

webMethods EntireX

webMethods Integration Server Wrapper

Innovation Release

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This document applies to webMethods EntireX Version 9.9 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.

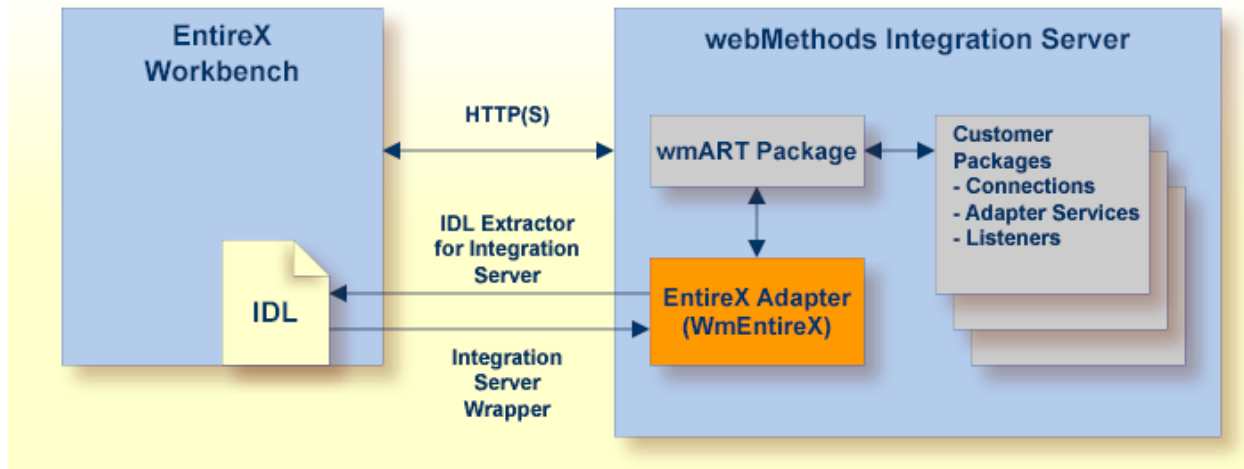
Preferences Describes the Integration Server preferences.

1 Introduction to the Integration Server Wrapper

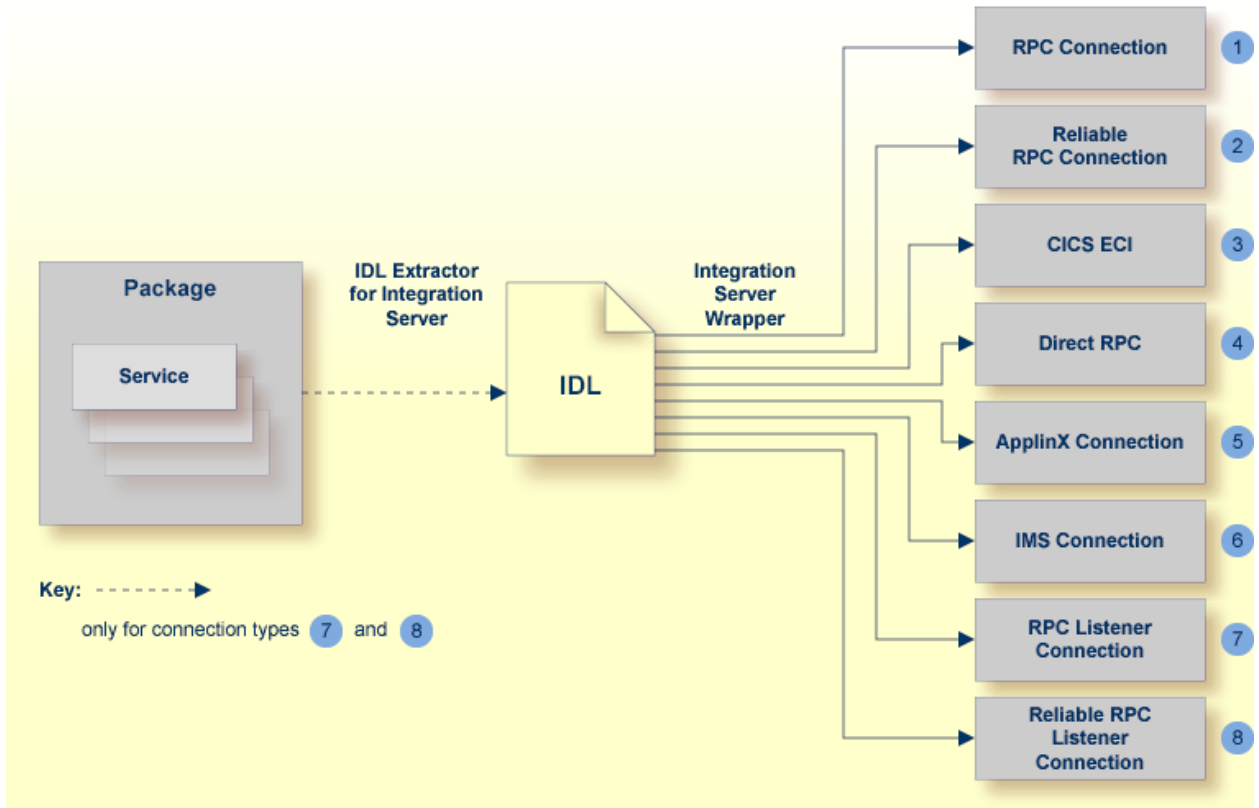
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Scope

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

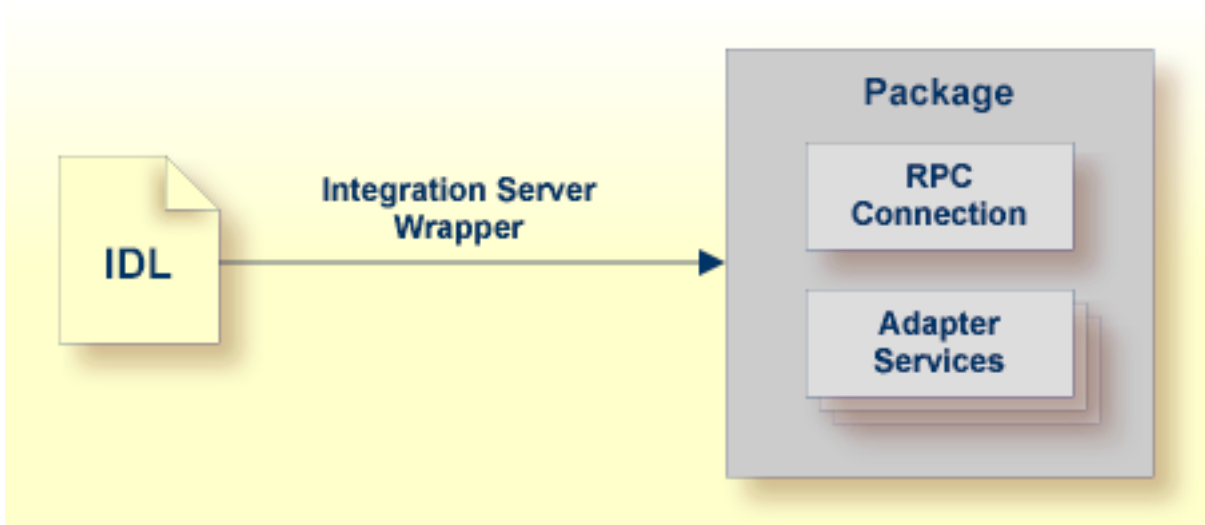


The Integration Server Wrapper enables users to generate both client and server objects in the Integration Server. A client consists of a connection of type "RPC", "Reliable RPC", "CICS ECI", "Direct RPC", "ApplinX" or "IMS Connect". A server consists of a connection of type "RPC Listener" or "Reliable RPC Listener".



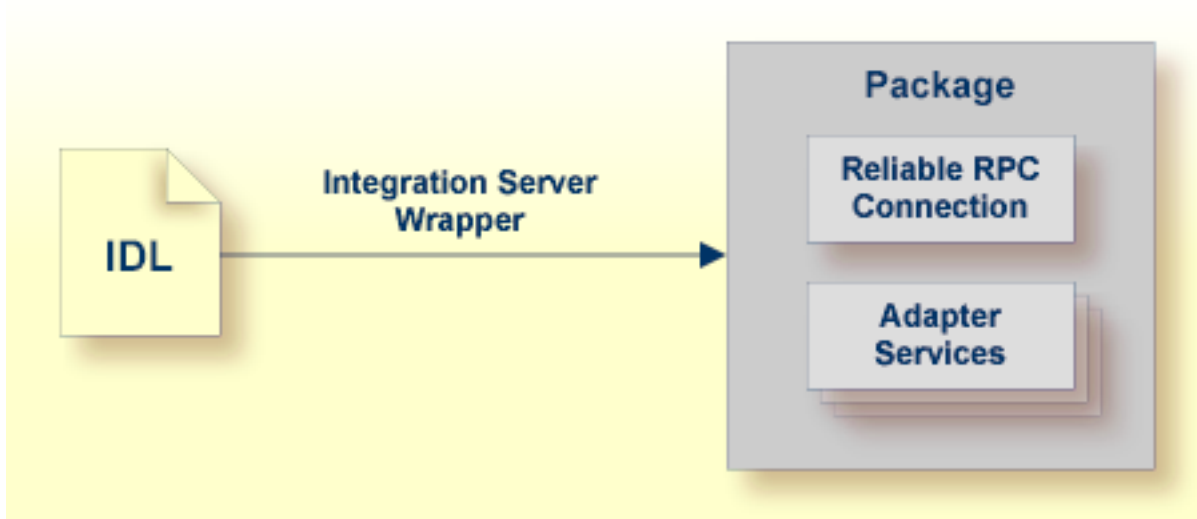
It is possible to create the following objects:

- **RPC Connection**



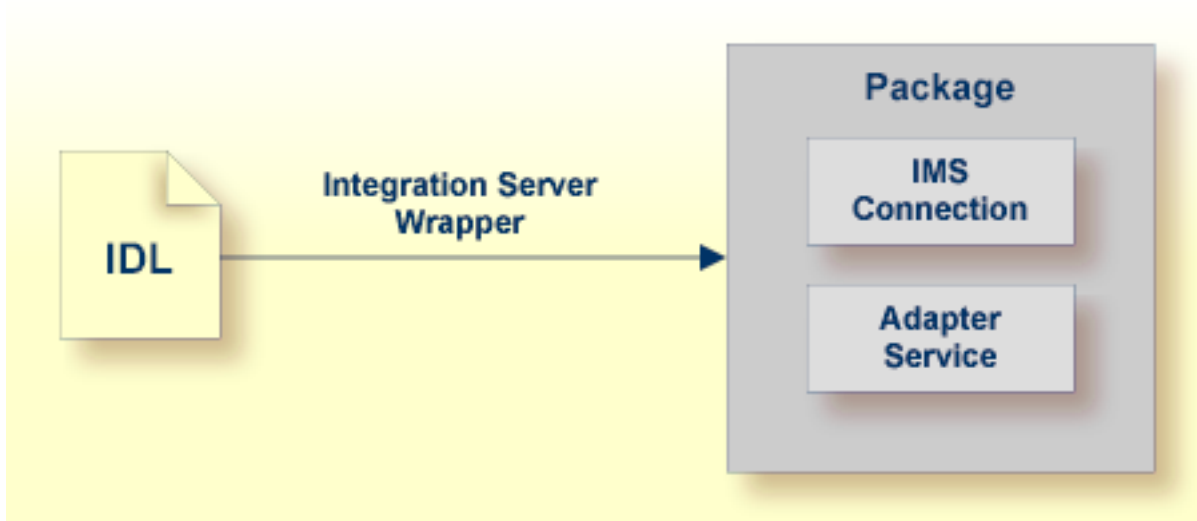
See *Step 4a: Define Adapter Services for an RPC Connection*.

■ **Reliable RPC Connection**



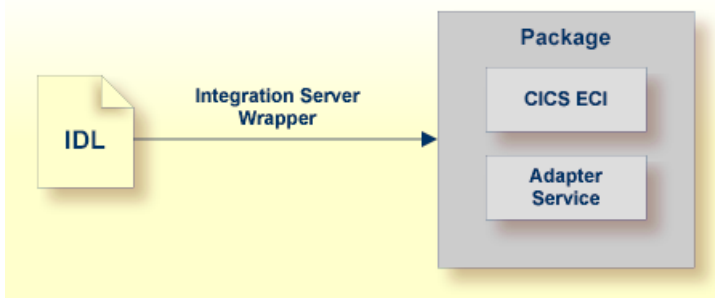
See *Step 4a: Define Adapter Services for an RPC Connection.*

■ **Connection to IMS Connect**



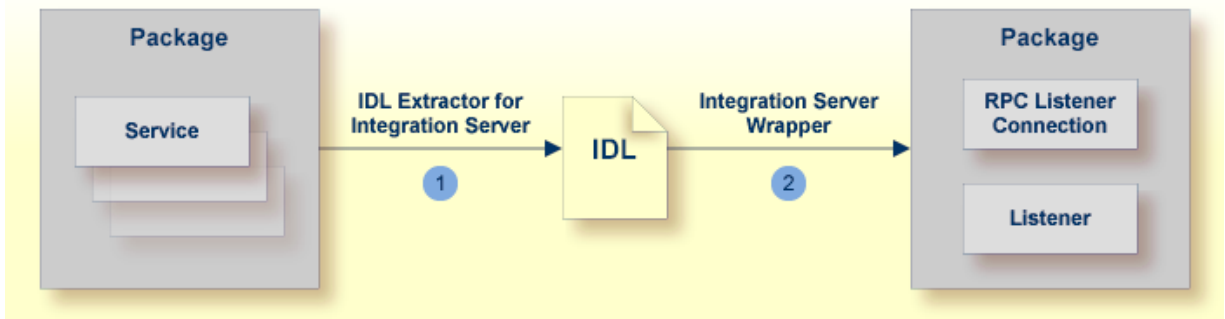
See *Step 4a: Define Adapter Services for an RPC Connection.*

■ **CICS ECI Connection**



See [Step 4a: Define Adapter Services for an RPC Connection](#).

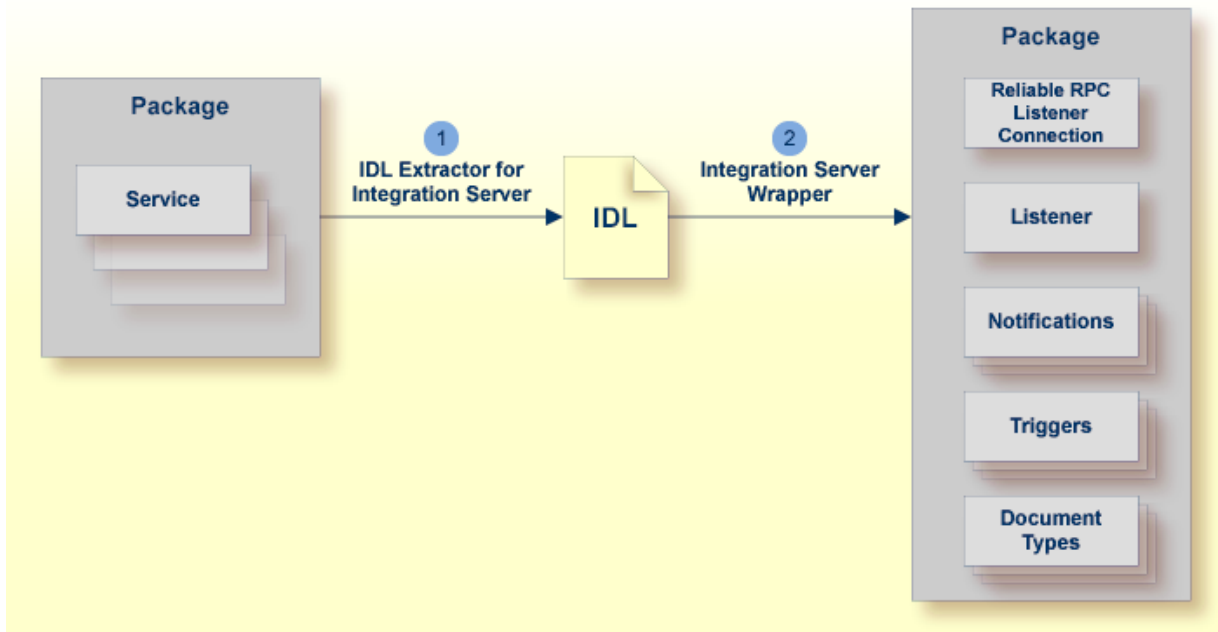
■ RPC Listener



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 ApplinX)
- the EntireX RPC Server (not for Connections to IMS Connect or CICS ECI Connections, or ApplinX)
- the EntireX Workbench for design time (not for ApplinX connections)



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

For ApplinX connections we have the following prerequisites:

- the EntireX Adapter installed inside the Integration Server
- the ApplinX server
- the ApplinX Workbench (inside Software AG Designer)

2 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 web-Methods IS Connection**.

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

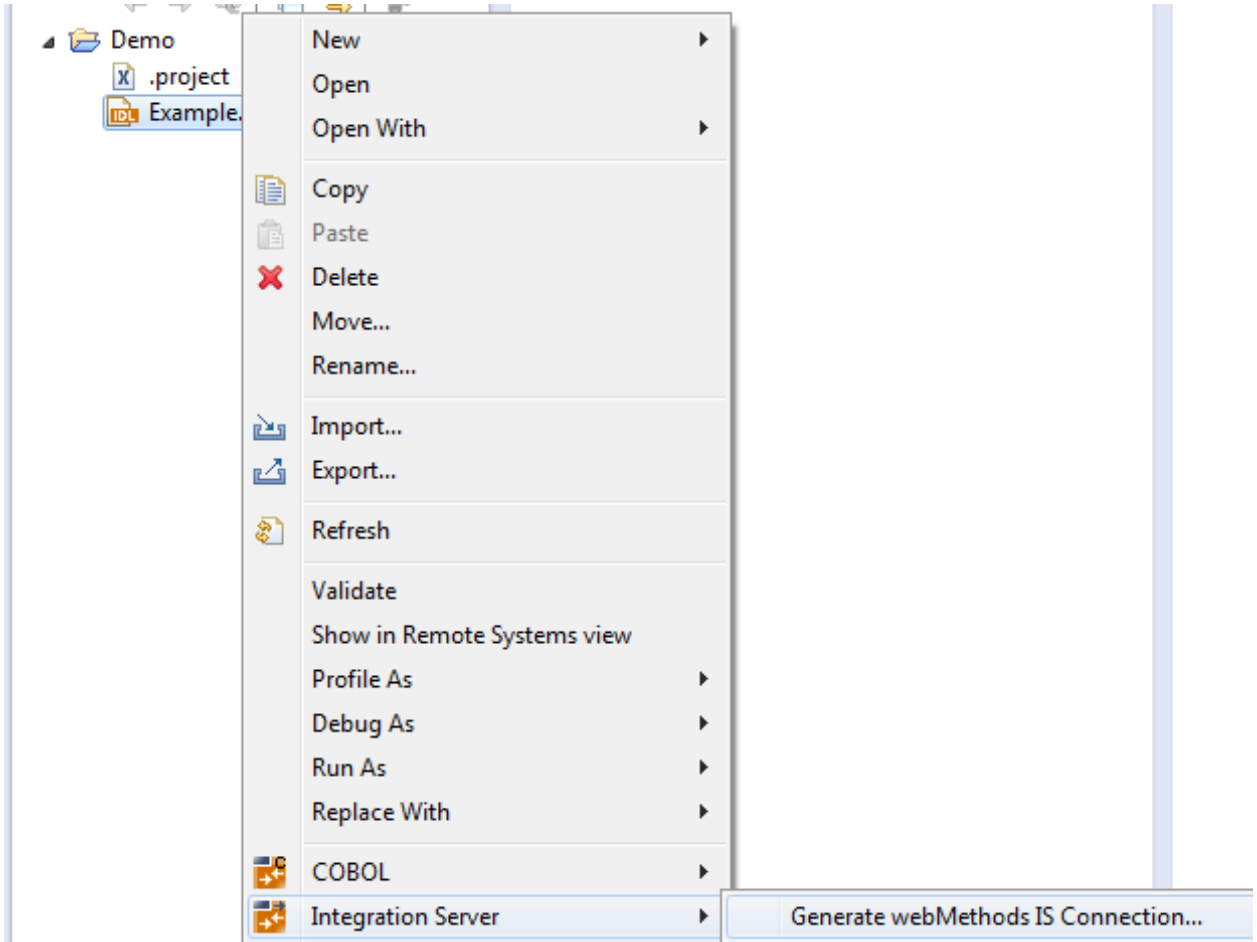


Note: If the selected IDL file is not valid because of a syntax error, an error dialog comes up and the wizard does not start.

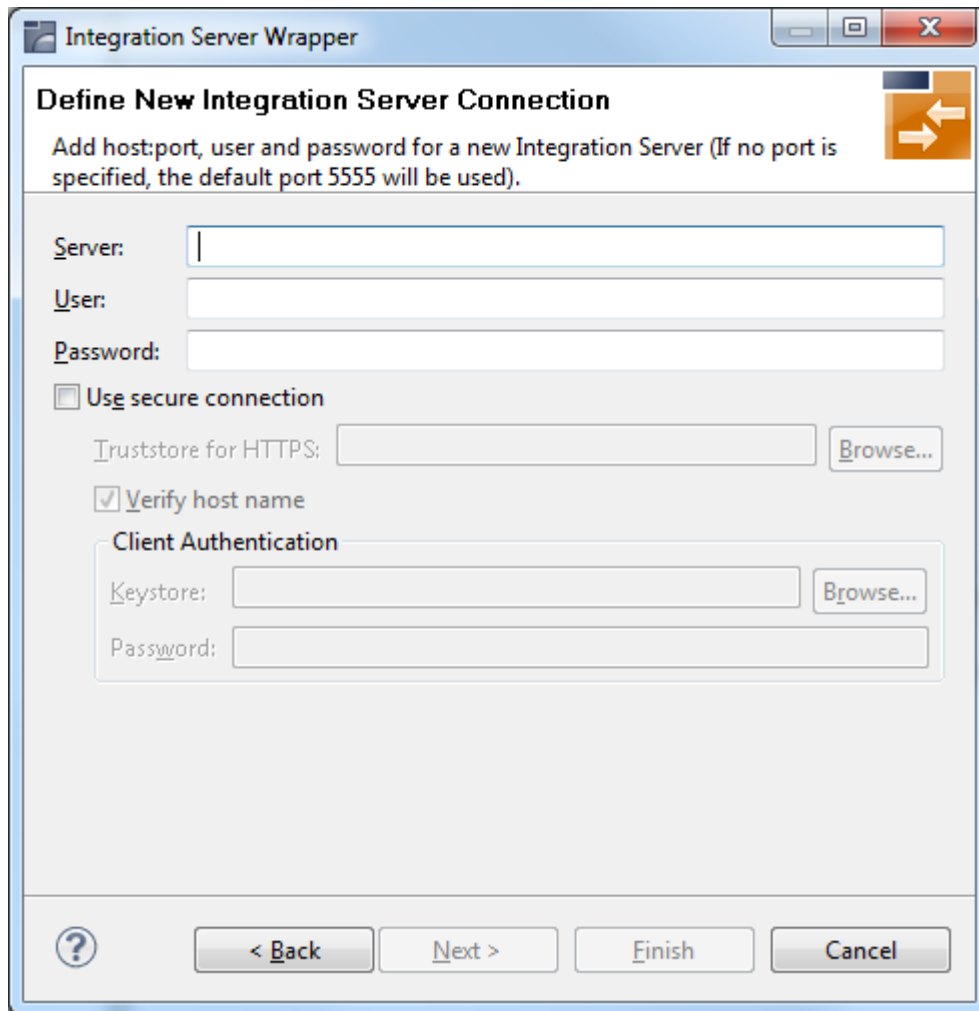
- 2 If you are using the wizard for the first time without any predefined Integration Server connections, continue with [Step 2a: Create a New Integration Server Connection](#).

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](#).



Step 2a: Create a New Integration Server Connection



> To create a new Integration Server connection

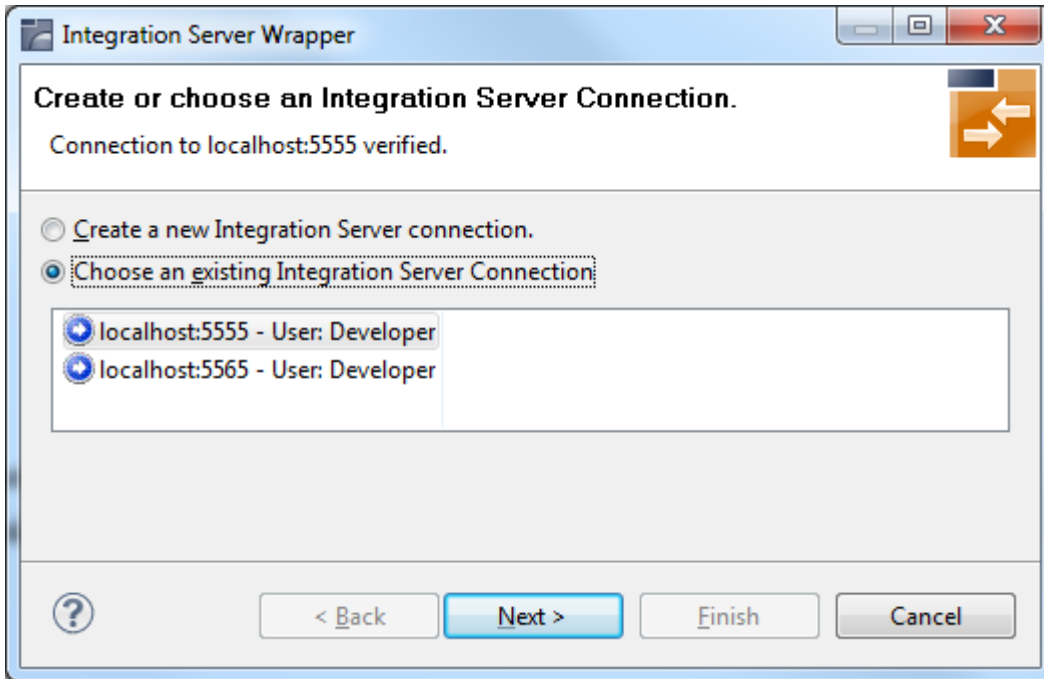
- 1 Define the new Integration Server connection on the wizard page.

 **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.

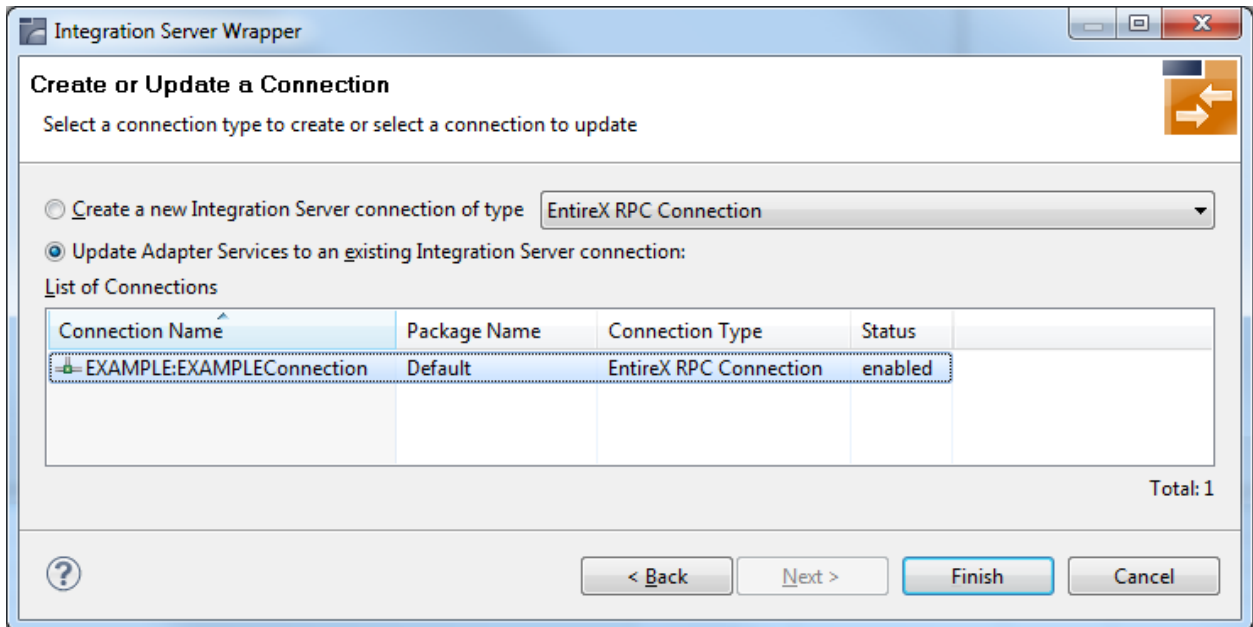
- 2 Continue with *Step 3: Select the Connection Type*.

> 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

Note: This section describes how to select the connection type for EntireX Adapter version 9.0 or above. For earlier versions, see [Select the Connection Type for EntireX Adapter 8.2 or Below](#).



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:

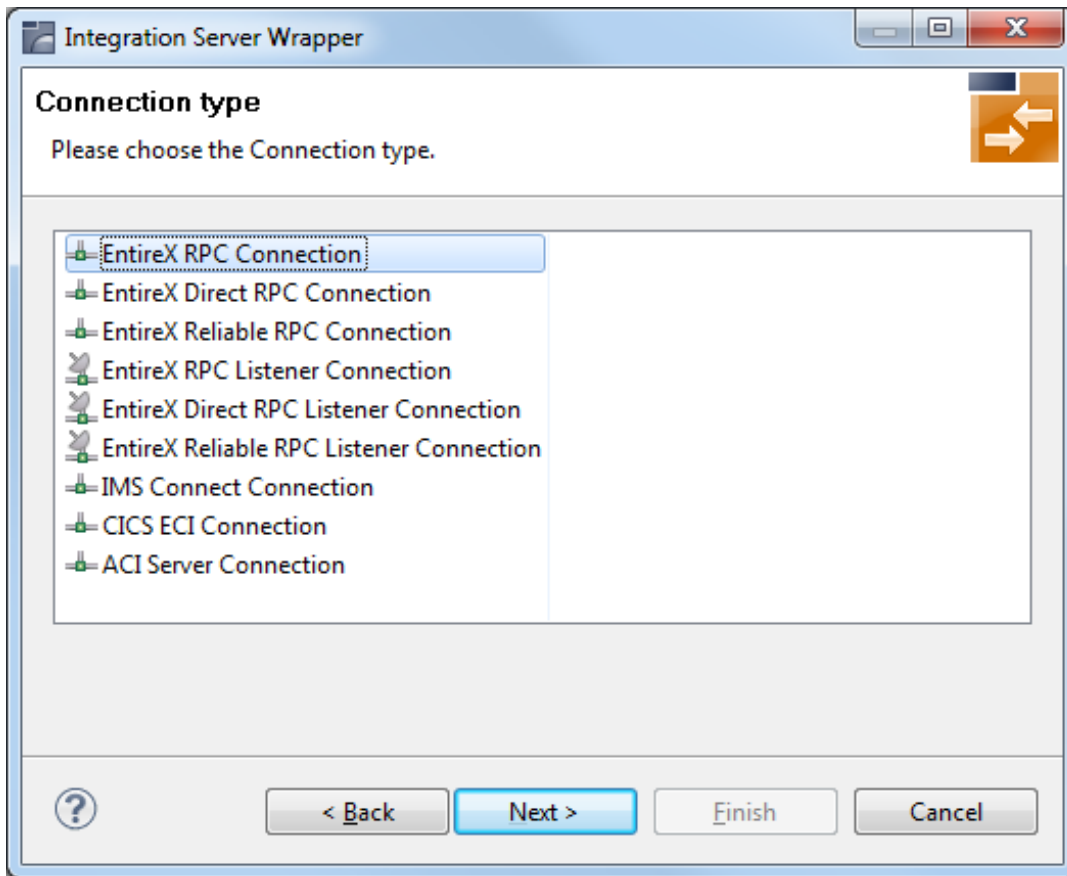
- The metadata is updated for each IDL program.
- An adapter service is created for each new IDL program.
- An existing adapter service is updated if it is contained in the IDL file for the update.
- A connection remains unchanged with respect to its type and settings (broker ID, server address, user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

Select the Connection Type for EntireX Adapter 8.2 or Below



» To select a connection type for EntireX Adapter 8.2 or below

- 1 Select a **Connection type** from the list of available types.

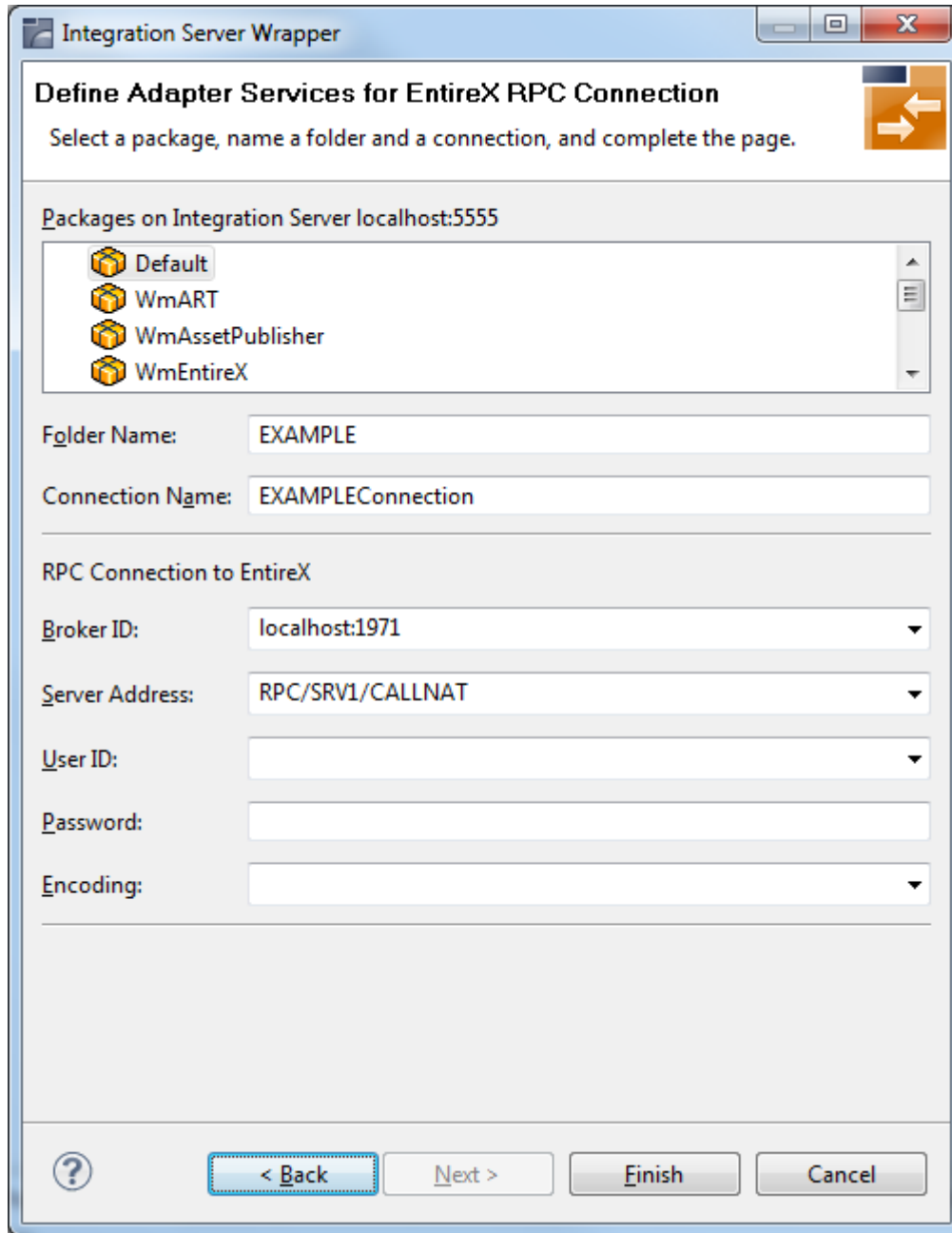
 **Notes:**

1. Some connection types require a license.
 2. The connection types for **Reliable RPC** require an IDL file with **IN** parameters only. If the selected IDL file contains **OUT** parameters, the connection types for **Reliable RPC** are not available.
 3. Listeners can be generated only for connection types **RPC**, **Direct RPC** and **Reliable RPC**.
- 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.

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

Integration Server Wrapper

Define Adapter Services for EntireX RPC Listener Connection
 Select a package, name a folder and a connection, and complete the page.

Packages on Integration Server localhost:5555

- Default
- WmART
- WmAssetPublisher
- WmEntireX

Folder Name:

Connection Name:

Listener Name:

Table of IDL Programs and their related IS Services:

RPC Program Name	IS Service Name
CALC	EXAMPLE:CALC
POWER	EXAMPLE:POWER
HELLO	EXAMPLE:HELLO

RPC Listener Connection to EntireX

Broker ID:

Server Address:

User ID:

Password:

Encoding:

? < Back Next > Finish Cancel

➤ **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.
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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.

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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](#).

3 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`.

4 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:

Integration Server Connection
Edit an Integration Server Connection

Server: localhost:6666

User: Administrator

Password: ●●●●●●●●

Use secure connection

Truststore for HTTPS: C:\Program Files\Software AG\EntireX\Etc\ExxJavaAppCert.jks

Verify host name

Client Authentication

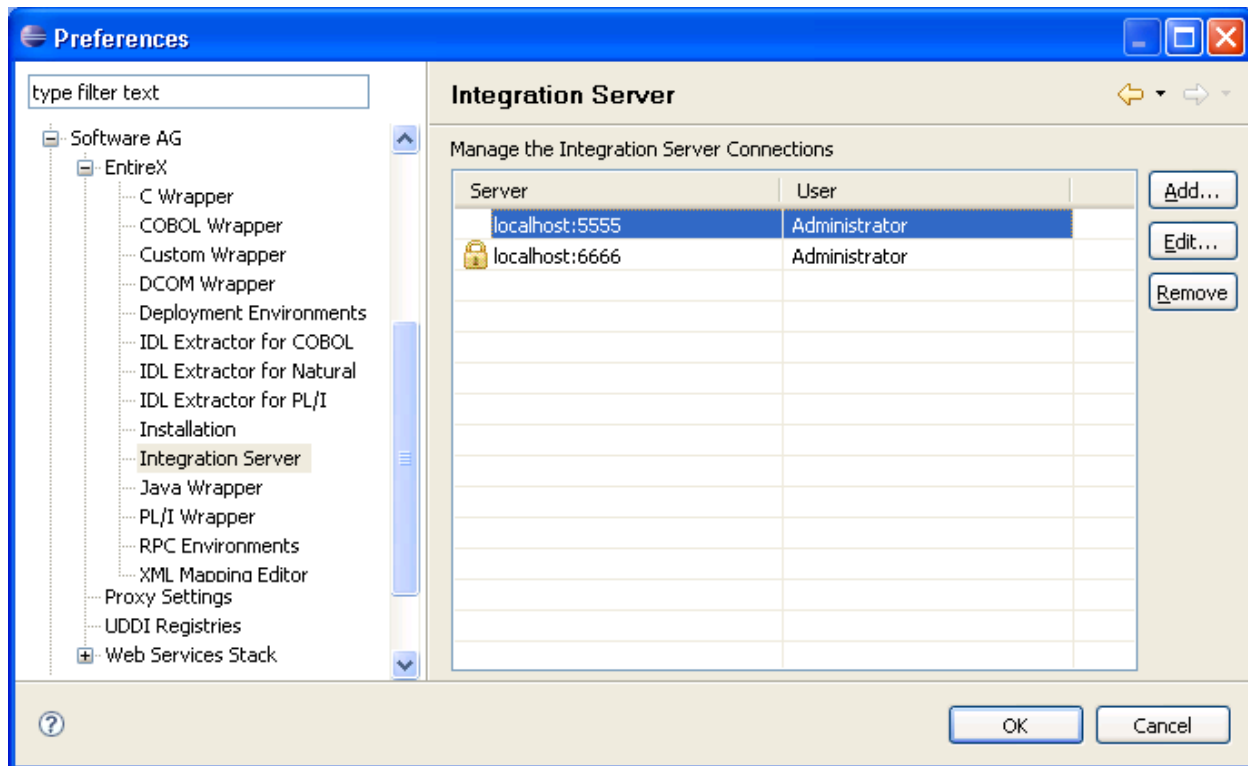
Keystore:

Password:

 **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.