

PeopleSoft®

EnterpriseOne XPI 8.94 PeopleBook:
PeopleSoft EnterpriseOne Adapter
Programmer Guide

December 2004

EnterpriseOne XPI 8.94 PeopleBook:
PeopleSoft EnterpriseOne Adapter Programmer Guide

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Introduction

The PeopleSoft EnterpriseOne Adapter enables the exchange of information between PeopleSoft EnterpriseOne and other heterogeneous systems. This adapter provides a flexible, easy-to-use mechanism for XPI-enabled applications to interface with PeopleSoft EnterpriseOne.

The EnterpriseOne Adapter exposes business logic, real-time event generation, and database access within EnterpriseOne.

This guide is primarily for the developer who is responsible for creating adapter services that enable interoperability with PeopleSoft EnterpriseOne. The guide contains sample scenarios that you can view and use to assist in creating adapter services and flows.

To view and run the sample scenarios you must:

- Configure the PeopleSoft EnterpriseOne Adapter to connect to EnterpriseOne. When you install the adapter, default configurations are set up for the EnterpriseOne and ERP8 environments that you can edit to connect to your EnterpriseOne or ERP8 environment.
- Configure and enable a listener for real time events in your EnterpriseOne or ERP8 environment. Sample listeners have been created in the PSFT_EnterpriseOne_AdapterSamples package. You must reconfigure the listener to use your EnterpriseOne or ERP8 environment.
- Make sure that the PSFT_EnterpriseOne_AdapterSamples package, that was installed with the adapter, is activated.
- Install and activate the following packages:
 1. PSFT_XrefAndSoftCoding
 2. PSFT_Utils

Use PeopleSoft XPI Integration Developer to view and run the samples.

Note

The sample artifacts are built for both EnterpriseOne and ERP8 connections. Ensure that you are viewing and running the correct artifact for your connection.

See Also

EnterpriseOne XPI 8.94 Installation and Configuration for EnterpriseOne Adapter

Elements of Integration Developer

You should be familiar with EnterpriseOne XPI products, particularly the Integration Developer. Integration Developer is used to create the adapter services and flows.

The elements involved in using the Integration Developer are:

- Creating packages
- Creating folders
- Creating interface documents
- Adapter services
- Notification services
- Flow services
- Trigger

Creating Packages

A package is a logical container for a set of services and related files. It exists as a single physical directory on the file system.

► To create a package

1. From the File menu, select New, Package, and then Next.
2. Name your package using the integration development standards.

See Also

EnterpriseOne XPI 8.94 PeopleBook: Integration Development Methodology

Creating Folders

A folder is a logical container for a set of artifacts within a package. The top-level folder is named the same as the package name to avoid naming conflicts. Additional folders are provided for each of the artifacts (such as docs, triggers, and utils).

► To create a folder

1. From the File menu, select New, Folder, and then Next.
2. Name your high-level folder the same as the package name.
3. Create folders for the associated artifacts, using the integration development standards.

Creating Interface Documents

Interface documents provide the input and output to the flow services. You can create interface documents as part of creating a flow service, or you can create them as a separate activity. The following components make up the structure of an interface document:

- **Document/Document List** – Documents/Document Lists are collection
- s of related fields. Any grouping within the interface document is defined as a Document or Document List. Examples are:
 3. Header – document
 4. Line – document list
- **Fields** – Fields are the lowest level elements defined. Fields are fundamental elements that you use to create Documents and Document Lists (such as Description, Name, and so on).

The interface document is the input and output for the web service generated from the flow. XPI Integration Developer requires that all fields defined in the document be of a string type. When defining the interface document, define the field as a string, and then update the properties to set the constraint to the correct XML schema data type. When the system generates the Web Services Description Language (WSDL), the XML references the correct data type so that the consumer knows which data type is required for that field in the interface.

► **To create an interface document**

1. From the File menu, select New, and then Document Type.
2. Click Next.
3. Name your Interface Document and place it in the Docs folder for your package.
4. Select a source.
5. Create a document structure.

Adapter Services

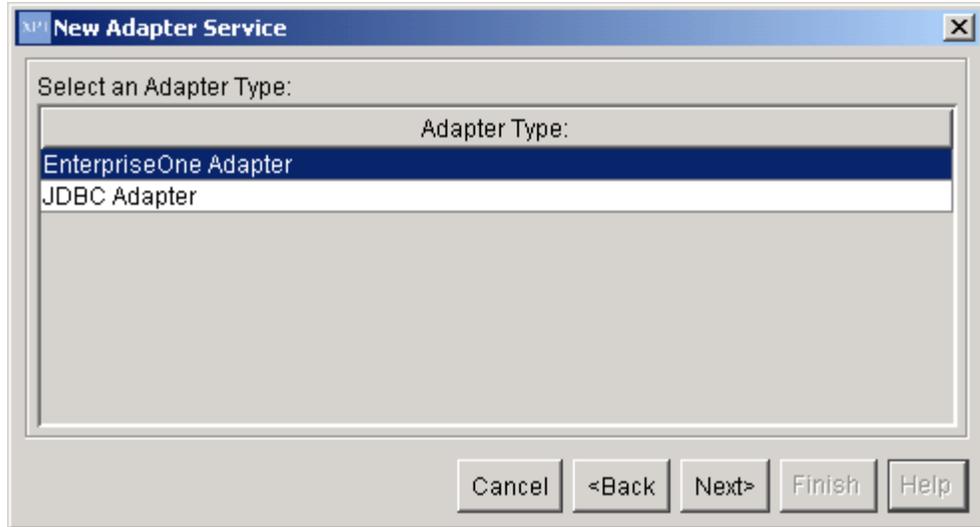
An Adapter Service is created from an operation template to perform a specific operation on a resource. For example, the EnterpriseOne adapter provides a template for performing business functions calls. This is how the adapter transfers data and communicates with the EnterpriseOne resource.

Business Function Template

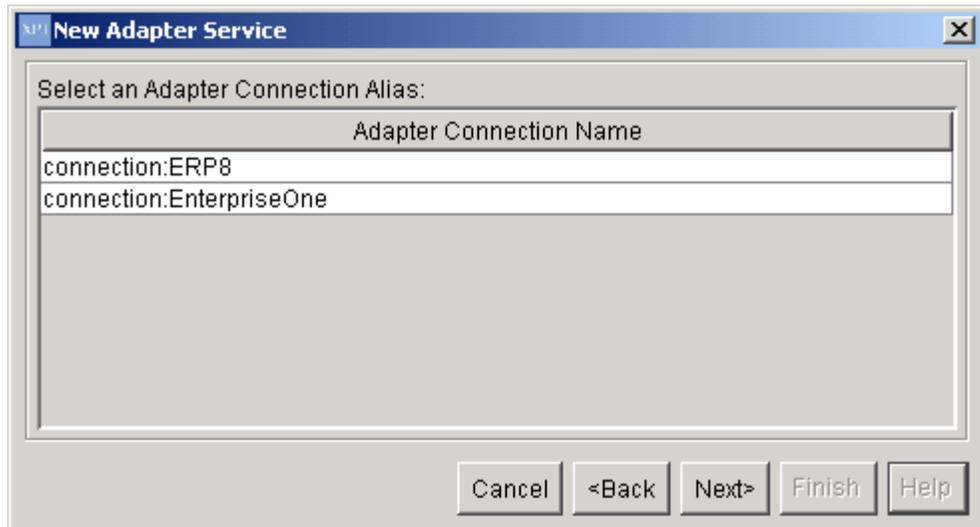
The Business Function Template has built-in hooks for calling EnterpriseOne business functions. You can use one template for several operations, so the adapter may have many adapter services. Each adapter service is a one-to-one mapping to a business function.

► **To create an Adapter Service**

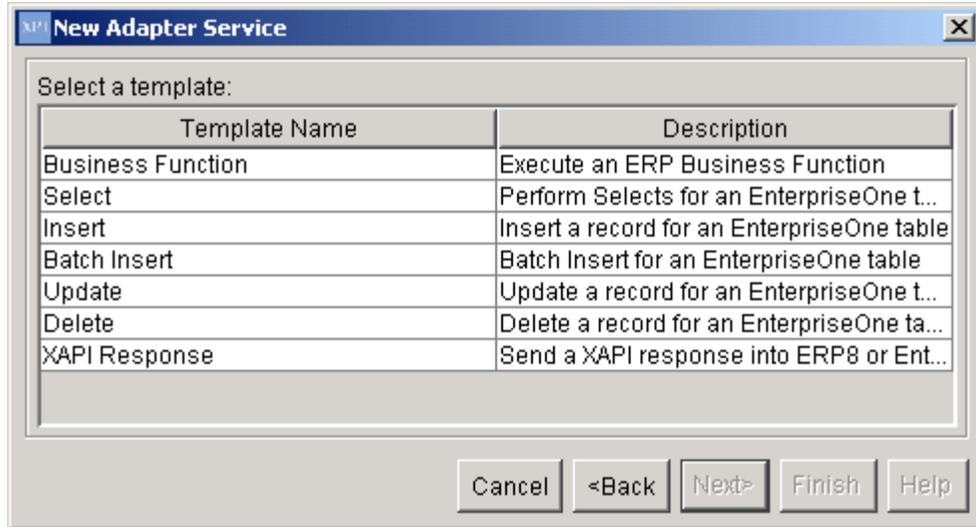
1. From the File menu, select New, and then Adapter Service.
2. Click Next.



3. Select EnterpriseOne Adapter, and then click Next.



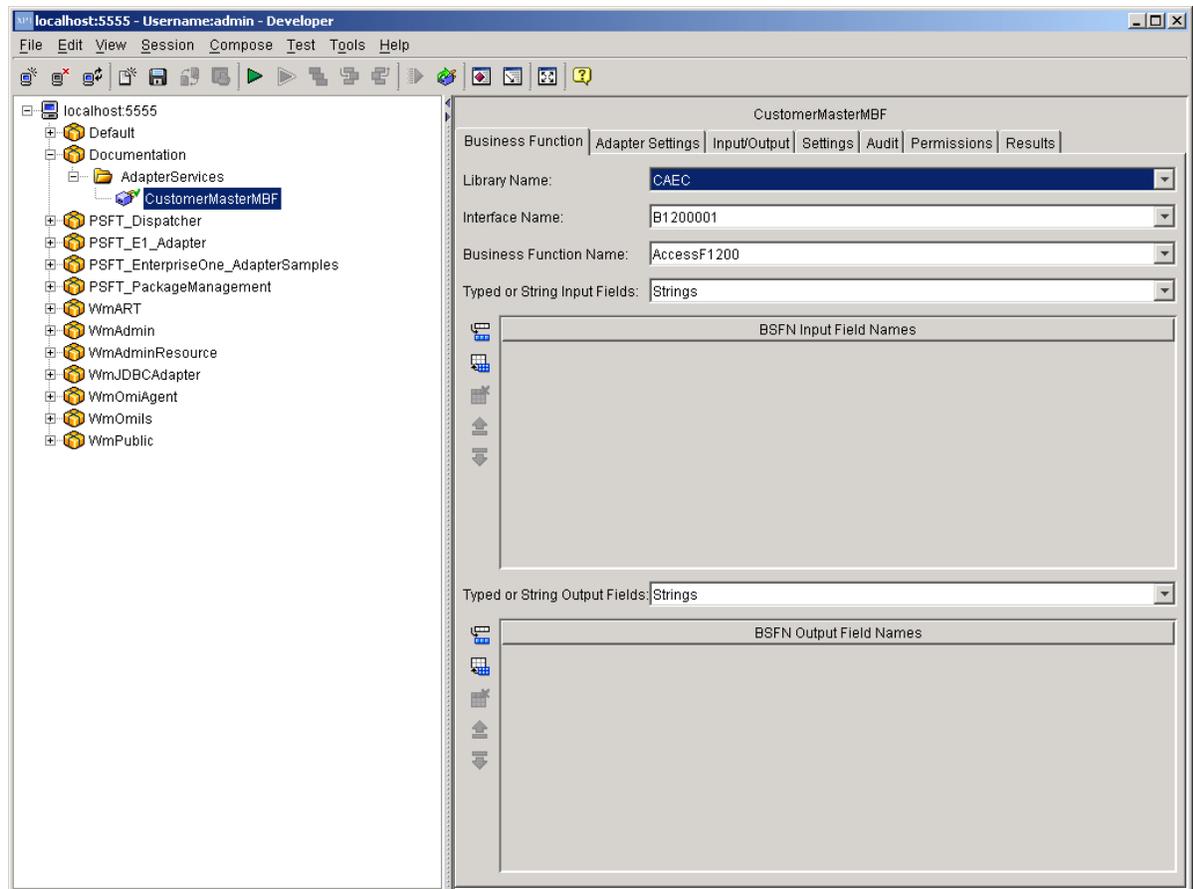
4. On New Adapter Service, select either EnterpriseOne or ERP8, and then click Next.



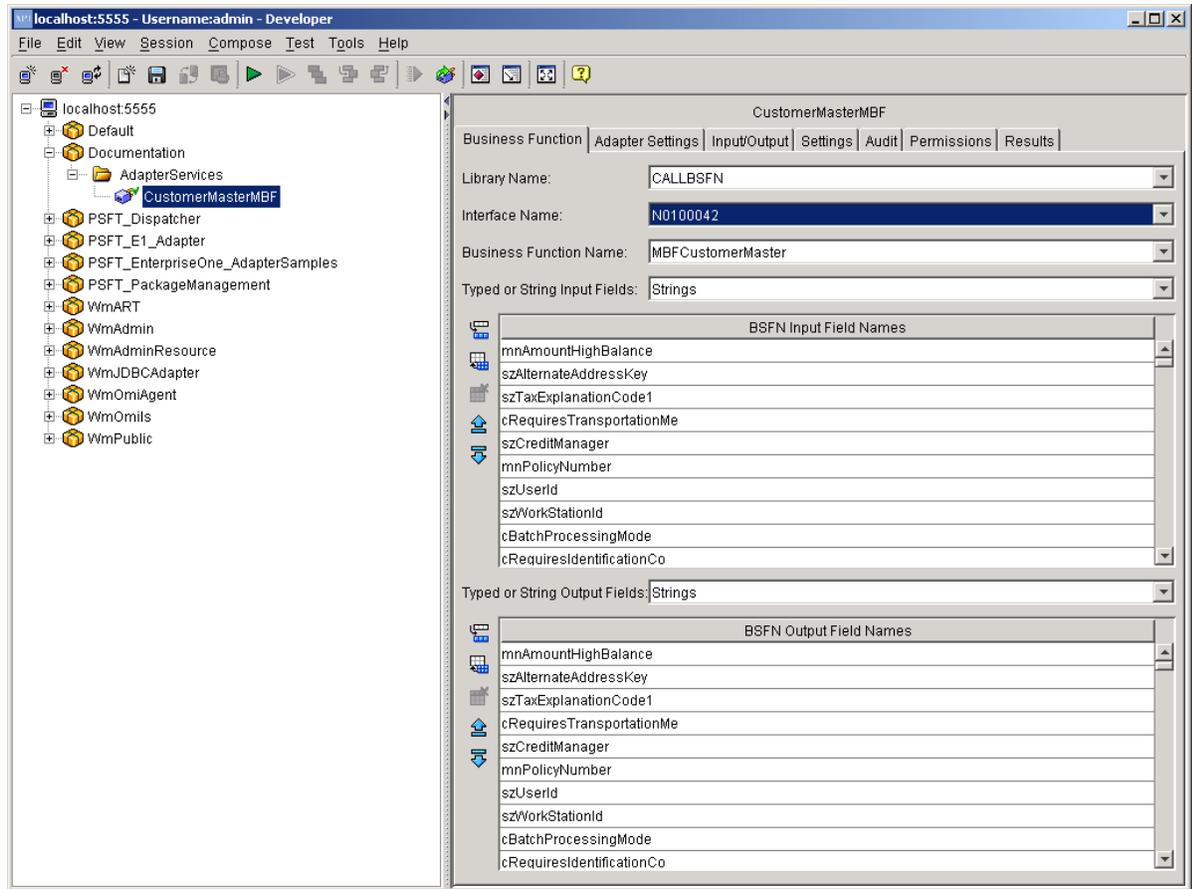
5. Select a business function template, and then click Next.
6. Name your Adapter Service following the naming standards in the *EnterpriseOne XPI 8.94 PeopleBook: Integration Development Methodology*.
7. Place the Adapter Service in an Adapter Services package, and then click Finish.
8. Select the newly created Adapter Service.

The following information appears in the right pane under the Business Function tab:

| EnterpriseOne Connection | Description |
|---|---|
| Library Name | The name of the DLL in EnterpriseOne to which the business function belongs. |
| Interface Name | The name of the C module or NER in EnterpriseOne. |
| Business Function Name | The name of the business function in EnterpriseOne. |
| Typed or String input fields | Defines the type of the input document fields. If specified to Typed , the input document will contain typed fields, such as Double, Character, Date, which match the BSFN data structure fields. If specified as String , the input document fields will be String type, which will then be converted internally to the BSFN data structure field types. |
| Note: Below the information about the business function, you will find the input data structure parameters and the output data structure parameters. | |
| Typed or String output fields | Defines the type of the output document fields. If specified to Typed , the output document will contain typed fields, such as Double, Character, Date, which match the BSFN data structure fields. If specified as String , the output document fields will be String type, which after a BSFN call the adapter will convert all the BSFN output fields to a String. |



9. Click the drop-down menu in each of the following fields and select the appropriate values for each:
 5. Library Name
 6. Interface name
 7. Business Function Name
 8. Typed or String Input Fields
10. Under the BSFN Input Field Names area, select one value at a time or select all.
11. Click the Typed or String Output Fields drop-down menu and select one value at a time or select all.
12. Your finished adapter service should look like the following example:



13. Save the Adapter Service.

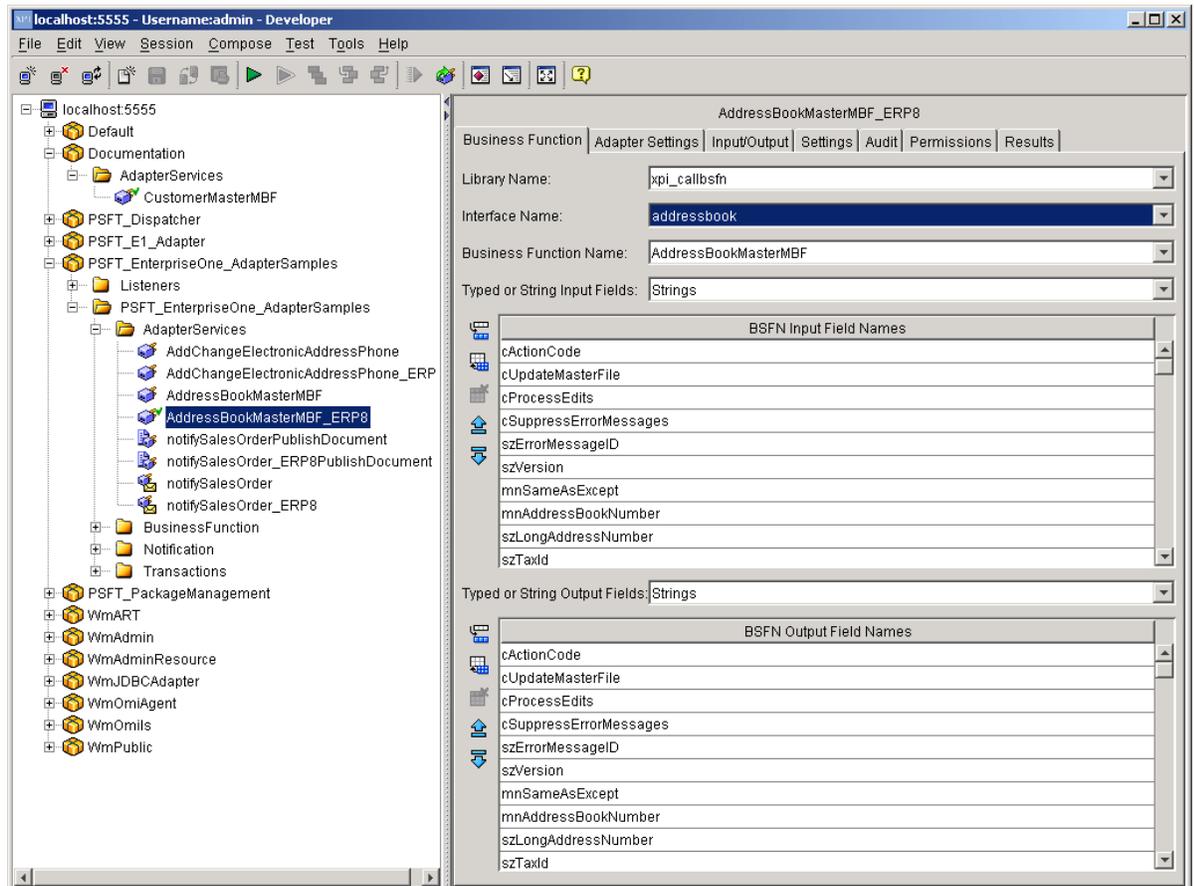
| ERP8 Connection | Description |
|---|--|
| Library Name | The Java wrapper jar name to which the business function belongs |
| Interface Name | The grouping name within the Java wrapper |
| Business Function Name | The name of the business function in ERP8 |
| Typed or String input fields | Defines the type of the input document fields. If specified as Typed , the input document will contain typed fields, such as Double, Character, and Date, which match the BSFN data structure fields. If specified as String , the input document fields will all be of String type, which will then be converted internally to the BSFN data structure field types. |
| Note: Below the information about the business function, you will find the input data structure parameters and the output data structure parameters. | |

Typed or String output fields

Defines the type of the output document fields. If specified as **Typed**, the output document will contain typed fields, such as Double, Character, Date, which match the BSFN data structure fields. If specified as **String**, the output document fields will all be of String type, which after a BSFN call, the adapter will convert all the BSFN output fields to a String.

14. Click the drop-down menu in each of the following fields and select the appropriate values for each:
 9. Library Name
 10. Interface name
 11. Business Function Name
 12. Typed or String Input Fields
15. Under the BSFN Input Field Names area, select one value at a time or select all.
16. Click the Typed or String Output Fields drop-down menu and select one value at a time, or select all.

Your finished adapter service should look like this:

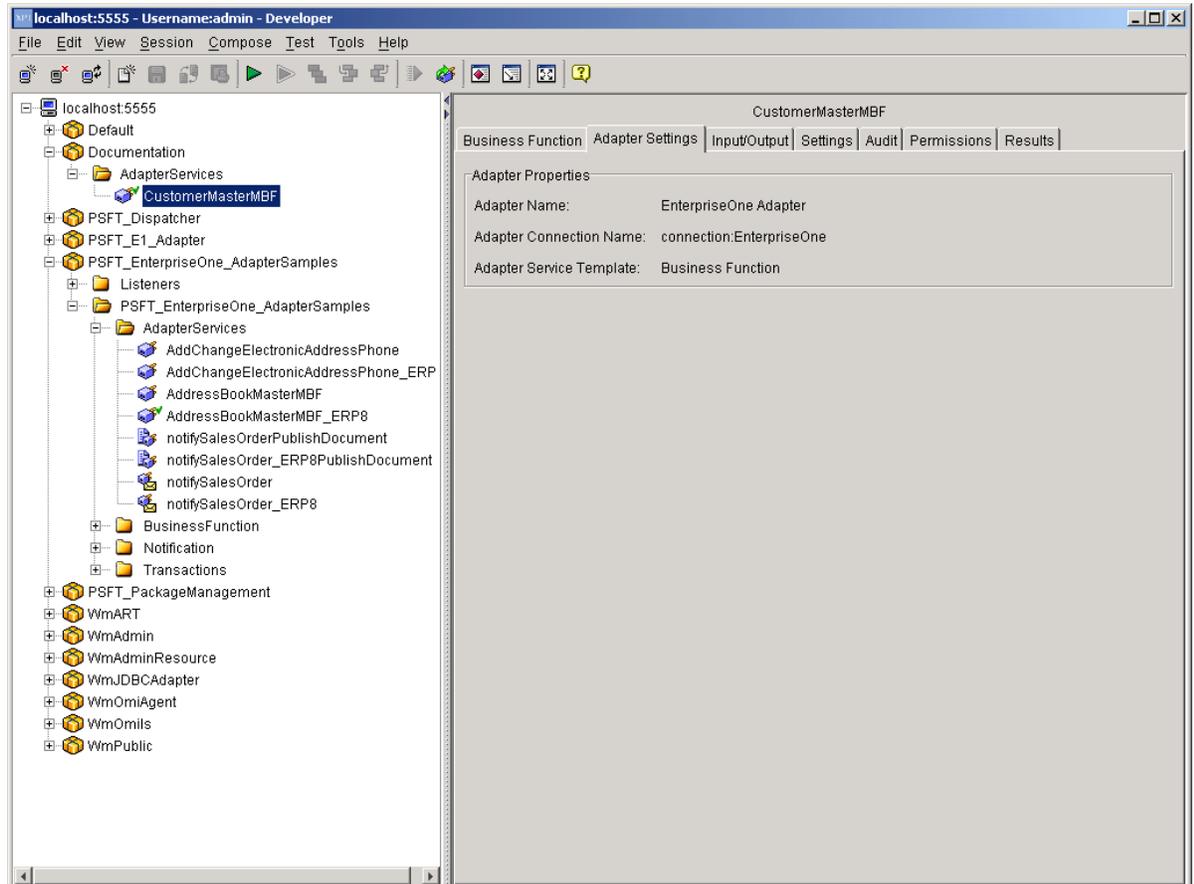


17. Save the Adapter Service.

18. Review the information that appears on the following tabs:

Adapter Settings Tab

- **Adapter Name**
The name of the adapter.
- **Adapter Connection Name**
The name of the connection specified when the adapter service was created.
- **Adapter Service Template**
The name for the adapter template used to create the adapter service.



Input/Output Tab

- Input

The input interface document for the adapter service. This is the list of input parameters selected from the business function parameters.

Part of the input is a Control structure that contains three parameters, TruncateStrings, dateFormat, and stripTrailingBlanks. When TruncateStrings is set to True, this parameter tells the adapter to either truncate string values to the length specified in the data dictionary. When set to False the adapter will not truncate strings, which could result in an exception if a string value is too long for the field. The default value is True.

Note

This parameter only exists on EnterpriseOne Business Function services.

The dateFormat parameter tells the adapter how to format String values into dates. The format applies to both input and output date values. The default format for dates is: MM/dd/yyyy. Where MM = months, dd = days, yyyy = years.

Note

The case of this format is important. MM/dd/yyyy does not equal mm/dd/yyyy and does not equal MM/DD/YYYY.

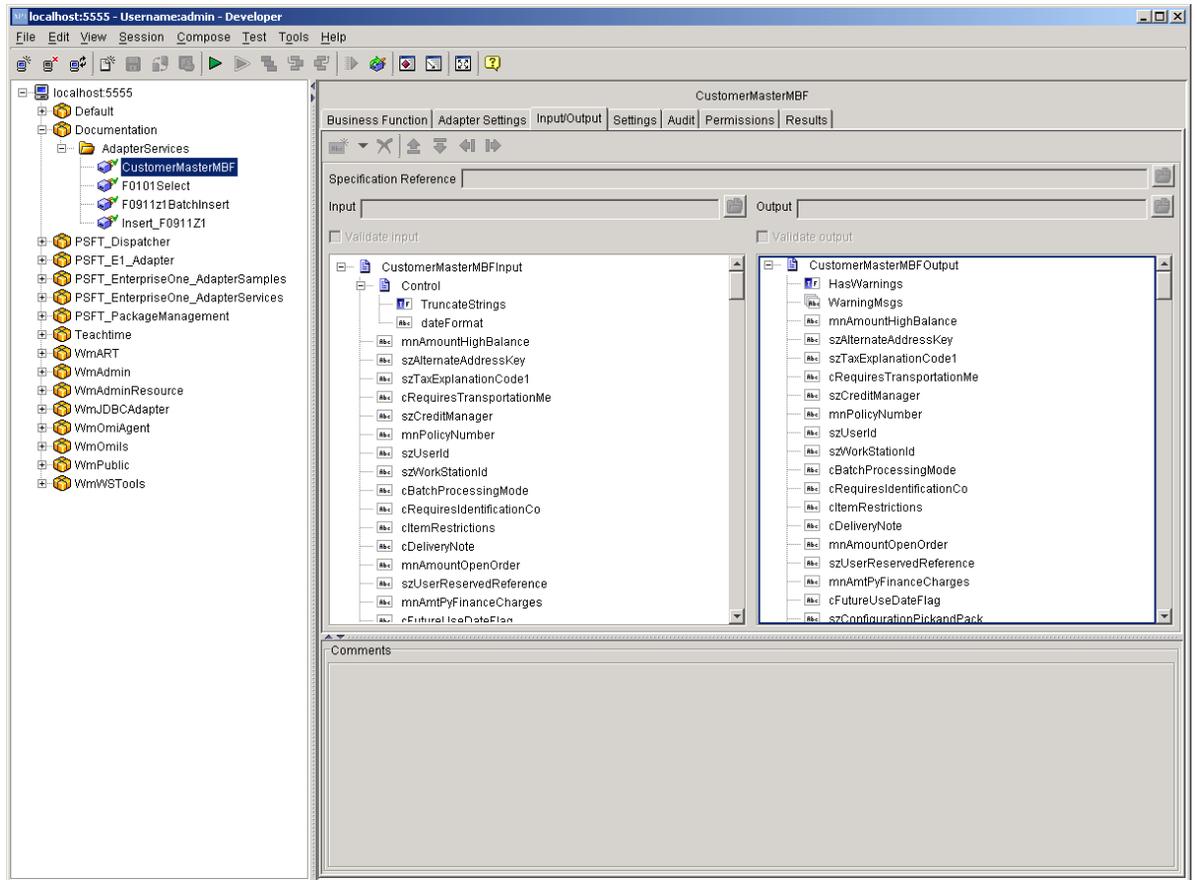
The stripTrailingBlanks parameter tells the adapter to strip any trailing blanks from returned values. By default this value is False. Values which contain only blanks (spaces), will not be modified.

- Output

The output interface document for the adapter service. This is the list of output parameters selected from the business function parameters.

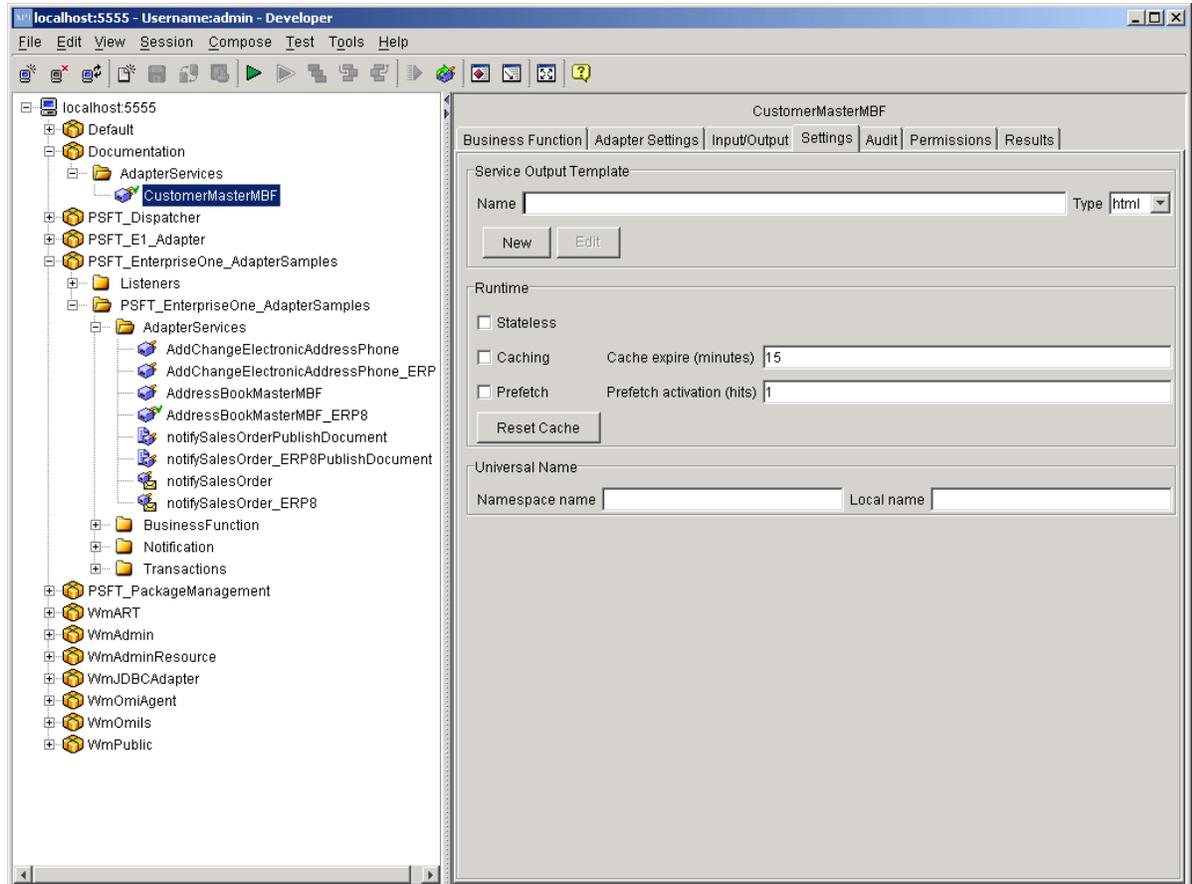
In addition to the output parameters, there is a HasWarnings boolean field and a WarningMsgs string array field. If the executed business function returns a warning (a return code of 1), the HasWarnings field will be set to True. When set to True, the WarningMsgs field contains all the warning messages returned by the business function. If the business function returns successfully (a return code of 0), the HasWarnings field is set to false and the WarningMsgs field is null.

If the business function returns an error (a return code of 2) the adapter throws an exception into the Flow. This exception should be caught with a Try/Catch block. It is possible for a BSFN to return error messages but report back a return code of success (0). In these cases the adapter will treat the BSFN as an error and throw an exception into the Flow.



Settings Tab

On the Settings tab, the system defines the template file associated with the selected service, assigns run-time parameters, and assigns a universal name. *This is currently not used by the EnterpriseOne adapter.*



Audit Tab

- Enable Service Auditing

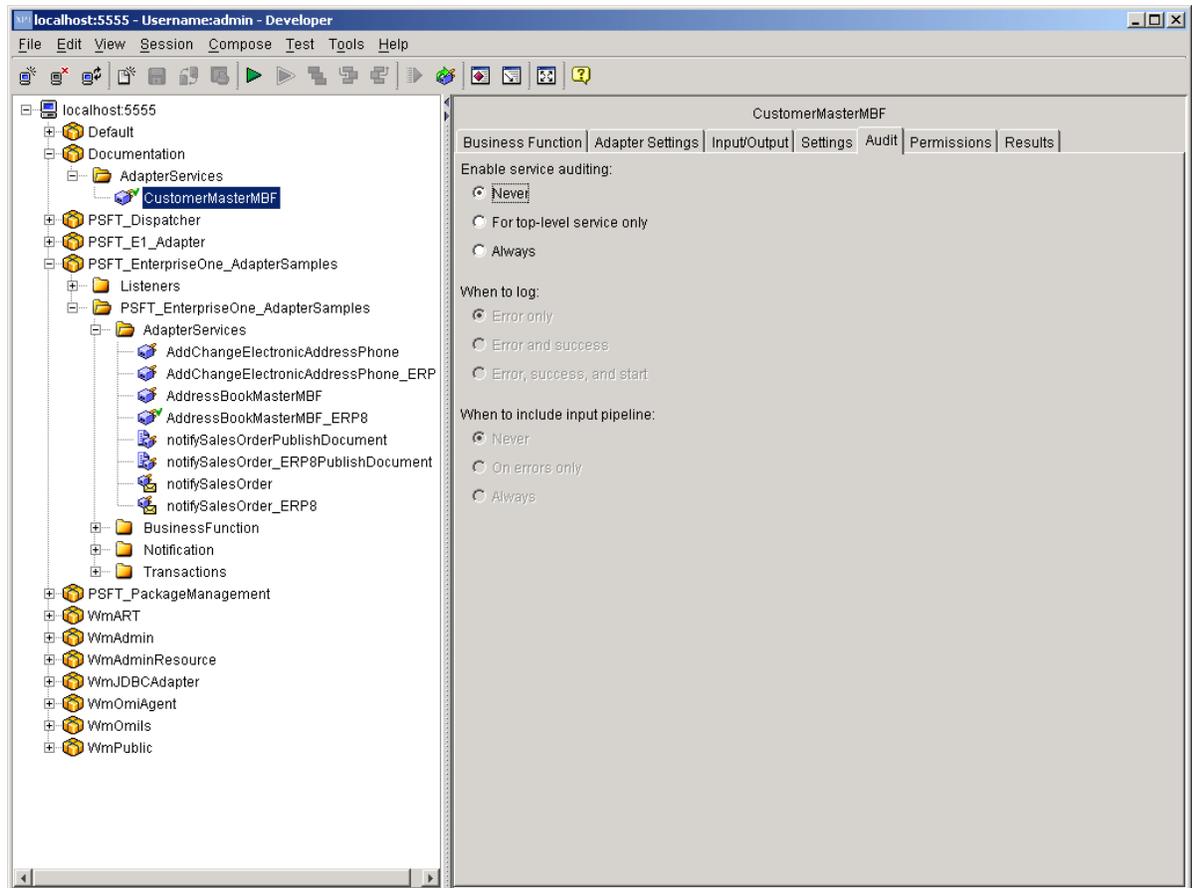
The Enable Service Auditing section defines how you want to audit. Values include: Never, For top-level service only, Always.

- When to log

This section defines when to log. Values include: Errors only, Error and Success, Error, Success and Start.

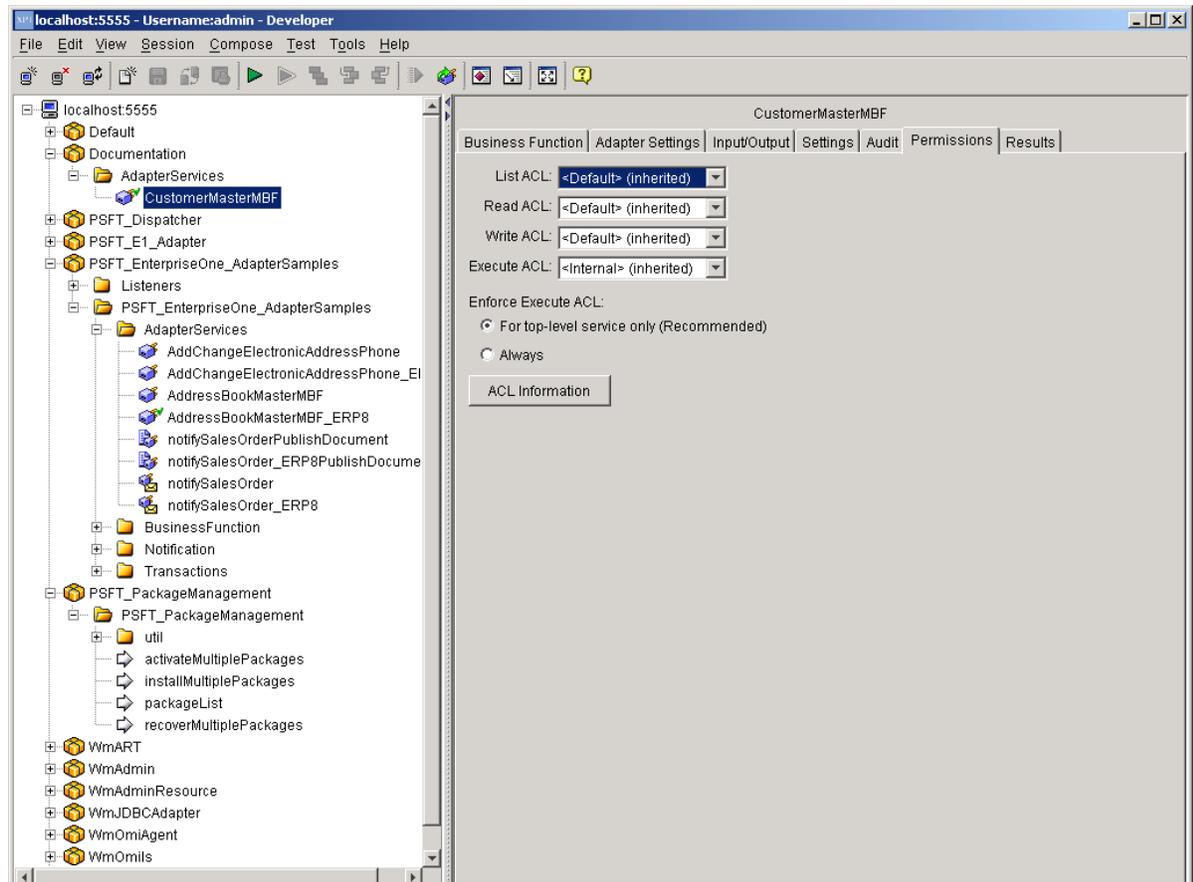
- When to include input pipeline

This section defines when to include the pipeline in the log. Values include: Never, On errors only, Always.



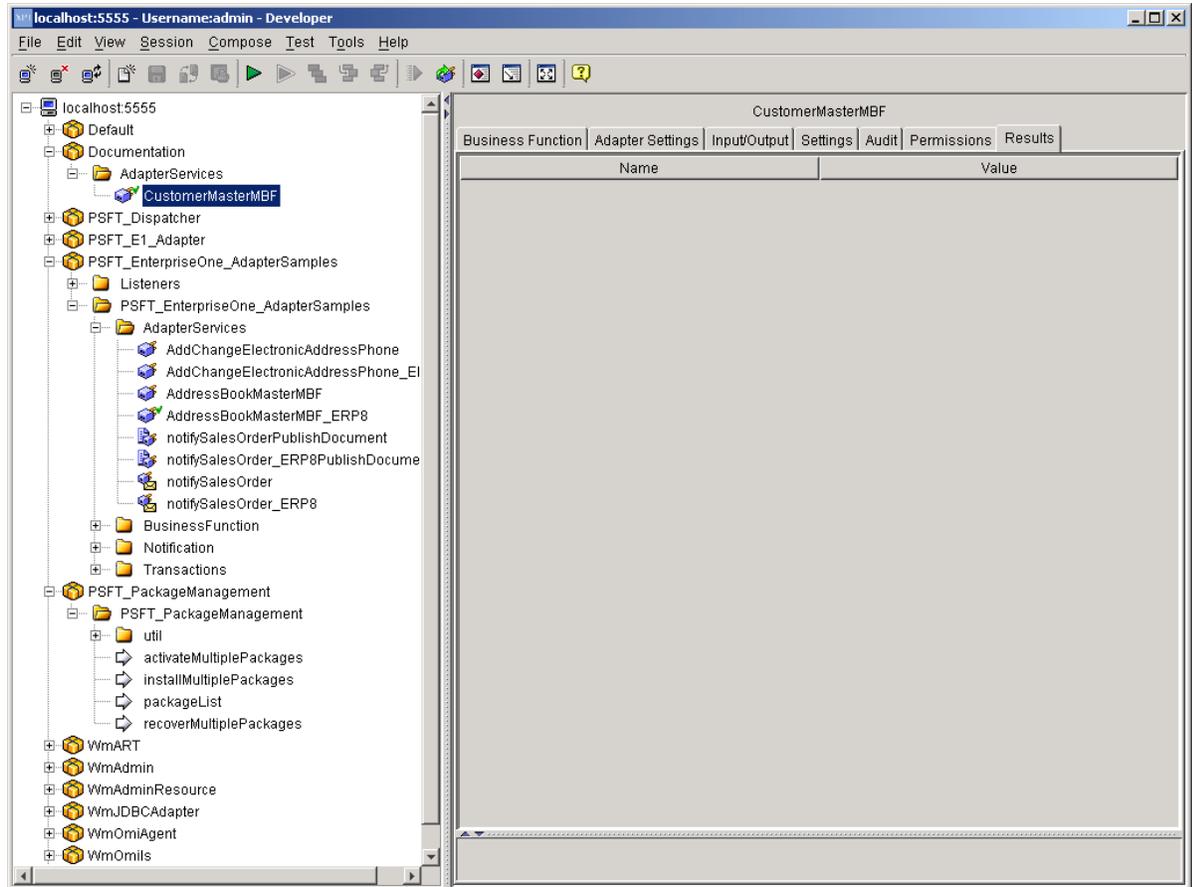
Permissions Tab

- **List ACL**
Users in the allowed list can see that the elements exist and view the elements metadata (input, output, and so on).
- **Read ACL**
Users in the allowed list can view the source code and metadata for the element.
- **Write ACL**
Users in the allowed list can lock, edit, rename, and delete the element.
- **Execute ACL**
Users in the allowed list can run the service.
- **Enforce Execute ACL**
This field's values include: For top-level Service only, Always.
- **ACL Information**
Click to view the users and groups that compose the ACLs on the Integration Server to which you are connected. This information is read only. To edit ACLs, users, and groups, use the Integration Server Administrator.



Results Tab

When testing and debugging in the XPI Integration Developer tool, the results of the service appear in this tab.

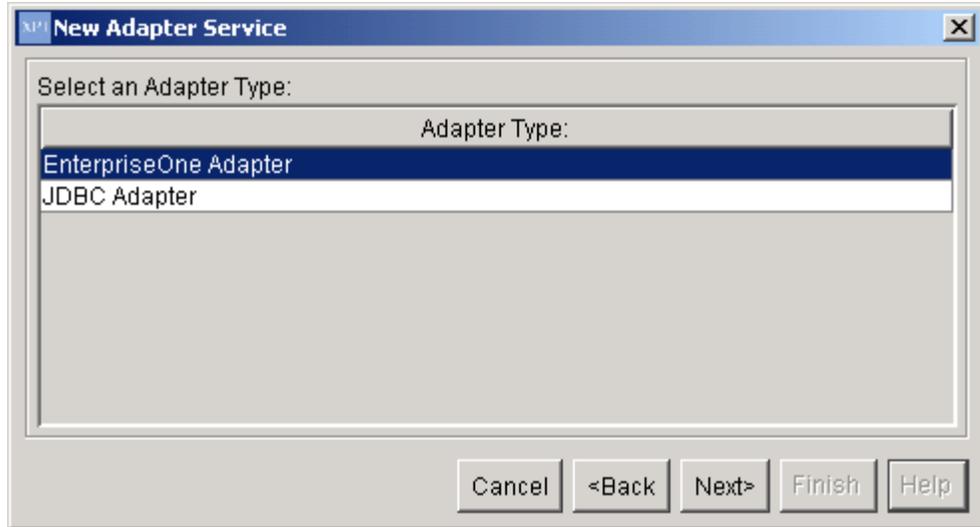


Select Template

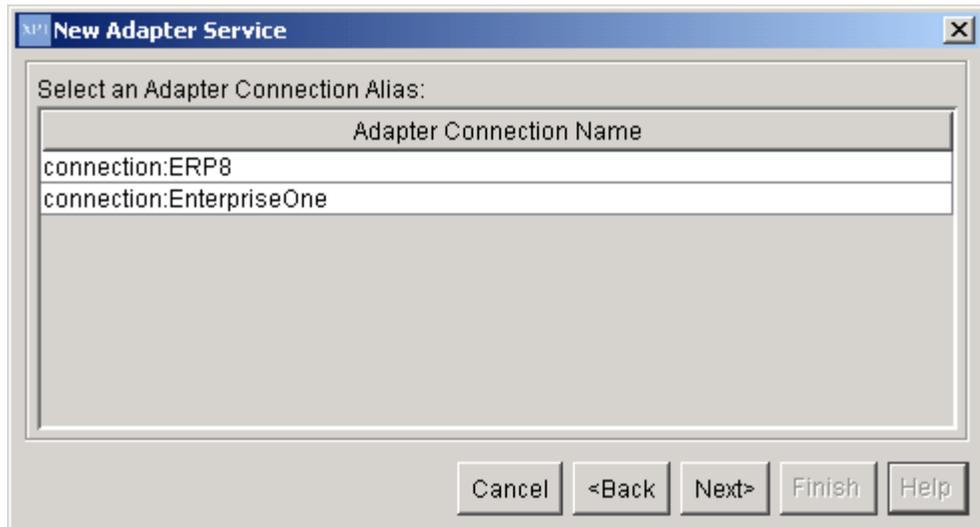
The Select Template enables you to execute a Select database operation against any table or business view in the EnterpriseOne database. The system performs all scrubbing operations (such as decimal shifting, date conversion, and so on) before the data is returned to you. Each adapter service is a one-to-one mapping to a configured select query.

► To create an Adapter Service

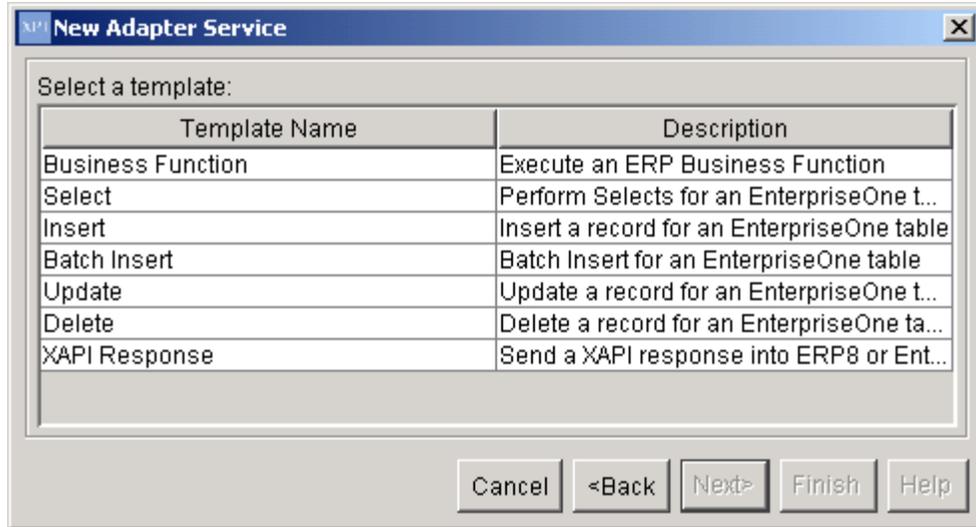
1. From the File menu, select New, and then Adapter Service.
2. Click Next.



3. Select EnterpriseOne Adapter, and then click Next.



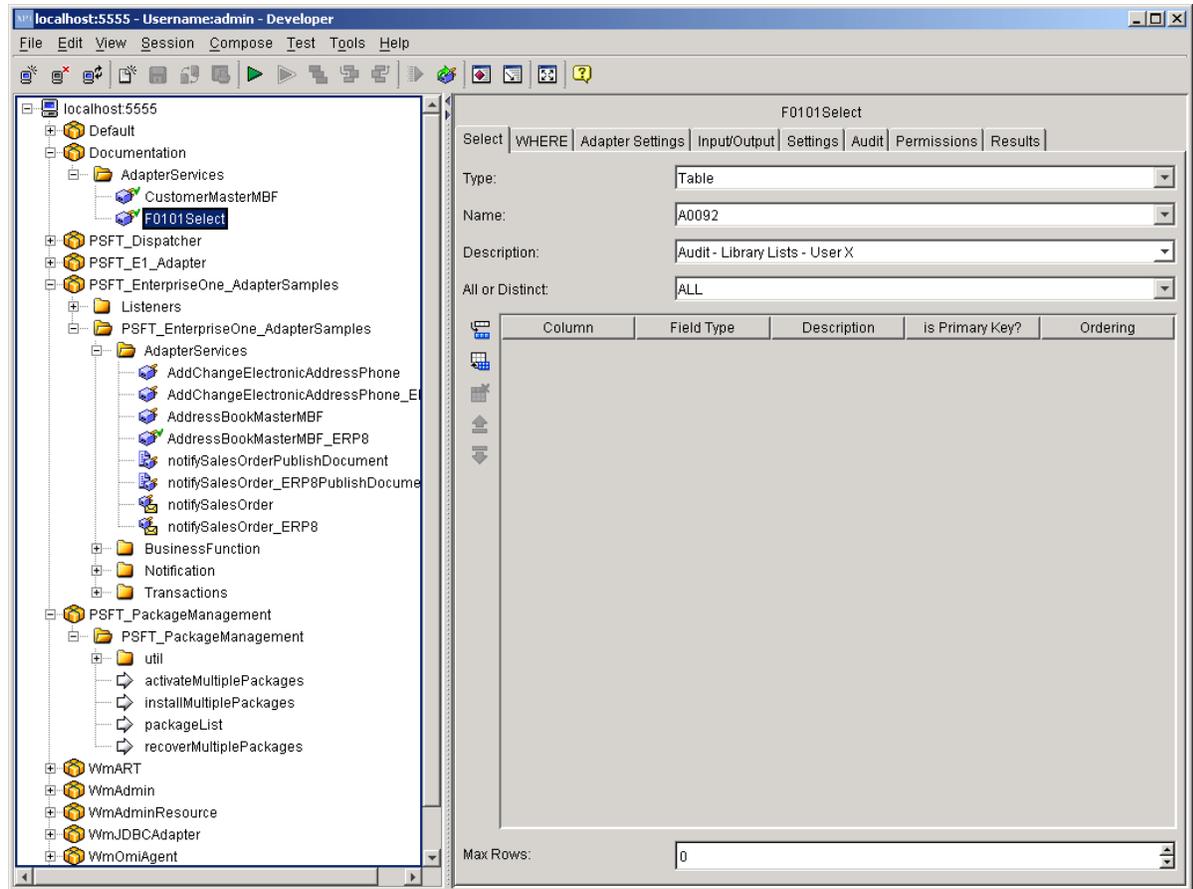
4. On New Adapter Service, select EnterpriseOne, and then click Next.



5. Select the Select template, and then click Next.
6. Name your Adapter Service following the naming standards in the *EnterpriseOne XPI 8.94 PeopleBook: Integration Development Methodology*.
7. Place the Adapter Service in an Adapter Services package, and then click Finish.
8. Select the newly created Adapter Service.

The following information appears in the right pane under the Select tab:

| EnterpriseOne Connection | Description |
|---|---|
| Type | Determines whether the query will run against a table or a business view |
| Name | The name of the table or business view. |
| Description | A non-editable field that contains the description of the selected table or business view. |
| All or Distinct | Allows you to choose whether the query will return All rows or whether it will return only Distinct rows. |
| Note: The table or business view column information appears below the All or Distinct drop-down box. | |
| Max Rows | The maximum number of rows to return in the query. A less than (<) or equal (=) to zero (0) will return all rows. |



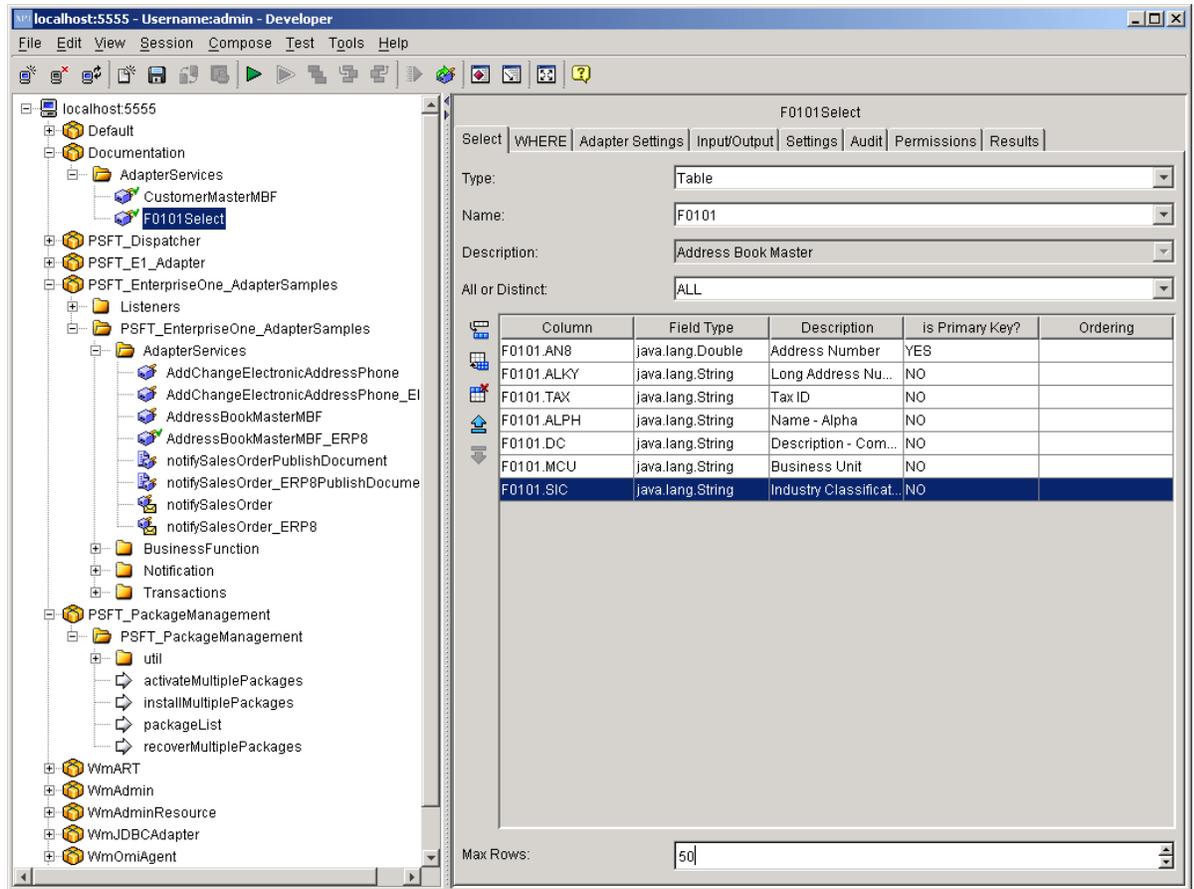
9. Click the drop-down menu in each of the following fields and select the appropriate values for each:
 13. Type
 14. Name
 15. All or Distinct
10. Under the Column information area, select one value at a time or select all.

Note

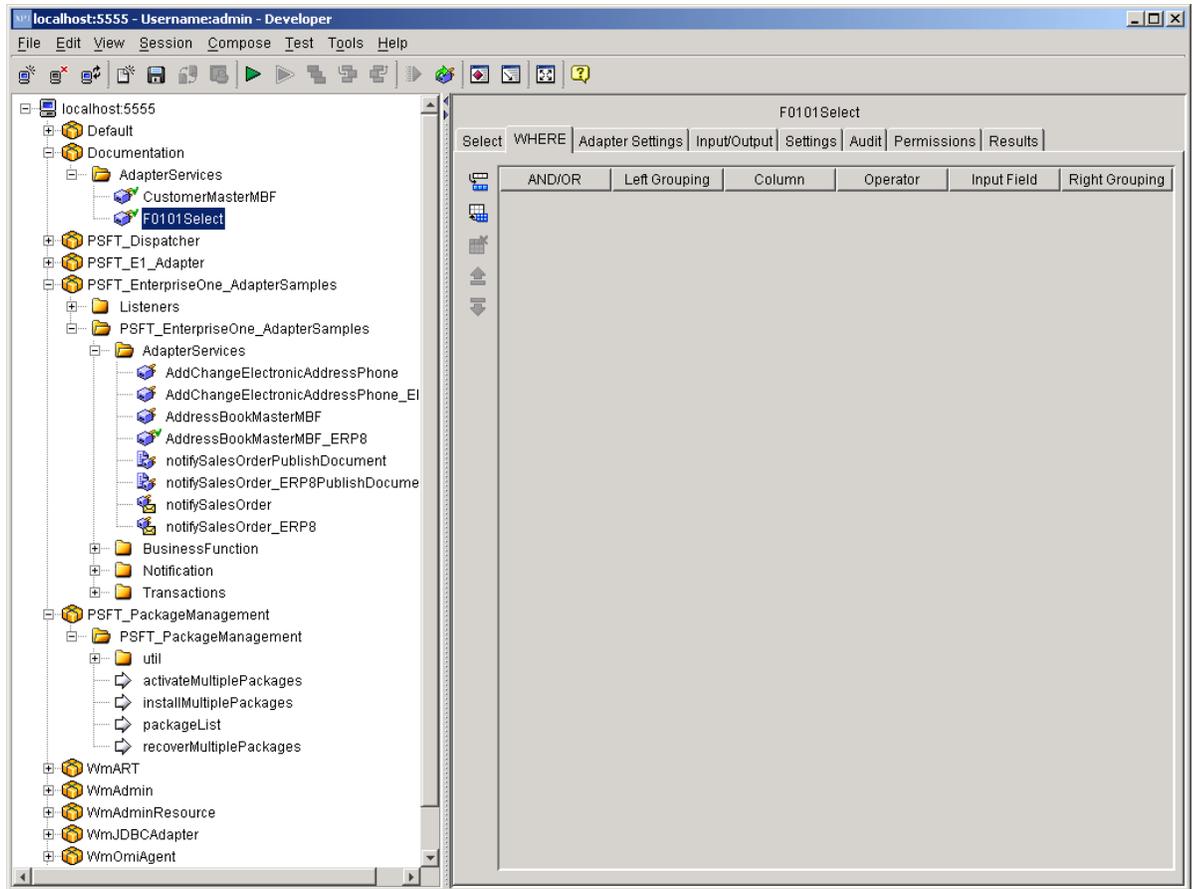
For performance reasons, you should only select the columns for which you need data returned.

For any row that has a Field Type other than String, you may select the Field Type box and select the default data type (such as Double, Date, and so on) and change it to a String. This changes the data type of the output field for this row.

11. Your finished adapter service should look like this example:



12. Save the Adapter Service.
13. Click the WHERE tab.

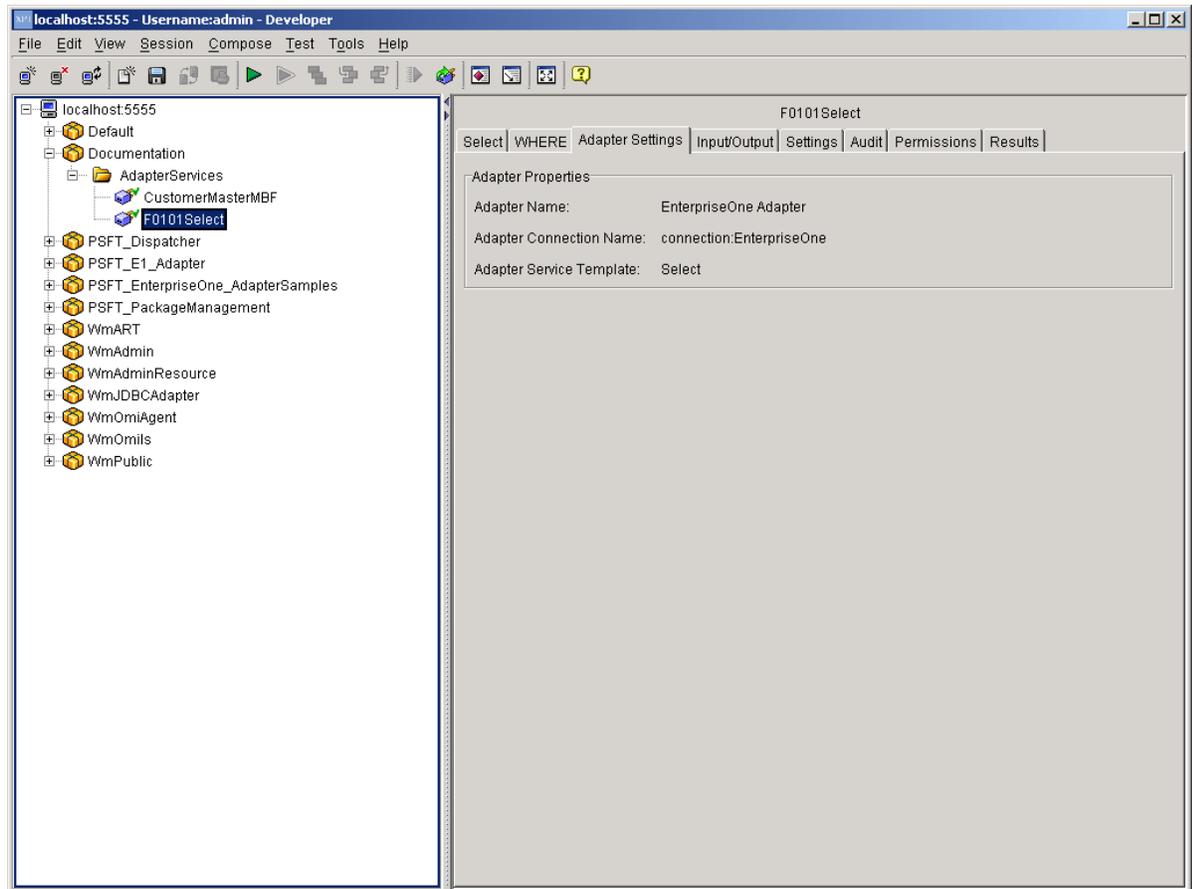


This tab allows you to create a Where clause that filters the data in a query.

14. Select the Insert Row to add a Where clause line.
 - a. Select AND/OR to determine how this line is applied to the line above it. The AND/OR value for the first line does not matter.
 - b. Under the Left Grouping column, select the grouping level for the line. By placing multiple Where clause lines at the same grouping level, you can build up complex Where clauses.
 - c. Select the column to apply the Where clause filter to.
 - d. Select the operator.
 - e. Select the input field for the filter value. You can rename this field.
 - f. Repeat these steps for as many Where clause lines are needed.
15. Review the information that appears on the following tabs:

Adapter Settings Tab

- Adapter Name
The name of the adapter.
- Adapter Connection Name
The name of the connection specified when the adapter service was created.
- Adapter Service Template
The name for the adapter template used to create the adapter service.



Input/Output Tab

- Input

The input interface document for the adapter service. This will be the set of parameters required for the created Where clause.

Part of the input is a Control structure that contains three parameters, dateFormat, stripTrailingBlanks, and overrideMaxRows. The dateFormat parameter tells the adapter how to format String values into dates. The default format for dates is: MM/dd/yyyy. Where MM = months, dd = days, yyyy = years.

Note

The case of this format is important. MM/dd/yyyy does not equal mm/dd/yyyy and does not equal MM/DD/YYYY.

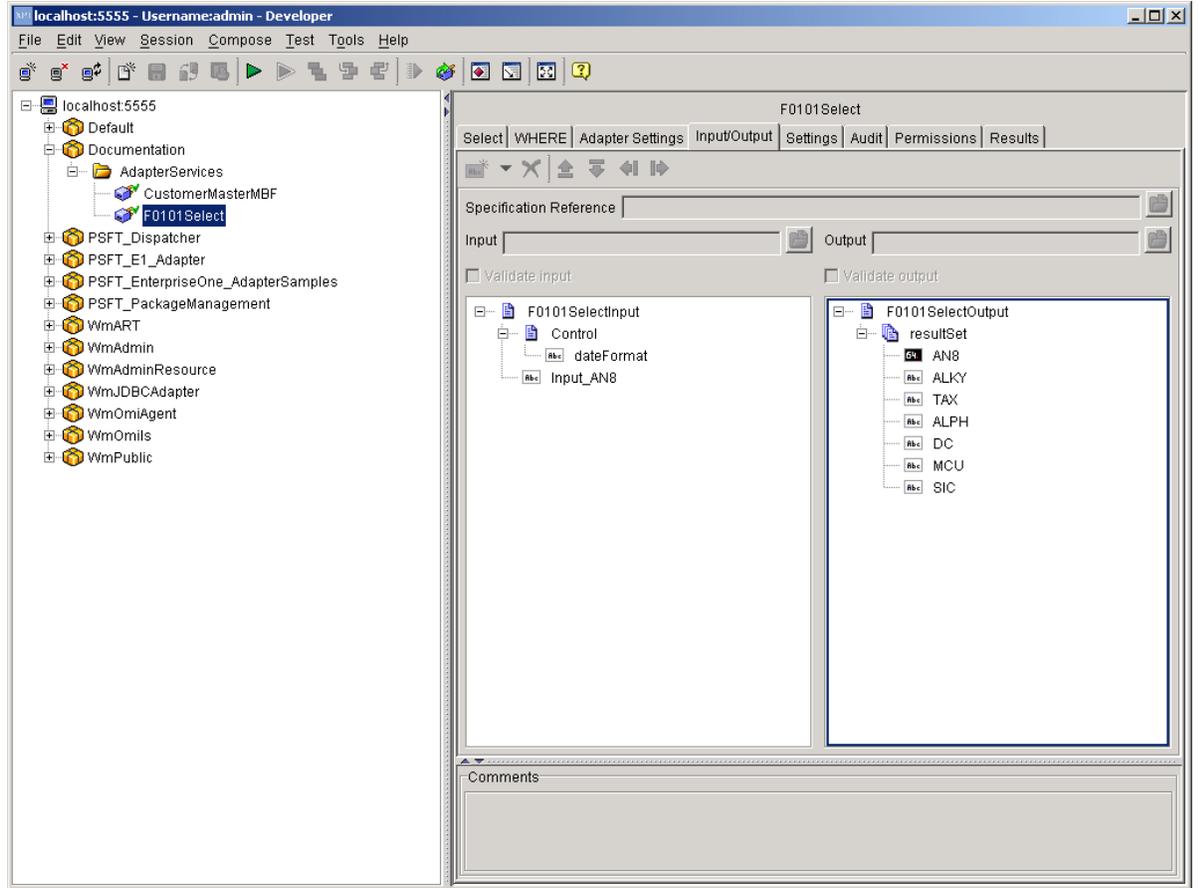
The stripTrailingBlanks parameter tells the adapter to strip trailing blanks from values returned in the result set. The default value for this parameter is False. Returned values that contain only blanks (spaces) will not be modified.

The overrideMaxRows parameter allows you to pass in an integer value to override the maximum number of rows that the adapter returns at runtime. If the adapter template is set at design time to return 10 rows, at runtime this value can be changed to 100, depending on the needs of the Flow. If this value is left blank or contains an invalid value, the default value that is set at design time will be used.

- Output

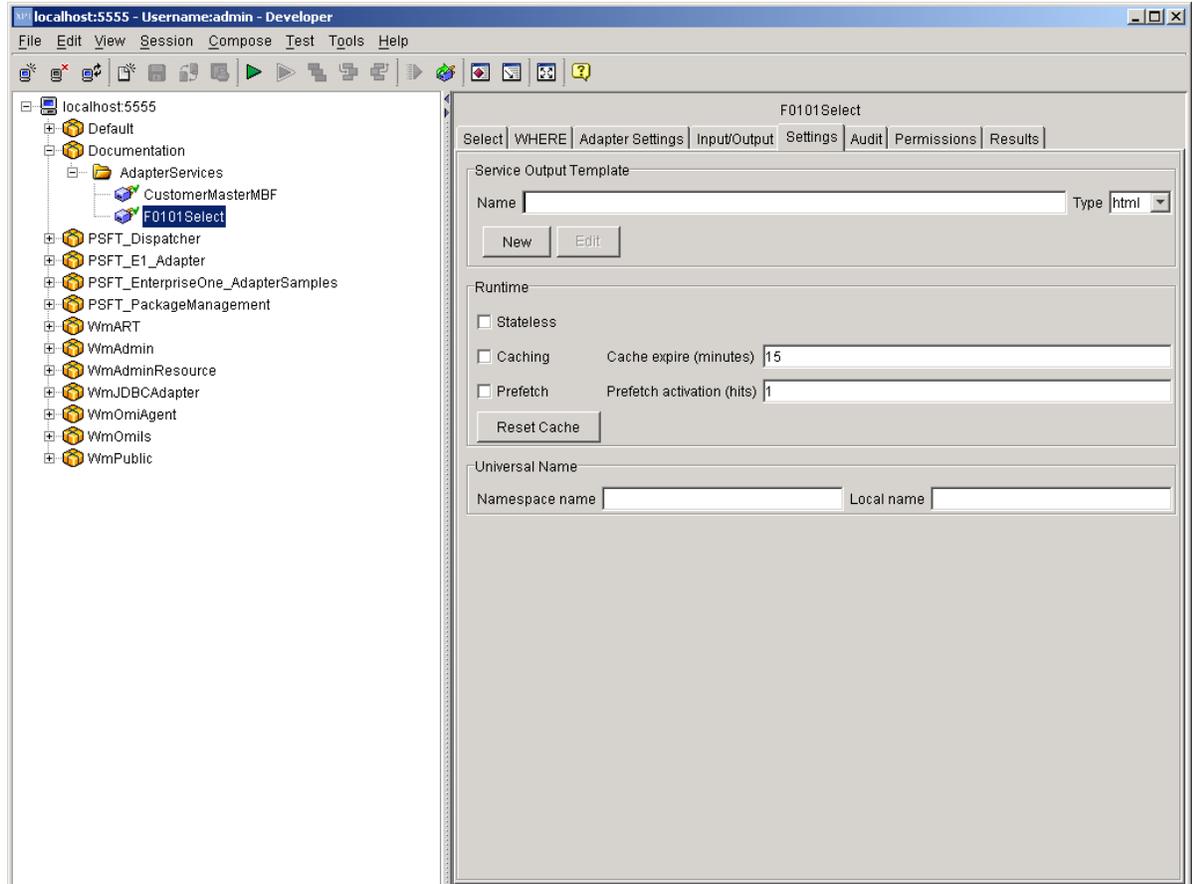
The output interface document for the adapter service. This contains a resultSet array that has fields for every column selected.

If an error occurs while executing the Select query, the adapter throws an exception into the Flow. This exception should be caught with a Try/Catch block.



Settings Tab

On the Settings tab, the system defines the template file associated with the selected service, assigns run-time parameters, and assigns a universal name. *This is currently not used by the EnterpriseOne adapter.*



Audit Tab

- Enable Service Auditing

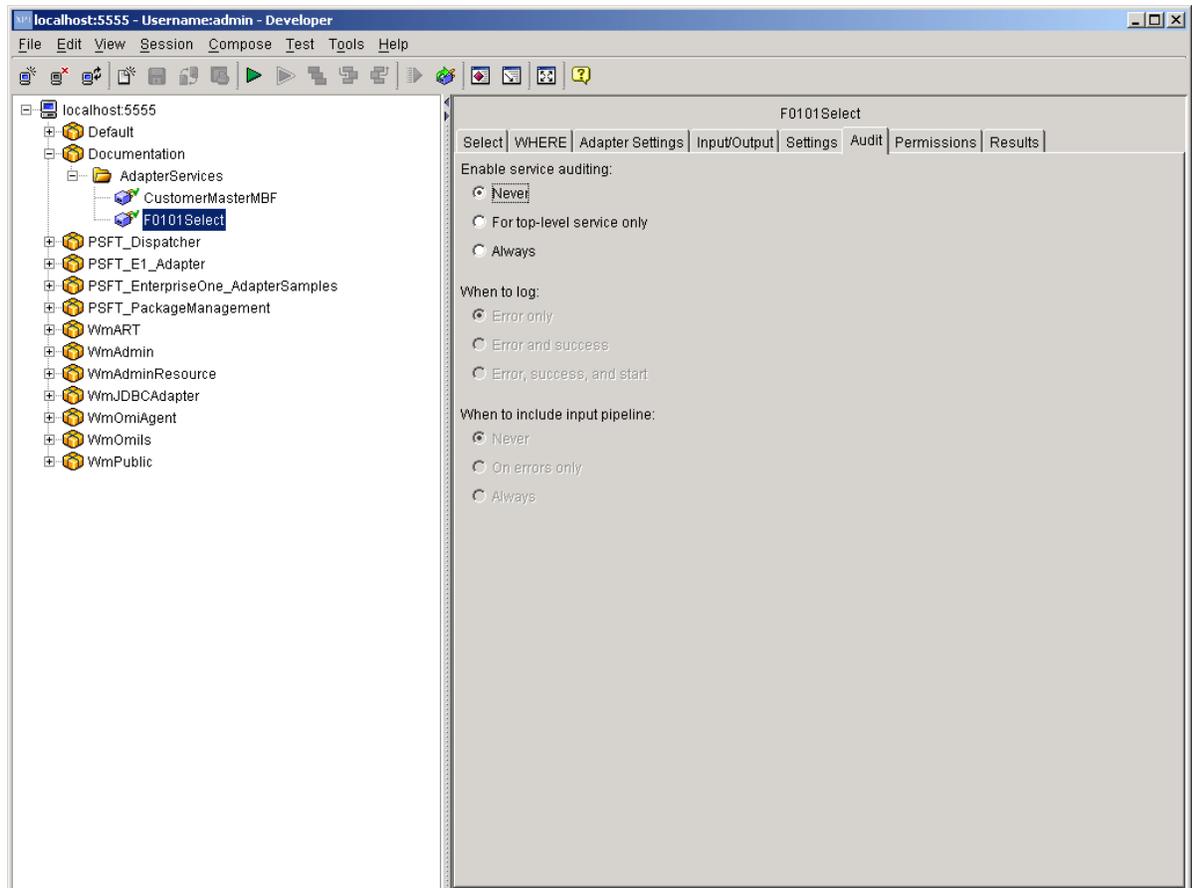
The Enable Service Auditing section defines how you want to audit. Values include: Never, For top-level service only, Always.

- When to log

This section defines when to log. Values include: Errors only, Error and Success, Error, Success and Start.

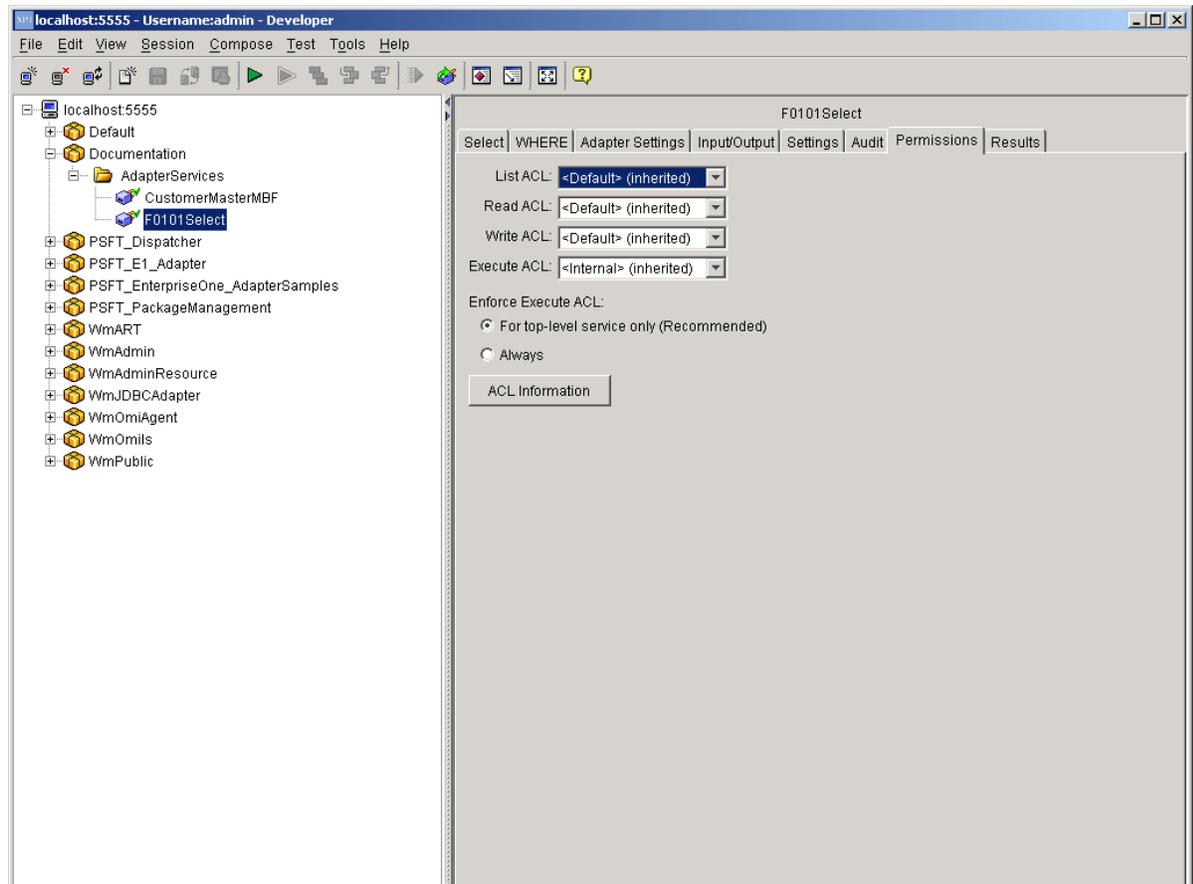
- When to include input pipeline

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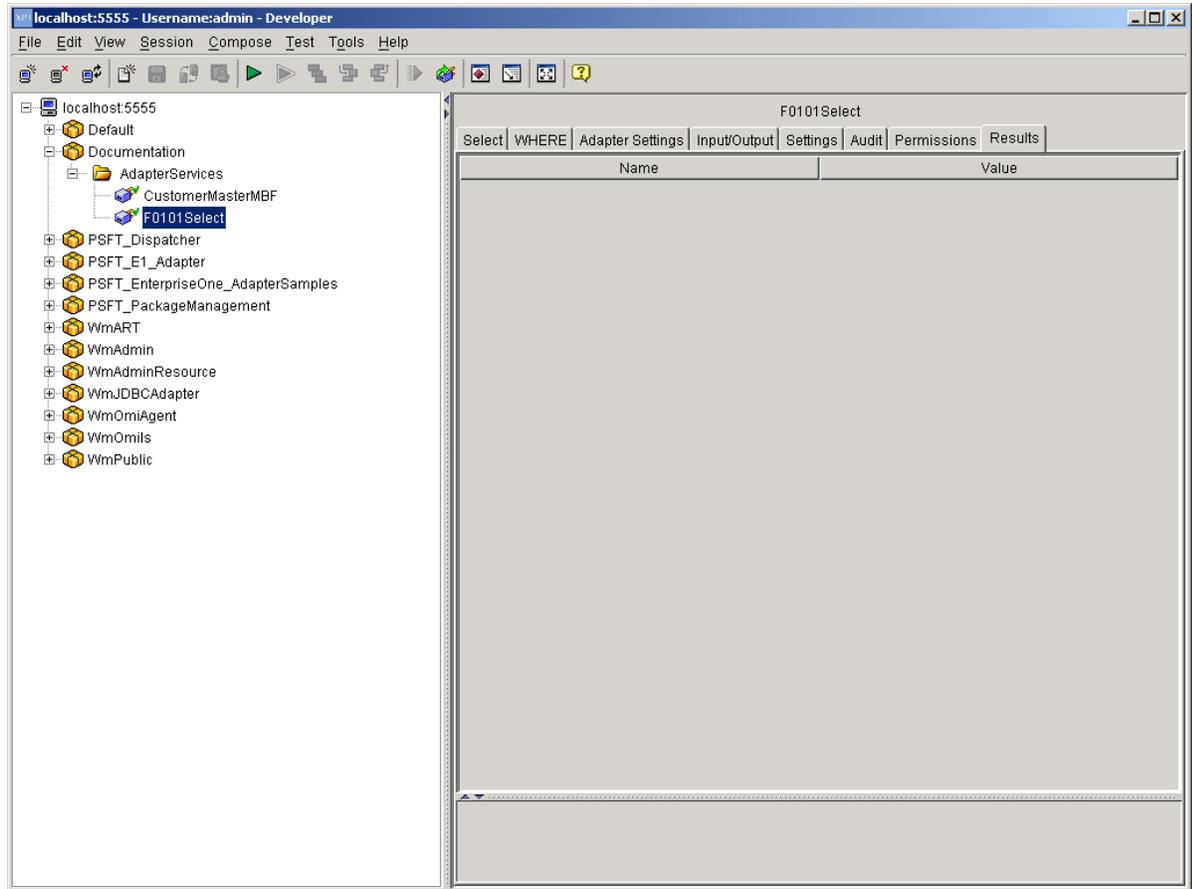
Permissions Tab

- **List ACL**
Users in the allowed list can see that the elements exist and view the elements metadata (input, output, and so on).
- **Read ACL**
Users in the allowed list can view the source code and metadata for the element.
- **Write ACL**
Users in the allowed list can lock, edit, rename, and delete the element.
- **Execute ACL**
Users in the allowed list can run the service.
- **Enforce Execute ACL**
This field's values include: For top-level service only, Always.
- **ACL Information**
Click to view the users and groups that compose the ACLs on the Integration Server to which you are connected. This information is read only. To edit ACLs, users, and groups, use the Integration Server Administrator.



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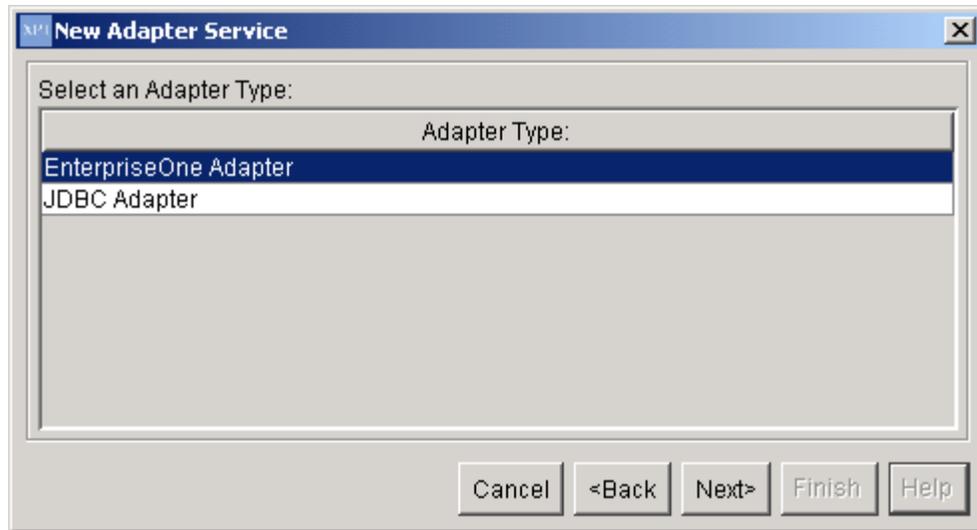


Insert Template

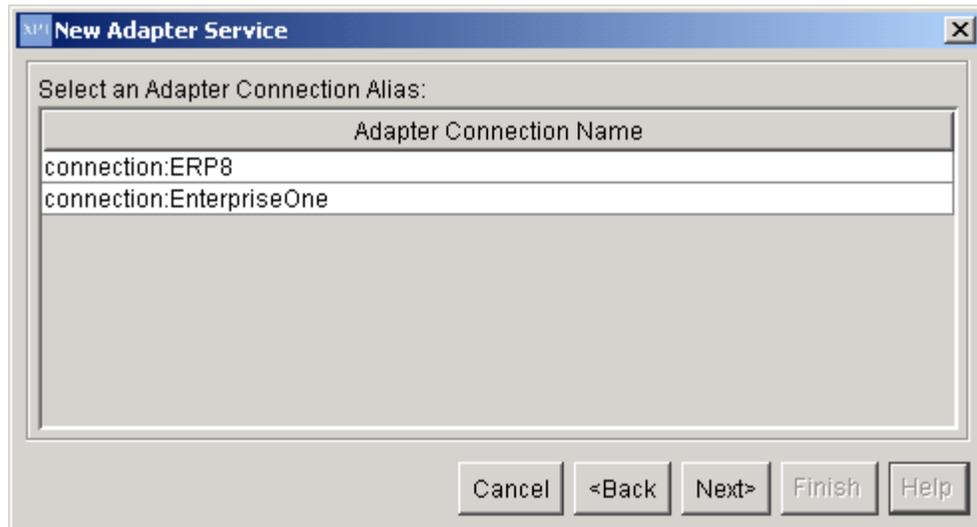
The Insert Template allows a user to execute an Insert database operation against select tables or business views in the EnterpriseOne database. Insert operations are limited to specified interface tables (Z tables) and F47 tables. The system performs all scrubbing operations (such as decimal shifting, date conversion, and so on) before the data is returned to you. Each adapter service is a one-to-one mapping to a configured insert operation.

► To create an Adapter Service

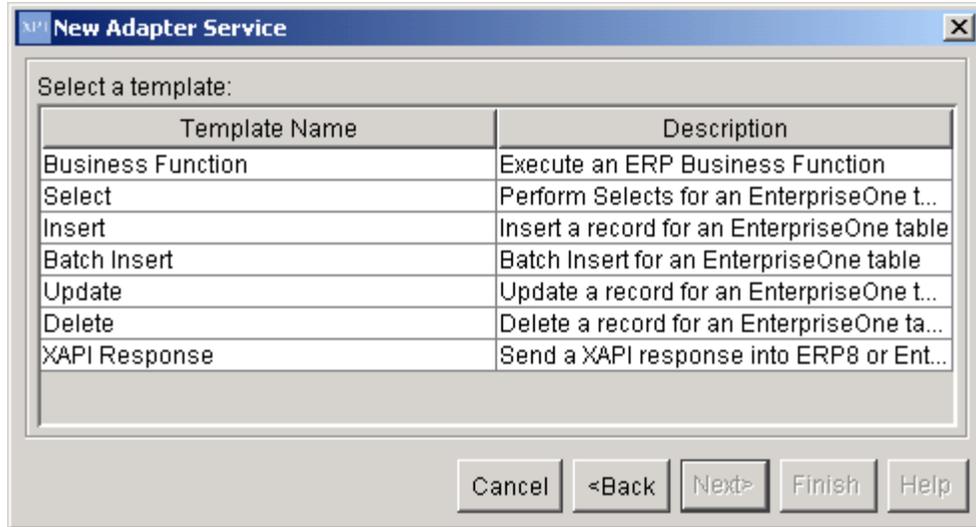
1. From the File menu, select New, and then Adapter Service.
2. Click Next.



3. Select EnterpriseOne Adapter, and then click Next.



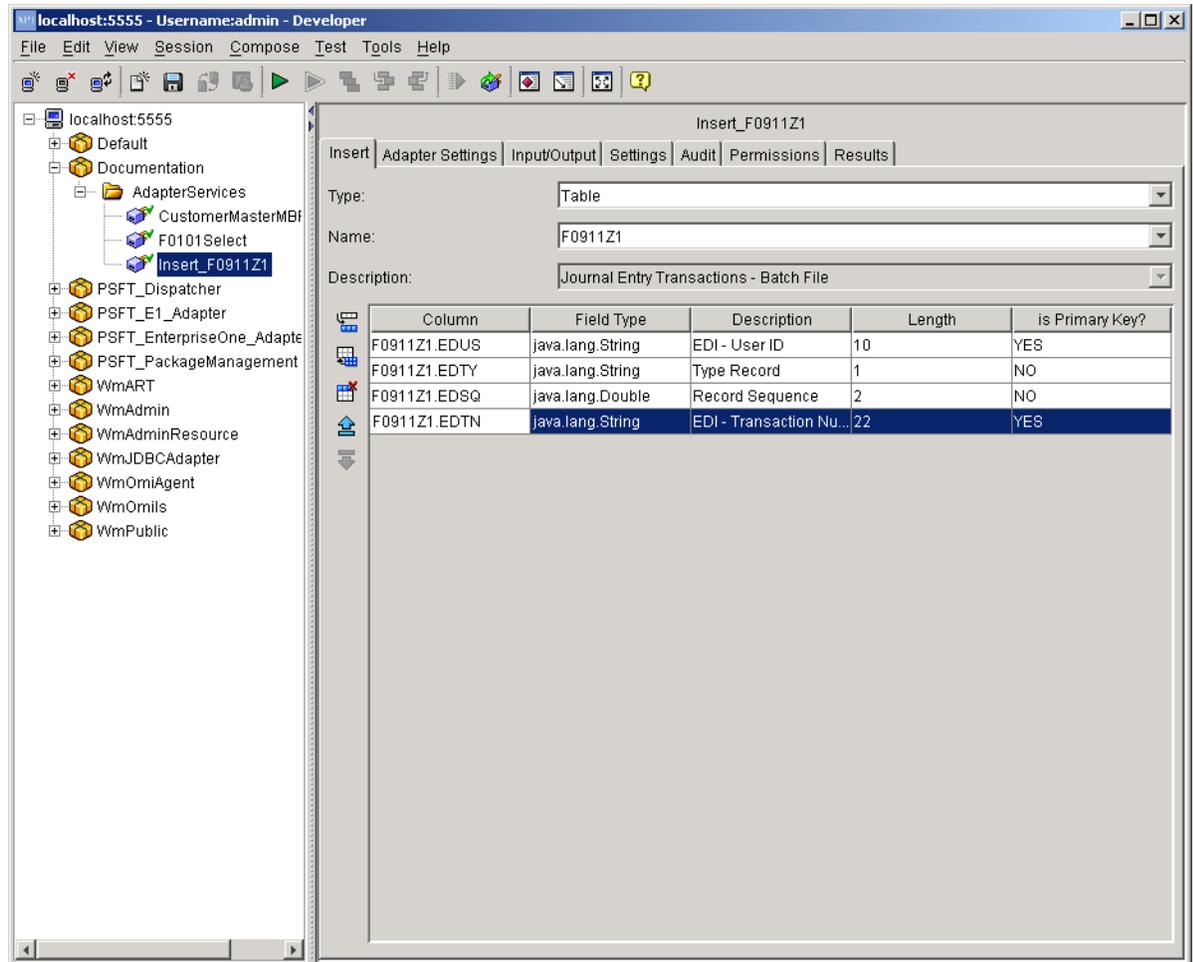
4. On New Adapter Service, select EnterpriseOne, and then click Next.



5. Select the Insert template, and then click Next.
6. Name your Adapter Service following the naming standards in the *EnterpriseOne XPI 8.94 PeopleBook: Integration Development Methodology*.
7. Place the Adapter Service in an Adapter Services package, and then click Finish.
8. Select the newly created Adapter Service.

The following information appears in the right pane under the Insert tab:

| EnterpriseOne Connection | Description |
|---|--|
| Type | Whether the Insert operation will run against a table or a business view |
| Name | The name of the table or business view. |
| Description | A non-editable field that contains the description of the selected table of business view. |
| Note: The table or business view column information appears below the Description field. | |



9. Click the drop-down menu in each of the following fields and select the appropriate values for each:

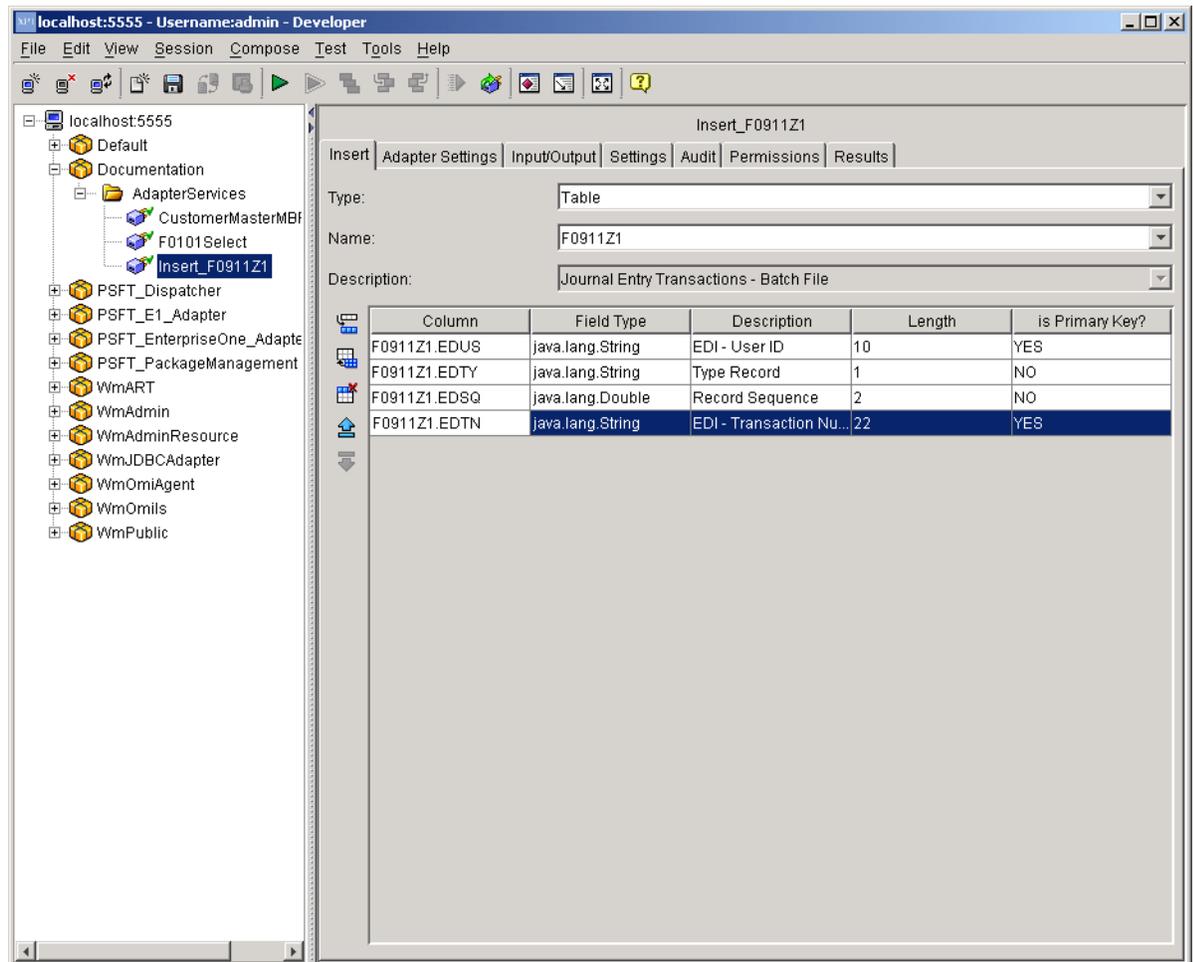
16. Type

17. Name

10. Under the Column information area, select one value at a time or select all.

For any row that has a Field Type other than String, you may select the Field Type box and select either the default data type (such as Double, Date, and so on) and change it to a String. This changes the data type of the input field for this row.

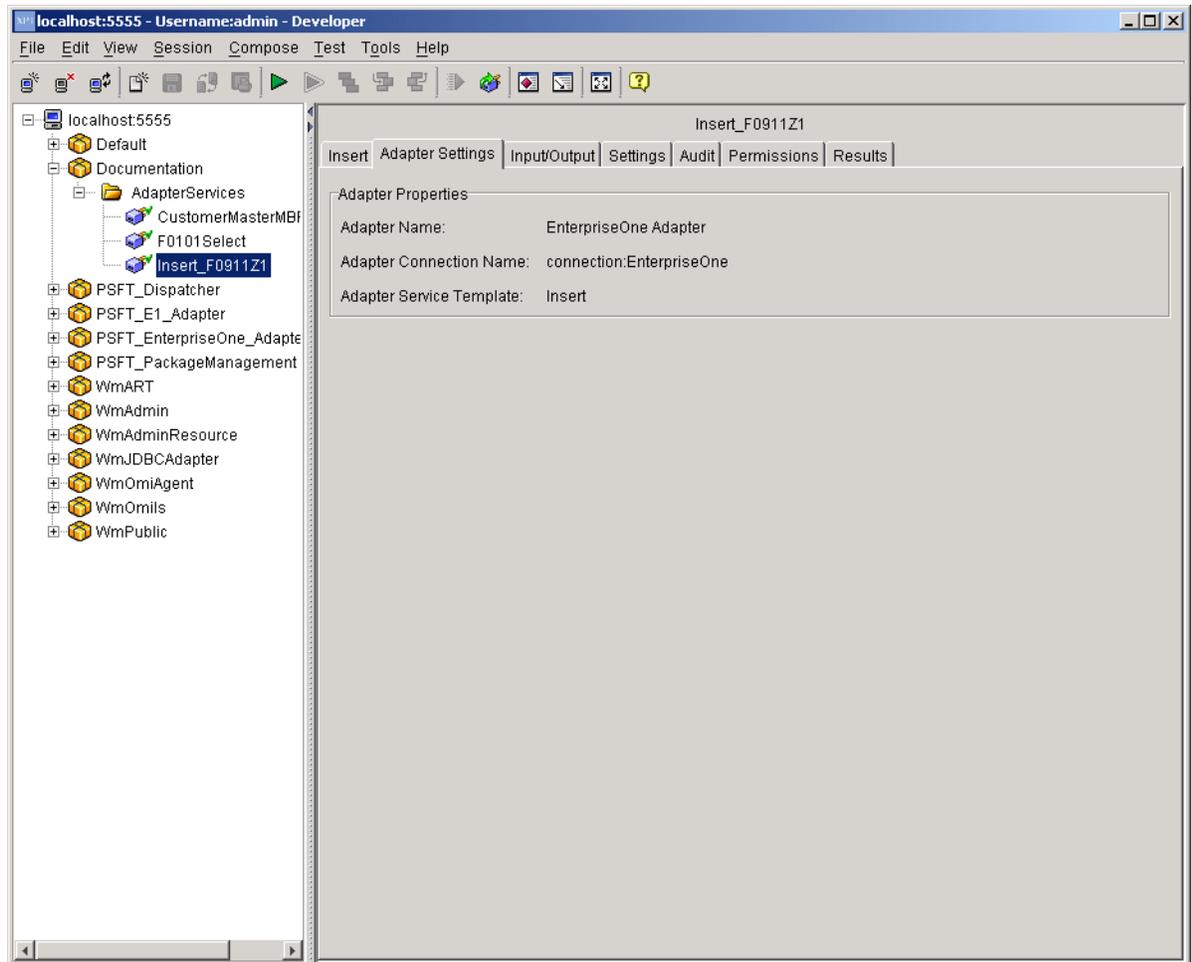
Your finished adapter service should look like the following example:



11. Save the Adapter Service.
12. Review the information that appears on the following tabs:

Adapter Settings Tab

- Adapter Name
The name of the adapter.
- Adapter Connection Name
The name of the connection specified when the adapter service was created.
- Adapter Service Template
The name for the adapter template used to create the adapter service.



Input/Output Tab

- Input

The input interface document for the adapter service. This document contains fields for all the selected columns. Each input document field will be titled the same as the selected column.

Part of the input is a Control structure that contains one parameter - dateFormat. This parameter tells the adapter how to format String values into dates. The default format for dates is: MM/dd/yyyy. Where MM = months, dd = days, yyyy = years.

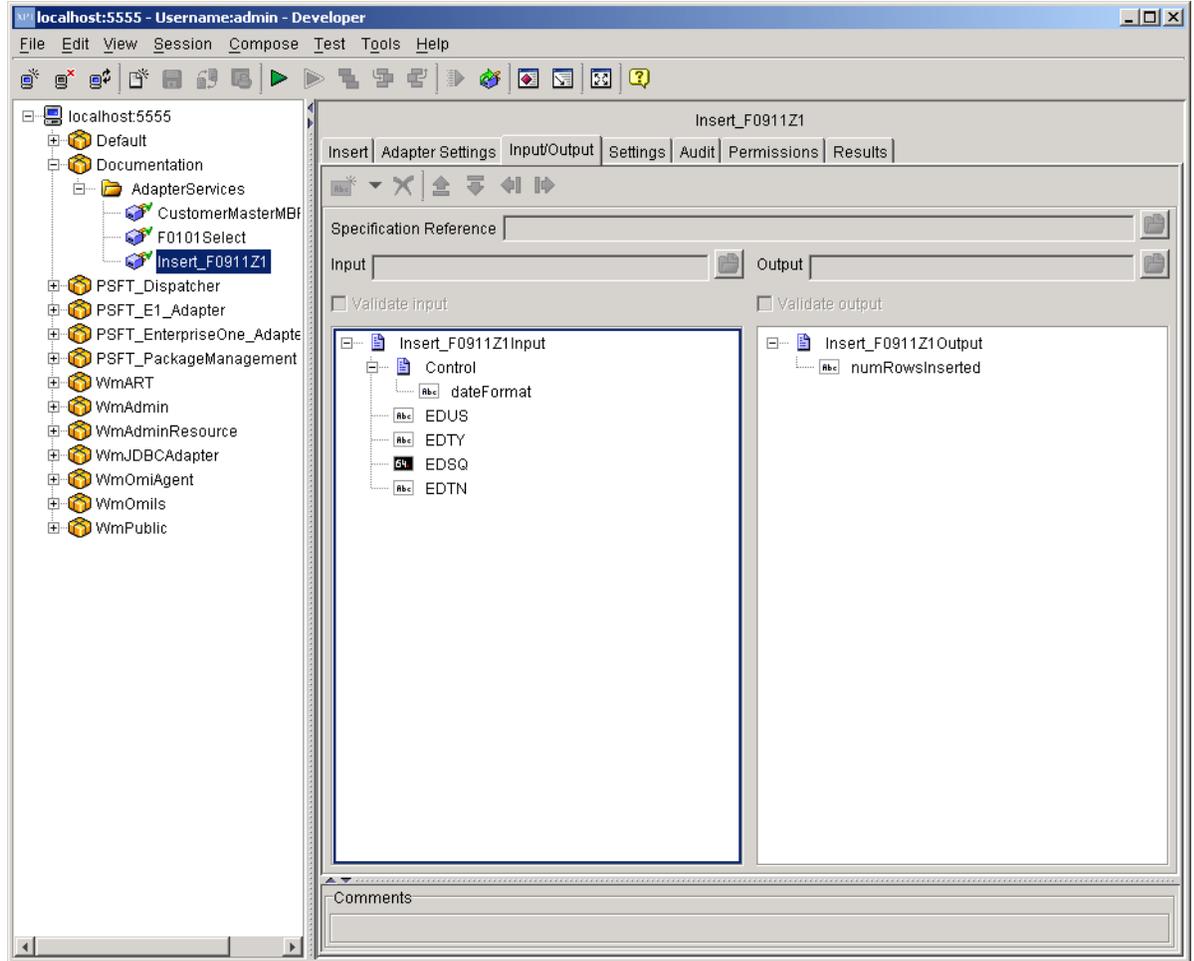
Note

The case of this format is important. MM/dd/yyyy does not equal mm/dd/yyyy and does not equal MM/DD/YYYY.

- Output

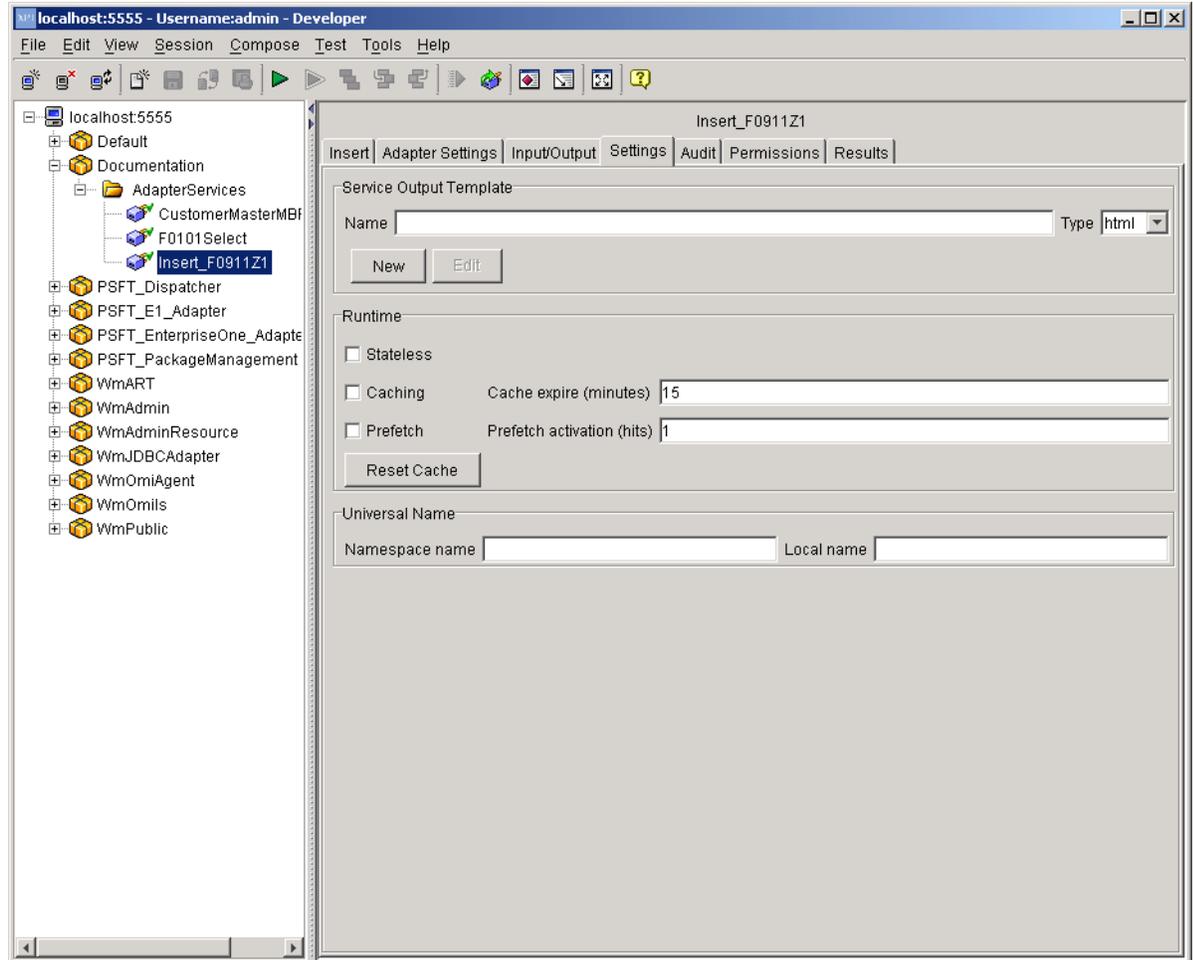
The output interface document for the adapter service. The output document contains a single field titled numRowsInserted, which returns the number of rows inserted. For the Insert template, this value is always one (1) when the insert operation completes successfully.

If an error occurs while executing the Insert operation, the adapter throws an exception into the Flow. This exception should be caught with a Try/Catch block.



Settings Tab

On the Settings tab, the system defines the template file associated with the selected service, assigns run-time parameters, and assigns a universal name. *This is currently not used by the EnterpriseOne adapter.*



Audit Tab

- Enable Service Auditing

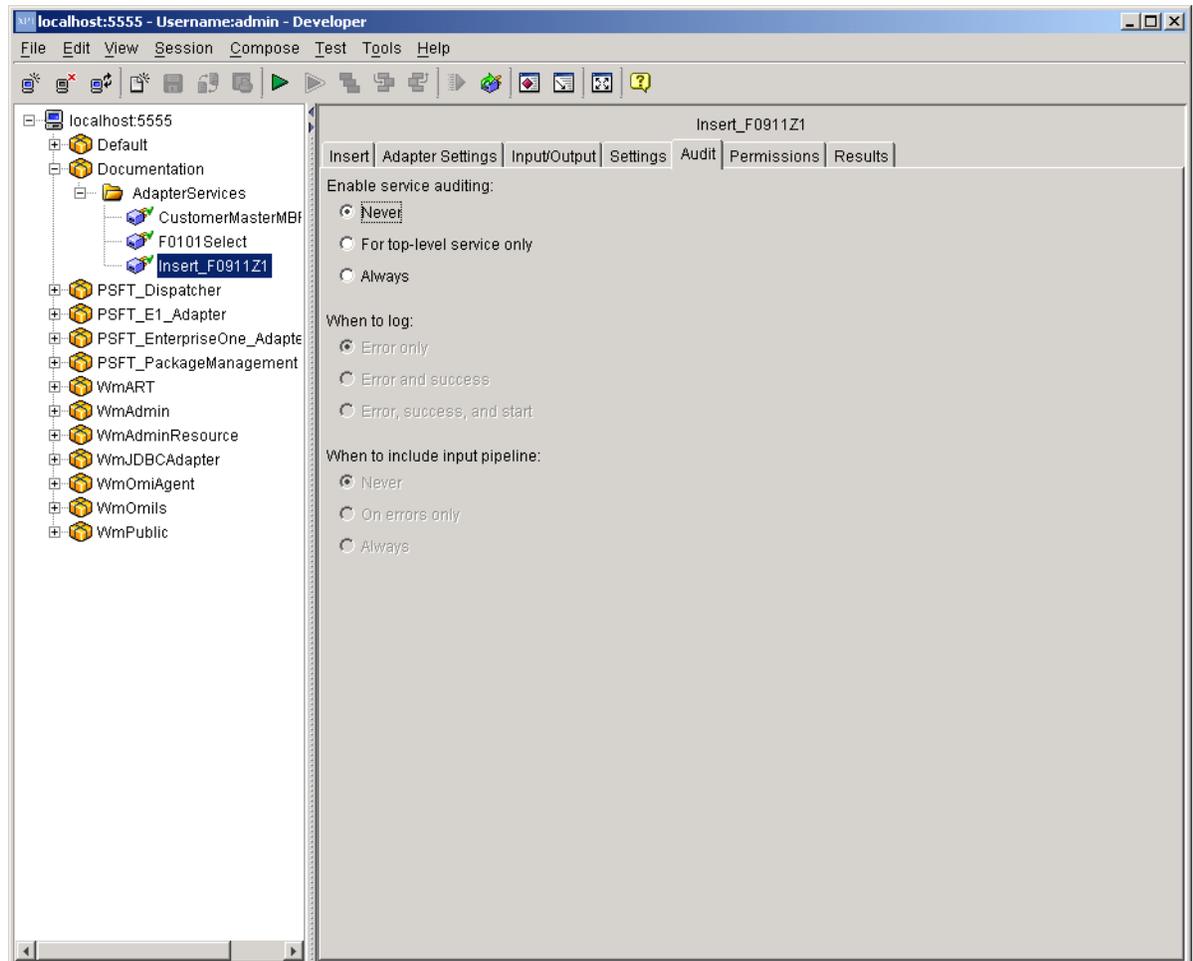
The Enable Service Auditing section defines how you want to audit. Values include: Never, For top-level service only, Always.

- When to log

This section defines when to log. Values include: Errors only, Error and Success, Error, Success and Start.

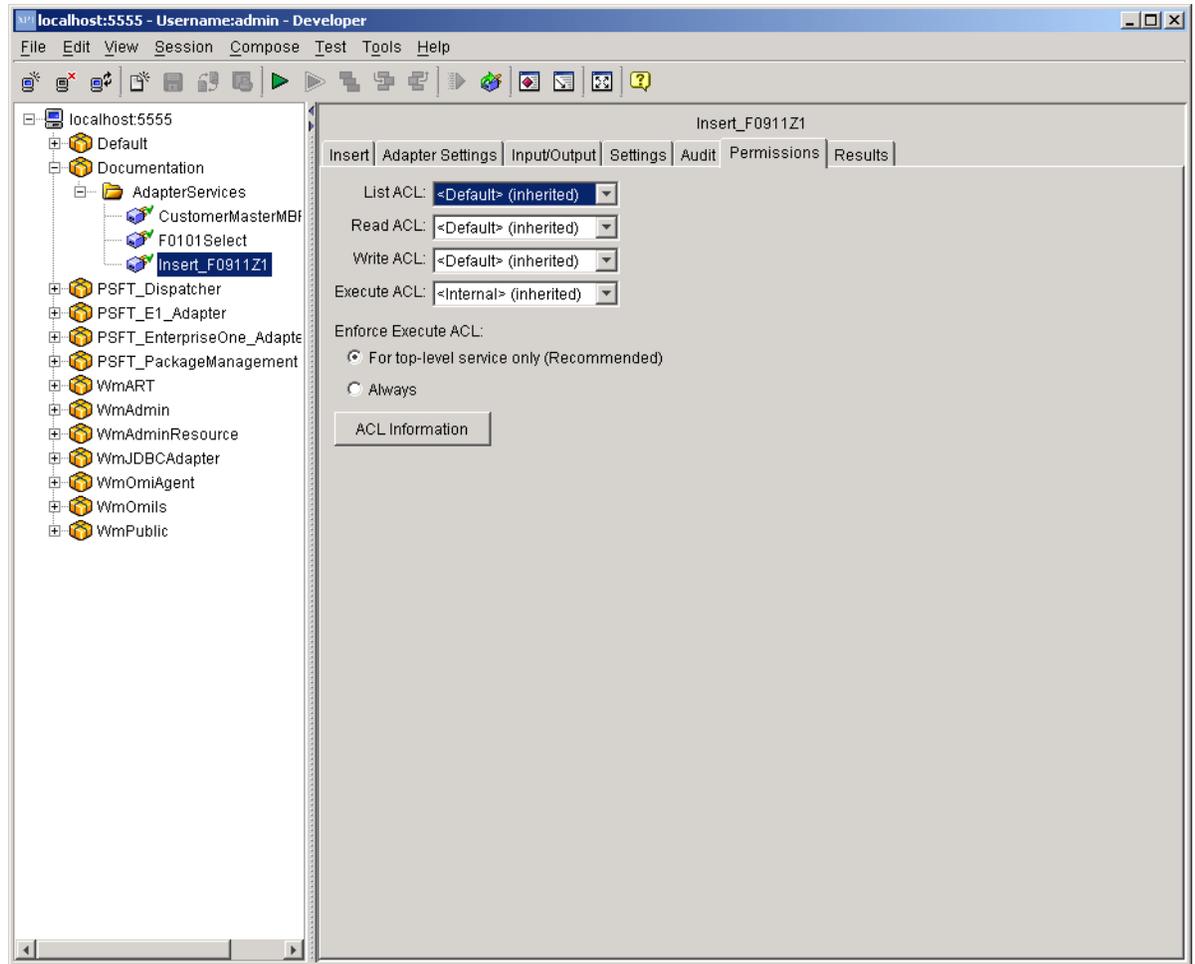
- When to include input pipeline

This section defines when to include the pipeline in the log. Values include: Never, On errors only, Always.



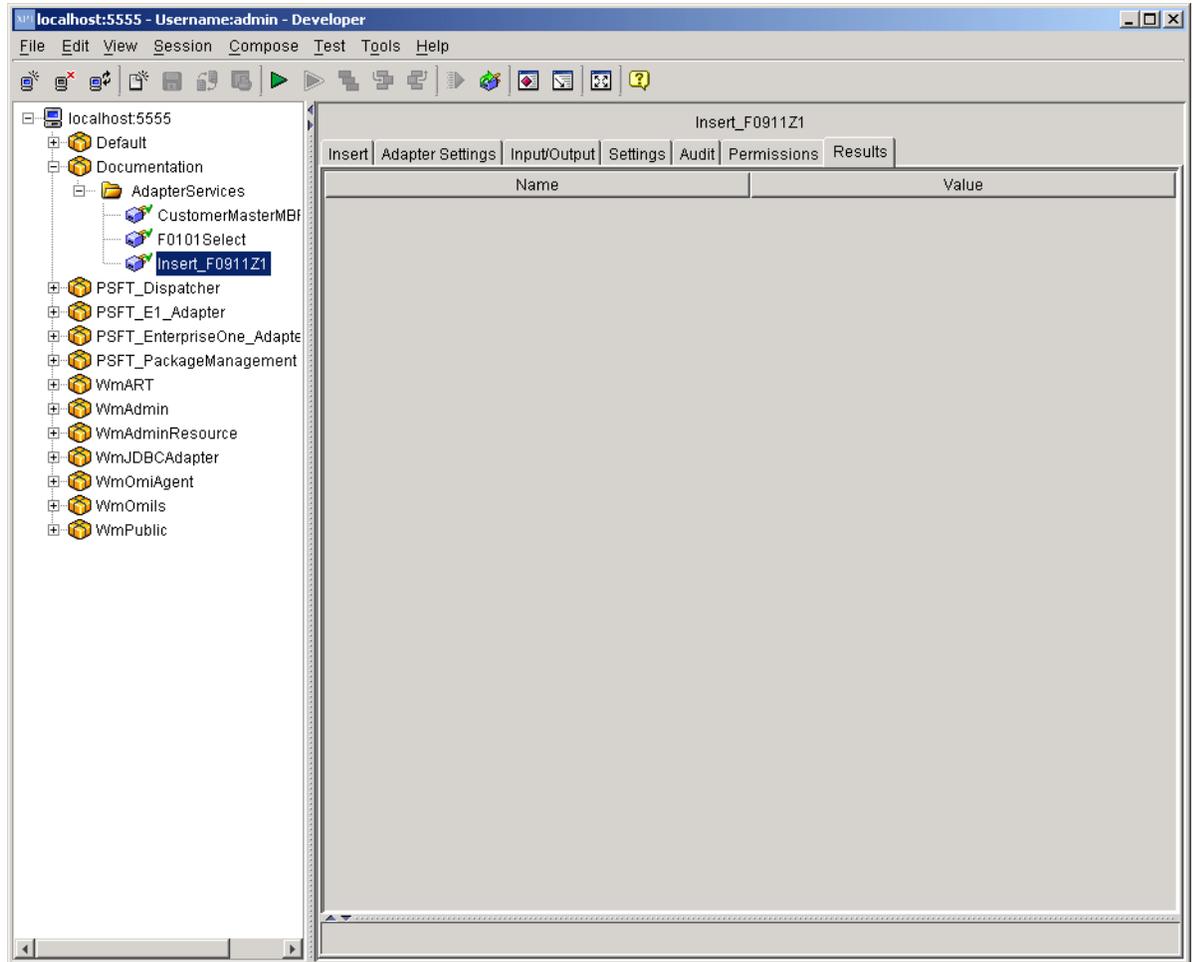
Permissions Tab

- **List ACL**
Users in the allowed list can see that the elements exist and view the metadata (input, output, and so on) for the elements.
- **Read ACL**
Users in the allowed list can view the source code and metadata for the element.
- **Write ACL**
Users in the allowed list can lock, edit, rename, and delete the element.
- **Execute ACL**
Users in the allowed list can run the service.
- **Enforce Execute ACL**
This field's values include: For top-level Service only, Always.
- **ACL Information**
Click to view the users and groups that compose the ACLs on the Integration Server to which you are connected. This information is read only. To edit ACLs, users, and groups, use the Integration Server Administrator.



Results Tab

When testing and debugging in the XPI Integration Developer tool, the results of the service appear in this tab.

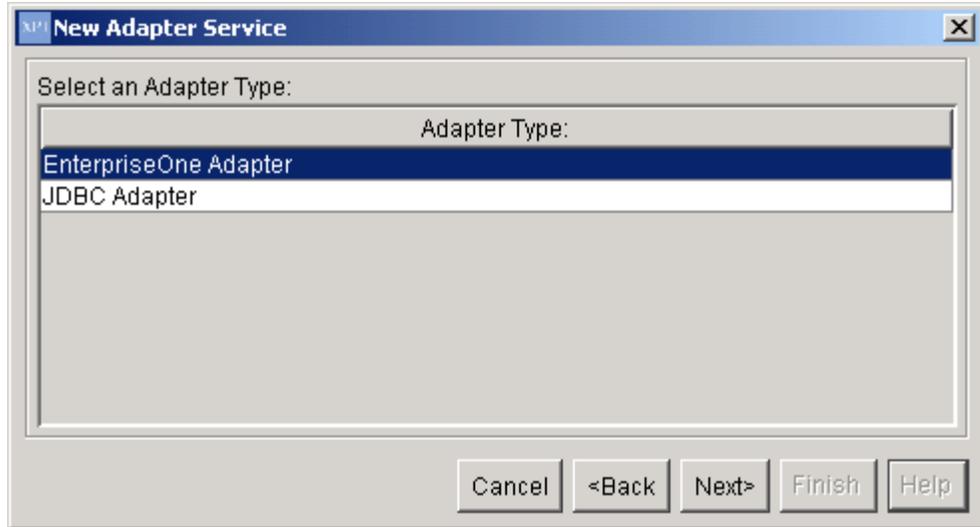


Batch Insert Template

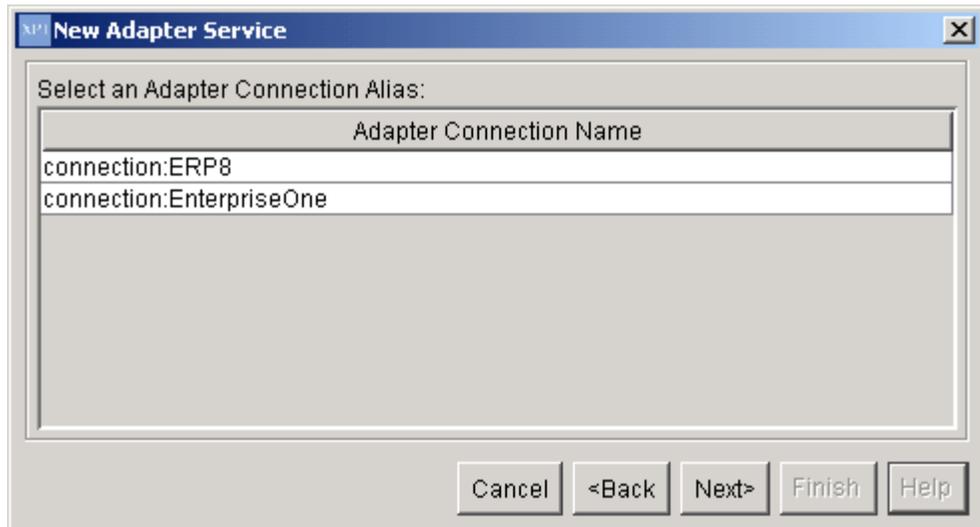
The Batch Insert Template allows a user to execute a Batch Insert database operation against select tables or business views in the EnterpriseOne database. Batch Insert operations are limited to specified interface tables (Z tables) and F47 tables. The system performs all scrubbing operations (such as decimal shifting, date conversion, and so on) before the data is returned to you. Each adapter service is a one-to-one mapping to a configured batch insert operation.

► To create an Adapter Service

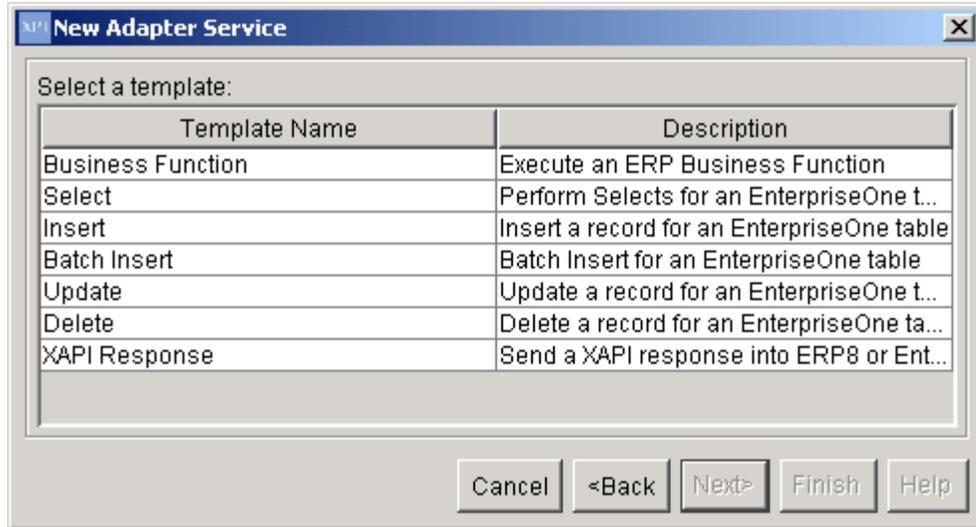
1. From the File menu, select New, and then Adapter Service.
2. Click Next.



3. Select EnterpriseOne Adapter, and then click Next.



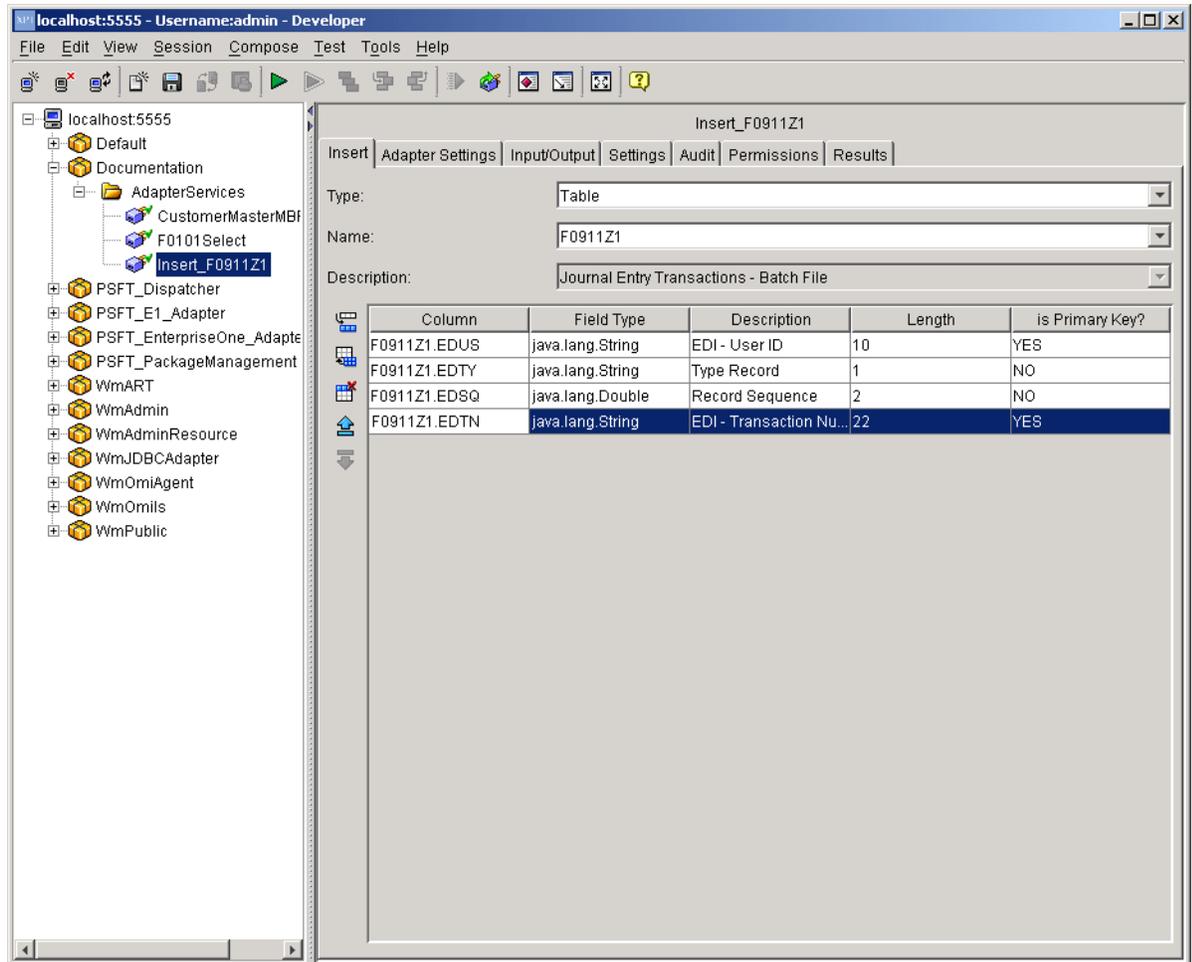
4. On New Adapter Service, select EnterpriseOne, and then click Next.



5. Select the Batch Insert template, and then click Next.
6. Name your Adapter Service following the naming standards in the *EnterpriseOne XPI 8.94 PeopleBook: Integration Development Methodology*.
7. Place the Adapter Service in an Adapter Services package, and then click Finish.
8. Select the newly created Adapter Service.

The following information appears in the right pane under the Batch Insert tab:

| EnterpriseOne Connection | Description |
|---|--|
| Type | Whether the Batch Insert operation runs against a table or a business view |
| Name | The name of the table or business view. |
| Description | A non-editable field that contains the description of the selected table or business view. |
| Note: The table or business view column information appears below the Description field. | |



9. Click the drop-down menu in each of the following fields and select the appropriate values for each:

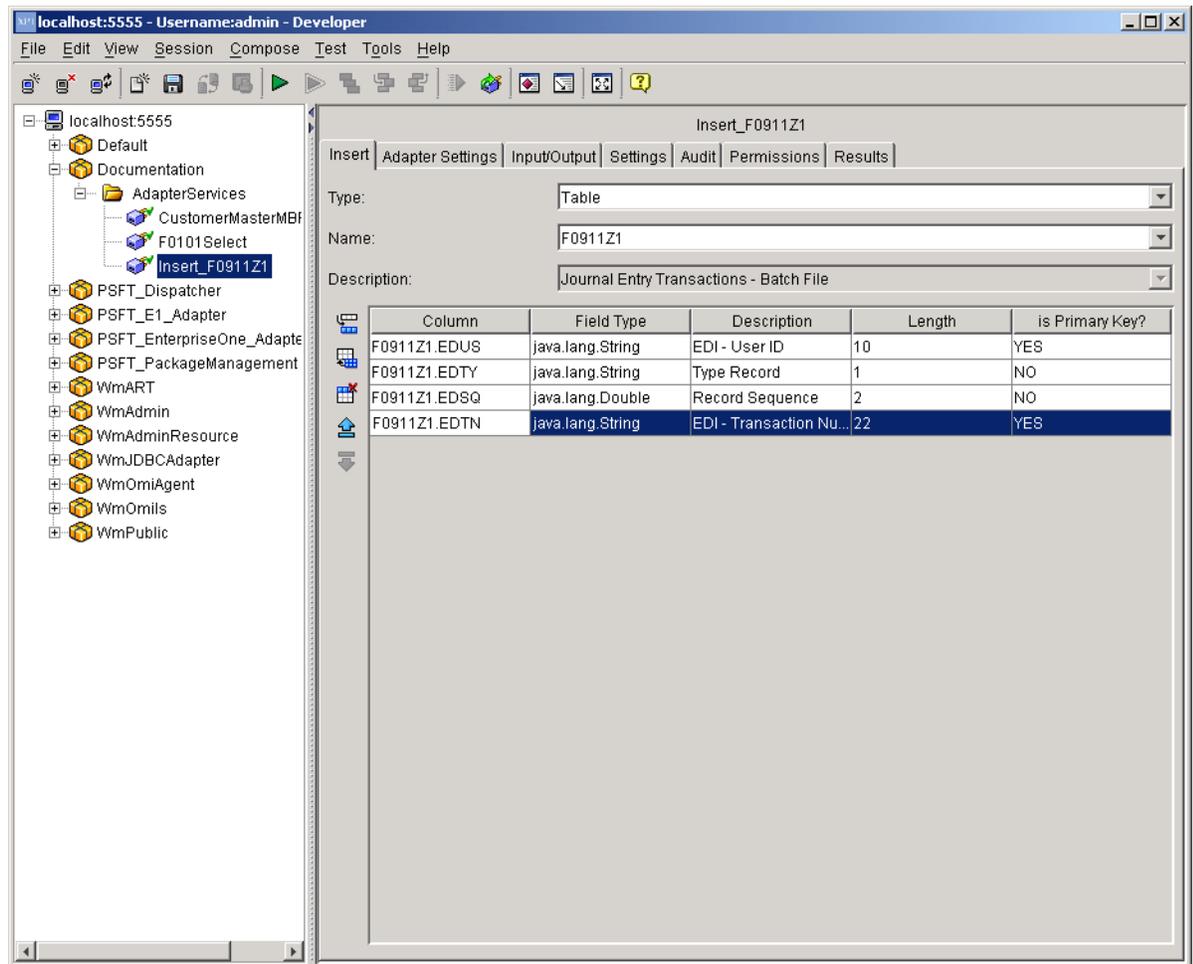
18. Type

19. Name

10. Under the Column information area, select one value at a time or select all.

For any row that has a Field Type other than String, you may select the Field Type box and select either the default data type (such as Double, Date, and so on) and change it to a String. This changes the data type of the input field for this row.

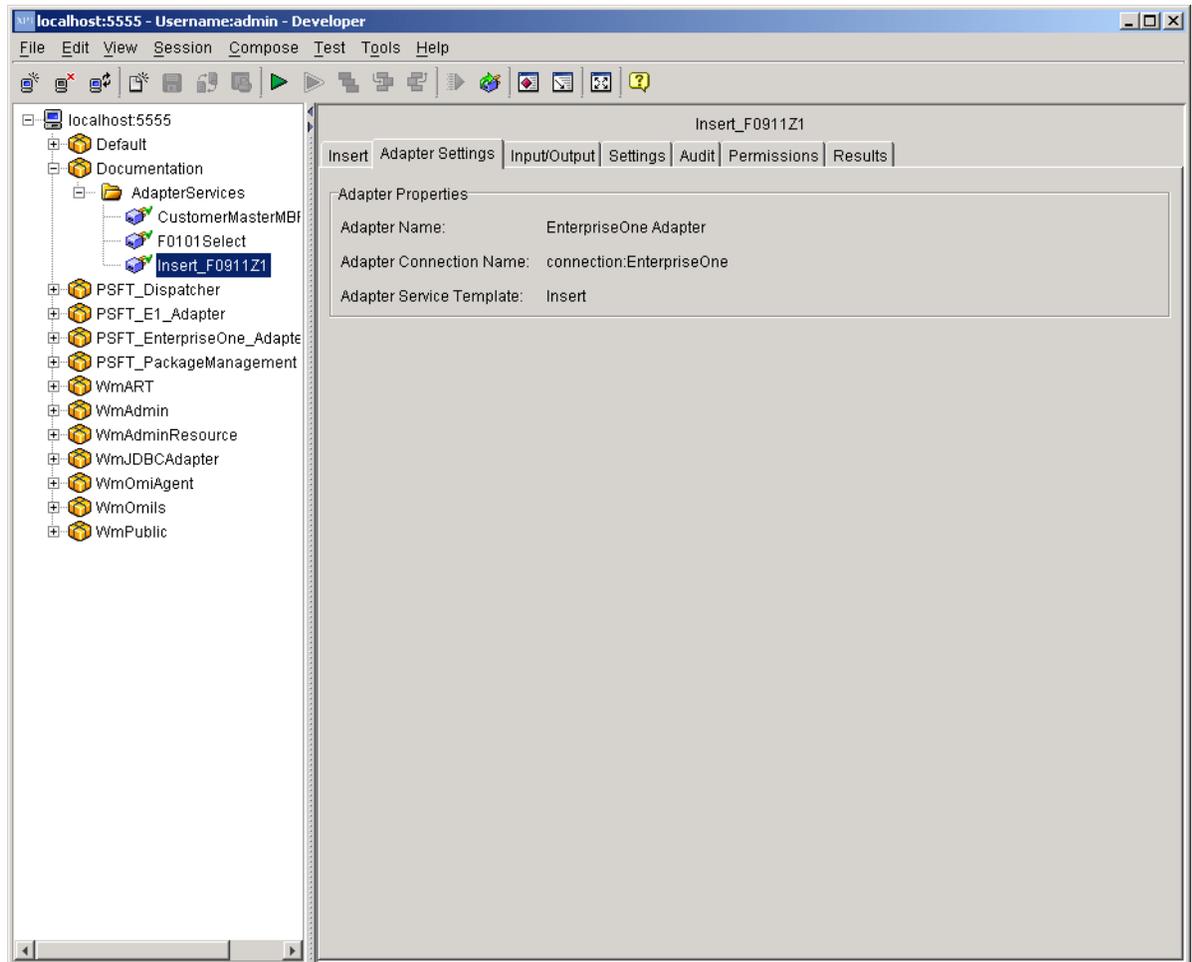
Your finished adapter service should look like the following example:



11. Save the Adapter Service.
12. Review the information that appears on the following tabs:

Adapter Settings Tab

- Adapter Name
The name of the adapter.
- Adapter Connection Name
The name of the connection specified when the adapter service was created.
- Adapter Service Template
The name for the adapter template used to create the adapter service.



Input/Output Tab

- Input

The input interface document for the adapter service. This document contains fields for all of the selected columns. Each input document field is titled the same as the selected column.

Part of the input is a Control structure that contains one parameter, `dateFormat`. This parameter tells the adapter how to format String values into dates. The default format for dates is: `MM/dd/yyyy`. Where `MM` = months, `dd` = days, `yyyy` = years.

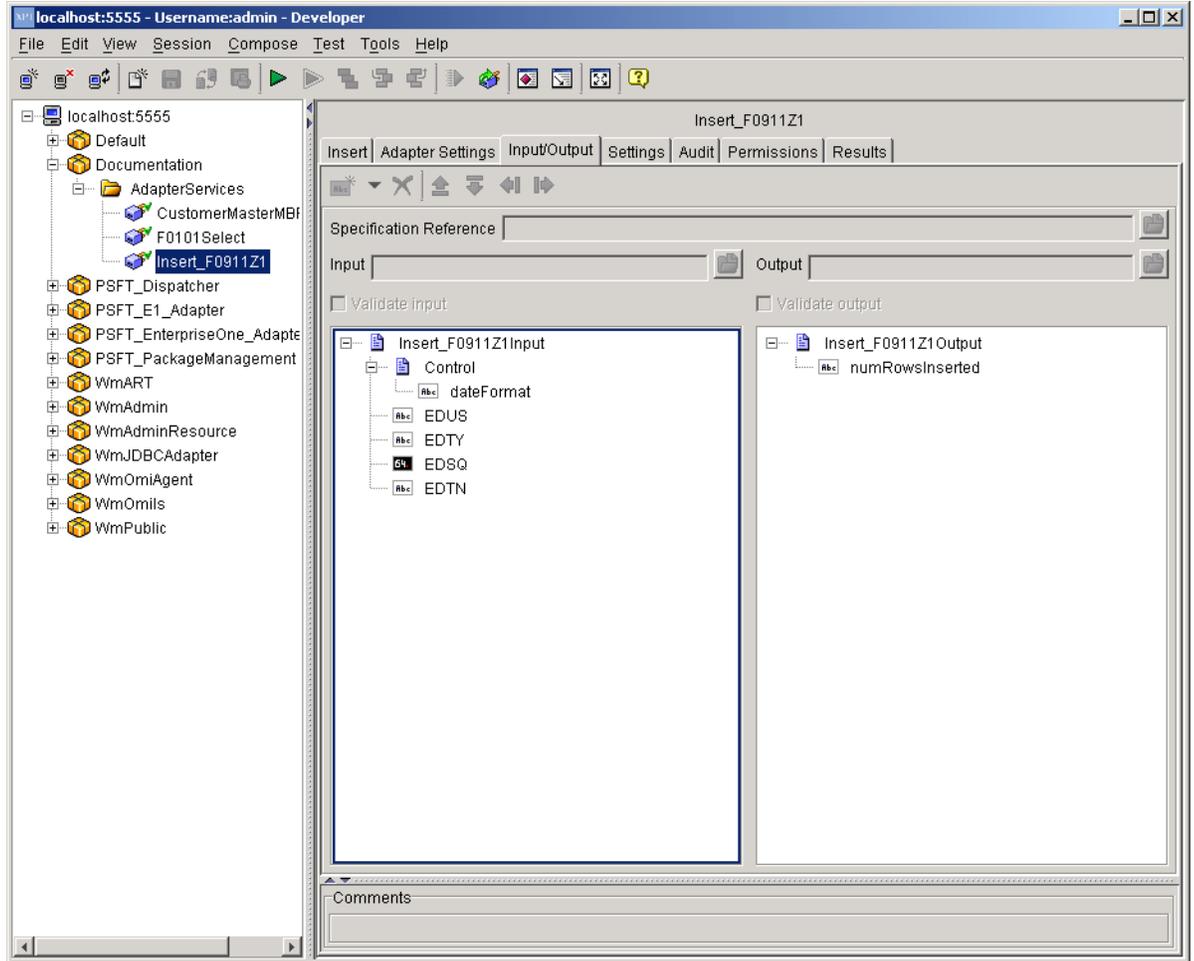
Note

The case of this format is important. `MM/dd/yyyy` does not equal `mm/dd/yyyy` and does not equal `MM/DD/YYYY`.

- Output

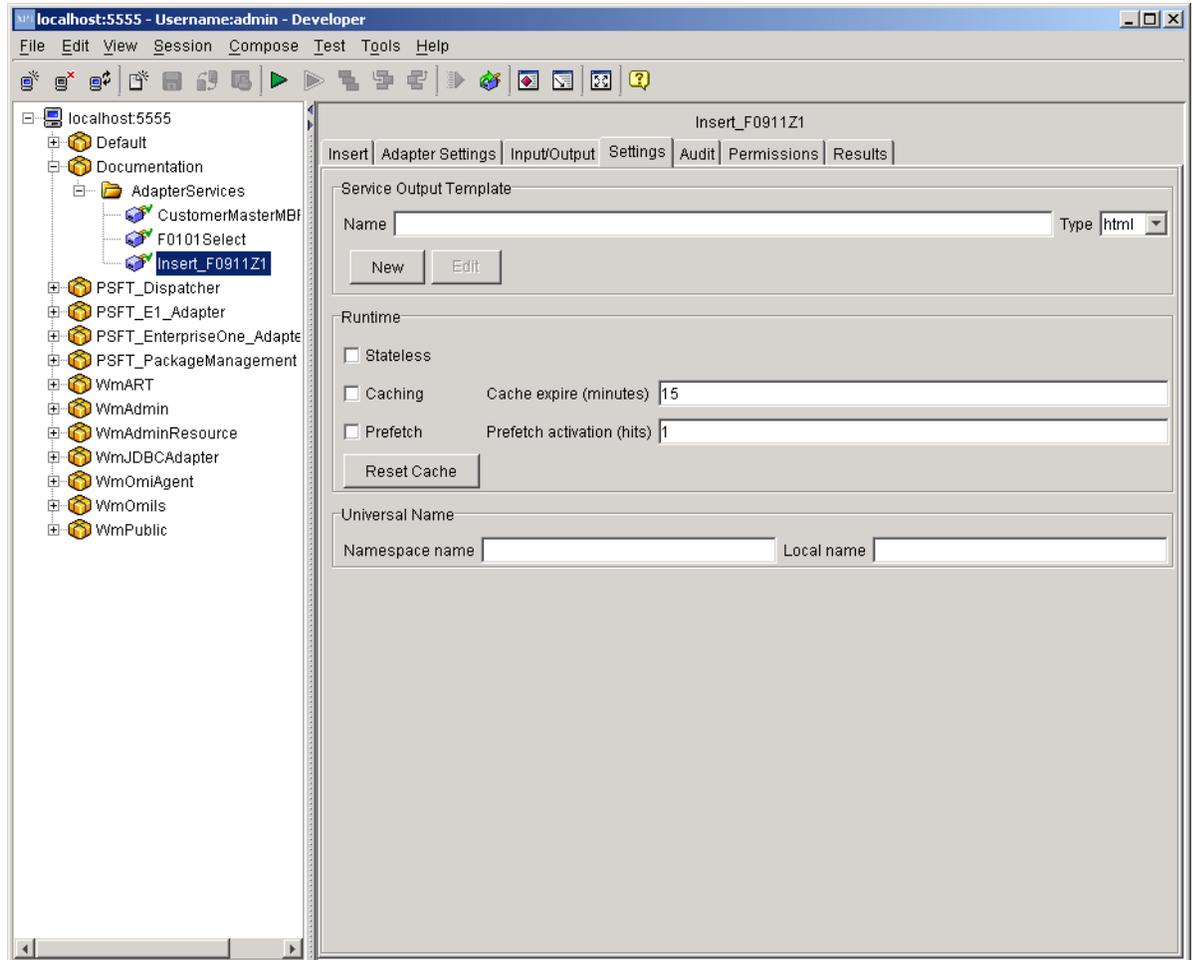
The output interface document for the adapter service. The output document contains a single field, `numRowsInserted`, that returns the number of rows inserted.

If an error occurs while executing the Insert operation, the adapter throws an exception into the Flow. This exception should be caught with a Try/Catch block.



Settings Tab

On the Settings tab, the system defines the template file associated with the selected service, assigns run time parameters, and assigns a universal name. *This is currently not used by the EnterpriseOne adapter.*



Audit Tab

- Enable Service Auditing

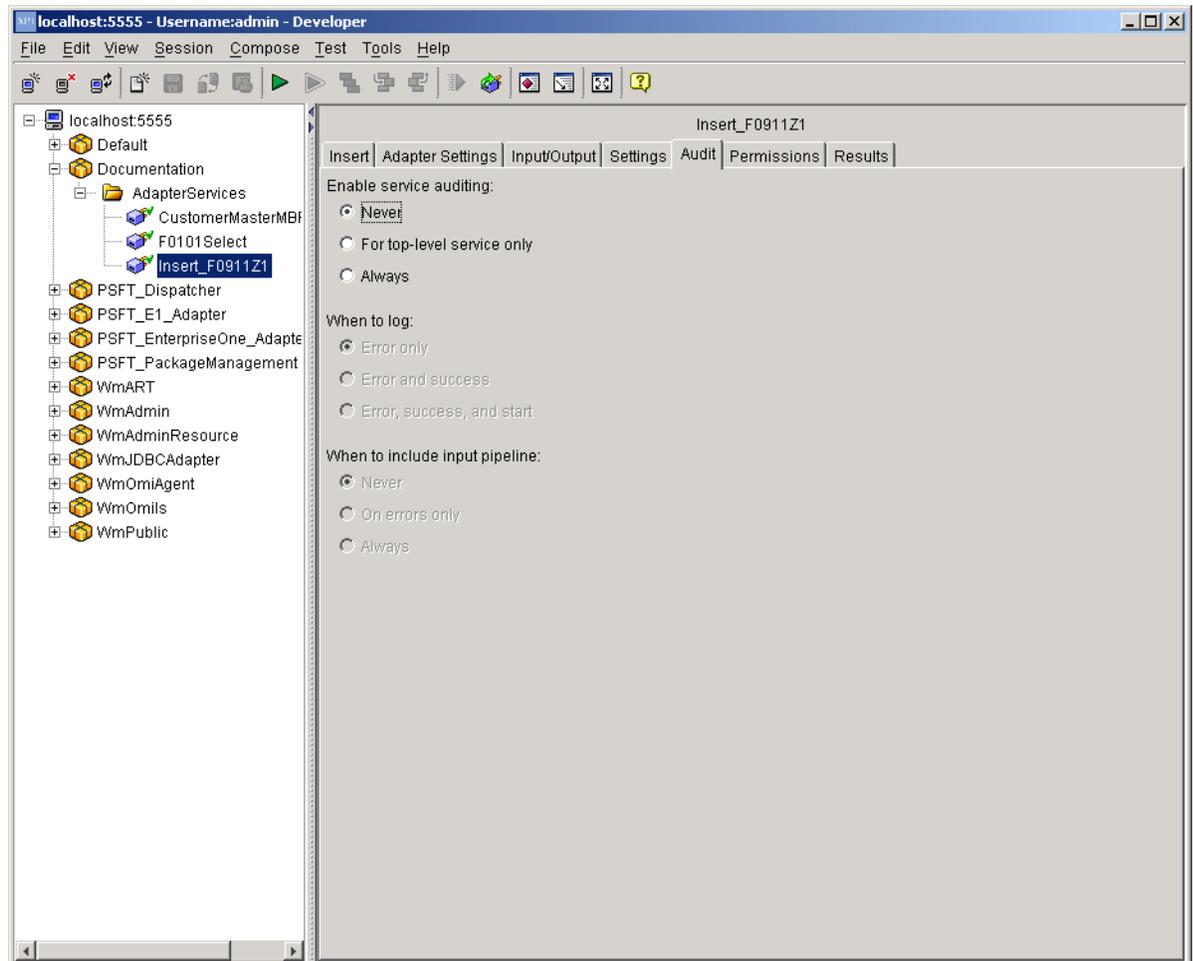
The Enable Service Auditing section defines how you want to audit. Values include: Never, For top-level service only, Always.

- When to log

This section defines when to log. Values include: Errors only, Error and Success, Error, Success and Start.

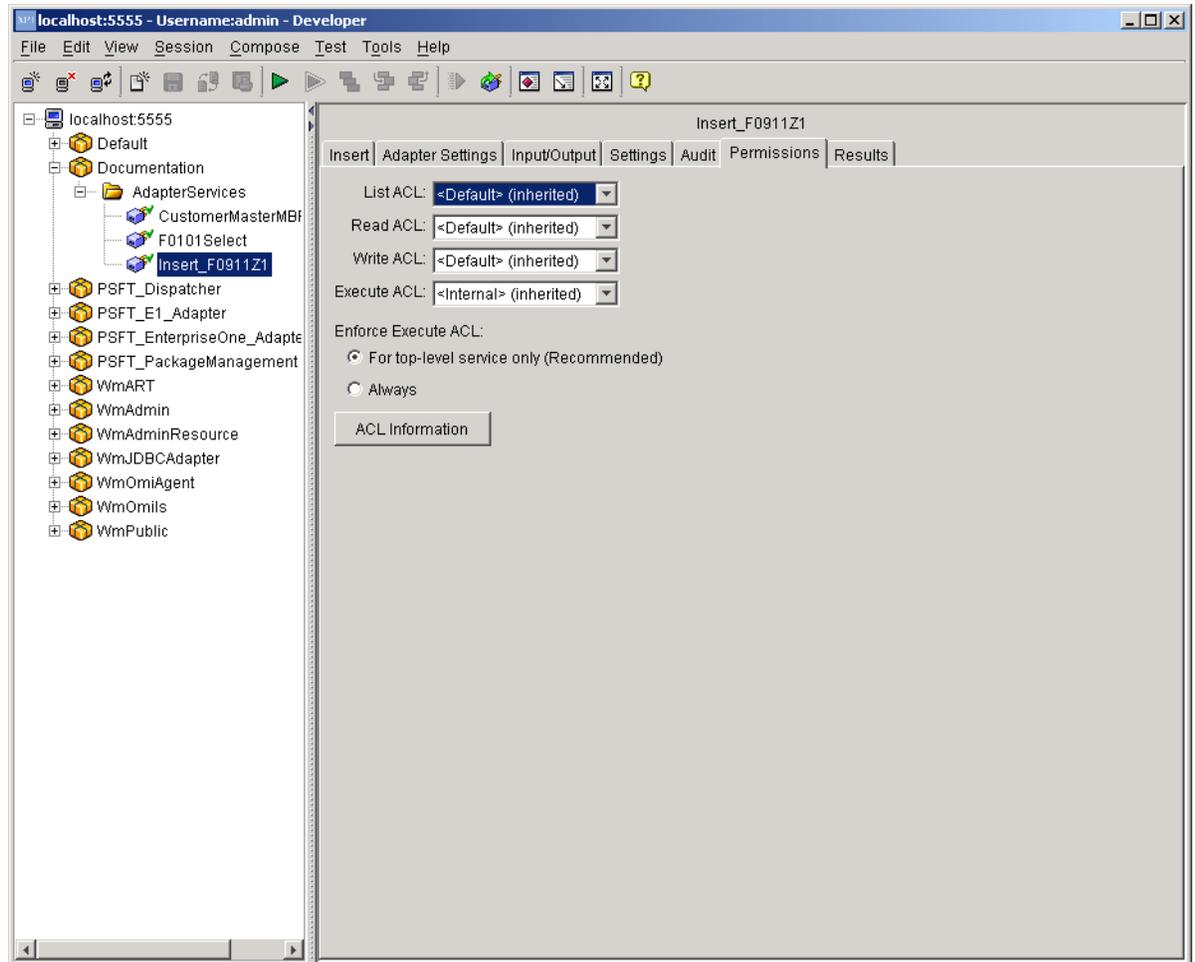
- When to include input pipeline

This section defines when to include the pipeline in the log. Values include: Never, On errors only, Always.



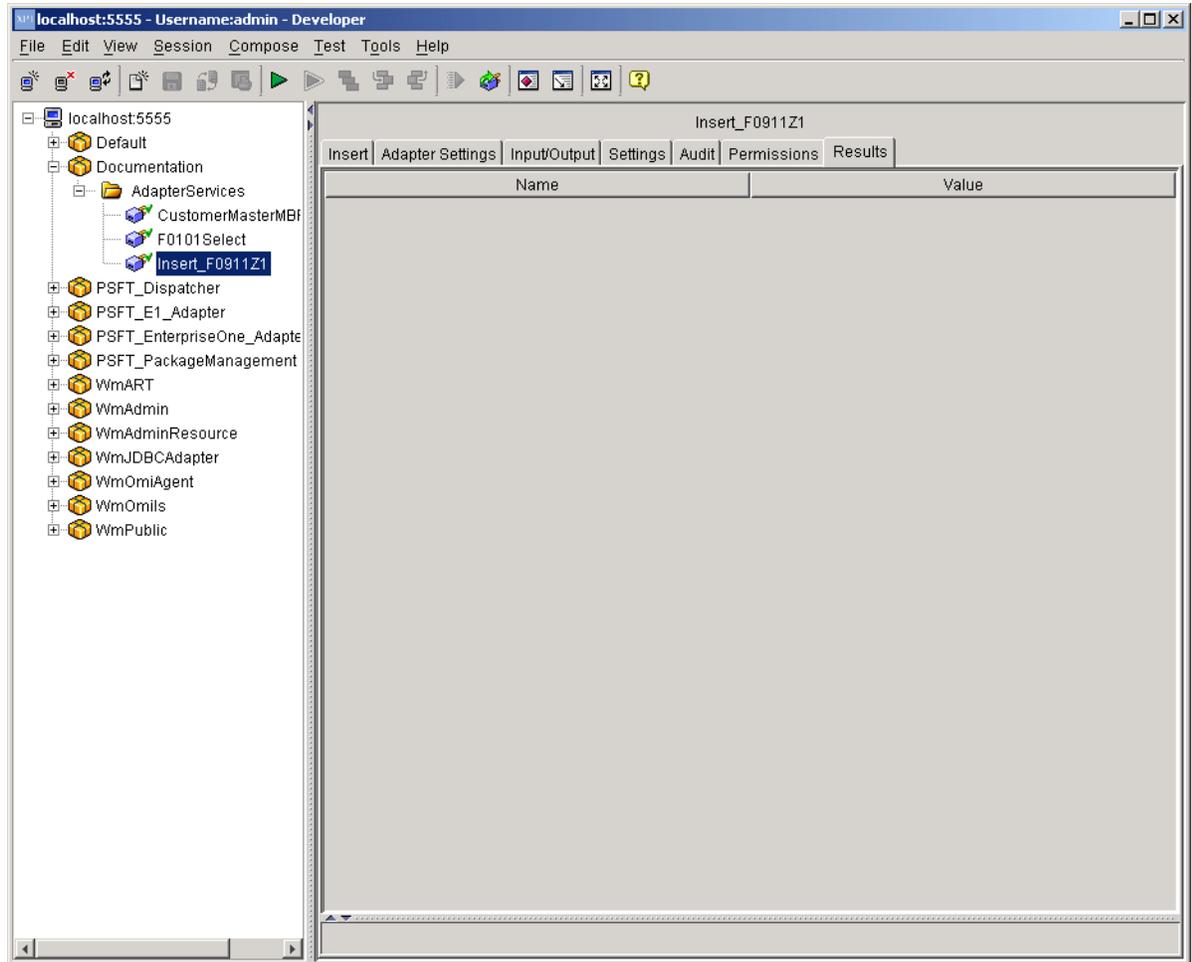
Permissions Tab

- **List ACL**
Users in the allowed list can see that the elements exist and view the metadata (input, output, and so on) for the elements.
- **Read ACL**
Users in the allowed list can view the source code and metadata for the element.
- **Write ACL**
Users in the allowed list can lock, edit, rename, and delete the element.
- **Execute ACL**
Users in the allowed list can run the service.
- **Enforce Execute ACL**
This field's values include: For top-level Service only, Always.
- **ACL Information**
Click to view the users and groups that compose the ACLs on the Integration Server to which you are connected. This information is read only. To edit ACLs, users, and groups, use the Integration Server Administrator.



Results Tab

When testing and debugging in the XPI Integration Developer tool, the results of the service appear in this tab.

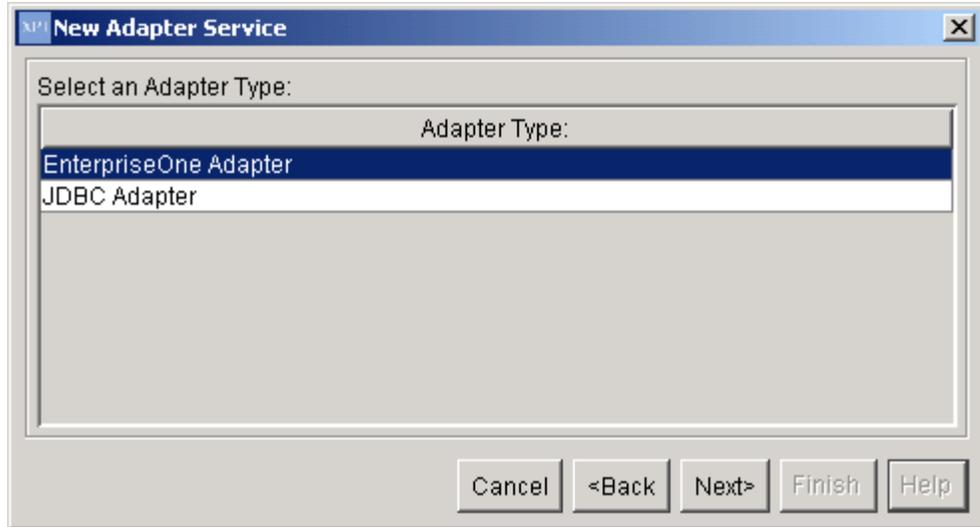


Update Template

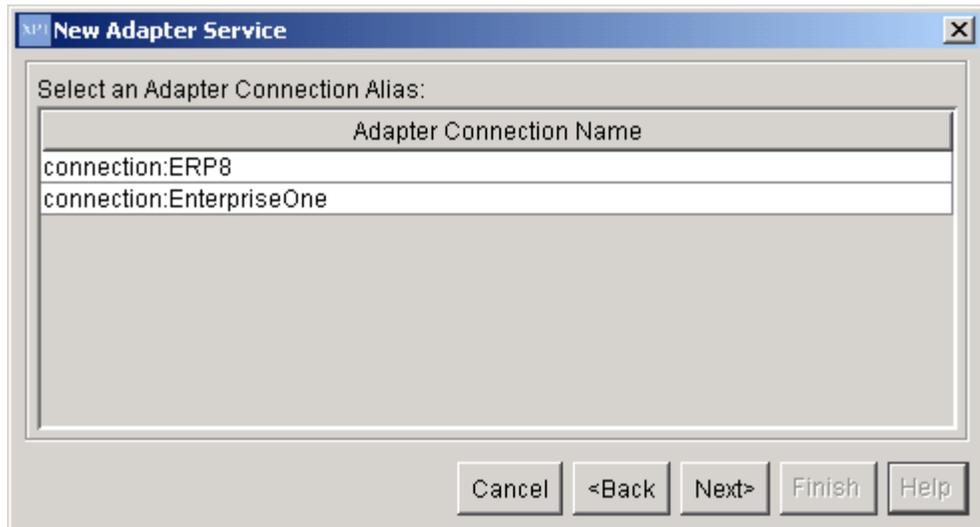
The Update Template enables a user to execute an Update database operation against select tables or business views in the EnterpriseOne database. Update operations are limited to specified interface tables (Z tables) and F47 tables. The system performs all scrubbing operations (such as decimal shifting, date conversion, and so on) before the data is returned to the user. Each adapter service is a one-to-one mapping to a configured update operation.

► To create an Adapter Service

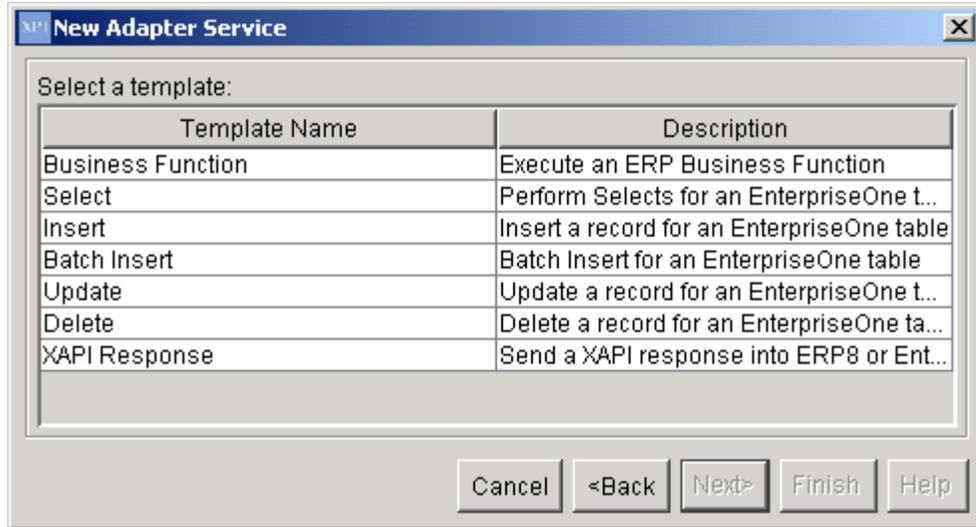
1. From the File menu, select New, and then Adapter Service.
2. Click Next.



3. Select EnterpriseOne Adapter, and then click Next.



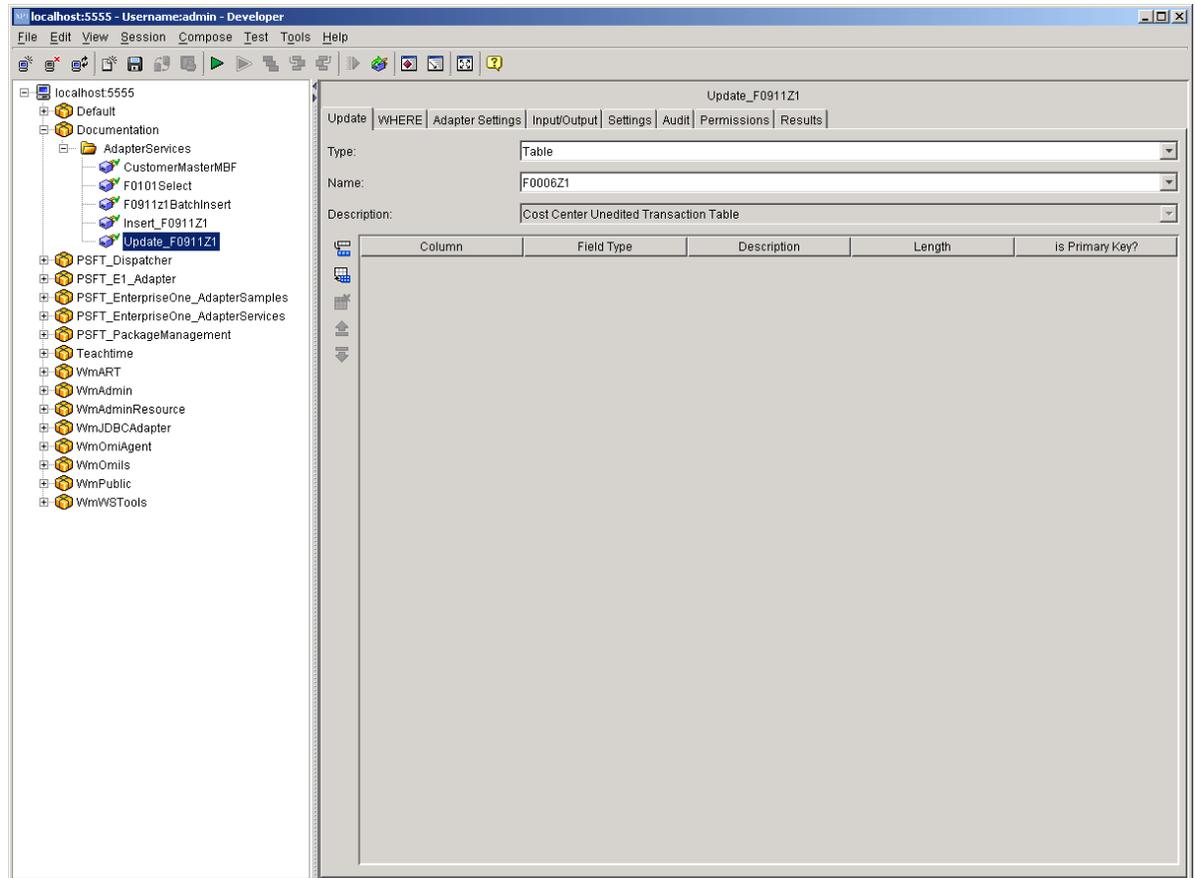
4. On New Adapter Service, select EnterpriseOne, and then click Next.



5. Select the Update template, and then click Next.
6. Name your Adapter Service following the naming standards in the *EnterpriseOne XPI 8.94 PeopleBook: Integration Development Methodology*.
7. Place the Adapter Service in an Adapter Services package, and then click Finish.
8. Select the newly created Adapter Service.

The following information appears in the right pane under the Update tab:

| EnterpriseOne Connection | Description |
|---|--|
| Type | Determines whether the update operation will run against a table or a business view. |
| Name | The name of the table or business view. |
| Description | A non-editable field that contains the description of the selected table or business view. |
| Note: The table or business view column information appears below the Description field. | |



9. Click the drop-down menu in each of the following fields and select the appropriate values for each:

20. Type

21. Name

10. Under the Column information area, select one value at a time or select all.

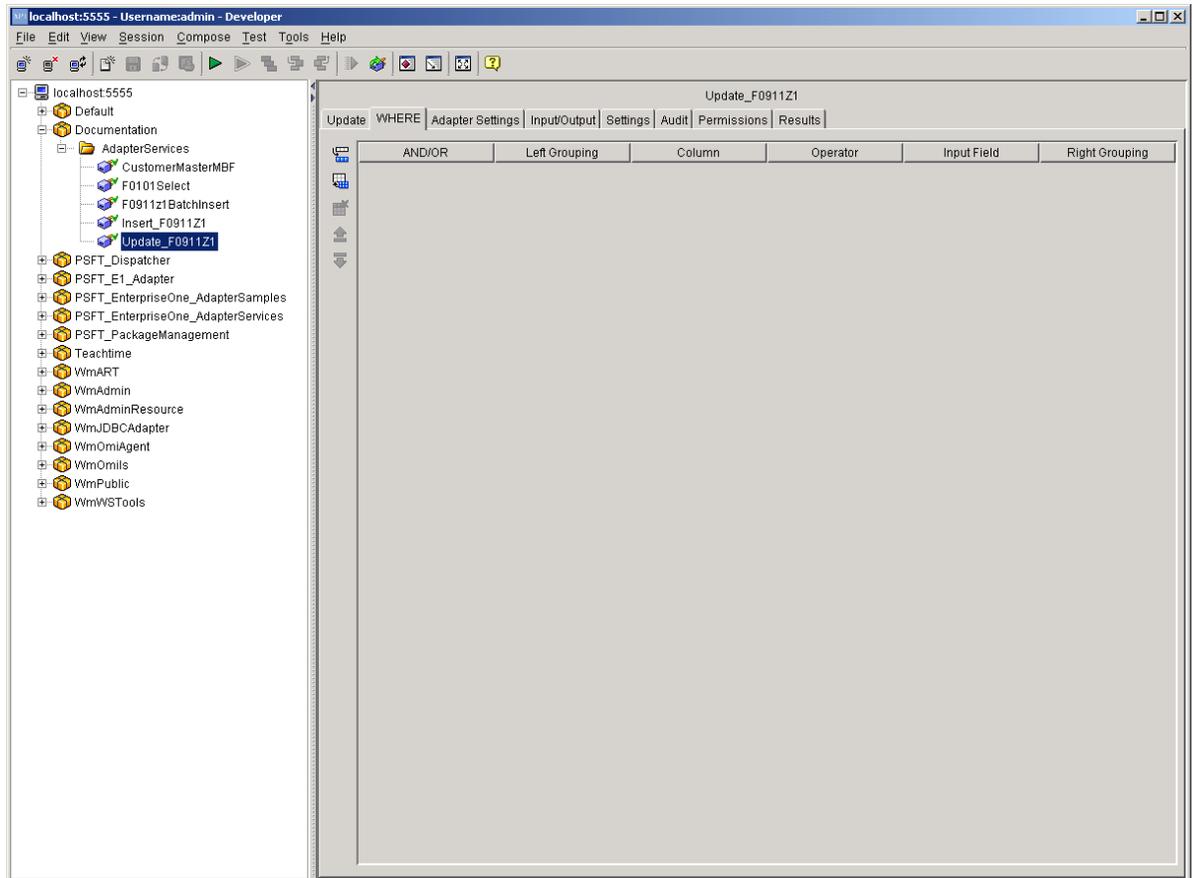
For any row that has a field type other than String, you can select the Field Type box and select the default data type (such as Double, Date, and so on) and change it to a String. This changes the data type of the output field for this row.

Your finished adapter service should look like the following example:

The screenshot shows the EnterpriseOne Adapter Programmer interface. The left pane displays a tree view of adapter services under 'localhost:5555'. The 'Update_F0911Z1' service is selected. The right pane shows the 'WHERE' tab for the 'F0006Z1' table, displaying a list of columns with their field types, descriptions, lengths, and primary key status.

| Column | Field Type | Description | Length | is Primary Key? |
|--------------|------------------|---------------------------------|--------|-----------------|
| F0006Z1.EDUS | java.lang.String | EDI - User ID | 10 | YES |
| F0006Z1.EDBT | java.lang.String | EDI - Batch Number | 15 | YES |
| F0006Z1.EDTN | java.lang.String | EDI - Transaction Number | 22 | YES |
| F0006Z1.EDLN | java.lang.Double | EDI - Line Number | 7 | YES |
| F0006Z1.EDCT | java.lang.String | EDI - Document Type | 2 | NO |
| F0006Z1.TYTN | java.lang.String | Type - Transaction | 8 | NO |
| F0006Z1.EDFT | java.lang.String | EDI - Translation Format | 10 | NO |
| F0006Z1.EDDT | java.util.Date | EDI - Transmission Date | 6 | NO |
| F0006Z1.DRIN | java.lang.String | Direction Indicator | 1 | NO |
| F0006Z1.EDDL | java.lang.Double | EDI - Detail Lines Processed | 5 | NO |
| F0006Z1.EDSP | java.lang.String | EDI - Successfully Processed | 1 | NO |
| F0006Z1.PNID | java.lang.String | Trading Partner ID | 15 | NO |
| F0006Z1.TNAC | java.lang.String | Transaction Action | 2 | NO |
| F0006Z1.MCU | java.lang.String | Business Unit | 12 | NO |
| F0006Z1.STYL | java.lang.String | Business Unit Type | 2 | NO |
| F0006Z1.DC | java.lang.String | Description - Compressed | 40 | NO |
| F0006Z1.LDM | java.lang.String | Level of Detail - Business U... | 1 | NO |

11. Save the Adapter Service.
12. Click the WHERE tab.



13. This tab enables you to create a Where clause that filters the data in a query.
14. Select the Insert Row to add a Where clause line.
 - a. Select AND/OR to determine how this line is applied to the line above it. The AND/OR value for the first line does not matter.
 - b. Under the Left Grouping column, select the grouping level for the line. By placing multiple Where clause lines at the same grouping level, you can build up complex Where clauses.
 - c. Select the column to apply the Where clause filter to.
 - d. Select the operator.
 - e. Select the input field for the filter value. You can rename this field.

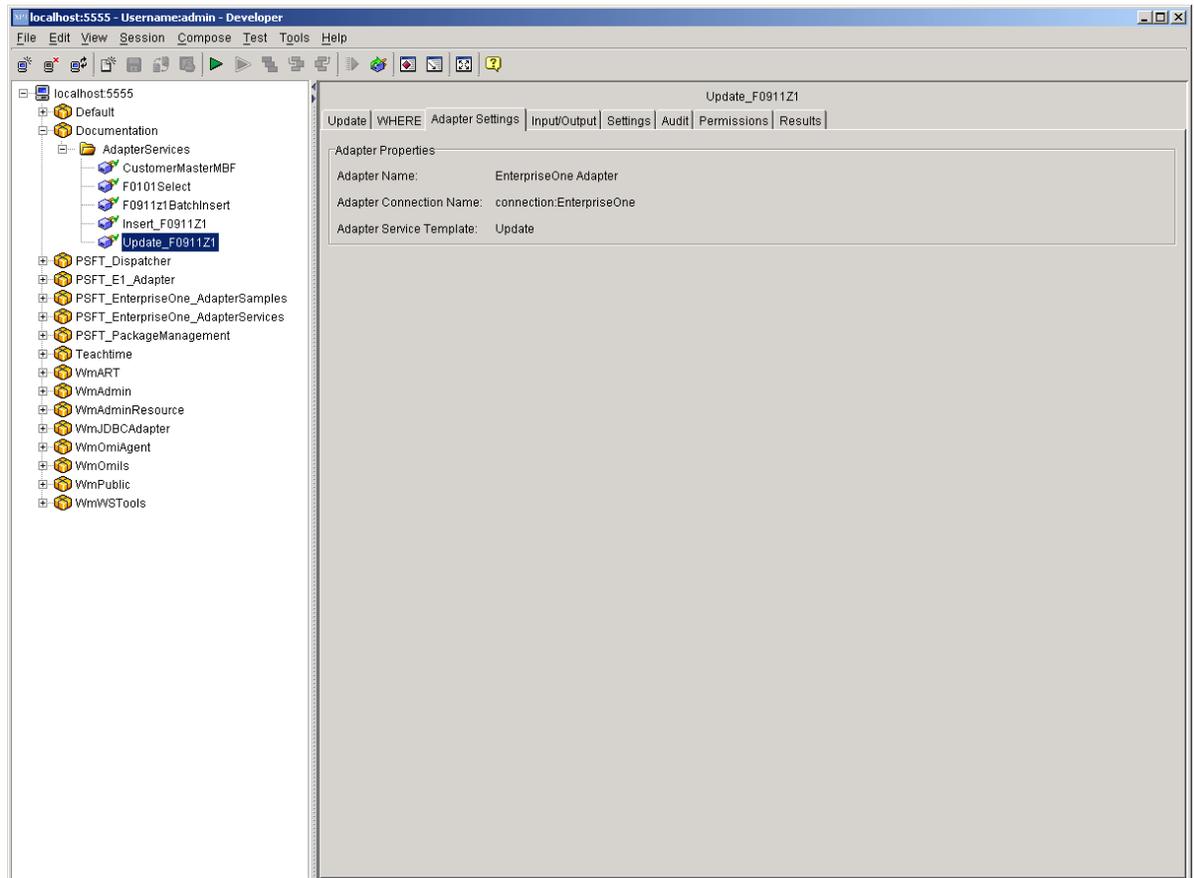
Note

Do not set this name to the column name. The column name is used as the input field name for the update operation. PeopleSoft recommends to always start a Where clause name with "INPUT_".

- f. Repeat these steps for as many Where clause lines that are needed.
15. Save the Adapter Service.
16. Review the information that appears on the following tabs:

Adapter Settings Tab

- Adapter Name
The name of the adapter.
- Adapter Connection Name
The name of the connection specified when the adapter service was created.
- Adapter Service Template
The name for the adapter template used to create the adapter service.



Input/Output Tab

- Input

The input interface document for the adapter service. This document contains the set of columns selected for the update operation and the set of parameters required for the Where clause.

Part of the input is a control structure that contains two parameters, `acceptNullValues` and `dateFormat`. The `acceptNullValues` parameter tells the adapter how to handle null input parameters. If this value is set to `TRUE`, null values are accepted and null is inserted into the updated field in the database. If this value is set to `FALSE`, fields that have been given a null value are removed from the update operation; and the field's existing value remains after the update succeeds. The default value for this field is `TRUE`.

The `dateFormat` parameter tells the adapter how to format String values into dates. The default format for dates is: `MM/dd/yyyy`. Where `MM` = months, `dd` = days, `yyyy` = years.

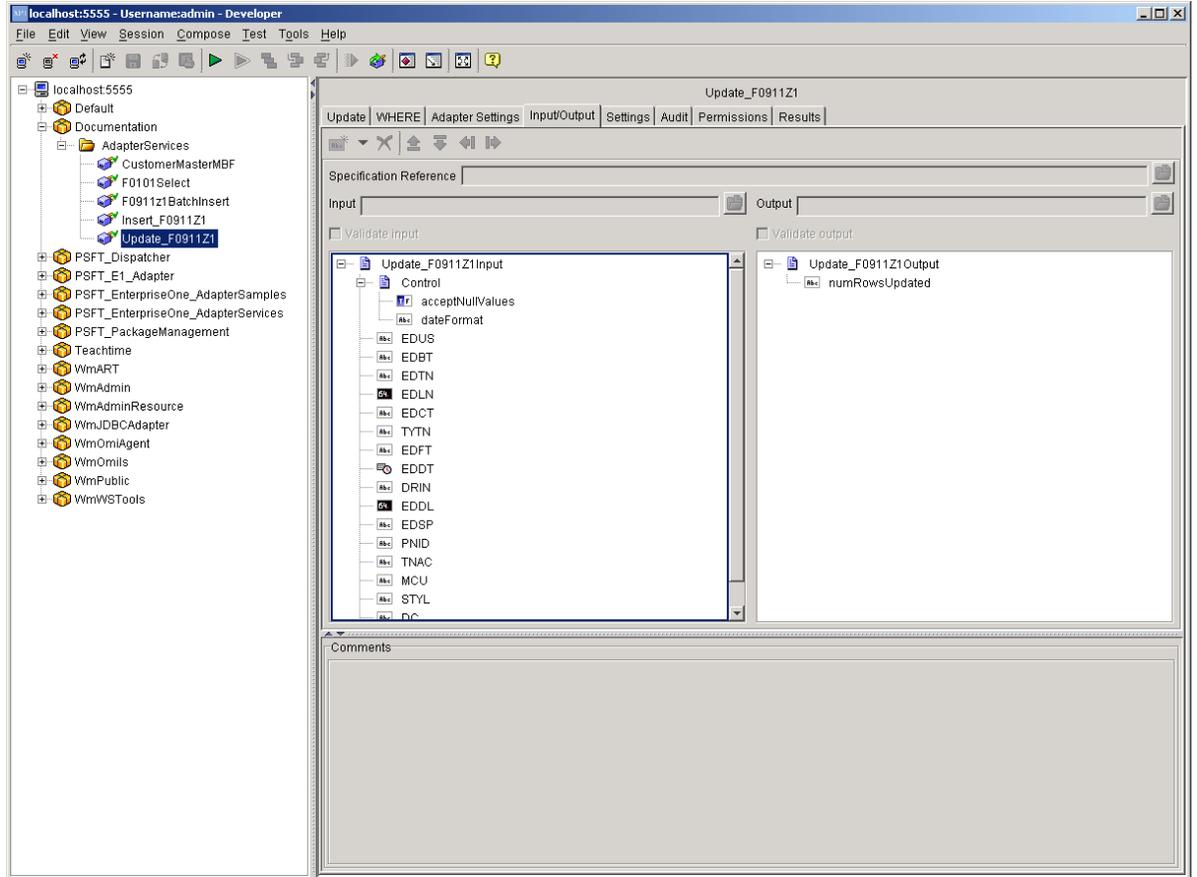
Note

The case of this format is important. `MM/dd/yyyy` does not equal `mm/dd/yyyy` and does not equal `MM/DD/YYYY`.

- Output

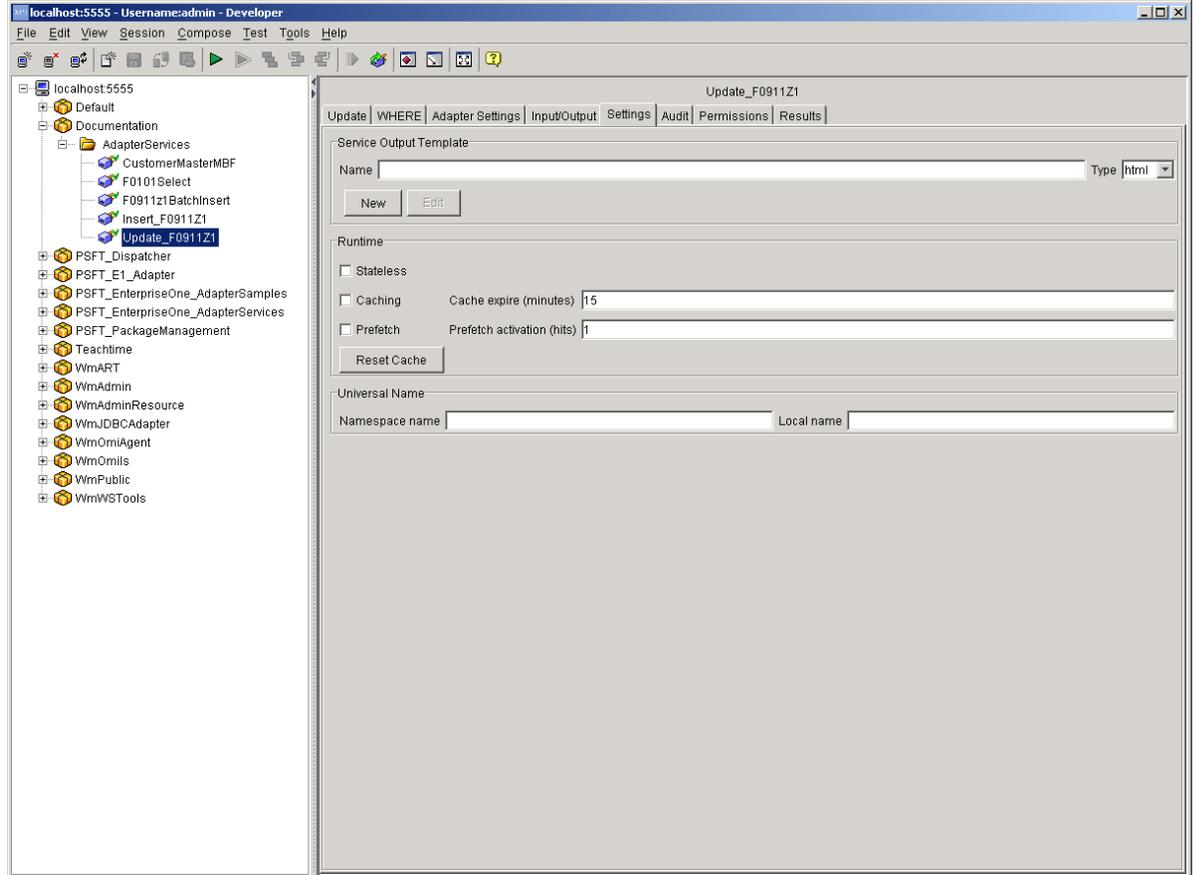
The output interface document for the adapter service. This contains a single field, `numRowsUpdated`. The value in this field is the number of rows updated with the operation.

If an error occurs while executing the Select query, the adapter throws an exception into the flow. This exception should be caught with a Try/Catch block.



Settings Tab

On the Settings tab, the system defines the template file associated with the selected service, assigns run-time parameters, and assigns a universal name. *This is currently not used by the EnterpriseOne adapter.*



Audit Tab

- Enable Service Auditing

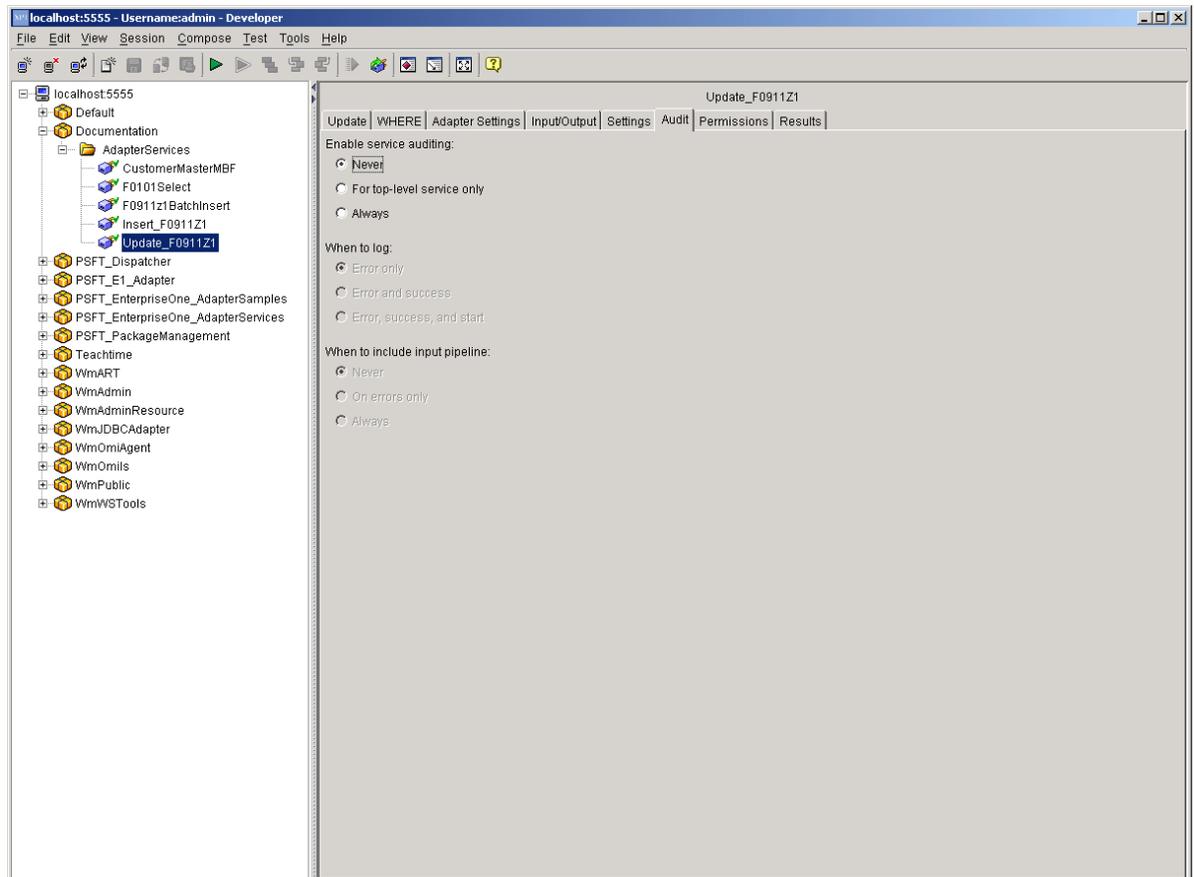
The Enable Service Auditing section defines how you want to audit. Values include: Never, For top-level service only, Always.

- When to log

This section defines when to log. Values include: Errors only, Error and Success, Error, Success and Start.

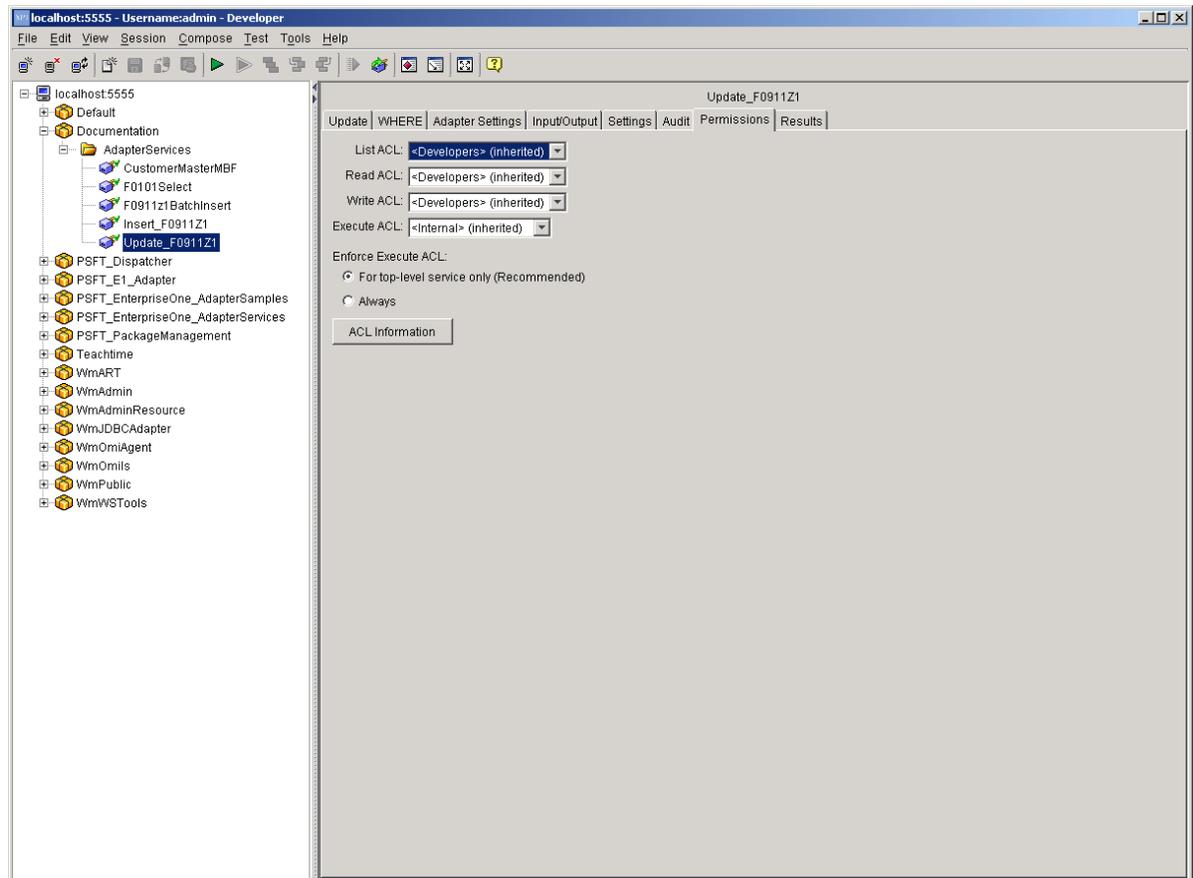
- When to include input pipeline

This section defines when to include the pipeline in the log. Values include: Never, On errors only, Always.



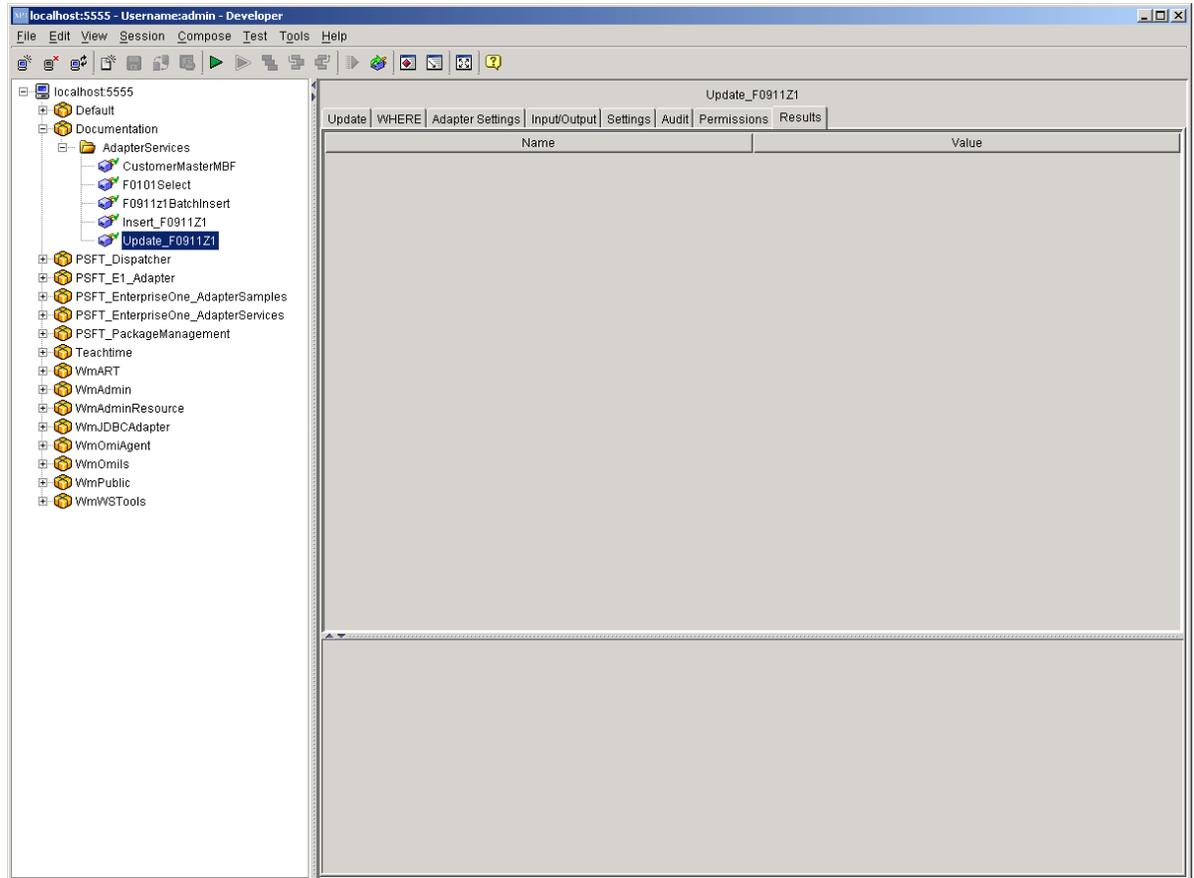
Permissions Tab

- **List ACL**
Users in the allowed list can see that the elements exist and view the metadata (input, output, and so on) for the elements.
- **Read ACL**
Users in the allowed list can view the source code and metadata for the element.
- **Write ACL**
Users in the allowed list can lock, edit, rename, and delete the element.
- **Execute ACL**
Users in the allowed list can run the service.
- **Enforce Execute ACL**
The values for this field include: For top-level service only, Always.
- **ACL Information**
Click to view the users and groups that compose the ACLs on the Integration Server to which you are connected. This information is read only. To edit ACLs, users, and groups, use the Integration Server Administrator.



Results Tab

When testing and debugging in the XPI Integration Developer tool, the results of the service appear in the Results tab.

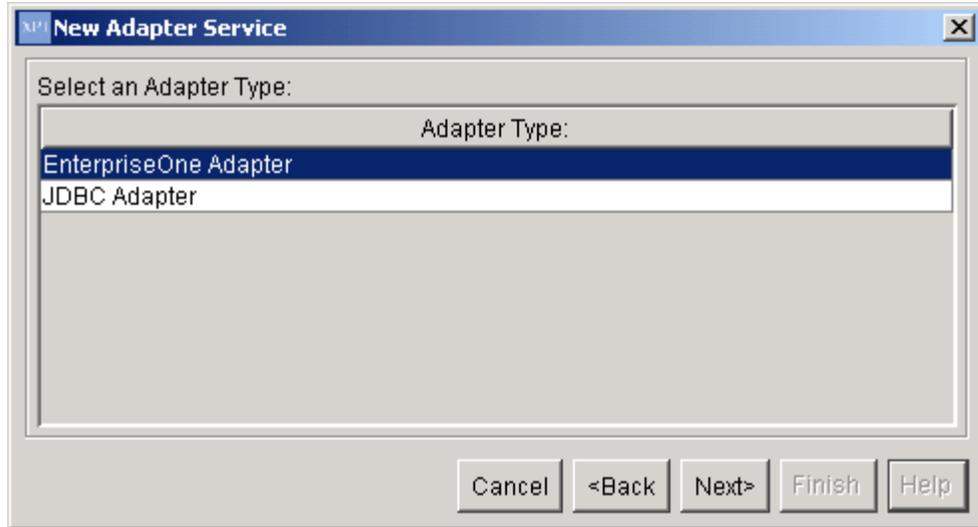


Delete Template

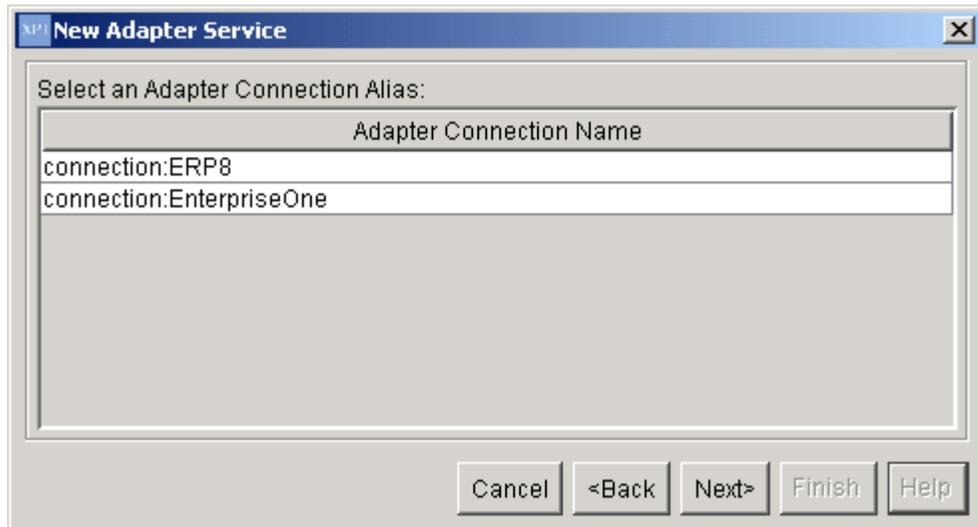
The Delete Template enables you to execute a delete database operation against select tables or business views in the EnterpriseOne database. Delete operations are limited to specified interface tables (Z tables) and F47 tables. The system performs all scrubbing operations (such as decimal shifting, date conversion, and so on) before the data is returned. Each adapter service is a one-to-one mapping to a configured delete operation.

► To create an Adapter Service

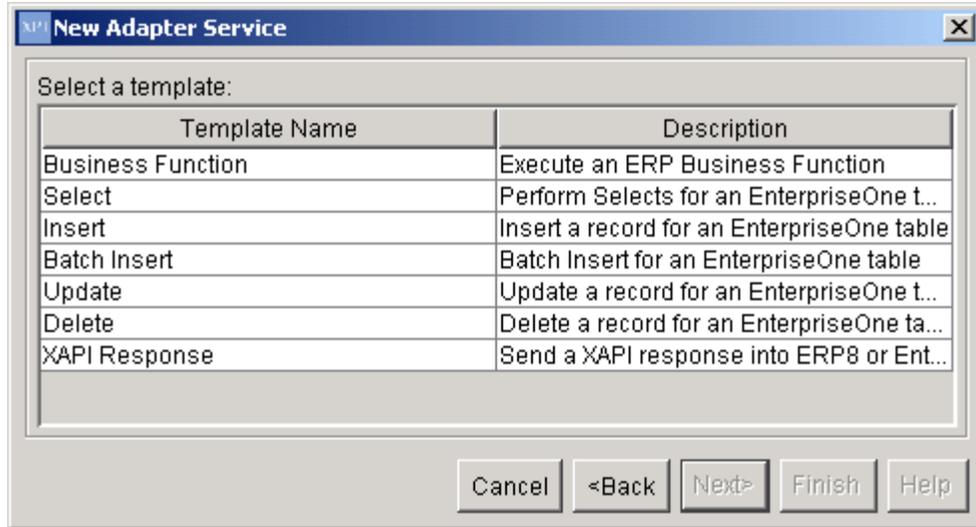
1. From the File menu, select New, and then Adapter Service.
2. Click Next.



3. Select EnterpriseOne Adapter, and then click Next.



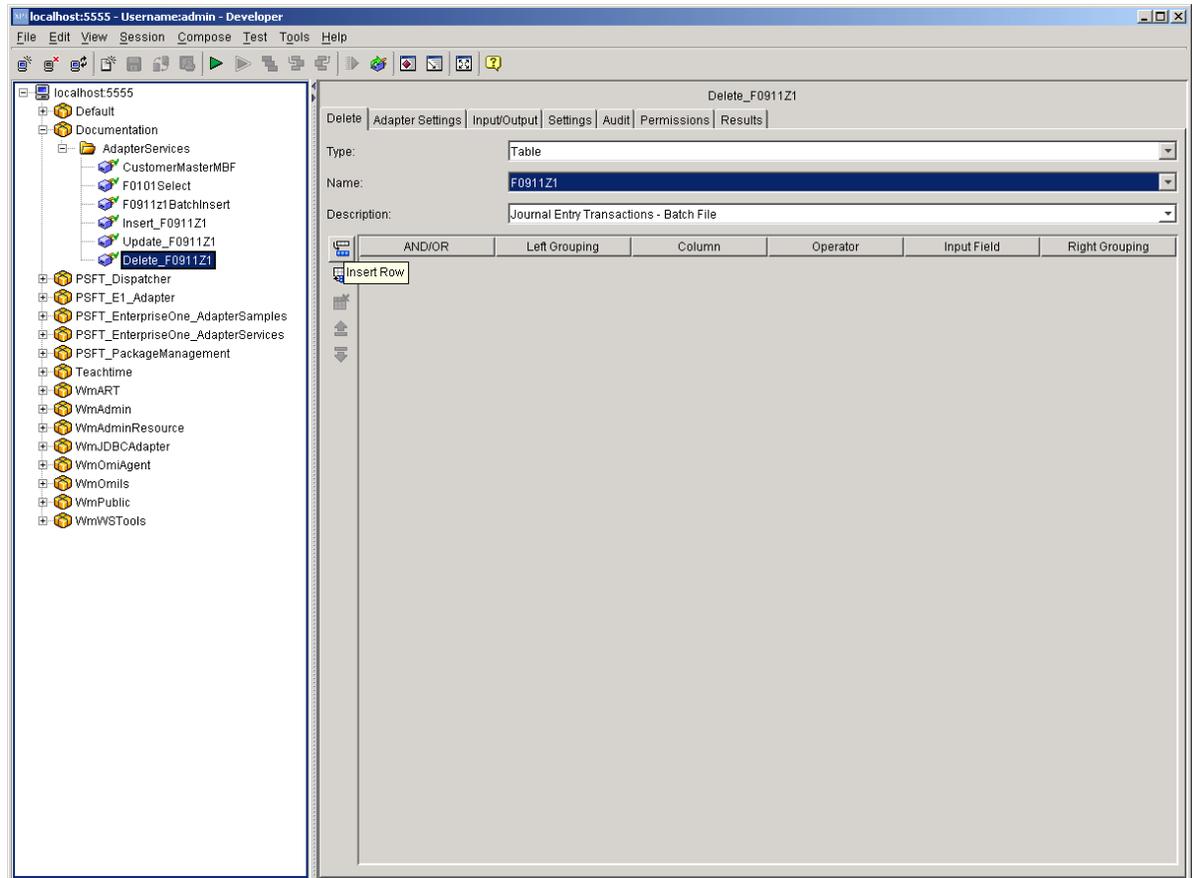
4. On New Adapter Service, select EnterpriseOne, and then click Next.



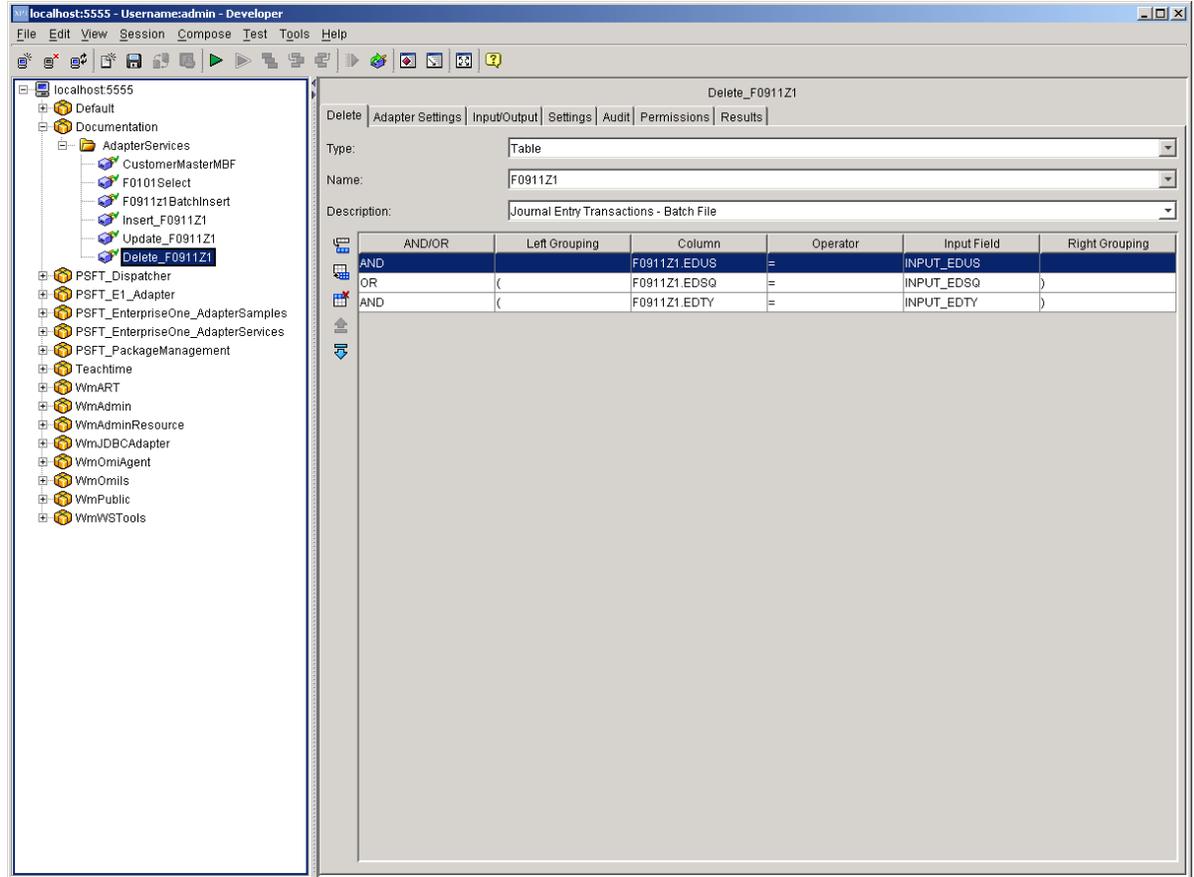
5. Select the Delete template, and then click Next.
6. Name your Adapter Service following the naming standards in the *EnterpriseOne XPI 8.94 PeopleBook: Integration Development Methodology*.
7. Place the Adapter Service in an Adapter Services package, and then click Finish.
8. Select the newly created Adapter Service.

The following information appears in the right pane under the Delete tab:

| EnterpriseOne Connection | Descriptions |
|---|--|
| Type | Whether the delete operation will run against a table or a business view. |
| Name | The name of the table or business view. |
| Description | A non-editable field that contains the description of the selected table or business view. |
| Note: Below the Description field you will find information to create a Where clause to control which database rows are deleted. | |



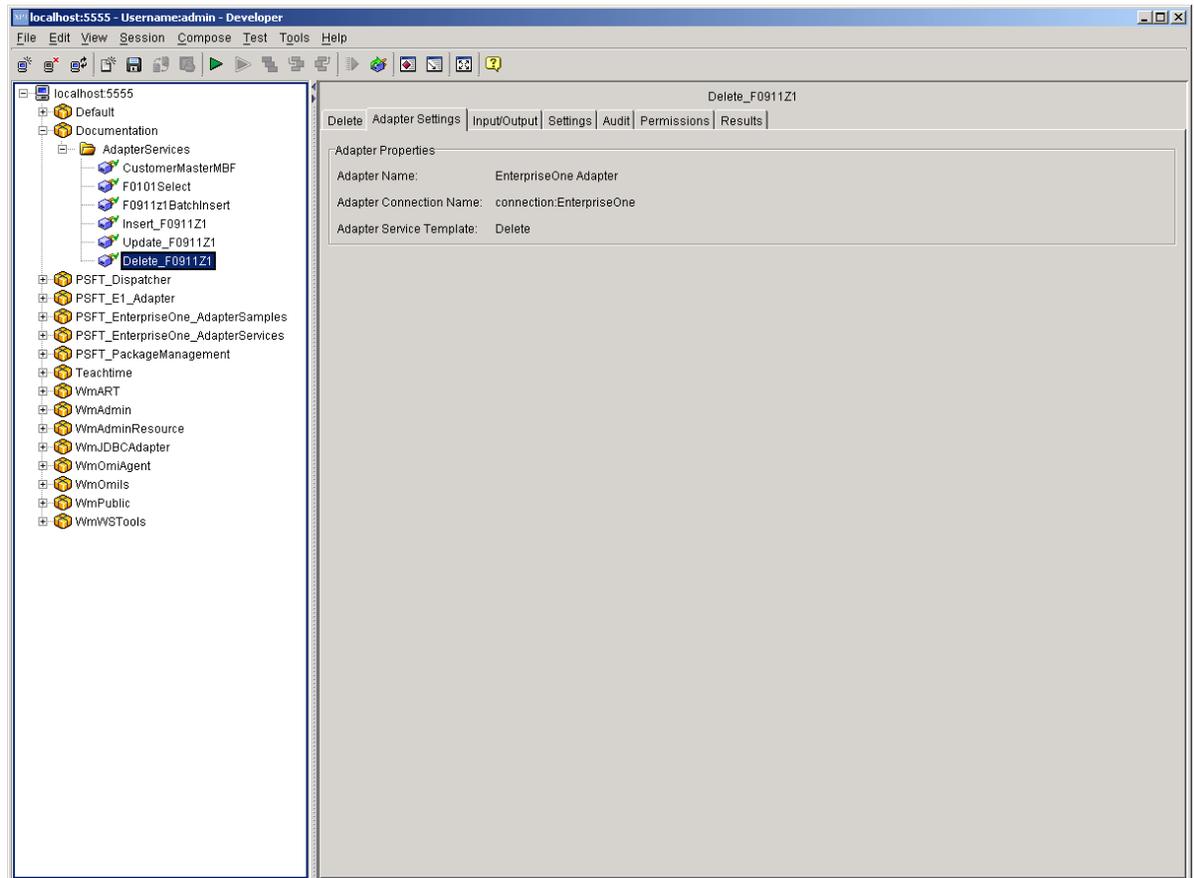
9. Click the drop-down menu in each of the following fields and select the appropriate values for each:
 22. Type
 23. Name
10. Under the Where information area, select the Insert Row to add a Where clause line.
 - a. Select AND/OR to determine how this line is applied to the line above it. The AND/OR value for the first line does not matter.
 - b. Under the Left Grouping column, select the grouping level for the line. By placing multiple Where clause lines at the same grouping level, you can build up complex Where clauses.
 - c. Select the column to apply the Where clause filter to.
 - d. Select the operator.
 - e. Select the input field for the filter value. You can rename this field to whatever is needed.
 - f. Repeat these steps for as many Where clause lines are needed.
11. Save the Adapter Service.
12. Your finished adapter service should look like the following example:



13. Review the information that appears on the following tabs:

Adapter Settings Tab

- Adapter Name
The name of the adapter.
- Adapter Connection Name
The name of the connection specified when the adapter service was created.
- Adapter Service Template
The name for the adapter template used to create the adapter service.



Input/Output Tab

- Input

The input interface document for the adapter service. This document contains the set of parameters required for the Where clause.

Part of the input is a control structure that contains one parameter, dateFormat. The dateFormat parameter tells the adapter how to format String values into dates. The default format for dates is: MM/dd/yyyy. Where MM = months, dd = days, yyyy = years.

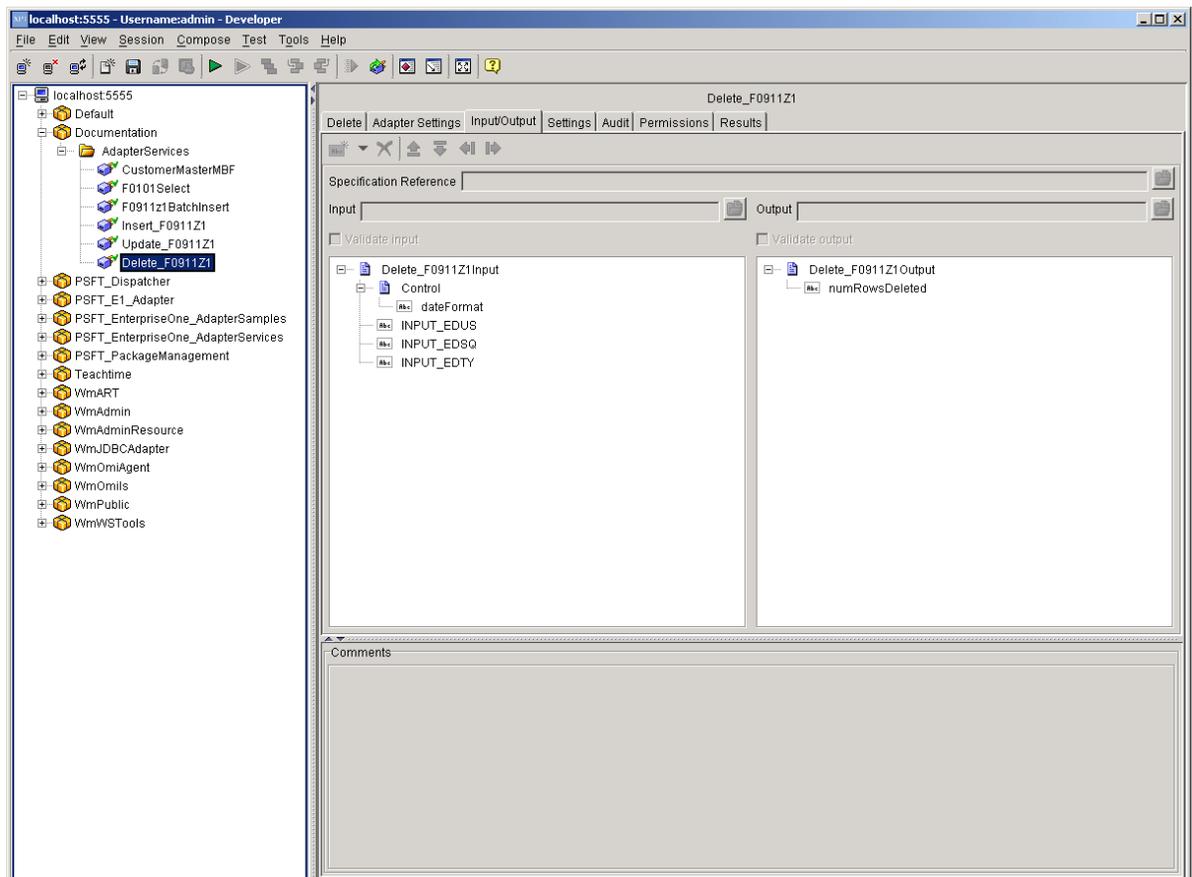
Note

The case of this format is important. MM/dd/yyyy does not equal mm/dd/yyyy and does not equal MM/DD/YYYY.

- Output

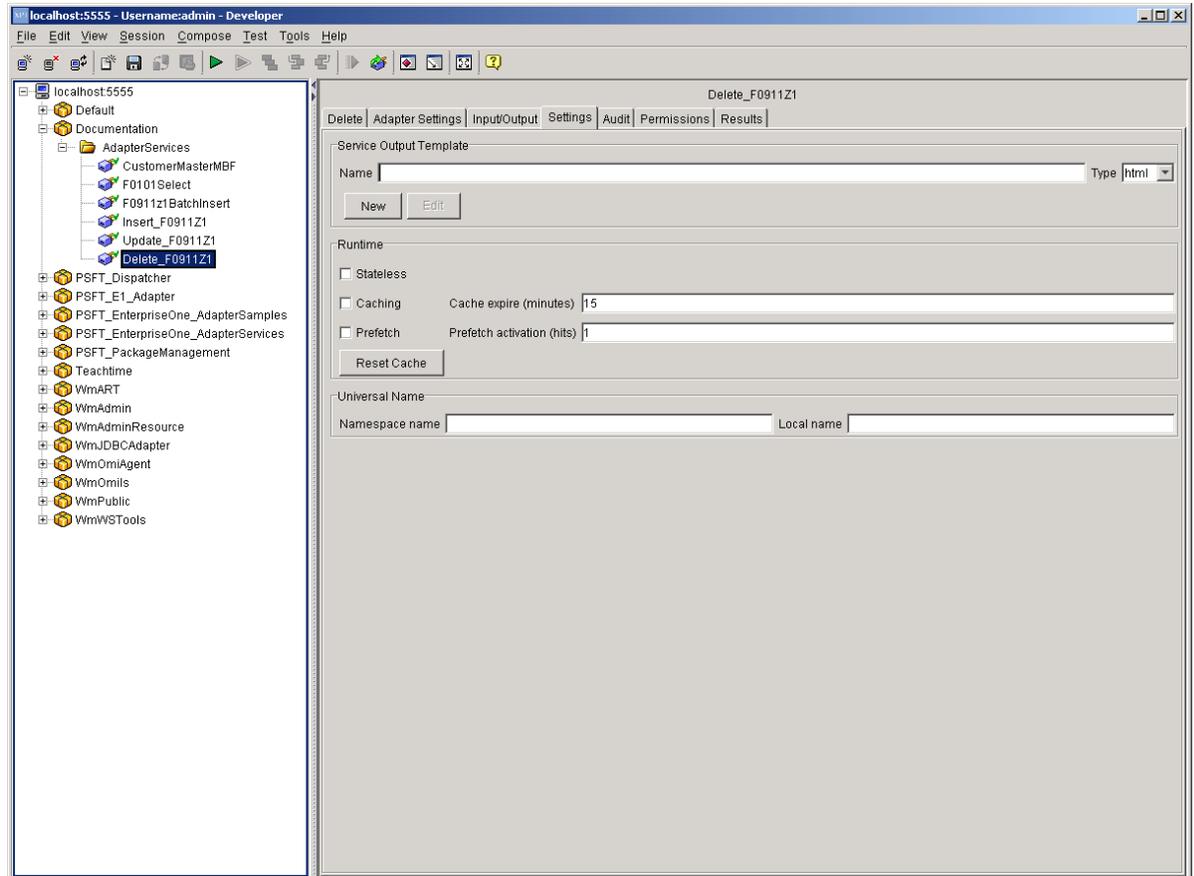
The output interface document for the adapter service. This contains a single field, numRowsDeleted. This field contains the number of rows deleted from the operation.

If an error occurs while executing the delete operation, the adapter throws an exception into the flow. This exception should be caught with a Try/Catch block.



Settings Tab

On the Settings tab, the system defines the template file associated with the selected service, assigns run-time parameters, and assigns a universal name. *This is currently not used by the EnterpriseOne adapter.*



Audit Tab

- Enable Service Auditing

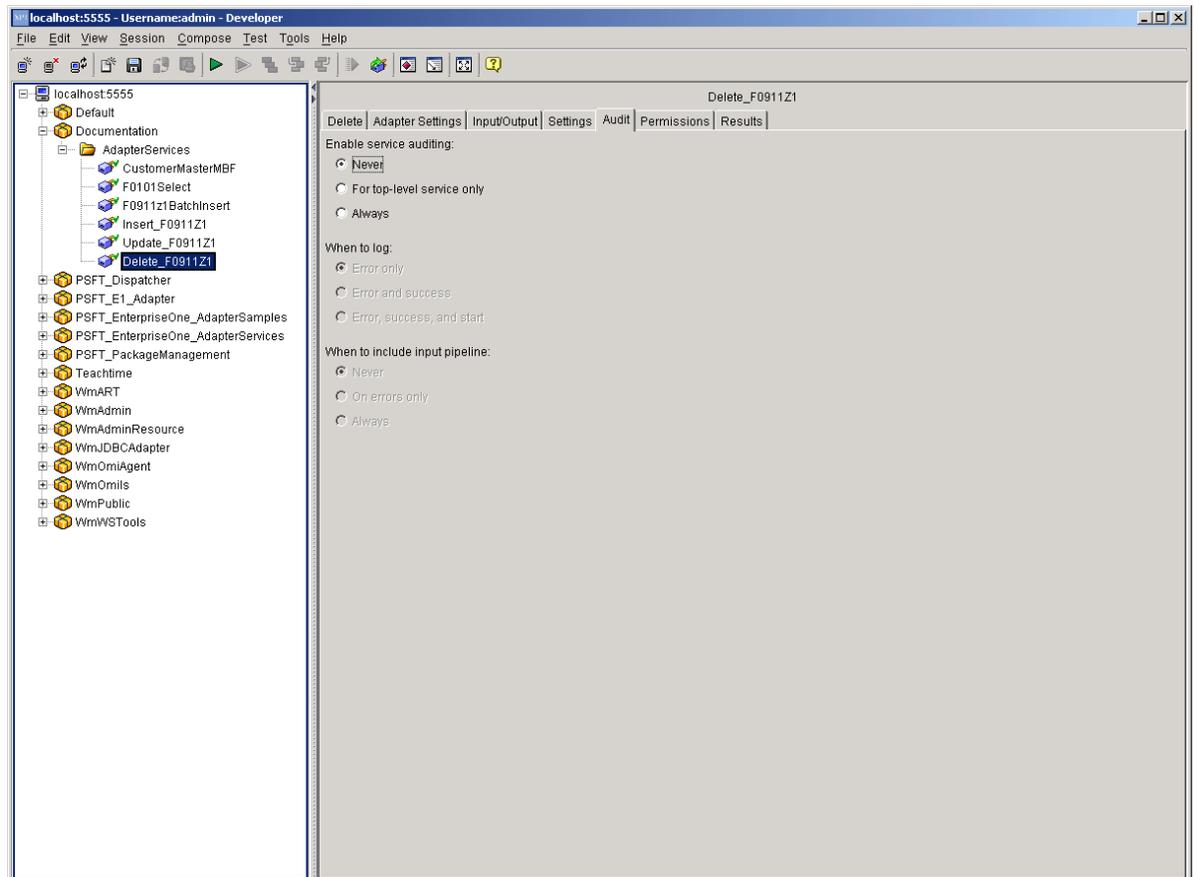
The Enable Service Auditing section defines how you want to audit. Values include: Never, For top-level service only, Always.

- When to log

This section defines when to log. Values include: Errors only, Error and Success, Error, Success and Start.

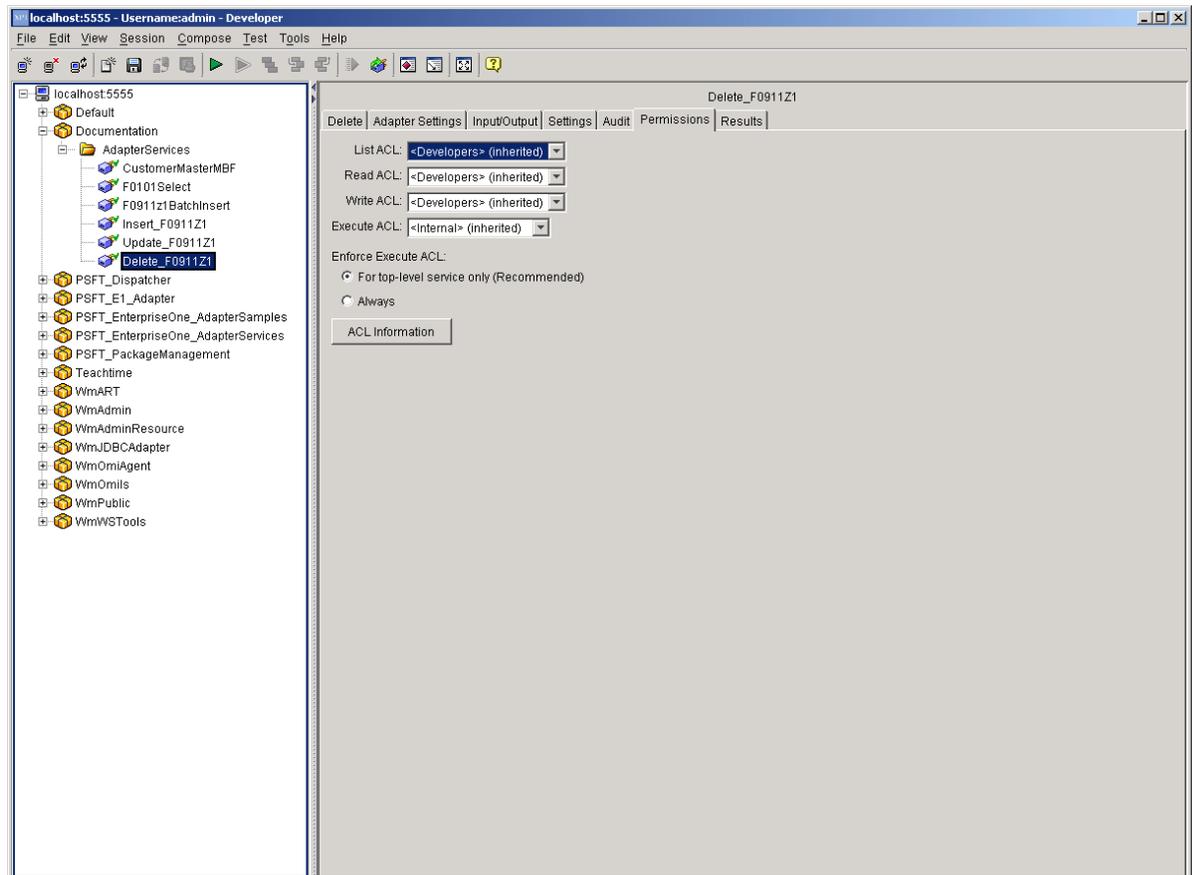
- When to include input pipeline

This section defines when to include the pipeline in the log. Values include: Never, On errors only, Always.



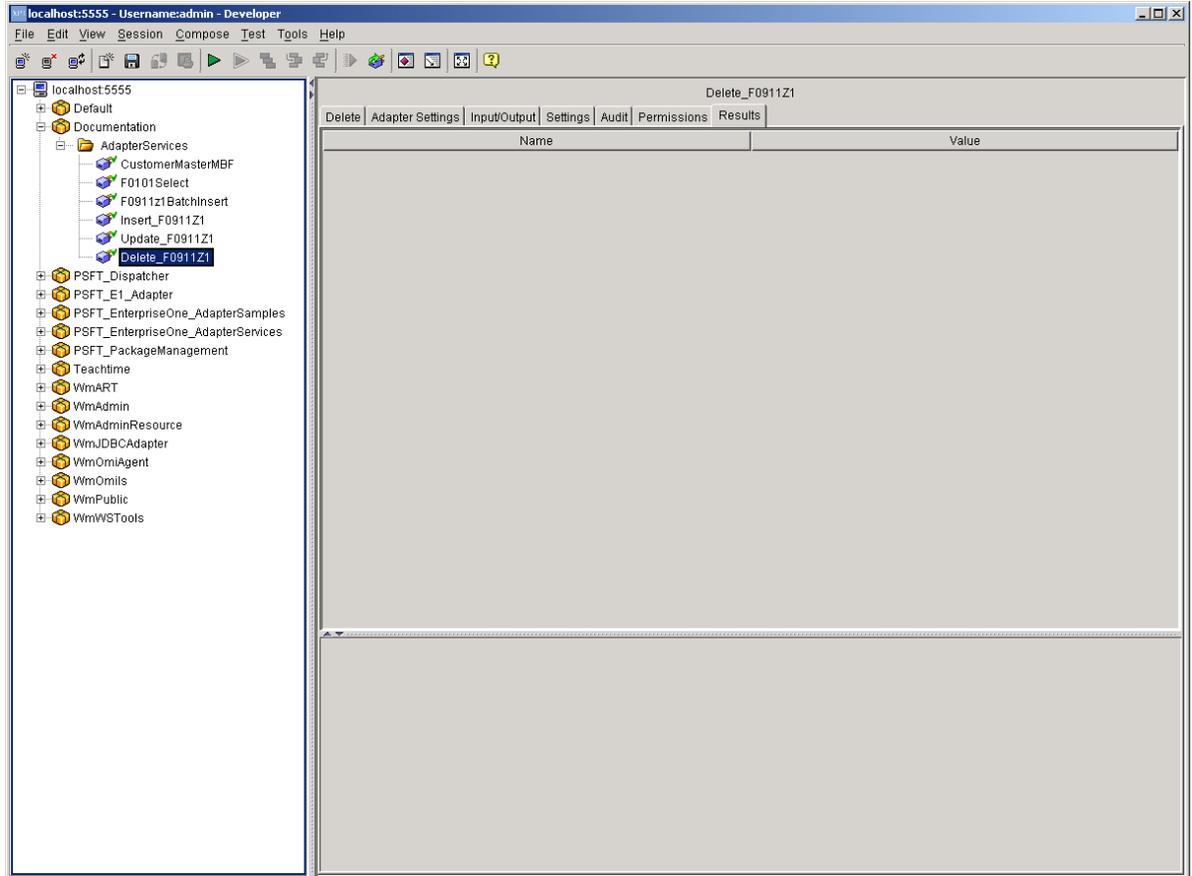
Permissions Tab

- **List ACL**
Users in the allowed list can see that the elements exist and view the metadata (input, output, and so on) for the elements.
- **Read ACL**
Users in the allowed list can view the source code and metadata for the element.
- **Write ACL**
Users in the allowed list can lock, edit, rename, and delete the element.
- **Execute ACL**
Users in the allowed list can run the service.
- **Enforce Execute ACL**
This values for this field include: For top-level service only, Always.
- **ACL Information**
Click to view the users and groups that compose the ACLs on the Integration Server to which you are connected. This information is read only; to edit ACLs, users, and groups, use the Integration Server Administrator.



Results Tab

When testing and debugging in the XPI Integration Developer tool, the results of the service appear in the Results tab.

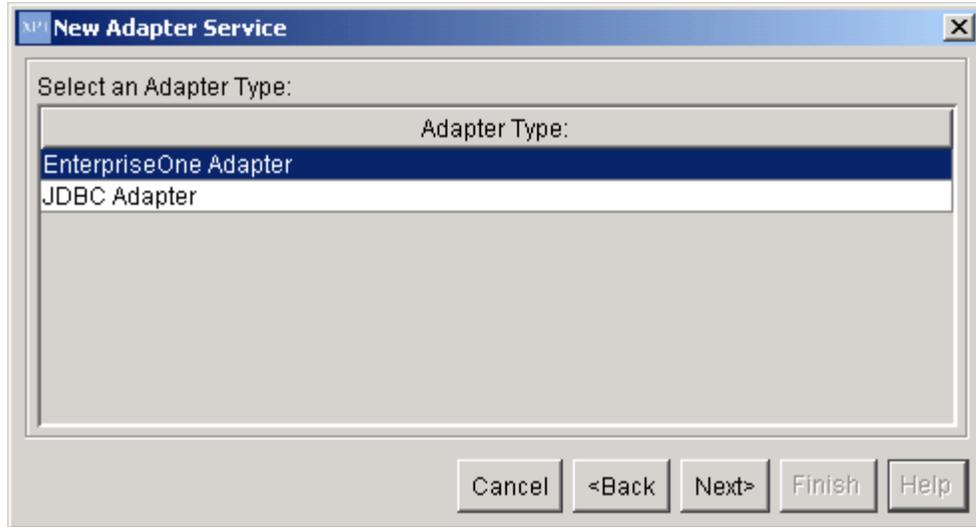


XML List Query Template

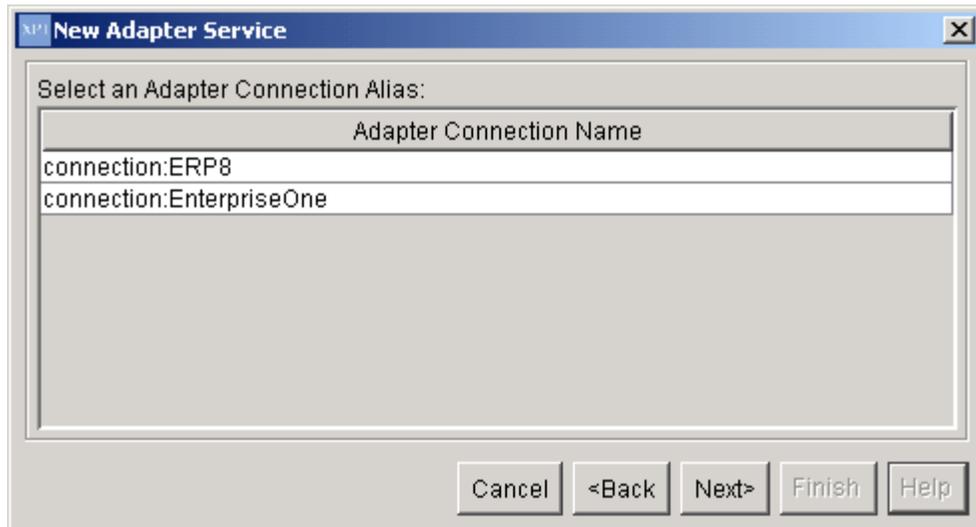
The XML List Query Template has built-in hooks for calling EnterpriseOne list operations. You can use one template for several operations; therefore, the adapter can have many adapter services. Each adapter service is a one-to-one mapping to a table, view, or table conversion.

► To create an Adapter Service

1. From the File menu, select New, and then Adapter Service.
2. Click Next.



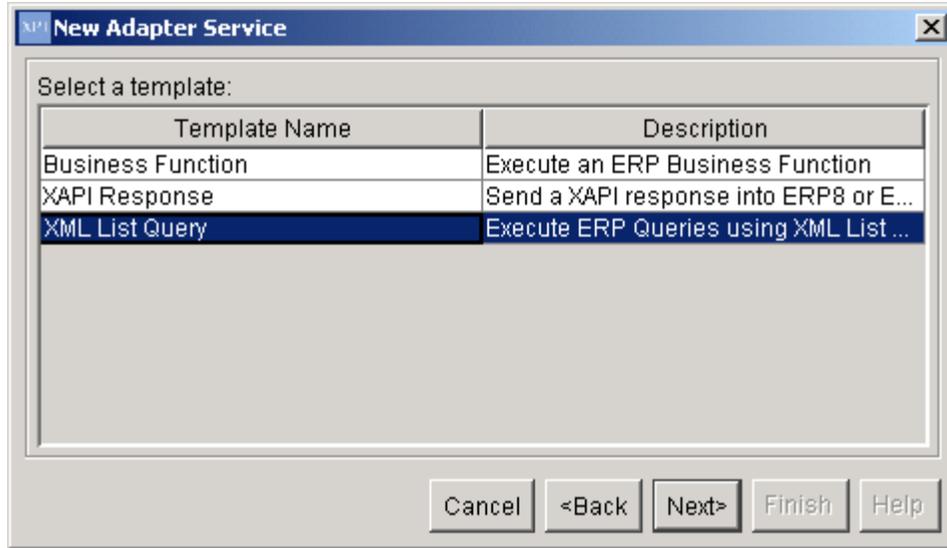
3. Select EnterpriseOne Adapter, and then click Next.



4. On New Adapter Service, select ERP8, and then click Next.

Note

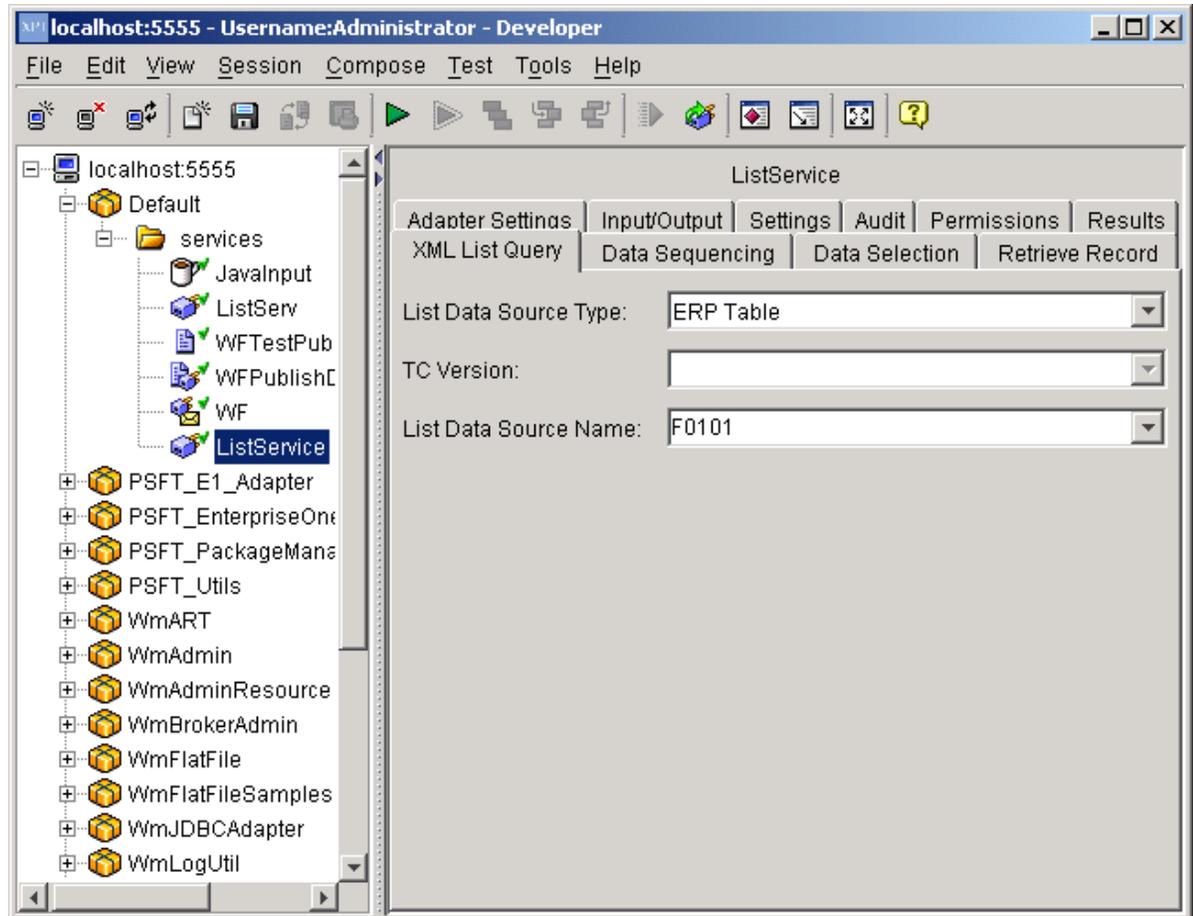
The XML List template is available for ERP8 connections only.



5. Select a XML List Query template, and then click Next.
6. Name your Adapter Service following the naming standards in the *EnterpriseOne XPI 8.94 PeopleBook: Integration Development Methodology*.
7. Place the Adapter Service in an Adapter Services package, and then click Finish.
8. Select the Adapter Service.

The following information appears in the left pane:

| Item | Description |
|--|--|
| ERP8 Connection | |
| List Data Source Type | The type of the EnterpriseOne list data source. This could be a table, view, table conversion, or foreign table. |
| TC Version | The version of the table conversion data source selected. |
| List Data Source Name | The name of the table, view, or table conversion. |
| Note: The Data Sequencing tab provides the capability to prepare the data sequence. In addition, it provides the capability to do data selection on the selected list data source. The Retrieve Record tab enables you to select the columns for the template output. | |



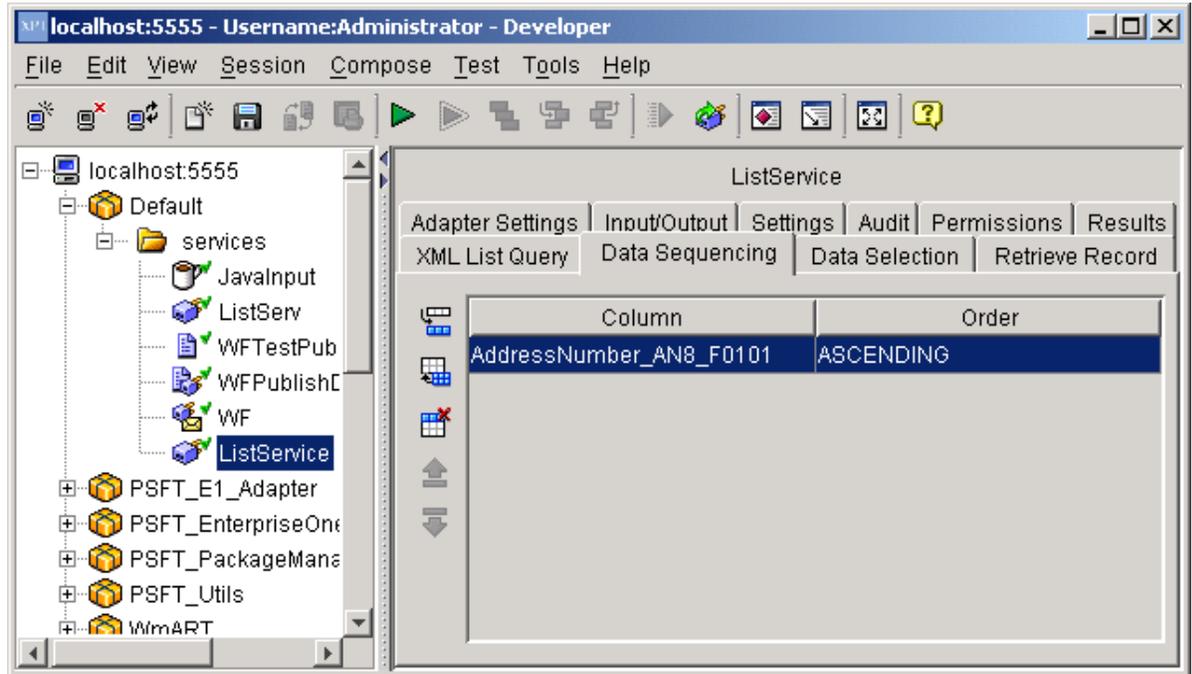
9. Click the List Data Source Type drop-down menu and select the appropriate values.
10. Type in the source name in the List Data Source Name field.
11. Under the Data Sequencing, select one value at a time or select all.
12. Under Data Selection, select one value at a time or select all. Select the required clause, column, and operator to prepare the data selection statement.

Note

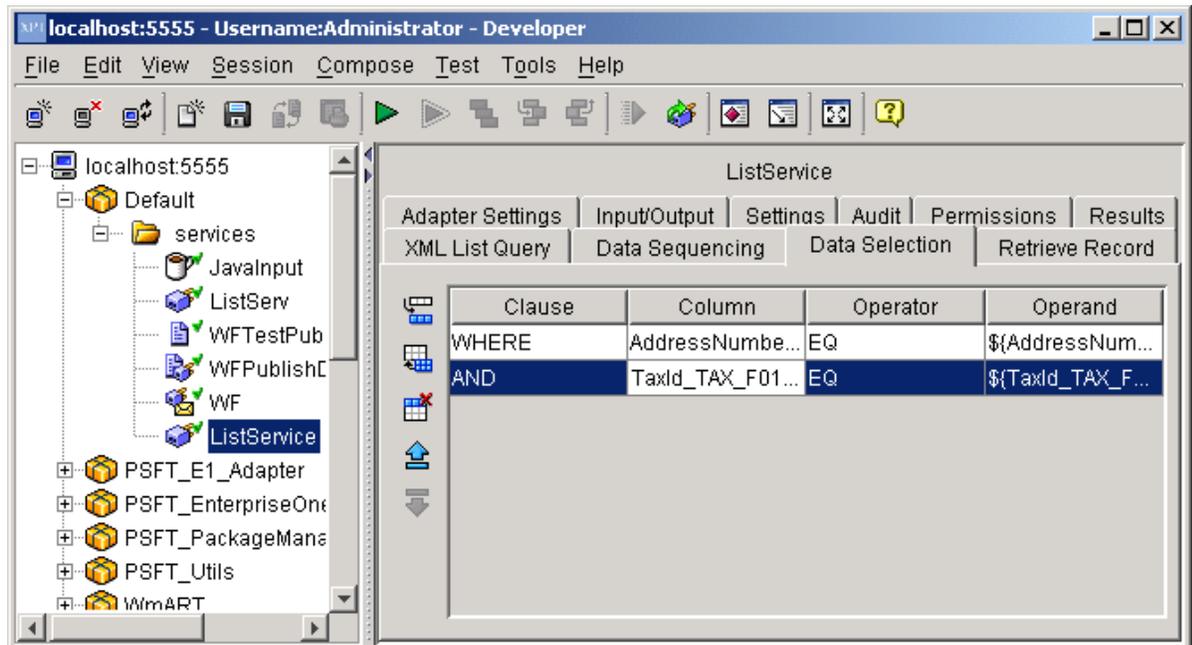
The first row clause should always be WHERE.

13. Your finished adapter service should look like the following example:

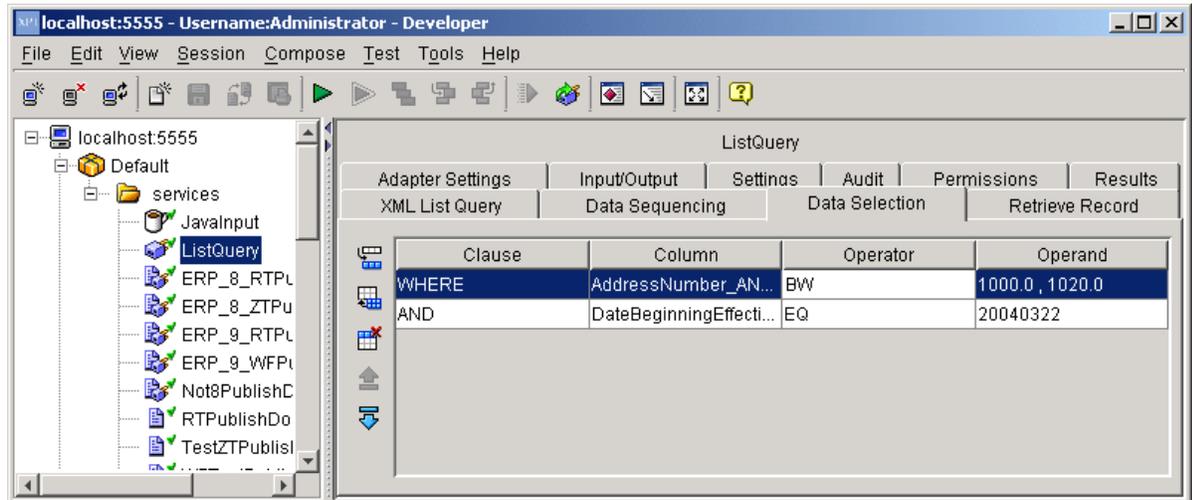
Data Sequencing Tab



Data Selection Tab



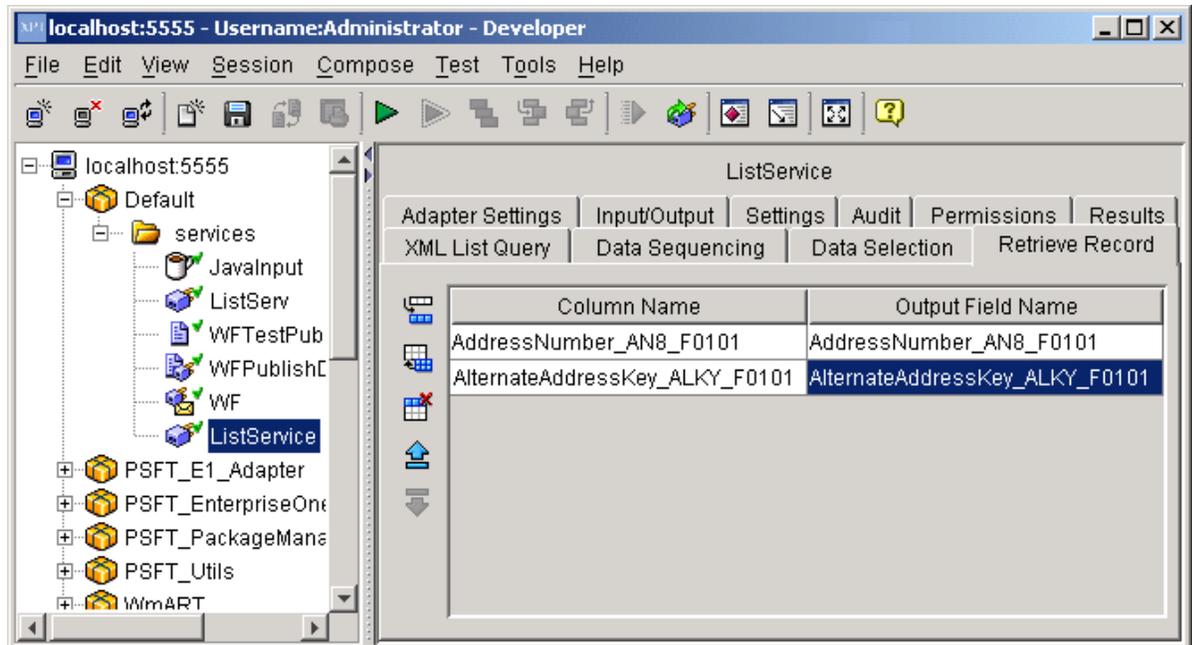
You can hard code the data selection value using the Operand column, as shown below.



Note

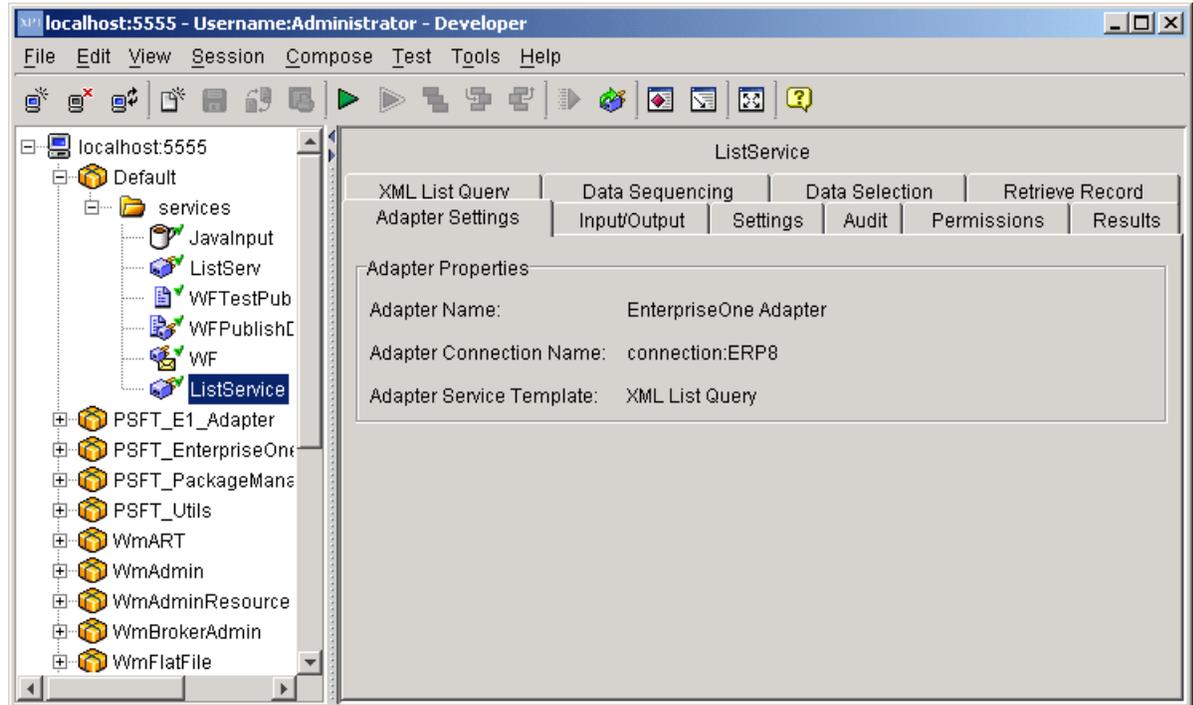
The values should be separated by a comma (,) for the set operators, such as BW, IN, and so on. The date values should always be in the List Data format (yyyyMMdd), with no separator characters such as 'a forward slash (/) or a dash (-).

Retrieve Record Tab



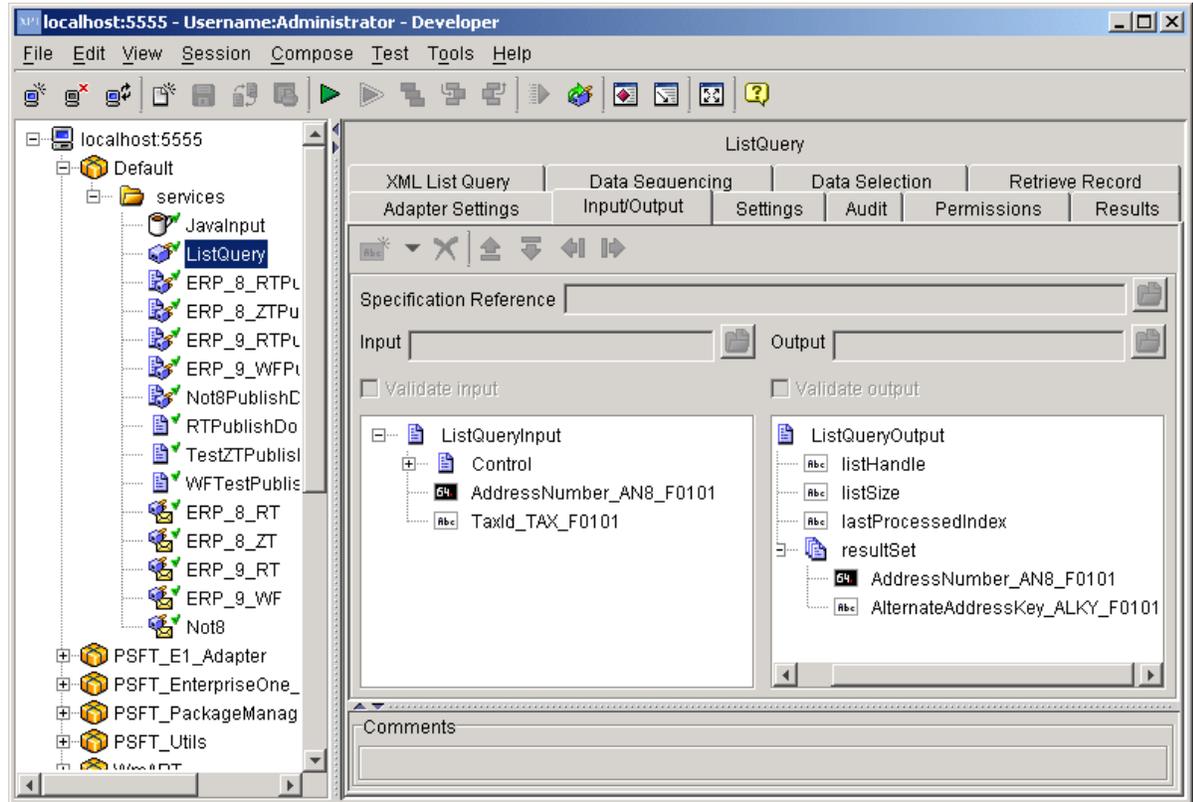
14. Save the Adapter Service.
15. Review the information that appears on the following tabs:

Adapter Settings Tab



- **Adapter Name**
The name of the adapter.
- **Adapter Connection Name**
The name of the connection specified when the adapter service was created.
- **Adapter Service Template**
The name for the adapter template used to create the adapter service.

Input/Output Tab



- Input

The input interface document for the adapter service. This is the list of input parameters in the control section and columns selected list data source in the data selection statements.

- Output

The output interface document for the adapter service. This is the list of standard output parameters and parameters selected from the data source columns.

The template runs in six different modes depending upon the input values. Refer to the following table to determine the input parameters for the desired operation:

| Operations | Input Parameters | | Output Parameters | |
|-------------|--------------------|----------------------|--------------------|---|
| Create List | listHandle | Null or empty string | ListHandle | The handle returned by the create list operation |
| | listSize | Null or empty string | | |
| | lastProcessedIndex | Null or empty string | ListSize | The size of the list created by create list operation |
| | startIndex | Null or empty string | | |
| | endIndex | Null or empty string | LastProcessedIndex | Null or empty string |
| | deleteList | False | | |

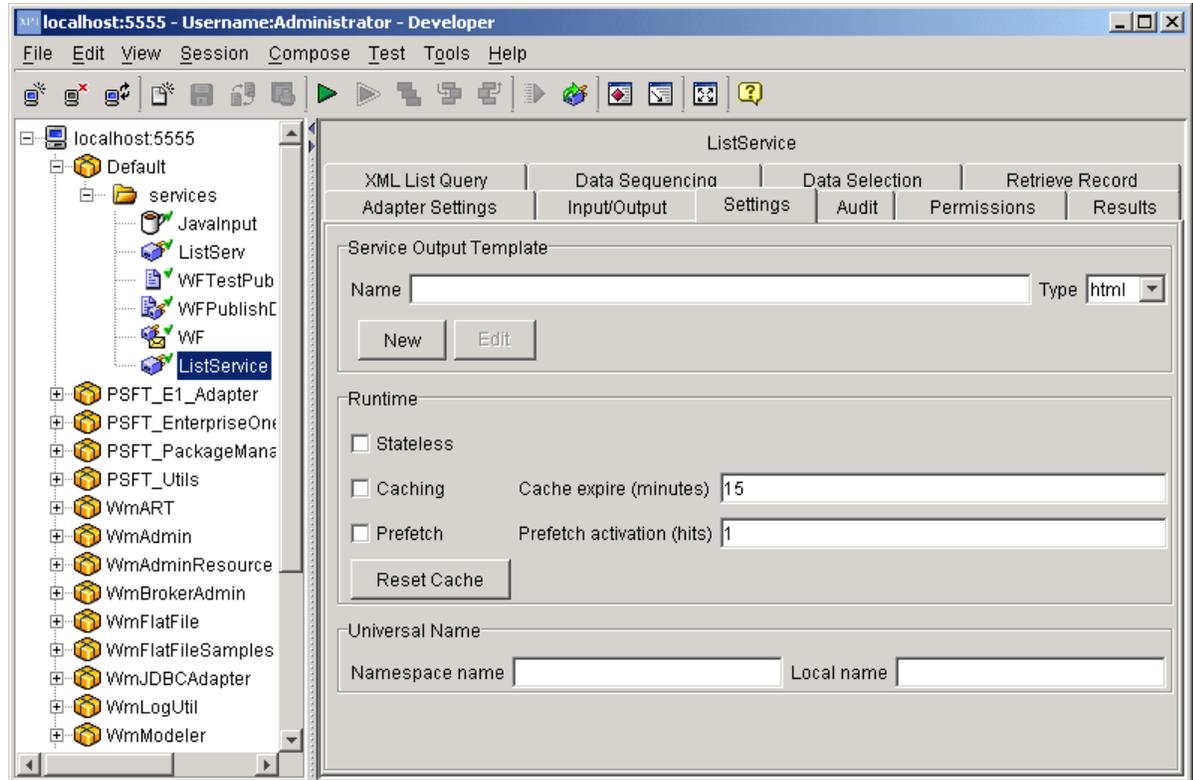
| Operations | Input Parameters | | Output Parameters | |
|---------------------------------|--------------------|--|--------------------|--|
| Retrieve list | listHandle | Valid list handle | ListHandle | The listHandle passed in as input parameter |
| | listSize | Valid list size | | |
| | lastProcessedIndex | Null, empty String, or a valid index. When this field is set, the Retrieve list retrieves the records next to this index and up to the endIndex | ListSize | The listSize passed in as input parameter |
| | startIndex | When the lastProcessedIndex is not set to a valid index, this field should be set to a valid index (1 to listSize). | | |
| | endIndex | If null or empty string is the value for this field, then the list from either the lastProcessedIndex or startIndex up to the last index is retrieved. | LastProcessedIndex | Index of the last record processed by the retrieve list operation. |
| | deleteList | False | | |
| Delete list | listHandle | Valid list handle | ListHandle | Null or empty String |
| | listSize | Null, empty string, or valid list size | | |
| | lastProcessedIndex | Null, empty String | ListSize | Null or Empty String |
| | startIndex | Null empty String | | |
| | endIndex | Null, empty String | LastProcessedIndex | Null or Empty String |
| | deleteList | True | | |
| Create and Retrieve list | listHandle | Null or empty string | ListHandle | The handle returned by the create list operation |
| | listSize | Null or empty string | | |

| Operations | Input Parameters | | Output Parameters | |
|---------------------------------|--------------------|--|--------------------|---|
| | lastProcessedIndex | Null or empty string | ListSize | The size of the list created by the create list operation |
| | startIndex | 1 | | |
| | endIndex | Any value more than 1. If a null or empty String is passed, the endIndex is assumed to be the last Index. If the endIndex is greater than the listsize, then the endIndex is set to listSize | LastProcessedIndex | The last element index retrieved based on the endIndex |
| | deleteList | False | | |
| Retrieve and Delete list | listHandle | Valid list handle | ListHandle | Null or empty string |
| | listSize | Valid list size | | |
| | lastProcessedIndex | Null, empty String or a valid index. When this field is set, the Retrieve list retrieves the records next to this index and up to the endIndex. | ListSize | Null or empty string |
| | startIndex | When the lastProcessedIndex is not set to a valid index, this field should be set to a valid index (1 to listSize). | | |
| | endIndex | If null or empty string is the value for this field, then the list from either the lastProcessedIndex or startIndex up to the last index is retrieved. | LastProcessedIndex | -1 |
| | deleteList | True | | |
| Create, Retrieve and | listHandle | Null or empty string | ListHandle | Null or Empty String |

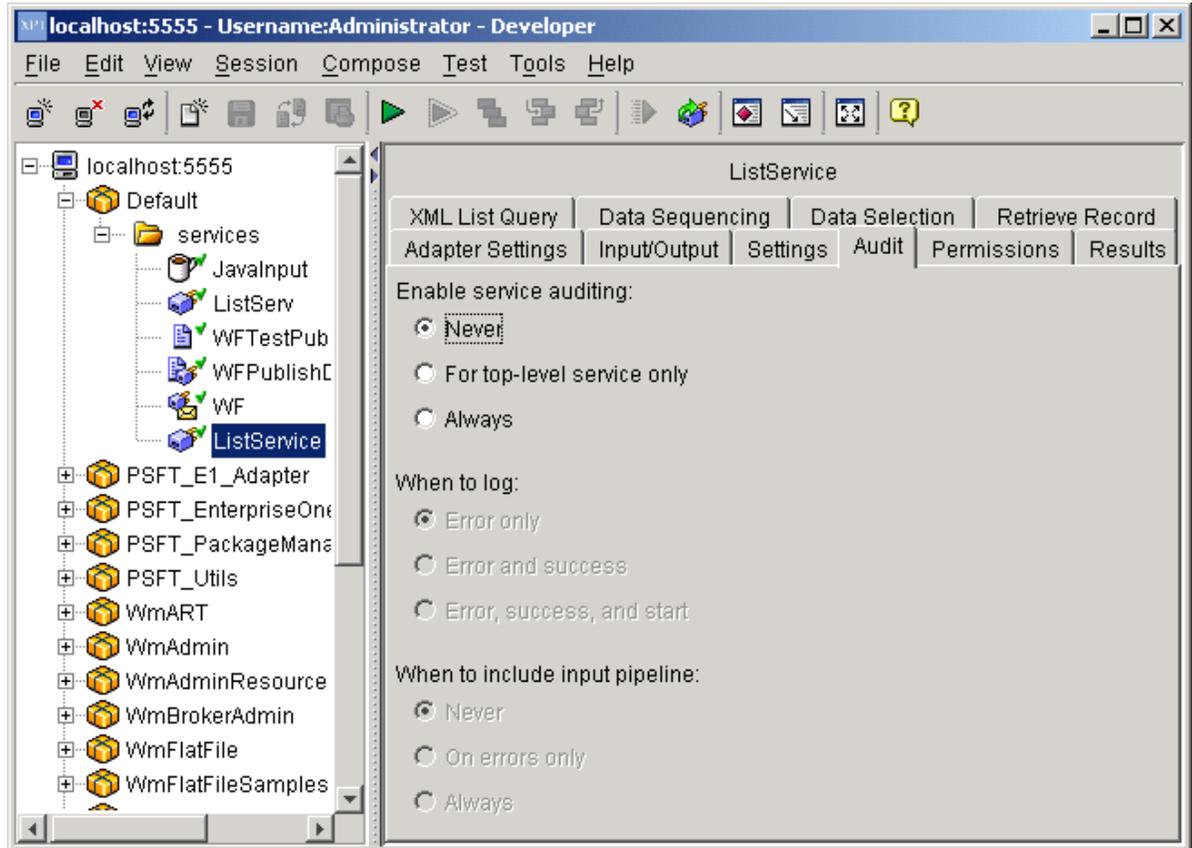
| Operations | Input Parameters | | Output Parameters | |
|---------------------------------|--------------------|--|--------------------|----------------------|
| Retrieve and Delete list | listSize | Null or empty string | | |
| | lastProcessedIndex | Null or empty string | ListSize | Null or Empty String |
| | startIndex | 1 | | |
| | endIndex | Any value more than 1. If a null or empty String is passed, the endIndex is assumed to be the last Index. If the endIndex is greater than the listsize, then the endIndex is set to listSize | LastProcessedIndex | -1 |
| | deleteList | True | | |

Settings Tab

On the Settings tab, the system defines the template file associated with the selected service, assigns run-time parameters, and assigns a universal name. *This is currently not used by the EnterpriseOne adapter.*



Audit Tab



- Enable Service Auditing

The Enable Service Auditing section defines how you want to audit. Values include: Never, For top-level service only, Always.

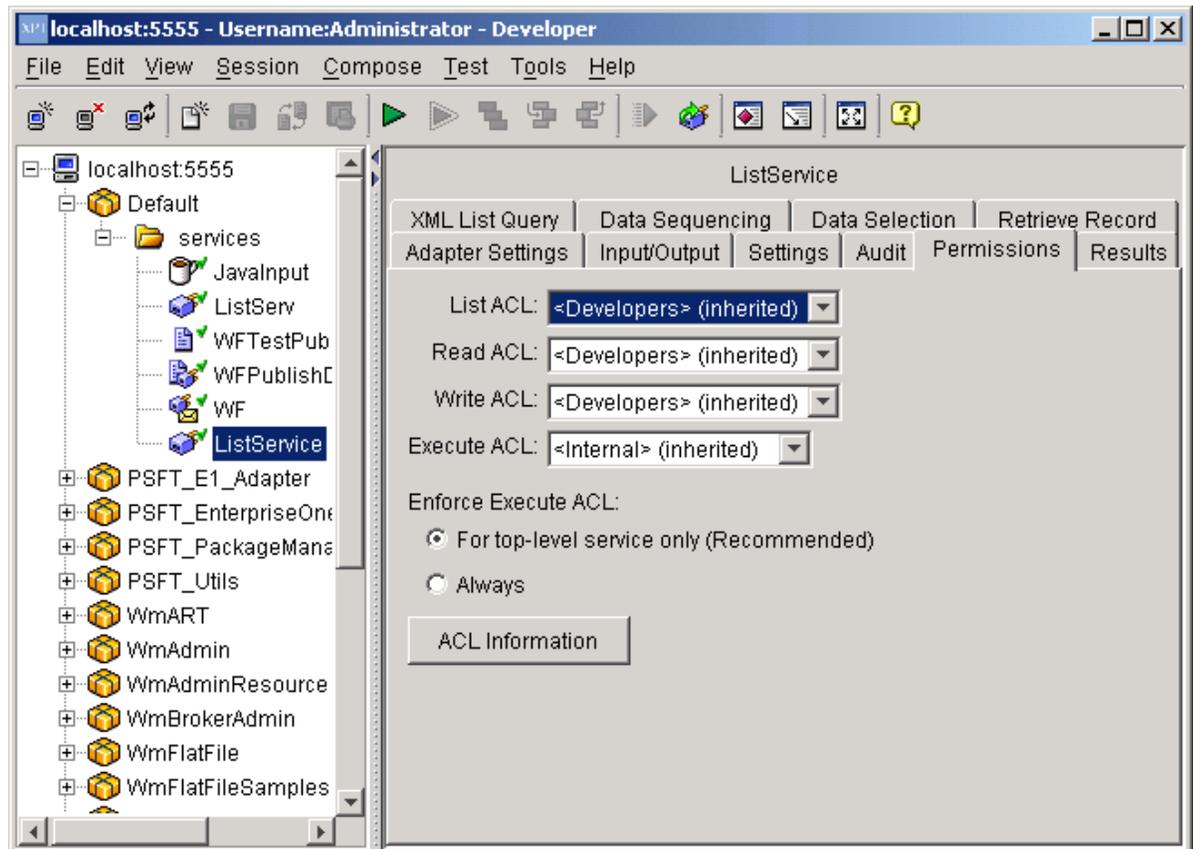
- When to log

This section defines when to log. Values include: Errors only, Error and Success, Error, Success and Start.

- When to include input pipeline

This section defines when to include the pipeline in the log. Values include: Never, On errors only, Always.

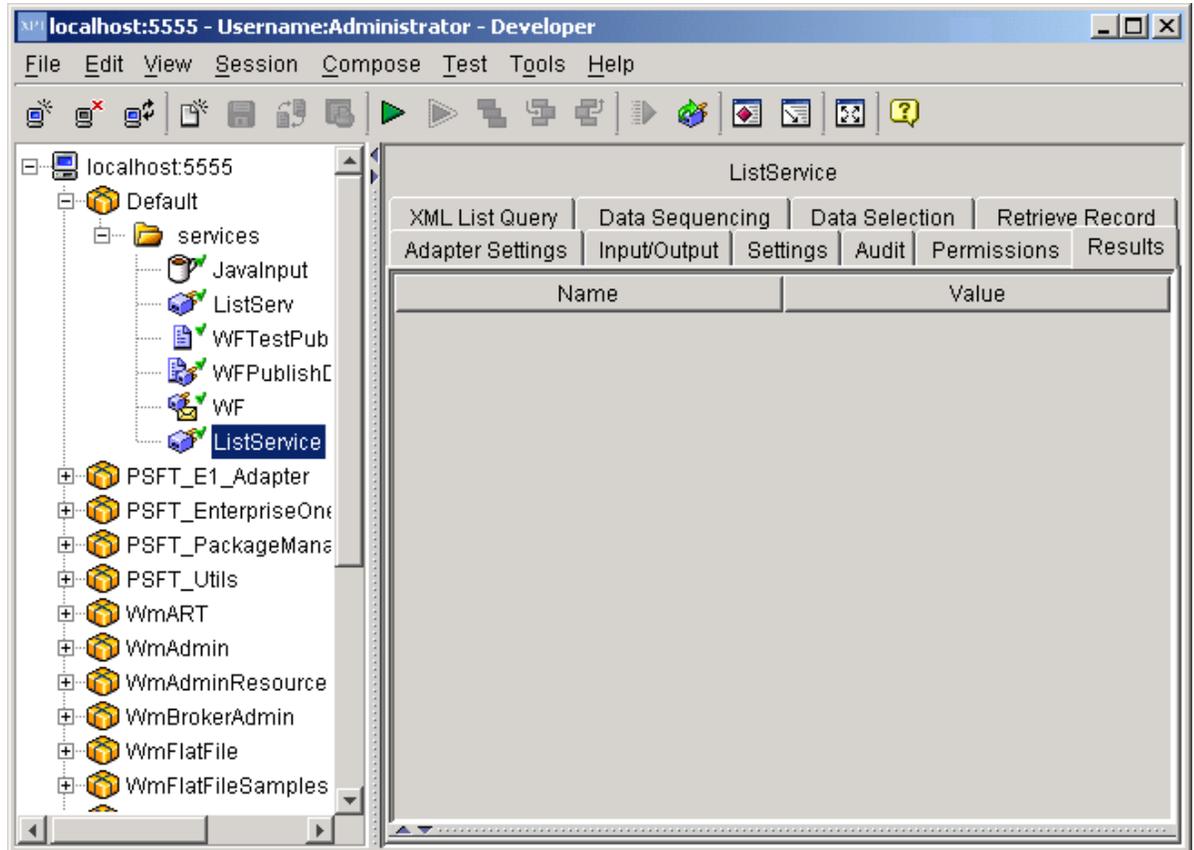
Permissions Tab



- **List ACL**
Users in the allowed list can see that the elements exist and view the elements metadata (input, output, and so on).
- **Read ACL**
Users in the allowed list can view the source code and metadata for the element.
- **Write ACL**
Users in the allowed list can lock, edit, rename, and delete the element.
- **Execute ACL**
Users in the allowed list can run the service.
- **Enforce Execute ACL**
The values for this field include: For top-level service only, Always.
- **ACL Information**
Click to view the users and groups that compose the ACLs on the Integration Server to which you are connected. This information is read only; to edit ACLs, users, and groups, use the Integration Server Administrator.

Results Tab

When testing and debugging in the XPI Integration Developer tool, the results of the service appear in this tab.



Notification Services

A Notification Service is created from an operation template to trigger a notification flow for a real-time event from EnterpriseOne. This is how the adapter transfers data and communicates with the EnterpriseOne resource.

Notification Template

The Outbound Template exposes the real-time events, Z events, and workflow events from EnterpriseOne. It has built-in hooks for receiving events from EnterpriseOne. You can use one template for several operations; therefore, the adapter may have many notification services. Each notification service is a one-to-one mapping to an event.

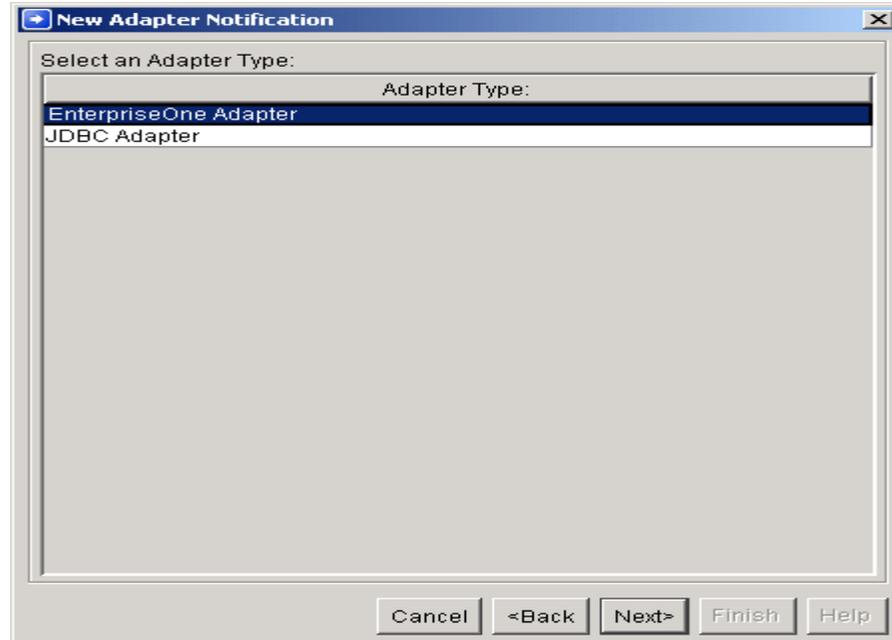
► To create a notification service

1. Create a listener for the notification.

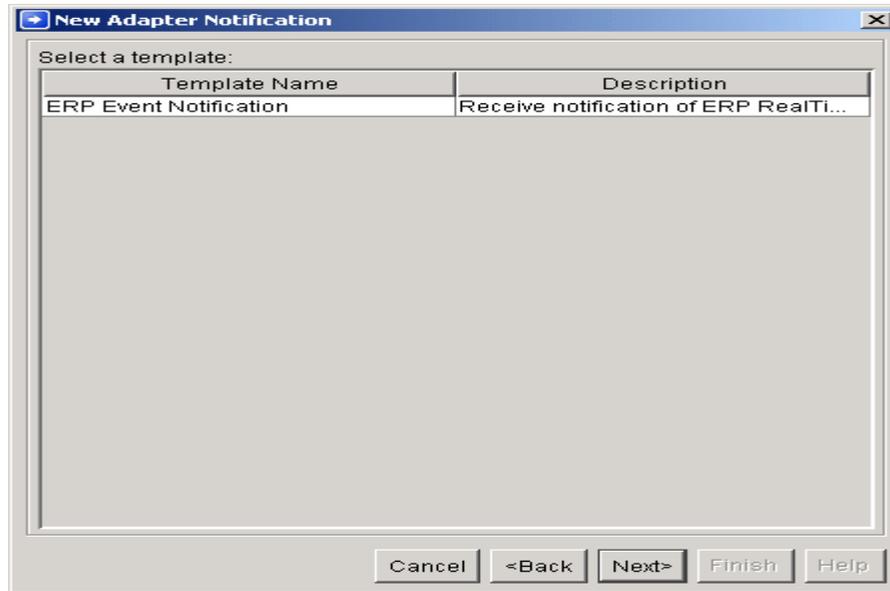
Note

For more information, see the *PeopleSoft EnterpriseOne XPI 8.94 Installation and Configuration for EnterpriseOne Adapter*.

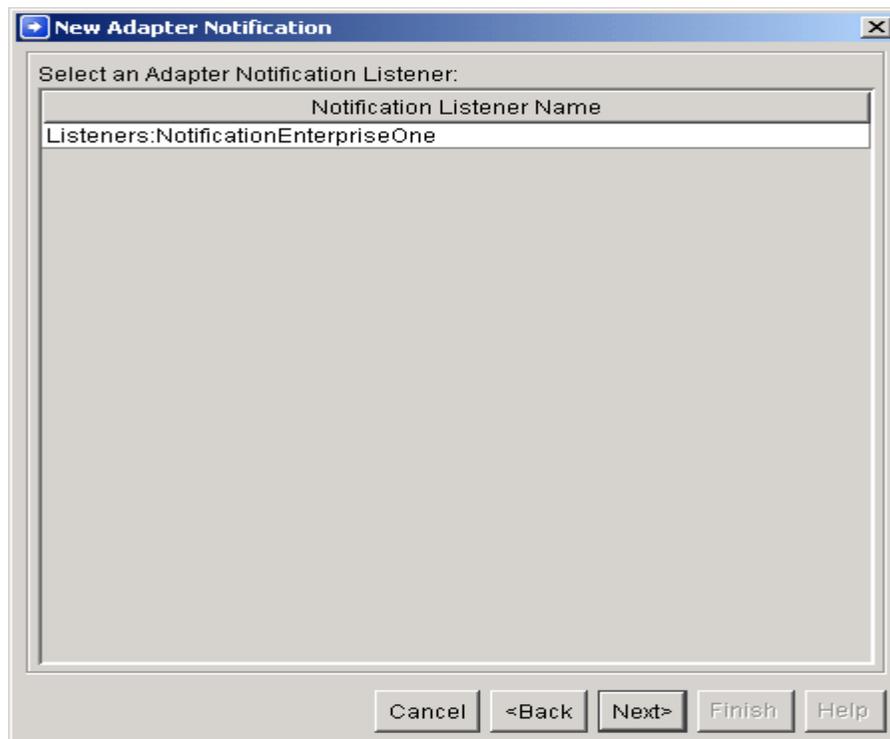
2. From the File menu, select New, and then Adapter Notification.
3. Click Next.



4. On New Adapter Notification, select EnterpriseOne Adapter as the adapter type.



5. Select the ERP Event Notification template, and then click Next.



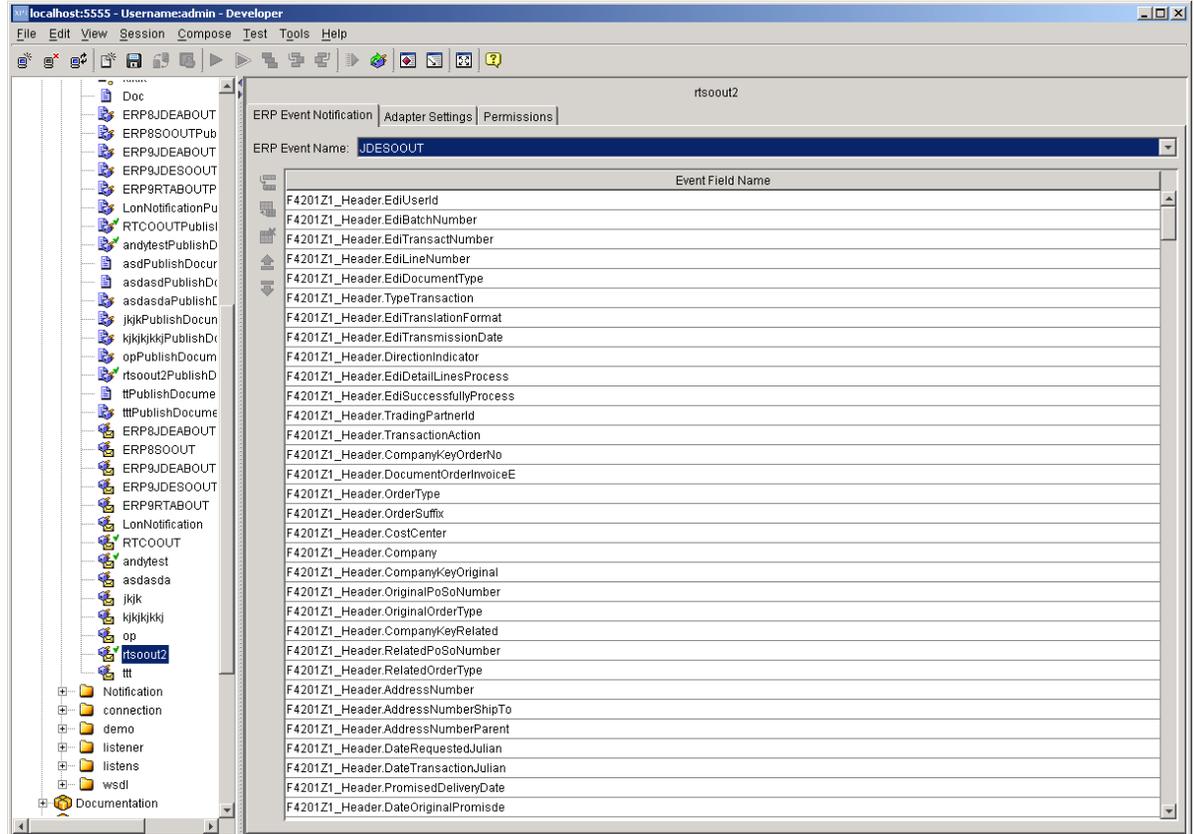
6. Select the Listeners:NotificationEnterpriseOne line, and then click Next.
7. Name your Adapter Notification Service following the naming standards in the *EnterpriseOne XPI 8.94 PeopleBook: Integration Development Methodology*.
8. Place the Adapter Notification Service in an Adapter Services package, and then click Next.
9. Click Finish to create the Notification Adapter service and document.
The system creates an Adapter Notification Service and an associated document.

10. Select the Notification Service. The following information appears in the left pane:

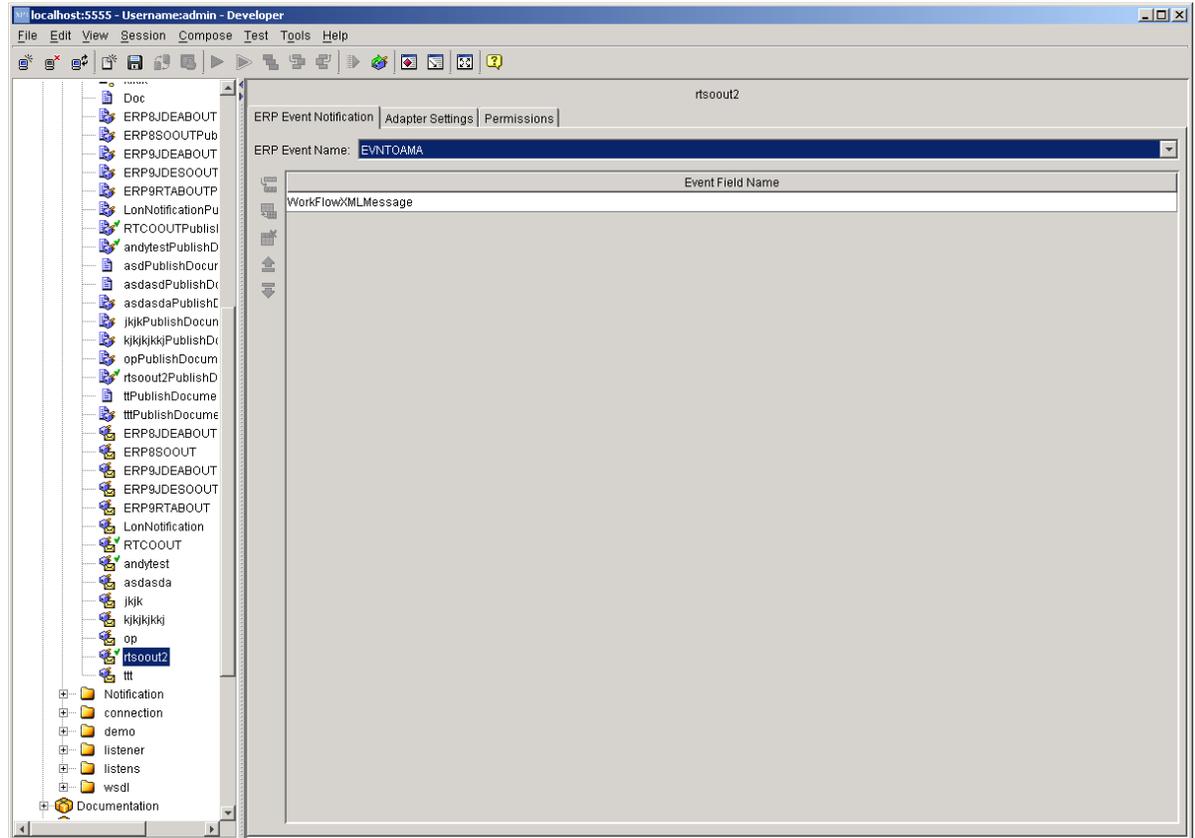
ERP Event Name

This is the name of the EnterpriseOne outbound event.

11. Select the event. The system loads the event fields in the bottom pane.

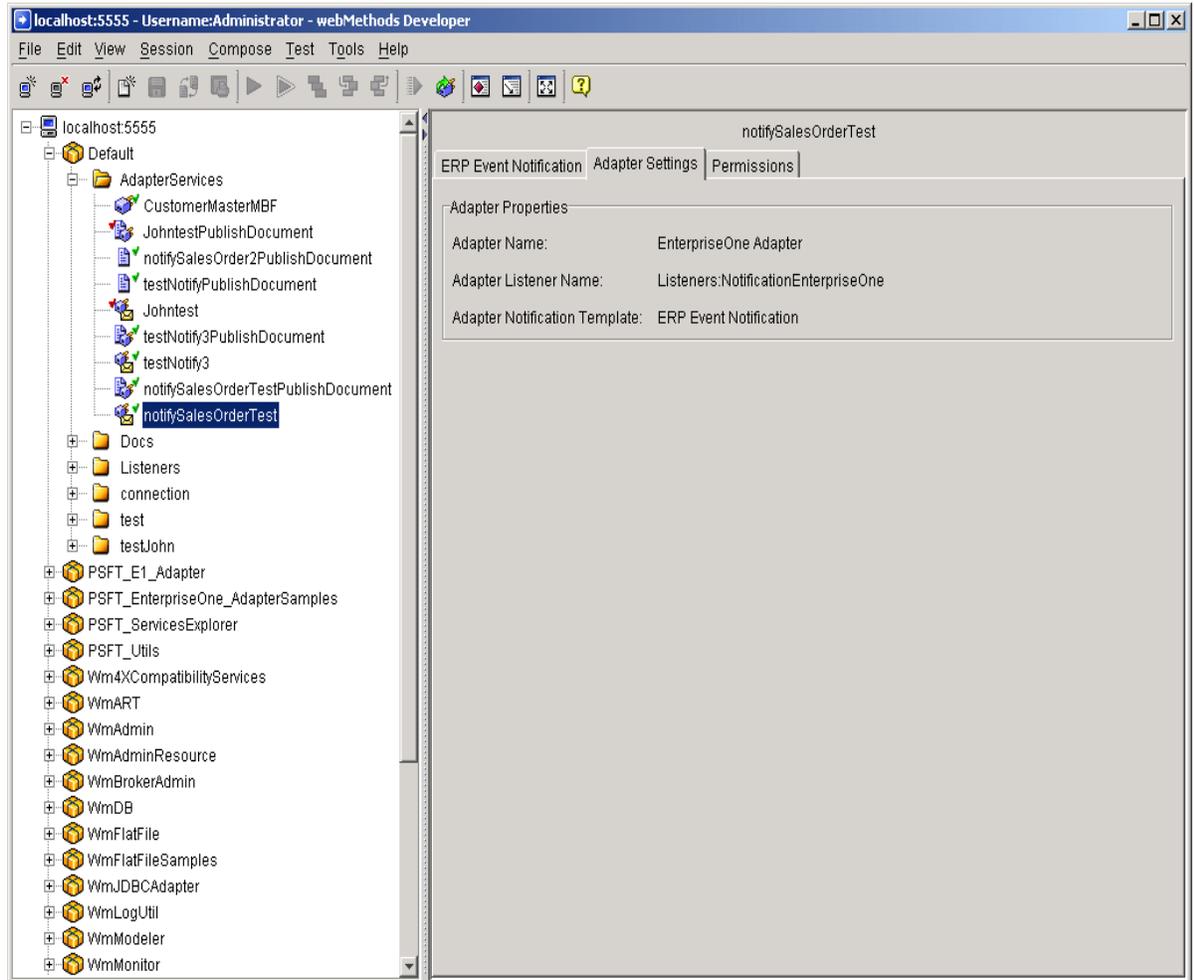


For the Workflow events, the system loads and displays a single event field in the bottom pane, as shown below.



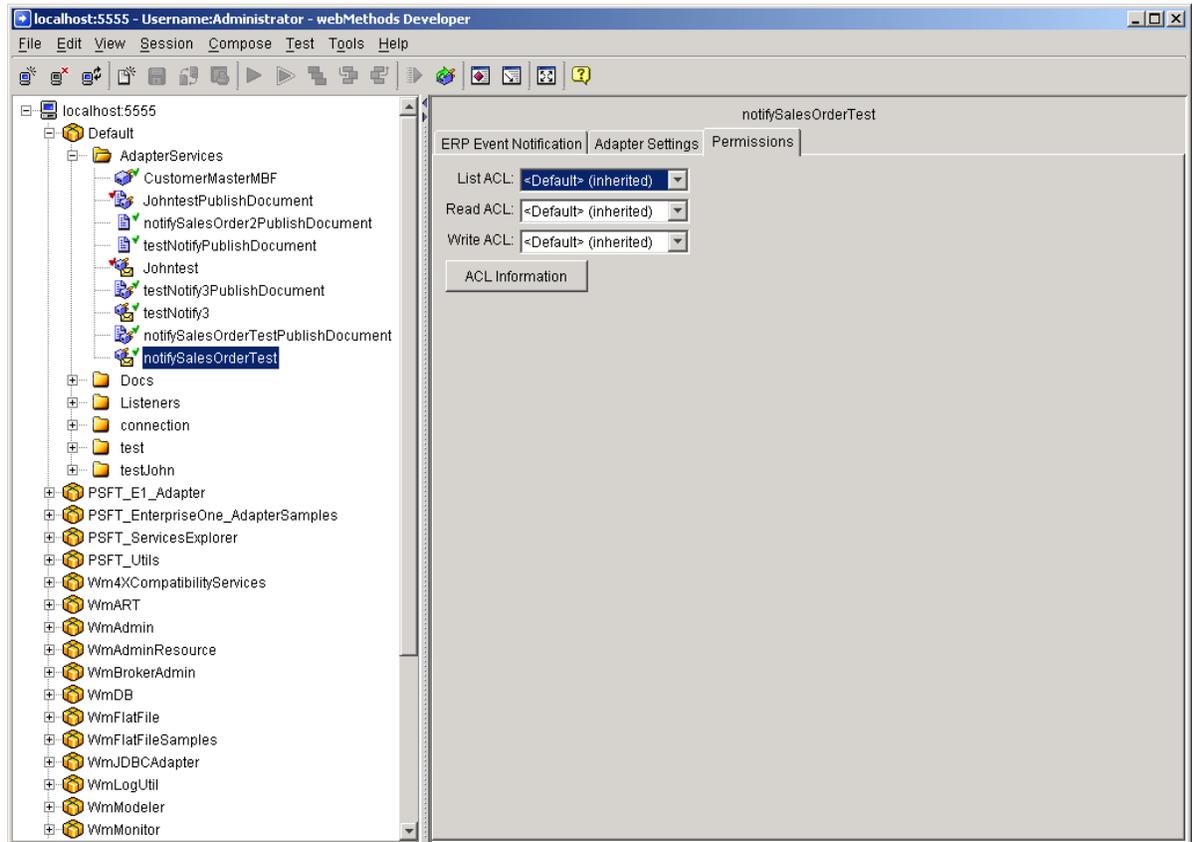
12. Save the Notification Service.
13. Review the information that appears on the following tabs:

Adapter Settings Tab



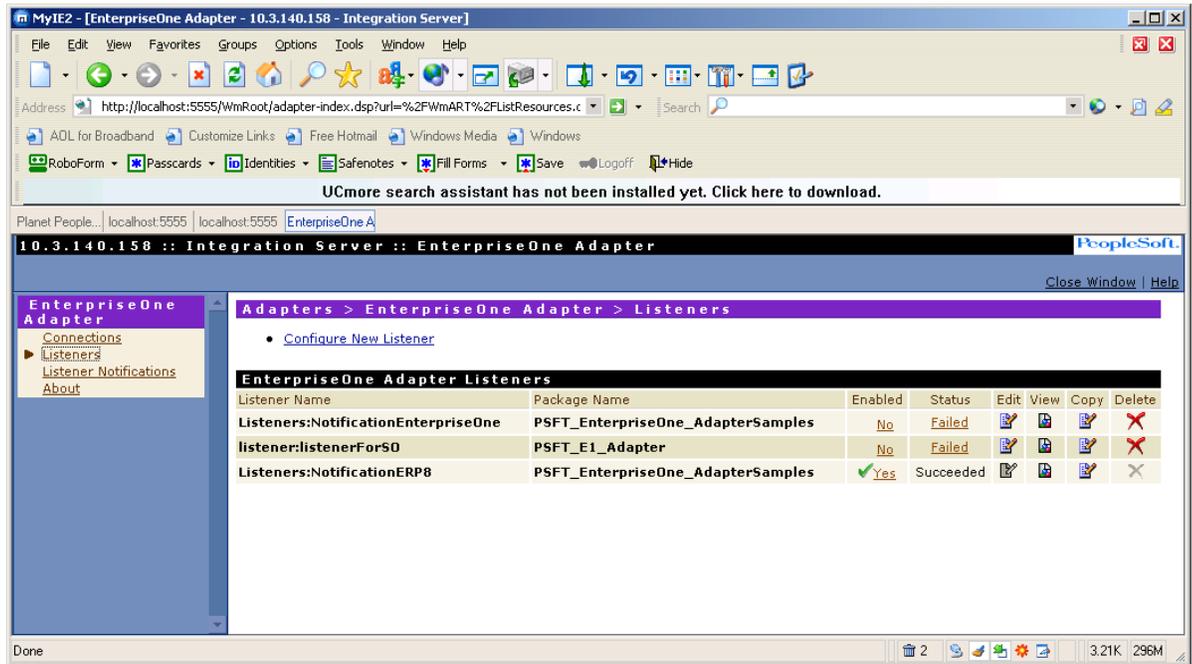
- **Adapter Name**
The adapter that owns the Notification Service.
- **Adapter Listener Name**
The event listener for the Notification Service.
- **Adapter Notification Template**
The adapter template used for the Notification Adapter Service.

Permissions Tab

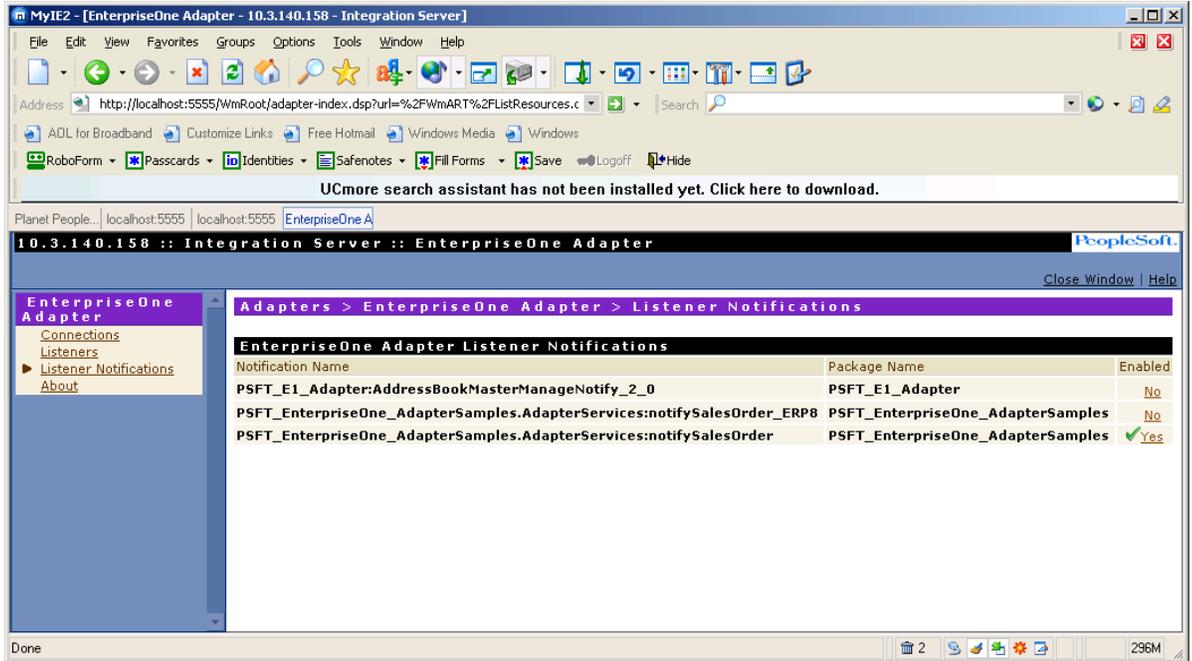


- **List ACL**
Users in the allowed list can see that the elements exist and view the metadata (input, output, and so on) for the elements.
- **Read ACL**
Users in the allowed list can view the source code and metadata for the element.
- **Write ACL**
Users in the allowed list can lock, edit, rename, and delete the element.
- **Execute ACL**
Users in the allowed list can execute the service.

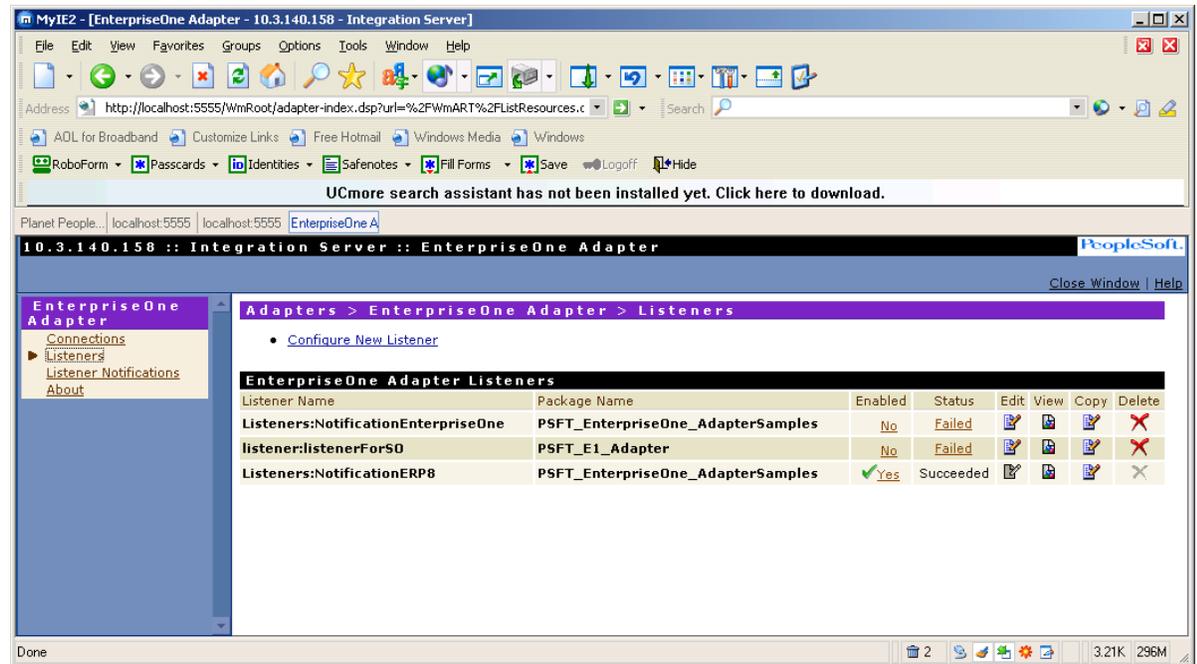
- Enforce Execute ACL
The value in for this field include: For top-level service only, Always.
 - ACL Information
Click to view the users and groups that compose the ACLs on the Integration Server to which you are connected. This information is read only. To edit ACLs, users, and groups, use the Integration Server Administrator.
14. Enable the Notification service.
- Using the Admin tool (Adapter > EnterpriseOne Adapter >Listeners), check whether the Listener is enabled. If enabled, click the Yes link to disable the Listener.



- Click Listener Notifications on the left side of the screen.



c. Enable the Notification by clicking the No link



d. Click Listeners on the left side of the screen.

e. Enable the Listener by clicking the No link.

Now the adapter is ready to receive, process, and publish the real-time event required by the notification service.

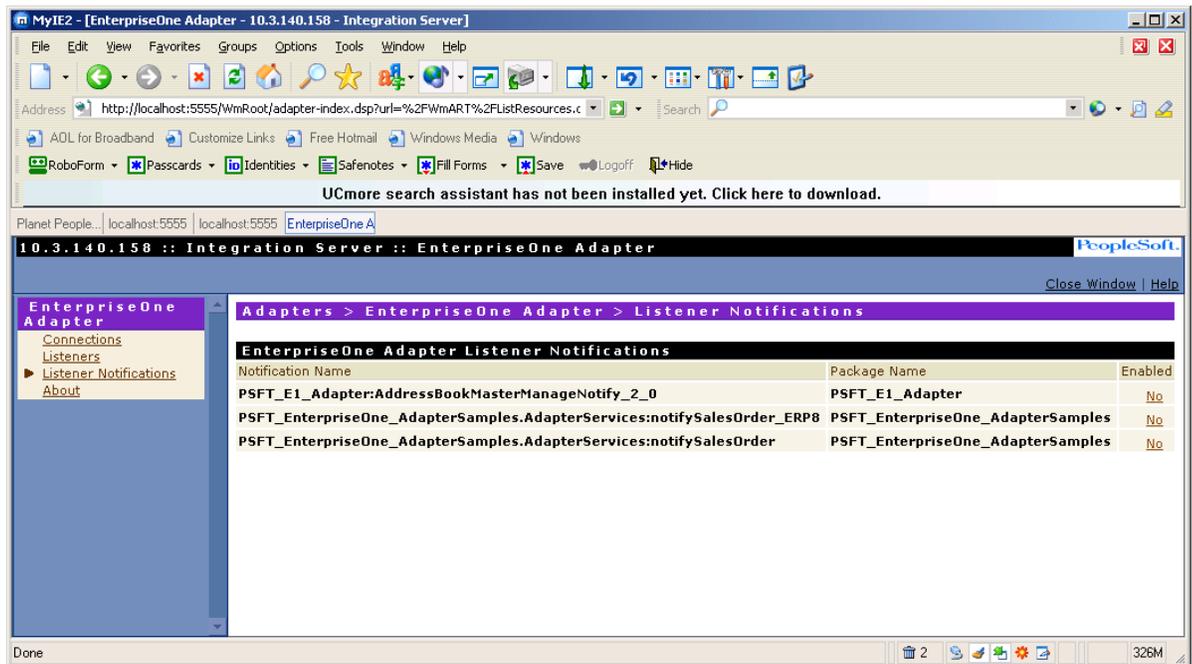
15. Check in the notification service to the Source Control System.

Disabling the Notification

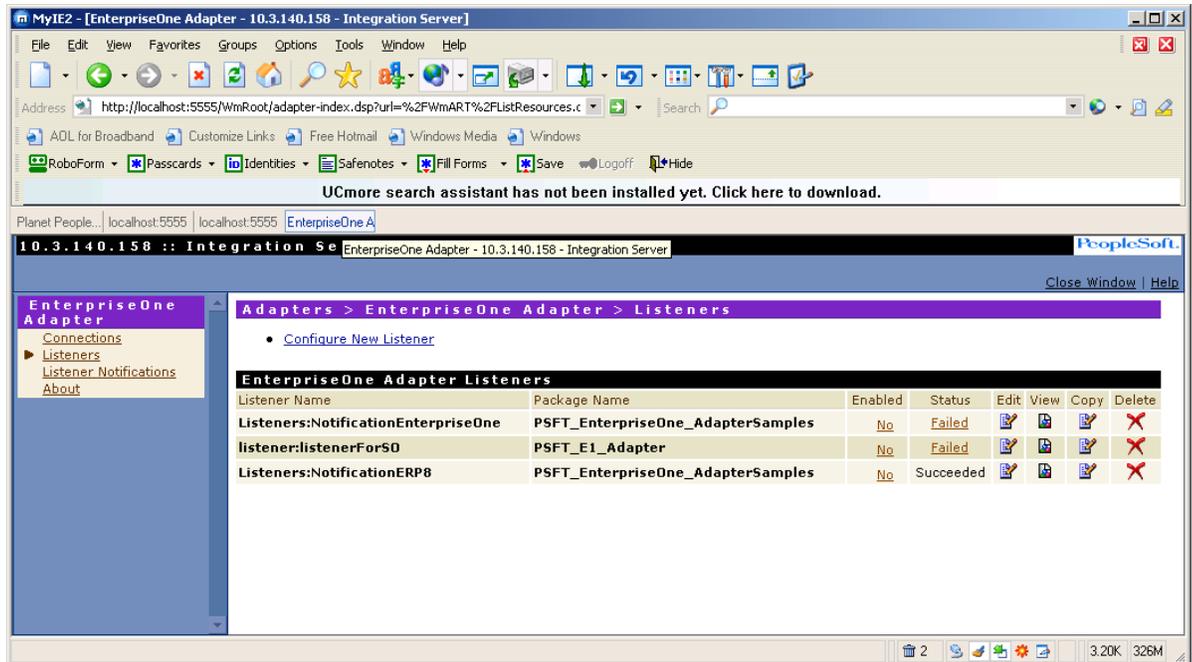
Important

To ensure that the notification is pushed to the listener, you must perform the following procedure when checking in the notification service. If you do not perform this procedure, the imported notification service will not be registered with the listener, and the adapter will not receive the real-time events.

► To disable the notification



1. Using the Admin tool (Adapter > EnterpriseOne Adapter > Listener Notifications), disable the notification by clicking Yes in the Enabled column.



- Using the Admin tool (Adapter > EnterpriseOne Adapter > Listeners), disable the listener.
- Check in the artifacts to the Source Control System.

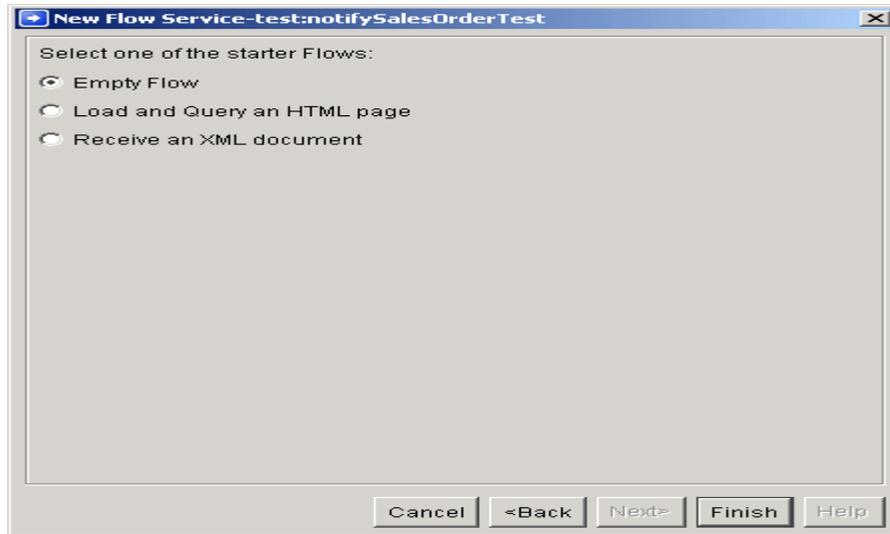
Flow Services

A Flow Service describes the interaction between the integration tasks. It ties the integration logic together. This is where the system creates the actual logic. The flow generates the WSDL for the web service.

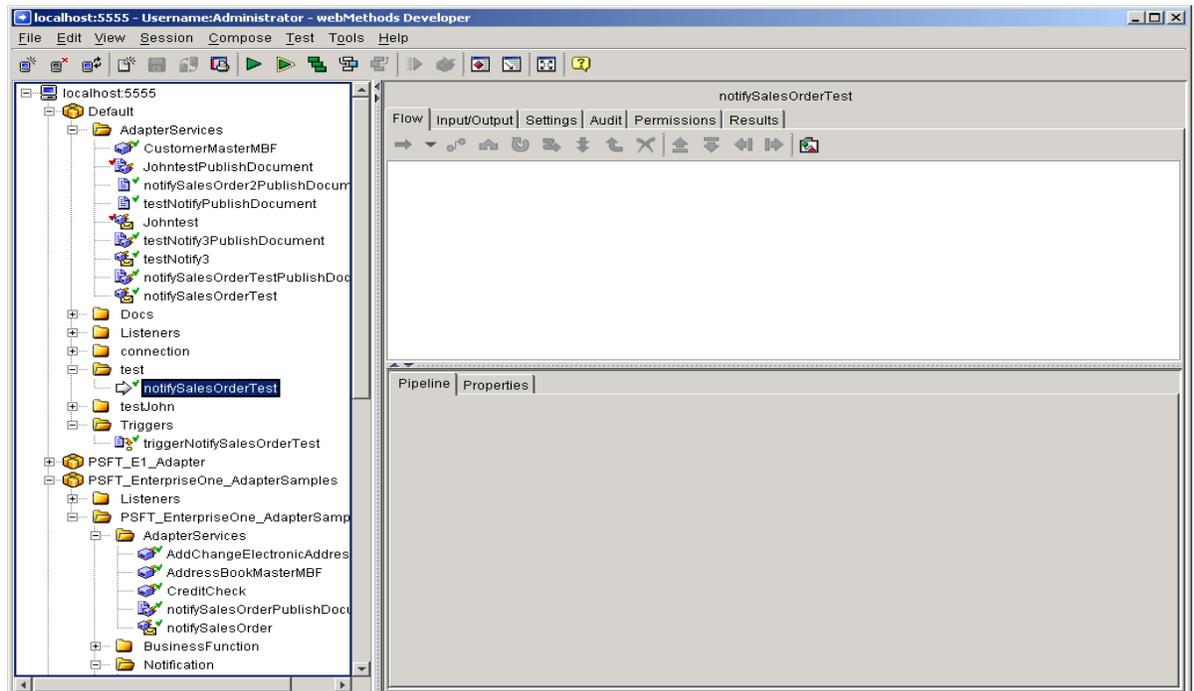
You call the adapter services in the flow to execute the business logic.

► To create a Flow Service

- From the File menu, select New, and then Flow Service.
- Click Next.
- Name your Flow Service following naming standards in the *EnterpriseOne XPI 8.94 PeopleBook: Integration Development Methodology*.
- Place the Flow Service in the flow service package.

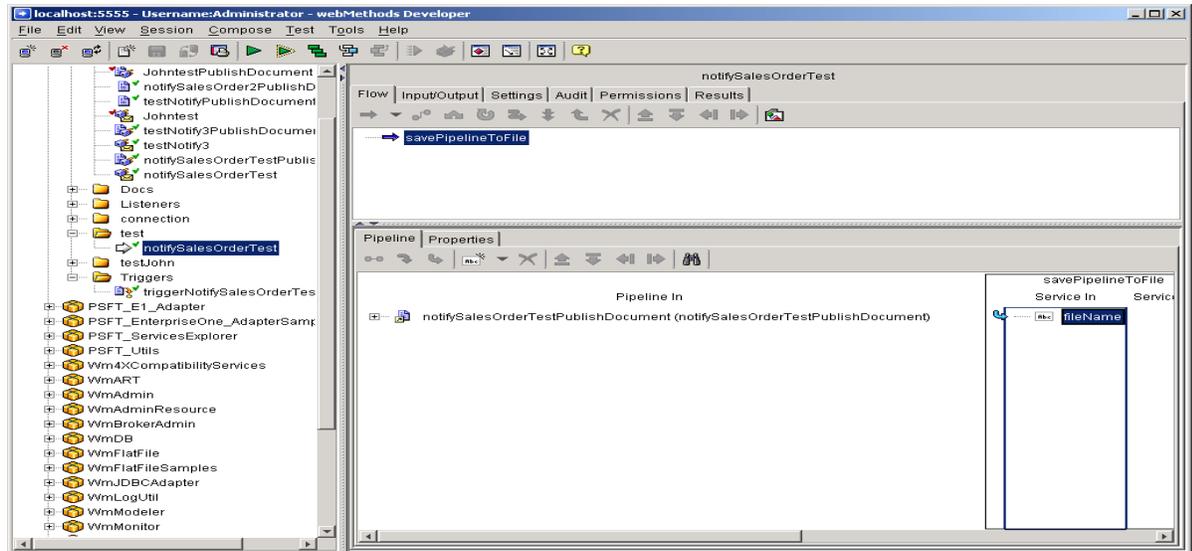


5. Select one of the starter flows, and then click Finish. The default is empty.
6. Select the flow. Add in the steps to process the Notification document.

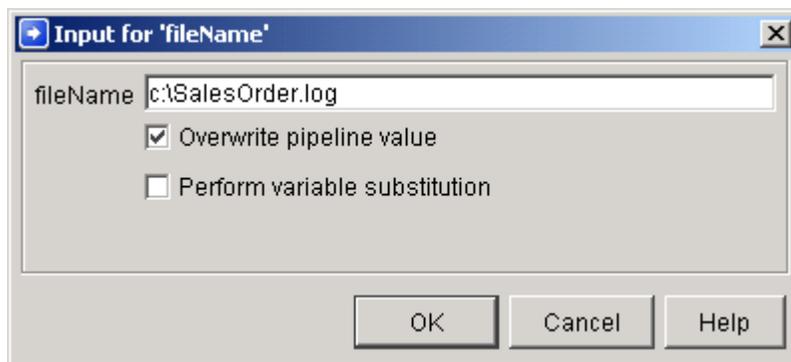


7. Go to the input/output tab and select the input and output documents for the flow. If you are creating a flow that processes a notification, then select the publish document that was created for the Notification Service.

For this example, there is a step to call a service to Save the Pipeline to a File. The input to the flow service is the publish document for a Notification Service.



8. In the Pipeline tab, scroll to the SavePipelineToFile service. The input to this service is a file name and location:



Trigger

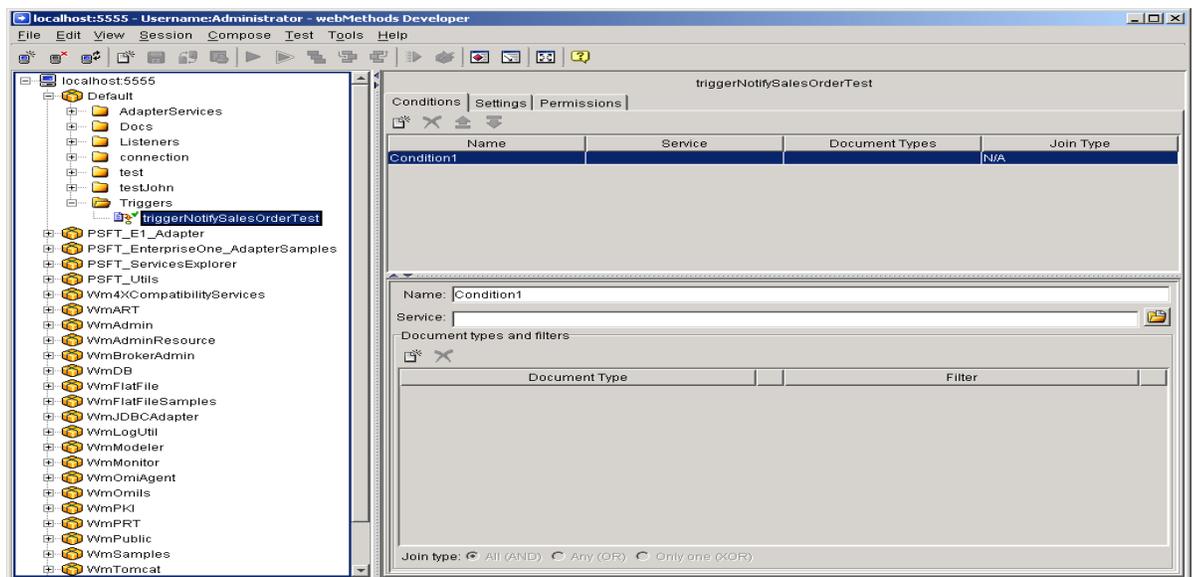
A trigger provides the link between the Notification Service and flow to execute when the real-time event is received from EnterpriseOne.

► To create a trigger

1. From the File menu, select New, and then Trigger.
2. Click Next.
3. Name your trigger following naming standards in the *EnterpriseOne XPI 8.94 PeopleBook: Integration Development Methodology*.
4. Place the Trigger in the flow service package in a Triggers folder, and then click Finish.

The following information appears in the left pane:

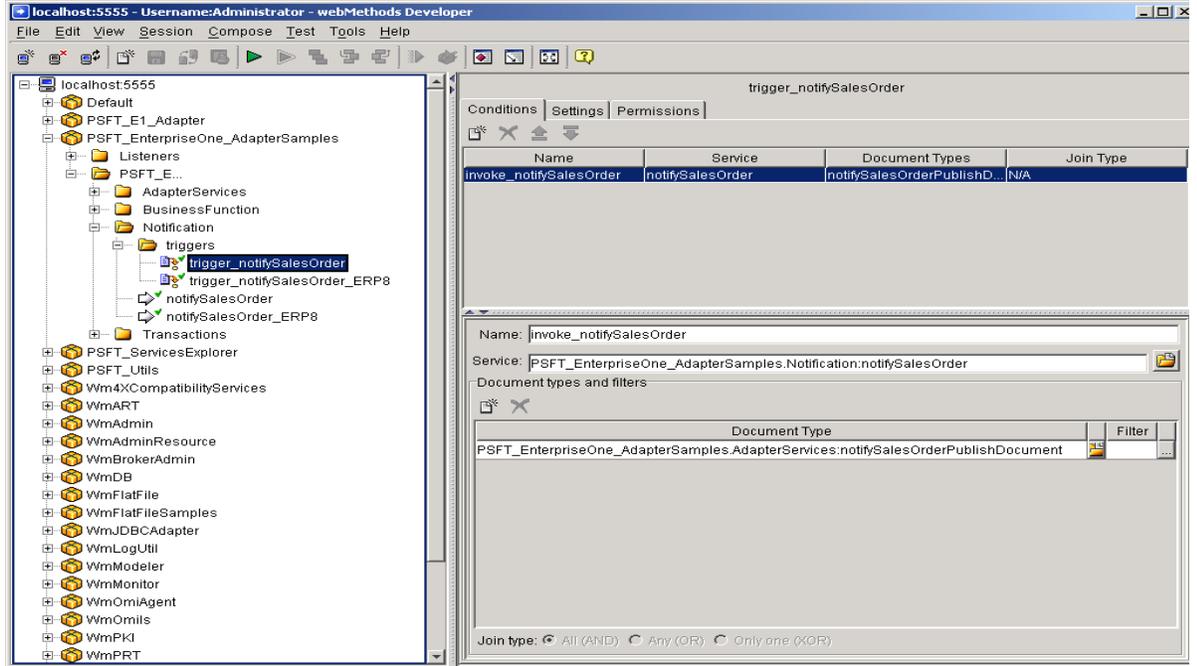
| Item | Description |
|-----------------------|--|
| Name | The name of the condition for the trigger. For example, invoke. |
| Service | The name of the flow service that executes when a real-time event is triggered. |
| Document Types | The publish document that was created when you created the Notification Service. |
| Join Type | This field displays N/A until you specify more than one publishable document type. |



5. Type the condition name, for example `invoke_notifySalesOrder`.
6. Select the flow service to run when a real-time event is triggered.
7. For the document type, select the Publish document that was created when you created your Notification Service. This publish document must match the name of the event; that is, if the event name is `notifySalesOrder` in the `AdapterServices` folder, then the publish document must be `AdapterServices:notifySalesOrderPublishDocument`.

Note

The document type should be the same as the document type input for your flow service.



8. Save your trigger.

Samples

The samples in this section show examples of adapter services that were built using the PeopleSoft EnterpriseOne adapter templates. The samples illustrate how the adapter services can be used in a flow.

- EnterpriseOne adapter service to call an EnterpriseOne business function
- EnterpriseOne adapter service to call an EnterpriseOne Select database operation
- Notification adapter service from EnterpriseOne that is triggered by an EnterpriseOne real-time event
- Transactions are a flow that show how to start, commit, and rollback a transaction
- EnterpriseOne adapter service to execute a XML List operations

Prerequisite

- ❑ The tests require that you install and activate the PSFT_EnterpriseOne_AdapterSamples package, and that dependent packages have been installed and activated. If you have not installed and activated the packages, refer to the list in the *Introduction* section of this document.
- ❑ Ensure that you are viewing and running the correct artifact for your connection. PeopleSoft provides sample artifacts for both EnterpriseOne and ERP8 connections.
- ❑ For ERP8 business function calls, you must first generate the Java wrappers and note the location of the jar files in your ERP8 connection configuration. For more information, see the *PeopleSoft EnterpriseOne XPI 8.94 Installation and Configuration for EnterpriseOne Adapter*.
- ❑ For EnterpriseOne and ERP8 notifications, the PSFT_EnterpriseOne_AdapterSamples package contains default listeners. Before running the notification samples, you must configure the listeners to work with your environment, as well as enable the listener and listener notification. For more information, see the *PeopleSoft EnterpriseOne XPI 8.94 Installation and Configuration for EnterpriseOne Adapter*.

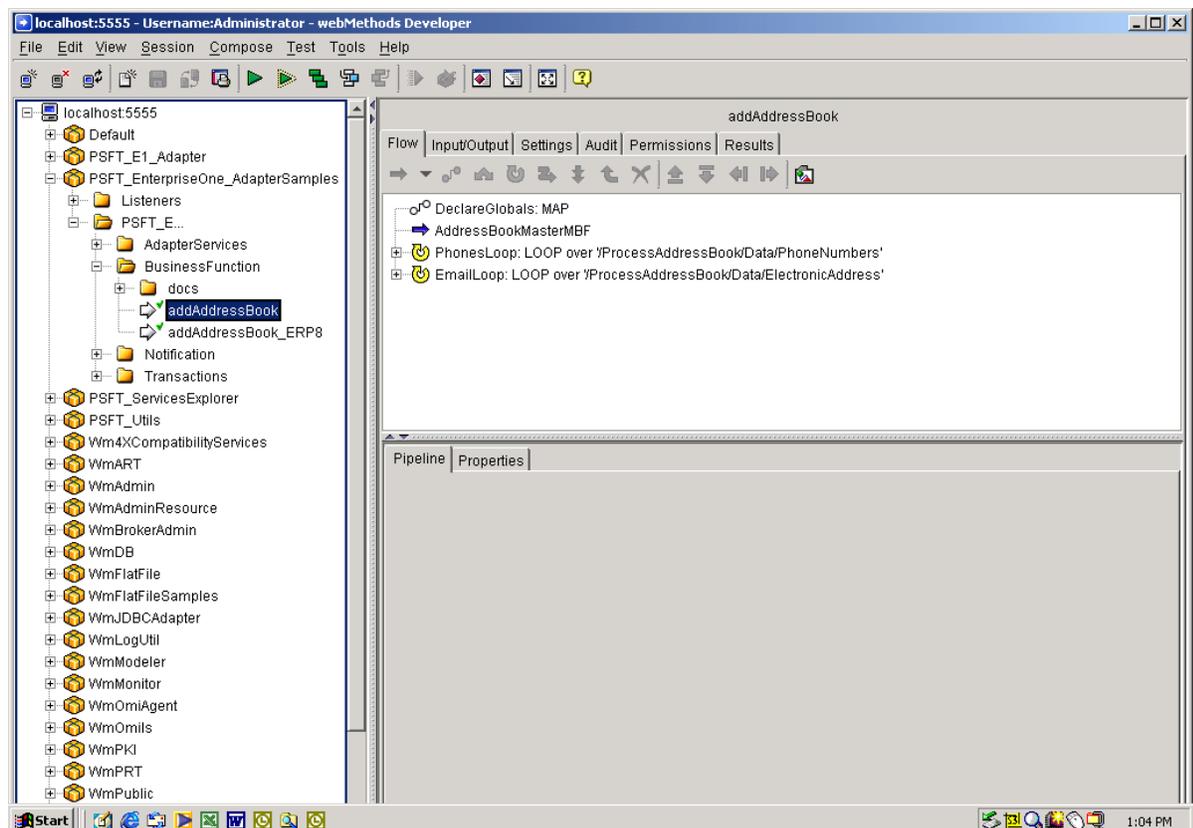
Sample #1 – Adapter Service to call an EnterpriseOne Business Function

The PSFT_EnterpriseOne_AdapterSamples package includes Adapter Services for business function calls to AddressBook MBF. The package includes adapter services for both an EnterpriseOne connection and an ERP8 connection. You must ensure that you are viewing and executing the correct flows and adapter services for your connection.

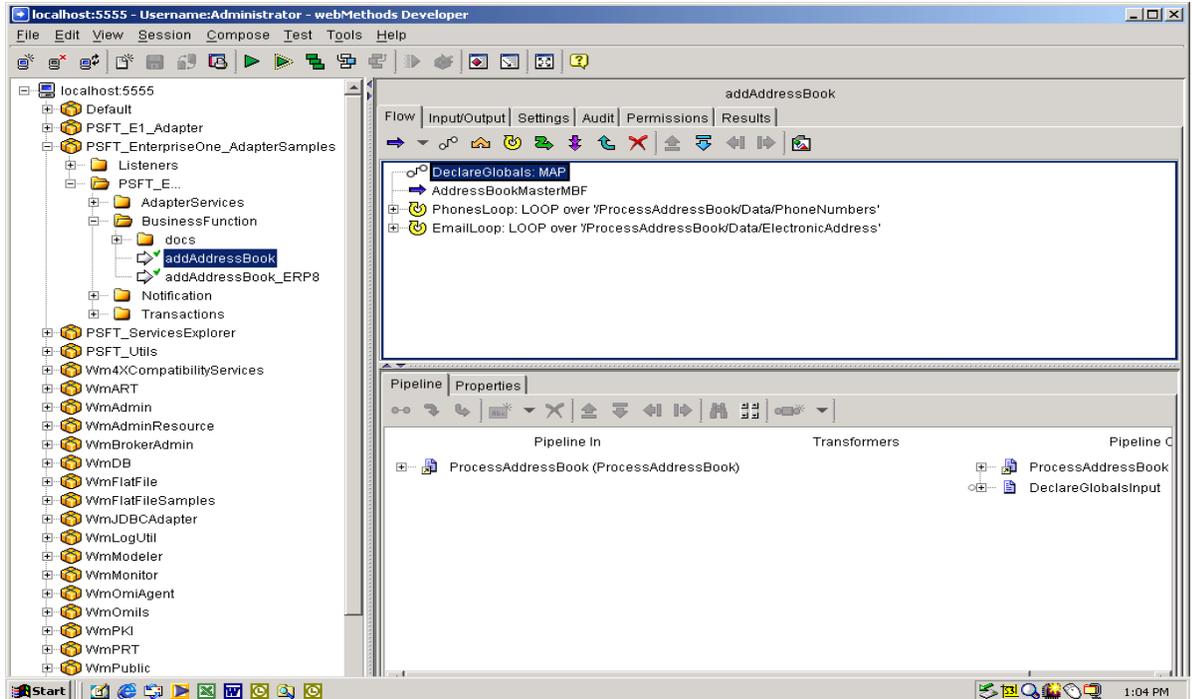
Address Book Add

► To review the flow

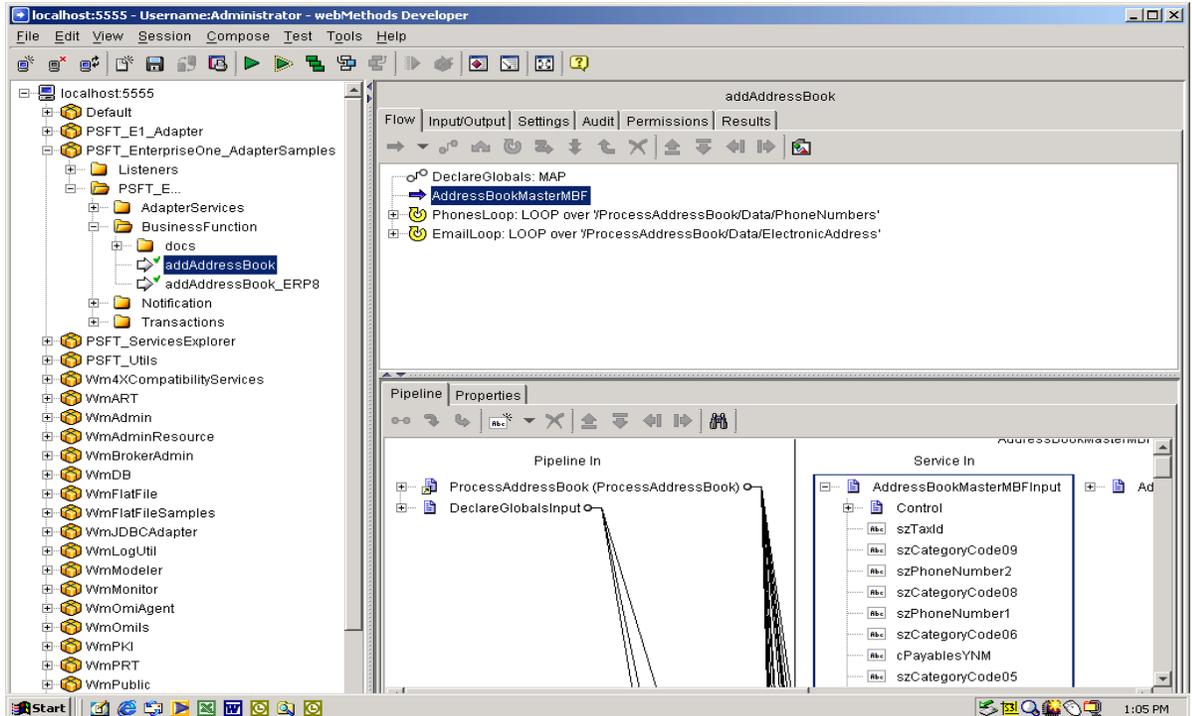
1. Select the addAddressBook flow service under the Business Function folder, and then click the Input/Output tab.



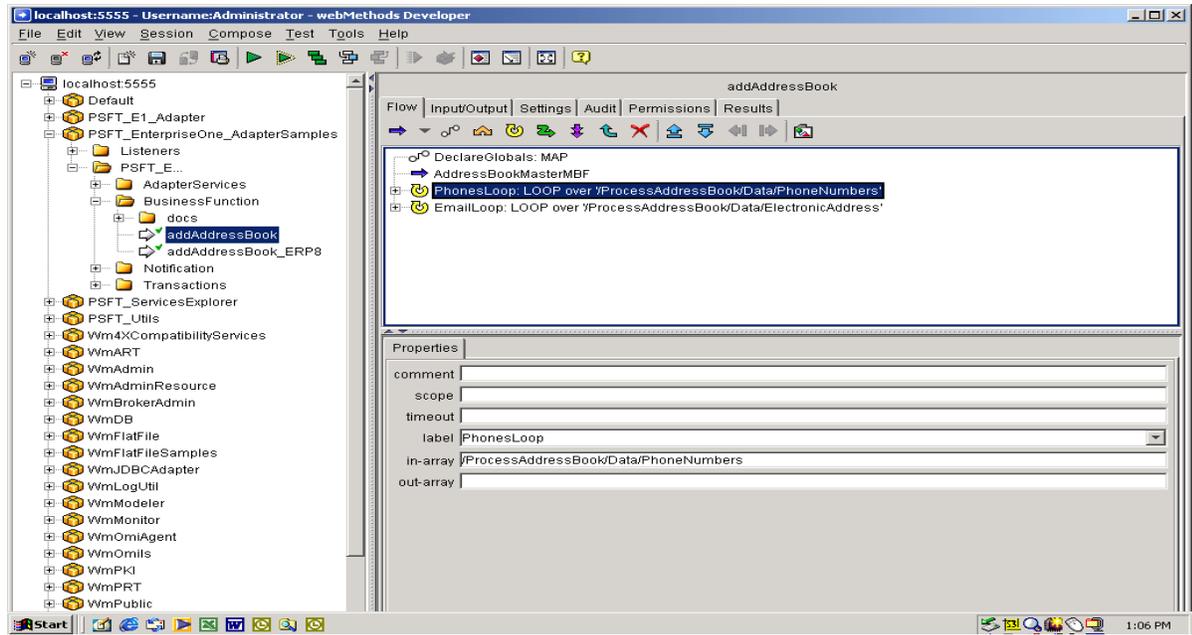
The input is a reference to the ProcessAddressBook document. The output is a reference to the ConfirmAddressBook document. The documents are located in the docs directory under BusinessFunction.



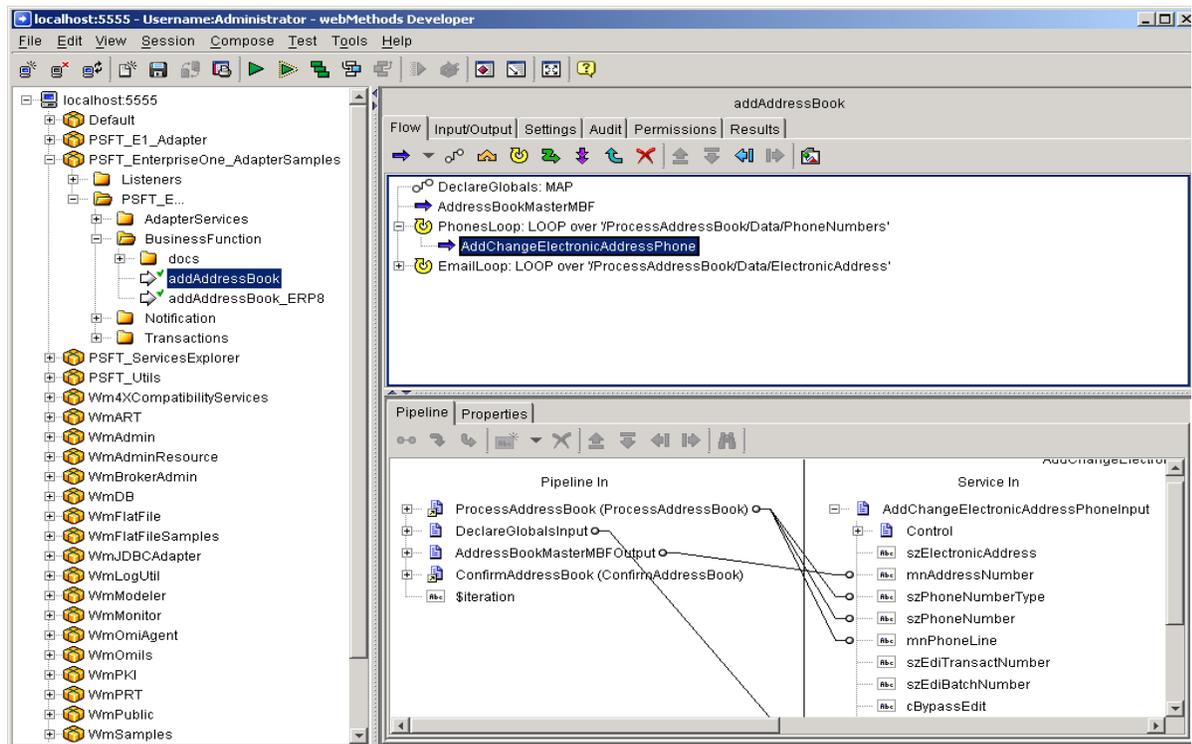
2. Click the Flow tab. The first step in the flow is a DeclareGlobals step that defines constant values that are mapped in the pipeline later in the flow.



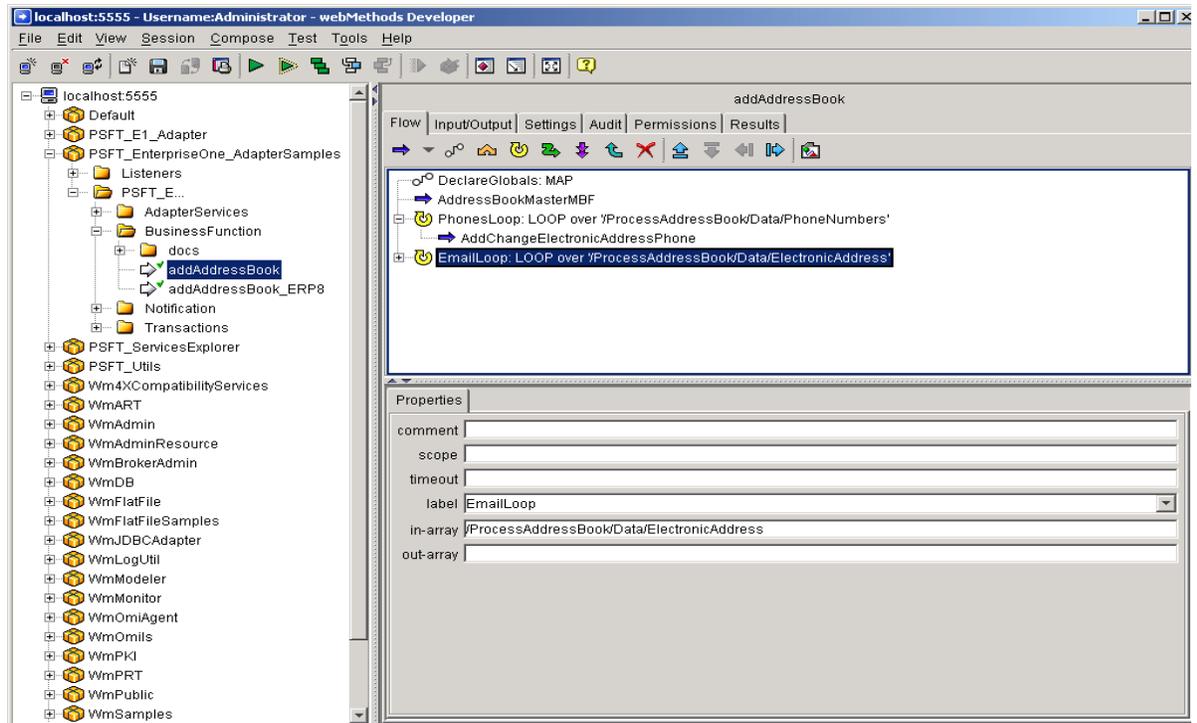
3. The second step is a call to the AddressBookMBF adapter service. Click the Pipeline tab to view the mappings.



- The next step is a Loop over the phone number array. Select the Loop, and then view the properties in the Properties tab.



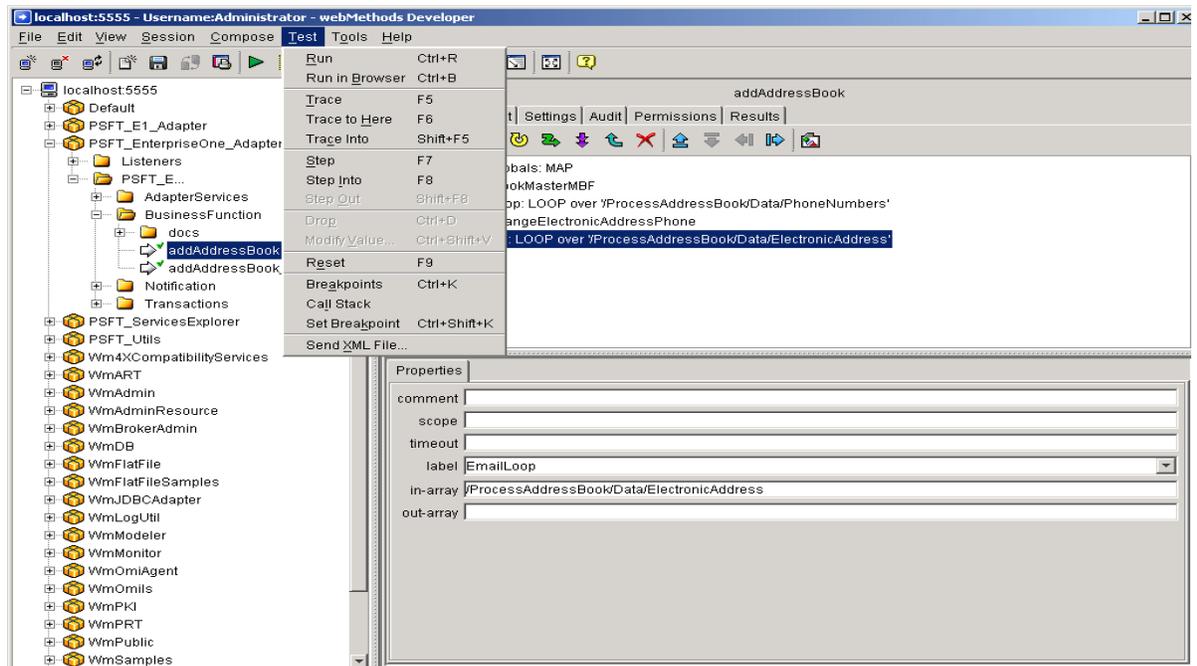
- The next step within the loop is a call to the AddChangeElectronicAddressPhone adapter service. This adapter service maintains phone and email records in EnterpriseOne. Click the Pipeline tab to view the mappings.



- The next step is a loop over the Electronic Address array. Select the loop, and then view the properties in the Properties tab.

Running the Flow

► To run the flow



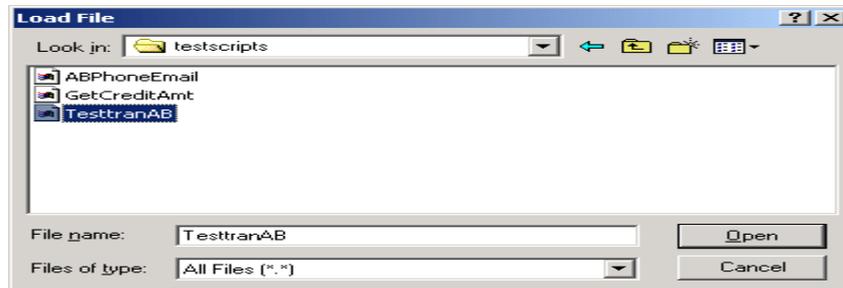
- From the Test menu, select Run.

A screen with the input parameters to the flow service appears.

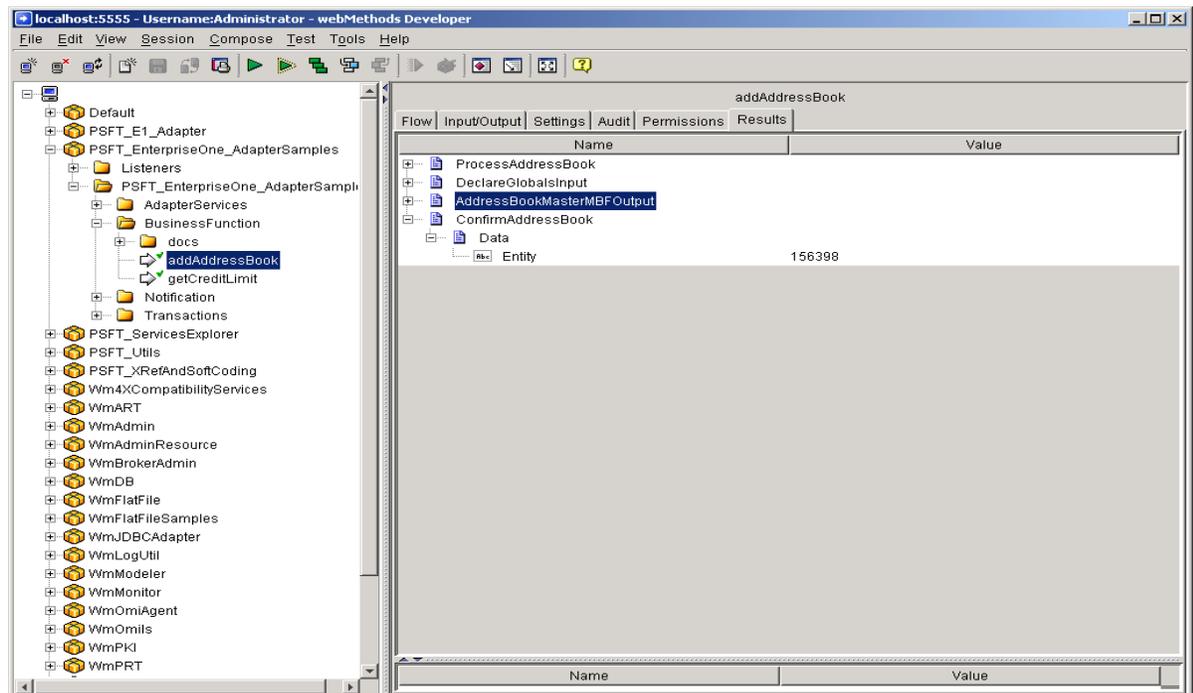
2. Select Load and pull in the test script ABPhoneEmail. You can find the test scripts in the PSFT_EnterpriseOne_AdapterSamples package. To get to this package in the file system, go to the following directory:

```
x:\<xpi_install_dir>\IntegrationServer\packages\PSFT_EnterpriseOne_AdapterSamples\pub\doc\testscripts
```

where x is the drive where XPI was installed



3. Select the ABPhoneEmail test script, and then click Open.
The system loads the input parameters.
4. Click OK.



5. The flow service runs, placing the confirm document in the Results tab with the newly assigned address book number.

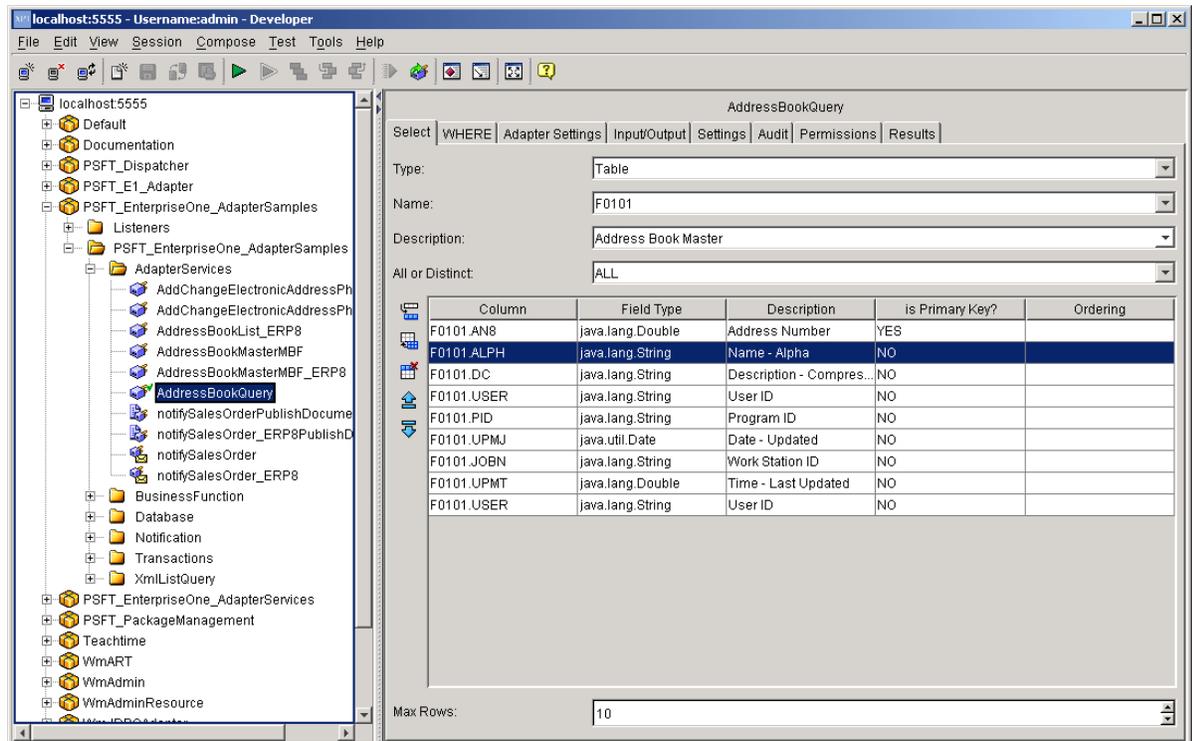
Sample #2 – Adapter Service to call an EnterpriseOne Select database operation

The PSFT_EnterpriseOne_AdapterSamples package includes Adapter Services for executing a database select query against the F0101 EnterpriseOne table. Before you run this sample, you must ensure that the EnterpriseOne connection is enabled.

Select Database Query.

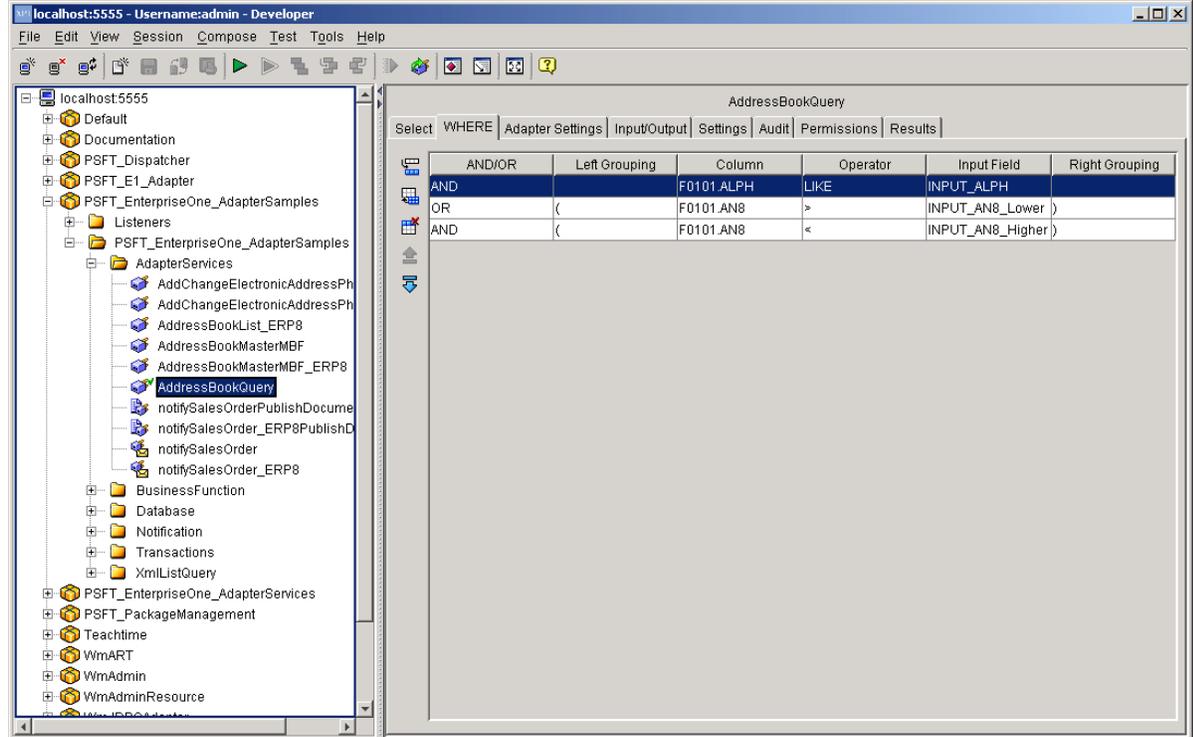
► To review the adapter service

1. Select the AddressBookQuery service under the AdapterServices folder, and then click the Select tab.



This service is configured to perform a query against the F0101 Table and retrieve nine fields (AN8, ALPH, DC, USER, PID, UPMJ, JOBN, UPMT, USER). At the bottom of the tab, notice that the Max Rows is set to 10 to limit the number of results.

2. Select the WHERE tab to examine the where clause for this query service.



There are three where clause rows for this query. In SQL, this query would generate the following:

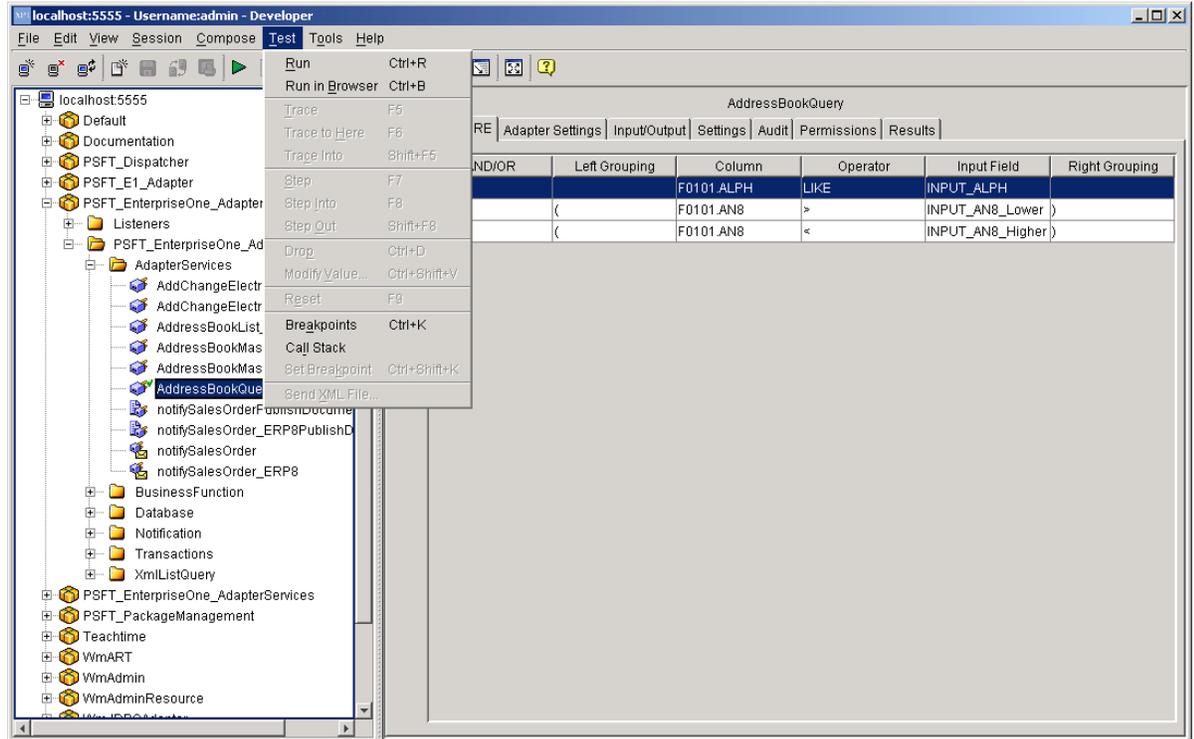
```
(ALPH LIKE 'PeopleSoft' OR (AN8 > '1000' AND AN8 < '2000'))'
```

Remember, the very first AND/OR value does not matter. The two AN8 rows are grouped together because both are given the same grouping level of "(".

Running the Adapter Service

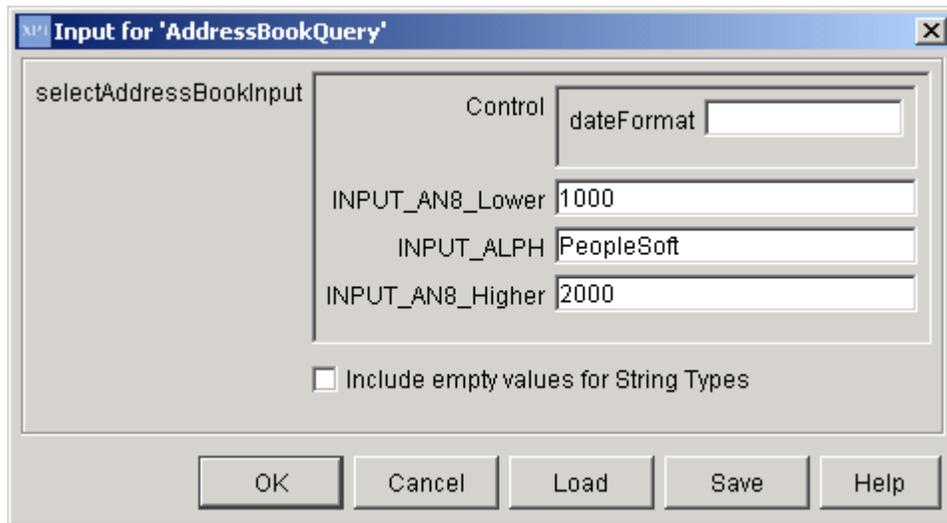
Adapter Services can be run just like any service on the system.

► To run the Select query



1. From the Test menu, select Run.

A screen with the input parameters to the flow service appears.



2. For each parameter, enter the following values:

24. INPUT_AN8_Lower – **1000**

25. INPUT_ALPH – **PeopleSoft**

26. INPUT_AN8_Higher – **2000**

Note

Optionally, you can enter your own values and run the query. With the Max Rows set to 10, you will never retrieve a large result set.

3. Click OK to execute the query.
4. Click OK.

After the query is complete, the view changes to the Results tab.

The screenshot shows the EnterpriseOne Adapter Programmer interface. The left pane displays a tree view of the adapter services, with 'AddressBookQuery' selected under 'AdapterServices'. The main pane shows the 'Results' tab for the 'AddressBookQuery' document. The results are displayed in a tree view under 'selectAddressBookOutput' and 'resultSet'. The 'resultSet' array contains two documents, 'resultSet[0]' and 'resultSet[1]'. Each document has a 'Name' column and a 'Value' column. The 'Value' column contains a table of data.

| AN8 | ALPH | DC | USER | PID | UPMJ | JOBN | UPMT |
|--------|------------------|---------------|-----------|---------|------------------|------------|----------|
| 1001.0 | J.D. Edwards ... | JD EDWARD... | IC8562876 | EP01012 | 3/10/2004 0:0... | DENOSCL25 | 34055.0 |
| 1002.0 | Withholding S... | WITHHOLDIN... | ML6682479 | EP01012 | 9/10/2003 0:0... | DENXPI7 | 101649.0 |
| 1003.0 | Kim's Supplie... | KIMSSUPPLI... | KW6871966 | EP01012 | 4/10/2003 0:0... | DENXPI7 | 111502.0 |
| 1010.0 | CFR10 | CFR10 | JH5906952 | EP01012 | 5/8/2003 0:00... | DENXPI7 | 155633.0 |
| 1012.0 | Keener Kids | KEENER KID... | GA5763200 | EP01012 | 12/17/2003 0:... | DENXPI7 | 104044.0 |
| 1035.0 | Customer | CUSTOMER | TD6567243 | EP01012 | 11/20/2003 0:... | DEN-TD6567 | 71631.0 |
| 1036.0 | Site | SITE | TD6567243 | EP01012 | 11/20/2003 0:... | DEN-TD6567 | 71753.0 |

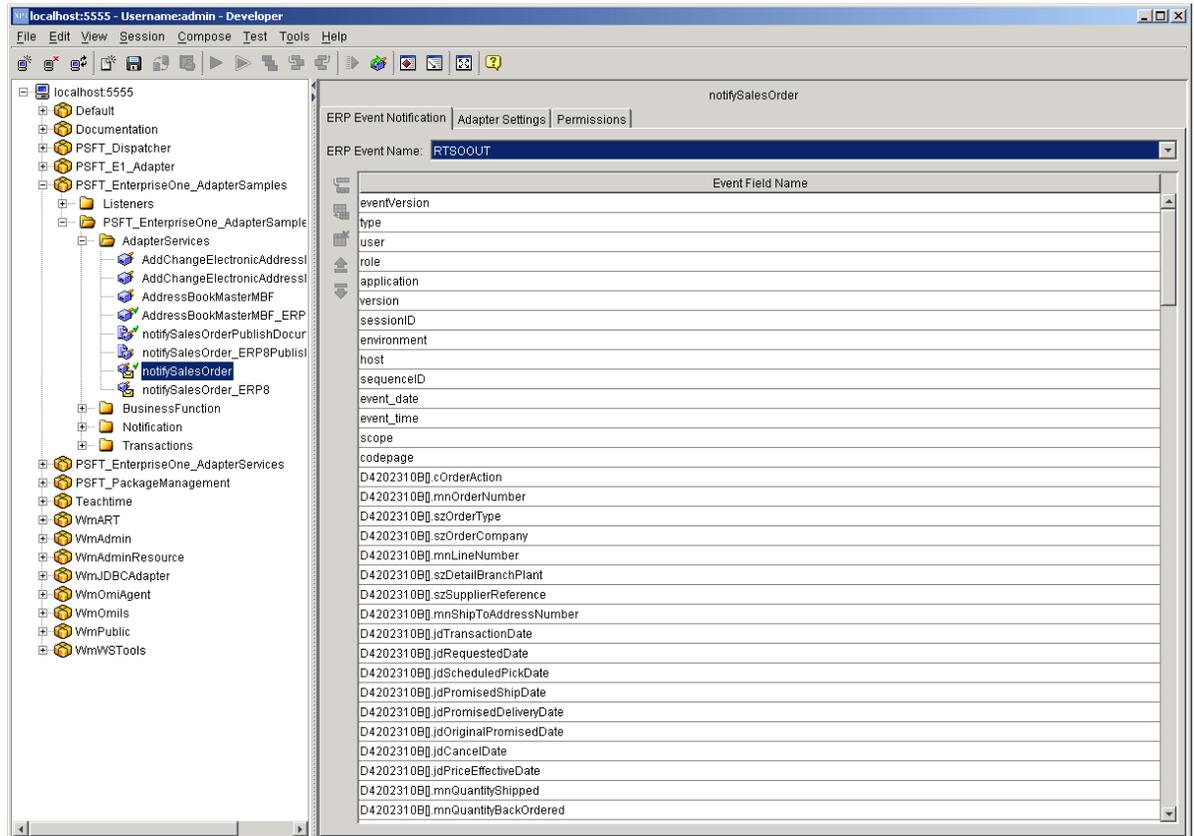
5. Click the resultSet document array. The system displays all of the documents in the grid at the bottom of the screen.

Sample #3 – Notification Service for Outbound Event

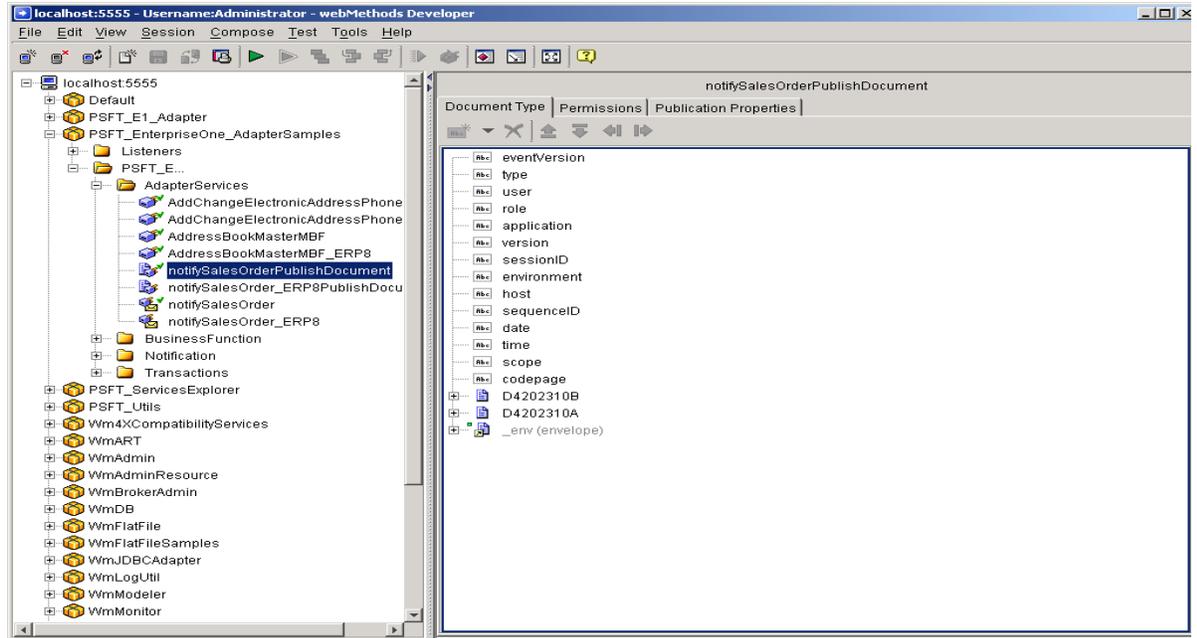
The PSFT_EnterpriseOne_AdapterSamples package contains a Notification Service for the RTSOOUT real-time event in EnterpriseOne. This package also contains the listener and associated trigger. These notification services were created with both an EnterpriseOne connection and an ERP8 connection. You must ensure that you are viewing and running the correct notification services and flows for your connection.

Sales Order Notification

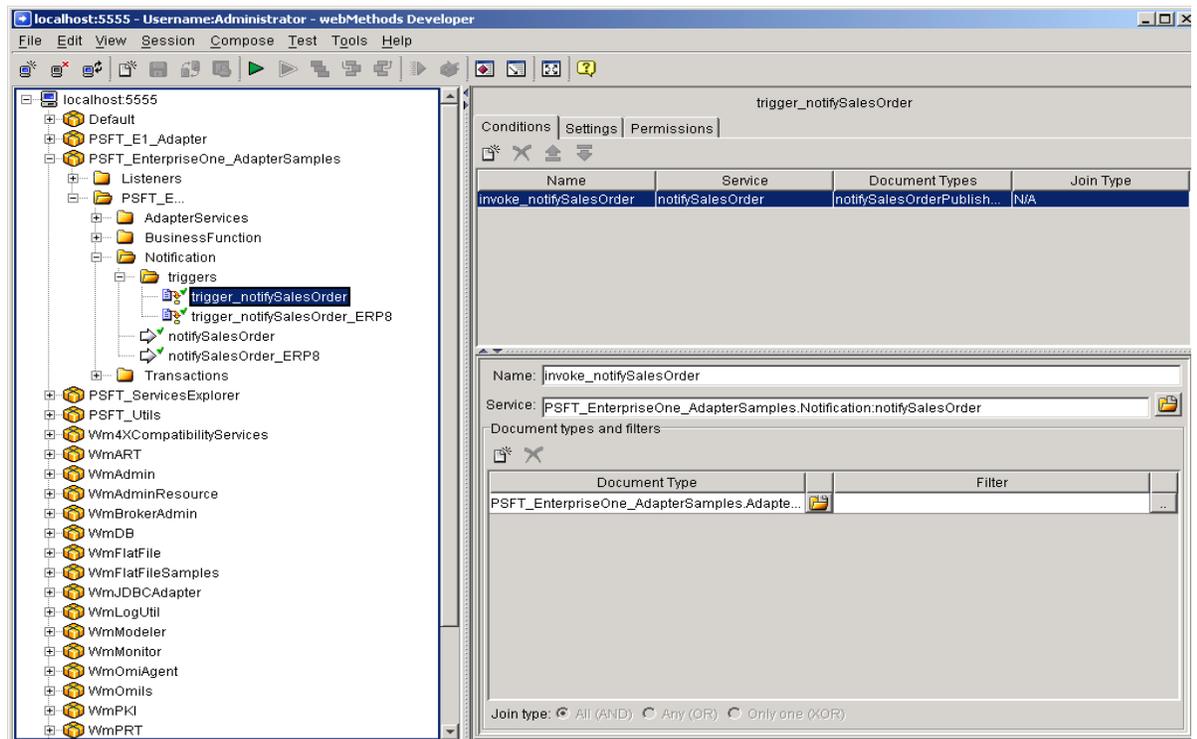
► To review the flow



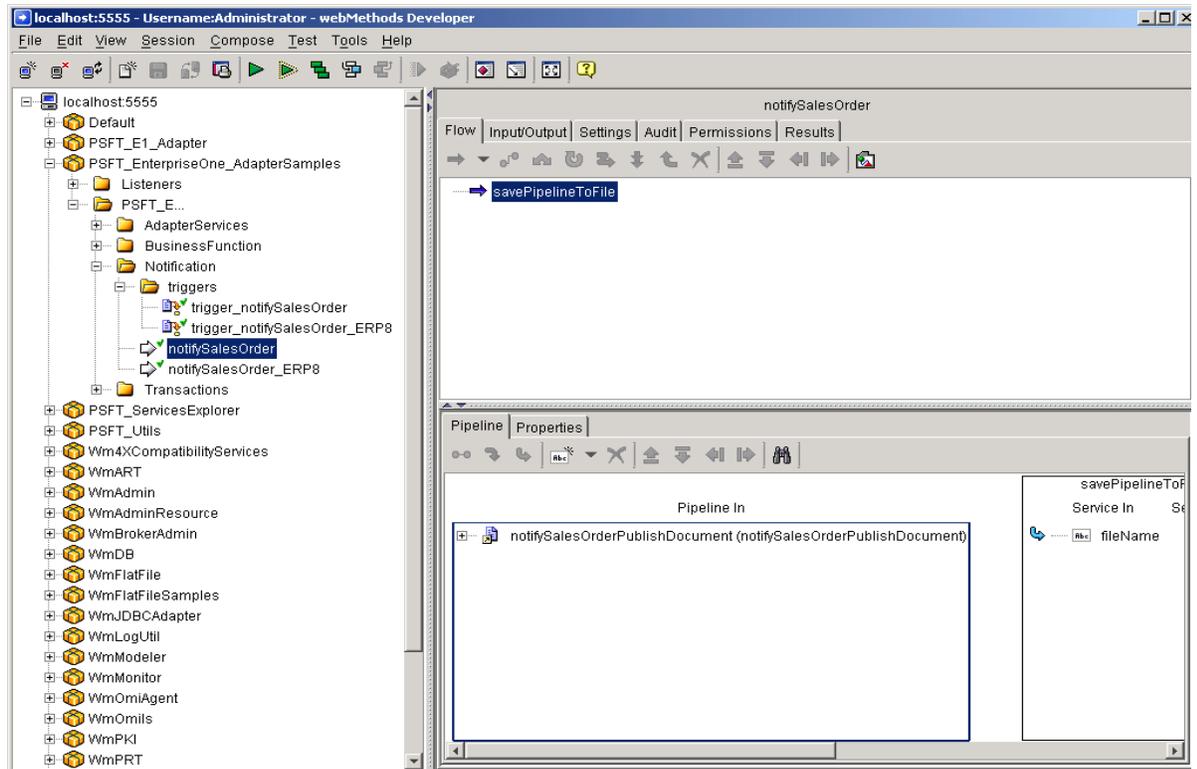
1. Open the Adapter Services folder, and then select the notifySalesOrder notification service. This is a notification service for the RTSOOUT real-time event in EnterpriseOne.



- Open the notifySalesOrderPublishDocument. This is the interface document that was created for the notification service by the EnterpriseOne adapter.



- Open the Notifications folder, the triggers folder, and then select the trigger. This trigger causes the flow service to run.



4. Select the notifySalesOrder flow service under the Notifications folder. When run, this trigger initiates the flow service. Subsequently, the flow copies the real-time event XML in the pipeline to a file, in which you can view the XML.

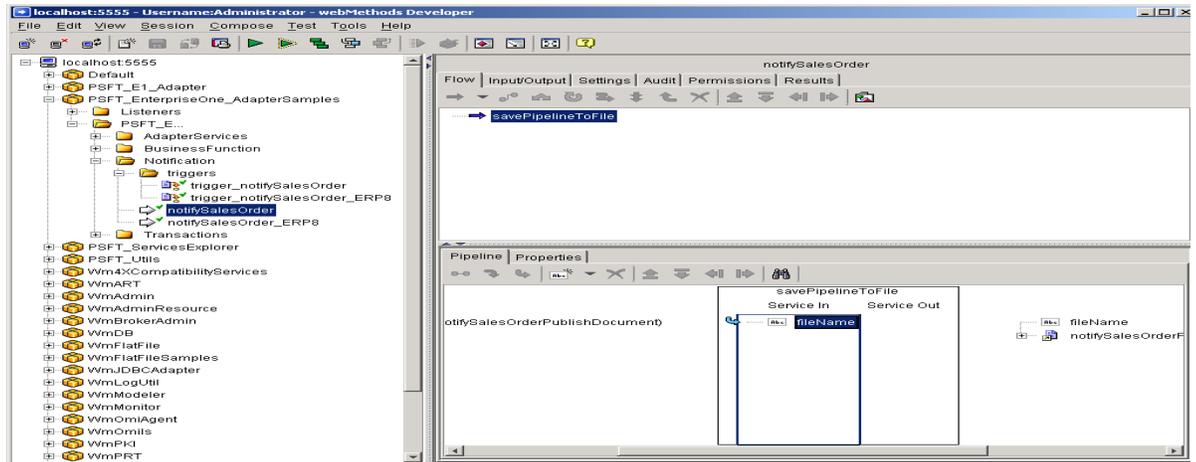
Running the Flow

► To run the flow

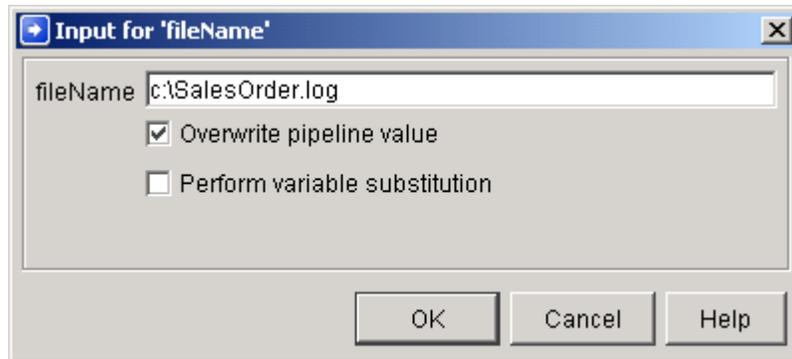
1. To trigger the notification, you must sign in to the EnterpriseOne or ERP8 environment and enter a Sales Order. Entering the Sales Order produces a real-time event. The trigger processes this real-time event and runs the flow service, which writes the event XML to a file.

The system writes the file to the C drive and names it SalesOrder.log. For ERP8, the file is named SalesOrder_ERP8.log.

2. If you would like the file to be written to a different location, you must change the location on the savePipelineToFile service. Go to the pipeline for the service call and scroll to the input to the service.



3. Right-click the filename and select ModifyValue.



4. On Input for 'fileName,' type the location and name of the file.
5. Select the following option:
 27. Overwrite pipeline value
6. Click OK, and then save the flow service.
7. Find and open the file to view the XML.

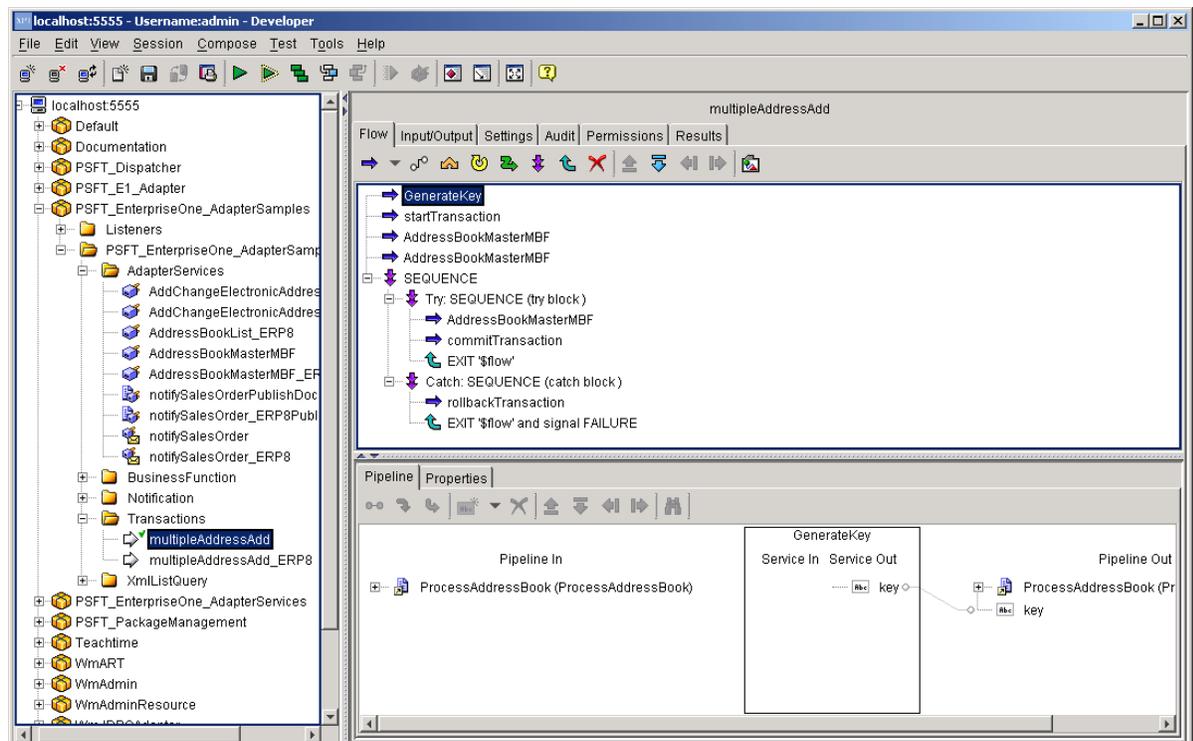
Sample #4 – Transactions

Multiple Address Book adds

This sample is a flow that calls the AddressBookMBF adapter service multiple times. The last execution of the adapter service does not map the alpha name. This is a required parameter for the AddressBookMBF and will cause the business function to fail. The flow catches the exception and rolls back the address book records that were added before the failed adapter service execution.

► To review the flow

1. Open the Transaction folder in the PSFT_EnterpriseOne_AdapterSamples package. Select the multipleAddressAdd flow.



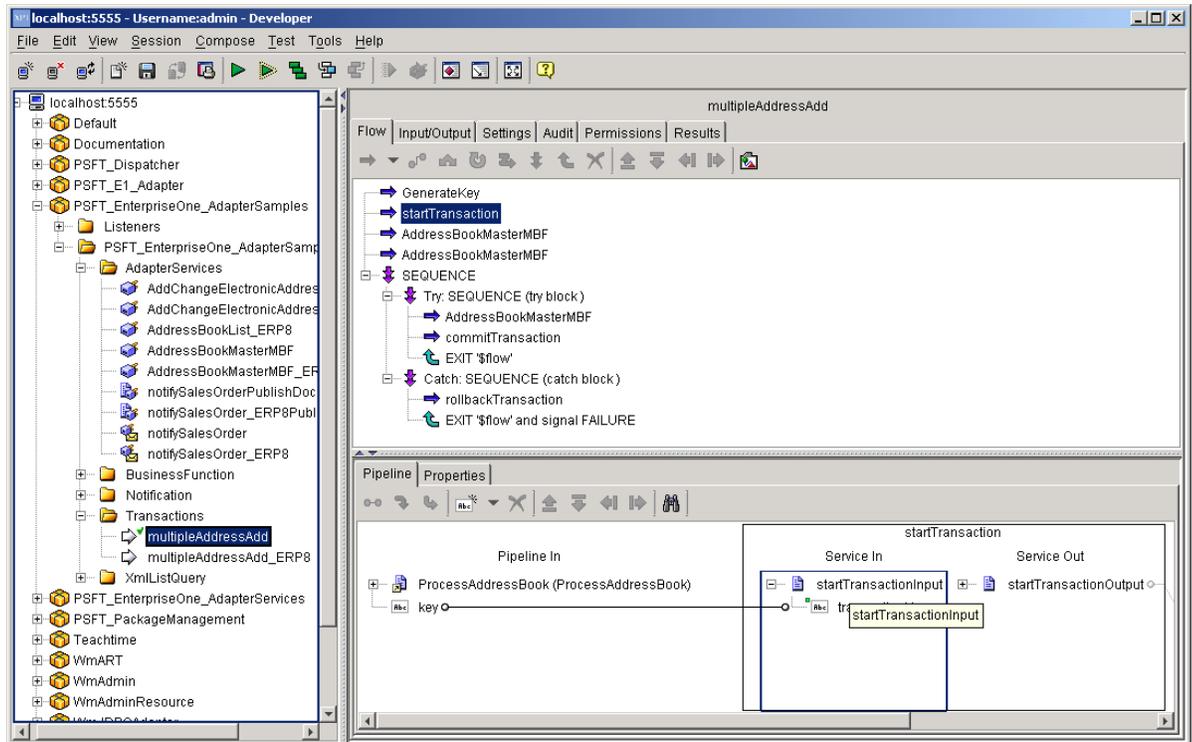
2. The first step in the flow is a GenerateKey service. When you start a transaction, you must give the new transaction a unique name to distinguish it from other transactions in the system. Since a single flow may be called by multiple threads at the same time, you must give the transaction a unique name.

To assist in generating a unique name, inside the PSFT_E1_Adapter package is the following service:

```
PSFT_E1_Adapter.enterpriseone.services:GenerateKey
```

Whenever this service is called, it returns a unique value that should be used as the input for a transaction.

- The next step in the flow is startTransaction. Click the startTransaction, and then click the Pipeline tab. Scroll to the startTransaction input and output parameters. The unique key generated by the GenerateKey service is mapped into the startTransaction parameter.

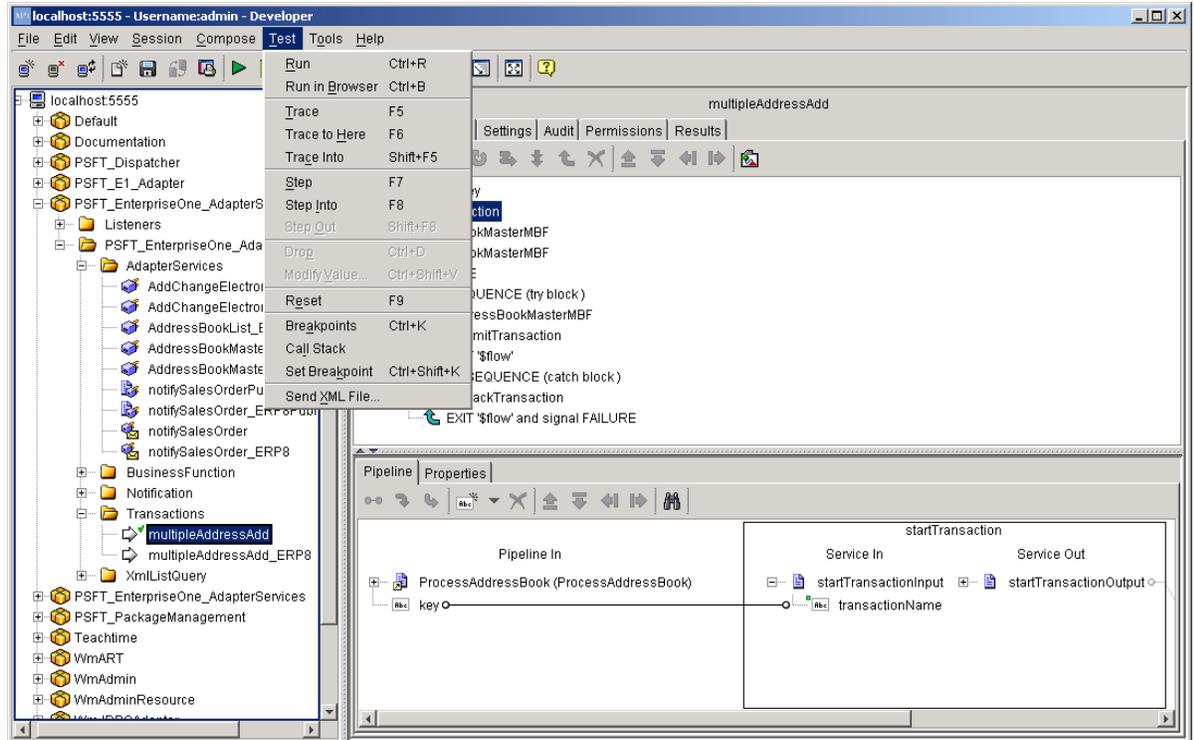


The third and fourth steps in the flow are a call to the AddressBookMBF adapter service. They have been mapped to send the necessary information and will complete successfully. The fifth step is a sequence step to provide a Try/Catch block. The call to the AddressBookMBF adapter service has been mapped to not include the alpha name. This causes an error. The error will be caught in the Catch section of the Sequence step and will execute the rollback transaction.

- Select the commitTransaction and the Pipeline tab.
- Scroll to the commitTransaction input and output parameters. When calling the commitTransaction service, you must specify the same name that you used in the startTransaction.
- Select the rollbackTransaction and the Pipeline tab.
- Scroll to the rollbackTransaction input and output parameters. When calling the rollbackTransaction service, you must specify the same name that you used in the startTransaction.

Running the Flow

► To run the flow



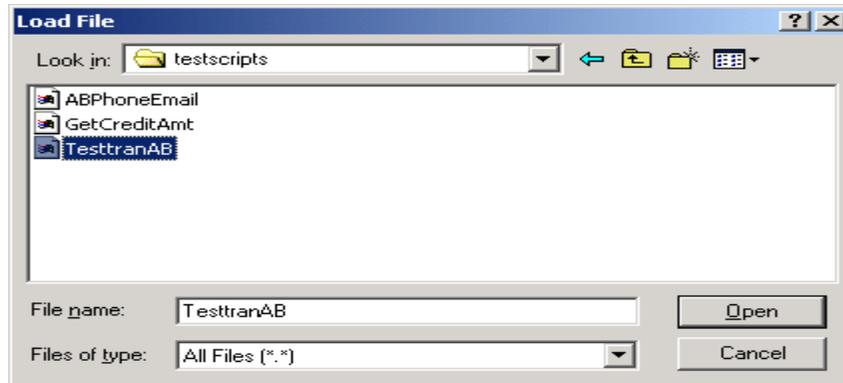
1. From the Test menu, select Run.

A screen with the input parameters to the flow service appears.

2. Click Load and pull in the test script TesttranAB. You can find the test scripts in the PSFT_EnterpriseOne_AdapterSamples package. You can use the same test script for both EnterpriseOne and ERP8 environments.
3. To get to this package in the file system, go to

X:\PeopleSoft\xpi\IntegrationServer\packages\PSFT_EnterpriseOne_AdapterSamples\pub\doc\testscripts

where x is the drive where XPI is installed.



4. Select the TesttranAB test script and click Open.
The system loads the input parameters.
5. Click OK. The flow service runs and displays the following exception:



6. To check that the first two address book records were rolled back, you can look at the log. To find the log in the file system, go to the following directory:

For **EnterpriseOne**:

```
x:\PeopleSoft\xpi\IntegrationServer\logs\EnterpriseOneAdapter\jasdebug_date.log
```

where x is the drive where XPI is installed

For **ERP8**:

```
x:\PeopleSoft\xpi\IntegrationServer\logs\ERP8Adapter\jasdebug_date.log
```

The log file contains the following information:

EnterpriseOne Log File

```
14 Nov 2003 11:01:22,181 [HTTP Handler 127.0.0.1] DEBUG:
{com.jdedwards.system.kernel} - CallObject@17f9037: complete in 691ms
BSFN:AddressBookMasterMBF user:KL5449350 Env:PY9NIS2 ManTran:true RTC-
hasCache:false CO-hasCache:false

14 Nov 2003 11:01:22,181 [HTTP Handler 127.0.0.1] DEBUG:
{com.jdedwards.system.connector} - Call BSFN method
```

```

N0100041.AddressBookMasterMBF completed

14 Nov 2003 11:01:22,251 [HTTP Handler 127.0.0.1] ERROR:
{com.jdedwards.system.connector} - BSFN N0100041.AddressBookMasterMBF execution
fail

14 Nov 2003 11:01:22,661 [HTTP Handler 127.0.0.1] DEBUG:
{com.jdedwards.system.kernel} - RemoteUser: rollback complete,
host:CRMW2K2:6025, kernel PID:3908 h:c8657a0a

14 Nov 2003 11:01:22,661 [HTTP Handler 127.0.0.1] DEBUG:
{com.jdedwards.system.kernel} - RemoteUser: free, host:CRMW2K2:6025, kernel
PID:3908 h:c8657a0a

14 Nov 2003 11:01:22,661 [HTTP Handler 127.0.0.1] DEBUG:
{com.jdedwards.system.connector} - Oneworld Transaction
com.jdedwards.system.connector.dynamic.OneworldTransactionImpl@15589d4 rollback

```

ERP8 Log File

```

2003-11-14 10:54:14.406 [HTTP Handler 127.0.0.1] KERNEL : CallObject@1719660:
complete in 431ms BSFN:AddressBookMasterMBF user:MS7116364 Env:DV7334NIS2
ManTran:true RTC-hasCache:false CO-hasCache:false

2003-11-14 10:54:14.786 [HTTP Handler 127.0.0.1] KERNEL : RemoteUser: rollback
complete, host:CRMW2K2.MLAB.JDEDWARDS.COM:6055, kernel PID:5076 h:c8646704

2003-11-14 10:54:14.786 [HTTP Handler 127.0.0.1] KERNEL : RemoteUser: free,
host:CRMW2K2.MLAB.JDEDWARDS.COM:6055, kernel PID:5076 h:c8646704

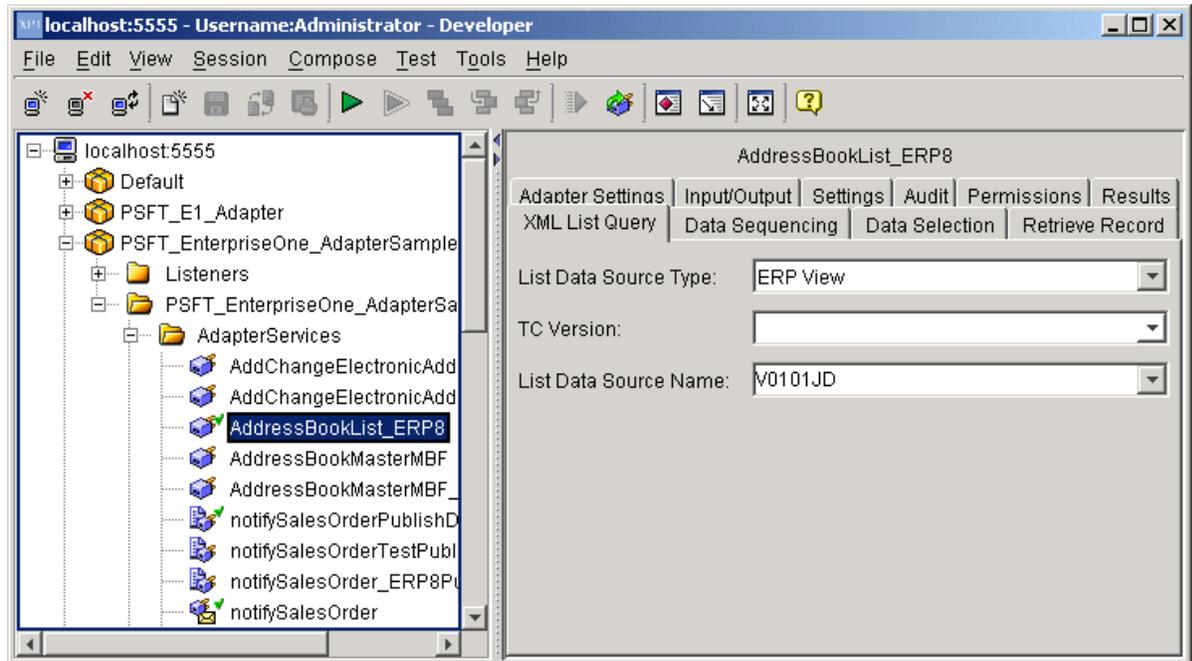
```

Sample #5 – Adapter Service for XML List Operations

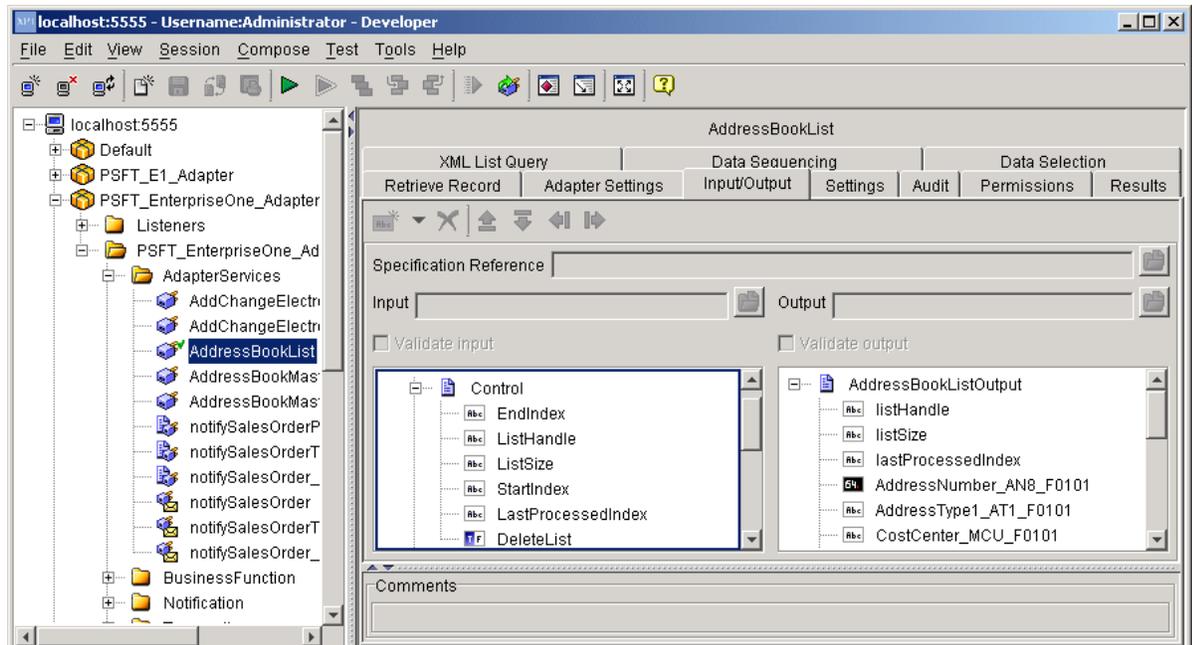
The PSFT_EnterpriseOne_AdapterSamples package contains a Adapter Service that uses Create, Retrieve, and Delete XML List operations. This adapter service was created for an ERP8 connection only. You must ensure that you are viewing and running the correct notification services and flows.

AddressBook

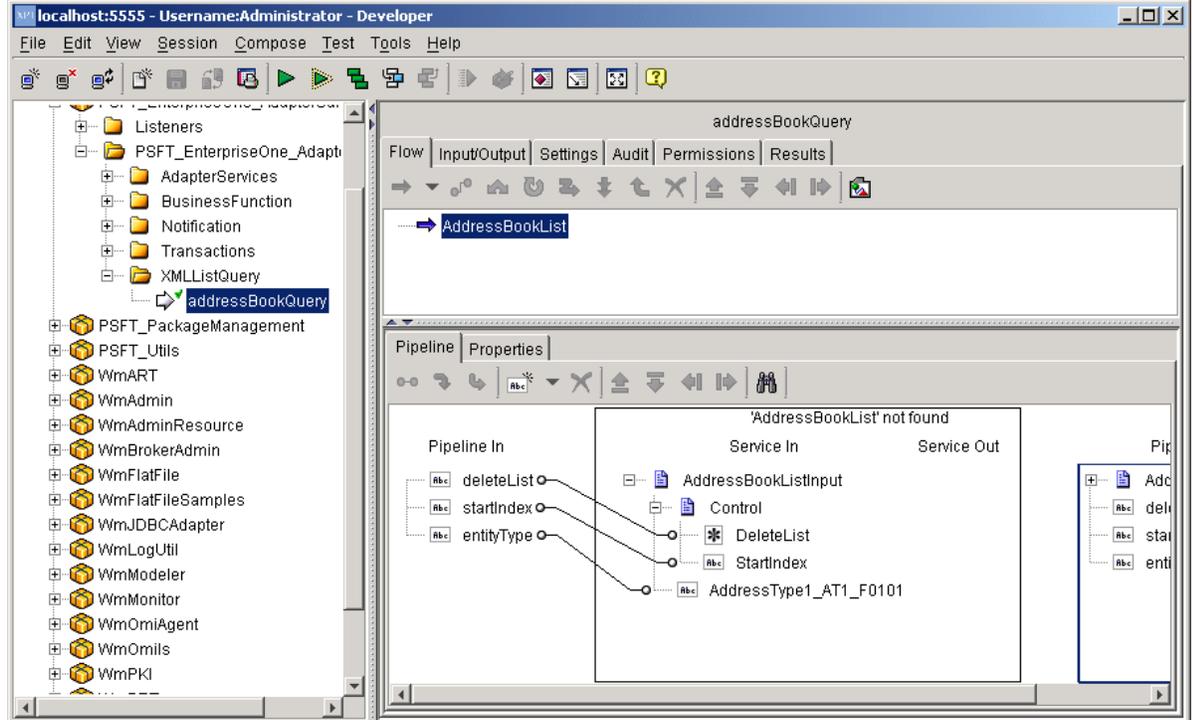
► To review the flow



1. Open the Adapter Services folder, and then select the AddressBookList service. This is a service for the address book query using list API.



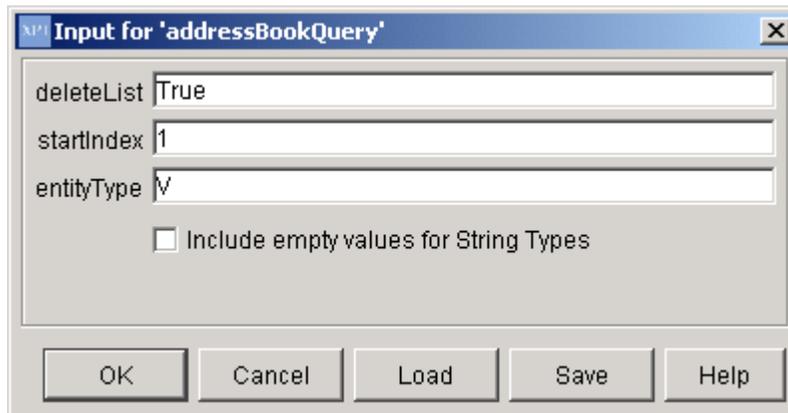
- Click the Input/Output tab and notice the input parameters for the list template. The value that gets passed to the template through these parameters determines the operations the template will perform. The sample demonstrates how the template performs all three operations: create list, retrieve list, and delete list.
- View the mapping in the lower plane.



Running the Flow

► To run the flow

- Select AddressBookQuery under XMLListQuery, and then click the RUN button.



- Enter the above shown values, and then click OK.

The screenshot shows the EnterpriseOne Adapter Programmer interface. The main workspace is titled 'addressBookQuery' and has tabs for 'Flow', 'Input/Output', 'Settings', 'Audit', 'Permissions', and 'Results'. The 'Results' tab is active, showing a tree view of query components and a data table below.

The tree view shows the following components and their values:

- AddressBookListInput
 - deleteList: True
 - startIndex: 1
 - entityType: V
- AddressBookListOutput
 - listHandle: Irj404cd2c9038a-0000117c-00000006-000000000000...
 - listSize: 633
 - lastProcessedIndex: -1
 - resultSet (expanded)
 - resultSet[0]
 - resultSet[1]
 - resultSet[2]
 - resultSet[3]
 - resultSet[4]

The data table below the tree view has the following columns and data:

| AddressNu... | AddressTy... | CostCente... | NameAlph... | Language... | AddressTy... | NameMali... | AddressLI... | Ac |
|--------------|--------------|--------------|-----------------|-------------|--------------|-----------------|---------------|----|
| 4.0 | V | 1 | Spacely Sp... | | N | Spacely Sp... | 1234 Main ... | Su |
| 16.0 | V | 1 | Teresita's ... | | N | Teresita's ... | 1234 Main ... | Su |
| 17.0 | V | 1 | 3432 | | N | 3432 | | |
| 18.0 | V | 1 | Yelena's C... | | N | Yelena's C... | | |
| 30.0 | V | 1 | Teresita - c... | | N | Teresita - c... | | |
| 33.0 | V | 1 | SupplierTim | | N | SupplierTim | | |
| 76.0 | V | 1 | Brazil Supp... | | N | Brazil Supp... | Rio de Jan... | |
| 101.0 | V | 1 | supplier 101 | | N | supplier 101 | | |
| 102.0 | V | 1 | supplier 102 | | N | supplier 102 | | |
| 103.0 | V | 1 | French sup... | | N | French sup... | | |

3. View the results in the Results tab.

Resolving Adapter Problems

This section discusses the following topics:

- Logging
- Errors

Logging

Several log files provide assistance with resolving problems if the adapter is not functioning correctly:

You can find the logs in the following location:

```
x:\xpi install dir\IntegrationServer\logs\
```

where x is the drive where XPI is installed

EnterpriseOne Adapter Logs

When using an EnterpriseOne connection, the EnterpriseOne Adapter directory creates the following five logs:

- `jasdebug_date.log`
Use this log for information about the dynamic connector and the execution of the business functions. This is also where you can find information about connections, and rollback and commit of transactions.
- `jas_date.log`
Use this log for information about the dynamic connector connection to EnterpriseOne.
- `rt.log`
Use this log for information about the EnterpriseOne real-time events.
- `rtdebug.log`
Use this log for debug information about the EnterpriseOne real-time events.
- `jderoot_date.log`
Use this log for basic information about the EnterpriseOne connection.

ERP8 Adapter Logs

When using an ERP8 connection, the ERP8 Adapter directory contains the following four logs:

- `jasdebug.log`

Use this log for information about the java connector and the execution of the business functions. This is also where you can find information about connections, and rollback and commit of transactions.

- jas.log

Use this log for information about the Java connector connection to ERP8.

- rt.log

Use this log for information about ERP8 real-time events.

- rtdebug.log

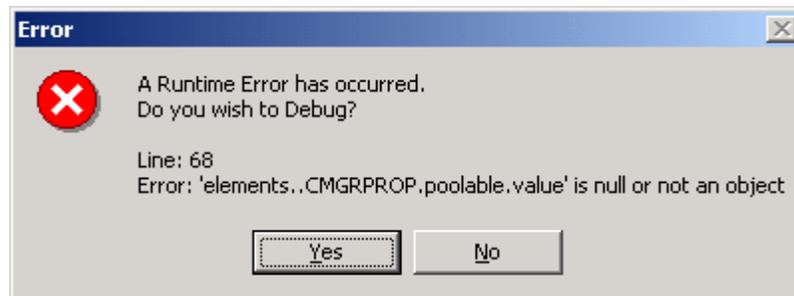
Use this log for debug information about ERP8 real-time events.

Errors

This section contains some of the common errors that can occur when programming the adapter, along with instructions on how to remedy each error.

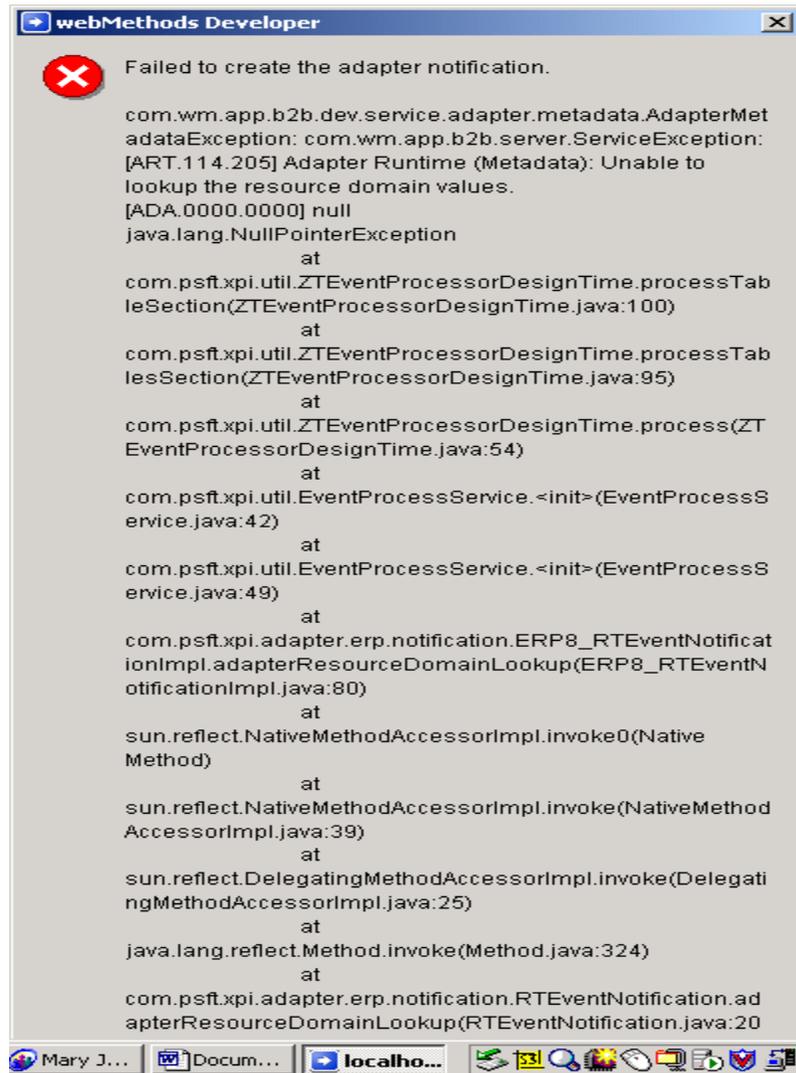
Error Configuring a Listener

You might receive the following error when you configure a listener. However, the error does not prohibit the configuration from occurring. The error is related to the version of Internet Explorer on which the Integration Server is run. Click No and the configuration will complete.



Error When Creating a Notification Service

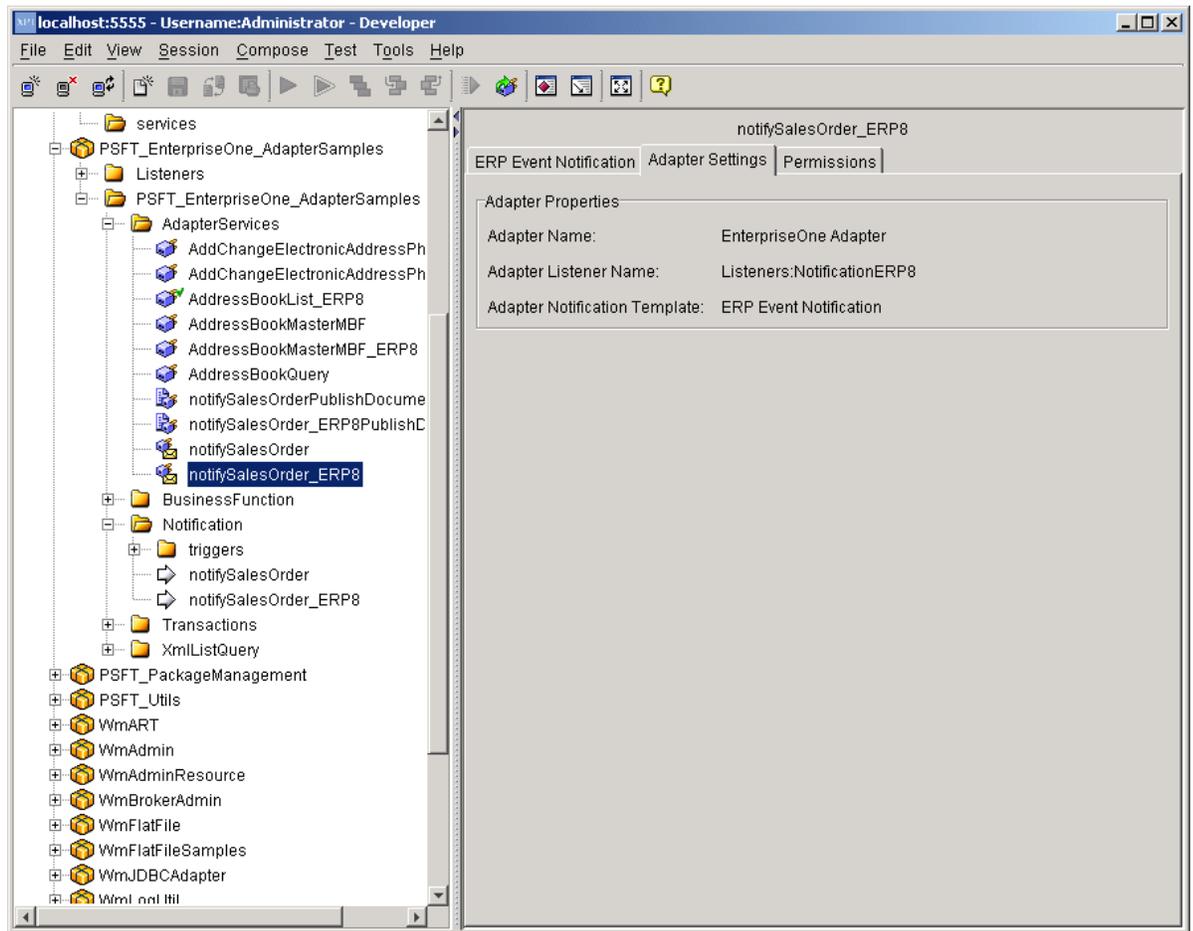
You might receive the following error when you create a notification service in Integration Developer. This occurs when the connection is lost to EnterpriseOne or ERP8. If you receive this error, you must delete the partial notification service from your package using the file system. Use the Integration Server Administration tool to reload the package you were adding the notification service to and create the notification service again.



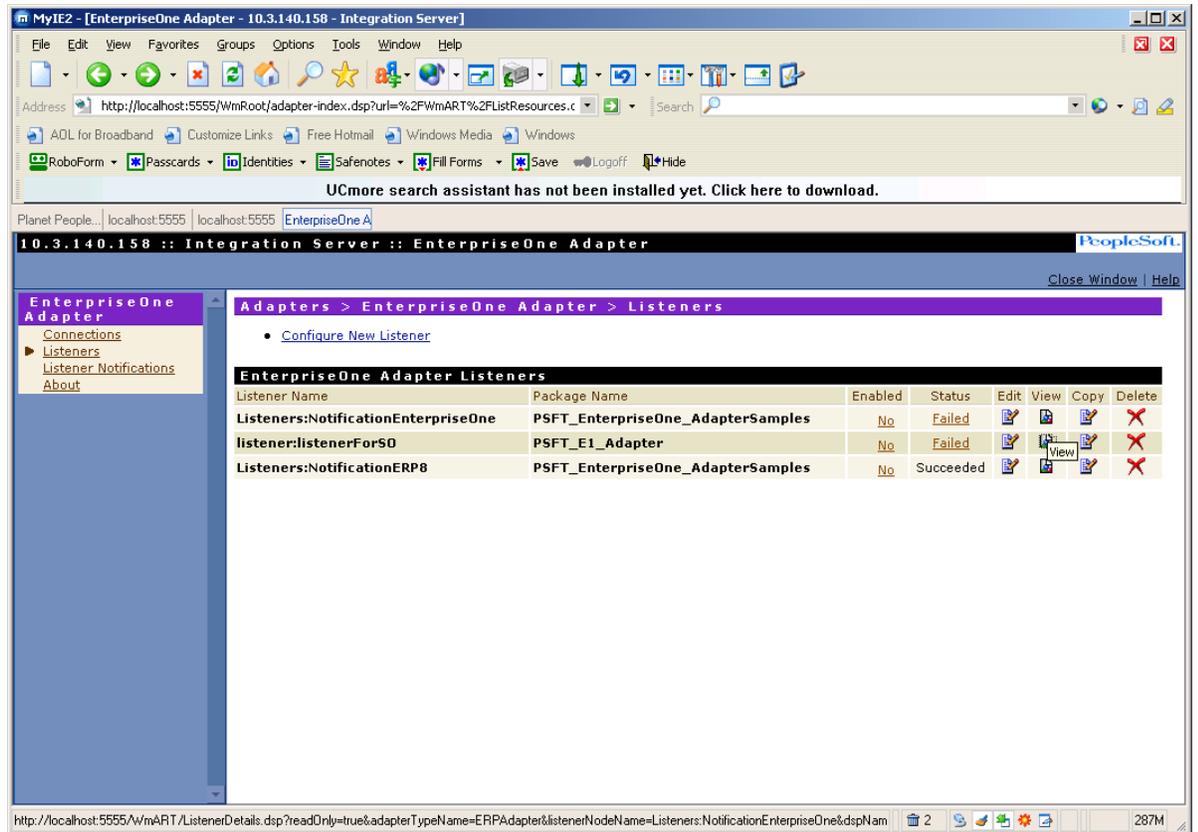
Adapter is Not Picking Up Real-Time Events

The Adapter will not pick up real-time events if the notification is not pushed to the listener.

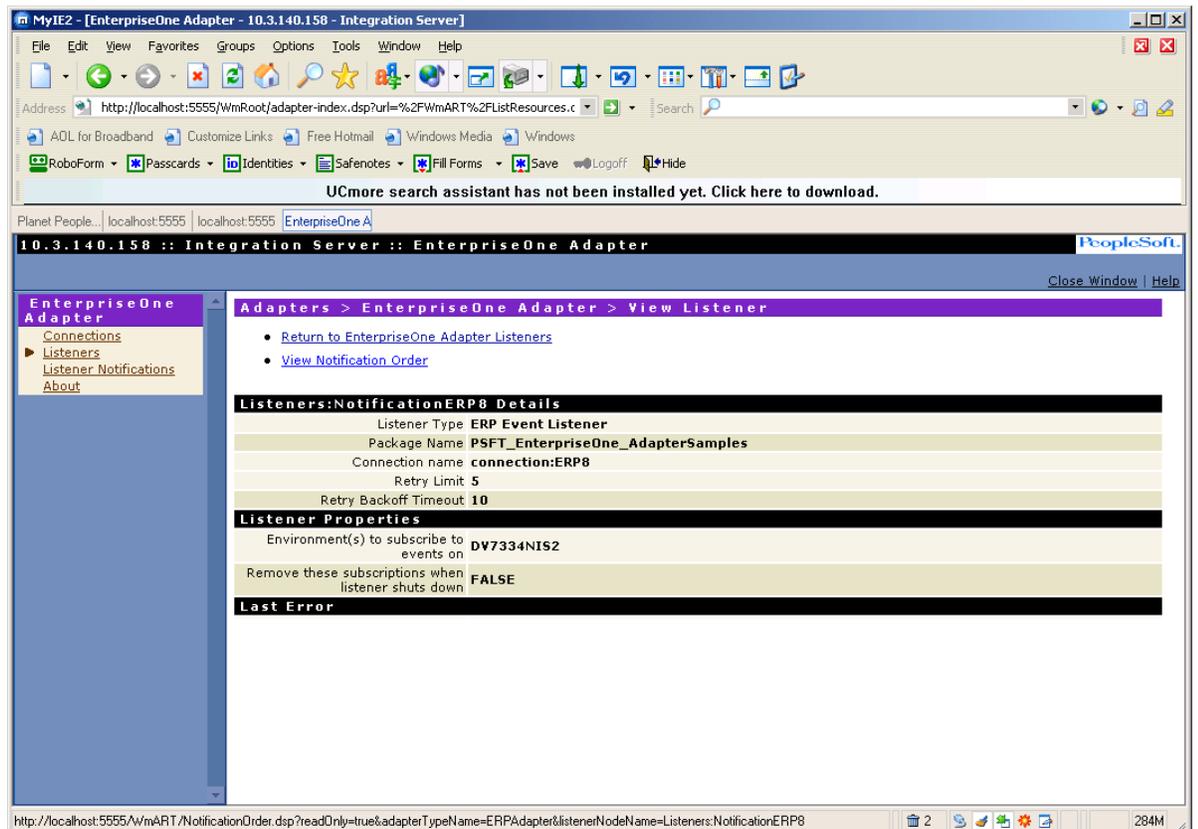
► To make sure the notification is pushed to the listener



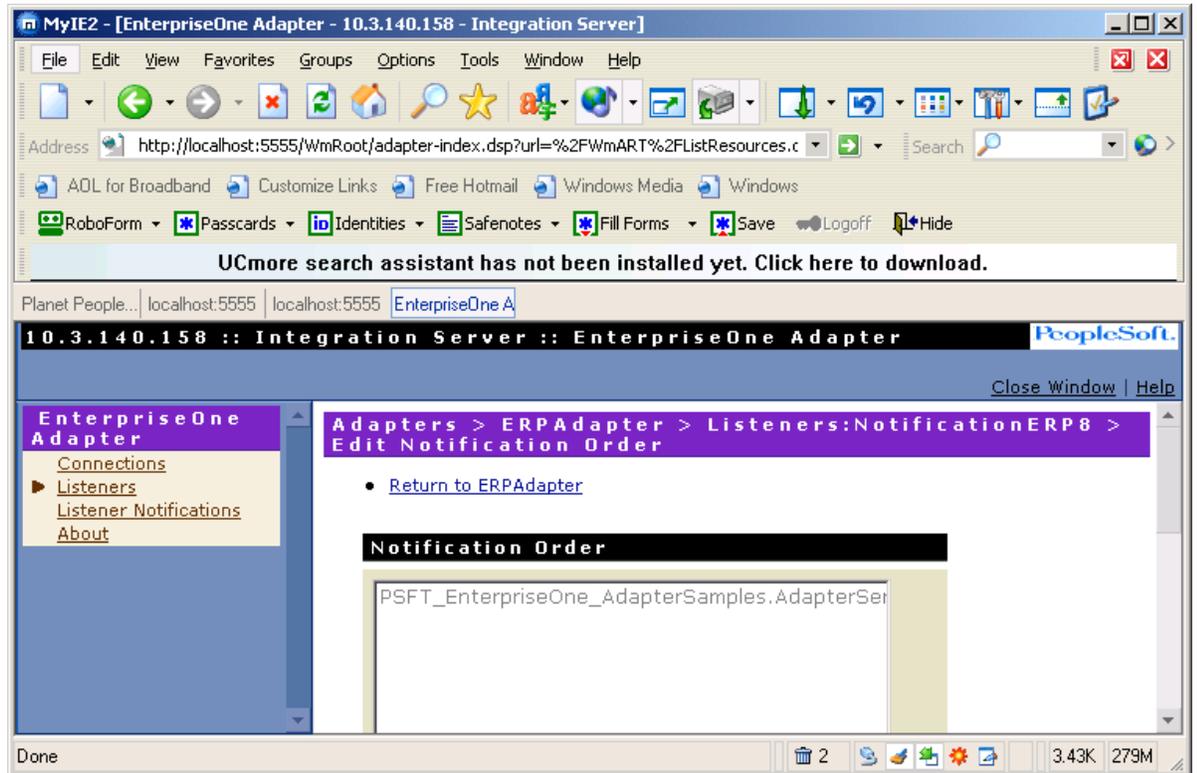
1. In the Developer tool, identify the listener that is attached to the notification service.



- In the Admin tool, under Adapter > EnterpriseOne Adapter > Listeners, click the View button next to the listener.



3. Click the View Notification Order link.



4. Verify that the notification is listed in the Notification Order list box

Note

See step 17, “Check in the notification service to Source Control System,” in the *To create a notification service* section to avoid this issue.

Adapter Runtime (Notification): Error Publishing Notification

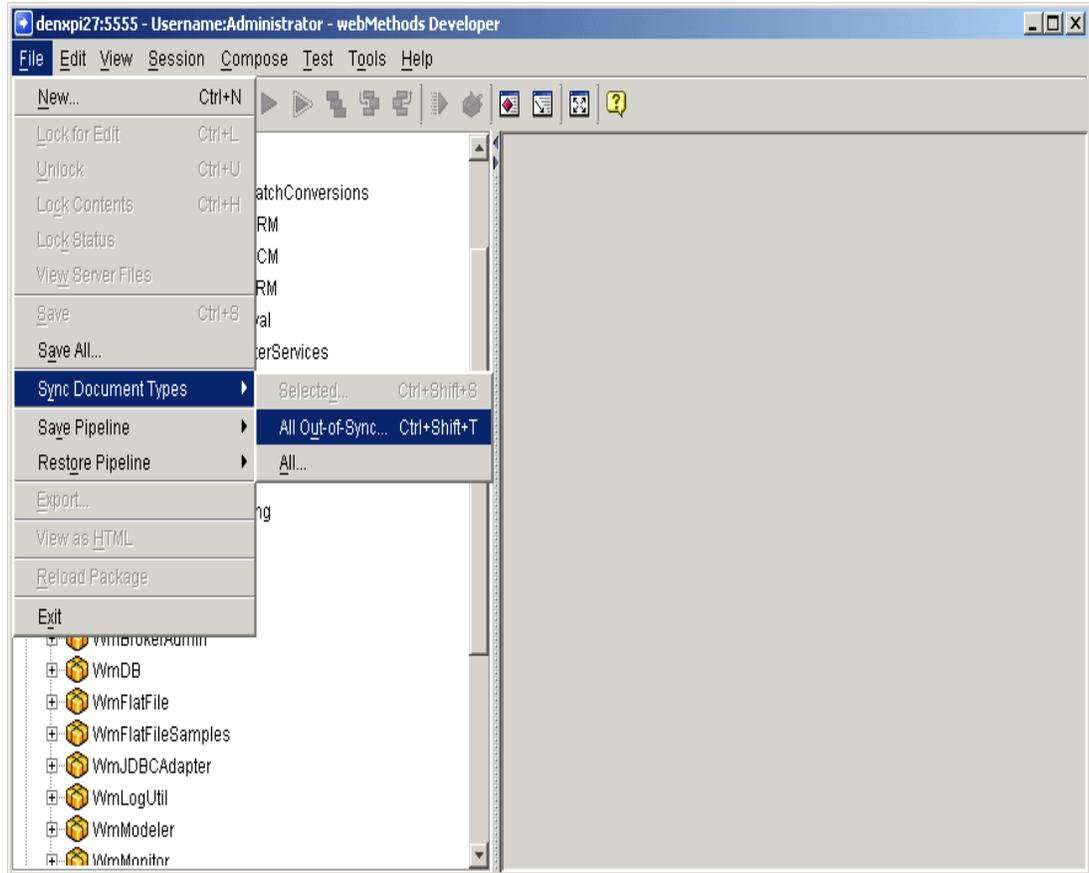
If you see the following error in the server log, the broker document is not synchronized with the Integration Server document:

```
[ART.116.3010] Adapter Runtime (Notification): Error publishing
notification
AdapterServices.Notification.Supplier:notifySupplierEvent.
Error: [ISS.0098.9014] BrokerException: Unknown Document Type
(226-1490): Document type
'wm::is::AdapterServices::Notification::Supplier::notifySupplier
EventPublishDocument' is not defined in the Broker. .
[ISS.0098.9014]
```

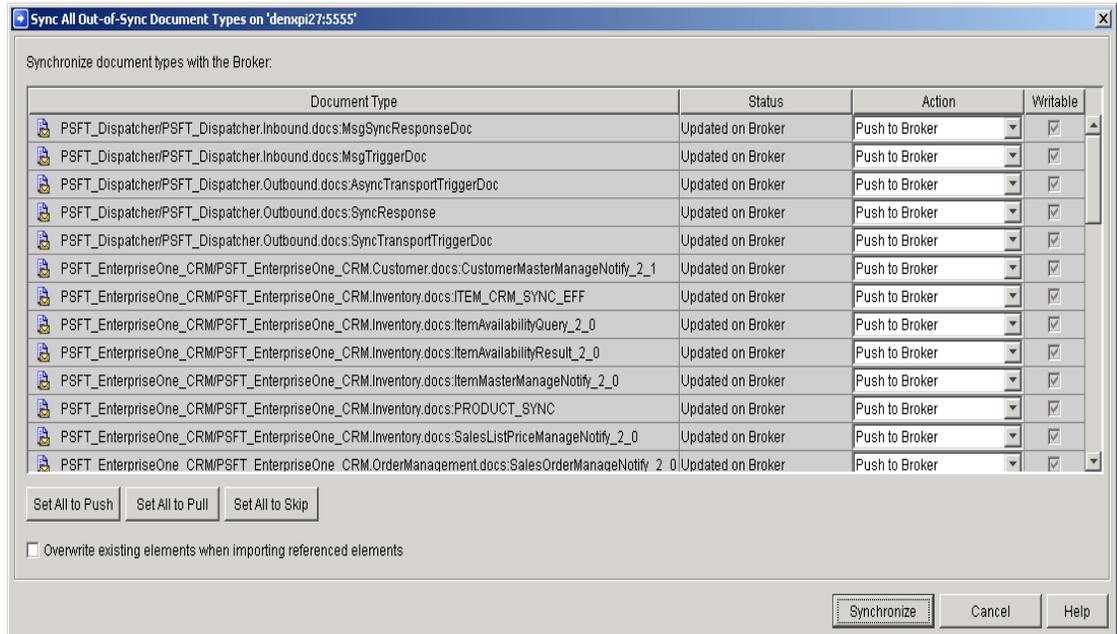
Use the Developer tool to synchronize this document with the broker.

► To synchronize the document with the Broker

1. Open XPI Developer and connect to the same Integration Server environments to which you installed the Integration Points.



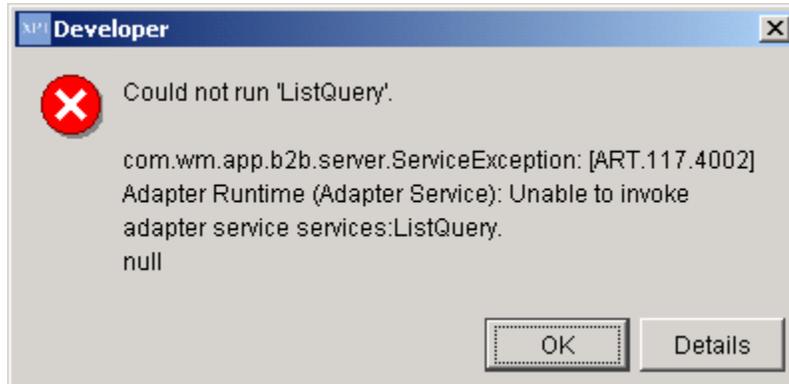
- From the File menu, select Sync Document Types, and then All Out-of-Sync.



- For each document type that is listed, verify that the value in the Action column is Push to Broker.
- Click the Synchronize button.

Error Retrieving Large Records Using List Template

If the Integration Server runs out of memory while retrieving a large number of records, the following message appears in the Developer tool:



In addition, the server log does not indicate the response for the retrieve list operation, as shown in the following example:

```

2004-03-22 14:45:51 MST [ADA.7180.7070D] Response received from ERP server
for create list request:-"XML Request OK"

2004-03-22 14:45:51 MST [ADA.7180.7066D] Create List execution complete.
List handle:-"lrj405f5f06007c-00000a34-00000003-
00000000000000000000ffff0ae6fc" List Size:- "6272"

2004-03-22 14:45:51 MST [ADA.7180.7064D] Executing GetGroup (Retrieve) List
Operation

2004-03-22 14:45:51 MST [ADA.7180.7073D] Sending the Retrieve (GetGroup)
Request to ERP server "<?xml version="1.0" ?>

<jdeRequest type="list" user="UR6864969" pwd="UR6864969"
environment="DV7334NIS2" session="" sessionidle="" >

<ACTION TYPE="GetGroup">

<HANDLE VALUE="lrj405f5f06007c-00000a34-00000003-
00000000000000000000ffff0ae6fc"/>

<FROM VALUE="1"/>

<TO VALUE="6272"/>

</ACTION>

</jdeRequest>"

```

The Integration Server error log indicates only null, as shown in the following example:

```

com.wm.pkg.art.error.DetailedServiceException:
[ART.117.4002] Adapter Runtime (Adapter Service): Unable to invoke adapter
service services:ListQuery.

```

```

null
    at
com.wm.pkg.art.error.DetailedServiceException.create(DetailedServiceExceptio
n.java:125)

```

To solve this problem, you can increase the amount of memory on the Integration Server, and set up the system to retrieve records in chunks.

► To increase amount of memory on the Integration Server

1. Stop the Integration Server.
2. Go to the following location: *<Integration server install dir>\bin*.
3. Open the `server.bat` file for edit.
4. In the `SETLOCAL` section, change the `JAVA_MAX_MEM` setting to a higher value depending on the requirement of your system. For example, change the following setting:

From:

```
set JAVA_MAX_MEM=256M
```

To:

```
set JAVA_MAX_MEM=512M
```

5. Save the file
6. Restart the Integration Server.

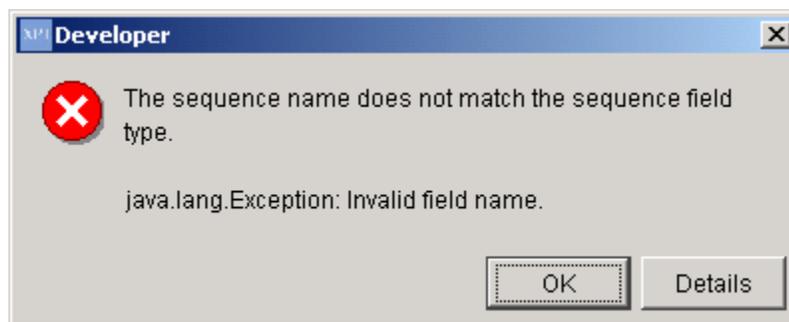
► To retrieve records in chunks

You can set the system to retrieve records in chunks by providing the correct input values to Start Index, Last processed Index, and/or End Index.

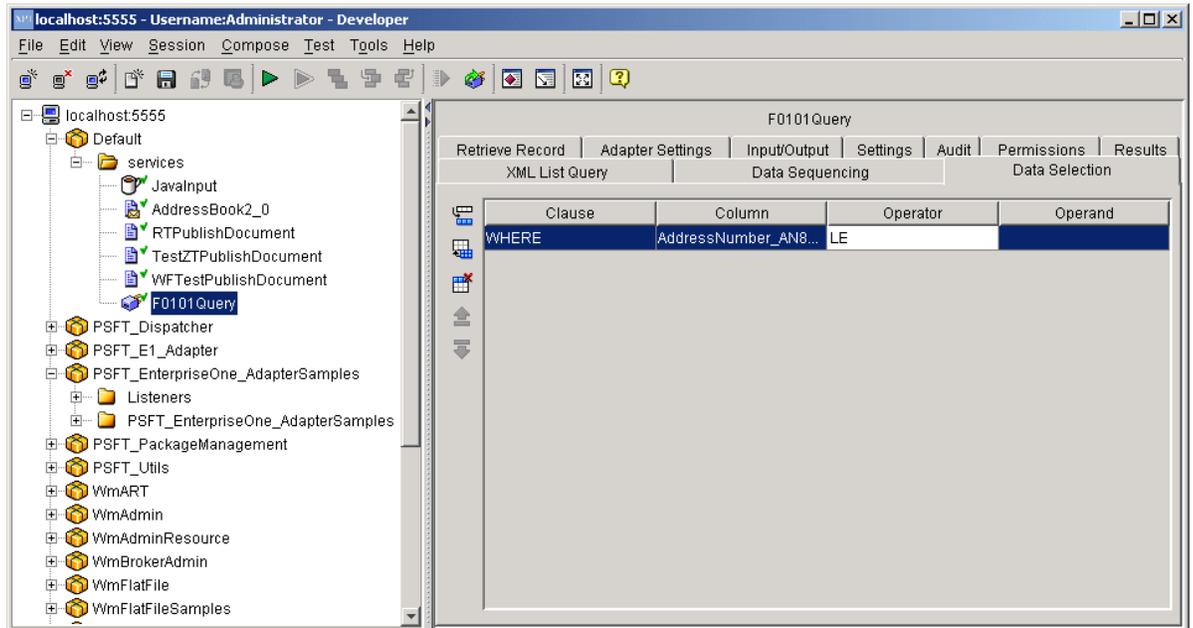
Errors Changing the Data Selection Parameters in List Template

You might encounter the following List Template errors.

- Sequence Name does not match.



- Data Selection Operand Field does not appear or will not change when the Operator is changed.



► To resolve the List Template errors

1. Delete the data selection row using the Remove Row button, and then add it back using the Add Row button.
2. Select the correct operator.