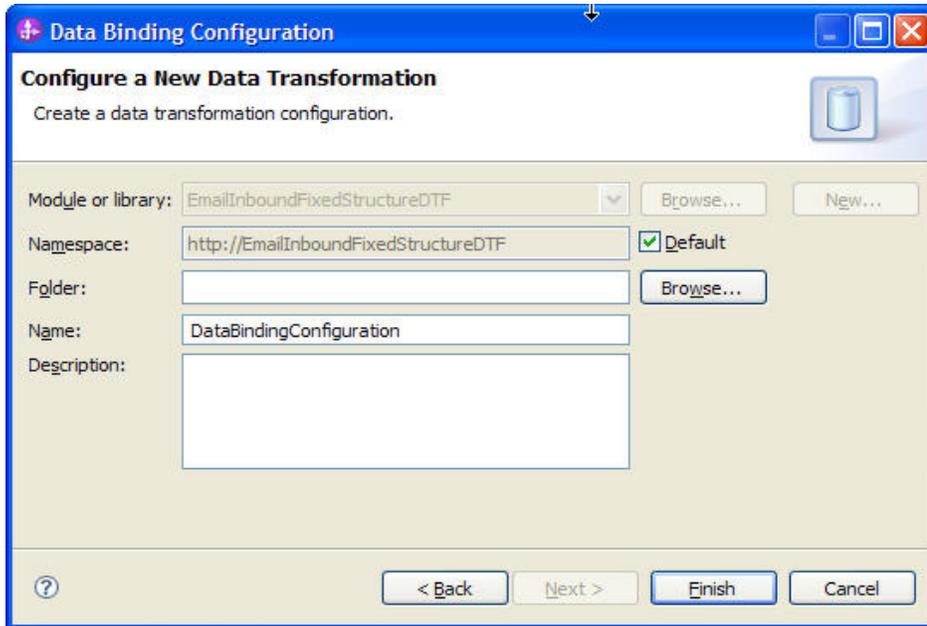


Figure: Complete the new data transformation configuration

17. Click **Next**, and then click **Finish** to complete the service and verify the results.

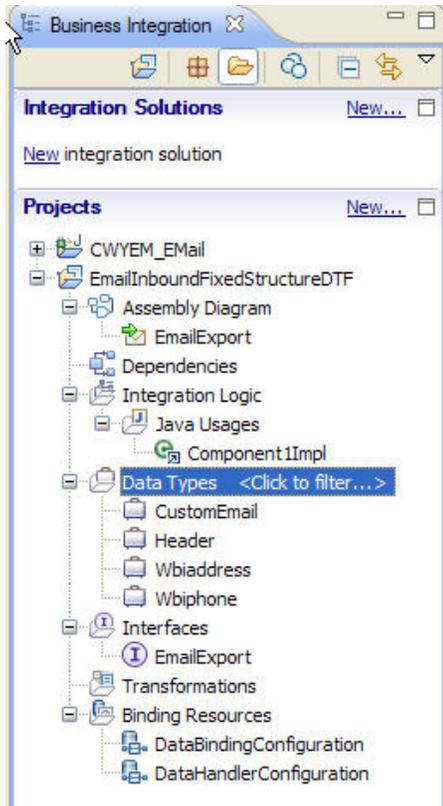


Figure: Verify the results

18. Open the Assembly diagram for the module. Click the Java Component from the palette. Drag and drop the same into the assembly diagram.

19. Name the Java Component as **EndPoint** and wire the export to the Java Component.

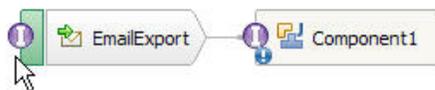


Figure: Rename the Java component

20. Right-click the Java Component (EndPoint) created earlier and click **Generate Implementation**.
21. Select **Default package**. A java class file implementation is generated for the same.

```
import commonj.sdo.DataObject;

public class EndPointImpl {
    /**
     * Default constructor.
     */
    public EndPointImpl() {
        super();
    }

    /**
     * Return a reference to the component service instance for this
     * class. This method should be used when passing this service
     * or if you want to invoke this component service asynchronously.
     *
     * @generated (com.ibm.wbit.java)
     */
    @SuppressWarnings("unused")
    private Object getMyService() {
        return (Object) ServiceManager.INSTANCE.locateService("self");
    }
}
```

*Figure: Review the Java class file implementation*

---

## Deploying the module to the test environment

The result of running the external service wizard is an SCA module that contains an EIS import or export. Install this SCA module in WebSphere Integration Developer integration test client.

1. Add the module you created earlier to the server using the server panel in WebSphere Integration Developer. Right-click the server and select **Add and Remove Projects**
2. Add the SCA module to the server.
3. Click **Finish**.

## Testing the assembled adapter application

Test the assembled adapter application using the WebSphere Integration Developer integration test client.

1. Select the service you want, and click **Test > Test Attach**.
2. Click **Continue**  to run the service.
3. Go to the “<WID\_installation>\ResourceAdapters\Email\_7.0.0.0\Samples” location. Unzip the EmailEventCreator.tar or EmailEventCreator.zip file. The utilities are extracted under folder EmailEventCreator.
4. Create Events using the createEvents\_sample\_passthrough.bat file.
5. Modify the contents of the file as suits your scenario. The Example content could be as shown here:  

```
java -cp .\;\mail.jar;\activation.jar EmailEventCreatorNew "9.121.219.72" 25 1 "tester@ibm"
emailjca@ibm epop3@ibm ejca@ibm "test subject" " <WID_installation>\ResourceAdapters\
Email_7.0.0.0\Samples\EmailEventCreator\WbiAddress.xml" "
<WID_installation>\ResourceAdapters\Email_7.0.0.0\Samples\EmailEventCreator\WbiPhone.xml"
>false"
```

**Note:** Use the files WbiAddress.xml and WbiPhone.xml which are there under EmailEventCreator folder that was extracted to test the scenario.

This will create one event from the user tester@ibm on the mail server at 9.121.219.72 as IP address, with the content as “MyAddress.xml” and with the mail attachment as MyPhone.xml. The other attributes of the mail specified by the user will be incorporated on each mail event that is created.

The mail is processed by the Email Resource adapter and the business object is received through the EndPoint java component is shown in the figure below. Observe the Mail Content as well as Mail Attachment appearing as the configured user-defined types.

▶ **General Properties**

▼ **Detailed Properties**

Module: [EmailInboundFixedStructureDTE](#)  
 Source component: [EmailExport](#)  
 Source reference: <export>  
 Target component: [EndPoint](#)  
 Target interface: [EmailExport](#)  
 Target operation: [emit](#)

Request parameters

Name	Type	Value
HeaderList	Header[]	68
mailContent	Wbiaddress	✓
Addressid	integer	✓ 0
Addrline1	string	✓ EGL Business Park
Addrline2	string	✓ Kormangala
Customerc	string	✓ Bangalore
Customers	string	✓ Karnataka
Customerz	string	✓ 560071
Customerc	string	✓ INDIA
Wbiphone	Wbiphone[]	68
attachment1	Wbiphone	✓
Phoneid	integer	✓ 0
Phonenum	string	✓ 9437843788

*Figure: Review the values for mail content and the mail attachment*

## Clearing the sample content

Return the data to its original state.

Remove the module created earlier from the WebSphere Process Server.

1. Right-click the server and select **Add and Remove Projects**.
2. Select the module.
3. Click on **Remove** and then click **Finish**.

Nothing is required to clean up after this tutorial.

---

## Chapter 11. Tutorial 9: Email inbound with search criteria enabled

---

### Scenario

Consider an organization where e-mail is the primary mode of communication. The current scenario plays a role where there arises a need to process e-mails that satisfy particular criteria.

Consider a credit card system which resolves complaints lodged by the customers through e-mail. It would be very comfortable for the complaint processing system if there is a way to pick up e-mails that have a particular text in the subject or if it is from a particular user (say to address is [abc@company.com](mailto:abc@company.com)). The Email adapter filters and processes only those e-mails that satisfy the search criteria mentioned. Only the e-mails with a specific value in the subject field will be processed. For example, if there is an application that updates the addresses in the database, Email adapter can be configured to pick up only those e-mails that have the search criteria with subject as 'Address Update' and process only those to the end point.

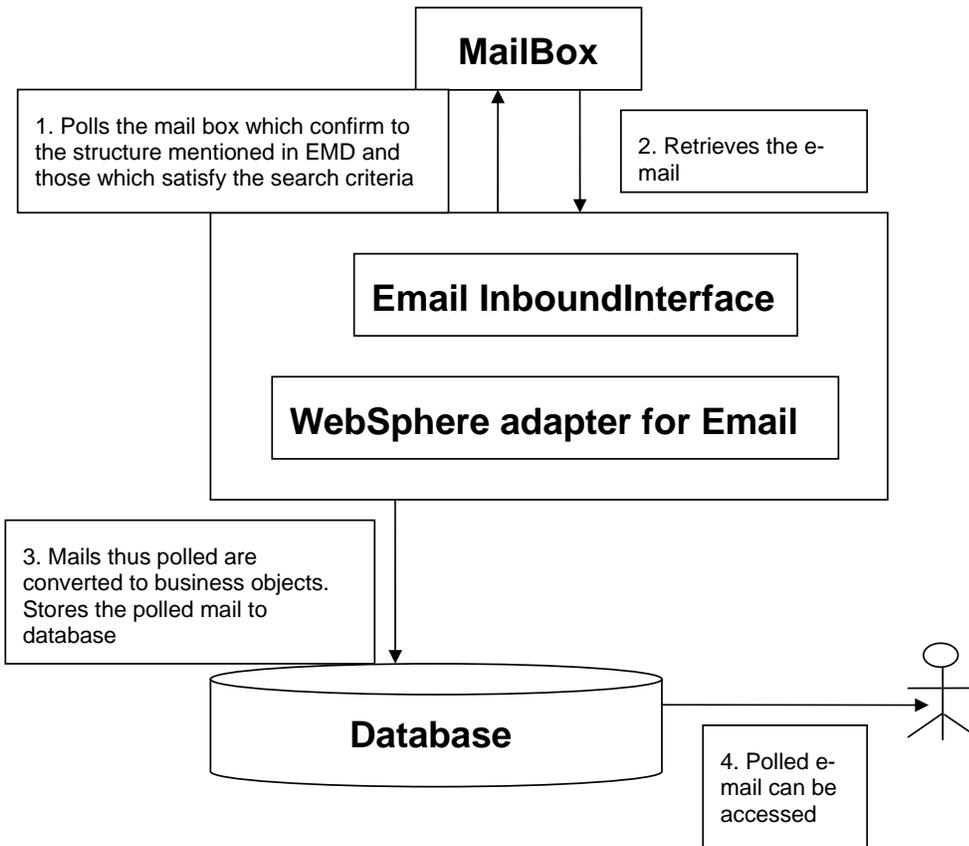


Figure: Email inbound with search criteria enabled

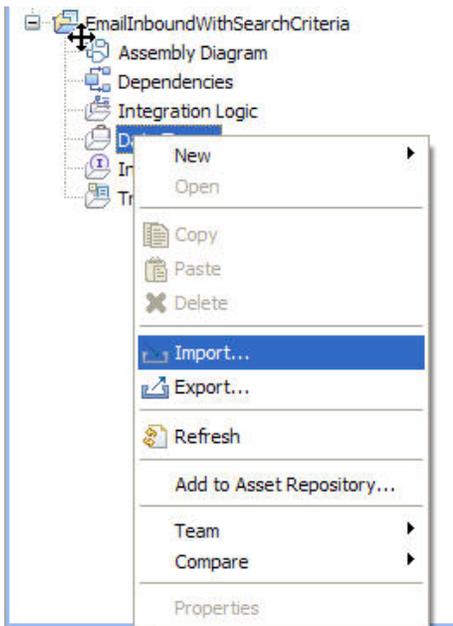
---

## Configuring the adapter for inbound processing

Run the external service wizard to specify business objects, services, and configuration to be used in this tutorial.

## Creating the project

1. Switch to the Business Integration perspective in WebSphere Integration Developer by clicking **Window -> Open Perspective Business Integration**.
2. Create a new module by clicking: **File -> New -> Module**.
3. Enter the **Module** name as **EmailInboundWithSearchCriteria** and click **Finish**.
4. Import the Customer xsd into the module created. Right-click DataTypes under the module **EmailInboundWithSearchCriteria** module and select **Import**.



*Figure: Import the Customer xsd into the module*

5. Select **FileSystem** from the General category and click **Next**.

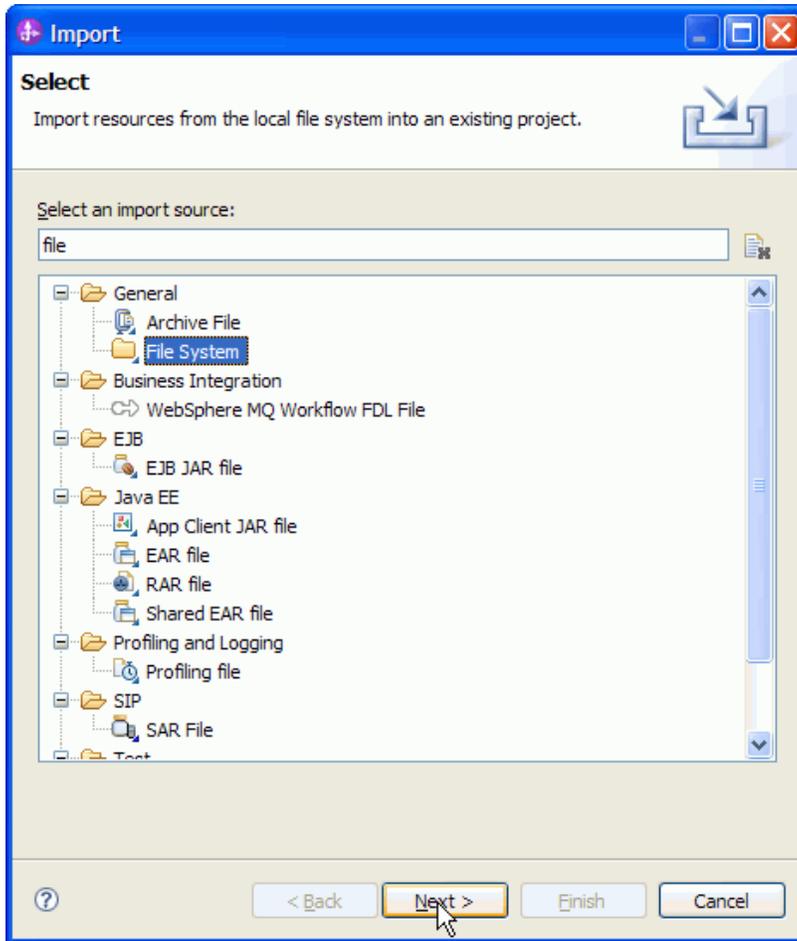


Figure: Import the sample business objects

6. Browse and choose the sample business object Wbiaddress.xsd and Wbiphone.xsd in this case from the xsd folder.

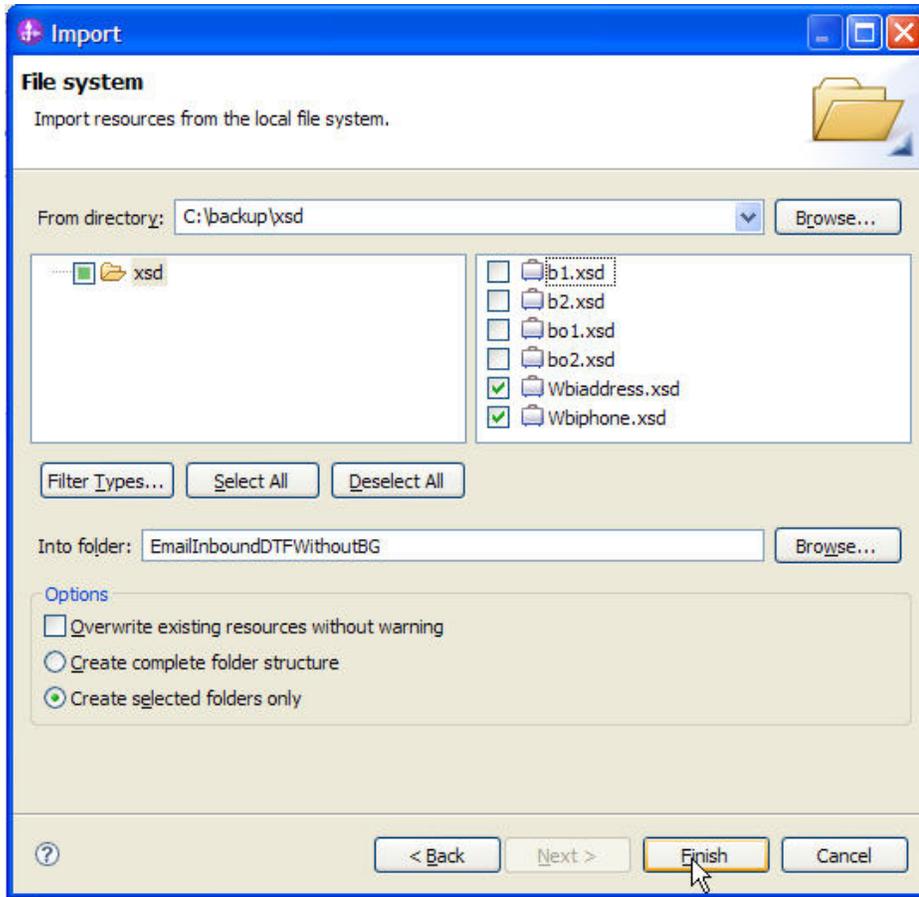


Figure: Select the sample business objects

7. The Wbiaddress.xsd and Wbiphone.xsd can be seen under the data types.

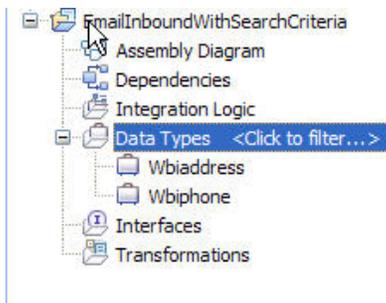


Figure: Review the business objects

8. Start the external service wizard by clicking: **File-> New -> External Service**
9. Expand **Adapters** and select **Email** and then click **Next**.
10. In the Select an Adapter window, you can either create a new project or select an existing project.
11. To create a new project, perform the following steps:
  - a) In the Select an Adapter window, select **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
  - b) Click **Next**.
  - c) In the Adapter Import window, either accept the default name for the project (**CWYEM\_Email**) or provide another name in the **Connector project** field.
  - d) Select the server from the **Target runtime** list (for example, **WebSphere Process Server v7.0.0.0**), then click **Next**.
12. To select an existing project, perform the following steps:
  - a) Expand **IBM WebSphere Adapter for Email (IBM: 7.0.0.0)**.
  - b) Select a project. For example, if you have an existing project named **CWYEM\_Email**, you can **expand IBM WebSphere Adapter for Email (IBM: 7.0.0.0) CWYEM\_Email**, then select the connection information.
  - c) Click **Next**.
13. Select the processing direction as **Inbound** and click **Next**.

### **Setting connection properties for the external service wizard**

1. To connect to Email server the following information is necessary: hostname, username, password, port, protocol, location of the staging directory and optionally location of the Archive folder and Failed Events Folder. Provide this information in the wizard.

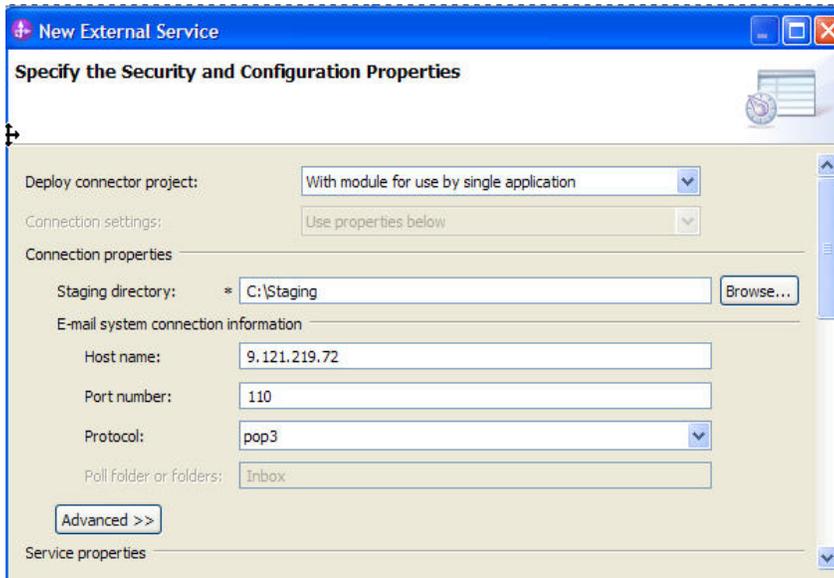


Figure: Enter the connection information

2. In the **Additional properties** section of the **Advanced** tab, specify the value for **Match all search criteria** as "from=from@ibm, to=ejca@ibm".

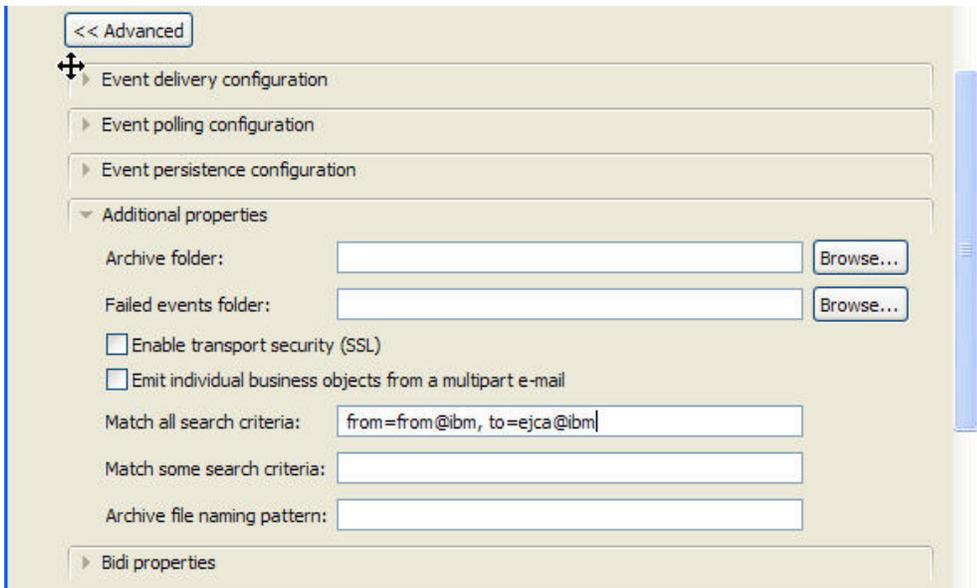


Figure: Enter the search criteria

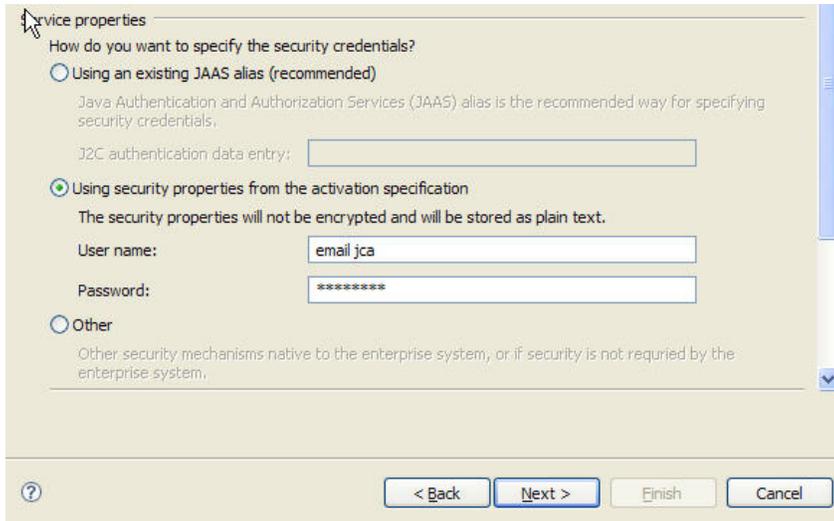


Figure: Specify the service properties

3. Click **Next**.

### Generating business object definitions and related artifacts

Follow these steps to generate the business object definitions.

1. In the Operations window, click **Add**.
2. Select the data type as **User defined email business object** and click **Next**.

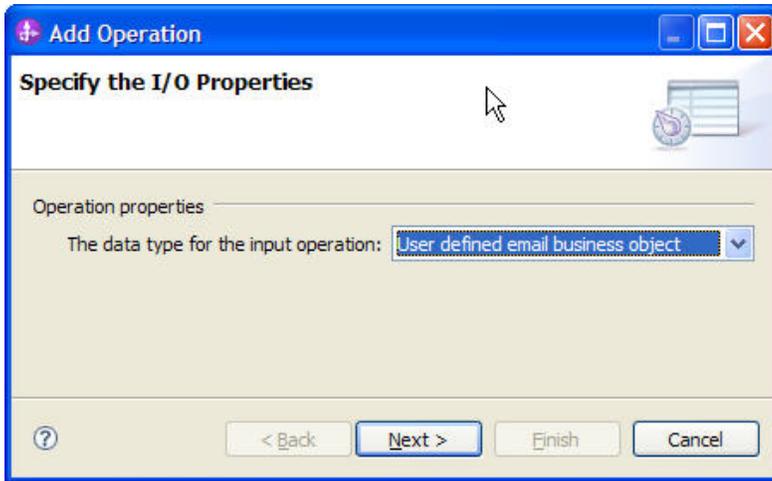


Figure: Select the data type

3. In the Add Operation window, click **New** to create a new **Input type**.

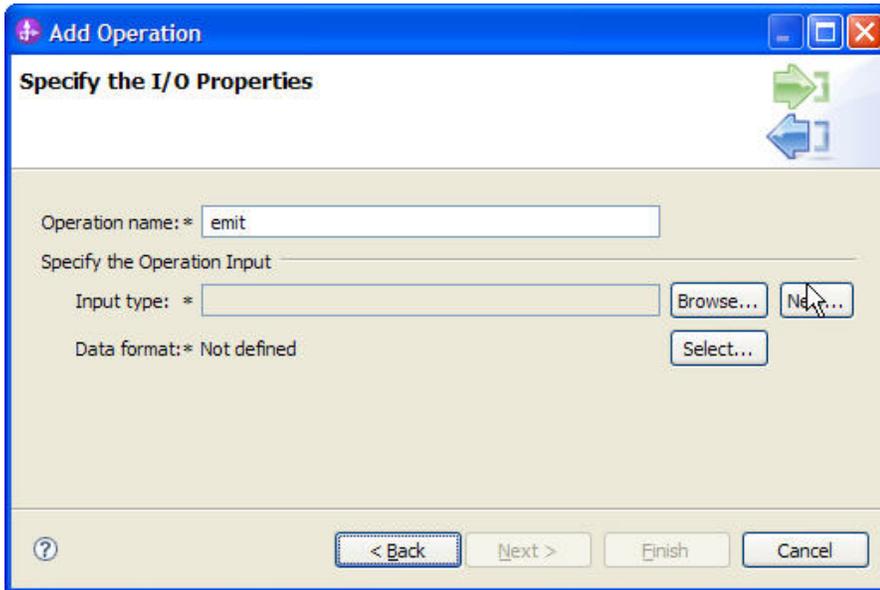
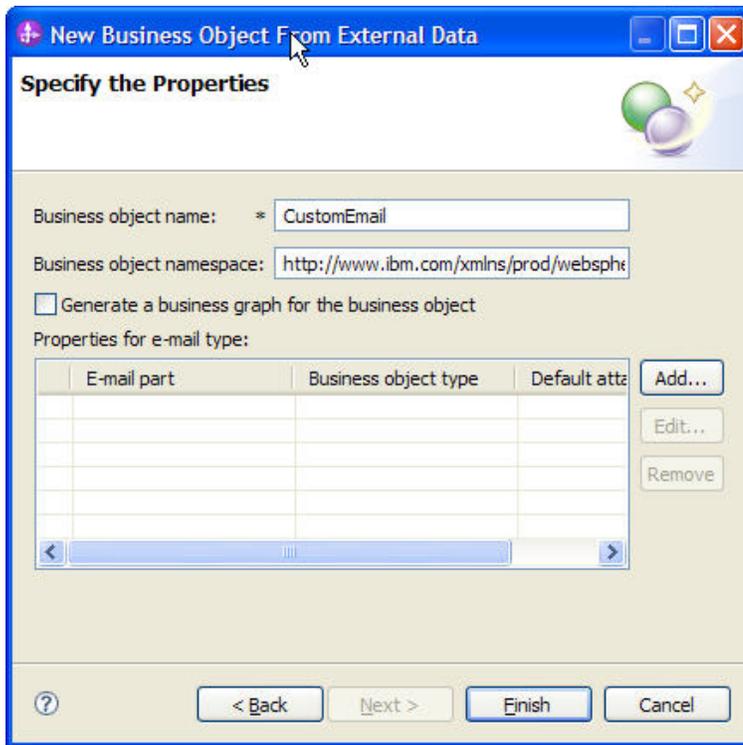


Figure: Create a new data format type

4. Click **Next**.

5. Type the **Business object** name as **CustomEmail**.

6. In properties, click **Add** to add an e-mail type.



*Figure: Add an e-mail type*

7. In the Add/Edit properties window, browse and select the malcontent as **Wbiaddress** and **Wbiphone** as attachment.

8. Click **Finish** twice.

9. Select the DataBinding as **EmailFixedStructureDataBinding** and click **Next**.

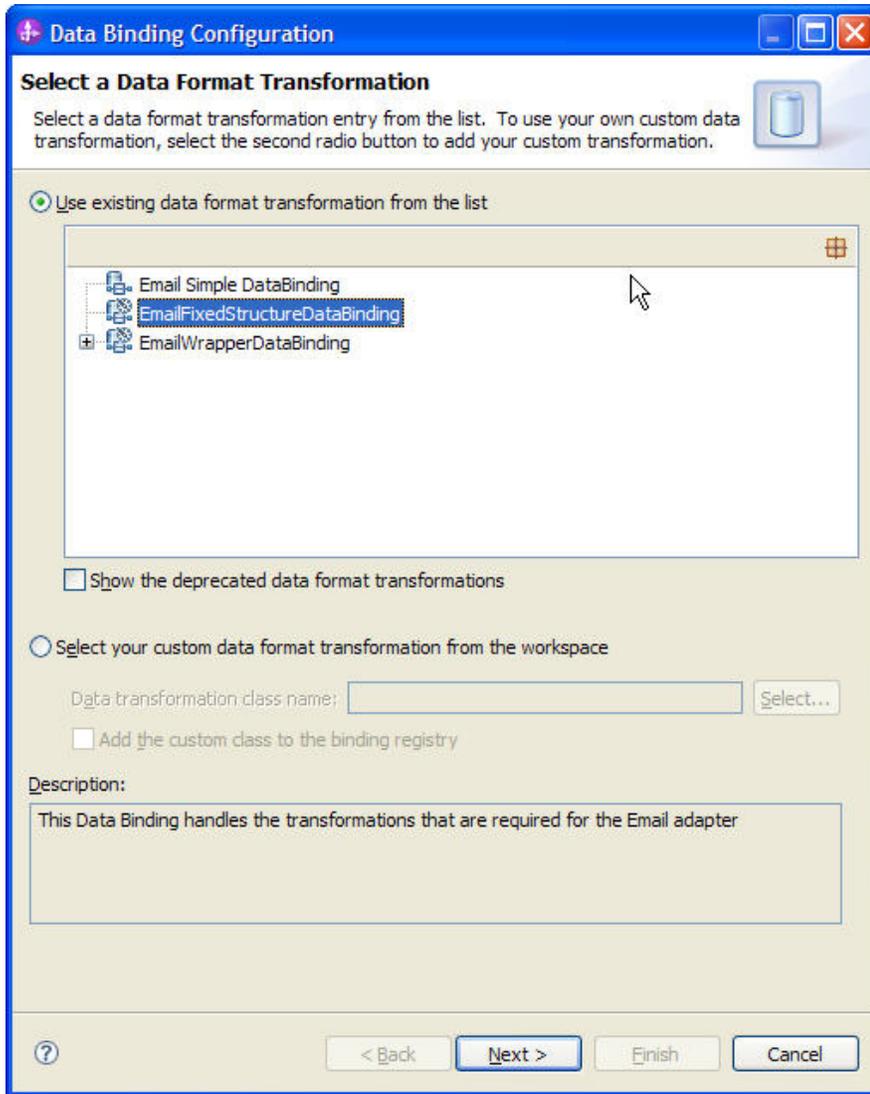
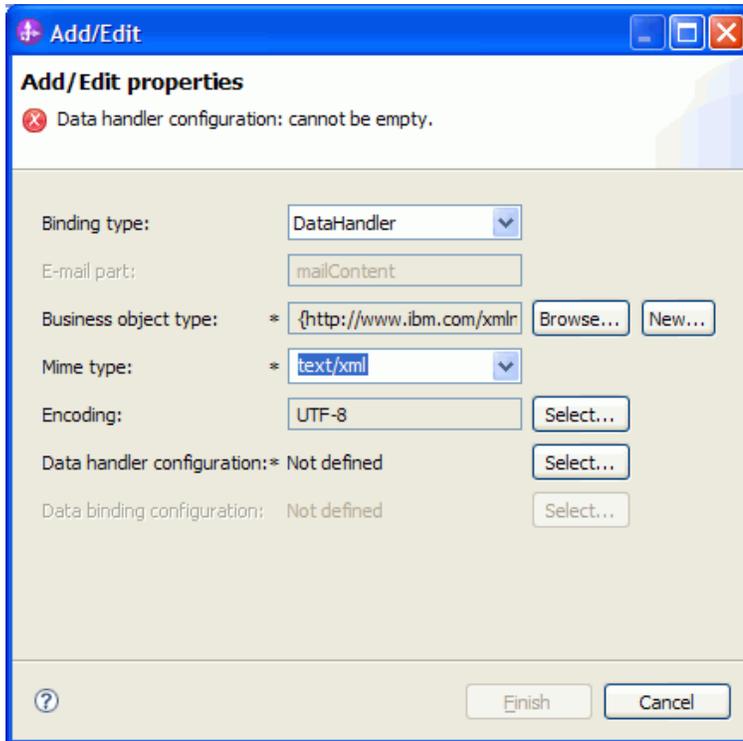


Figure: Select an existing data format transformation

10. Select the **MimeType** as **text/xml**.



*Figure: Configure a data handler*

11. In the Data handler configuration, click **Select** to select the **DataHandlerConfiguration**.
12. Select **XML** and click **Next**.

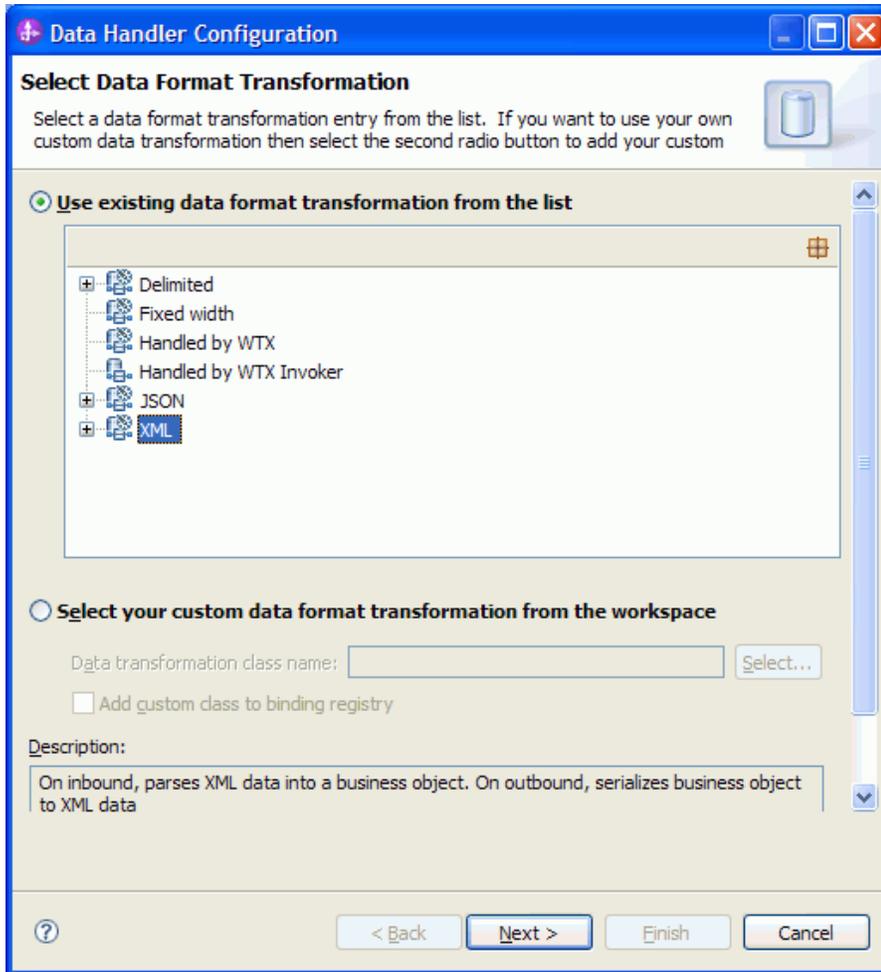


Figure: Select the XML data handler

13. Click **Next**, and then click **Finish**.
14. Repeat Steps 9 to 12 to add **Wbiphone**.
15. Click **Next**.

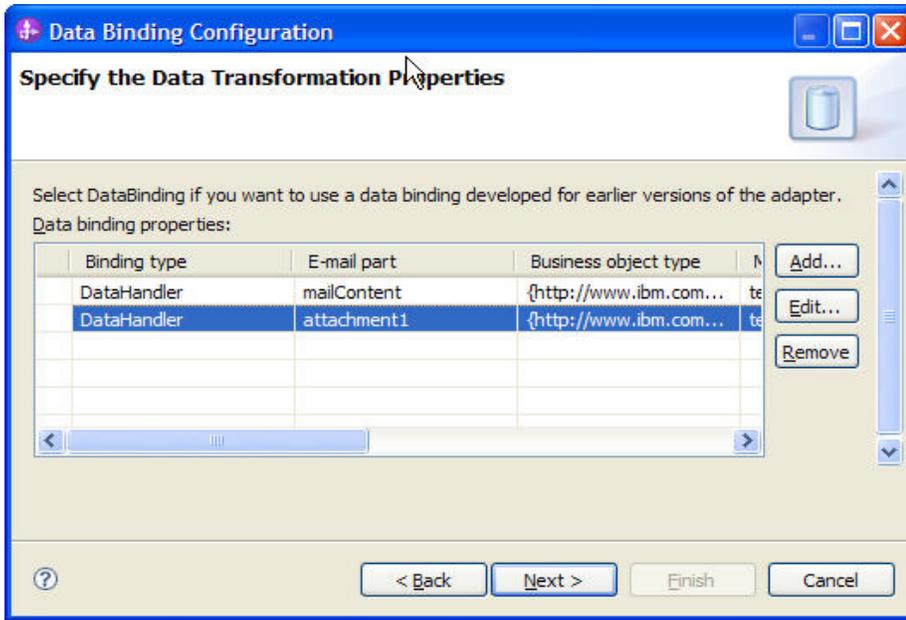


Figure: Specify the data binding properties

16. Click **Finish**.

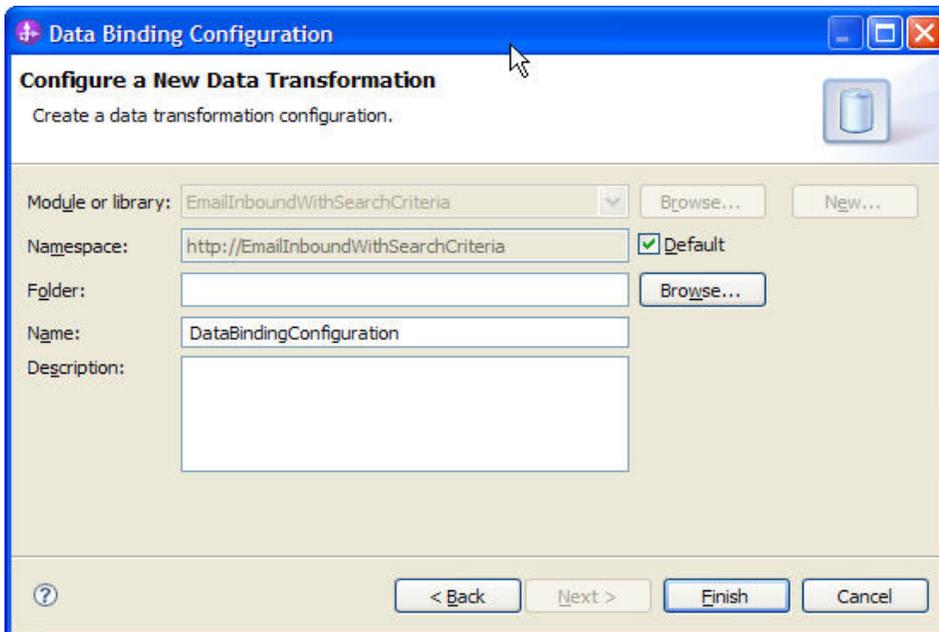
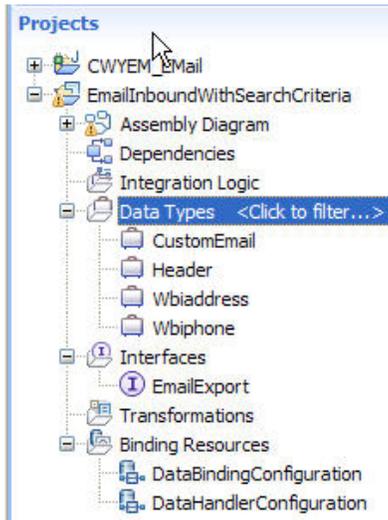


Figure: Complete the new data transformation configuration

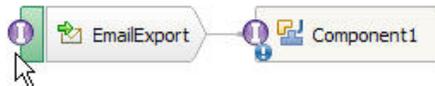
17. Click **Next**, and then click **Finish** to complete the service and verifying the results.



*Figure: Verify the results*

18. Open the Assembly diagram for the module. Click the Java Component from the palette. Drag and drop the same into the assembly diagram.

19. Name the Java Component as **EndPoint** and wire the export to the Java Component.



*Figure: Rename the Java component*

20. Right-click the Java Component (EndPoint) created earlier and click **Generate Implementation**.

21. Select **Default package**. A java class file implementation is generated for the same.

```
import commonj.sdo.DataObject;

public class EndPointImpl {
    /**
     * Default constructor.
     */
    public EndPointImpl() {
        super();
    }

    /**
     * Return a reference to the component service instance for this
     * class. This method should be used when passing this service
     * or if you want to invoke this component service asynchronously.
     *
     * @generated (com.ibm.wbit.java)
     */
    @SuppressWarnings("unused")
    private Object getMyService() {
        return (Object) ServiceManager.INSTANCE.locateService("self");
    }
}
```

Figure: Review the Java class file implementation

---

## Deploying the module to the test environment

The result of running the external service wizard is an SCA module that contains an EIS import or export. Install this SCA module in WebSphere Integration Developer integration test client.

1. Add the module you created earlier to the server using the server panel in WebSphere Integration Developer. Right-click the server and select **Add and Remove Projects**.
2. Add the SCA module to the server
3. Click **Finish**.

## Testing the assembled adapter application

Test the assembled adapter application using the WebSphere Integration Developer integration test client.

1. Select the service you want, and click **Test > Test Attach**.
2. Click **Continue**  to run the service.
3. Go to the “<WID\_installation>\ResourceAdapters\Email\_7.0.0.0\Samples” location. Unzip the EmailEventCreator.tar or EmailEventCreator.zip file. The utilities are extracted under folder EmailEventCreator.
4. Create Events using the createEvents\_sample\_passthrough.bat file.
5. Modify the contents of the file as suits your scenario. The Example content could be as shown here:  

```
java -cp .;\mail.jar;\activation.jar EmailEventCreatorNew "9.121.219.72" 25 1 "tester@ibm"
emailjca@ibm epop3@ibm ejca@ibm "test subject" " <WID_installation>\ResourceAdapters\
Email_7.0.0.0\Samples\EmailEventCreator\WbiAddress.xml" "
<WID_installation>\ResourceAdapters\Email_7.0.0.0\Samples\EmailEventCreator\WbiPhone.xml"
>false"
```
6. Modify the contents of the file as suits your scenario. The Example content could be as shown here:  

```
java -cp .;\mail.jar;\activation.jar EmailEventCreatorNew "9.121.219.72" 25 1 "from@ibm"
emailjca@ibm epop3@ibm ejca@ibm "test subject" " <WID_installation>\ResourceAdapters\
Email_7.0.0.0\Samples\EmailEventCreator\WbiAddress.xml"
"<WID_installation>\ResourceAdapters\
Email_7.0.0.0\Samples\EmailEventCreator\WbiPhone.xml" "false".
```

**Note:** Use the files WbiAddress.xml and WbiPhone.xml which are there under EmailEventCreator folder that was extracted to test the scenario.

This will create one event from the user tester@ibm and one event from the user from@ibm on the mail server at 9.121.219.72 as IP address, with the content as “MyAddress.xml” and with the mail attachment as MyPhone.xml. The other attributes of the mail specified by the user will be incorporated on each mail event that is created.

The event whose sender value is from@ibm and to value is ejca@ibm is picked up for processing.

The mail is processed by the Email Resource Adapter and the business object is received through the EndPoint java component as shown in the following figure. Observe that the Mail Content as well as Mail Attachment appearing as the configured user-defined types.

## Clearing the sample content

Return the data to its original state.

Remove the module created earlier from the WebSphere Process Server.

1. Right-click the server and select **Add and Remove Projects**
2. Select the module.
3. Click **Remove** and then click **Finish**.

Nothing is required to clean up after this tutorial

## Chapter 12. Troubleshooting

### 1) Symptom: Enabling of Tracing

Resolution: Open the server administrative console. Click Troubleshooting -> Logging and tracing -> server1 -> change log Detail Levels. Under the components -> groups include \*=info: com.ibm.j2ca.\*=finest

### 2) Symptom: Tracking successful deployment of a module.

Resolution: When you deploy the application you will find this as part of the trace messages: “The SCA Module <module name> started successfully. If this is not deployed properly then you may not find this message.

```
[11/6/07 21:14:01:490 IST] 00000013 ApplicationMg A WSVR0200I: Starting application: EmailInboundDTFWithoutBGApp
[11/6/07 21:14:01:500 IST] 00000013 ApplicationMg A WSVR0204I: Application: EmailInboundDTFWithoutBGApp Application built
[11/6/07 21:14:01:730 IST] 00000013 SibMessage I [:] CWSID0017I: Configuration reload is starting for bus SCA.SYSTEM.k
[11/6/07 21:14:01:860 IST] 00000013 SibMessage I [:] CWSID0018I: Configuration reload is complete for bus SCA.SYSTEM.k
[11/6/07 21:14:01:860 IST] 00000013 SibMessage I [:] CWSID0017I: Configuration reload is starting for bus CommonEventI
[11/6/07 21:14:01:900 IST] 00000013 SibMessage I [:] CWSID0018I: Configuration reload is complete for bus CommonEventI
[11/6/07 21:14:01:930 IST] 00000013 SibMessage I [:] CWSID0017I: Configuration reload is starting for bus SCA.APPLICAT
[11/6/07 21:14:01:970 IST] 00000013 SibMessage I [:] CWSID0018I: Configuration reload is complete for bus SCA.APPLICAT
[11/6/07 21:14:02:000 IST] 00000013 SibMessage I [:] CWSID0019I: Configuration reload is starting for messaging engine
[11/6/07 21:14:02:020 IST] 00000013 SibMessage I [:] CWSID0020I: Configuration reload is complete for messaging engine
[11/6/07 21:14:02:821 IST] 00000013 SibMessage I [:] CWSID0019I: Configuration reload is starting for messaging engine
[11/6/07 21:14:02:851 IST] 00000013 SibMessage I [:] CWSID0020I: Configuration reload is complete for messaging engine
[11/6/07 21:14:02:872 IST] 00000013 SibMessage I [:] CWSID0019I: Configuration reload is starting for messaging engine
[11/6/07 21:14:02:872 IST] 00000013 SibMessage I [:] CWSID0020I: Configuration reload is complete for messaging engine
[11/6/07 21:14:02:892 IST] 00000013 SibMessage I [:] CWSIS1568I: Messaging engine kisundarNode01.server1-SCA.SYSTEM.ki
[11/6/07 21:14:02:922 IST] 00000013 SibMessage I [:] CWSIS1568I: Messaging engine kisundarNode01.server1-SCA.APPLICATI
[11/6/07 21:14:02:922 IST] 00000013 SibMessage I [:] CWSIS1568I: Messaging engine kisundarNode01.server1-CommonEventIn
[11/6/07 21:14:02:972 IST] 00000013 Core I CWSCA3009I: The SCA module "EmailInboundDTFWithoutBGApp" is starting.
[11/6/07 21:14:03:132 IST] 00000013 Core I CWSCA3010I: The SCA module started successfully.
[11/6/07 21:14:03:593 IST] 00000013 ResourceMgrIm I WSVR0049I: Binding javax.resource.cci.ConnectionFactory as eis/javax.
[11/6/07 21:14:03:643 IST] 00000013 EJBContainerI I WSVR0037I: Starting EJB jar: EmailInboundDTFWithoutBGEJB.jar
[11/6/07 21:14:03:843 IST] 00000011 LogUtils W com.ibm.j2ca.email.util.EmailVerifier verifyArchiveFolder CWYEM0117U: I
[11/6/07 21:14:03:863 IST] 00000013 EJBContainerI I WSVR0057I: EJB jar started: EmailInboundDTFWithoutBGEJB.jar
[11/6/07 21:14:03:863 IST] 00000011 LogUtils W com.ibm.j2ca.email.util.EmailVerifier verifyFailedEventsFolder CWYEM010:
[11/6/07 21:14:04:083 IST] 00000013 ApplicationMg A WSVR0221I: Application started: EmailInboundDTFWithoutBGApp
```

Figure: Trace messages

3) Symptom: Publish errors. If you get publish errors wherein you find exception in the System.err log of the server logs as: “IBM WebSphere Adapter for Email not found something” as below:

```
[11/6/07 21:27:43:371 IST] 0000006d SystemErr R com.ibm.websphere.sca.ServiceRuntimeException: ResourceAdapter
EmailInboundDTFWithoutBGApp.IBM WebSphere Adapter for Email not found
[11/6/07 21:27:43:371 IST] 0000006d SystemErr R at com.ibm.ws.sca.internal.deployment.eis.EISArchiveTask.installEISPart(EISArchiveTask.java:196)
[11/6/07 21:27:43:371 IST] 0000006d SystemErr R at com.ibm.ws.sca.internal.deployment.eis.EISArchiveTask.installPart(EISArchiveTask.java:745)
[11/6/07 21:27:43:371 IST] 0000006d SystemErr R at com.ibm.ws.sca.internal.deployment.SCATaskBase.installModule(SCATaskBase.java:65)
[11/6/07 21:27:43:371 IST] 0000006d SystemErr R at com.ibm.ws.sca.internal.deployment.eis.EISArchiveTask.install(EISArchiveTask.java:127)
[11/6/07 21:27:43:371 IST] 0000006d SystemErr R at
com.ibm.ws.sca.internal.deployment.SCAInstallTask.performInstallTasks(SCAInstallTask.java:116)
[11/6/07 21:27:43:371 IST] 0000006d SystemErr R at com.ibm.ws.sca.internal.deployment.SCAInstallTask.performTask(SCAInstallTask.java:66)
[11/6/07 21:27:43:371 IST] 0000006d SystemErr R at com.ibm.ws.management.application.SchedulerImpl.run(SchedulerImpl.java:262)
[11/6/07 21:27:43:371 IST] 0000006d SystemErr R at java.lang.Thread.run(Thread.java:801)
[11/6/07 21:27:43:371 IST] 0000006d SystemErr R
```

Figure: Publish errors appearing as an exception

**Resolution:** Add the Email adapter under the **Dependencies** for the Business Integration Module

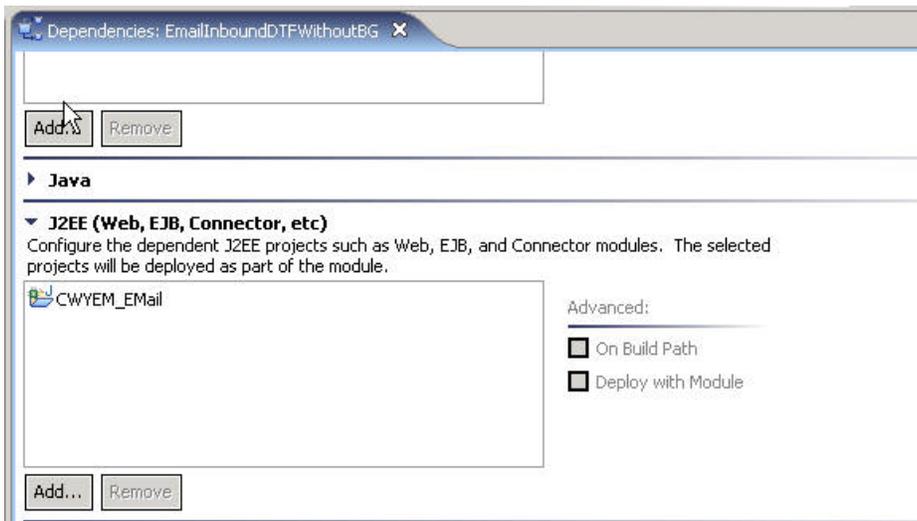


Figure: Add the adapter

```
[11/6/07 21:30:07:308 IST] 00000011 CUYEH_EMail E com.ibm.j2ca.base.WBIResourceAdapter endpointActivation(MessageEndpoint)
javax.resource.ResourceException: Failed to establish event manager
    at com.ibm.j2ca.base.WBIResourceAdapter.createEventManager(WBIResourceAdapter.java:342)
    at com.ibm.j2ca.base.WBIResourceAdapter$1.createEventManager(WBIResourceAdapter.java:173)
    at com.ibm.j2ca.base.internal.EndpointManager.startPolling(EndpointManager.java:191)
    at com.ibm.j2ca.base.internal.EndpointManager.addEndpoint(EndpointManager.java:135)
    at com.ibm.j2ca.base.WBIResourceAdapter.endpointActivation(WBIResourceAdapter.java:242)
    at com.ibm.j2ca.email.EmailResourceAdapter.endpointActivation(EmailResourceAdapter.java:199)
    at com.ibm.ejs.j2c.ActivationSpecWrapperImpl.activateUnderRAClassLoaderContext(ActivationSpecWrapperImpl.java:505)
    at com.ibm.ejs.j2c.ActivationSpecWrapperImpl.reActivateEndpoint(ActivationSpecWrapperImpl.java:454)
    at com.ibm.ejs.j2c.RAWrapperImpl.resumeRAInbound(RAWrapperImpl.java:1162)
    at com.ibm.ejs.j2c.RAWrapperImpl.memberIsActivated(RAWrapperImpl.java:2336)
    at com.ibm.ws.hamanager.impl.HAGroupImpl.doActivateMember(HAGroupImpl.java:672)
    at com.ibm.ws.hamanager.impl.HAGroupImpl$HAGroupUserCallback.doCallback(HAGroupImpl.java:1290)
    at com.ibm.ws.hamanager.impl.Worker.run(UserCallbacks.java:259)
    at com.ibm.ws.util.ThreadPool$Worker.run(ThreadPool.java:1469)
Caused by: javax.resource.ResourceException: com.ibm.j2ca.email.exception.EmailException: Not able to connect to Email Serv
    at com.ibm.j2ca.email.EmailEventStore.<init>(EmailEventStore.java:94)
    at com.ibm.j2ca.email.EmailResourceAdapter.createEventStore(EmailResourceAdapter.java:125)
    at com.ibm.j2ca.base.WBIResourceAdapter.createEventManager(WBIResourceAdapter.java:331)
    ... 13 more
Caused by: com.ibm.j2ca.email.exception.EmailException: Not able to connect to Email Server
    at com.ibm.j2ca.email.util.EmailManager.<init>(EmailManager.java:183)
    at com.ibm.j2ca.email.EmailEventStore.<init>(EmailEventStore.java:82)
    ... 15 more
```

Figure: Exception messages

4) **Symptoms:** Exceptions which would be thrown if endpoint configuration is missed during inbound testing and details like that as shown here.

```
[11/7/07 16:58:23:907 IST] 0000005e ExceptionUtil E CNTR0020E: EJB threw an unexpected (non-declared) exception during
invocation of method "onNotification" on bean
"BeanId(EmailInboundDTFwithoutBGApp#EmailInboundDTFwithoutBGEJB.jar#export.EmailInboundDTFwithoutBGEIS, null)". Exception
data: java.lang.NullPointerException
    at com.ibm.wsspi.sca.j2c.inbound.J2CInboundImpl.getInputdataBinding(J2CInboundImpl.java:861)
    at com.ibm.wsspi.sca.j2c.inbound.J2CInboundImpl.invoke(J2CInboundImpl.java:232)
    at com.ibm.wsspi.sca.j2c.inbound.InboundListenerImpl.onNotification(InboundListenerImpl.java:32)
    at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
    at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:64)
    at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
    at java.lang.reflect.Method.invoke(Method.java:615)
    at com.ibm.ejs.container.MessageEndpointHandler.invokeMethod(MessageEndpointHandler.java:1018)
    at com.ibm.ejs.container.MessageEndpointHandler.invoke(MessageEndpointHandler.java:747)
    at $Proxy11.onNotification(Unknown Source)
    at com.ibm.j2ca.extension.eventmanagement.internal.EventSender.deliverEvent(EventSender.java:213)
    at com.ibm.j2ca.extension.eventmanagement.internal.EventSender.doSendEvent(EventSender.java:276)
    at com.ibm.j2ca.extension.eventmanagement.internal.EventSender.sendEvent(EventSender.java:191)
    at com.ibm.j2ca.extension.eventmanagement.internal.EventListSender.sendEvents(EventListSender.java:129)
    at com.ibm.j2ca.extension.eventmanagement.internal.EventListSender.run(EventListSender.java:99)
    at com.ibm.ejs.j2c.work.WorkProxy.run(WorkProxy.java:419)
    at com.ibm.ejs.j2c.work.AsyncWorkProxy.run(AsyncWorkProxy.java:136)
    at com.ibm.ws.asyncbeans.J2EEContext.run(J2EEContext.java:761)
    at com.ibm.ws.asyncbeans.ExecutionContextImpl.go(ExecutionContextImpl.java:85)
    at com.ibm.ejs.j2c.work.AsyncWorkProxy.run(AsyncWorkProxy.java:90)
    at com.ibm.ws.util.ThreadPool$Worker.run(ThreadPool.java:1469)
[11/7/07 16:58:23:977 IST] 0000005e ServiceLogger I com.ibm.ws.ffdc.IncidentStreamImpl open FFDC0009I: FFDC opened incident
stream file c:\wtd_build\runtimes\bi_v61\profiles\Procsrv01\logs\ffdc\server1_5ea05ea0_07.11.07.16.58.23_1.txt
[11/7/07 16:58:23:997 IST] 0000005e ServiceLogger I com.ibm.ws.ffdc.IncidentStreamImpl resetIncidentStream FFDC0010I: FFDC
closed incident stream file
c:\wtd_build\runtimes\bi_v61\profiles\Procsrv01\logs\ffdc\server1_5ea05ea0_07.11.07.16.58.23_1.txt
```

Figure: Exception messages due to missing inbound configuration

**Resolution:** When the EndPoint is not configured as detailed under the “Adding the Endpoint” testing the assembled adapter configuration, you will find the above exception. Follow the instructions in the above section for details over configuring the same.

5) **Symptom:** Firewall or some security software is enabled.

**Resolution:** Select the **Select when security software is running** check box if you have firewall or some security software enabled. This is always checked by default.

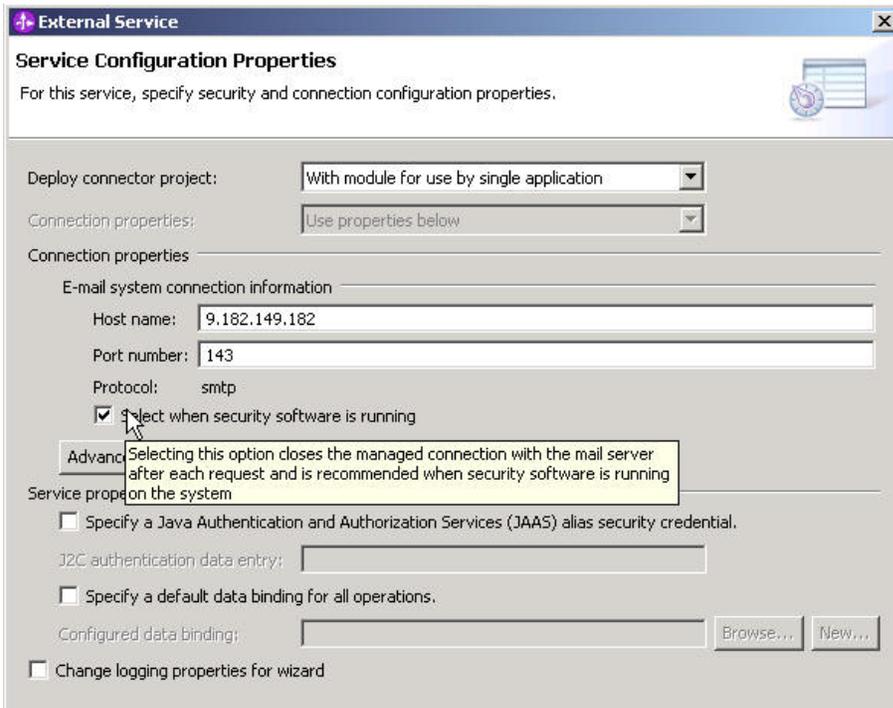


Figure: Select when security software is running check box

---

## Chapter 13. **Appendix**

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### **Mail Server Configuration**

The Mail server forms a significant part of the EIS Setup. The below document explains the installation or setup of one of the mail servers, which is recommend to the users. However, the users can configure and use any mail server that support the specific email protocols – IMAP/POP3 on inbound and SMTP on outbound – and configure them according to the instructions offered by the provider.

---

### **Download the Domino Server version 7.0.2**

The Domino server version 7.0.2 can be downloaded from the Xtreme Leverage portal at this location –

<https://w3-104.ibm.com/software/xl/download/ticket.do?openform>

Download and extract the installer. Follow the steps provided here for its installation.

---

### **Installing Domino Server**

1. Click the DominoServer.exe to start the installation of the server.

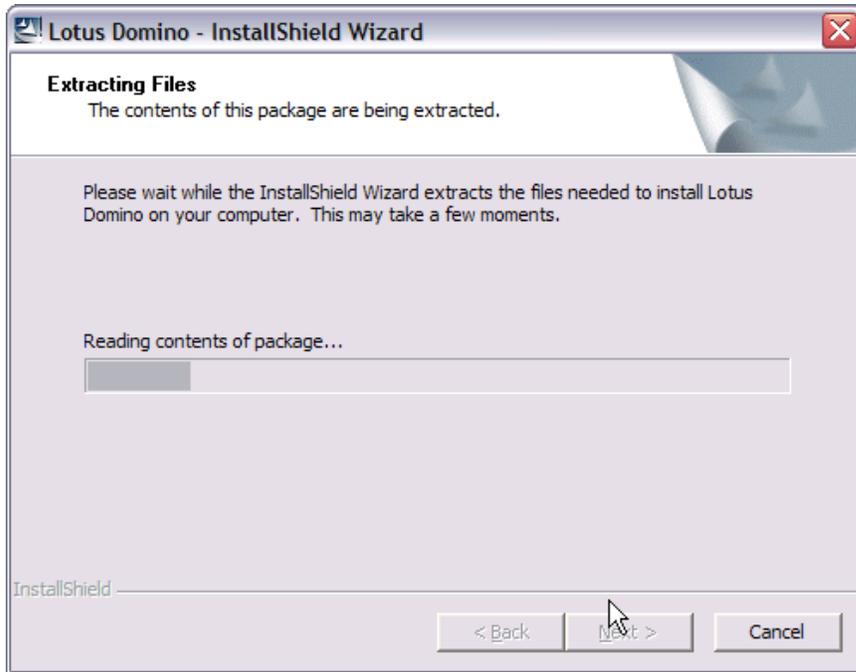


Figure: Start the server installation

2. Accept the license and click **Next**.

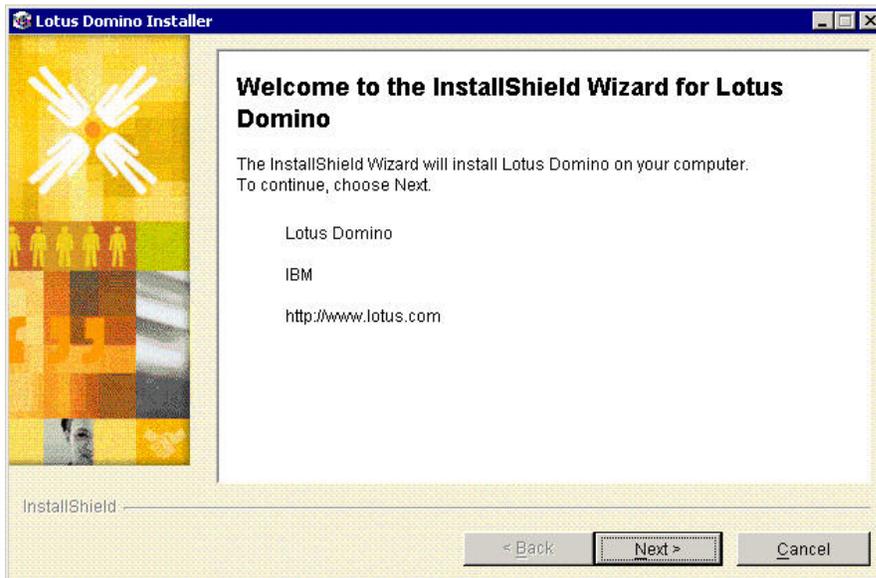


Figure: Accept the license

3. Select the installation location and click **Next**.

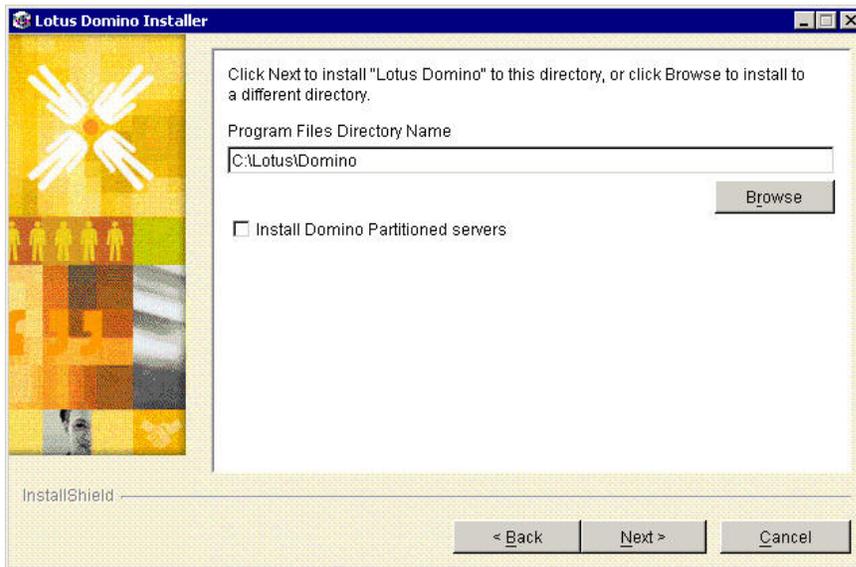


Figure: Select the installation location

4. Make sure that you select **Domino Enterprise Server**, and continue to click **Next** until the installation starts.

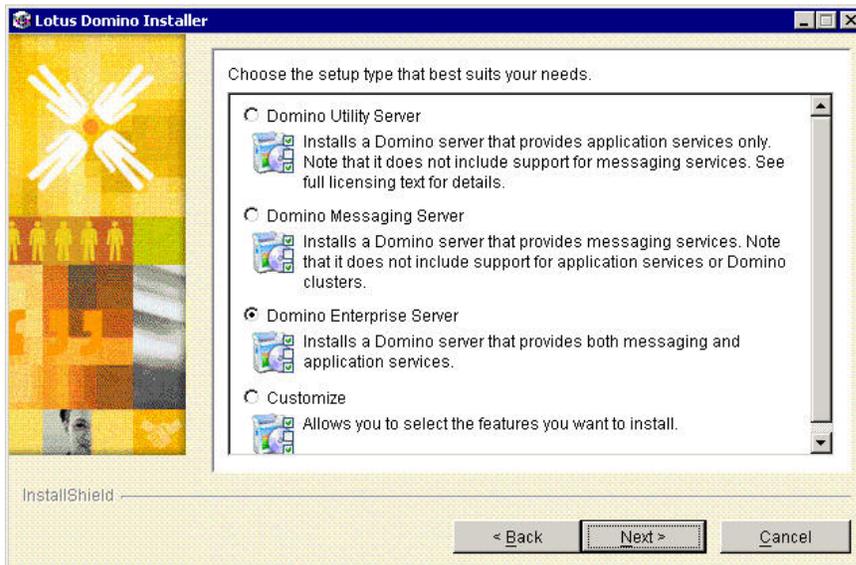


Figure: Select the Domino Enterprise Server option

5. Click **Finish** to complete the installation.

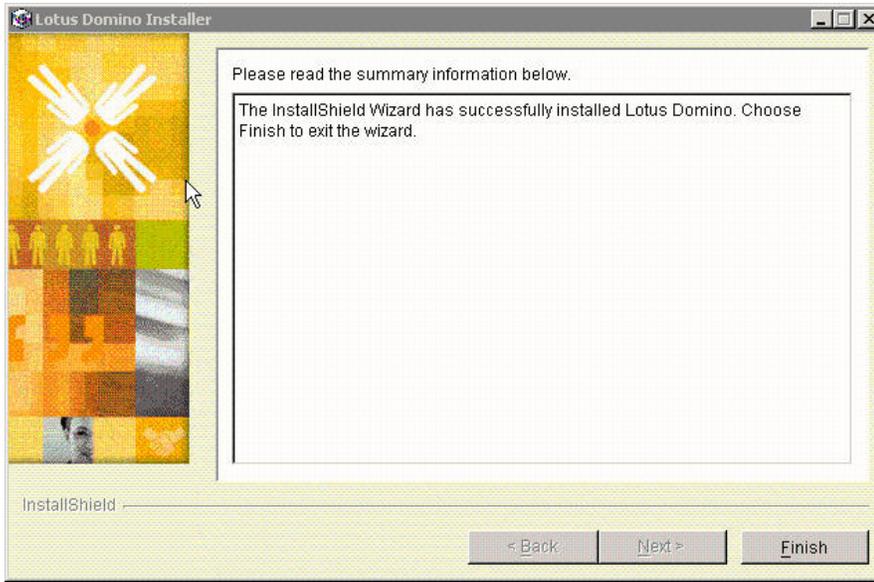


Figure: Complete the installation

---

## Configuring the Mail Server

The steps to configure the mail server for the first time are given here.

1. Open the command prompt and From the Domino server directory (Example: C:\Lotus\Domino), and run the **nserver** command to start the server for the first time.
2. Select the **Start Domino Server as a regular application** option, and then select the Don't ask me again check box. Click **OK**.

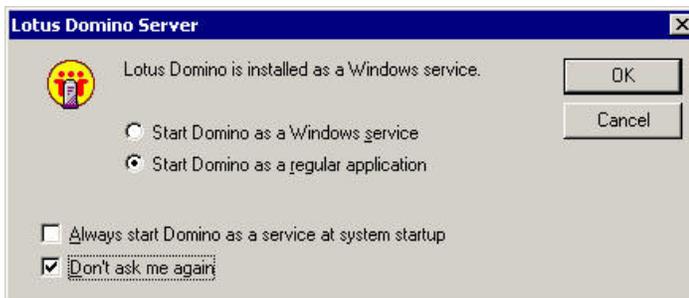
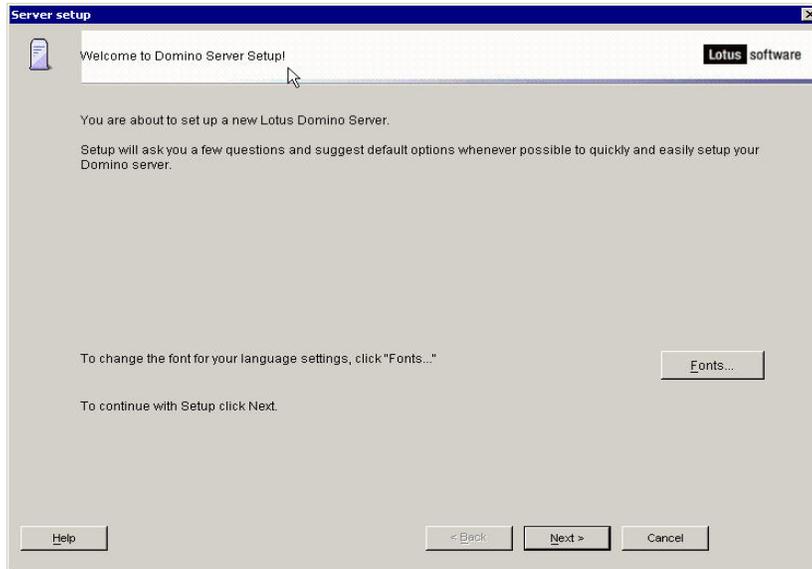


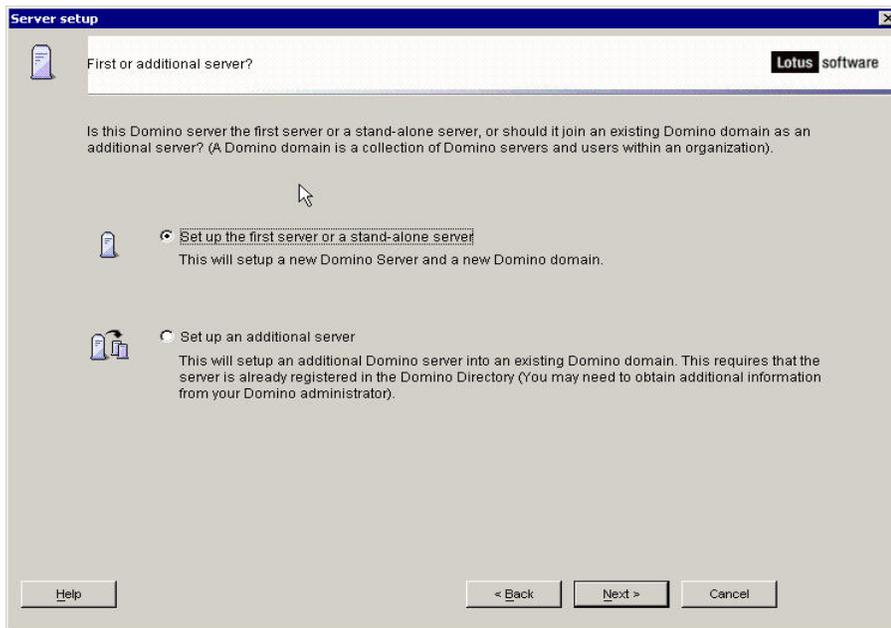
Figure: Select the start Domino server as a regular application option

3. No options need to be changed. Click **Next**.



*Figure: Accept the default settings*

4. Select the **Setup the first server or a stand-alone server option**, to set up a stand-alone server is being setup.



*Figure: Select the setup the first server or a stand-alone server option*

5. Provide a server name and click **Next**. By default, the machine name is taken as the server name.

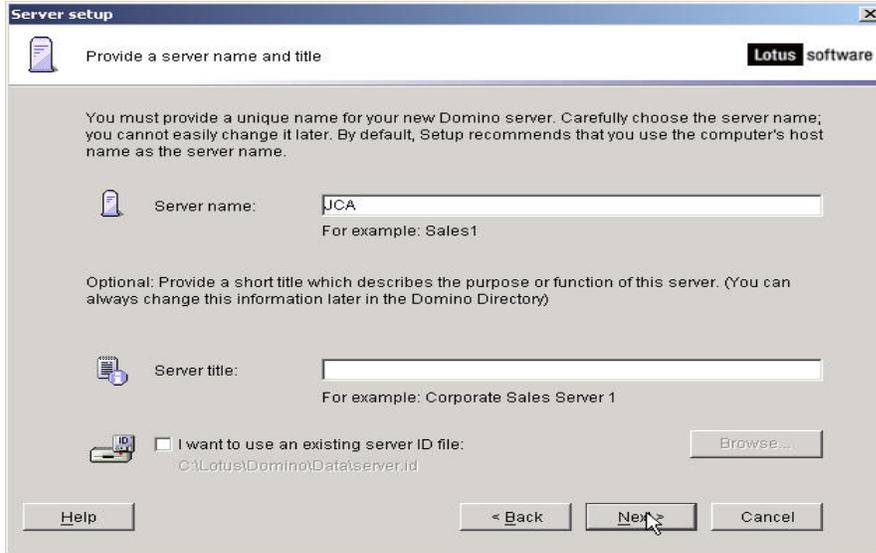


Figure: Type the name of the server

6. Note down server name and the typical username. Provide a certifier password (and note it down for your future reference). Click **Next**.

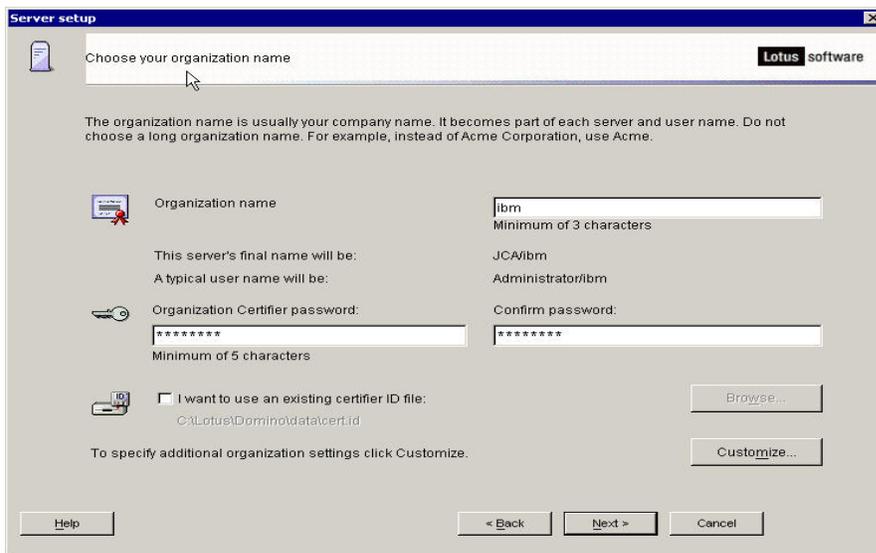
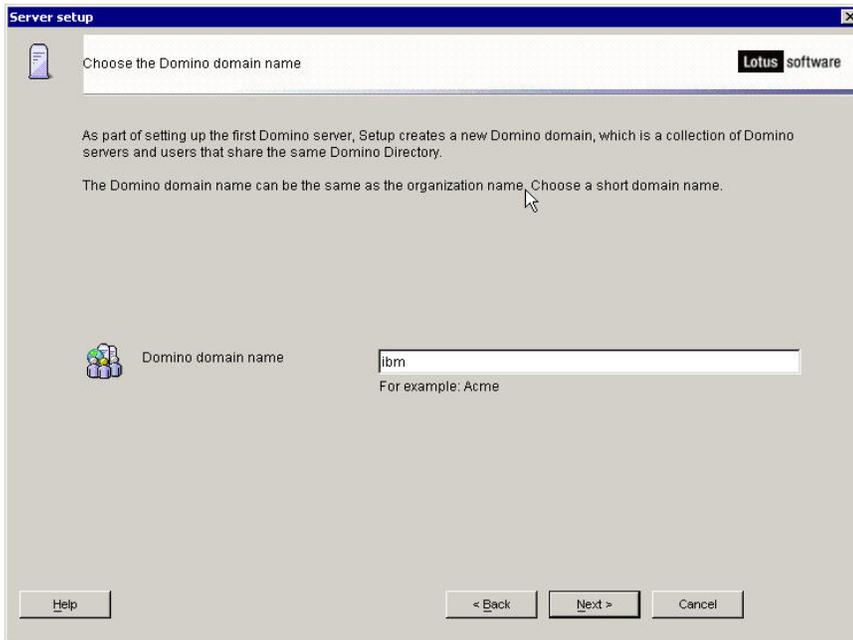


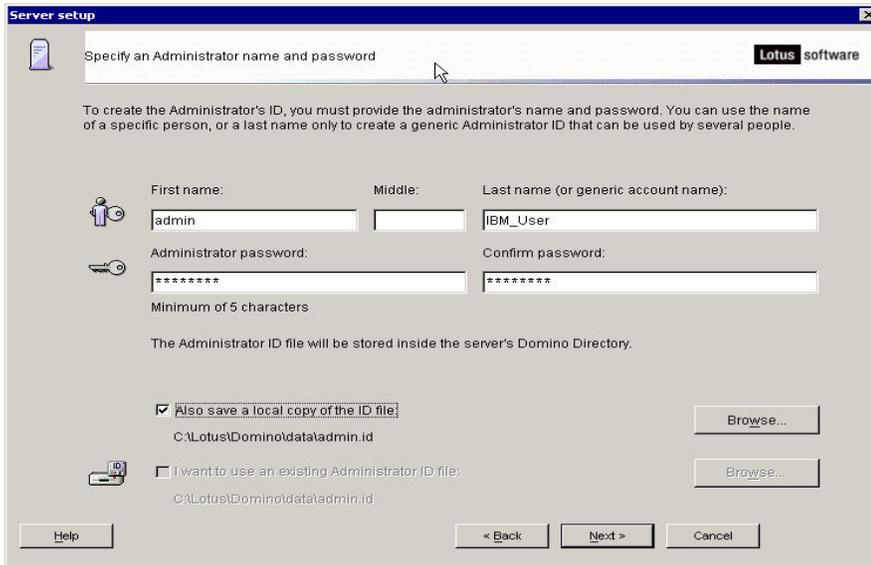
Figure: Enter a certifier password

7. Specify the **Domino domain name** and click **Next**.



*Figure: Specify the Domino domain name*

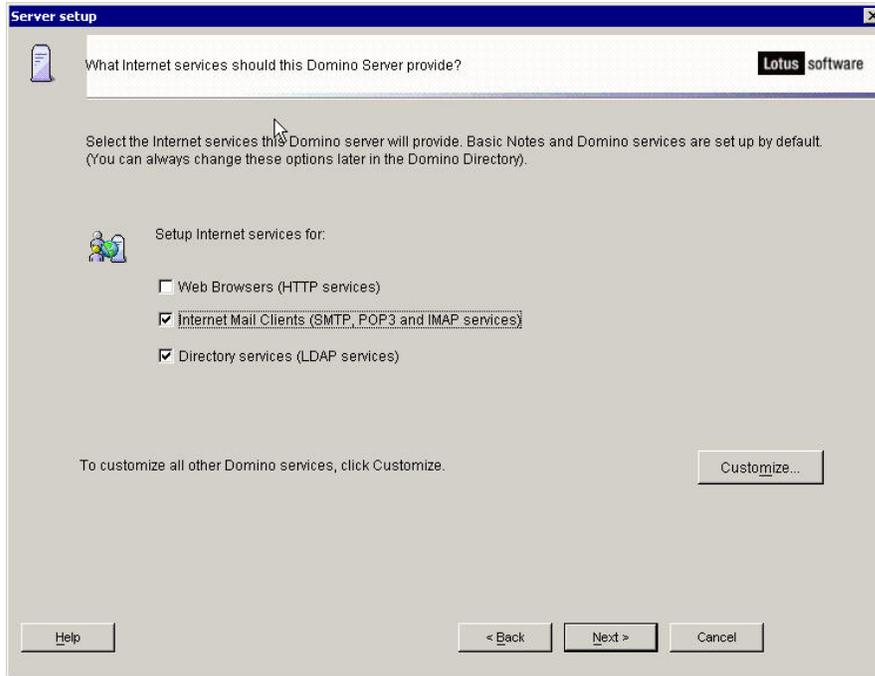
8. Enter administrator name and password and. Select the option to save local copy of the ID file.



*Figure: Specify an Administrator name and password*

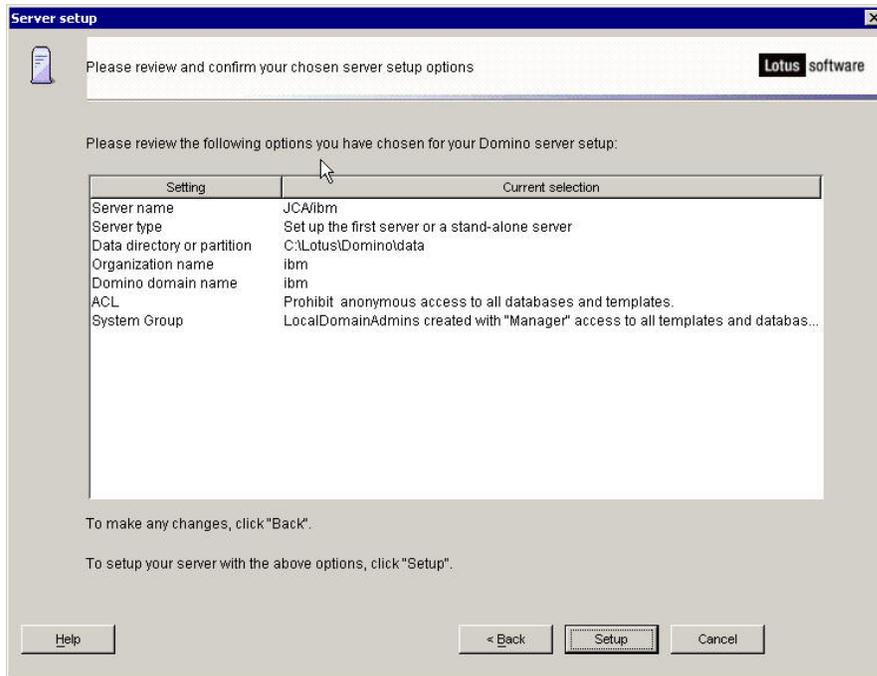
9. Select the **Internet Mail Clients and Directory Services** check box.

**Note:** This is an important step in the configuration.



*Figure: Select Internet mail clients and directory services*

10. Select **Next** on each window till you see the window shown in the following figure. Click **Setup** to set up the configuration.



*Figure: Set up the configuration*

10. Repeat the preceding step two to start the server again. Check whether POP3, IMAP, and SMTP daemons have started and are active.

---

## Installing Domino Administrator and Designer

The Domino administrator tool is used to create user accounts, to change server configuration and so on.

To install the Domino administrator, follow the steps given here

1. Click **DominoDesignerAdmin.exe** to start installation of the server.



*Figure: Start the server installation*

1. Accept the terms and conditions and click **Next**.



*Figure: Accept the terms and conditions*

2. Provide the user name and organization and click **Next**.
3. Browse to the correct installation path and click **Next**.



*Figure: Select the correct installation path*

4. Ensure that the **Domino Designer** and **Administrator** features are selected.

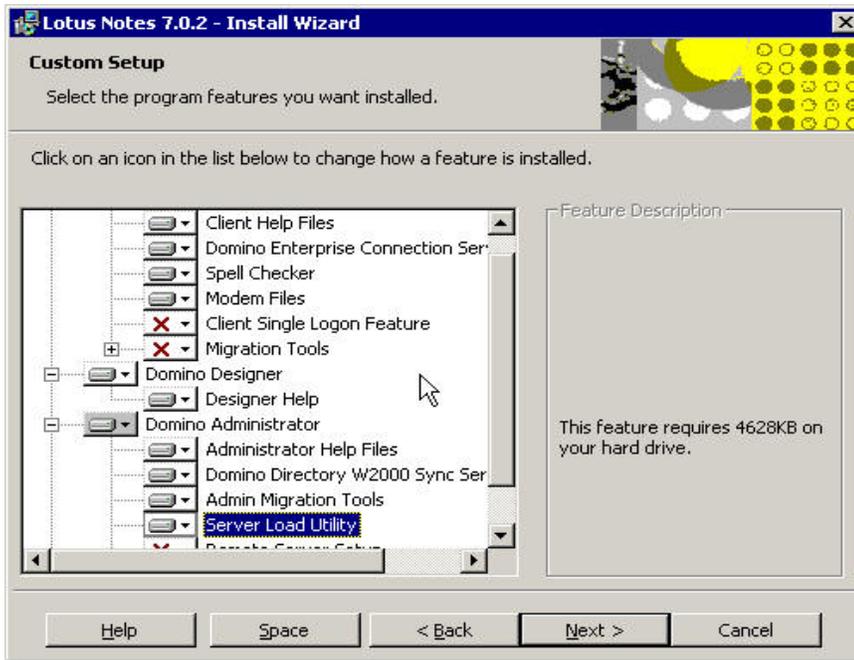


Figure: Select the Domino Designer and Domino Administrator features

5. Clear **Make Notes my default email program** check box and click **Install**.

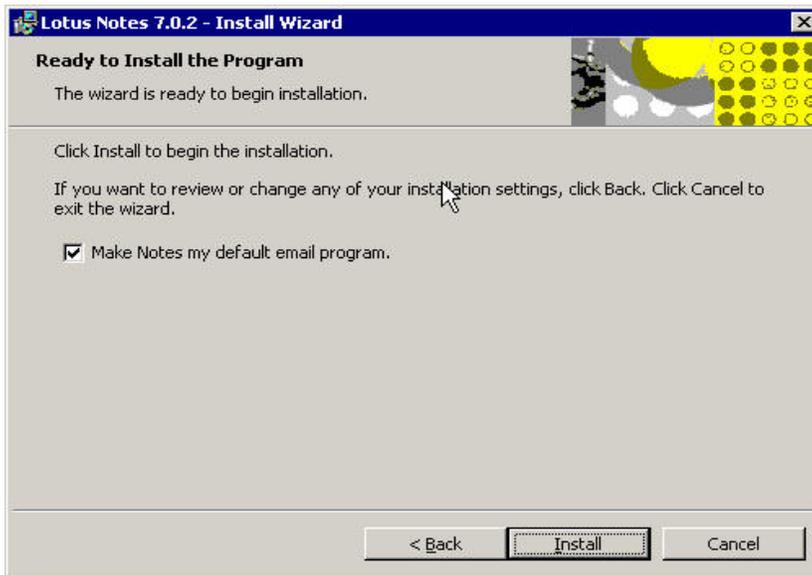


Figure: Deselect the make Notes my default email program check box

6. Click **Finish** to complete the installation.



*Figure: Complete the installation*

---

## Creating users using Domino Administrator

1. Open the Domino administrator tool, by clicking Start -> Programs -> Lotus Application -> Lotus Domino Administrator.
2. Provide the username and password for administrator. Make sure that you are using the administrator id that you created and saved on local as shown in the following example.

**C:\Lotus\Domino\data\admin.id**

3. Click **File-> Open Server**, and provide the mail server name you have installed. Wait till it connects to that server. Here, make sure that the server is up and running.

**Note:** If **File->Open Server** option is not active then change the tabbed window to **IBMIN Domain**.

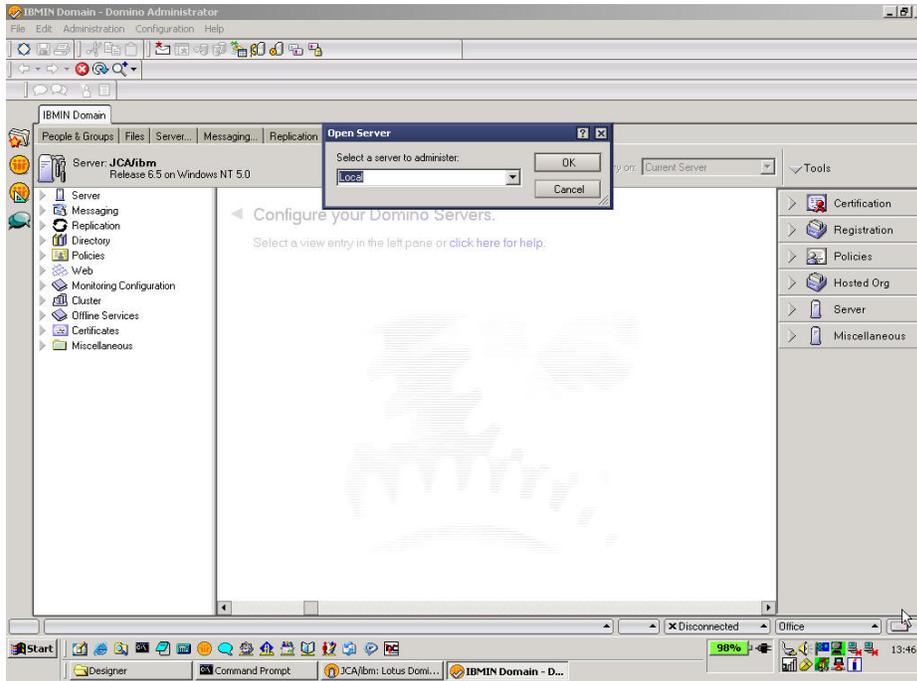
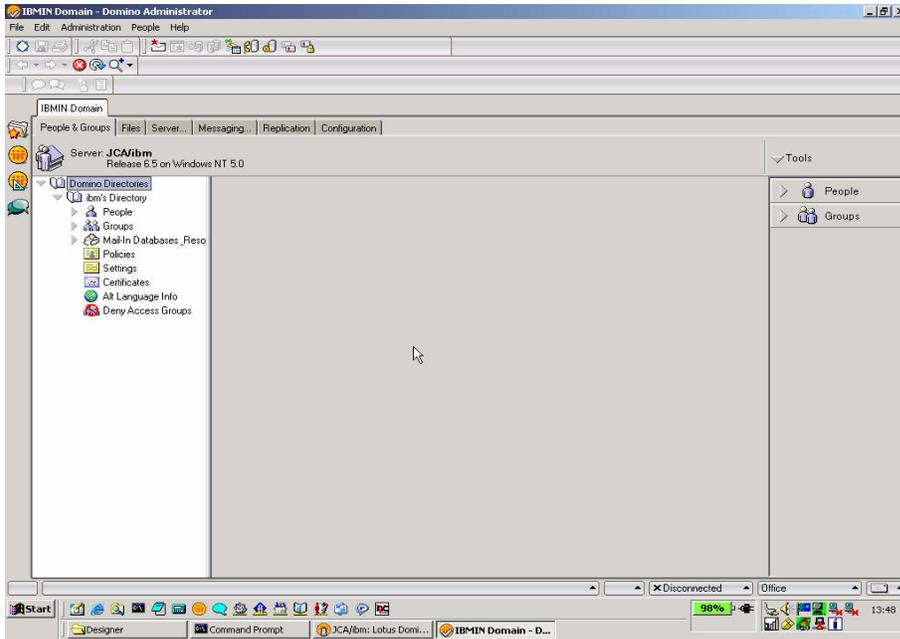


Figure: Select a server

4. Once you have successfully connected you will get the following window. Observe that the mail sever name is displayed. Using this Lotus Administrator tool, you can monitor and manage the mail server.



*Figure: The IBMIN Domain – Domino Administrator window*

### Creating users

1. To create users, select **People** option from the left panel that will display all the registered users. Presently, there is only one user that is, administrator. There is a need to create at least two users for this project.
2. On right hand side of the window, click **Register** to register new user.

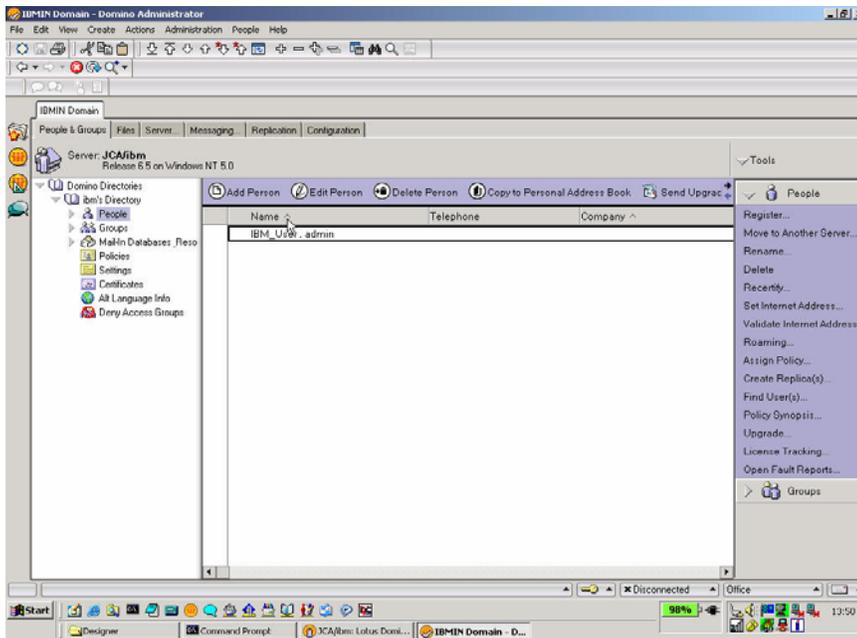


Figure: Register a new user

To create two users, 'email jca' and 'email pop3', use the following procedure.

1. Specify user first name and last name.
2. In the **Short name** field, specify 'email jca' (This is the id of the user). Here, the space between the letters also matters.
3. In **Mail System** field, select **IMAP** for 'email jca' and **POP** for 'email pop3'.
4. Provide the password.

Comment: Check if it should be POP3

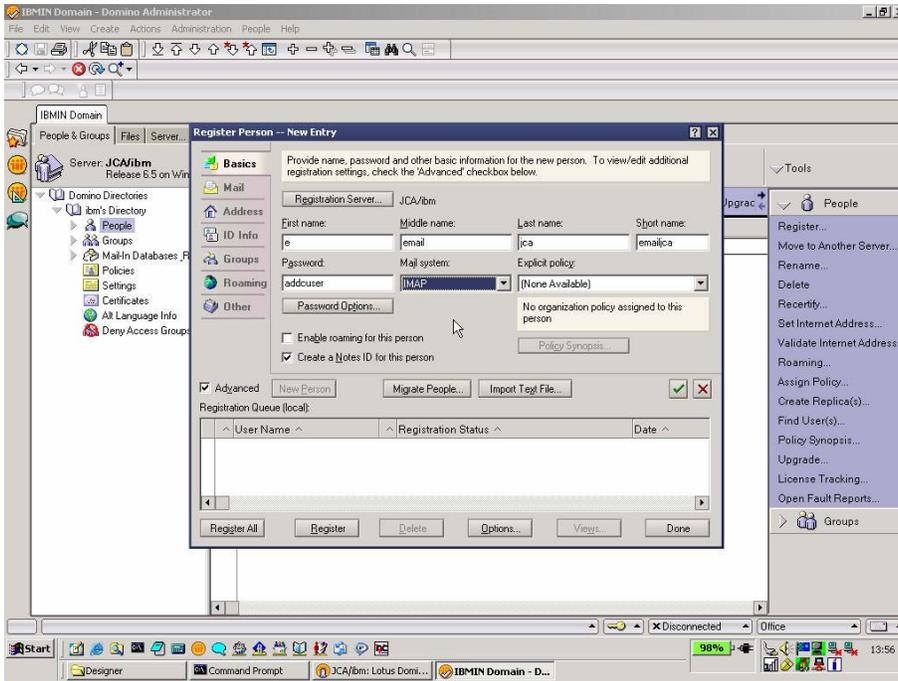


Figure: Enter the basic details of the user

5. Click **Advanced** on the left hand side.
6. Click to open the **Address** tab to fill up email address for the user (email jca).

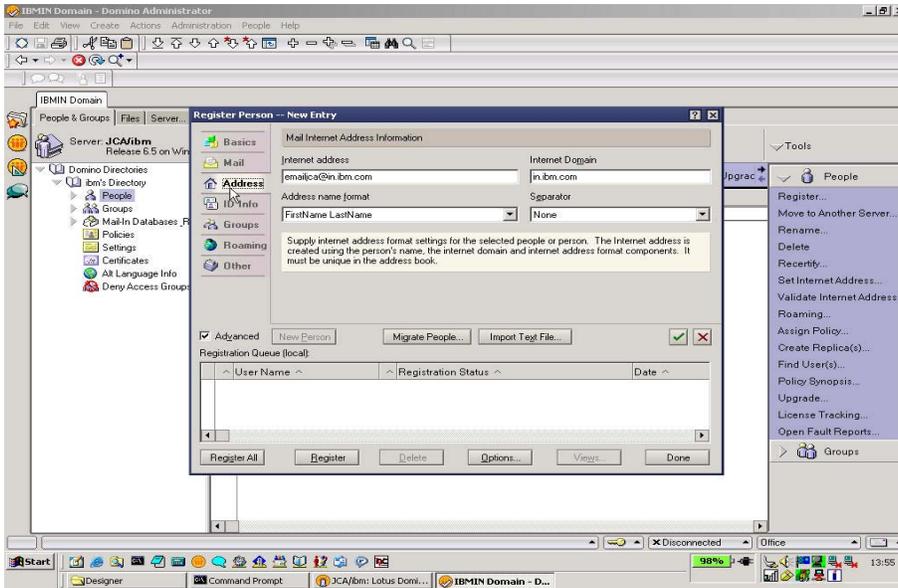


Figure: Enter the user's address details

7. Internet address is the email address, which will be used by others to send mail. Any mail sent to this address will be directed to the user's mailbox.
8. Click the check mark on the right hand side of the window. The user is queued in the Registration Queue.
9. Select the user, and then click **Register** to register the user.

---

## Configuring Email adapter 7.0.0.0 and Domino 7.0 mail server for SSL

The steps given here explain how to configure Domino 7.0 for SSL.

### Step 1 : Creating a server key ring file

- a. From the Notes client, open the **Server Certificate Admin** application on the server for which you want to enable SSL.

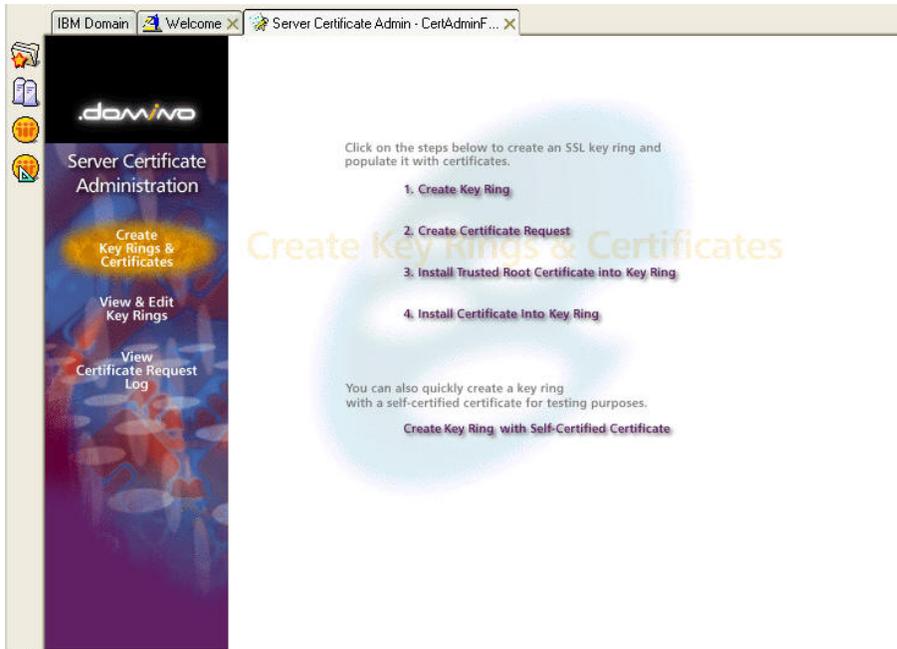


Figure: Open the Server Certificate Admin application

b. Click the **Create Key Ring** option.

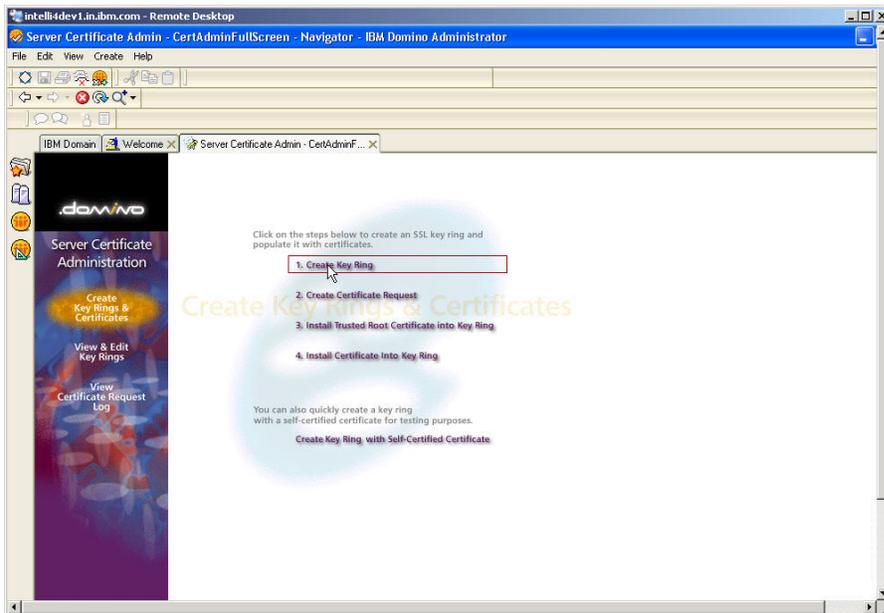


Figure: Select the Create Key Ring option

c. Complete these fields:

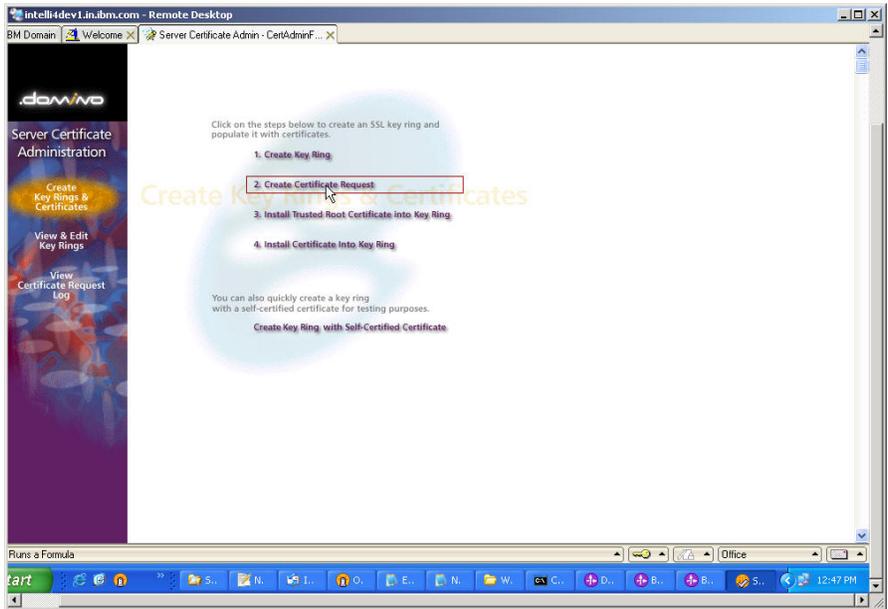
Field	Action
Key Ring File Name	<p>Enter the key ring file name. The default is KEYFILE.KYR. It is helpful to retain the extension as .KYR to keep consistent key ring file names.</p> <p><b>Note:</b> The server's key ring file name is displayed in any Internet Site documents that you have configured, or, if the Internet Site documents are not being used, on the <b>Ports - Internet Ports</b> tab of the server document. If you have specified a name other than the default, you need to edit the name where it is displayed – in the Internet Site document or the Server document.</p>
Key Ring Password	Enter the password for the key ring.
Key Size	Specify the key size Domino uses while creating the public and private key pairs. The larger the key size, the stronger the encryption.
Common name	<p>Enter the server's TCP/IP fully-qualified domain name -- for example, www.acme.com.</p> <p>Set up the server certificate so that the common name matches the host name since because some browsers check for this match before allowing a connection.</p>
Organization	Enter the name of the organization -- for example, a company name, such as Acme.
Organizational Unit	(Optional) Enter the name of certifier division or department.
City or Locality	(Optional) Enter the organization city or locality.
State or Province	Enter the full name of the state or province in which the certifier organization resides.

Country	Enter the two-character abbreviation of country in which organization resides
---------	---

- d. Click the **Create Key Ring** option.
- e. Notes create Key Ring file (.kyr) and .sth files.

**Step 2 : Requesting an SSL server certificate in Domino  
From a third-party CA**

- a. Make sure you have already completed step one.
- b. From the Notes client, open the **Server Certificate Admin** application on server for which you want to set up SSL.
- c. Click the **Create Certificate Request** option.



*Figure: Select the Create Certificate Request option*

- d. Complete these fields:

Field	Enter
Key Ring File Name	The name of the server key ring file including the path to the file
Log Certificate Request	Select one: Yes (default) to log information in the Server Certificate Admin application No, not to log information
Method	Select one: Paste into form on CA's site (recommended)

e. Click the **Create Certificate Request** option.

f. Enter the password for the server key ring file.

This will create unsigned certificate. Copy the whole content from the last window and store it in some file using Notepad.

Now, the steps for creating of unsigned certificate from Domino are completed. This unsigned certificate is called Certificate Signing Request (CSR)

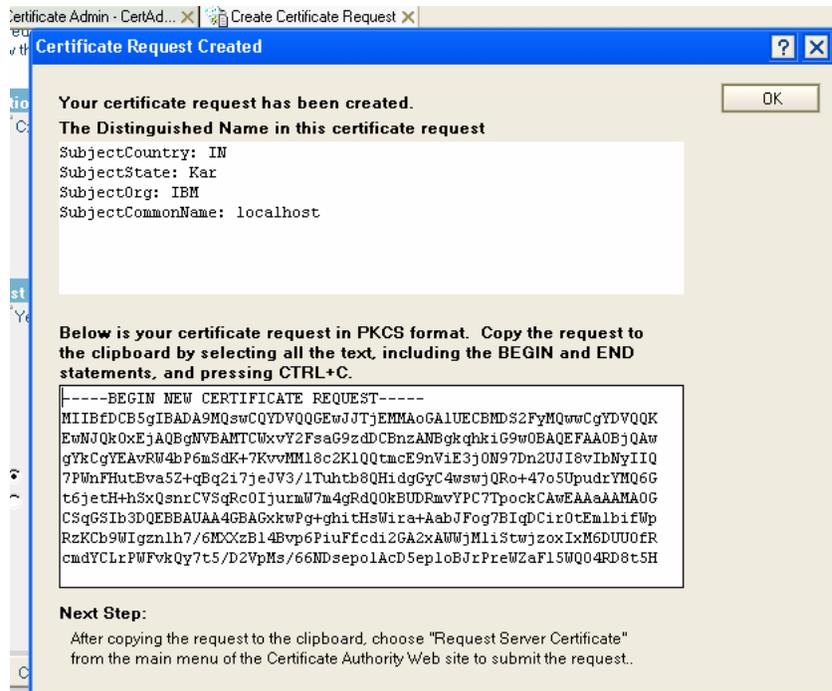


Figure: Creating the certificate the request

### Step 3 Getting SSL certificate from a third party CA

The following steps explain how to get signed SSL certificate from an unsigned CSR.

- a. Open a web browser and go to <http://www.verisign.com>

## Free SSL Trial Certificate

To help us serve you better, please provide the information below:



Are you interested in securing your e-mail communications? [Learn more](#) about Digital IDs for secure e-mail.

Note: \* = required.

\* **Email Address**

\* **First Name**

\* **Last Name**

\* **Phone**   
Please include area code and/or country code

\* **Zip Code**

\* **Country**

- Please keep me up to date on product news and Security alerts via email.
- Please remember my profile information.

VeriSign respects your right to privacy, see our [Privacy Statement](#).

[Continue](#)

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ABOUT SSL CERTIFICATES

Figure: Fill in the form with appropriate details

b. Browse and select the free SSL trial.

Continue

Figure: Select the Free SSL Trial option

c. Fill out the form as required and click **Continue**.

Figure: Review the form details

d. Click **Continue**.

VeriSign® Enroll For A Trial SSL Certificate

WELCOME TECHNICAL ENTER CSR VERIFY CSR ORDER SUMMARY FINISH

**Enter Technical Contact information for this certificate**

The Technical Contact receives and manages the certificate and is notified for renewal.

Help

\*Required field

**Product: Trial SSL Certificate**

Free Trial SSL Certificate, 14 days validity period.

**Technical Contact**

\* First Name:

\* Last Name:

\* Title:

\* Company:

\* Address1:

Address2:

\* City:

\* State/Province:

\* ZIP/Postal Code:

\* Country: United States

\* Telephone:

Fax:

\* Email:

Save my contact information for future certificate enrollments.

Please keep me up to date on product news and security-related information.

Continue

*Figure: Enter the contact details*

e. Fill out the information and click **Continue**.



3) Open the file in which you have stored CSR in Notepad and copy the contents into this form space.

WELCOME TECHNICAL ENTER CSR VERIFY CSR ORDER SUMMARY FINISH

**CSR information**  
Confirm your Certificate Signing Request (CSR) information and enter a challenge phrase. [Help](#)

**Product: Trial SSL Certificate**  
Free Trial SSL Certificate, 14 days validity period.

**CSR information**  
The requested certificate will include the following details from the CSR :

<b>Common Name:</b> <your name or server name>	City/Location: Denver
Organization: <your organization>	State/Province: Colorado
Organizational Unit: <your organization>	Country: US

[Change CSR](#)

**Challenge phrase**  
Create a new challenge phrase (password) for your SSL certificate. **Do not lose the challenge phrase!** The challenge phrase is used the next time you renew this certificate or in case you revoke or make changes to the certificate.

\* Required field

\* Challenge Phrase:

\* Re-enter Challenge Phrase:

\* Reminder Question:

[Continue](#)

- 4) Click Continue.
- 5) Challenge Phrase: <your password>
- 6) Re-enter Challenge Phrase: <your password>
- 7) Reminder Question: application
- 8) Click **Continue**.

Contact and payment information

Technical Contact

[Edit](#)

Cary Stalker  
Senior IT Specialist

denver co  
US

Telephone  
Email:

Privacy Statement

By clicking **Accept & Purchase**, you confirm that you have carefully read, understood, and accept to become bound by the terms and conditions of the Subscriber Agreement, including VeriSign's [Privacy Statement](#). In particular, you agree to VeriSign transferring your enrollment information to third parties in accordance with the Privacy Statement. Please note that you can change your preferences by visiting [VeriSign communication preferences](#).

Subscriber Agreement

[Printable Version](#)

```
VeriSign Test Certification Authority  
Certification Practice Statement  
  
YOU MUST READ THIS VERISIGN TEST  
CERTIFICATION AUTHORITY PRACTICE STATEMENT  
("TEST CPS") CAREFULLY. BY CLICKING "ACCEPT"  
BELOW AND/OR REQUESTING, USING, OR RELYING  
UPON A TEST CERTIFICATE OR THE TEST CA ROOT  
CERTIFICATE (AS THESE TERMS ARE DEFINED  
BELOW), YOU AGREE TO BE BOUND BY THE TERMS
```

**Decline**

**Accept**

*Figure: Accept the subscriber agreement*

g. Click **Accept**.

**WELCOME** TECHNICAL ENTER CSR VERIFY CSR ORDER SUMMARY **FINISH**

**Thank you for completing your order!**  
VeriSign is processing your Trial SSL Certificate request. Your Trial SSL Certificate and installation instructions will be sent to you via email within the next hour.

Your order number is: 103456789  
You can print this page as proof of purchase.

[Print](#) [Help](#)

**Chat With Us**  
A representative is standing by. >>

**Product: Trial SSL Certificate**

Free Trial SSL Certificate, 14 days validity period.

**CSR information**

You are enrolling for an SSL Certificate for <your url or server>. Make sure this domain matches the URL your Web site visitors connect to. If this information is incorrect, contact Customer Support at 1-877-438-8776 or 1-650-426-3400.

<b>Common Name:</b> <your url or server>	City/Location: Denver
Organization: <your organization>	State/Province: Colorado
Organizational Unit: <your organization>	Country: US

**What is the status of my order?**

Visit the Order Status page at any time to check the current status of your order. Additionally, your technical and Organizational Contacts will soon receive an Order Confirmation email to help track the progress of your order. [Bookmark](#) the order status page.

[Check Order Status](#)

Figure: Review the information entered in the form

## Making third party CA as trusted root in Domino

1. Open the following address in your browser:

[http://www.verisign.com/support/verisign-intermediate-ca/Trial\\_Secure\\_Server\\_Root/index.html](http://www.verisign.com/support/verisign-intermediate-ca/Trial_Secure_Server_Root/index.html)

This site provides CA trusted root certificate.



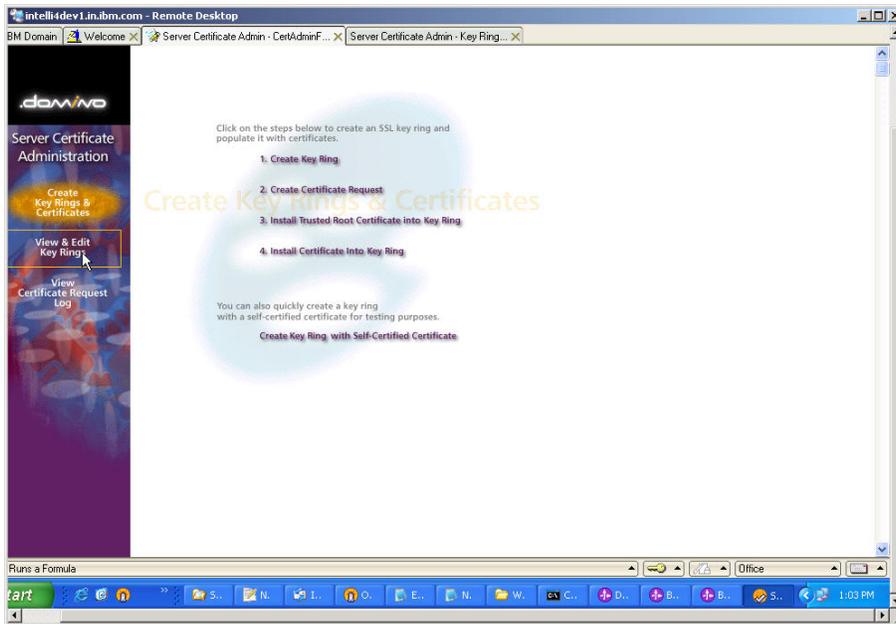


Figure: Select the View & Edit Key Rings option

5. Click **Select Key Ring to Display** and enter the server's key ring file.

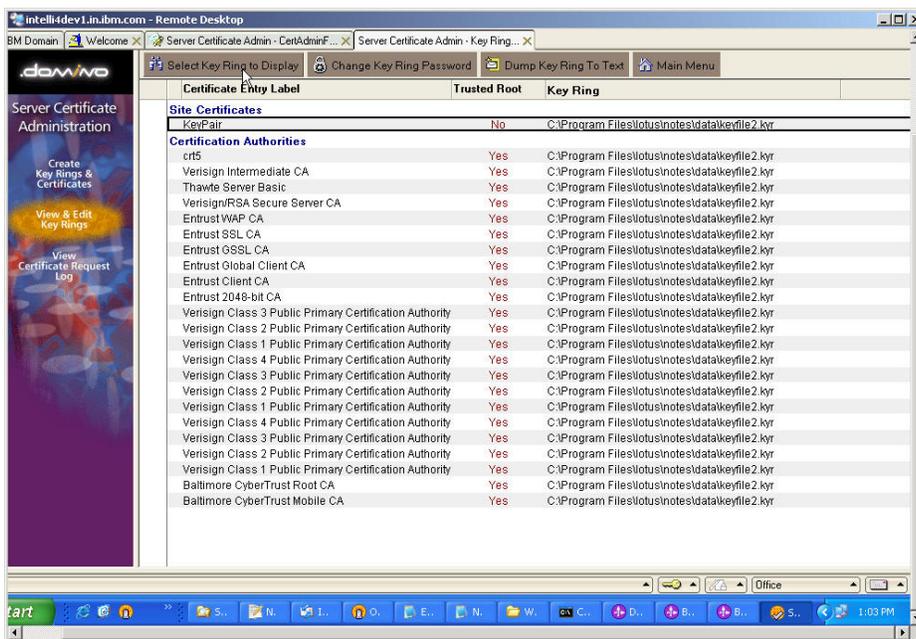
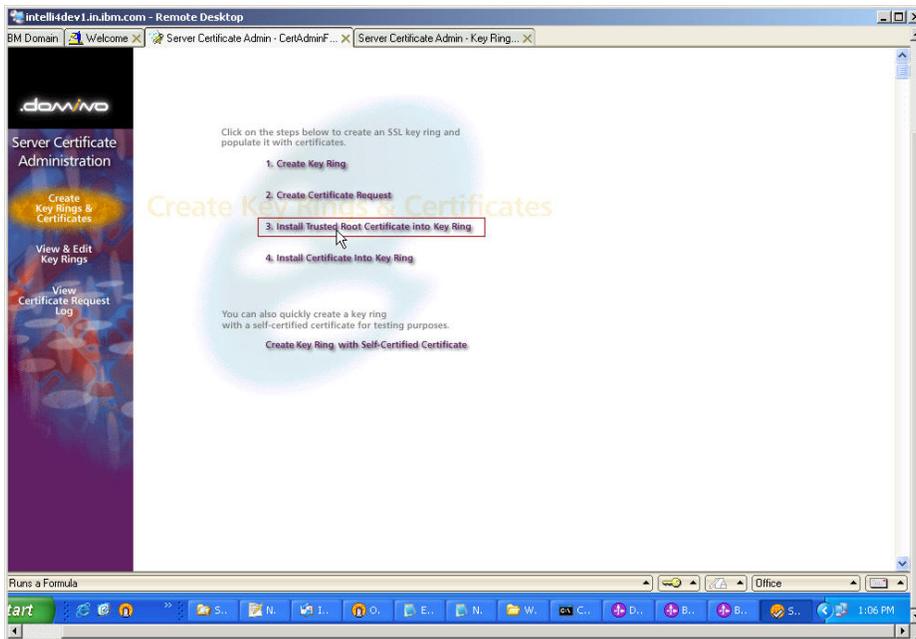


Figure: Enter the server's key ring file

6. Click the **Create Key Rings & Certificates** option in the **Server Certificate Admin** database.
7. Click the **Install Trusted Root Certificate into Key Ring** option.



*Figure: Select the Install Trusted Root Certificate into Key Ring option*

The steps describe here how to install the trusted root certificate into the key ring.

1. Enter the server's key ring file name in the **Key Ring Information** section.
2. In the **Certificate Label** field type the following text: **VeriSign International Server CA - Class 3**.
3. Return to the Domino Server Certificate Admin document. Paste this text from VeriSign into the **Certificate from Clipboard** area.
4. Click **Merge Trusted Root Certificate into Key Ring**. This adds the certificate to your key ring
5. Copy Key Ring file and its associated .sth file to the domino directory.
6. You can find .kyr (Key Ring) and .sth file from the notes or data and copy them to domino or data folder.
7. Restart the domino server.

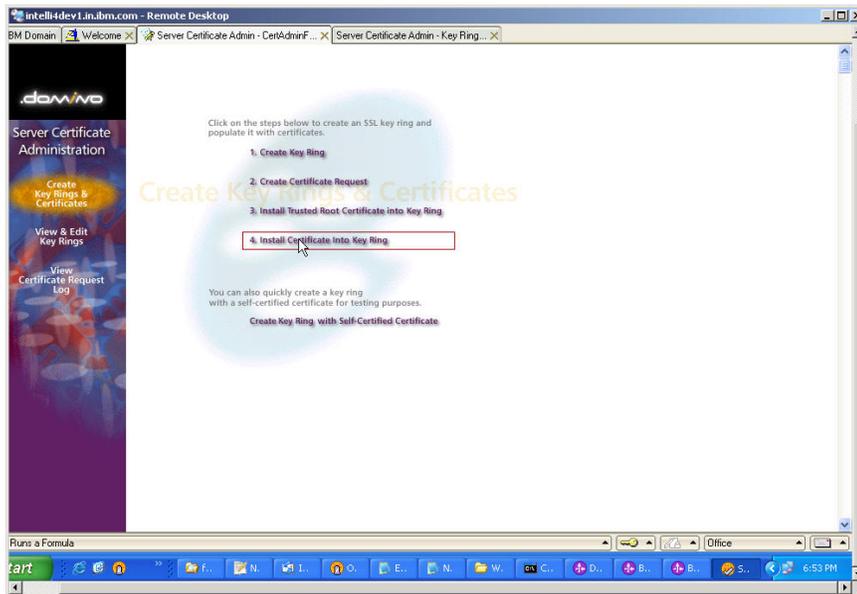


3) Start uploading the certificate to the Domino server.

The following steps describe the process for uploading the SSL certificate to the Domino Server.

1. In Notes, from the Administration panel, click **System Databases** and select **Open Domino Server Certificate Administration (CERTSRV.NSF)** on the local machine.

2. Click the **Install Certificate into Key Ring** option.



*Figure: Select the install certificate into key ring option*

3. Enter the file name for the key ring that will store this certificate. You created this key ring file when you created the server certificate request.

4. If you copied the contents of the certificate to the clipboard, select **Clipboard** in the **Certificate Source** field. Paste the clipboard contents into the next field.

5. Click **Merge Certificate into Key Ring**.

6. Enter the password for the server key ring file and click **OK** to approve the merger. This will add the SSL certificate as the KeyStore into the Domino server. This completes the configuration of Domino server.

7. This will add the SSL certificate as the KeyStore into Domino server. This completes the configuration of Domino Server.

- Copy the Key Ring file and its associated .sth file to the domino directory.
- You can find .kyr (Key Ring) and .sth file from the notes or the data folder. Copy these files to the domino or data folder.
- Restart the domino server.

---

## Configuring the WebSphere Process Server for SSL

- Start the WebSphere Process Server by selecting the created server and click **Start**.

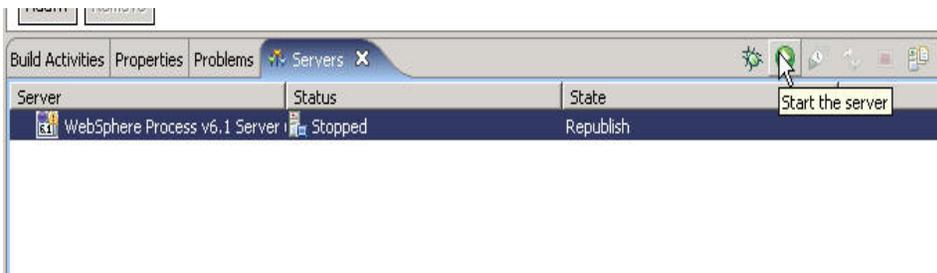


Figure: Start the WebSphere Process Server

- After the server is started, right-click the server, and select **Run Administrative Console** to open the administrative console.

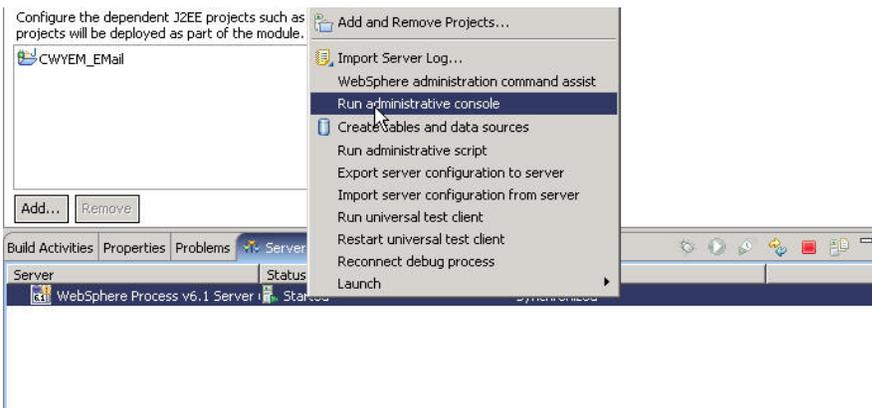


Figure: Run the administrative console

3. After the Administrative Console window comes up, expand **Security** and click **SSL Certificate and key management**.



Figure: Select the SSL Certificate and key management option

4. Under **Related Items**, click **Key stores and certificates**.

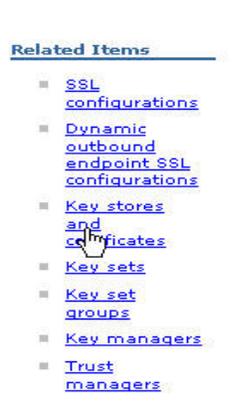


Figure: Select the Key stores and certificates option

5. Click **NodeDefaultTrustStore**.

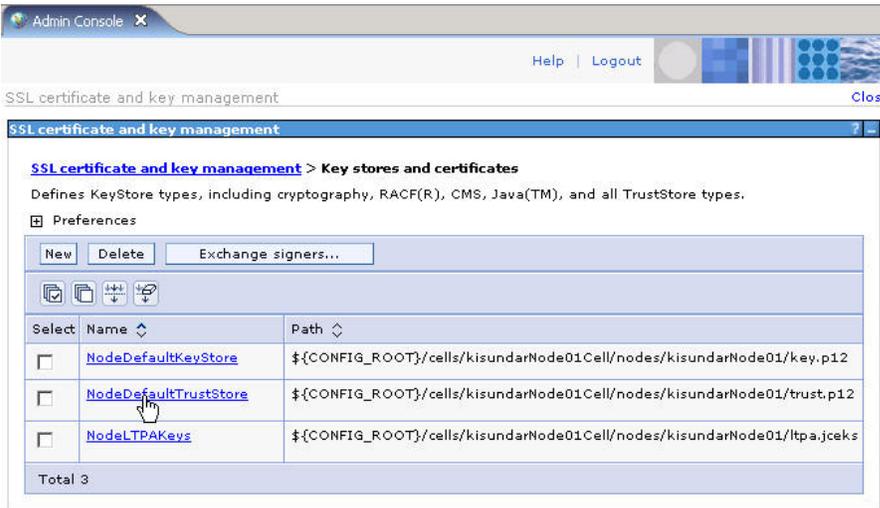


Figure: Select the NodeDefaultTrustStore option

6. In the **Additional Properties**, click **Signer certificates**.



Figure: Select the Signer certificates option

7. Click **Add** to add the certificate. Enter the path of the text file where you have saved the **SSL Certificate** that was obtained while setting up the mail server for SSL.

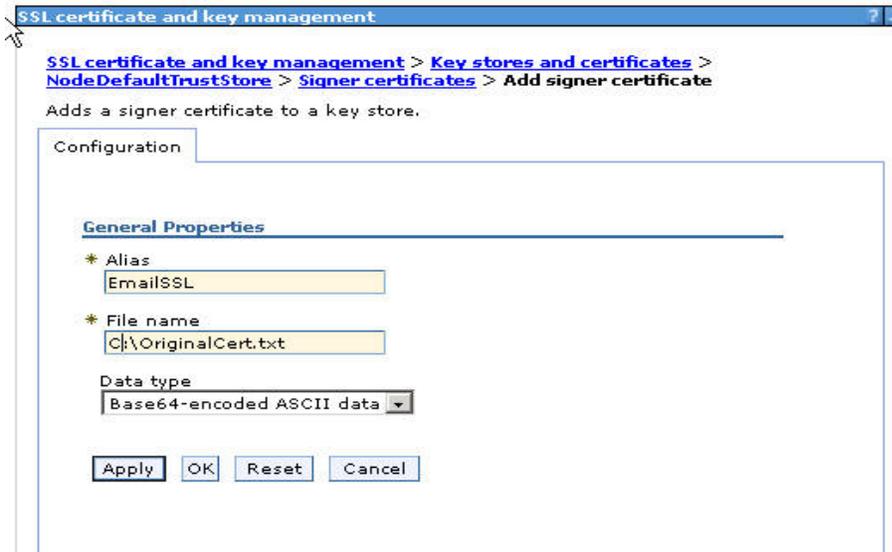


Figure: Add the certificate

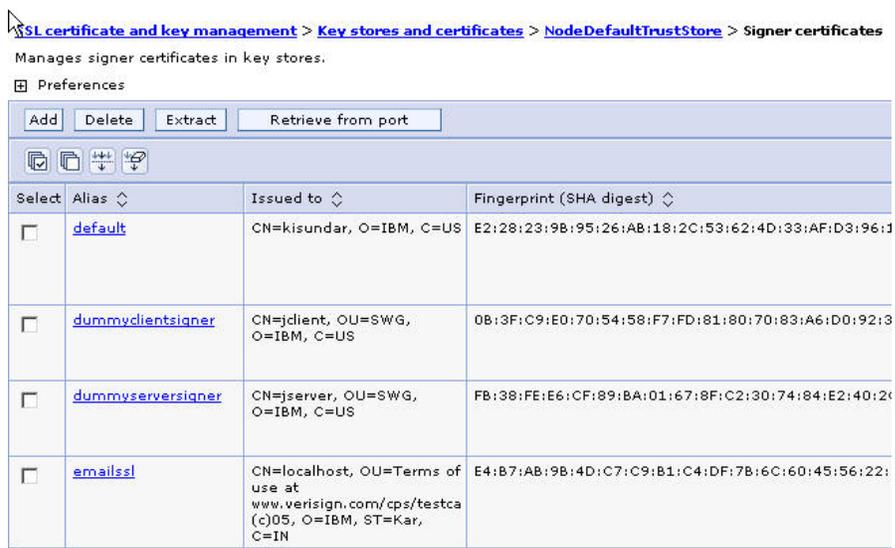
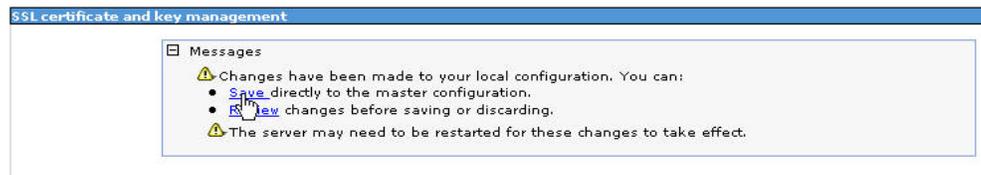


Figure: Check that the SSL certificate is displayed

8. Click **Save** to save the changes to the master.



*Figure: Save the changes to the master file*

## Using the project Interchange samples shipped along with the adapter installation

### 1) Extracting the Samples:

The samples have been shipped as Project Interchange Files (Zip archives) as discussed in Section 2.3 under <wid\_installocation>/ResourceAdapters/ Email\_7.0.0.0/Samples/referencefiles.

Open the WebSphere Integration Developer and import the files using the Project Interchange as shown here.



*Figure: Import the samples*

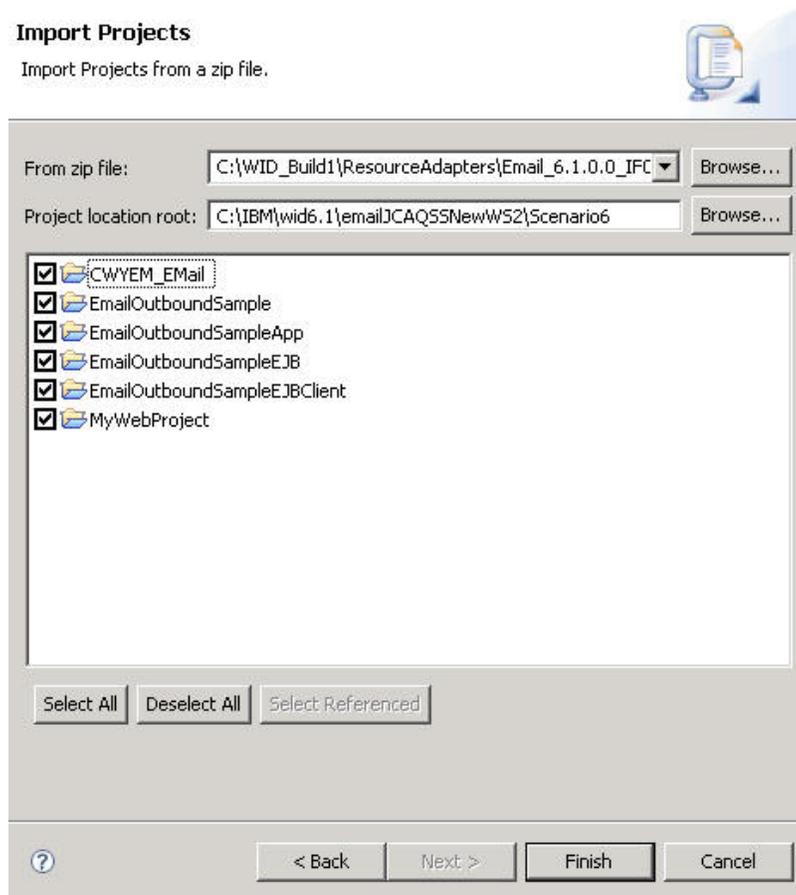


Figure: Select the samples to import

## 2) Changing the Email Connection details(Inbound Case)

a) Changing the connection details in the ActivationSpec properties of the assembly diagram of the Business Integration module.

1. Open the Assembly diagram. Select the **Generated Email Interface** for example, **EmailInboundDTFWithoutBG**.

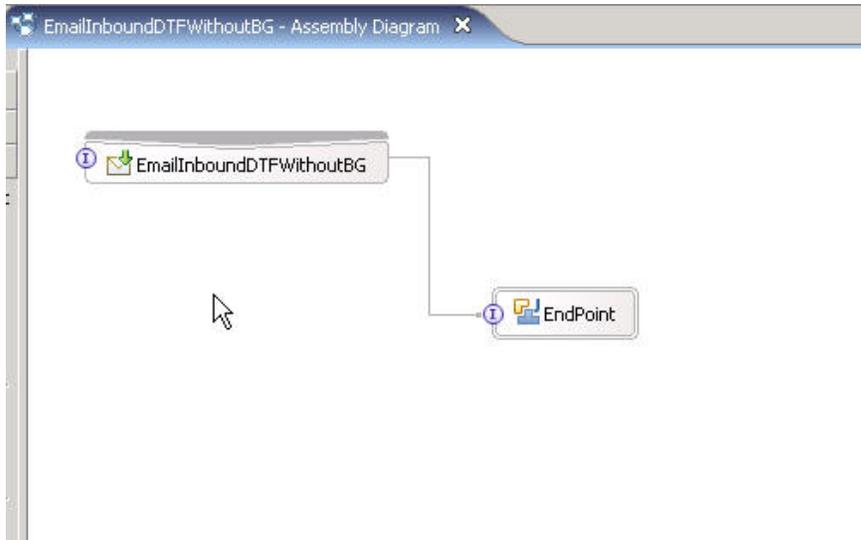


Figure: Select the Generated Email Interface

3. Click **Properties** -> **End-point configuration** -> **Activation Spec properties**.
4. Provide the connection details for host name, port, username, password, and other required details to suit your environment.

Build Activities Problems Servers Progress Properties

Description: Export: EmailInboundDTFWithoutBG (EIS Binding)

Details: Connection Resource Adapter

Binding: Select configuration view option:  
 Specify JNDI name for pre-configured J2EE Connector Architecture resource  
 Specify properties for configuring new J2EE Connector Architecture resource

▼ ActivationSpec Properties

ActivationSpec class name: com.ibm.j2ca.email.EmailActivationSpec

ActivationSpec Properties

Staging directory: C:\Documents and Settings\Administrator\My Documents\InProgress [Browse...]

E-mail system connection information

Host name: 9.182.149.182

Port number: 143

Protocol: imap

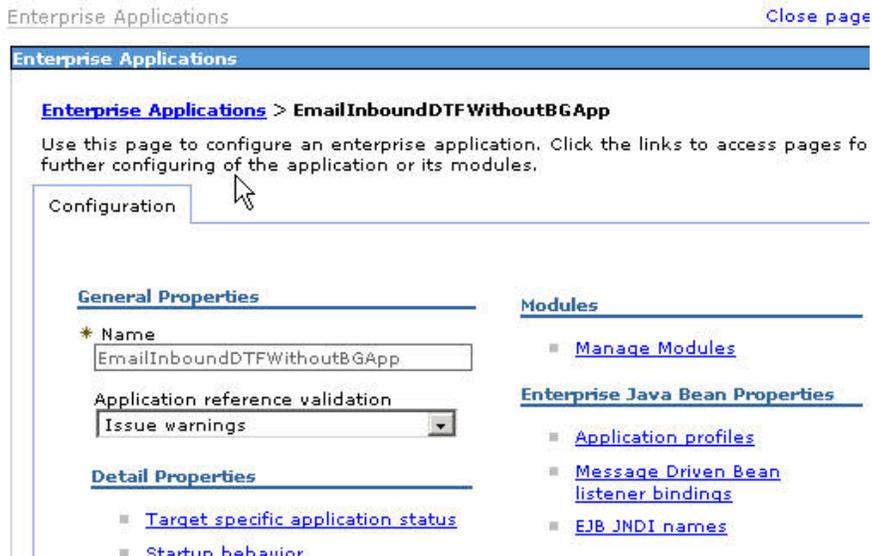
Poll folder or folders: Inbox

[Advanced >>]

Figure: Enter the connection details

b) Changing the connection details in the J2C Activation Spec properties in the WebSphere Process Server Administrative console after the Application has been deployed into the server.

1. Start the administrative console.
2. Click **Applications -> Enterprise Applications -> <your installed Application, for example, EmailInboundDTFWithoutBG >**.



*Figure: Enter the name of the enterprise application*

3. In **Modules**, click **Manage Modules**.
4. Select the Email Rar.
5. In the **Additional Properties**, click **Resource Adapter**. In the **Additional Properties**, click **J2C Activation Specifications**.
6. Choose the Activation specification related to the deployed module.
7. Select **Additional Properties -> J2C activation specification custom properties**. Specify and change the values to suit your environment

Enterprise Applications > EmailInboundDTFWithoutBGApp > Manage Modules > CWYEM\_Email.rar > EmailInboundDTFWithoutBGApp.IBM WebSphere Adapter for Email > J2C activation specifications > EmailInboundDTFWithoutBG.EmailInboundDTFWithoutBG\_AS > Custom properties

Use this page to specify custom properties that your enterprise information system (EIS) requires for the resource providers and resource factories that you configure. For example, most database vendors require additional custom properties for data sources that access the database.

Preferences

Name	Value	Description	Required
pollPeriod	2000		true
pollFolders	Inbox		true
pollQuantity	10		true
deliveryType	ORDERED		true
host	9.182.149.182		true
inProgressFolder	C:\Documents and Settings\Administrator\My Documents\InProgress		true
port	143		true
retrvInterval	60000		false
EP_CreateTable	true		false
archiveFileName			false
filterFutureEvents	false		false
archiveFolder			false

Figure: Change the settings as per your environment

### 3. Changing the Email Connection details (Outbound Case)

a) Changing the connection details in the ManagedConnectionFactory properties of the assembly diagram of the Business Integration module.

1. Open the Assembly diagram. Select the **Generated Email Interface** for example, **EmailOutboundDTFWithoutBG**.

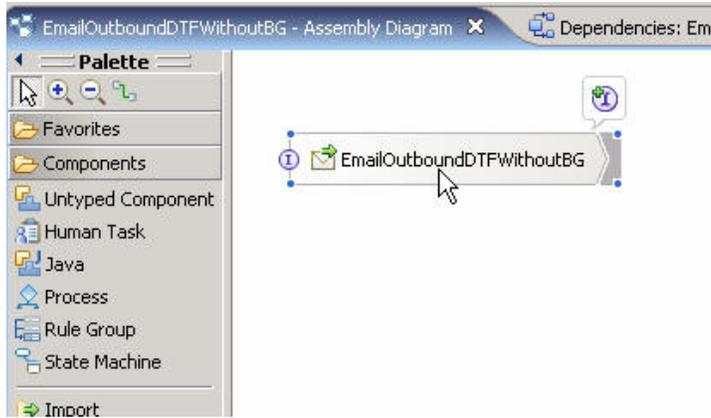


Figure: Select the generated email interface

2. Click **Properties -> End-point configuration -> Managed Connection Factory properties.**

3. Provide the connection details for host name, port, username, password, and other required details to suit your environment.

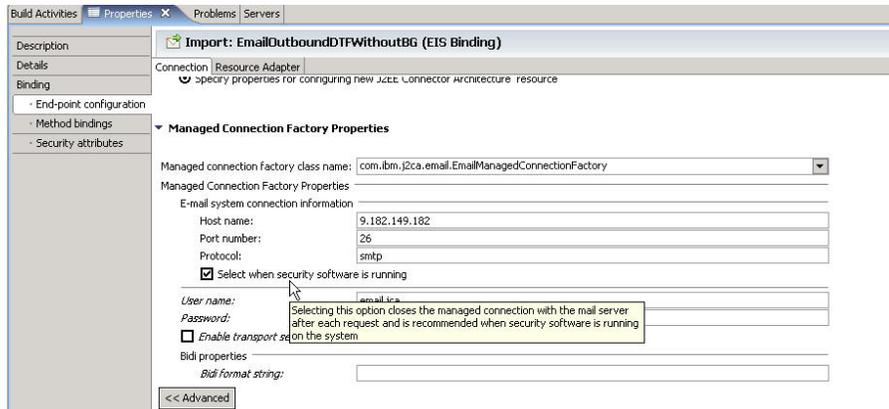


Figure: Enter the connection details

b) Changing the connection details in the J2C Connection Factory properties in the WebSphere Process Server Administrative console after the Application has been deployed into the server.

1) Start the administrative console

2) Click **Applications** -> **Enterprise Applications** -> <your installed Application for example, **EmailOutboundDTFWithoutBG** >

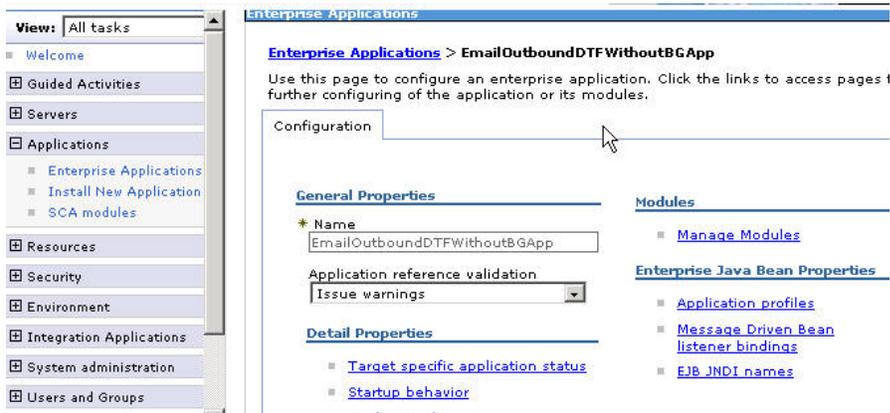


Figure: Enter the name of the enterprise application

- 3) In **Modules**, click **Manage Modules**
- 4) Select the Email Rar (IBM WebSphere Adapter For Email)
- 5) In the **Additional properties**, click **Resource Adapter**.
- 6) In the **Additional properties**, click **J2C connection factories**.
- 6) Select the connection properties specification related to the deployed module that is. **EmailOutboundDTFWithoutBG.EmailOutboundDTFWithoutBG\_CF**.
- 7) Click **Additional Properties** -> **Custom properties**. You can specify and change the values suiting to your environment.

**Enterprise Applications**

[Enterprise Applications](#) > [EmailOutboundDTFWithoutBGApp](#) > [Manage Modules](#) > [CWYEM\\_Email.rar](#) > [EmailOutboundDTFWithoutBGApp.IBM WebSphere Adapter for Email](#) > [J2C connection factories](#) > [EmailOutboundDTFWithoutBG.EmailOutboundDTFWithoutBG\\_CF](#) > **Custom properties**

Use this page to specify custom properties that your enterprise information system (EIS) requires for the resource providers and resource factories that you configure. For example, most database vendors require additional custom properties for data sources that access the database.

**Preferences**

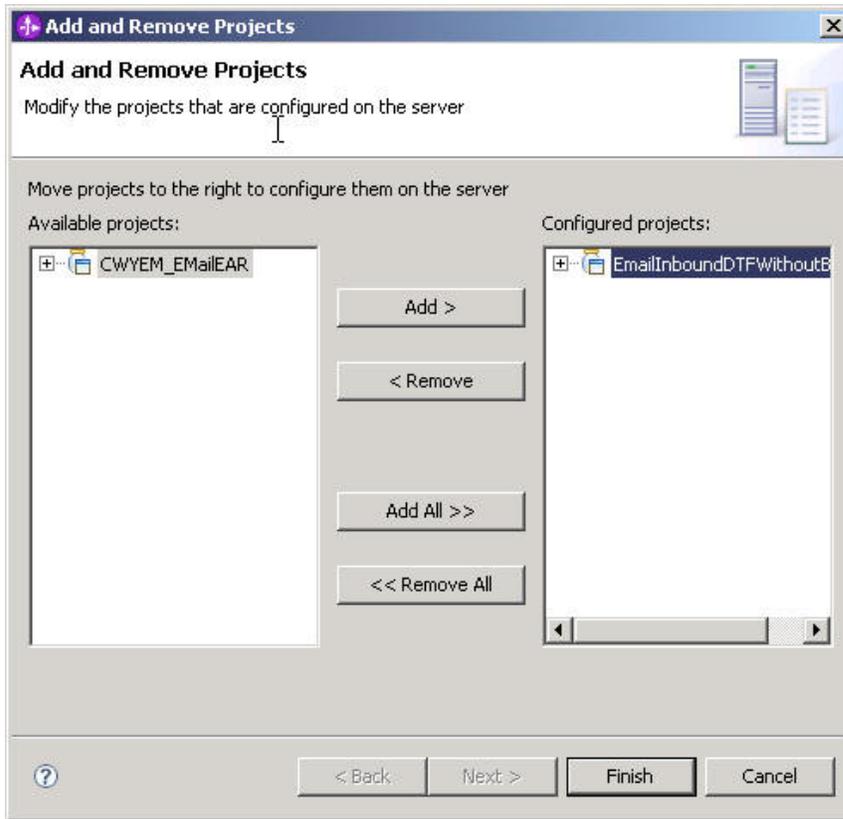
Name	Value	Description	Required
<a href="#">adapterID</a>	<a href="#">ResourceAdapter</a>		<a href="#">false</a>
<a href="#">traceFileSize</a>	<a href="#">0</a>		<a href="#">false</a>
<a href="#">logFilename</a>			<a href="#">false</a>
<a href="#">enableSSL</a>	<a href="#">false</a>		<a href="#">false</a>
<a href="#">host</a>	<a href="#">9.182.149.182</a>		<a href="#">false</a>
<a href="#">closeConnection</a>	<a href="#">true</a>		<a href="#">false</a>
<a href="#">protocol</a>	<a href="#">smtp</a>		<a href="#">false</a>
<a href="#">logFileSize</a>	<a href="#">0</a>		<a href="#">false</a>
<a href="#">userName</a>	<a href="#">email_ica</a>		<a href="#">false</a>
<a href="#">traceFilename</a>			<a href="#">false</a>
<a href="#">logNumberOfFiles</a>	<a href="#">1</a>		<a href="#">false</a>
<a href="#">traceNumberOfFiles</a>	<a href="#">1</a>		<a href="#">false</a>
<a href="#">password</a>	<a href="#">*****</a>		<a href="#">false</a>
<a href="#">kniContextEIS</a>			<a href="#">false</a>

Figure: Change the settings as per your environment

#### 4) Deploying the Samples into WebSphere Process Server

a) Deploying the EAR directly into the WebSphere Process Server using Add & Remove projects.

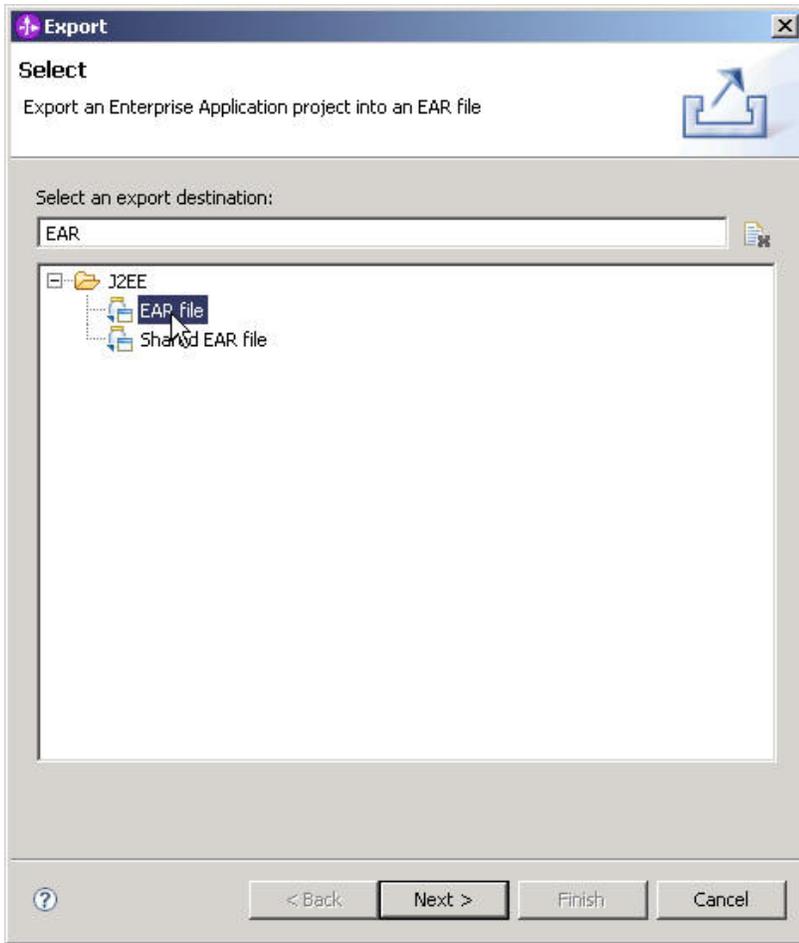
1. Right-click the server and click on **Add and Remove projects**.
2. Select the EAR module generated and deploy into the WebSphere Process Server.



*Figure: Select the EAR module*

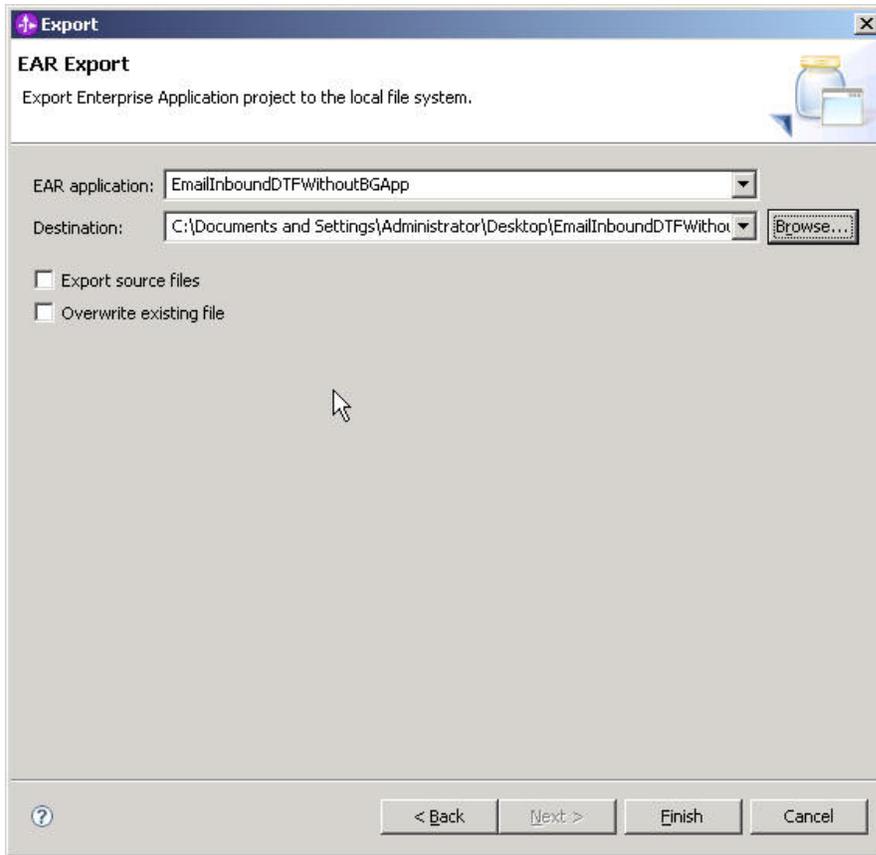
b) Exporting the EAR module and installing the same into the WebSphere Process Server using the Server Administrative console.

1. In the Business Integration workspace, right-click and select **Export**.
2. Select the EAR file.



*Figure: Select the EAR file option*

3. Select the EAR Module say for example, **EmailInboundDTFWithoutBGApp** and export the EAR file to a temporary location in your file system.



*Figure: Select the EAR module*

4. Open the server administrative console upon server startup.
5. In the administrative console click, **Applications -> Enterprise Applications** and click **Install**.
6. Select the EAR file saved in the temporary location, and then select the default values and complete the installation. The deployed application shows up among the installed applications and a green arrow is shown and verifies that it is deployed successfully.

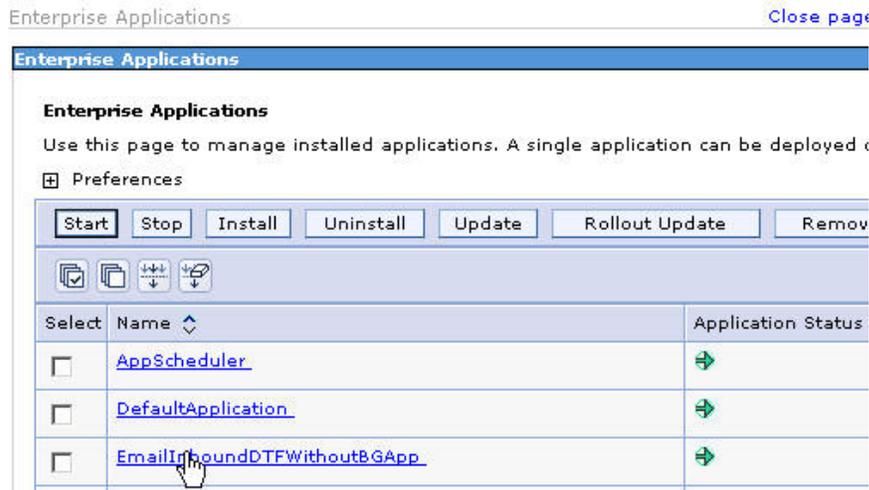


Figure: Select the default values and complete the installation

---

## Creating Events

The events that will be created for the pass-through scenario testing will be different from the ones created for non-pass through scenario tests. The mail format would be the same, but the content or attachments would be different.

### EmailEventCreator

This is a program that will be shipped to provide the users with a capability to create events on the mail server.

The program would work both for pass-through mode and the non-pass-through mode. The batch file createEvents.bat provides a command-line interface to the EmailEventCreator. The user can edit the batch file and provide several parameters on the command-line. Based on the user-specified parameters, the events will be created.

The command-line parameters that can be specified by the user are as shown here.

<host> <port> <number of events to be created> <from> <to> <cc>  
<bcc> <subject> <content> <path for event filename> <boolean for  
passthru/nonpassthru>

Where,

Host - the IP address of the mail server

Port - port number

Number of events to be created – Total number of events required to be created for testing

From - the mail id for the mail account from which mail is to be written

To - the mail id for the mail account to which mail is to be written

CC - the mail id for the mail account on cc of the mail

BCC - the mail id for the mail account on bcc of the mail

Subject – subject for the event mail

Content – Sample pass-through text content for the mail

Path for event file name – The path on the local folder where the event file attachment (for example, MyAddress.xml) has been placed.

Boolean for pass-through or non-pass-through – true or false values indicating requirement of pass-through scenario. True = pass-through.

#### **Procedure to create events with these artifacts**

Unzip the EmailEventCreator.zip to a <samples\_temp> directory.

Edit the createEvents.bat file to specify the appropriate parameters. Save and close the file. An example is shown here.

#### ***Pass-through mode –***

```
java EmailEventCreator localhost 25 10 from@in.ibm.com to@in.ibm.com cc@in.ibm.com  
bcc@in.ibm.com TestEmail TestPassthruContent C:\EmailRA\Samples\MyPicture.jpg true
```

This will create 10 events from the user from@in.ibm.com on the localhost mail server with the content from the C:\EmailRA\Samples\MyPicture.jpg attached to

the mail. The other attributes of the mail specified by the user will be incorporated on each mail event that is created.

Refer to the createEvents\_sample\_passthrough batch file (or shellsript) contents for illustration.

***Non-pass-through mode –***

```
java EmailEventCreator localhost 25 10 from@in.ibm.com to@in.ibm.com  
cc@in.ibm.com bcc@in.ibm.com TestEmail TestXMLContent  
C:\EmailRA\Samples\MyAddress.xml false
```

This will create 10 events from the user from@in.ibm.com on the localhost mail server with the content from the C:\EmailRA\Samples\MyAddress.xml attached to the mail. The other attributes of the mail specified by the user will be incorporated on each mail event that is created.

Refer to the createEvents\_sample\_nonpassthrough batch file (or shellsript) contents for illustration.

***Non-pass-through mode with content other than text/plain–***

```
java EmailEventCreatorNew localhost 25 10 from@in.ibm.com to@in.ibm.com  
cc@in.ibm.com bcc@in.ibm.com TestEmail  
C:\EmailRA\Samples\FixedEventCreator\MyAddress.xml C:\EmailRA\Samples\MyPhone.xml true
```

This will create 10 events from the user from@in.ibm.com on the localhost mail server with the content from the C:\EmailRA\Samples\MyPicture.jpg attached to the mail and with the mail content as that of the xml file MyAddress.xml. The other attributes of the mail specified by the user will be incorporated on each mail event that is created.

Refer to the createEvents\_sample\_nonpassthroughWithFileContent batch file (or shellsript) contents for illustration.

1. Double-click to run the createEvents.bat file (or invoke through the command window). Instead, you can use the createEvents\_sample\_passthrough, createEvents\_sample\_nonpassthrough or createEvents\_sample\_nonpassthroughWithFileContent script files.

Use the mail client to verify that the events are created successfully, before the resource adapters is started.

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