Flat Files Adapter Outbound Lab

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What this exercise is about

The objective of this lab is to provide you with an understanding of the IBM WebSphere Adapter for Flat Files and outbound processing. In this lab you will deploy the WebSphere Adapter for Flat Files, using WebSphere Integration Developer, and integrate it with an SCA application that processes outbound requests to 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 V6.0.2 test environment installed
- WebSphere Adapter for Flat Files V6.0.2 installed
- Unzip LabFiles602.zip to your C:\ (your root) drive

What you should be able to do

- Import Flat Files adapter RAR file into WebSphere Integration Developer
- Use Enterprise Service Discovery wizard to configure the Managed Connection Factory Properties and Resource Adapter Properties to generate Business Objects and other artifacts
- Deploy the adapter application onto the WebSphere Process Server test environment
- Test the above deployed application using WebSphere Process Server test environment
- Restore the server configuration



Introduction

The request to the FF RA (Flat File Resource Adapter) from an SCA client will be sent with the information required for creating the output file - the directory to create the output file, the name of the output file and the operation. The file name will be treated as the key for the Flat Files request/response BO entity.

FF RA uses the application server's connection pool to establish connections with an EIS. The adapter creates a new file connection for every outbound operation and closes it after the operation is completed based on the EIS connectivity requirement. The requests initiated from any SCA client would result in a response being sent back to the client after the request is processed.

Exercise instructions

Some instructions in this lab might be specific for Windows platforms. If you run the lab on a platform other than Windows, you will need to run the appropriate commands, and use appropriate files (for example .sh in place of .bat) for your operating system. The directory locations are specified in the lab instructions using symbolic references as follows:

| Reference Variable | Windows Location | Linux Location |
|-----------------------------------|---|------------------|
| <wid_home></wid_home> | C:\Program Files\IBM\WebSphere\ID\6.0 | |
| <wps_home></wps_home> | <wid_home>\runtimes\bi_v6</wid_home> | |
| <ffadapter_home></ffadapter_home> | C:\Program Files\IBM\ResourceAdapters\FlatFiles\adapter\flatfile | |
| <lab_files></lab_files> | C:\LabFiles602 | /tmp/LabFiles602 |
| <workspace></workspace> | <lab_files>\FlatFileOutbound\workspace</lab_files> | |
| <out_dir></out_dir> | <lab_files>\ FlatFileOutbound\OutputDir</lab_files> | |
| <temp></temp> | C:\temp | /tmp |

Windows users: When directory locations are passed as parameters to a Java program such as EJBdeploy or wsadmin, you must replace the backslashes with forward slashes to follow the Java convention. For example, C:\Labfiles602\ would be replaced by C:/Labfiles602/.

Part 1: Initialize workspace and import RAR into WebSphere Integration Developer

1. Start the WebSphere Integration Developer V6.0.2 with a new workspace

Select Start > Programs > IBM WebSphere > Integration Developer V6.0.2 > WebSphere Integration Developer V6.0.2

From the Workspace Launcher window, enter **<WORKSPACE>** for the Workspace field

| Workspace Launcher X | | | | |
|--|--|--|--|--|
| Select a workspace | | | | |
| IBM WebSphere Integration Developer stores your projects in a directory called a workspace. Select the workspace directory to use for this session. | | | | |
| Workspace: C:\Labfiles602\FlatFileOutbound\workspace Browse | | | | |
| \Box Use this as the default and do not ask again | | | | |
| OK Cancel | | | | |

Click on the ^C button on the right hand corner to close the Welcome page and proceed with the workbench

| 🤯 Business Integration - IBM WebSphere Integration Developer | |
|--|-------------|
| <u>File E</u> dit <u>N</u> avigate Se <u>a</u> rch <u>P</u> roject <u>R</u> un <u>Wi</u> ndow <u>H</u> elp | |
| B Welcome X | 🟠 (= -> 🗖 🗗 |
| WebSphere. Integration Developer | \bigcirc |

____ 2. Import Flat File Adapter RAR file

From main menu, select File > Import...

| 🚯 Business Integr | ration - IBM WebSpf |
|---|--|
| <u>File E</u> dit <u>N</u> avigate | : Se <u>a</u> rch <u>P</u> roject <u>R</u> |
| New | Alt+Shift+N 🕨 |
| ⊆lose | Ctrl+F4 |
| Close All | Ctrl+Shift+F4 |
| _ Save | Ctrl+S |
| Save <u>A</u> s | |
| Sav <u>e</u> All | Ctrl+Shift+S |
| Rever <u>t</u> | |
| Mo <u>v</u> e, | |
| Rena <u>m</u> e | F2 |
| Refresh | F5 |
| Print | Ctrl+P |
| Switch <u>W</u> orkspac Open External Fi | e le <u>.</u> |
| 🚵 Import | |
| 🛃 Exp <u>o</u> rt | |

Select RAR file from the Import window and then click Next

| 👍 Import | × |
|--|--------|
| Select Import an external Connector RAR file into a Connector project | Ľ |
| Select an import source: Log File Performance Call Graph Probe Profiling file Profiling filter Project Interchange RAR file Security Certificate | |
| < <u>B</u> ack <u>N</u> ext > Einish | Cancel |

Click on the Browse... button next to the Connector file field to select CWYFF_FlatFile.rar

Uncheck the check box next to Add module to and EAR project and click Finish

| 🚯 Import | | × |
|--------------------------------------|---|--------------|
| Connector Impor Import a Connecto | t or project from the file system | |
| Connector file: | ourceAdapters\FlatFile\adapter\flatfile\deploy\CWYFF_FlatFile.rar | Browse |
| Connector project: | CWYFF_FlatFile | N <u>e</u> w |
| 🗖 Overwrite ex | isting resources without warning, | |
| 🔲 Delete proj | ject on overwrite | |
| Target server: | WebSphere Process Server v6.0 | N <u>e</u> w |
| | Add module to an EAR project. | |
| EAR project: | CWYFF_FlatFileEAR | Ne <u>w</u> |
| | | |
| | | |
| | < <u>B</u> ack Next > <u>F</u> inish | Cancel |

Click on **No** from Confirm Perspective Switch window to continue in Business Integration perspective

| 🚯 Confirm Perspective Switch 🛛 🗙 |
|--|
| This kind of project is associated with the J2EE Perspective. Do you want to switch to this perspective now? |
| Remember my decision |
| <u>Y</u> es <u>N</u> o |

Part 2: Use ESD wizard to generate business objects and other artifacts

Enterprise Service Discovery (ESD) or Enterprise Metadata Discovery (EMD) is a component within the adapter that enables the generation of business object definitions and other artifacts required by SCA.

The instances of the Managed Connection Factory and Resource Adapter from EMD translate to the section on SCA import files. During runtime, the adapter component that exposes an adapter as SCA uses these import files to create instances of Managed Connection Factory and Resource Adapter and fills in values from the SCA files that were created with EMD.

1. Start the Enterprise Service Discovery process and import the Flat Files Adapter Resource Archive (RAR) file.

| File Edit Naviga | te Search Project | Run Window Help | |
|------------------|-------------------|------------------------------|--|
| New | Alt+Shift+N | Project | |
| Close | Ctrl+F4 | 😭 Business Object | |
| Close All | Ctrl+Shift+F4 | Business Object Map | |
| Save. | Ctrl+S | 🖉 Business Process | |
| Save As | | Business State Machine | |
| Save All | Ctrl+Shift+S | 撥 Custom Visual Snippet | |
| Revert | | Pecision Table | |
| Move | | 🕎 Emulator | |
| Rename | F2 | 🞆 Enterprise Data Discovery | |
| Refresh | E5 | Enterprise Service Discovery | |
| Print | Ctt1+P | 🗿 Human Task | |

____a. From the top Menu bar, select File > New > Enterprise Service Discovery

__ 2. Select IBM WebSphere Adapter for Flat Files (version 6.0.2) from the 'CWYFF_FlatFile' Connector Project and click Next

| 🚯 Enterprise Service Discovery | | | | × |
|--|-------------------------------|----------------|--------------------|------------|
| Select an Enterprise Service Resource Ad | apter | | | |
| Select a resource adapter to use to discover a se | ervice. | | |) |
| IBM WebSphere Adapter for Flat Files (v BM WebSphere Service Registry and Re WBI Adapter Artifact Importer | ersion 6.0.2) fro pository | m the 'CWYFF_ | FlatFile' Connecto | or Project |
| | | | | |
| | < <u>B</u> ack | <u>N</u> ext > | Einish | Cancel |

____ 3. Configure settings for the Discovery agent

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

____a. Click the **Browse...** button next to the **Folder Name** field and select the folder FFADAPTER_HOME>\samples that contains the XSD file for **Customer** Business Object

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

____b. Select **text/xml** for the **Content Type** field. When you select the content type, the **DataBinding Type** will be automatically set to **XMLBOSerializerDataBinding**

____ c. Click the Show Advanced >> button to see the Log file location and Logging level options for discovery log and click Next leaving the default log file location

| 🚯 Enterprise Service Disco | very | X |
|----------------------------------|--|--------|
| Configure Settings for Disc | covery Agent | |
| Specify the properties to initia | lize the resource adapter and the enterprise service discovery agent. | 5 |
| Connection Configuration | | |
| Folder Name: | C:\Program Files\IBM\ResourceAdapters\FlatFile\adapter\flatfile\samples | Browse |
| Charater Set: | | [|
| Content Type: | (Text/xml) |] |
| DataBinding Type: | XMLBOSerializerDataBinding | |
| Specify BO Properties | | |
| BiDi Properties | | |
| 🔲 Bidi transformation | n | |
| Bidi ordering schema: | Implicit |] |
| Text direction: | LTR | [|
| 🔽 BiDi SymmetricSwa | apping | |
| Bidi shaping: | Nominal | [|
| Bidi numeric shaping; | Nominal |] |
| Hide Advanced << | | |
| Logging options | | |
| Log file output location:* | C:\Labfiles602\FlatFileInbound\workspace\.metadata\FlatFileMetadataDiscoveryImpl.log | Browse |
| Logging Level: | SEVERE 🗸 | 1 |
| | | |
| | | |
| | | |
| | < <u>B</u> ack <u>N</u> ext > ⊟nish | Cancel |

- ____4. Find and discover the enterprise services. In this step you will select the business objects and services to be used with the adapter
 - ____a. From the Enterprise Service Discovery window, click on **Execute Query** button. You will see a **Custome**r 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**

| 🏤 Enterprise Service Discovery | × |
|---|--------------|
| Find and Discover Enterprise Services | |
| To discover objects on the enterprise system, create a query by pressing "Edit Query" and the press "Execute Query". Once discovered, press "Add to import list" to specify the objects to be imported. | |
| Query: | - |
| < execute default query > | Edit Query |
| Execute Query | |
| Objects discovered by query: | |
| (i) Customer | Filter |
| | Clear Filter |
| Add to import list | Dotoile |
| Objects to be imported: | Decalis |
| Customer | Remove 🗨 |
| | |
| | |
| < <u>B</u> ack <u>N</u> ext > Einish | Cancel |

___ c. Click Next

- _____ 5. Configure the objects that will be imported by the discovery agent
 - ____a. From the Configure objects window, select **Outbound** from the dropdown menu for the **Service Type**. Note the operations available for the selected Service Type

____b. Enter the **BO Location** as **FFOutBO** and click **Next**

| 🚯 Enterprise Service Discovery | × |
|--|---------------|
| Configure Objects Specify the properties for the objects that will be imported by the discovery agent. | |
| ServiceType: Outbound NameSpace: * http://www.ibm.com/xmlns/prod/websphere/j2ca/flatfile | • |
| Operations: CREATE APPEND OVERWRITE DELETE RETRIEVE LIST EXISTS | Add Remove |
| BO Location: FFOutBO | |
| Function Selector: WBIFunctionSelector | |
| < <u>Back</u> Next > Einish | 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**

| 🚯 New Integration | n Project | | | × |
|---|-----------------------------|----------------|--------|--------|
| Integration Project Select the type of in | t itegration projec | t to create. | | |
| Create a module C Create a mediation | project. on module proje | ct. | | |
| | < <u>B</u> ack | <u>N</u> ext > | Einish | Cancel |

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

| 🚯 New Module 🛛 🔀 |
|---|
| Module |
| Create a new business integration module. A module is a project that is used for development, version management, organizing resources, and deploying to the runtime environment. |
| Module Name FFOutboundModule |
| - Module Location |
| v Use default |
| Directory; C:\LabFiles602\FlatFileInbound\workspace\FFOutboi Browse |
| Open module assembly diagram Business integration modules can be deployed and run on WebSphere Process Server. They can contain many types of components, such as business processes, assembled together for the purpose of business integration. |
| < <u>B</u> ack <u>N</u> ext > <u>Finish</u> Cancel |

- ____b. The module which is created above will appear under the **Module** field of the Generate Artifacts window
- ____ c. From Generate Artifacts window, select the radio button next to Use discovered connection properties. This will make the Flat File MCF (Managed Connection Factory) and Resource Adapter Properties visible
- ____ d. Enter the following fields:
 - 1) OutputDirectory: <OUT_DIR>
 - 2) LogFilename: C:\FFRA\outlog.txt
 - 3) TraceFilename: C:\FFRA\outtrace.txt
- ___e. Click Finish

| 👍 Enterprise Service Discovery | | × |
|--|--|-----------------------------|
| Generate Artifacts | | |
| Specify the properties for the artifacts t | hat will be generated in your workspace. | |
| Properties for service | | |
| Module: | FFOutboundModule | New |
| Namespace; | http://FFOutboundModule/FlatFileOutbound | |
| | Vse default namespace | |
| Folder: | | Browse |
| Name: * | FlatFileOutboundInterface | |
| Description: | | |
| Service operations | | |
| If you want to modify the names, or to be generated in the interface file, | add a description to the operations press the "Edit Operations" button. | Edit Operations |
| Deployment properties | · · · | |
| Deploy connector with module | | |
| J2C Authentication Data Entry: | | |
| Specify the connection properties wh | nich will be used to connect to the Enterprise Info | ormation System at runtime: |
| C Use connection properties specifi | ed on server | |
| Output set discovered connection properties | rties | |
| Connection properties | | |
| FlatFile MCF Properties | | |
| Output Directory: | C:\LabFiles602\FlatFileOutbound\OutputDir | |
| Output File Name: | | |
| Staging Directory: | | |
| ResourceAdapter Properties — | | |
| Logging and Tracing | | |
| Adapter ID [String]: * | ResourceAdapter | |
| Log file size [Integer]: | 0 | |
| Log file name [String]: | C:\FFRA\outlog.txt | |
| Log Files [Integer]: | 1 | |
| Trace file size [Integer]: | 0 | |
| Trace file name [String]: | C:\FFRA\outtrace.txt | |
| Trace files [Integer]: | 1 | |
| | | |

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

- ____a. Change to the Business Integration perspective if not open
 - 1) Select Window > Open Perspective > Other....



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

| 🚯 Select Perspective | × |
|---|---|
| Business Integration (default) Debug J2EE Java Java Java Browsing Java Type Hierarchy Resource | |

____ b. Expand FFOutboundModule and double-click FFOutboundModule to open it in the Assembly Editor

| 🗄 Business Integration 🛛 | | - | - 0 | 🐨 Assemb | ly Diagram: FFOutboundModule 🗙 |
|--------------------------|------------|-------|-----|----------|--------------------------------|
| | ⊕ Ø | > 🗆 🕏 | - | | |
| 🖃 🔁 FFOutboundModule | | | | | |
| 🗄 🖧 FFOutboundModule | | | | G. > | ElatEileOutboundInterface |
| 🗄 🖓 🚑 Business Logic | | | | | |
| 🗄 🖓 🔂 Data Types | | | | (⇒> | |
| 🗄 🔃 🔝 Interfaces | | | | | |
| 🗄 🚓 Mapping | | | | | |

- ____ c. Click on FlatFileOutboundInterface 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

 Ensure the radio button next to Specify properties for pre-configured new J2EE Connector Architecture recourse is selected and then click on Managed Connection Factory Properties to expand them. You can change the properties that you entered using the ESD wizard in the previous steps and save those changes before you deploy the application onto the server

| Properties 🛛 Problem | ms Servers | | | |
|---|---|--|--|--|
| Description | and a state of the state of th | | | |
| Details | Connection Resource Adapter | | | |
| Binding | Select configuration view option: | | | |
| Endpoint configuration | O Specify JNDI name for pre-configured J2EE Connector Architecture resource | | | |
| Method bindings | Specify properties for configuring new J2EE Connector Architecture resource | | | |
| Security attributes | | | | |
| | Managed Connection Factory Properties | | | |
| | Managed Connection Factory: com.ibm.j2ca.flatfile.FlatFileManagedConnectionFactory 🗸 | | | |
| | Managed Connection Factory Properties | | | |
| | OutputDirectory: C:\LabFiles602\FlatFileOutbound\OutputDir | | | |
| | StagingDirectory: | | | |
| | Show Advanced >> | | | |
| | Connection Spec Properties | | | |
| | Admin Connection Properties | | | |

2) Click on Resource Adapter tab to view/change the Resource Adapter Properties

| Properties 🛛 Problem | is Servers |
|---|--|
| Description | ⇒ Import: FlatFileOutboundInterface (EIS Binding) |
| Details | Connection Resource Adapter |
| Binding | Resource Adapter Name: FOutboundModuleApp.IBM WebSphere Adapter for Flat Files |
| Endpoint configuration | Resource Adapter Class: com.ibm.j2ca.flatfile.FlatFileResourceAdapter |
| Method bindings | Resource Adapter Bean Properties |
| Security attributes | Logging and Tracing |
| | Adapter ID [String]: * ResourceAdapter |
| | Log file size [Integer]: 0 |
| | Log file name [String]: C:\FFRA\outlog.txt |
| | Log Files [Integer]: 1 |
| | Trace file size [Integer]: 0 |
| | Trace file name [String]: C:\FFRA\outtrace.txt |
| | Trace files [Integer]: 1 |
| | |

Part 3: Test the adapter application using the WebSphere Process Server test environment

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

Flat File Adapter supports the following outbound operations:

Create –creates the specified file name in the specified directory with the content sent across in the request. If the file to be created already exists, a FlatFileCreateException is thrown and no file will be created. In other words, create operation doesn't support the overwriting of the existing file.

Append –appends the content, specified in the request, at the end of the file. The file to be appended should exist, if not a FIstFileAppendException is thrown.

Delete –deletes the file from the directory specified in the request. If the file to be deleted doesn't exist, a FlatFileDeleteException is thrown to the calling component.

Retrieve – retrieves the file contents of the file name specified in the request and sends as response. If the file doesn't exist, a FlatFileRetrieveException is thrown to the calling component.

Overwrite – overwrites the file in the directory with the content specified in the request. It the file doesn't exist, a FlatFileOverwriteException is thrown to the calling component.

Exists – checks the existence of a file. Returns true if the file name in the request exists in the specified directory and returns false if either directory or file name does not exist.

List – returns all the file names in the directory specified in the request. If the directory specified doesn't exist, a FlatFileListException is thrown to the calling component.

____1. Add the project to the WebSphere Process Server Test Environment

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

| Properties Problems 👯 Servers 🗙 | | | |
|---------------------------------|-----------|-----------------|------------|
| Server | Host name | • | Status |
| 🛅 WebSphere ESB Server v6.0 | localhost | | |
| WebSphere Process Server v6.0 | localhost | New | • |
| | | Open | |
| | | | |
| | | Delete | |
| | | 🎋 Debug | |
| | | 🜔 Start | |
| | | 🔊 Profile | |
| | | Restart | • |
| | | 📕 Stop | |
| | | 🔄 Disconnect | |
| | | 🕒 Publish | |
| | | Monitoring | • |
| | | 🏪 Add and remov | e projects |

____ b. In the Add and Remove Projects dialog, select the FFOutboundModuleApp project from the Available projects panel

| 🚯 Add and Remove Projects | | | × |
|--------------------------------------|-------------------------|--|---|
| Add and Remove Projects | | | |
| Modify the projects that are confi | gured on the server | | |
| | | | |
| Move projects to the right to config | jure them on the server | | |
| <u>Available projects:</u> | | $\underline{C} on figured \ projects:$ | |
| E | | | |
| | A <u>d</u> d > | | |

____ c. Click **Add** > to add it to the Configured projects panel. Click **Finish**

| 🚯 Add and Remove Projects | × |
|--------------------------------------|--|
| Add and Remove Projects | |
| Modify the projects that are confi | gured on the server |
| Move projects to the right to config | ure them on the server |
| <u>Available projects:</u> | Configured projects: |
| | Image: Contract of the second decision of the seco |

Wait for the project to be added to the server and the application to start. The server will be started in Debug mode if it is not already started before.

2. Publish the module to the WebSphere Process Server test environment

From the Business Integration perspective, right-click on the **FFOutboundModule** and select **Test > Test Module**

| Business Integration | × • • | |
|----------------------|--|---------------------------|
| | ⊕ 🕞 🔄 🔻 🔻 | |
| FFOutboundModu | New Open Dependency Editor Show Files | |
| | <u>T</u> est | 🜔 Test <u>M</u> odule |
| | Team • | 🕌 <u>A</u> ttach |
| | Properties | 😵 Load Test Configuration |

The FFOutBoundModule_Test editor will be opened

| 🗏 *FFOutboundModule_Test 🗙 | | | | | |
|--|-----------------|------------------|-------------------|---------------|-------------------|
| Events | | | | | å⊳ å ≧ ⊞ ■ |
| 🙆 Select the component, interface, and operation you would like to invoke. Click Conti | nue to run. | | | | |
| Events | General Pr | operties | | | |
| ······Î► Invoke | ▼ Detailed P | roperties | | | |
| | Configuration: | Default Module T | est | | • |
| | Module: | FFOutboundMode | Jle | | • |
| | Component: | FlatFileOutbound | Interface | | • |
| | Interface: | FlatFileOutbound | Interface | | • |
| | Operation: | appendCustomer | | | • |
| | Initial reguest | parameters | | | |
| | Name | | Туре | Value | |
| | 🖃 appendCu | stomerInput | CustomerWrapperBG | | |
| | verb | | string | <null></null> | |
| | Custom | erWrapper | CustomerWrapper | | |
| | - cont | ent | Customer | | |
| | a. | ustomerName | string | | |
| | A | adress | string | | |
| | | ty | string | | |
| | Sil-N | ate | string | | |
| | direct | ame tosuDath | string | | |
| | fileC | optentEncoding | string | | |
| | indu | deEndBODelimiter | string | | |
| | stan | ingDirectory | string | | |
| | | ingbilloccol y | Sang | | |
| | Data Pool | | | | Continue |

Events Configurations

____3. **Test Scenario**: outbound for **createCustomer** operation (Non-PassThrough)

Under **Detailed Properties**, for the **Operation** field, select **createCustomer** from the drop down menu

Fill out the fields for Initial request parameters:

For the fields - CustomerName, Address, City, State you can enter any string

fileName: **createtest.xml** (a file with this name will be created under the directoryPath you will specify in the following step)

directoryPath: **<OUT_DIR>** (Refer to the table at the beginning of this document for this value. The specified subdirectory must already exist; otherwise you will receive a failure when trying to create the file. This subdirectory is created for you, if you unzipped the LabFiles602.zip or you can manually create the subdirectory now.)

For the remaining three fields – fileContentEndcoding, includeEndBODelimiter, stagingDirectory, you can set them to <**null>** from the drop down menu. You must set fileContentEncoding to <null> or <unset> for the newly created file to contain the content.

General Properties

| Detailed Pr | operties | |
|---------------------------------|---------------------------|---|
| Configuration: | Default Module Test | • |
| Module: | FFOutboundModule | • |
| Component: | FlatFileOutboundInterface | • |
| Interface: | FlatFileOutboundInterface | • |
| Operation: | createCustomer | • |

Initial reguest parameters

| Name | Туре | Value | |
|-----------------------|-----------------|--------------------|-------------------|
| CustomerWrapper | CustomerWrapper | | |
| content | Customer | | |
| customerName | string | ABC | |
| Address | string | 11501 Burnet Rd | |
| City | string | Austin | |
| State | string | TX | |
| fileName | string | createtest.xml | |
| directoryPath | string | Outbound\OutputDir | - |
| fileContentEncoding | string | <null></null> | |
| includeEndBODelimiter | string | | |
| stadiodDirectory | strina | | |
| ▲ | | | |
| Data Pool | | C | iontin <u>u</u> e |

Click Continue

From Deployment Location window, select **WebSphere Process Servers > WebSphere Process Server v6.0** and click **Finish**

| neployment Location | | × |
|---|--------------------|------|
| Select Deployment Location This server instance is currently running. | T | |
| Deployment location: | | |
| WebSphere Process Servers KebSphere Process Server v6.0 Eclipse 1.4 JVM | New Serve | r |
| Mode: Run | ~ | |
| Use this as the default and do not ask again | | |
| | <u>E</u> inish Car | ncel |

Click on the **Invoke (FlatFileOutboundInterface:createCustomer)** and you will see a window similar to the following, that contains the data you just entered in the previous steps:

| Events | General Properties | | | |
|---|---|-------------------|--------------------------------------|--|
| □ ऑ Invoke (FlatFileOutboundInterface:createCustomer) | Detailed Properties | | | |
| Started | s S Configuration: Default Module Test. Module: FFOutboundModule Component: FlatFileOutboundInterface Interface: FlatFileOutboundInterface Operation: createCustomer Invocation parameters Invocation parameters | | | |
| | Name | Туре | Value | |
| | createCustomerInput | CustomerWrapperBG | | |
| | verb | VerbType | <unset></unset> | |
| | CustomerWrapper | CustomerWrapper | | |
| | - content | Customer | | |
| | customerName | String | ABC | |
| | Address | String | 11501 Burnet Rd | |
| | City | String | Austin | |
| | State | String | ТХ | |
| | fileName | String | createtest.xml | |
| | directoryPath | String | C:\LabFiles602\FlatFileOutbound\Out. | |
| | fileContentEncoding | String | <unset></unset> | |
| | includeEndBODelimiter | String | | |
| | stagingDirectory | String | | |
| 4 | | | | |

Verify the created file contents

____a. Check the subdirectory <OUT_DIR> for the file createtest.xml

____b. Open the **createtest.xml** file and it will contain the following contents:

| File Edit View Eavorites | | | | |
|--|--|---------------------|-------------|-----------|
| The Fac Ten I divences | <u>I</u> ools <u>H</u> elp | | | |
| 🕒 Back 🝷 🕤 🝷 🛃 😰 🐔 | 🔎 Search 🛭 👷 Favorites 🛛 🧑 🍰 🖉 | | | |
| Address 😰 C:\LabFiles602\FlatFi | eOutbound\OutputDir\createtest.xml | | 💌 🄁 Go | Links » |
| Google G- | 💽 Go 🖟 🌮 🎊 👻 🟠 Bookmarks 🔻 🔊 0 blocke | d 🛛 🏶 Check 👻 🌺 | · 🔘 s | ettings 🕶 |
| - <customer:customer: xmlns:xsi="http://v xmlns:customer="ht <customername>AB <address>11501 Bu <city>Austin<state>TX</state></city></address></customername></customer:customer: | si:type="customer:Customer" ww.w3.org/2001/XMLSchema-instance p://www.ibm.com/xmlns/prod/websp C rnet Rd | " here/j2ca/flat | file/custom | er"> |
| <th></th> <th></th> <th></th> <th>2</th> | | | | 2 |

4. **Test Scenario**: outbound for **createFlatFile** operation (Pass-Through)

Click on Invoke button Invoke button at the top from the FFOutboundModule_Test window

Under **Detailed Properties**, for the **Operation** field, select **createFlatFile** from the drop down menu

Fill out the fields for Initial request parameters:

On the row that contains **content**, under Type and select browse button and then select **UnstructuredContent** from the Data Type Selection window

Enter some string data for AsText field

fileName: **createtest.txt** (a file with this name will be created under the directoryPath you will specify in the following step)

directoryPath: **<OUT_DIR>** (Refer to the table at the beginning of this document for this value. The specified subdirectory must already exist, otherwise you will receive a failure when trying to create the file. This subdirectory is created for you, if you unzipped the LabFiles602.zip or you can manually create the subdirectory now.)

For the remaining three fields – fileContentEndcoding, includeEndBODelimiter, stagingDirectory, you can set them to <**null>** from the drop down menu. You must set fileContentEncoding to <**null>** or <unset> for the newly created file to contain the content

- General Properties
- Detailed Properties

| Configuration: | Default Module Test | • |
|----------------|---------------------------|---|
| Module: | FFOutboundModule | • |
| Component: | FlatFileOutboundInterface | • |
| Interface: | FlatFileOutboundInterface | • |
| Operation: | createFlatFile | • |

Initial reguest parameters

| Name | Туре | Value | ٠ |
|-----------------------|-------------------------|--------------------------|------------|
| 🖃 content | UnstructuredContent [an | | |
| ContentType | string | | |
| ObjectName | string | | |
| AsText | string | Test message | |
| AsBinary | hexBinary | 0 | |
| fileName | string | createtest.txt | |
| directoryPath | string | C:\LabFiles602\FlatFileO | |
| chunkFileName | string | | |
| fileContentEncoding | string | <null></null> | |
| includeEndBODelimiter | string | | _ |
| stadingDirectory | strina | | • |
| ▲ | | ▶ | |
| Data Pool | | Conting | <u>u</u> e |

Click on the **Invoke (FlatFileOutboundInterface:createFlatFile)** and you will see a window similar to the following, that contains the data you just entered in the previous steps:

| Events | General Properties | | | |
|---|--|-------------------------|------------------------------|--|
| Invoke (FlatFileOutboundInterface:createCuston | ▼ Detailed Properties | | | |
| Started Minoske (FlatFileOutboundInterface:creat Stopped Invoke (FlatFileOutboundInterface:createFlatFile Started | Configuration: Default Module Test Module: FFOutboundModule Component: FlatFileOutboundInterface | | | |
| Invoke (FlatFileOutboundInterface:creat | Internace: <u>FlatFliet</u> | <u>uccoundincerrace</u> | | |
| Stopped | Operation: <u>createFl</u> | atFile | | |
| | Invocation parameters | | | |
| | Name | Туре | Value | |
| | createFlatFileInput | FlatFileBG | | |
| | verb | VerbType | <unset></unset> | |
| | 🖃 FlatFile | FlatFile | | |
| | - content | UnstructuredContent | | |
| | ContentTyp | e String | | |
| | ObjectName | String | | |
| | AsText | String | Test message | |
| | AsBinary | Bytes | [B@2af0471 | |
| | fileName | String | createtest.txt | |
| | directoryPath | String | C:\LabFiles602\FlatFileOutbo | |
| | chunkFileName | String | | |
| | fileContentEnco | d String | <unset></unset> | |
| | includeEndBOD | eli String | | |
| | stagingDirector | y String | | |
| | 1 | | | |

Verify the created file contents

- ____a. Check the subdirectory <OUT_DIR> for the file createtest.txt
- ____b. Open the **createtest.txt** file and it will contain the following contents:

| \begin{bmatrix} createtest.txt - Notepad | | | | | |
|--|--------------|-----------------|------|--------------|--|
| <u>F</u> ile | <u>E</u> dit | F <u>o</u> rmat | ⊻iew | <u>H</u> elp | |
| iτes | t me | essage | | | |

Part 4: Restore server configuration

_____1. Close the FFOutBoundModule_Test window and click No for the Save Resources window



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

| Properties Problems 👫 Servers 🗙 | | | | |
|---------------------------------|-----------|-----------------|------------|---|
| Server | Host name | e | Status | |
| 🛅 WebSphere ESB Server v6.0 | localhost | | | |
| B WebSphere Process Server v6.0 | localhost | New | | × |
| | | Open | | |
| | | Delete | | |
| | | 🐝 Debug | | |
| | | 🜔 Start | | |
| | | 🔊 Profile | | |
| | | Restart | | ► |
| | | 📕 Stop | | |
| | | 🔊 Disconnect | | |
| | | 担 Publish | | |
| | | Monitoring | | • |
| | | 🏪 Add and remov | e projects | |

____ 3. Select **FFOutboundModuleApp** under Configured projects and click **< Remove**

| 🚯 Add and Remove Projects | | X |
|--------------------------------------|-------------------------|------------------------|
| Add and Remove Projects | | |
| Modify the projects that are confi | gured on the server | |
| | | |
| Move projects to the right to config | jure them on the server | |
| <u>Available projects:</u> | | Configured projects: |
| | | E. FFOutboundModuleApp |
| | A <u>d</u> d > | |

- 4. Click **Finish** after you see the application moved to Available projects. Wait until the application is unpublished
- ____5. Right-click on **WebSphere Process Server v6.0** from the Servers view and select **Stop** from the context menu

| Properties Problems 🛪 Servers 🗙 Console | | | | |
|---|-----------|-----------|-----------|-------|
| Server | Host name | Status | | State |
| 🛅 WebSphere ESB Server v6.0 | localhost | | | |
| m WebSphere Process Server v6.0 | localhost | 🎝 Started | New | |
| | | | Open | |
| | | | Delete | |
| | | | 🐝 Debug | |
| | | | D Start | |
| | | | 🔎 Profile | |
| | | | Restart | + |
| | | | 📕 Stop | |

What you did in this exercise

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

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

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

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