webMethods EntireX

webMethods Integration Server Wrapper

Version 9.10

April 2016

WEBMETHODS

This document applies to webMethods EntireX Version 9.10 and all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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webMethods Integration Server Wrapper

The webMethods Integration Server Wrapper generates Integration Server adapter services and listeners from a Software AG IDL file within an Integration Server connection definition.

Introduction	Introduction to the Integration Server Wrapper.
Using	Using the Integration Server Wrapper.
Mapping	Mapping Software AG IDL data types to Integration Server data types.
Preferences	Describes the Integration Server preferences.

1 About this Documentation

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Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
`Monospace font`	Identifies service names and locations in the format *`folder.subfolder.service`*, APIs, Java classes, methods, properties.
`Italic`	Identifies: Variables for which you must supply values specific to your own situation or environment. New terms the first time they occur in the text. References to other documentation sources.
`Monospace font`	Identifies: Text you must type in. Messages displayed by the system. Program code.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
|	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the | symbol.
[ ]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [ ] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

Online Information and Support

Software AG Documentation Website

You can find documentation on the Software AG Documentation website at **http://documentation.softwareag.com**. The site requires credentials for Software AG's Product Support site Empower. If you do not have Empower credentials, you must use the TECHcommunity website.

Software AG Empower Product Support Website

If you do not yet have an account for Empower, send an email to empower@softwareag.com with your name, company, and company email address and request an account.

Once you have an account, you can open Support Incidents online via the eService section of Empower at **https://empower.softwareag.com/**.

You can find product information on the Software AG Empower Product Support website at **https://empower.softwareag.com**.

To submit feature/enhancement requests, get information about product availability, and download products, go to **Products**.

To get information about fixes and to read early warnings, technical papers, and knowledge base articles, go to the **Knowledge Center**.

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You can find documentation and other technical information on the Software AG TECHcommunity website at **http://techcommunity.softwareag.com**. You can:

- Access product documentation, if you have TECHcommunity credentials. If you do not, you will need to register and specify "Documentation" as an area of interest.
- Access articles, code samples, demos, and tutorials.
- Use the online discussion forums, moderated by Software AG professionals, to ask questions, discuss best practices, and learn how other customers are using Software AG technology.
- Link to external websites that discuss open standards and web technology.

Data Protection

Software AG products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR). Where applicable, appropriate steps are documented in the respective administration documentation.

2 Introduction to the Integration Server Wrapper

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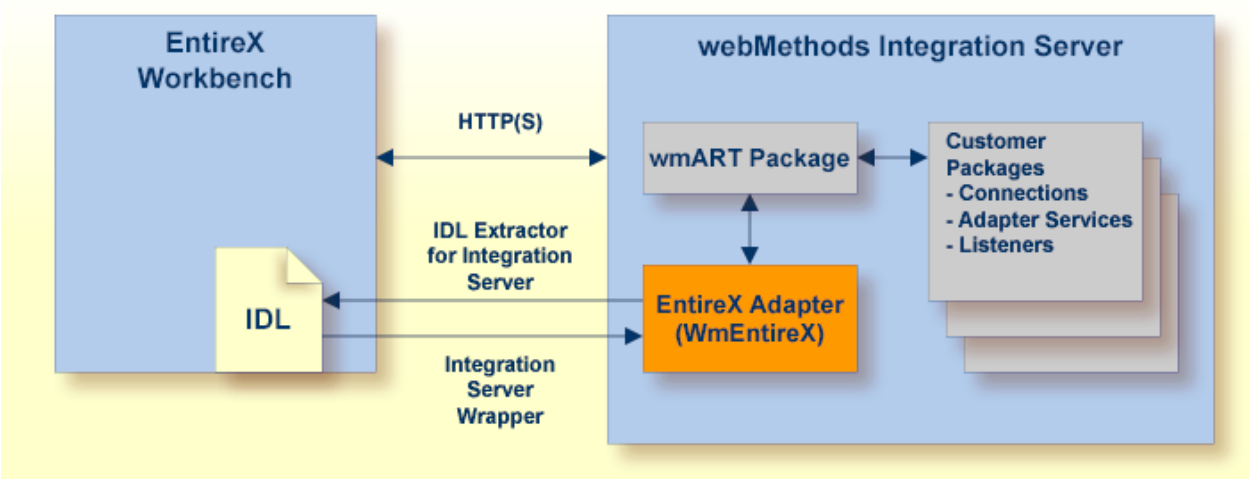
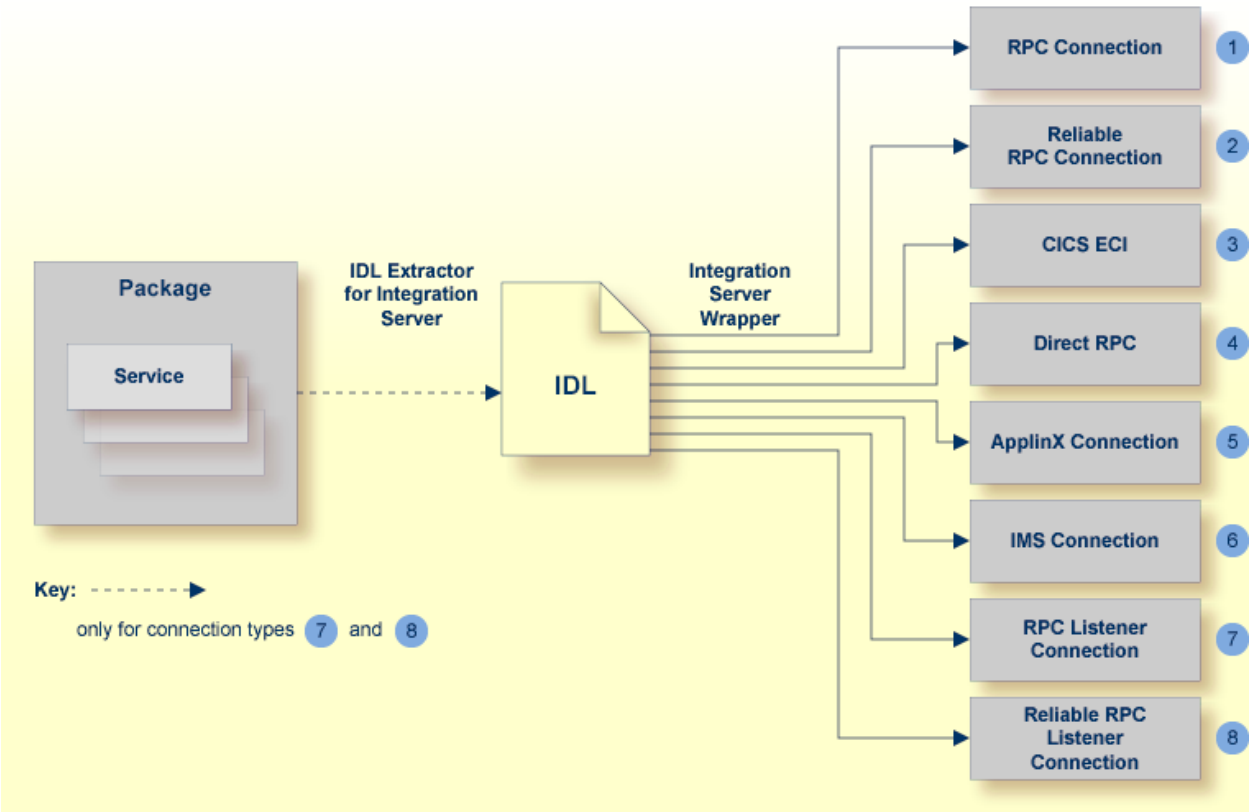
Scope

The Integration Server Wrapper provides access to EntireX RPC-based components, IMS Connect, or CICS ECI from Integration Server services. A wizard generates Integration Server objects from a Software AG IDL file.

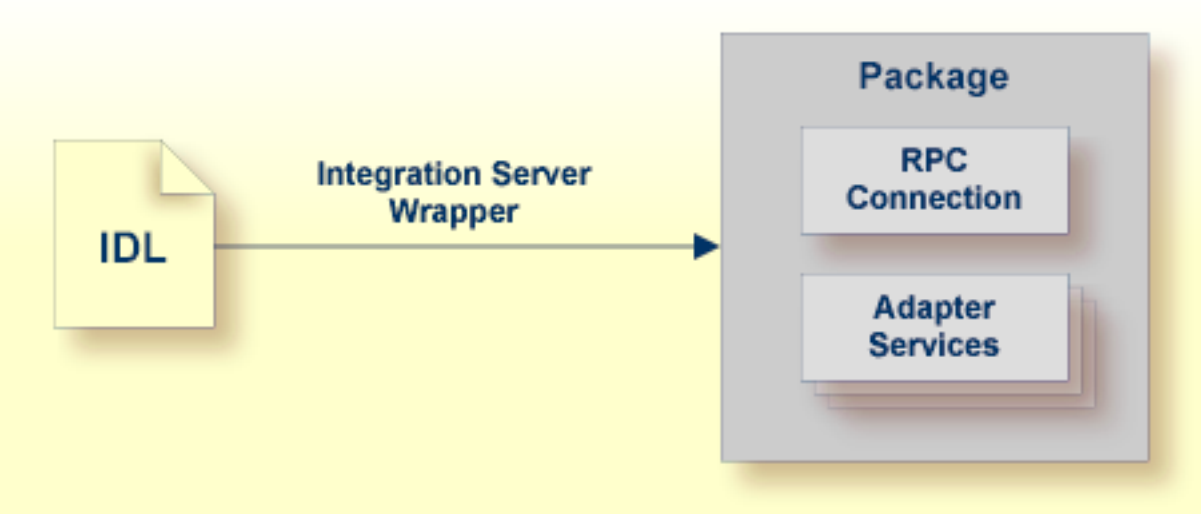


With the Integration Server Wrapper you can generate both client and server objects in the Integration Server. A client consists of a connection of type "RPC", "Reliable RPC", "CICS ECI", "Direct RPC", "IMS Connect" or "COBOL Connector". A server consists of a connection of type "RPC Listener" or "Reliable RPC Listener".



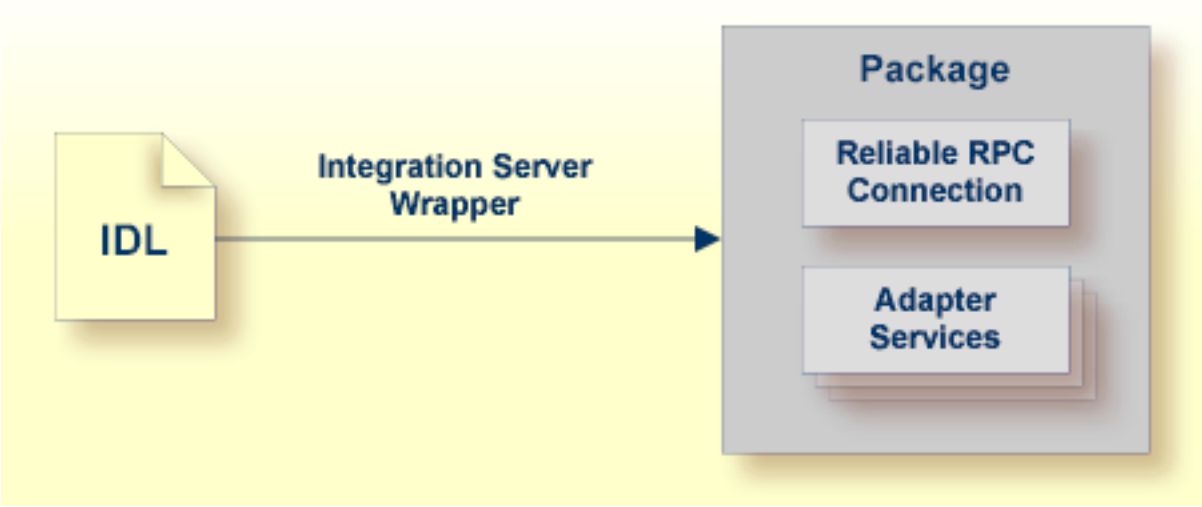
It is possible to create the following objects:

- **RPC Connection**



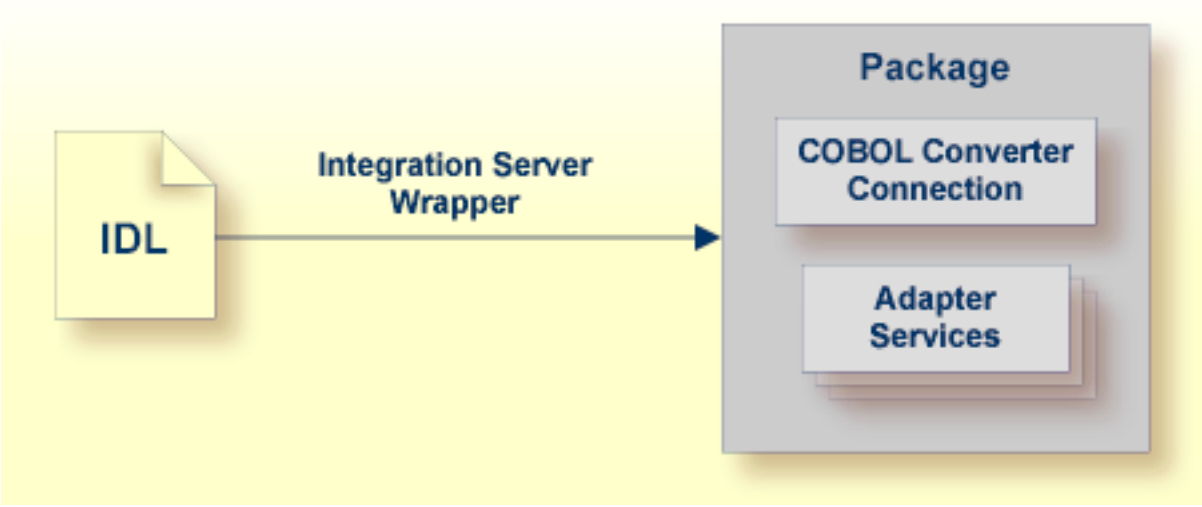
See *Step 4a: Define Adapter Services for an RPC Connection*.

- **Reliable RPC Connection**



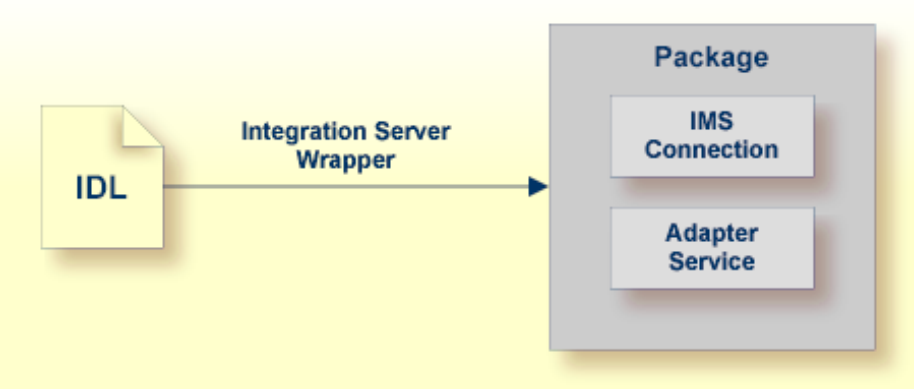
See *Step 4a: Define Adapter Services for an RPC Connection*.

- **COBOL Converter Connection**



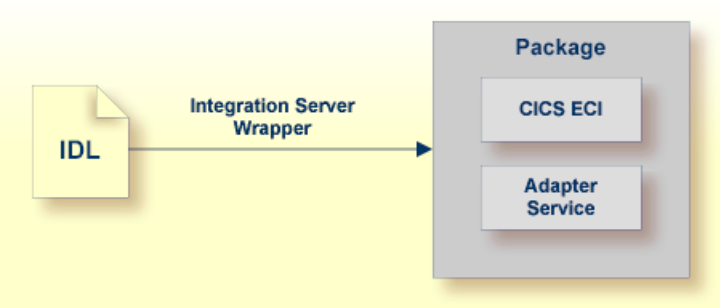
See *Step 4a: Define Adapter Services for an RPC Connection*.

- **Connection to IMS Connect**



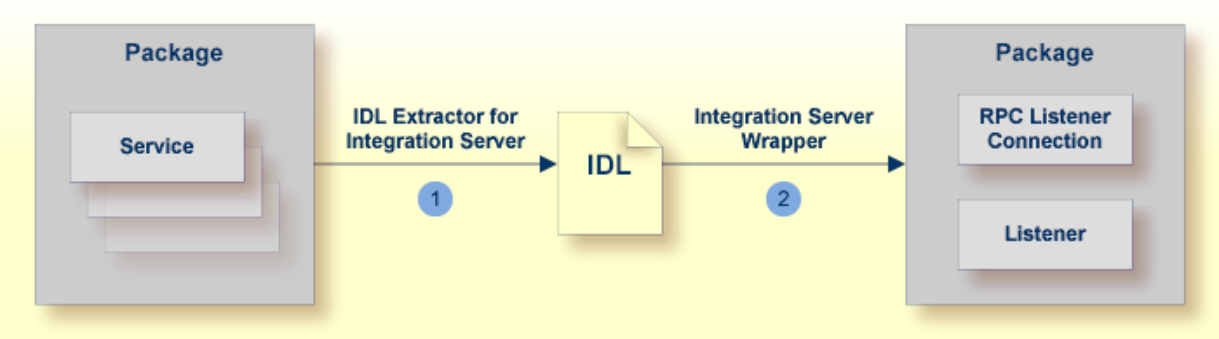
See *Step 4a: Define Adapter Services for an RPC Connection*.

- **CICS ECI Connection**



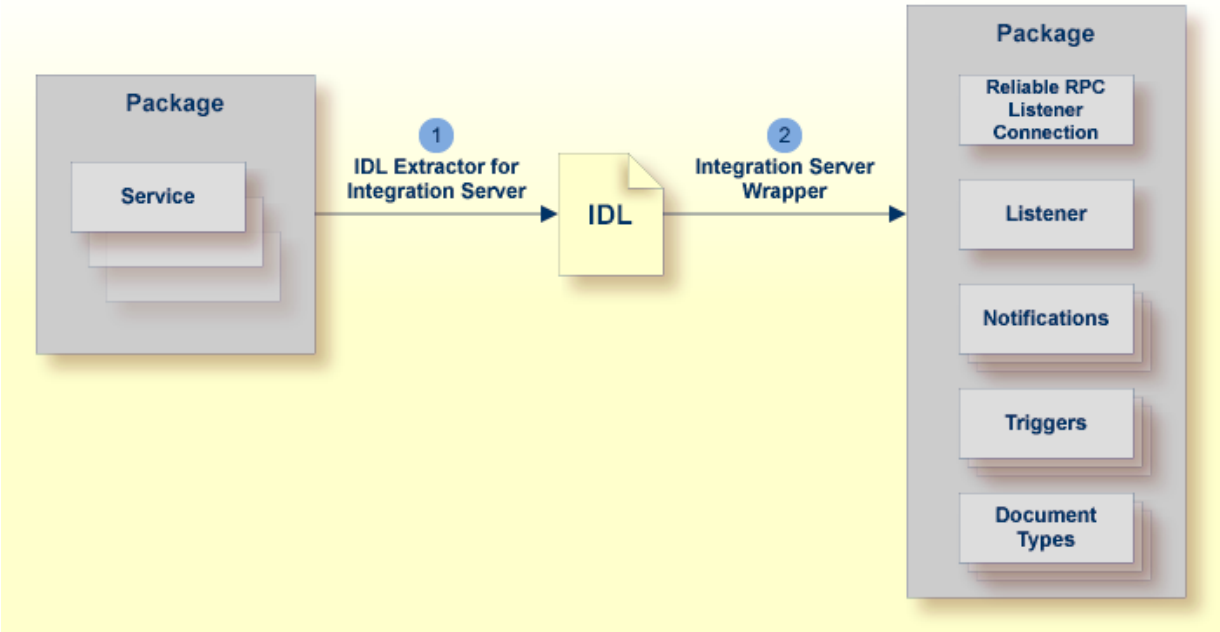
See *Step 4a: Define Adapter Services for an RPC Connection*.

- **RPC Listener**



1. See *Using the IDL Extractor for Integration Server*.
2. See *Step 4b: Define Adapter Services for an RPC Listener or a Reliable RPC Listener*.

- **Reliable RPC Listener**



1. See *Using the IDL Extractor for Integration Server*.
2. See *Step 4b: Define Adapter Services for an RPC Listener or a Reliable RPC Listener*.

Prerequisites

Four components are required for integration:

- the EntireX Adapter installed inside the Integration Server
- the EntireX Broker (not for Direct RPC connections, connections to IMS Connect, or CICS ECI Connections, or COBOL Converter)
- the EntireX RPC Server (not for Connections to IMS Connect or CICS ECI Connections, or AplinX)
- the EntireX Workbench for design time

Note: The EntireX Workbench is used at design time. All other components are used also at runtime.

3 Using the Integration Server Wrapper

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Step 1: Start the Integration Server Wrapper Wizard

To start the Integration Server Wrapper wizard

1 In the context menu of a Software AG IDL file, choose **Integration Server > Generate webMethods IS Connection**.

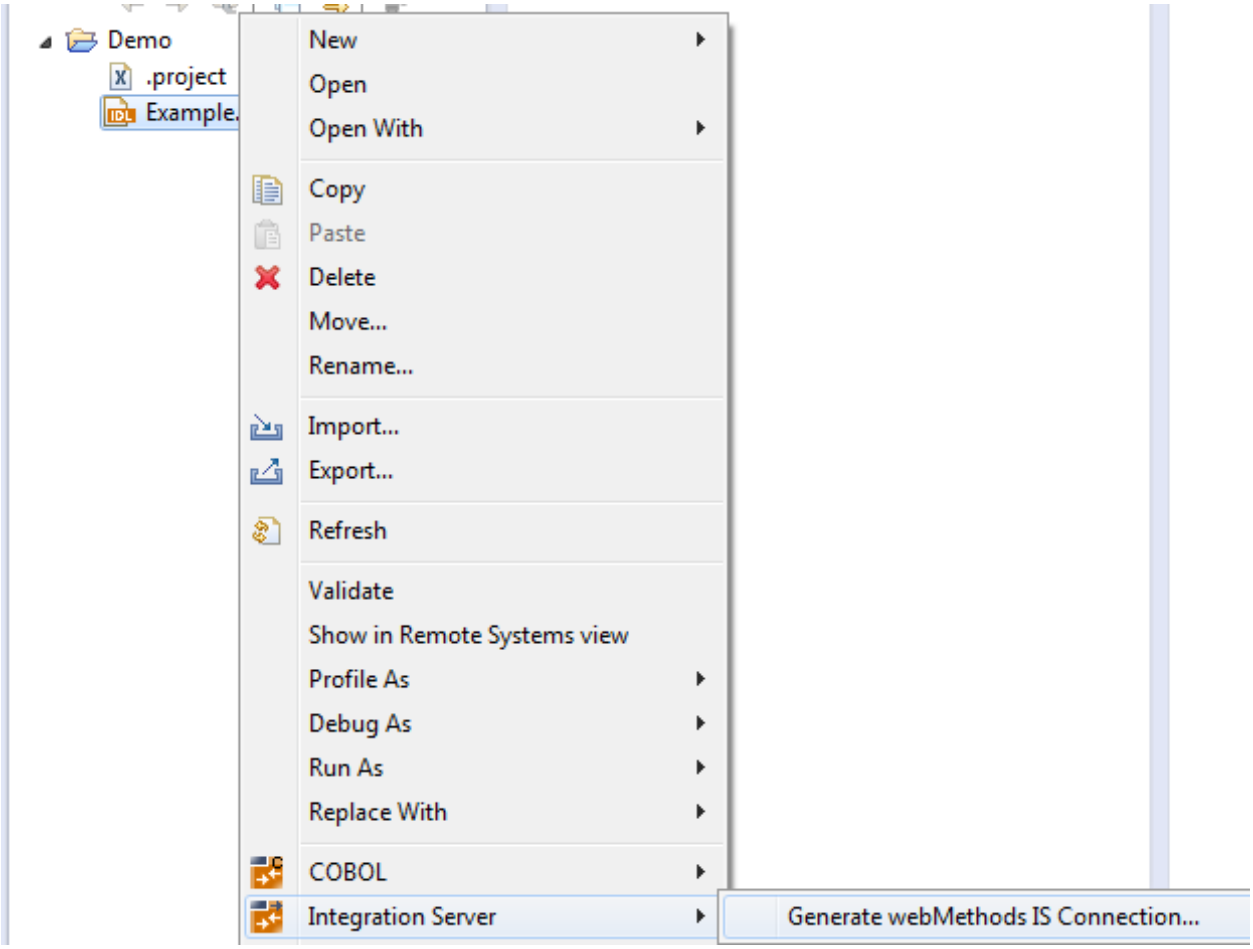
This starts the wizard with a list of existing Integration Server Wrapper connections.

Note: If the selected IDL file is not valid because of a syntax error, an error dialog comes up and the wizard does not start.

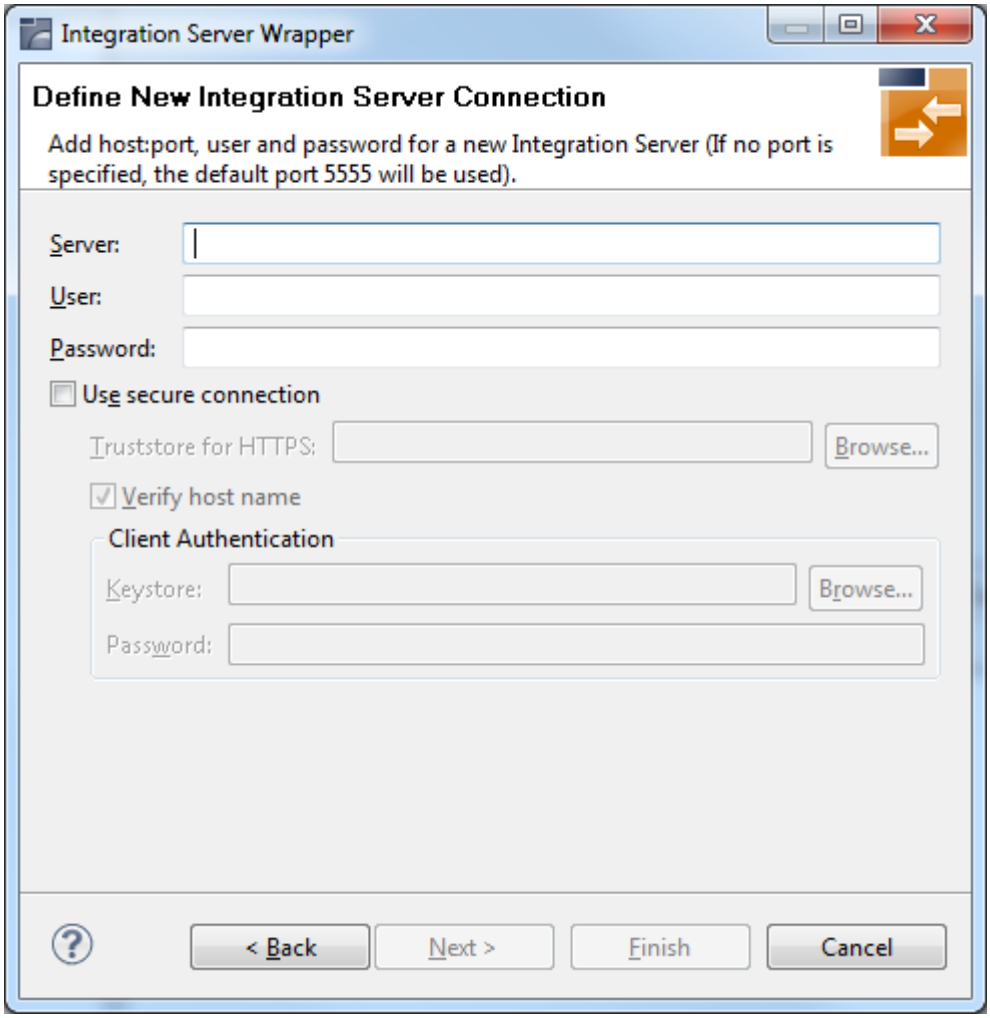
2 If you are using the wizard for the first time without any predefined Integration Server connections, continue with *Step 2a: Create a New Integration Server Connection*.

Or:

If *Integration Server Connections* are already defined, or if you want to communicate with an additional Integration Server, continue with *Step 2b: Use an Existing Integration Server Connection*.


Demo
.project
Example
New
Open
Open With
Copy
Paste
Delete
Move...
Rename...
Import...
Export...
Refresh
Validate
Show in Remote Systems view
Profile As
Debug As
Run As
Replace With
COBOL
Integration Server
Generate webMethods IS Connection...

Step 2a: Create a New Integration Server Connection



To create a new Integration Server connection

1 Define the new Integration Server connection on the wizard page.

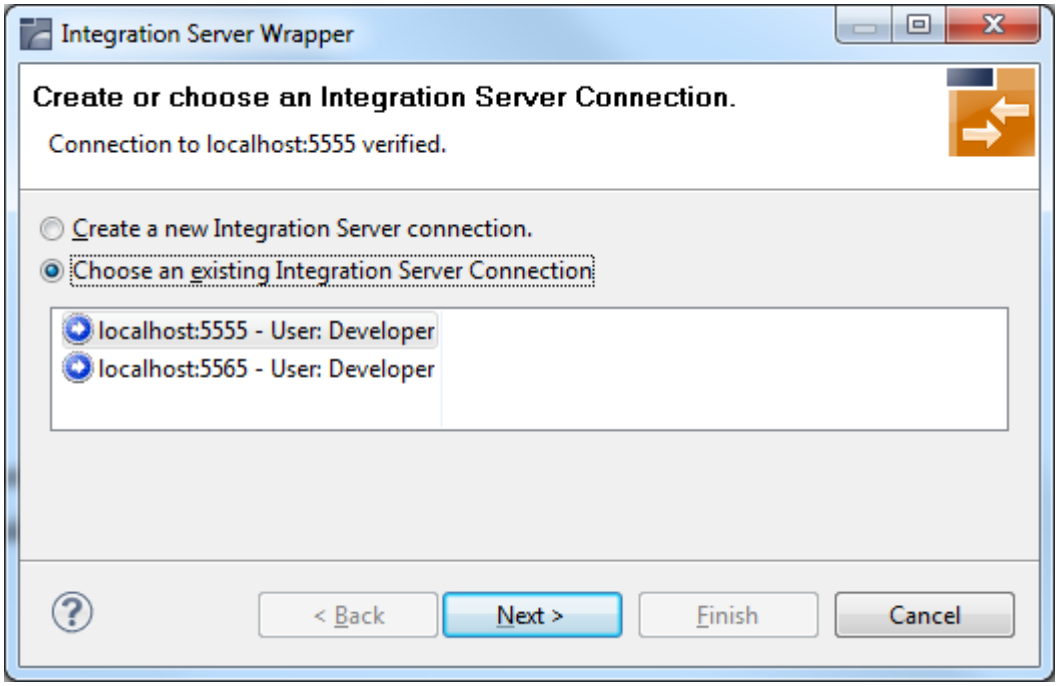
Notes:

1. The only required field is **Server**. Enter the hostname of the Integration Server including an optional port number. If no port number is specified, port number defaults to "5555". The **Integration Server Authentication** can be passed with the **User** and **Password** fields.
2. Optional settings are for secure connections. The **Truststore for HTTPS** contains all signed certificates and must be a valid truststore.
3. The check box **Verify host name** checks that the hostname is entered in the stored certificate.

4. When the Integration Server has **Client Authentication** enabled, you can specify your **Keystore** file and keystore **Password**.
5. For managing Integration Server connections, see ***Integration Server Preferences***.

2 Choose **Next** and continue with ***Step 3: Select the Connection Type***.

Step 2b: Use an Existing Integration Server Connection



To use an existing Integration Server connection

1 Select **Choose an existing Integration Server Connection** and an Integration Server connection from the list.

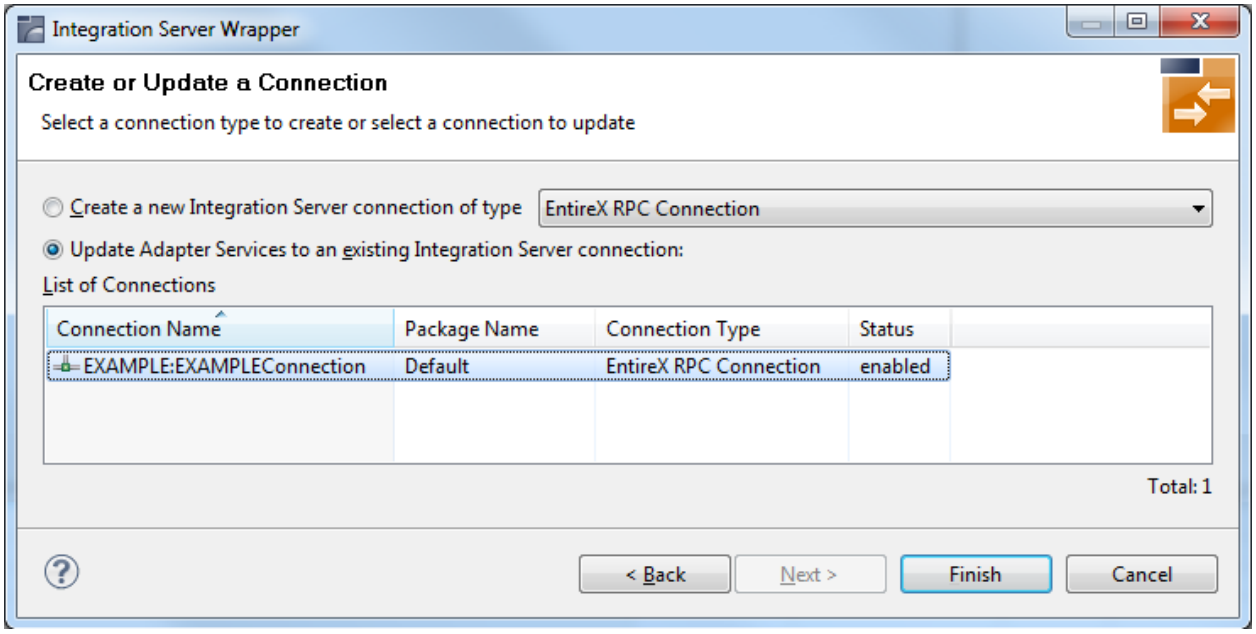
The selected connection is verified by a `ping` command. If the response is valid, the **Next** button is enabled. If invalid, an error message is displayed.

2 Continue with *Step 3: Select the Connection Type*.

To create an additional Integration Server connection

- Select **Create a new Integration Server Connection** and continue with *Step 2a: Create a New Integration Server Connection*.

Step 3: Select the Connection Type



In this step you can either create a new Integration Server connection or update adapter services to an existing Integration Server connection.

To create a new connection

1 Select a connection type from the drop down list.

2 Click **Next** and continue with *Step 4a: Define Adapter Services for an RPC Connection*.

Or:

Step 4b: Define Adapter Services for an RPC Listener or a Reliable RPC Listener, depending on the selected connection type.

To update an existing connection

1 Select a connection from **List of Connections**.

As a result, you are informed on how many adapter services will be created, modified or left unchanged.

The update process can be characterized as follows:

- The metadata is updated for each IDL program.

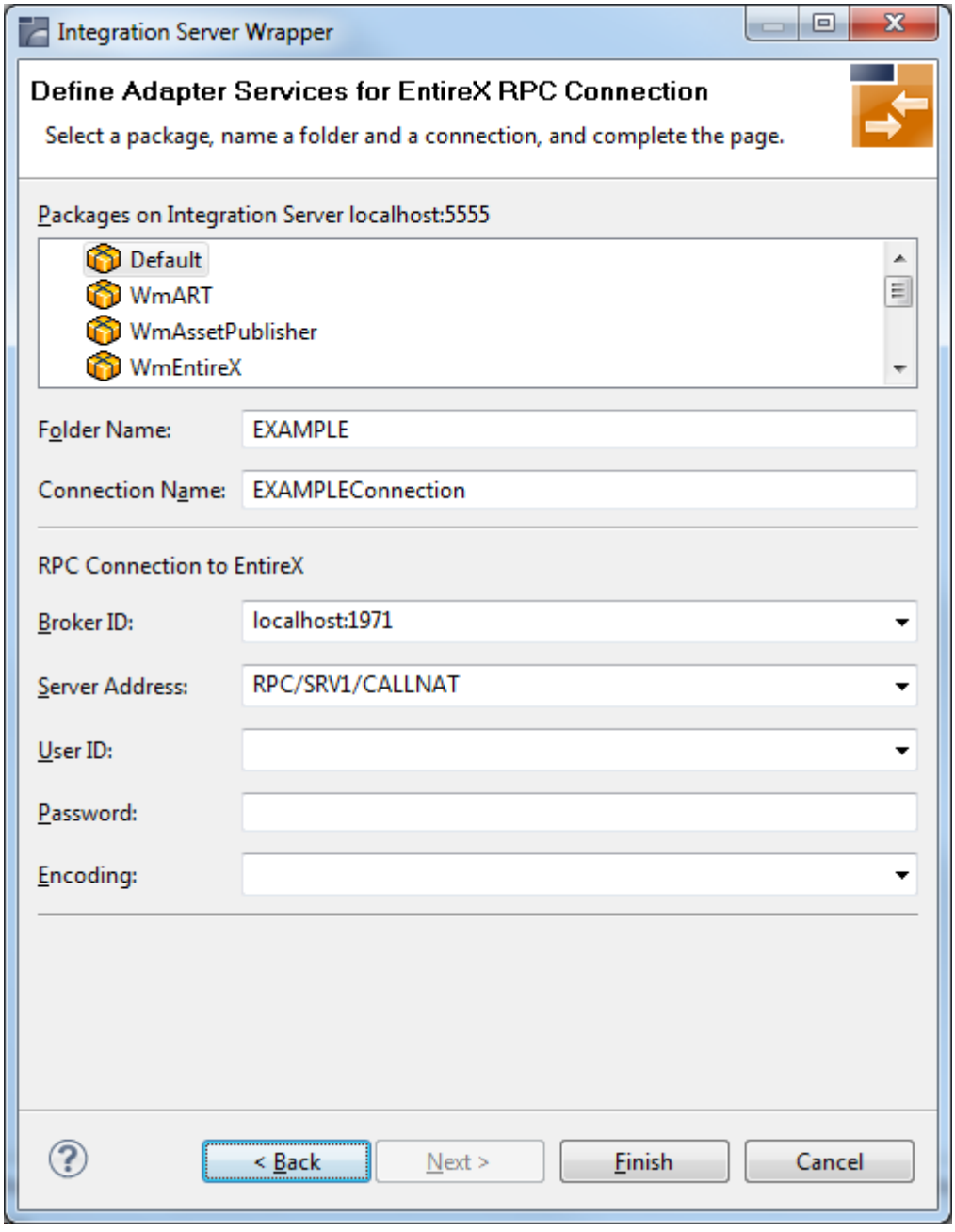
- An adapter service is created for each new IDL program.
- An existing adapter service is updated if it is contained in the IDL file for the update.
- A connection remains unchanged with respect to its type and settings (broker ID, server address, user ID, etc.).

2 Click **Finish**.

Example

A connection is created with IDL programs `A` and `B`. Later, the update operation uses IDL programs `A` and `C`. After the update, the service for `A` is modified, the service for `B` is unchanged, and the service for `C` is new.

Step 4a: Define Adapter Services for an RPC Connection



To create a connection and related adapter services

1 Select a package for the created objects.

2 Define a folder name. If the folder does not exist, it will be created.

3 Define a connection name.

4 Define the parameters of the connection type. For details, see the *EntireX and your webMethods Integration Server Applications*.

As a result, the folder will contain the connection and the adapter services (one for each IDL program). The name of a service is the same as the respective IDL program.

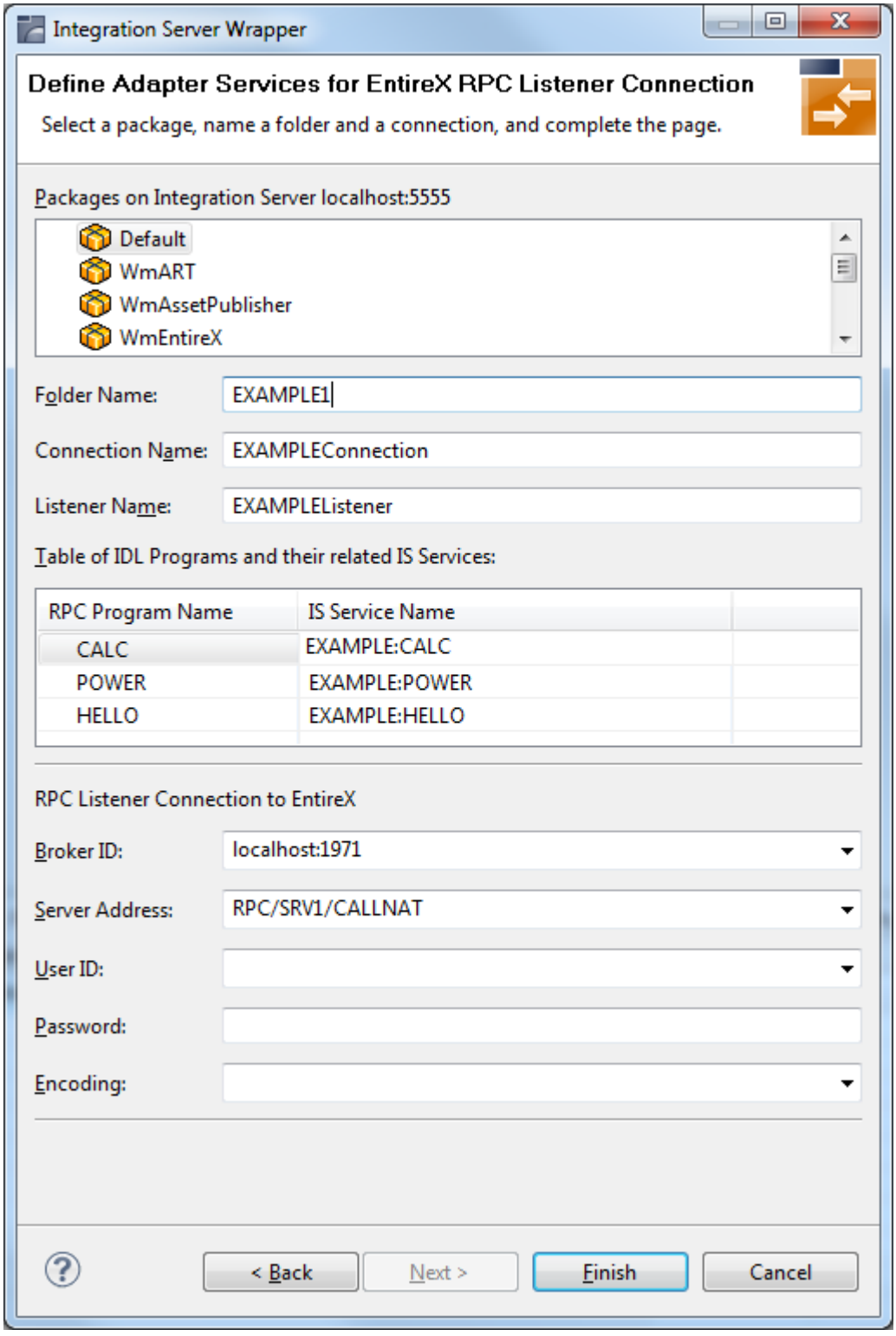
The default settings for new RPC adapter services are:

- the **Default** package; if not available, the first package
- the IDL library name for the **Folder Name**
- the IDL library name with the suffix "Connection" for the **Connection Name**

Notes:

1. The check box **Overwrite existing Objects in Integration Server** is useful for re-generating objects created previously. However, you cannot overwrite an RPC Listener Connection or a reliable RPC Listener Connection with a connection of a different type. If the connection is deleted with the Adapter Administration UI, it is not possible to overwrite the objects. In this case, you have to delete the adapter services in the Designer.
2. When creating a connection, a package dependency is added such that the selected package depends on webMethods EntireX (the package `WmEntireX`) with the version currently used.

Step 4b: Define Adapter Services for an RPC Listener or a Reliable RPC Listener



To create a connection and related adapter services

1 Select a package for the created objects.

2 Define a folder name. If the folder does not exist, it will be created.

3 Define a connection name.

4 Define the parameters of the connection type.

As a result, the folder will contain the connection and the adapter services (one for each IDL program). The name of a service is the same as the respective IDL program.

The default settings for new RPC adapter services are:

- the **Default** package; if not available, the first package
- the IDL library name for the **Folder Name**
- the IDL library name with the suffix "Connection" for the **Connection Name**

Notes:

1. The check box **Overwrite existing Objects in Integration Server** is useful for re-generating objects created previously. However, you cannot overwrite an RPC Listener Connection or a reliable RPC Listener Connection with a connection of a different type. If the connection is deleted with the Adapter Administration UI, it is not possible to overwrite the objects. In this case, you have to delete the adapter services in the Designer.
2. When creating a connection, a package dependency is added such that the selected package depends on webMethods EntireX (the package `WmEntireX`) with the version currently used.

Step 5: Finish the Wizard

To finish the Wizard

- Choose **Finish**.

  As a result, the folder contains multiple objects as listed under the corresponding step.

  Note: See *Mapping Software AG IDL to Integration Server Data Types*.

4 Mapping Software AG IDL to Integration Server Data Types

- All primitive data types of the Software AG IDL (except B and BV) are mapped to `java.lang.String`.
- Only data types B and BV (with or without maximum length) are mapped to `byte[]`.
- With data types N, NU, P, and PU, you have the option to keep or remove leading zeros or the decimal point. Default is to remove leading zeros and to keep the decimal point. This can be configured individually for each adapter service.
- Data types A, K, and U (for fixed length) have the option to keep leading and trailing whitespace characters. Default is to trim these whitespace characters. This can be configured individually for each adapter service.
- Groups are mapped to documents.
- One dimensional arrays are mapped to String lists (`java.lang.String[]`).
- Two dimensional arrays are mapped to String tables (`java.lang.String[][]`).
- Three dimensional arrays are mapped to `java.lang.String[][][]`.
- Data type D: the format of the string in the pipeline is `java.text.DateFormat.getDateInstance(DateFormat.MEDIUM, Locale.ENGLISH).format(date))`, where *`date`* is of type `java.util.Date`.
- Data type T: the format of the string in the pipeline is `java.text.DateFormat.getDateTimeInstance(DateFormat.MEDIUM, DateFormat.MEDIUM, Locale.ENGLISH).format(date))`, where *`date`* is of type `java.util.Date`.

5 Integration Server Preferences

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The Integration Server preferences are used to manage Integration Server connections. This chapter applies both to the Integration Server Wrapper and the IDL Extractor for Integration Server.

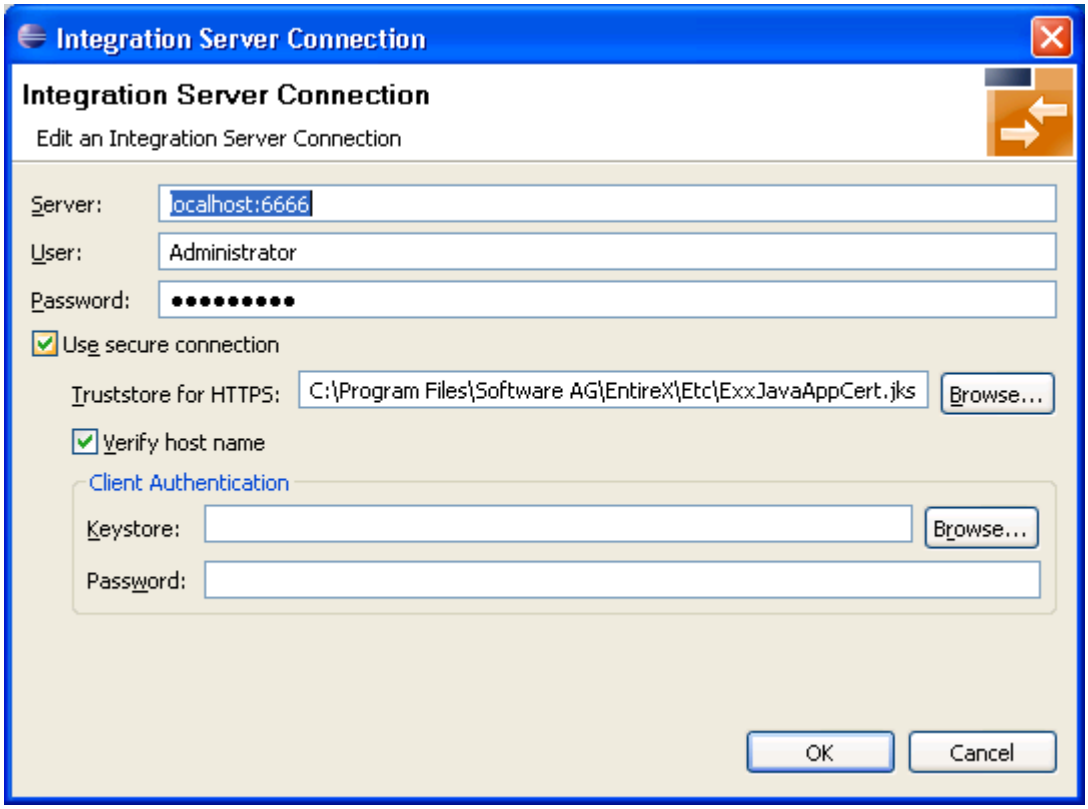
Integration Server Connections

The Integration Server connections are responsible for the HTTP/HTTPS communication to the Integration Server. They are used in the wizards described in ***Using the Integration Server Wrapper*** and *Using the IDL Extractor for Integration Server* and are managed in the Integration Server preferences.

An Integration Server connection contains the following information:

- Server name (required, consists of hostname and optional port number, where the default port number is 5555)
- User name
- Password
- optional parameters for SSL (HTTPS):
  - Truststore (name of the file)
  - Verify hostname
  - Optional parameters for client verification:
    - Keystore (name of the file)
    - Password for the Keystore

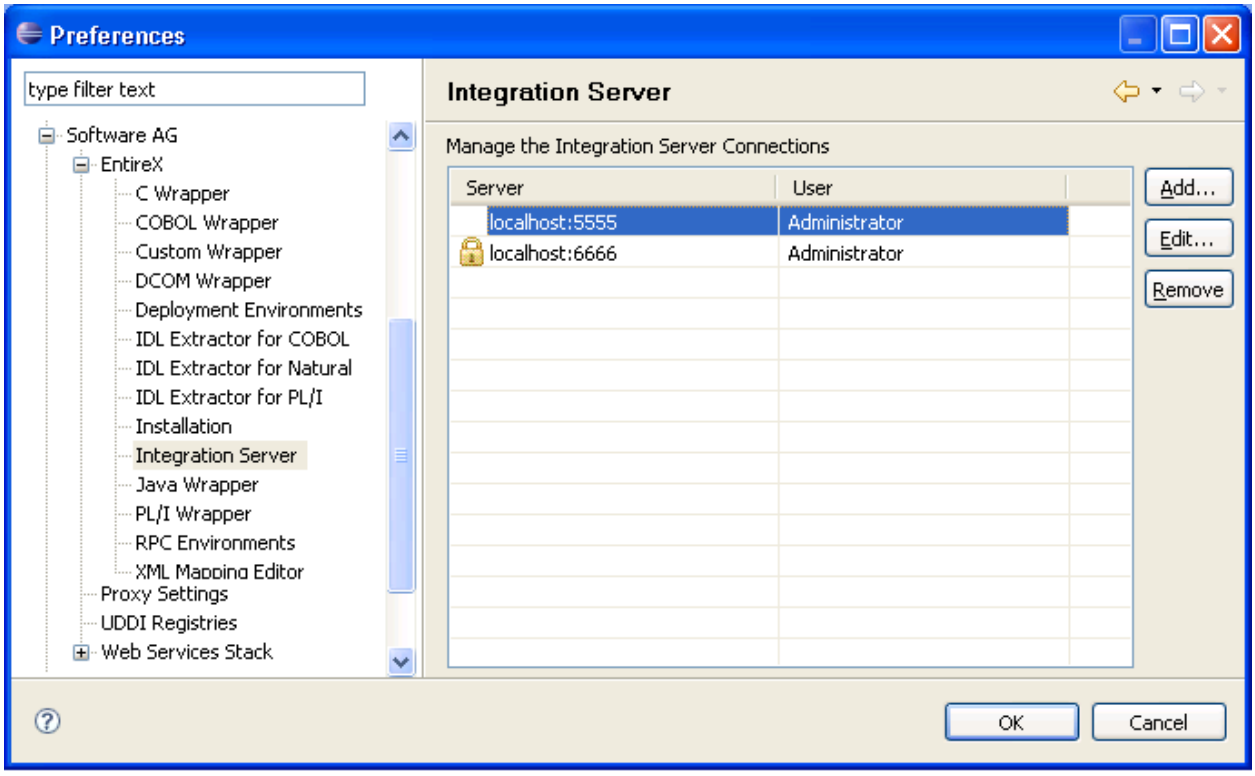
This information can be specified in the following dialog:



Notes:

1. The only required field is **Server**. Enter the hostname of the Integration Server including an optional port number. If no port number is specified, port number defaults to "5555". The **Integration Server Authentication** can be passed with the **User** and **Password** fields.
2. Optional settings are for secure connections. The **Truststore for HTTPS** contains all signed certificates and must be a valid truststore.
3. The check box **Verify host name** checks that the hostname is entered in the stored certificate.
4. When the Integration Server has **Client Authentication** enabled, you can specify your **Keystore** file and keystore **Password**.
5. For managing Integration Server connections, see *Integration Server Preferences*.

Setting Integration Server Preferences



To add, edit or remove Integration Server connections

- Open the Preferences page and choose **Add...**, **Edit...** or **Remove**.

  All changes in the table will be stored permanently after leaving the preferences with **OK**.

  Caution: The creation of duplicates is forbidden. A duplicate will be detected if server (including port number, for instance the default "5555"), user and truststore file have the same name.