

FTP Inbound Lab

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What this exercise is about

The objective of this lab is to provide you with an understanding of the WebSphere® Adapter for FTP and inbound event processing. In this lab you will install and deploy the WebSphere Adapter for FTP and create an SCA application that polls for and processes inbound events from the file system.

Lab Requirements

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

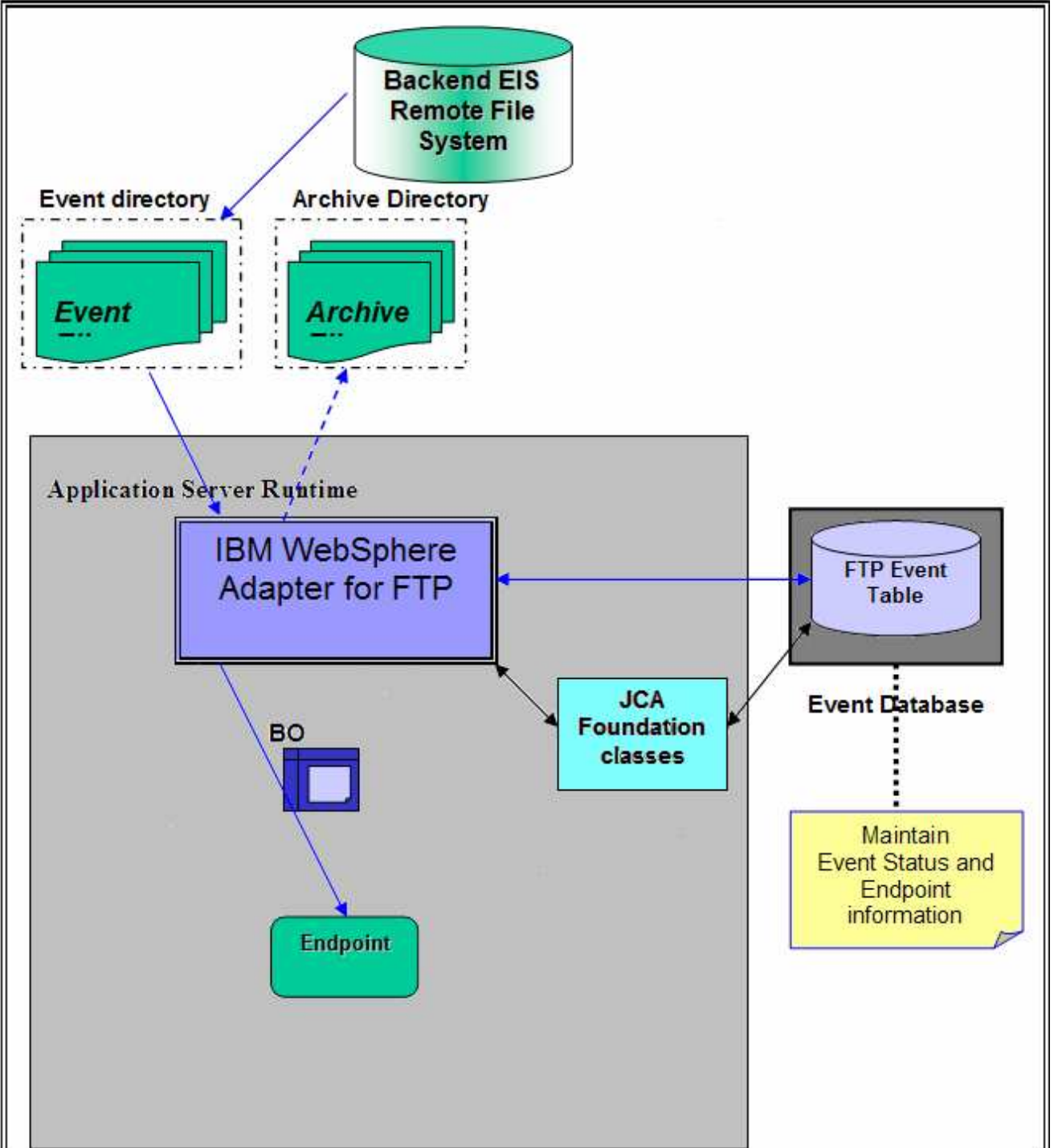
- WebSphere Integration Developer V6.0.2 installed
- WebSphere Process Server V6.0 Test Environment installed
- WebSphere Adapter for FTP V6.0.2 installed
- Unzip LabFiles602.zip to your C:\ (your root) drive
- FTP server installed and configured

What you should be able to do

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

- Import FTP adapter RAR file into WebSphere Integration Developer
 - Use WebSphere Process Server's Administrative Console to create required JDBC provider and a Data source
 - Use Enterprise Service Discovery (ESD) wizard to configure the Activation Spec Properties and the Resource Adapter Properties to generate Business Objects and other artifacts
 - Deploy the adapter application onto the WebSphere Process Server test environment
 - Test the deployed application using WebSphere Process Server test environment for both pass-through and non pass-through using four different scenarios
 - Restore the server configuration
-

Introduction



The backend EIS is the source of events. When events are generated at the EIS, files will be created by the EIS in the remote file system at a specific directory location. The same directory needs to be configured by the user as the Event Directory for the adapter.

The adapter polls event files, based on configured Event File Mask and FTP Get Quantity, from the Event Directory and downloads to a Local Event Directory in the adapter machine for every FTP Poll Frequency time and archives the file in FTP Archive Directory of the FTP server (it specified by the user).

The adapter splits the downloaded event files from Local Event Directory based on the configured SplittingFunctionClassname (splitting functionality) and SplitCriteria (splitting criteria used). User can implement his/her own class which contains the splitting logic which splits the event files into individual Business Objects. The adapter provides a Java™ interface which the end user has to implement in a class.

An entry is made in the Event Persistence table (given by EPEventTableName) for each BO with status as New Event. The adapter sends the record chunk, through a Function Selector and Data Binding, to the endpoint and the status in the Event Persistence table is updated based on successful (to PROCESSED state) or failed(to FAILED state) delivery to the endpoint. The event management framework takes care of delivering the event only once to the endpoint.

If archiving is enabled (if LocalArchiveDirectory has a valid value), the Business Objects are also archived in a configured Local Archive Directory, on the local file system, based on successful or failed delivery to the endpoint. Successful and failed events are written to different files. The entries from the Event Persistence table are deleted for each of the successfully processed BO's only. If Local ArchiveDirectory is not set, the event file is deleted after processing of all the BO's is completed.

If EventContentType in the Activation Spec Properties is not set or if it is not valid or the value does not match the entries present in annotation of the Wrapper data object then it is called PassThrough and data transformation will not happen in this case. During PassThrough the SplittingFunctionClassName and SplitCriteria are set to values (even if they are set to different values) such that splitting happens based on file size. The PassThrough scenario can have either Chunking or FilePassbyReference features.

Exercise Instructions

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

IBM WEBSHERE ADAPTER 6.0.2 – FTP Inbound Lab

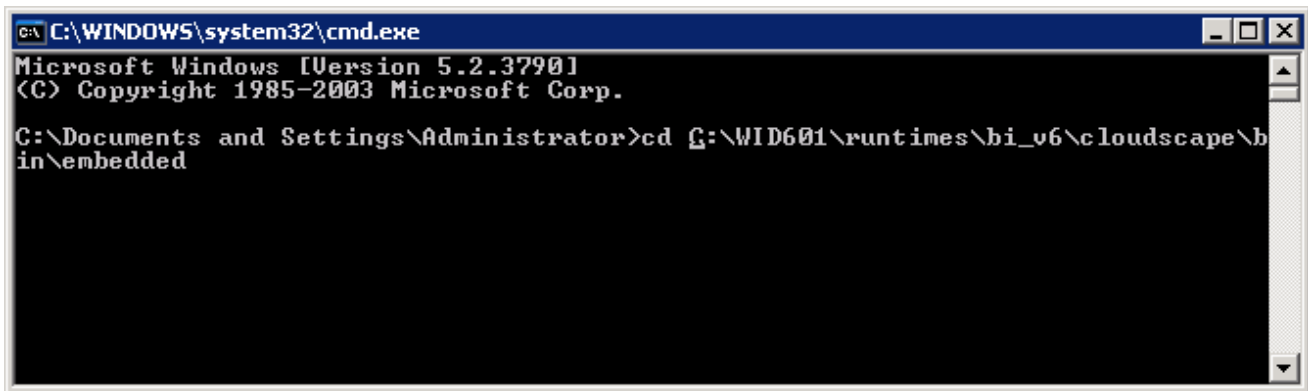
Reference Variable	Windows Location	AIX®/UNIX® Location
<WID_HOME>	C:\Program Files\IBM\ID\6.0	
<WPS_HOME>	<WID_HOME>\runtimes\bi_v6	
<FTPADAPTER_HOME>	C:\Program Files\IBM\ResourceAdapters\FTP\adapter\FTP	
<LAB_FILES>	C:\Labfiles602	/tmp/Labfiles602
<WORKSPACE>	<LAB_FILES>\FTPInbound\workspace	
<LOCAL_EVENT_DIR>	<LAB_FILES>\FTPInbound\LocalEventDir	
<LOCAL_ARCHIVE_DIR>	<LAB_FILES>\FTPInbound\LocalArchivetDir	
<TEMP>	C:\temp	/tmp

Windows users note: When directory locations are passed as parameters to a Java program such as EJBdeploy or wsadmin, it is necessary to replace the backslashes with forward slashes to follow the Java convention. For example, C:\LabFiles602\ would be replaced by C: /LabFiles602/

Part 1: Prepare Database and Directory Structure on your FTP Server

This part of the lab describes the steps for creating the **FTPDATABASE** database in Cloudscape which will contain the Event Distribution Table, **FTPTABLE**. The **FTPTABLE** will be created automatically for you during the install and deployment of the application containing the FTP adapter to the WebSphere Process Server.

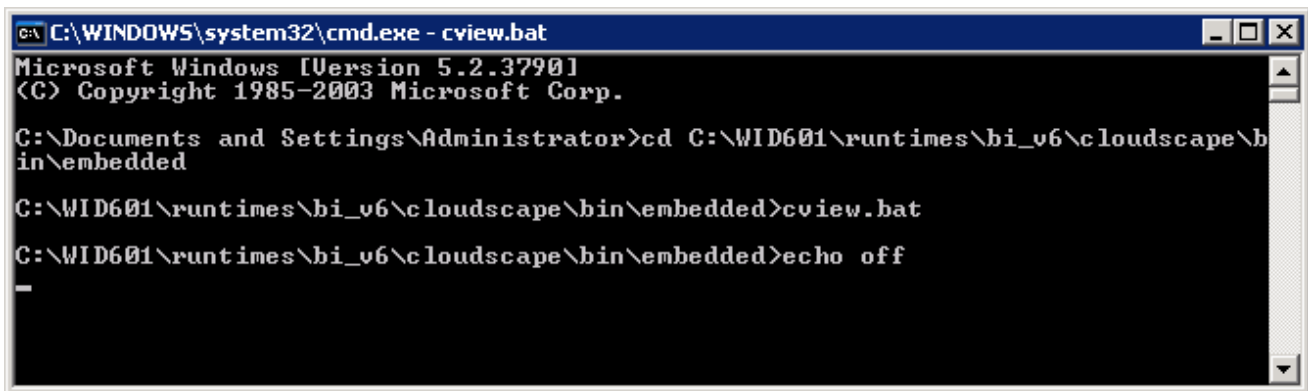
- ___ 1. Start the Cloudscape Cview Graphical User Interface (GUI) by executing the **cvview.bat** file
 - ___ a. Open a command prompt window and change to the following subdirectory
<WPS_HOME>\cloudscape\bin\embedded



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 5.2.3790]
(C) Copyright 1985-2003 Microsoft Corp.

C:\Documents and Settings\Administrator>cd C:\WID601\runtimes\bi_v6\cloudscape\bin\embedded
```

- ___ b. Type **cvview.bat**

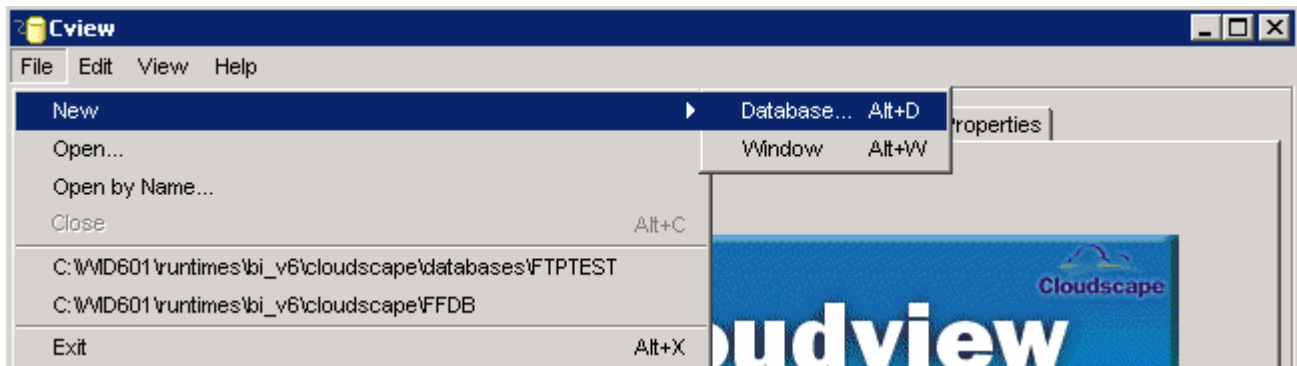


```
C:\WINDOWS\system32\cmd.exe - cvview.bat
Microsoft Windows [Version 5.2.3790]
(C) Copyright 1985-2003 Microsoft Corp.

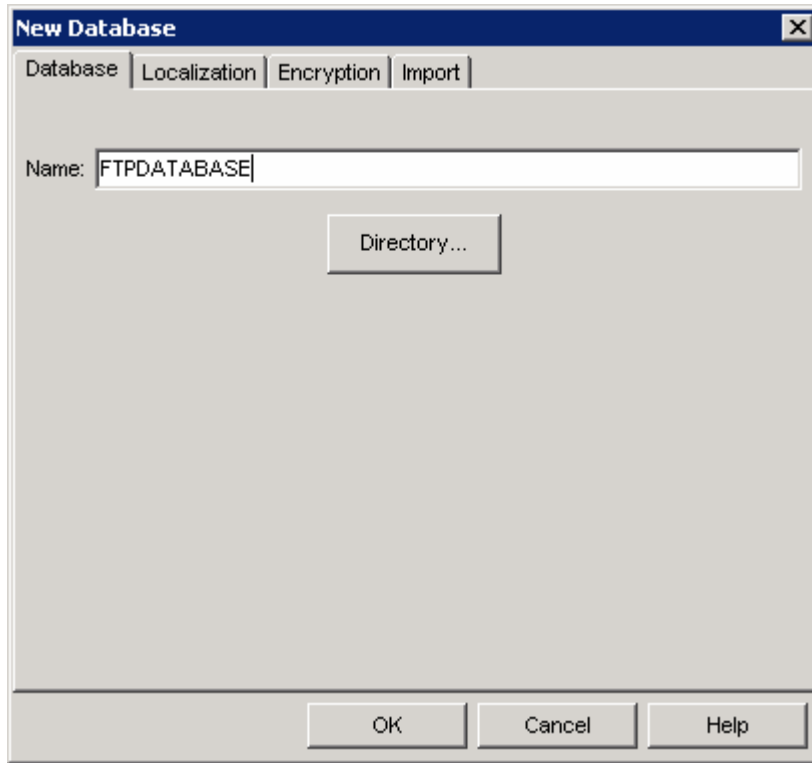
C:\Documents and Settings\Administrator>cd C:\WID601\runtimes\bi_v6\cloudscape\bin\embedded

C:\WID601\runtimes\bi_v6\cloudscape\bin\embedded>cvview.bat
C:\WID601\runtimes\bi_v6\cloudscape\bin\embedded>echo off
-
```

- ___ c. The Cview window will be opened. From that window, select **File > New > Database...**



___ d. Enter **FTPDATABASE** in the Name field and click **OK**



___ e. You will see the **FTPDATABASE** created in the left pane of the Cview window. Now select **File > Exit** to close the Cview GUI

___ 2. Create directory structure on your FTP Server

___ a. Log onto FTP machine/FTP Server using your ftpuser and password

___ b. Create an **EventDir** and an **ArchiveDir** under the user's home directory:

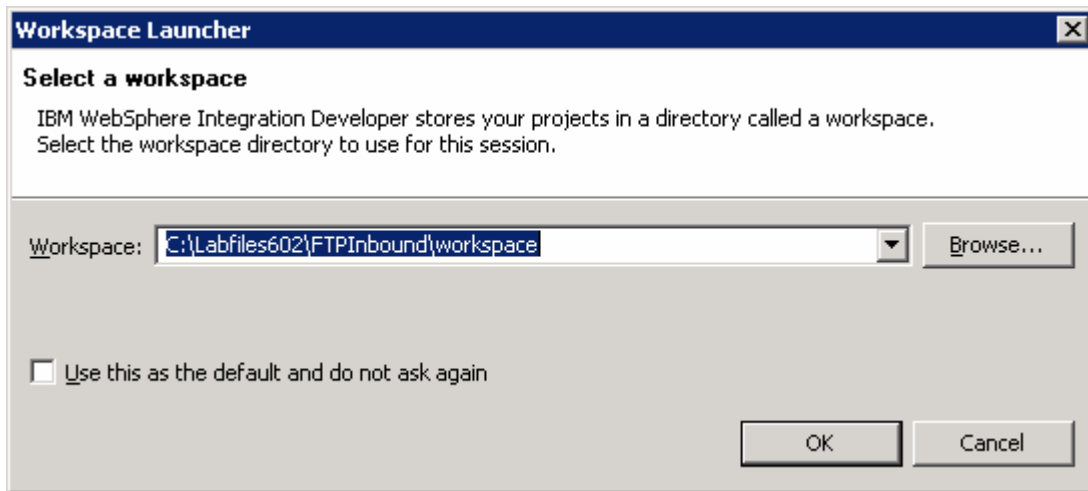
1) **mkdir EventDir**


2) **mkdir ArchiveDir**

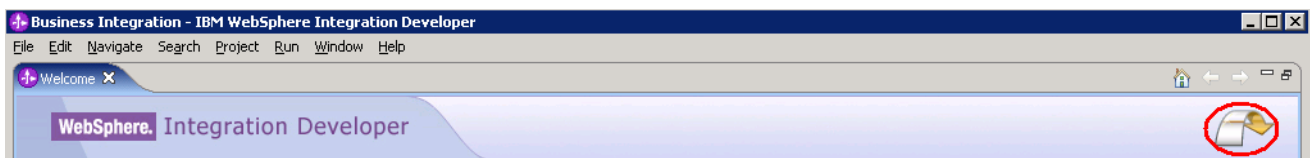
Part 2: Initialize workspace and Import RAR into WebSphere Integration Developer

This part of the lab will guide you through the steps for starting WebSphere Integration Developer with a new workspace, and then import the connector file **CWYFT_FTPFile.rar** into your new workspace.

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

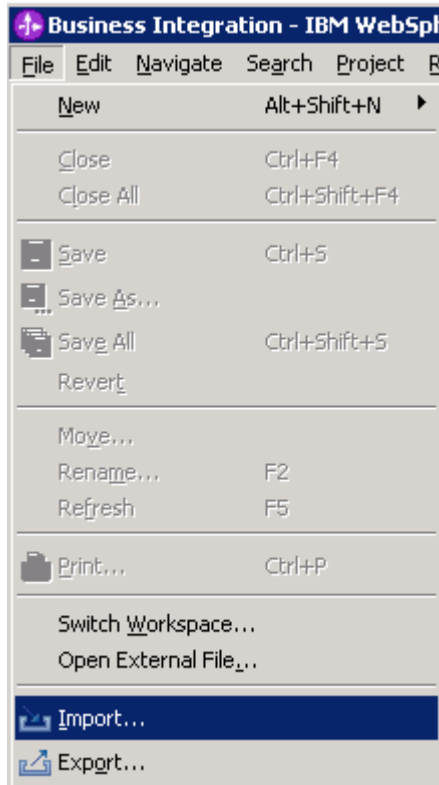


- ___ c. Click on the  button on the right hand corner to close the Welcome page and proceed with the workbench

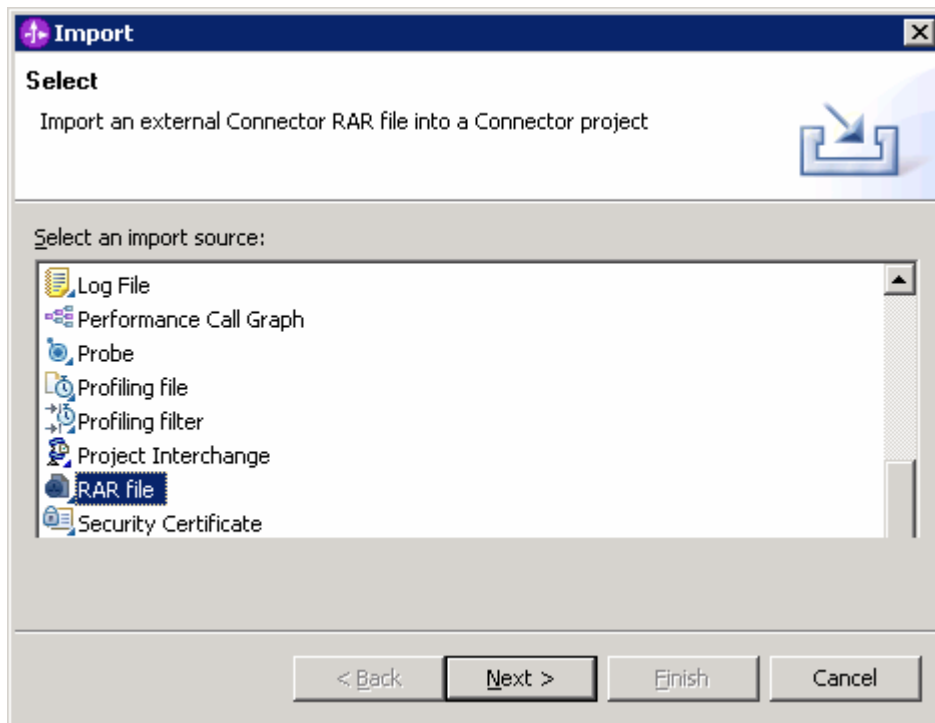


___ 2. Import FTP Adapter RAR file

___ a. From main menu, select **File > Import...**

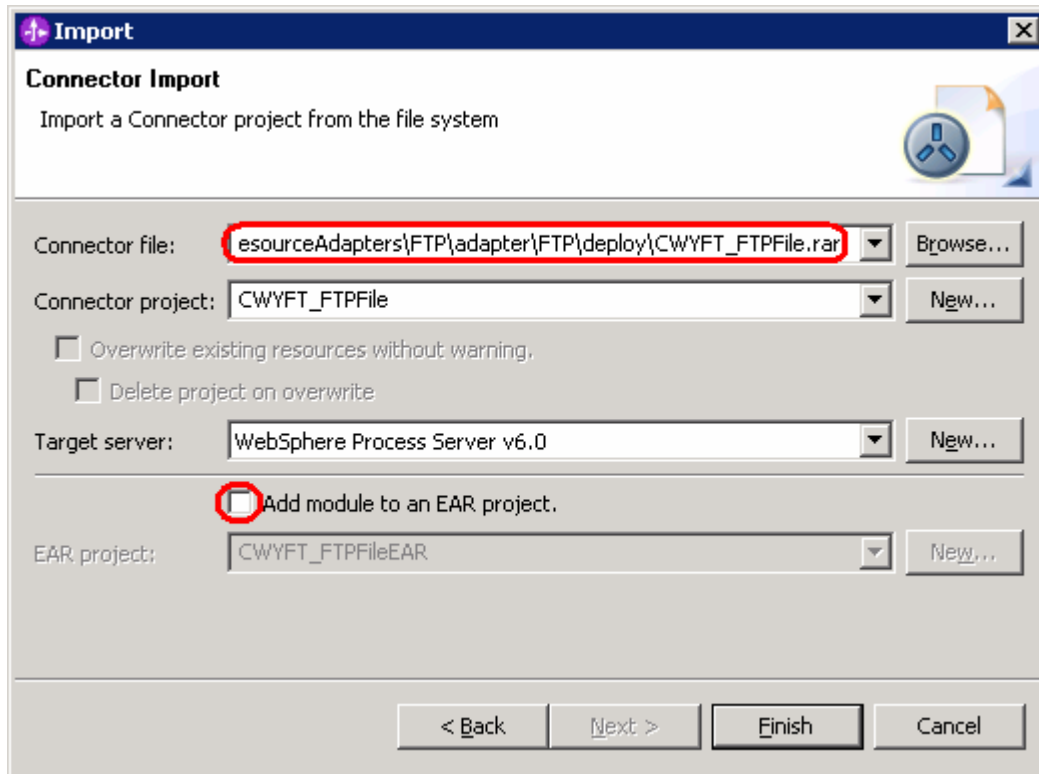


___ b. Select **RAR file** from the Import window and then click **Next**

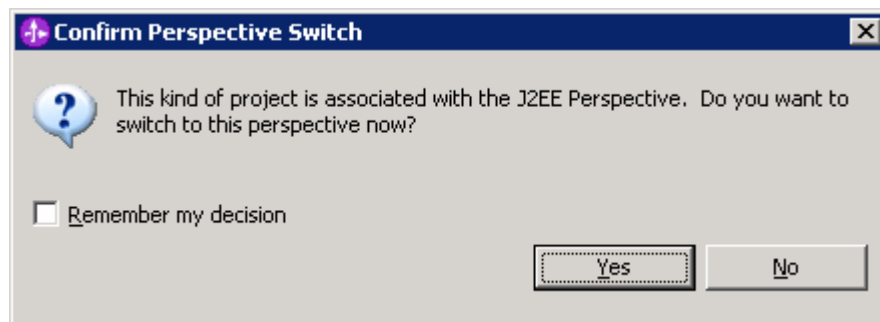


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- ___ c. Click on the **Browse...** button next to the Connector file field to select **WYFT_FTPFile.rar**
- ___ d. Uncheck the check box next to **Add module to and EAR project** and click **Finish**



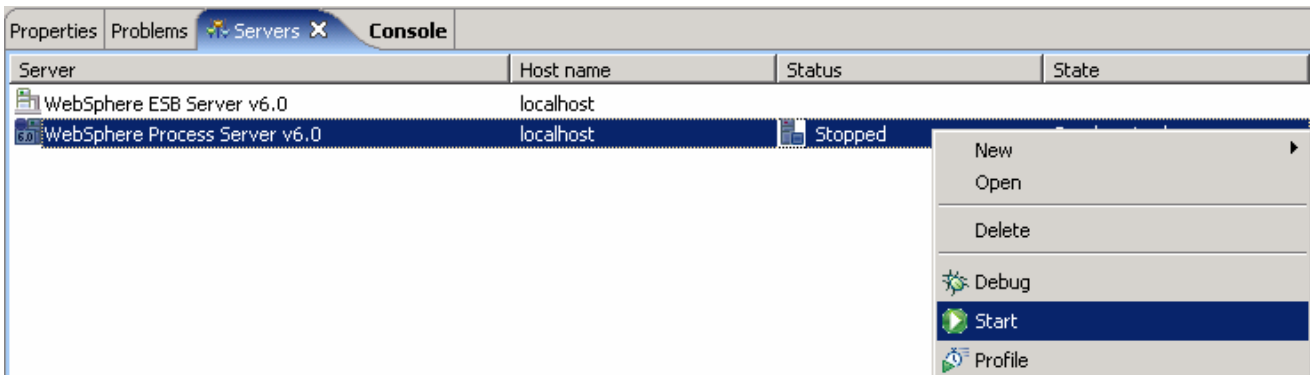
- ___ e. Click on **No** from Confirm Perspective Switch window to continue with the Business Integration perspective



Part 3: Use WebSphere Process Server Administrative Console to Configure Data Sources

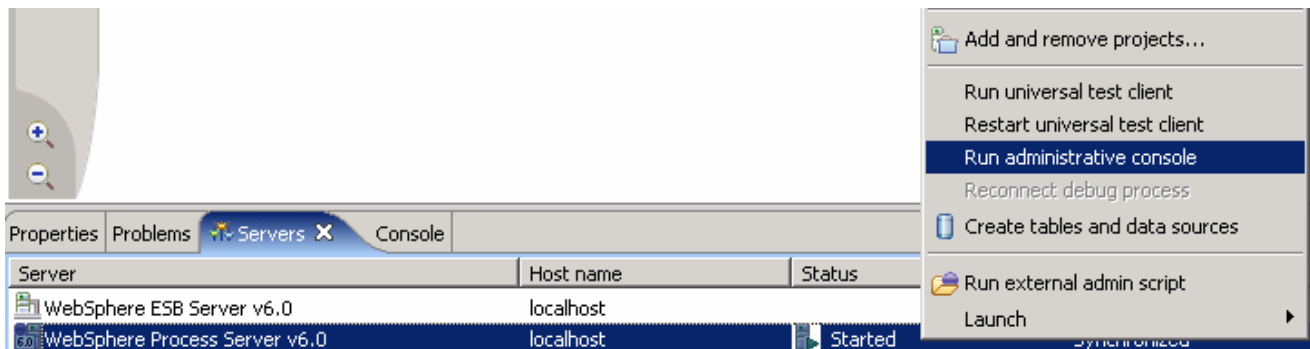
In this part of the lab, you will make use of the WebSphere Process Server Administrative Console to create the required JDBC Provider and the Data source that will be used by the Adapter to configure itself to the end point.

- ___ 1. Start the WebSphere Process Server test Environment
 - ___ a. Select **Servers** view
 - ___ b. Right-click on the row that contains WebSphere Process Server v6.0 and select **Start** from the context menu

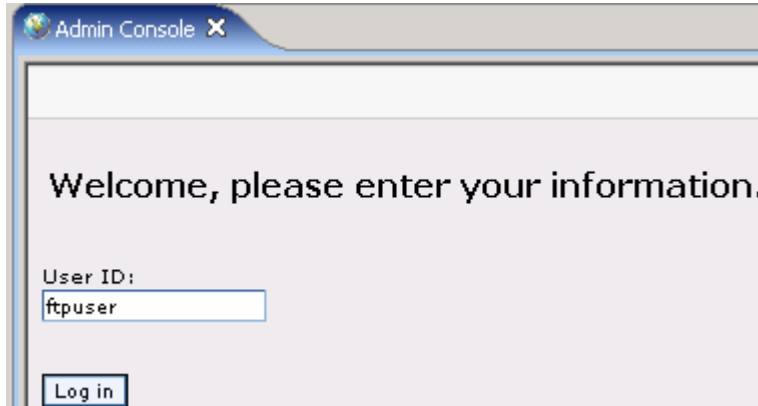


- ___ c. Wait until the Status of the server shows **Started**

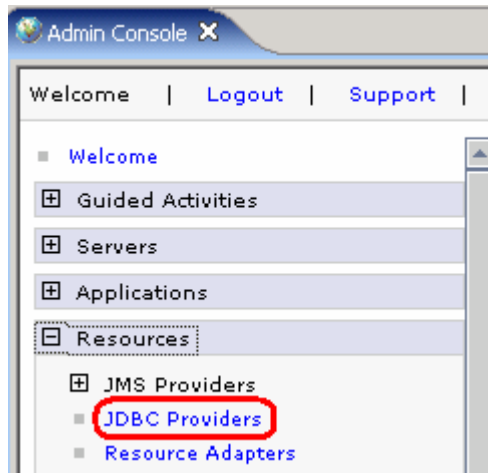
- ___ 2. Right-click on the row that contains WebSphere Process Server v6.0 and select **Run administrative console** from the context menu



- ___ 3. From the Administrative Console, enter any **User ID** and click on **Log In**



- ___ 4. Expand **Resources** on the left pane and select **JDBC Providers**



- ___ 5. Accept the default scope and click on **New**
- ___ 6. In the following screen, for the General Properties, select the following from the dropdown list:
- ___ a. Step 1: **Cloudscape**
 - ___ b. Step 2: **Cloudscape JDBC Provider**
 - ___ c. Step 3: **XA data source**

___ 7. Click **Next**

JDBC providers

[JDBC providers](#) > **New**

Choose a type of JDBC provider to create.

Configuration

General Properties

Step 1: Select the database type
Cloudscape

Step 2: Select the provider type
Cloudscape JDBC Provider

Step 3: Select the implementation type
XA data source

Next Cancel

___ 8. Enter **Cloudscape JDBC Provider (XA) for FTP** in the **Name** field and then click **OK**

JDBC providers > **New**

JDBC providers are used by the installed applications to access

Configuration

General Properties

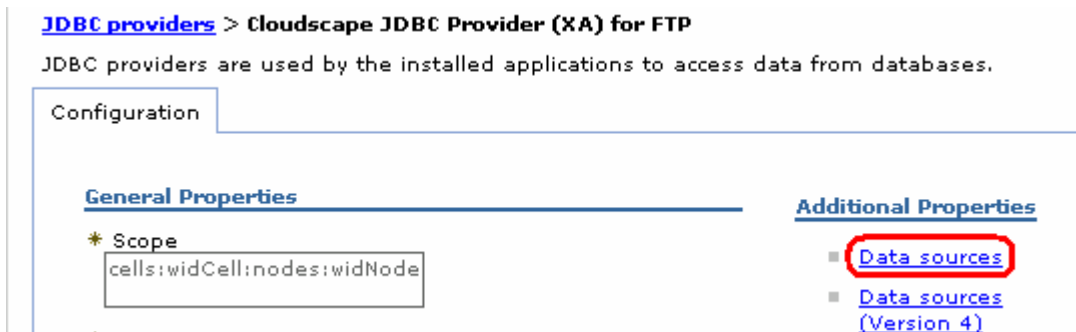
* Scope
cells:widCell:nodes:widNode

* Name
Cloudscape JDBC Provider (XA) for FTP

___ 9. Click **Save** on the top of the window, and then click on **Save** from the following screen

___ 10. Click **Cloudscape JDBC Provider (XA) for FTP** from the following screen to create a new Data Source

___ 11. Select **Data sources** under **Additional Properties** on the right hand side



___ 12. Create the required JNDI Data source

___ a. Click **New**

___ b. Enter the following:

- a) Name: **Cloudscape JDBC Driver XA DataSource for FTP**
- b) JNDI Name: **jdbc/Cloudscape JDBC Driver XA DataSource for FTP**
- c) Database name: **FTPDATABASE**

__ c. Click **OK**

*** Name**
Cloudscape JDBC Driver XA DataSource for FTP

JNDI name
jdbc/Cloudscape JDBC Driver XA DataSource for FTP

Use this Data Source in container managed persistence (CMP)

Description
New JDBC Datasource

Category

Data store helper class name

Select a data store helper class
Data store helper classes provided by WebSphere Application Server

Cloudscape data store helper
(com.ibm.websphere.rsadapter.CloudscapeDataSourceHelper)

Specify a user-defined data store helper
Enter a package-qualified data store helper class name

Component-managed authentication alias
Component-managed authentication alias
(none)

Authentication alias for XA recovery

Use component-managed authentication alias

Specify:

Container-managed authentication
Container-managed authentication alias (deprecated in V6.0, use resource reference authentication settings instead)
(none)

Mapping-configuration alias (deprecated in V6.0, use resource reference authentication settings instead)
(none)

Cloudscape data source properties

*** Database name**
FTPDATABASE

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- ___ 13. Click on **Save** and then **Save** from the following screens
- ___ 14. Test the Data source connection
- ___ a. Check the box next to **Cloudscape JDBC Driver XA DataSource for FTP** and click on **Test connection** from the top of the screen

JDBC providers > **Cloudscape JDBC Provider (XA) for FTP** > **Data sources**

A data source is used by the application to access data from the database. A data source is created under a JDBC provider, which supplies the specific JDBC driver implementation class.

Preferences

New Delete **Test connection** Manage state...

Select	Name	JNDI name	Description	Category
<input checked="" type="checkbox"/>	Cloudscape JDBC Driver XA DataSource for FTP	jdbc/Cloudscape JDBC Driver XA DataSource for FTP	New JDBC Datasource	

Total 1

- ___ b. You should see the following success message on the top of the screen:

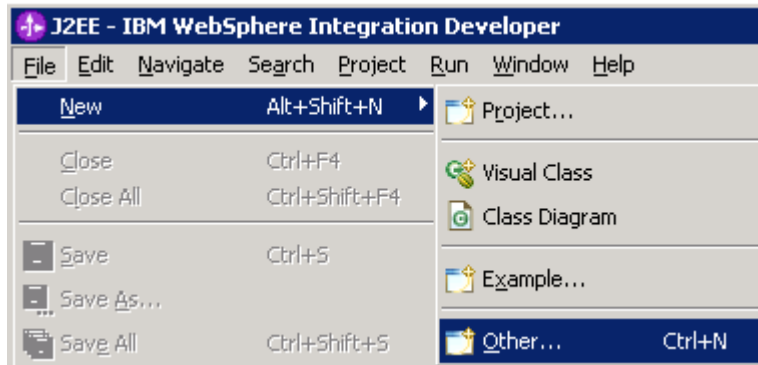
Messages

i Test connection for data source Cloudscape JDBC Driver XA DataSource for FTP on server server1 at node widNode was successful.

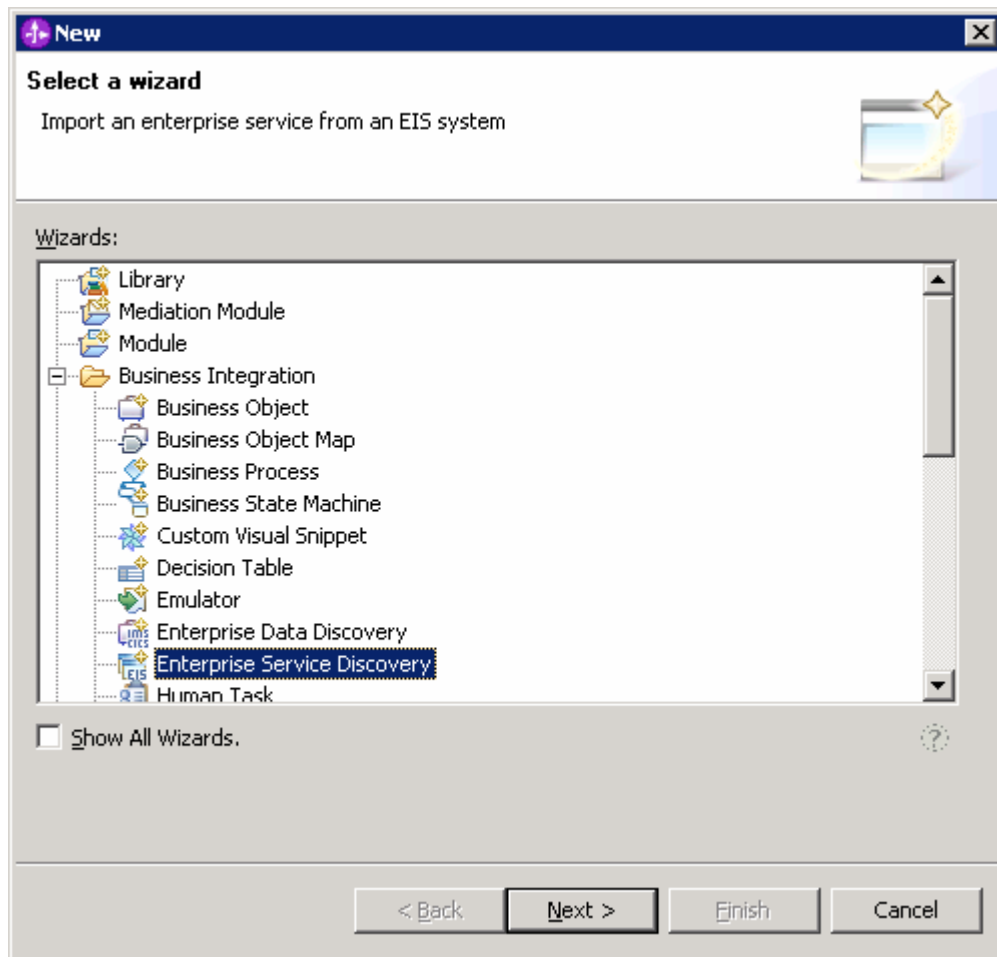
Part 4: Use Enterprise Service Discovery Wizard to Generate Business Objects and other Artifacts

___ 1. Launch the Enterprise Service Discovery wizard

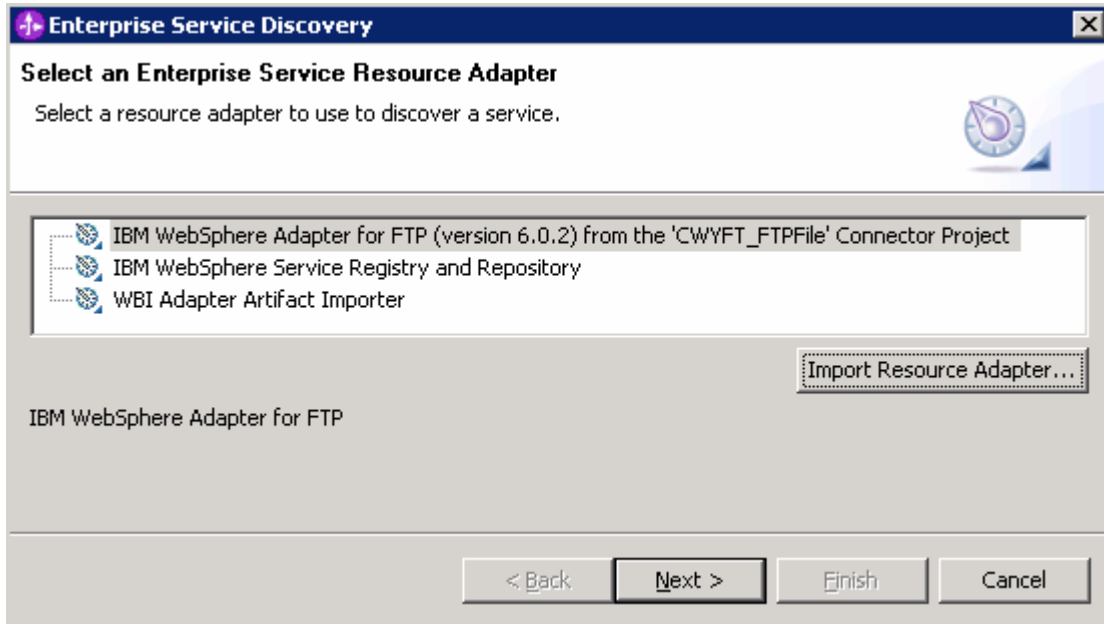
___ a. Select **File > New > Other....**



___ b. From the New window, select **Business Integration > Enterprise Service Discovery** and click **Next**



- ___ 2. Select **IBM WebSphere Adapter for FTP (version 6.0.1)** from the **'CWYFT_FTPFile' Connector Project** and click **Next**



- ___ 3. Configure settings for the Discovery agent

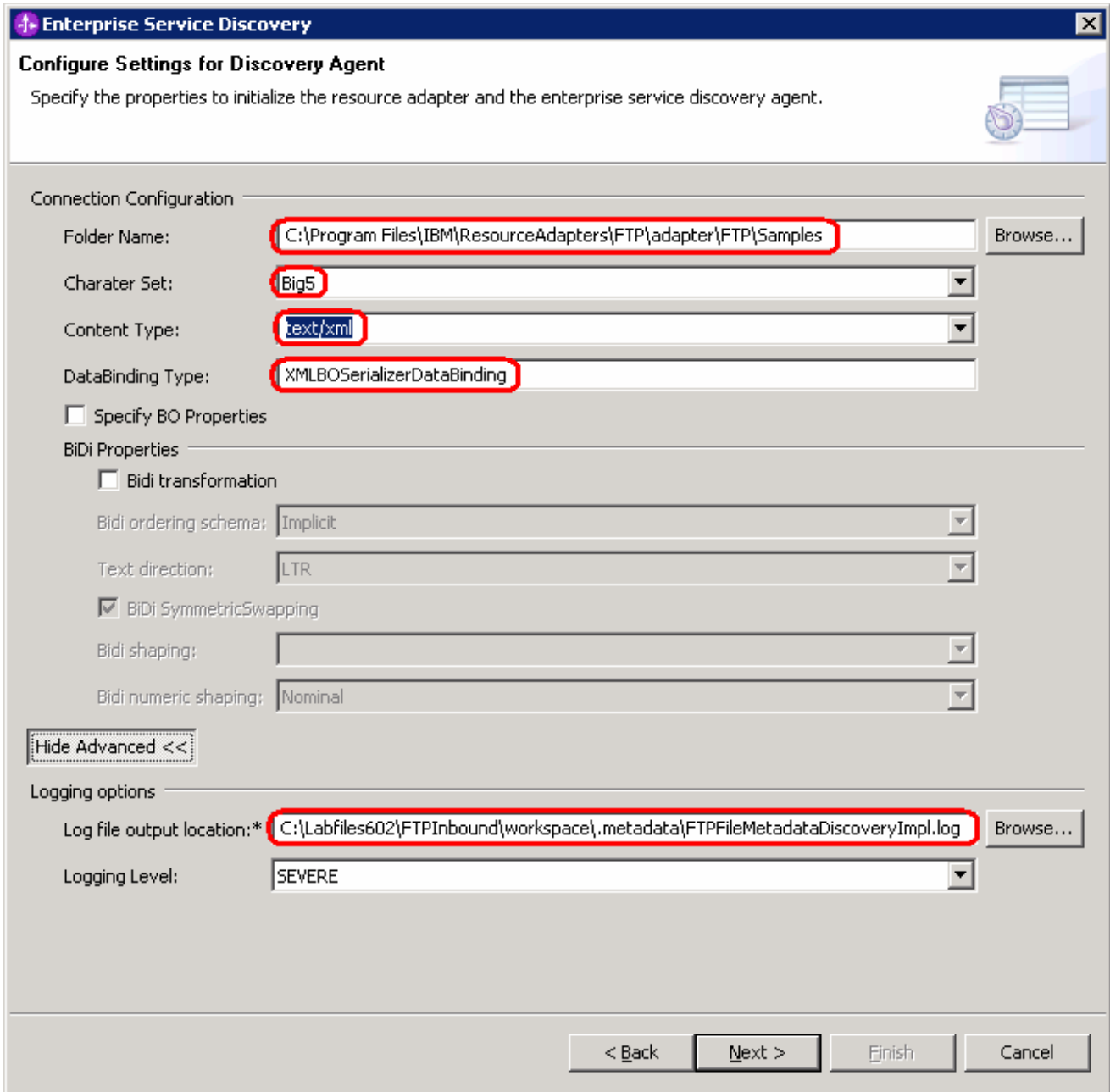
You will specify the properties to initialize the Resource Adapter and Enterprise Service Discovery agent

- ___ a. Click on the **Browse...** button next to the **Folder Name** field and select the folder **<FTPADAPTER_HOME>\samples** that contains the XSD file for **Customer** Business Object

Note: For your convenience, the **Customer.xsd** is also placed under **<LAB_FILES>\FTPFiles**.

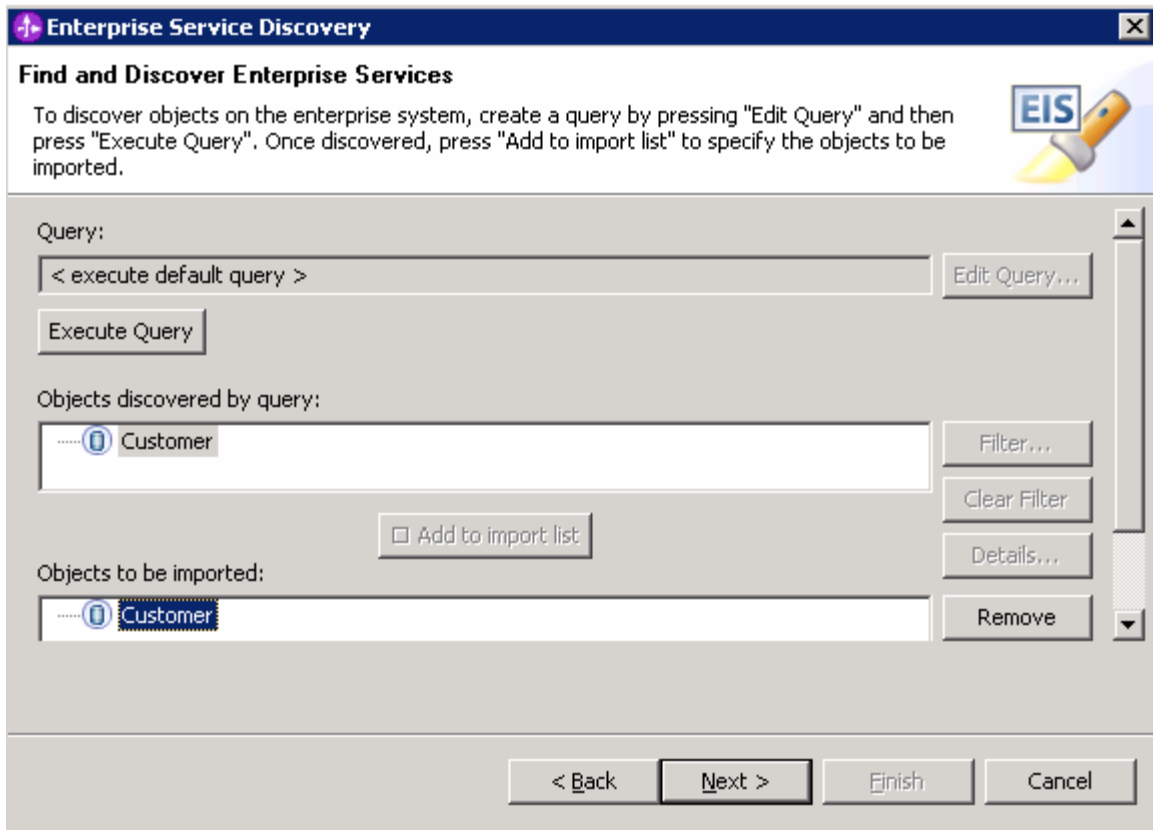
- ___ b. Select **Big5** from the drop down list for the **Character Set** field
- ___ c. Select **text/xml** for the **Content Type** field. Once the content type is selected, the **DataBinding Type** field will be automatically set to **XMLBOSerializerDataBinding**

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



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

- ___ b. Select **Customer** business object and click **Add to import list** button. The Customer business object will now be displayed under the **Objects to be imported** area



- ___ c. Click **Next**

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

- ___ a. From the Configure objects window, select **Inbound** from the dropdown list for the **Service Type** field

__ b. Enter **FTPInBO** for the **BO Location** field and click **Next**

Enterprise Service Discovery

Configure Objects
Specify the properties for the objects that will be imported by the discovery agent.

ServiceType: **Inbound**

Namespace: * http://www.ibm.com/xmlns/prod/websphere;j2ca/ftp

Operations:

- Create
- Append
- Overwrite
- Delete
- Exists
- List
- Retrieve
- ExecuteFTPScript
- ServerToServerFileTransfer

BO Location: **FTPInBO**

Function Selector:* WBIFunctionSelector

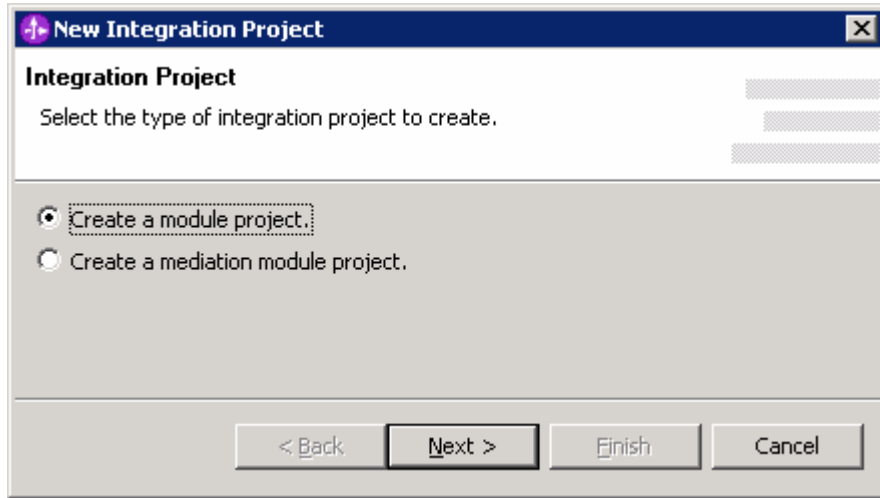
< Back Next > Finish Cancel

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

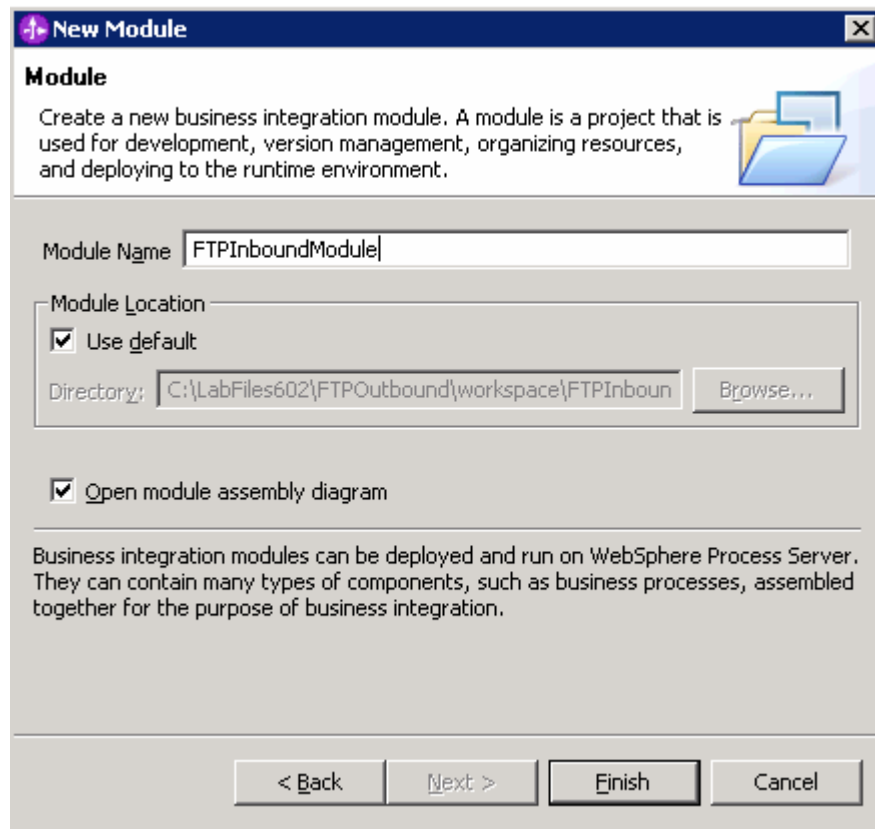
__ a. Create a new module

1) Click on the **New...** button next to the **Module** field

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



- 3) Enter **FTPInboundModule** in the **Module Name** field and click **Finish**



- ___ b. The module which is created above will appear under the **Module** field of the Generate Artifacts window
- ___ c. From the Generate Artifacts window, select the radio button next to **Use discovered connection properties**. This will make the Activation Spec Properties and Resource Adapter Properties visible

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___ d. Enter the following for the **Event Persistence Properties** of the Activation Spec Properties:

- 1) EPDataSourceJNDIName: **jdbc/Cloudscape JDBC Driver XA DataSource for FTP**
- 2) Accept the default EPEventTableName: **FTPTABLE**

Deploy connector with module

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

Use connection properties specified on server

Use discovered connection properties

J2C Authentication Data Entry:

Activation Spec Properties

BONamespace:

Delivery Mode and Polling Info

DeliveryType:

PollPeriod: *

PollQuantity: *

RetryInterval:

Retry limit [Integer]:

Stop polling on error [Boolean]

Assured once delivery [Boolean]

Filter future events [Boolean]

Event Type filter [String]:

Event Persistence Properties

EPDataSourceJNDIName: *

EPEventTableName: *

EPDatabaseSchemaName:

EPDatabaseUsername:

EPDatabasePassword:

___ e. Enter the following for **FTP Adapter Properties** of Activation Spec Properties:

- 1) EventDirectory: **ftp://<FTP Server IP Address>/<EventDir>**

Note: EventDir is the event directory that you created on Step 2 of Part1

- 2) Username: **<user>** (username using which you connect to your FTP machine)
- 3) Password: **<password>** (password for the above user to connect to your FTP machine)
- 4) FTPArchiveDirectory: **<ArchiveDir>**

Note: ArchiveDir is the archive directory that you created on Step 2 of Part 1

5) FTPRenameExt: **processed**

6) LocalEventDirectory: <LOCAL_EVENT_DIR>

7) LocalArchiveDirectory: <LOCAL_ARCHIVE_DIR>

FTP Adapter Properties	
Event Directory:	* ftp://localhost/EventDir
Event File Mask:	* *.*
Sort Event Files:	
FTP Archive Directory:	/home/ftpuser/ArchiveDir
FTP Rename Extension:	processed
User Name:	root
Password:	*****
FTP Get Quantity:	* 10
FTP Poll Frequency:	* 5
EIS Encoding:	
Local Event Directory:	* C:\LabFiles602\FTPInbound\LocalEventDir
Local Archive Directory:	C:\LabFiles602\FTPInbound\LocalArchiveDir
Failed Archive Extension:	fail
Original Archive Extension:	original
Success Archive Extension:	success
Data Connection Mode:	active
File Transfer Type:	binary
Custom Parser Class Name:	

___ f. Enter the following for the **Logging and Tracing** properties of the **ResourceAdapterProperties**:

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1) LogFilename: **C:\FTPRA\Inlog.txt**

2) TraceFilename: **C:\FTPRA\Intrace.txt**

The screenshot shows the configuration console for the IBM WebSphere Adapter. The 'ResourceAdapterProperties' section is expanded to 'Logging and Tracing'. The following properties are visible:

- CustomParserClassName: [Empty]
- FilePassByReference
- SplittingFunctionClassName: com.ibm.j2ca.utils.filesplit.SplitBySize
- SplitCriteria: 0
- FileContentEncoding: [Empty]
- SocksProxyHost: [Empty]
- SocksProxyPort: 1080
- SocksProxyUsername: [Empty]
- SocksProxyPassword: [Empty]
- FTPScriptFileExecutedBeforeInbound: [Empty]
- FTPScriptFileExecutedAfterInbound: [Empty]
- DefaultObjectName: [Empty]
- EventContentType: [Empty]
- AdapterID: * ResourceAdapter
- LogFileSize: 0
- LogFilename: C:\FTPRA\Inlog.txt (highlighted with a red box)
- LogNumberOfFiles: 1
- TraceFileSize: 0
- TraceFilename: C:\FTPRA\Intrace.txt (highlighted with a red box)
- TraceNumberOfFiles: 1
- EisEncoding: [Dropdown menu]

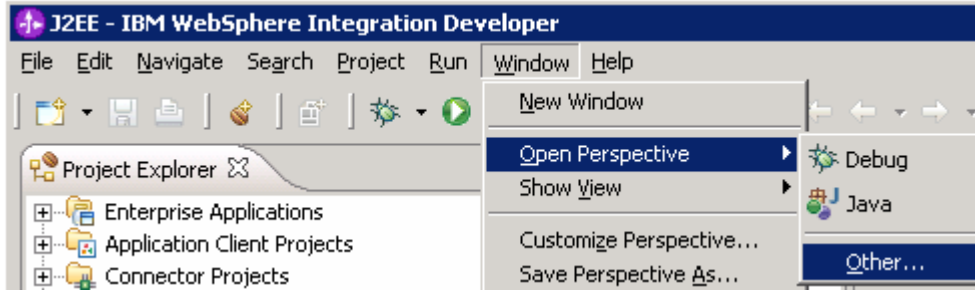
___ g. Click **Finish**

___ 7. Create a Java Component and wire it to **FTPInboundInterface**

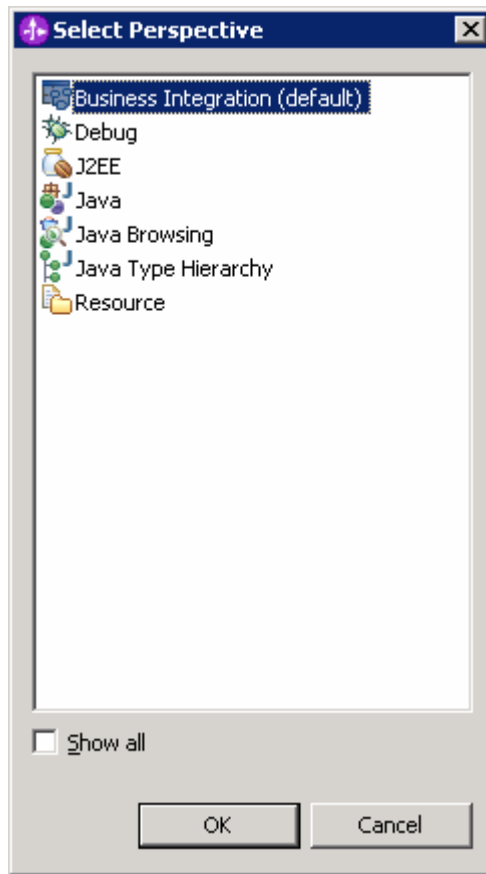
___ a. Change to Business Integration perspective if not open

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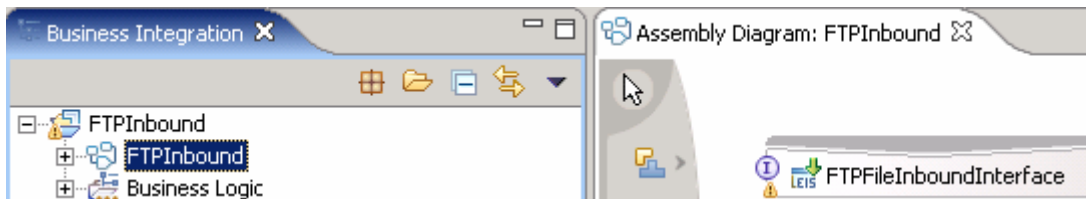
1) Select **Window > Open Perspective > Other....**



2) From the Select Perspective window, select **Business Integration (default)** and click **OK**



___ b. Expand **FTPInboundModule** and double-click **FTPInboundModule** to open it in the Assembly Editor



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- ___ c. From the palette, click the **Component (with no implementation type)** icon, and select **Java** component from the context menu icon and then click in the Assembly Diagram's empty space to drop it there

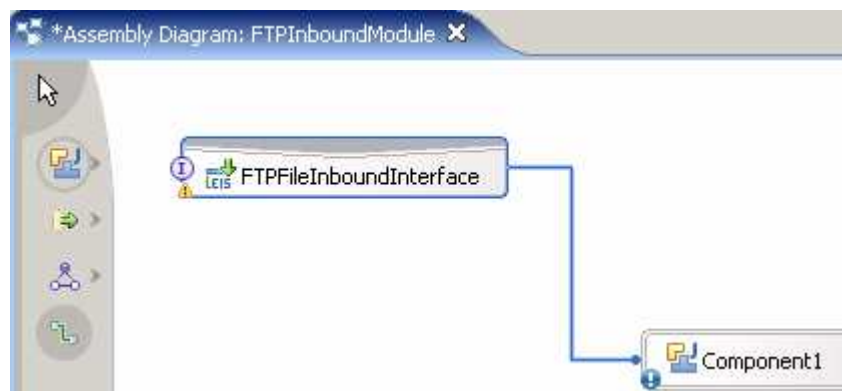


- ___ d. Wire the **FTPInboundInterface** to the **Component1**

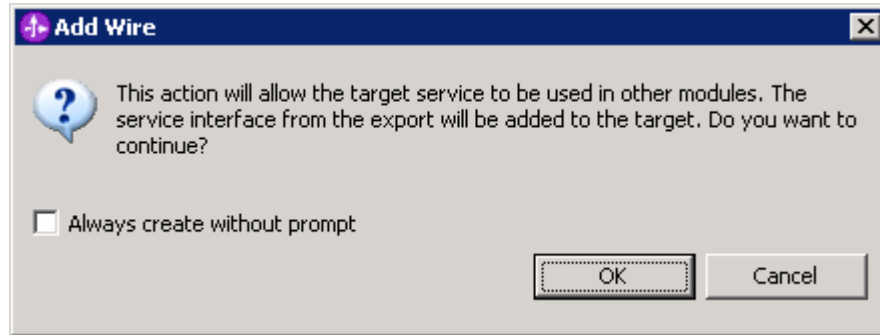
- 1) Select the **wire** icon from the palette



- 2) Click on **FTPFileInboundInterface** and then click on **Component1** to wire them together



3) Select **OK** for the Add Wire popup window

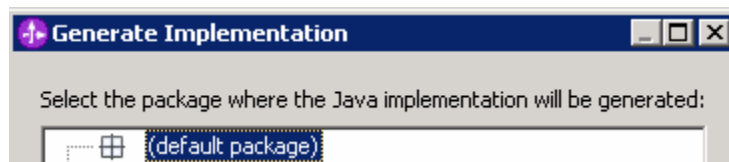


4) Click on the **Selection Tool** to get back to the normal cursor mode



___ e. Right-click on **Component1** and select **Generate Implementation** from the context menu

___ f. Click **OK** from the Generate Implementation window to accept the **default package**



___ g. Component1Impl.java will be opened in Assembly editor. Scroll down to the method **emitFTPFile(DataObject emitFTPFileInput)** and **emitFTPFile(DataObject emitCustomerWrapperInput)** that needs to be implemented and add the code as shown below for each of those methods:

```
public void emitCustomerWrapper(DataObject emitCustomerWrapperInput) {
    //TODO Needs to be implemented.
    System.out.println("*****Reached End Point for NON PASS-THROUGH: CUSTOMER*****");
}

/**
 * Method generated to support implementation of operation "emitFTPFile" defined for WSDL port type
 * named "interface.FTPFileInboundInterface".
 *
 * The presence of commonj.sdo.DataObject as the return type and/or as a parameter
 * type conveys that its a complex type. Please refer to the WSDL Definition for more information
 * on the type of input, output and fault(s).
 */
public void emitFTPFile(DataObject emitFTPFileInput) {
    //TODO Needs to be implemented.
    System.out.println("*****Reached End Point for PASS-THROUGH: FTP*****");
}
```

___ h. Save (**Ctrl + S**) and close Component1Impl.java editor

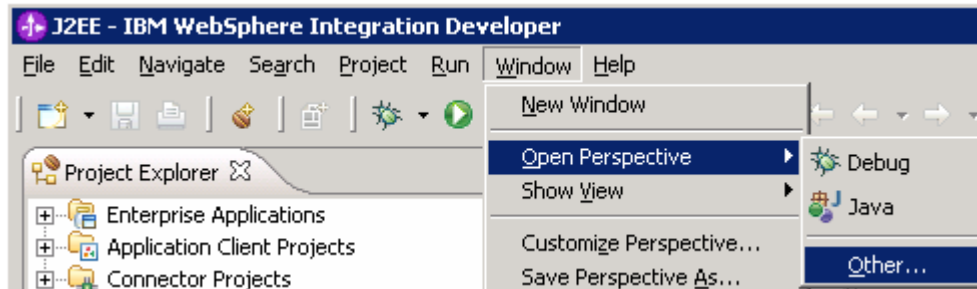
IBM WEBSHERE ADAPTER 6.0.2 – FTP Inbound Lab

___ i. Save (**Ctrl + S**) and close Assembly diagram: FTPInboundModule

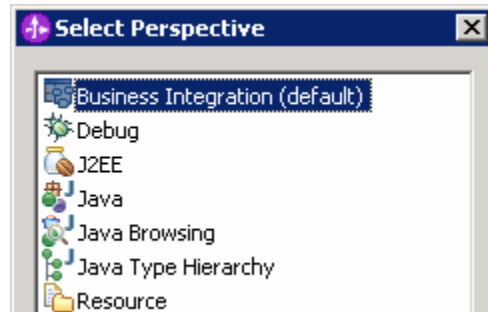
___ 8. You can also configure/change the adapter properties using the Assembly Editor

___ a. Change to Business Integration perspective if you are in a different perspective

1) Select **Window > Open Perspective > Other....**



2) From the Select Perspective window, select **Business Integration (default)** and click **OK**



___ b. Expand **FTPInboundModule** and double-click **FTPInboundModule** to open it in Assembly Editor



___ c. Click on **FTPFileInboundInterface** from the Assembly Editor and select **Properties** tab from the bottom

___ d. Select **Binding** under Properties and select **Endpoint Configuration** under Binding itself and then select the **Connection** tab

___ e. Ensure the radio button next to **Specify properties for pre-configured new J2EE Connector Architecture recourse** is selected and then click on **Activation Spec Properties** to expand them. You can change these properties, which you entered using the Enterprise Service Discovery (ESD) wizard in the previous steps, and make sure that you save those changes before you deploy the application onto the server

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Properties Problems Servers Console

Export: FTPFileInboundInterface (EIS Binding)

Connection Resource Adapter

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.ftp.FTPFileActivationSpec

ActivationSpec Properties

BO Namespace: http://www.ibm.com/xmlns/prod/websphere/j2ca/ftp

Delivery Mode and Polling Information

Delivery Type: ORDERED

Poll period [Int]: * 2000

Poll quantity [Int]: * 10

Retry interval [Integer]: 60000

Retry limit [Integer]: 0

Stop polling on error [Boolean]

Assured once delivery [Boolean]

Filter future events [Boolean]

Event Type filter [String]:

Event Persistence Properties

DataSource JNDI Name: * jdbc/FTP

Event Table Name: * FTPTABLE

Database Schema Name:

Database User Name:

Database Password:

Create Table

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FTP Adapter Properties

Event Directory:	* ftp://localhost/EventDir	←
Event File Mask:	* *.*	
Sort Event Files:		
FTP Archive Directory:	/home/ftpuser/ArchiveDir/	←
FTP Rename Extension:	processed	←
User Name:	root	←
Password:	*****	←
FTP Get Quantity:	* 10	
FTP Poll Frequency:	* 5	
EIS Encoding:		
Local Event Directory:	* C:\LabFiles602\FTPInbound\LocalEventDir\	←
Local Archive Directory:	C:\LabFiles602\FTPInbound\LocalArchiveDir\	←
Failed Archive Extension:	fail	
Original Archive Extension:	original	
Success Archive Extension:	success	
Data Connection Mode:	active	
File Transfer Type:	binary	
Custom Parser Class Name:		
<input type="checkbox"/> File Pass By Reference		
<input type="checkbox"/> Include End BO Delimiter		
Splitting Function Class Name:	com.ibm.j2ca.util.filesplit.SplitBySize	←
Split Criteria:	0	←
File Content Encoding:		
Socks Proxy Host:		
Socks Proxy Port:	1080	
Socks Proxy User Name:		
Socks Proxy Password:		
FTP Script File Executed Before Inbound:		
FTP Script File Executed After Inbound:		
Default Object Name:		
Event Content Type:		

__ f. You can also select **Resource Adapter** tab and review/change those properties

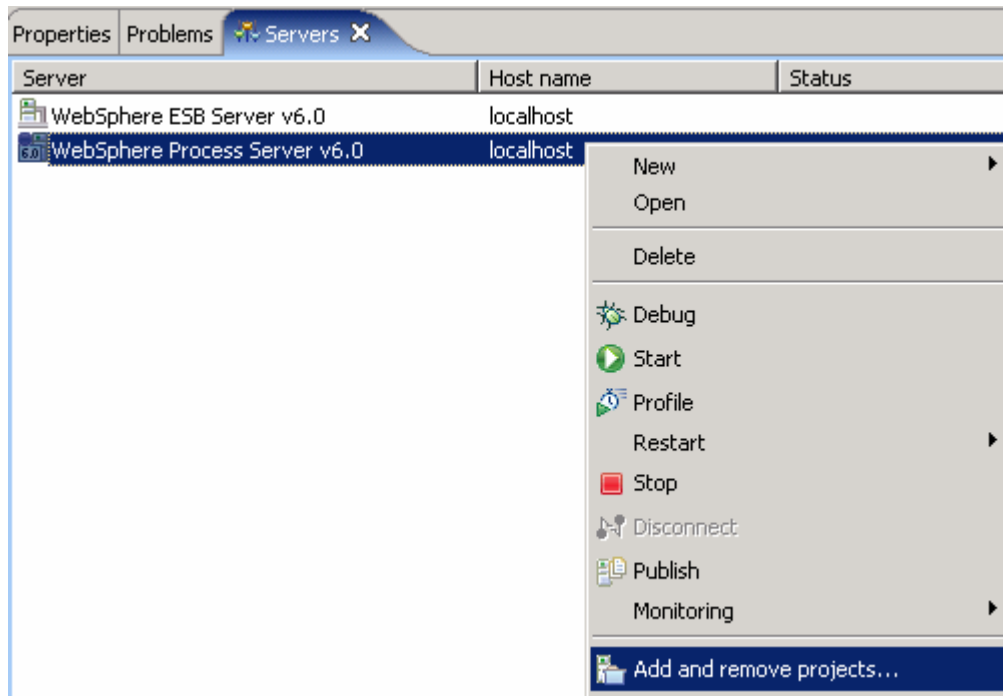
The screenshot displays the configuration page for the **Export: FTPFileInboundInterface (EIS Binding)**. The **Resource Adapter** tab is selected. The **End-point configuration** section is highlighted with a red box. The configuration details are as follows:

Connection	
Resource adapter name:	[-]TPInboundApp.IBM WebSphere Adapter for FTP
Resource adapter class name:	com.ibm.j2ca.ftp.FTPFileResourceAdapter
Resource Adapter Bean Properties	
Logging and Tracing	
Adapter ID [String]: *	ResourceAdapter
Log file size [Integer]:	0
Log file name [String]:	C:\FTPRA\Inlog.txt ←
Log Files [Integer]:	1
Trace file size [Integer]:	0
Trace file name [String]:	C:\FTPRA\Intrace.txt ←
Trace files [Integer]:	1
EIS Encoding:	

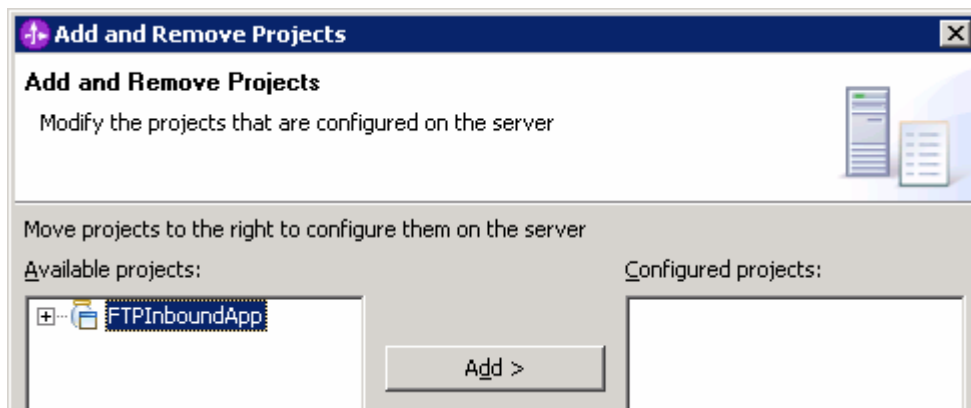
Part 5: Test Scenario: Simple PassThrough

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

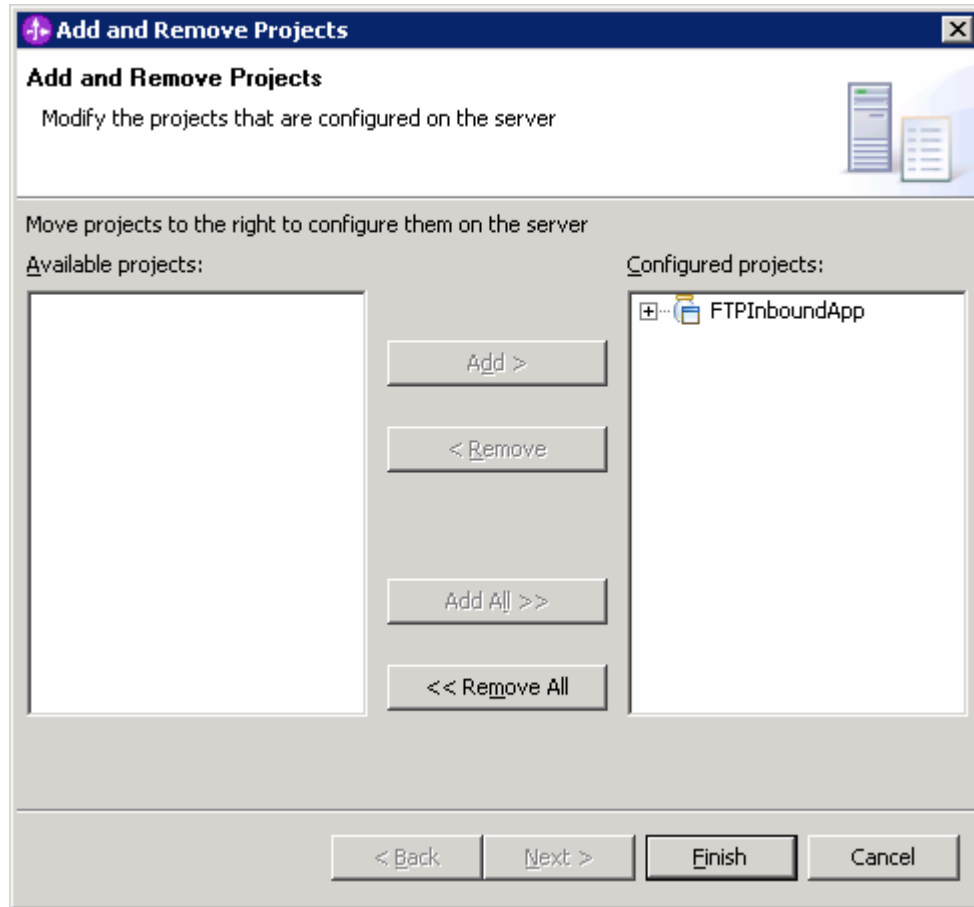
- ___ 1. Add the project to the WebSphere Process Server Test Environment
 - ___ a. Right-click on **WebSphere Process Server v6.0** under the server view and **select Add and remove projects...** from the context menu



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



- ___ c. You will now see the **FTPinboundModuleApp** added to the **Configured projects**



___ d. Click **Finish**. Wait until the project is being published onto the server. The server will be started in Debug mode if it is not already started before

___ 2. Test the adapter application

___ a. On the machine where the FTP Server is running, put a test file in the **EventDir**. The file will be polled from the event directory on the FTP server and will be transferred to the local event directory. And from the local event directory, it will be moved to configured endpoint

For your convenience, a test file with the name **SplitBySize.txt** is placed under **<LAB_FILES>**

___ b. Check for the test file in **<LOCAL_EVENT_DIR>** folder on your local machine. The file quickly will be moved to local archive directory

___ c. Check the **ArchiveDir** of your FTP server which should contain the same file name appended with year, month, date, system time, and processed as was given while configuring ESD

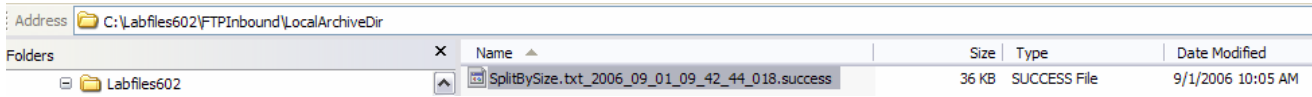
___ 3. Verify your results

___ a. Check your Test Environment console (or Systemout.log) for the following successful message:

```
ResourceAdapt A com.ibm.j2ca.extension.eventmanagement.internal.EventSender deliverEvent() CWYBS0505I: The event has been delivered.
SystemOut      O *****Reached End Point for PASS-THROUGH: FTP*****
```

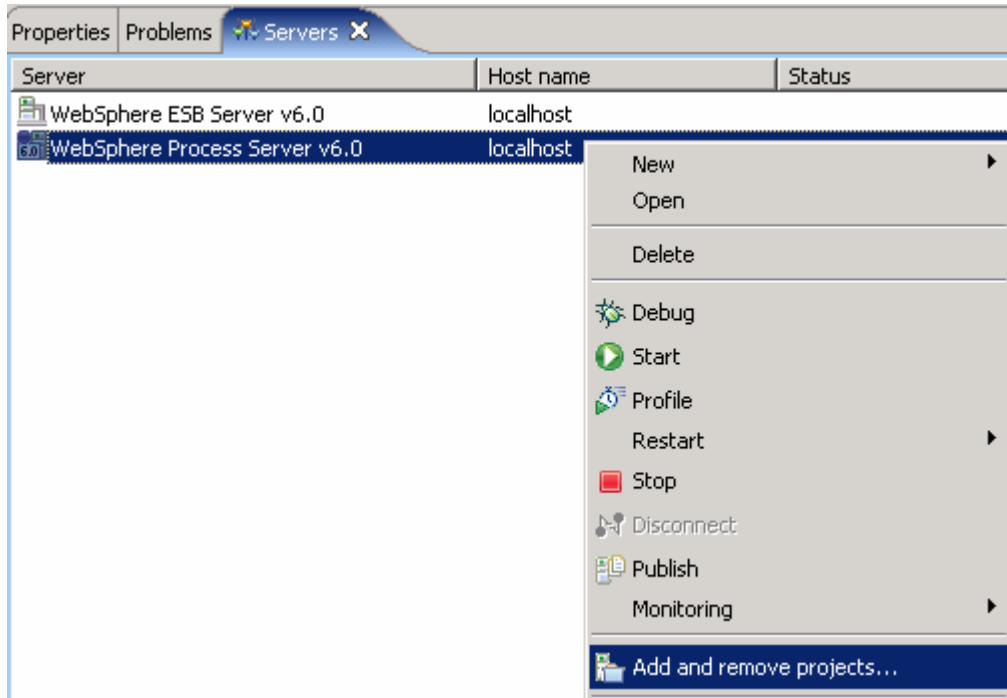
IBM WEBSHERE ADAPTER 6.0.2 – FTP Inbound Lab

- ___ b. Check for the test file in <LOCAL_ARCHIVE_DIR> which should contain an archive of the event file, with the same file name appended with year, month, date, system time, and success

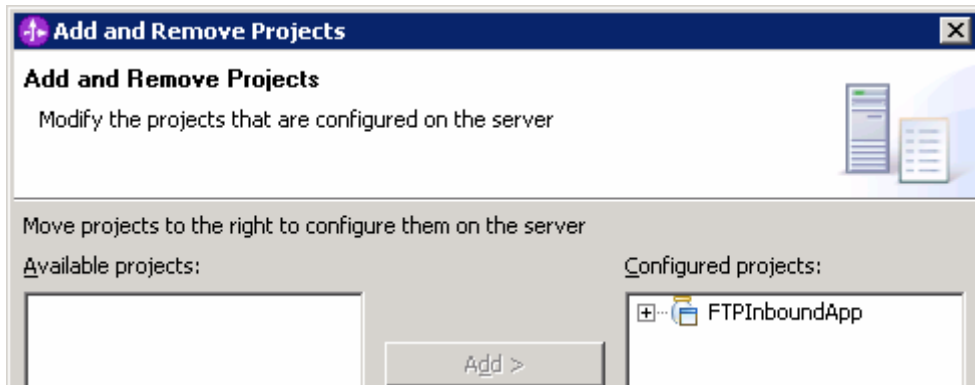


___ 4. Restore the Server Configuration

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

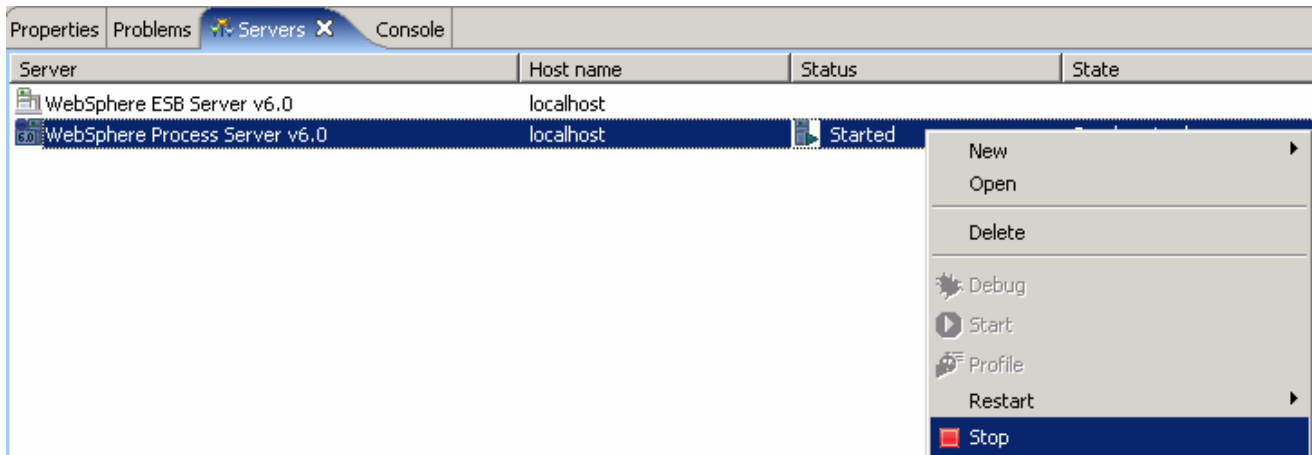


- ___ b. Select **FTPInboundModuleApp** under Configured projects and click < **Remove**



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

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Part 6: Test Scenario: Simple Data Transformation (Non Pass-Through)

In this part of the lab, you will edit the Activation Spec Properties to see how a simple Data Transformation works for an Inbound operation.

- ___ 1. Open the Activation Spec Properties from the Attributes View
 - ___ a. Click on **FTPFileInboundInterface** from the Assembly Editor and select **Properties** tab from the bottom
 - ___ b. Select **Binding** under Properties and select **Endpoint Configuration** under Binding itself and then select the **Connection** tab
 - ___ c. Ensure the radio button next to **Specify properties for pre-configured new J2EE Connector Architecture recourse** is selected and then click on **Activation Spec Properties** to expand them and enter the following fields:
 - 1) FileContentEncoding: **UTF-8** (or any other valid encoding)

IBM WEBSHERE ADAPTER 6.0.2 – FTP Inbound Lab

2) EventContentType: **text/xml**

The screenshot shows the configuration console for the **Export: FTPFileInboundInterface (EIS Binding)**. The **Connection** tab is selected. The configuration is as follows:

DataSource JNDI Name:	* jdbc/FTP
Event Table Name:	* FTPTABLE
Database Schema Name:	
Database User Name:	
Database Password:	
<input checked="" type="checkbox"/> Create Table	
FTP Adapter Properties	
Event Directory:	* ftp://localhost/EventDir
Event File Mask:	* *.*
Sort Event Files:	
FTP Archive Directory:	/home/ftpuser/ArchiveDir/
FTP Rename Extension:	processed
User Name:	root
Password:	*****
FTP Get Quantity:	* 10
FTP Poll Frequency:	* 5
EIS Encoding:	
Local Event Directory:	* C:\LabFiles602\FTPInbound\LocalEventDir\
Local Archive Directory:	C:\LabFiles602\FTPInbound\LocalArchiveDir\
Failed Archive Extension:	fail
Original Archive Extension:	original
Success Archive Extension:	success
Data Connection Mode:	active
File Transfer Type:	binary
Custom Parser Class Name:	
<input type="checkbox"/> File Pass By Reference	
<input type="checkbox"/> Include End BO Delimiter	
Splitting Function Class Name:	com.ibm.j2ca.utils.filesplit.SplitBySize
Split Criteria:	0
File Content Encoding:	UTF-8
Socks Proxy Host:	
Socks Proxy Port:	1080
Socks Proxy User Name:	
Socks Proxy Password:	
FTP Script File Executed Before Inbound:	
FTP Script File Executed After Inbound:	
Default Object Name:	
Event Content Type:	text/xml

___ d. Save (**Ctrl +S**) your changes

___ 2. Follow step 1 of Part 5 to add the modified **FTPInboundModuleApp** to the server

___ 3. Test the adapter

___ a. On the machine where the FTP Server is running, put a **SimpleDTF.xml** file in the **EventDir**

Note: For your convenience, a **SimpleDTF.xml** file is placed in **<LAB_FILES>\FTPFiles**. The file has one Business Object.

___ b. Check for the **SimpleDTF.xml** file in **<LOCAL_EVENT_DIR>** folder on your local machine. The xml file will be quickly moved to the local archive directory

IBM WEBSHERE ADAPTER 6.0.2 – FTP Inbound Lab

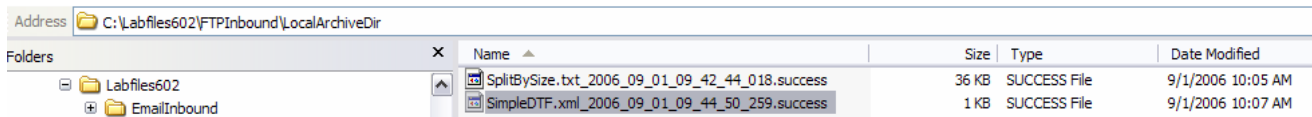
___ c. Check the **ArchiveDir** of your FTP server which should contain the same file name appended with year, month, date, system time, and processed as was given while configuring ESD

___ 4. Verify your results

___ a. Check your Test Environment console (or SystemOut.log file) for the following successful message:

```
ResourceAdapt A com.ibm.j2ca.extension.eventmanagement.internal.EventSender deliverEvent() CWYBS0505I: The event has been delivered.  
SystemOut O *****Reached End Point for NON PASS-THROUGH: CUSTOMER*****
```

___ b. Check your **<LOCAL_ARCHIVE_DIR>** which should contain an archive of the event file, with the same file name appended with year, month, date, system time, and success



Name	Size	Type	Date Modified
SplitBySize.txt_2006_09_01_09_42_44_018.success	36 KB	SUCCESS File	9/1/2006 10:05 AM
SimpleDTF.xml_2006_09_01_09_44_50_259.success	1 KB	SUCCESS File	9/1/2006 10:07 AM

___ 5. Repeat step 4 of **Part 5**, to restore server configuration

Part 7: Test Scenario: SplitByDelimiter for Data Transformation

In this part of the lab, you will edit the Activation Spec Properties to see how **SplitByDelimiter** works with Data Transformation for an Inbound operation.

- ___ 1. Open the Activation Spec Properties from the Attributes View
 - ___ a. Click on **FTPFileInboundInterface** from the Assembly Editor and select **Properties** tab from the bottom
 - ___ b. Select **Binding** under Properties and select **Endpoint Configuration** under Binding itself and then select the **Connection** tab
 - ___ c. Ensure the radio button next to **Specify properties for pre-configured new J2EE Connector Architecture recourse** is selected and then click on **Activation Spec Properties** to expand them. You can change these properties that you entered using the Enterprise Service Discovery wizard in the previous steps and save those changes before you deploy the application onto the server
 - 1) SplittingFunctionClassName: **com.ibm.j2ca.utils.filesplit.SplitByDelimiter**
 - 2) SplitCriteria: **#####**
 - 3) EventContentType: **text/xml**

IBM WEBSHERE ADAPTER 6.0.2 – FTP Inbound Lab

Export: FTPFileInboundInterface (EIS Binding)	
Connection	Resource Adapter
DataSource JNDI Name:	* jdbc/FTP
Event Table Name:	* FTPTABLE
Database Schema Name:	
Database User Name:	
Database Password:	
<input checked="" type="checkbox"/> Create Table	
FTP Adapter Properties	
Event Directory:	* ftp://localhost/EventDir
Event File Mask:	* *.*
Sort Event Files:	
FTP Archive Directory:	/home/ftpuser/ArchiveDir/
FTP Rename Extension:	processed
User Name:	root
Password:	*****
FTP Get Quantity:	* 10
FTP Poll Frequency:	* 5
EIS Encoding:	
Local Event Directory:	* C:\LabFiles602\FTPInbound\LocalEventDir\
Local Archive Directory:	C:\LabFiles602\FTPInbound\LocalArchiveDir\
Failed Archive Extension:	fail
Original Archive Extension:	original
Success Archive Extension:	success
Data Connection Mode:	active
File Transfer Type:	binary
Custom Parser Class Name:	
<input type="checkbox"/> File Pass By Reference	
<input type="checkbox"/> Include End BO Delimiter	
Splitting Function Class Name:	com.ibm.j2ca.utils.filesplit.SplitByDelimiter
Split Criteria:	#####
File Content Encoding:	
Socks Proxy Host:	
Socks Proxy Port:	1080
Socks Proxy User Name:	
Socks Proxy Password:	
FTP Script File Executed Before Inbound:	
FTP Script File Executed After Inbound:	
Default Object Name:	
Event Content Type:	text/xml

___ d. Save (**Ctrl + S**) your changes

___ 2. Add the modified **FTPInboundModuleApp** as explained in Step 1 of **Part 5**

___ 3. Test the application

___ a. On the machine where the FTP Server is running, put a **SplitByDelimiter.xml** file in the **EventDir**

Note: For your convenience, a **SplitByDelimiter.xml** file is placed in <LAB_FILES>FTPFiles. The file has two Business Objects separated by the delimiter **#####**.

___ b. Check for the **SplitByDelimiter.xml** file in <LOCAL_EVENT_DIR> folder on your local machine. The xml file will be quickly moved to the local archive directory

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- ___ c. Check the **ArchiveDir** of your FTP server which should contain the same file name appended with year, month, date, system time, and processed as was given while configuring ESD

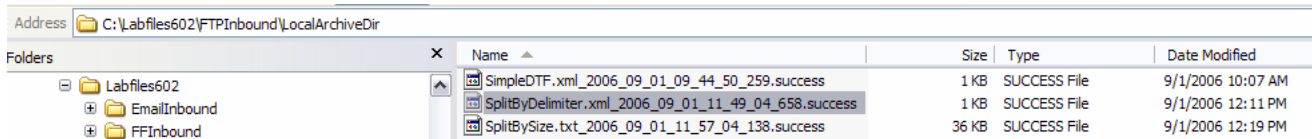
___ 4. Verify your results

- ___ a. Check your Test Environment console (or Systemout.log file) for the following successful message:

```
ResourceAdapt A com.ibm.j2ca.extension.eventmanagement.internal.EventSender deliverEvent() CWYBS0505I: The event has been delivered.
ResourceAdapt A com.ibm.j2ca.extension.eventmanagement.internal.EventSender deliverEvent() CWYBS0505I: The event has been delivered.
SystemOut      O *****Reached End Point for NON PASS-THROUGH: CUSTOMER*****
SystemOut      O *****Reached End Point for NON PASS-THROUGH: CUSTOMER*****
```

Note: You will see the successful event delivery message twice as there were two Business Objects present in the event file separated by the delimiter #####.

- ___ b. Check your **<LOCAL_ARCHIVE_DIR>** which should contain an archive of the event file, with the same file name appended with year, month, date, system time, and success



___ 5. Repeat step 4 of **Part 5**, to restore server configuration

Part 8: Test Scenario: SplitBySize for Pass Through

In this part [of the lab](#), you will edit the Activation Spec Properties to see how SplitBySize works for an Inbound operation.

- ___ 6. Open the Activation Spec Properties from the Attributes View
 - ___ a. Click on **FTPFileInboundInterface** from the Assembly Editor and select **Properties** tab from the bottom.
 - ___ b. Select **Binding** under Properties and select **Endpoint Configuration** under Binding itself and then select the **Connection** tab
 - ___ c. Ensure the radio button next to **Specify properties for pre-configured new J2EE Connector Architecture recourse** is selected and then click on **Activation Spec Properties** to expand it and enter the following fields:
 - 1) SplittingFunctionClassName: **com.ibm.j2ca.utils.filesplit.SplitBySize**
 - 2) SplitCriteria: **10000**
 - 3) Make sure that you delete any values you have for **FileContentEncoding** and **EventContentType** fields.

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Export: FTPFileInboundInterface (EIS Binding)	
Connection	Resource Adapter
DataSource JNDI Name:	* jdbc/FTP
Event Table Name:	* FTPTABLE
Database Schema Name:	
Database User Name:	
Database Password:	
<input checked="" type="checkbox"/> Create Table	
FTP Adapter Properties	
Event Directory:	* ftp://localhost/EventDir
Event File Mask:	* *.*
Sort Event Files:	
FTP Archive Directory:	/home/ftpuser/ArchiveDir/
FTP Rename Extension:	processed
User Name:	root
Password:	*****
FTP Get Quantity:	* 10
FTP Poll Frequency:	* 5
EIS Encoding:	
Local Event Directory:	* C:\LabFiles602\FTPInbound\LocalEventDir\
Local Archive Directory:	C:\LabFiles602\FTPInbound\LocalArchiveDir\
Failed Archive Extension:	fail
Original Archive Extension:	original
Success Archive Extension:	success
Data Connection Mode:	active
File Transfer Type:	binary
Custom Parser Class Name:	
<input type="checkbox"/> File Pass By Reference	
<input type="checkbox"/> Include End BO Delimiter	
Splitting Function Class Name:	com.ibm.j2ca.utils.filesplit.SplitBySize
Split Criteria:	10000
File Content Encoding:	
Socks Proxy Host:	
Socks Proxy Port:	1080
Socks Proxy User Name:	
Socks Proxy Password:	
FTP Script File Executed Before Inbound:	
FTP Script File Executed After Inbound:	
Default Object Name:	
Event Content Type:	

__ d. Save (**Ctrl +S**) your changes

___ 7. Follow step 1 of **Part 5** to add the modified FTPInboundModuleApp to the server

___ 8. Test the adapter

Note: For your convenience, a test file **SplitBySize.txt** is placed in <LAB_FILES>. Note the size of the file.

__ a. On the machine where the FTP Server is running, put a **SplitBySize.txt** file in the **EventDir**

__ b. Check for the **SplitBySize.txt** file in <LOCAL_EVENT_DIR> folder on your local machine. The text file will be quickly moved to the local archive directory

IBM WEBSPPHERE ADAPTER 6.0.2 – FTP Inbound Lab

- ___ c. Check the **ArchiveDir** of your FTP server which should contain the same file name appended with year, month, date, system time, and processed as was given while configuring ESD

___ 9. Verify your results

- ___ a. Check your test environment console (or Systemout.log file) for the following successful message:

Note: You will see the successful event delivery message for four times as the file size is 37KB and the split criteria has 10KB, which means it splits the file into four part and delivers to the endpoint.

```
ResourceAdapt A com.ibm.j2ca.extension.eventmanagement.internal.EventSender deliverEvent() CWYBS0505I: The event has been delivered.
ResourceAdapt A com.ibm.j2ca.extension.eventmanagement.internal.EventSender deliverEvent() CWYBS0505I: The event has been delivered.
SystemOut O *****Reached End Point for PASS-THROUGH: FTP*****
SystemOut O *****Reached End Point for PASS-THROUGH: FTP*****
ResourceAdapt A com.ibm.j2ca.extension.eventmanagement.internal.EventSender deliverEvent() CWYBS0505I: The event has been delivered.
SystemOut O *****Reached End Point for PASS-THROUGH: FTP*****
ResourceAdapt A com.ibm.j2ca.extension.eventmanagement.internal.EventSender deliverEvent() CWYBS0505I: The event has been delivered.
SystemOut O *****Reached End Point for PASS-THROUGH: FTP*****
```

Note: The same SplitBySize.txt file was delivered as one event file to the end point when you did not specify the SplitCriteria in part 5 while configuring ESD. Here, in this part, you will see the successful event delivery message for four times for the same file (with the file size being 36KB) because of the split criteria that has been given as 10KB, which means it splits the file into four part and delivers to the endpoint.

- ___ b. Check your **<LOCAL_ARCHIVE_DIR>** which should contain an archive of the event file, with the same file name appended with year, month, date, system time, and success

Name	Size	Type	Date Modified
SimpleDTF.xml_2006_09_01_09_44_50_259.success	1 KB	SUCCESS File	9/1/2006 10:07 AM
SplitByDelimiter.xml_2006_09_01_11_49_04_658.success	1 KB	SUCCESS File	9/1/2006 12:11 PM
SplitBySize.txt_2006_09_01_11_57_04_138.success	36 KB	SUCCESS File	9/1/2006 12:19 PM
SplitBySize.txt_2006_09_01_11_58_32_965.success	36 KB	SUCCESS File	9/1/2006 12:21 PM

- ___ 10. Repeat step 4 of **Part 5**, to restore server configuration.

What you did in this exercise

In this lab, you created the database in Cloudscape required for this lab. You continued with importing the FTP Adapter RAR file into your WebSphere Integration Developer workspace. Then, used your WebSphere Process Server administrative console and configured it to create Data source required to complete this lab.

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

In the end you deployed and then tested the adapter application for two pass-through test scenarios – simple pass through and split by size and two data transformation test scenarios – simple data transformation and split by delimiter.