

SAP Enhancement Package 1 for SAP NetWeaver 7.0



Process Integration: Demo Example Configuration

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Typographic Conventions

Type Style	Represents
Example Text	Words or characters that appear on the screen. These include field names, screen titles, pushbuttons as well as menu names, paths and options.
	Cross-references to other documentation
Example text	Emphasized words or phrases in body text, titles of graphics and tables
EXAMPLE TEXT	Names of elements in the system. These include report names, program names, transaction codes, table names, and individual key words of a programming language, when surrounded by body text, for example, SELECT and INCLUDE.
Example text	Screen output. This includes file and directory names and their paths, messages, names of variables and parameters, source code as well as names of installation, upgrade and database tools.
Example text	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example text>	Variable user entry. Pointed brackets indicate that you replace these words and characters with appropriate entries.
EXAMPLE TEXT	Keys on the keyboard, for example, function keys (such as F2) or the ENTER key.

Icons

Icon	Meaning
	Caution
	Example
	Note
	Recommendation
	Syntax

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1 Preface

Constraints

The texts, references, and graphics contained in this manual have been compiled with utmost care; nevertheless, it is impossible to guarantee that they are fully without error. SAP cannot assume any responsibility for the correctness or completeness of the following documentation; the user alone is responsible for verifying the information contained therein.

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Definition

This manual describes all the configuration steps that are necessary to execute the Process Integration demo examples (former: SAP Exchange Infrastructure demo examples (SAP XI demo examples)) on the basis of SAP NetWeaver 7.0.



The information provided in this guide refers to the most up-to-date support package (patch) of SAP NetWeaver 7.0 at the time this document version was created.

Intended Audience

This manual is intended to be used by both technology and application consultants.

Structure

The structure of this document follows the sequence of steps required to configure and run the demo examples.

Additional Documentation

List of related documentation

Title	Purpose	Where to find
SAP NetWeaver Library documentation: <i>Demo Examples</i>	Introduction to demo examples and description of the integration scenarios	SAP Help Portal at help.sap.com , → <i>SAP NetWeaver Library</i> → <i>SAP NetWeaver Developer's Guide</i> → <i>IT Scenario-Driven Enhancements to Applications</i> → <i>Enabling Application-to-Application Processes</i> → <i>Reference</i> → <i>Examples</i> → <i>Demo Examples</i>
<i>Master Guide</i>	Starting point for implementing SAP NetWeaver™.	SAP Service Marketplace at service.sap.com , quick link /installNW70
<i>Installation Guide</i>	Installing SAP NetWeaver™ with usage type Process Integration	SAP Service Marketplace at service.sap.com , quick link /installNW70
<i>Configuration of Usage Type Process Integration (PI)</i>	Configuring usage type Process Integration	SAP Help Portal at help.sap.com , → <i>SAP NetWeaver Library</i> → <i>Technology Consultant's Guide</i> → <i>Enabling Application-to-Application Processes</i> → <i>Configuration of Usage Type Process Integration</i>

SAP NetWeaver 7.0 (EhP1) – Process Integration Demo Examples Configuration

		(PI)
<i>SLD User Manual SAP NetWeaver 7.0</i>	Detailed information on the System Landscape Directory (SLD)	SAP Service Marketplace at service.sap.com , quick link /sld → <i>Media Library</i>

This document is updated on a regular basis on SAP Community Network (SDN) (<https://www.sdn.sap.com/irj/sdn/soa-servicebus?rid=/webcontent/uuid/f0074669-bb8b-2a10-06ae-c768c4a6cf20>).



Make sure you have the latest version of this document by checking SAP Service Marketplace before you begin the configuration.

2 Introduction

The Process Integration demo examples (referred to simply as *demo examples*) are part of usage type Process Integration of SAP NetWeaver. The demo examples demonstrate the basic communication scenarios and guide you step-by-step through the technical concepts and tools.

The demo examples comprise a set of simple integration scenarios. These integration scenarios are shipped as part of usage type Process Integration of SAP NetWeaver 7.0.



For a detailed description of the individual integration scenarios, see SAP Help Portal at <http://help.sap.com> → SAP NetWeaver → SAP NetWeaver 7.0 → *SAP NetWeaver Library* → *SAP NetWeaver Developer's Guide* → *IT Scenario-Driven Enhancements to Applications* → *Enabling Application-to-Application Processes* → *Reference* → *Examples* → *Demo Examples*.

You must configure the demo examples before you can execute them. This guide describes the configuration steps for all the available demo examples.



We recommend that you use the standard configuration described in this documentation. Since the demo examples are only intended to demonstrate Process Integration and are not scenarios for productive use, SAP only provides support for the standard configuration.

See also the note under 4.2.1.



SAP recommends that you configure the demo examples in exactly the sequence that is given by the structure of this document. This is because the structure of this document is adapted to the needs of those learners who require an initial step-by-step introduction to the concepts of Process Integration (the most simple integration scenarios are looked at first, before progressing to the more complex integration scenarios and sophisticated communication variants).

Additionally, if you configure the demo examples in exactly the sequence that is given by the structure of this document, you can rely on these step-by-step guidelines in every detail.

Nevertheless, it is possible to configure the demo examples in another sequence, as required. The few steps you have to consider in particular in this case are noted in the text, but are not described in detail.



Be aware that the structure of the document has changed considerably compared to earlier versions. This applies to the prescribed configuration sequence in particular. If you have already configured parts of the demo examples on the basis of an earlier version of this document, SAP recommends that you finish the configuration of the demo examples on the basis of the earlier version (this applies especially to users without XI content configuration experience).

3 Overview

3.1 Prerequisites

List of required steps

Step	Documentation
1. You have installed SAP NetWeaver 7.0 with the corresponding Support Packages and the usage type Process Integration.	<p><i>Master Guide – SAP NetWeaver</i></p> <p><i>Installation Guide – SAP Web AS ABAP and Java</i></p> <p><i>Installation Guide (see SAP Service Marketplace at service.sap.com, quick link / <code>installNW70</code>)</i></p>
2. You have imported the content for the Integration Repository corresponding to the latest support package/patch.	<p>SAP Note 836200</p>  <p>The demo examples are located in the Integration Repository in the software component <i>SAP BASIS</i>, software component version <i>SAP BASIS 7.01</i>, in the namespaces http://sap.com/xi/XI/Demo/Agency and http://sap.com/xi/XI/Demo/Airline.</p>
3. You have configured usage type Process Integration of SAP NetWeaver.	<i>Configuration of Usage Type Process Integration (PI)</i>
4. You have configured the System Landscape Directory (SLD).	<i>SLD User Manual SAP NetWeaver 7.0</i>
5. You have activated the necessary ICF services (Internet Communication Framework) to enable you to execute the BSP application (see 4.6).	SAP Note 517484



Note that you set up the demo examples in your development or test system, but **not** in your productive system.

3.2 Overview of the Configuration Procedure

This section contains an overview of the configuration of the demo examples. For a detailed description of the individual configuration steps for each integration scenario and each individual communication variant, see the respective chapter.

The configuration of the demo examples consists of the following:

- General configuration steps

The general configuration steps form the basis for the configuration of the individual integration scenarios.

- Configuration of the individual integration scenarios and each individual communication variant

General Configuration Steps

Providing the Necessary Users and Authorizations

To be able to call the transactions in the SAP system of the Integration Server that are required for configuration, you must have the relevant authorizations. Furthermore, to configure receiver communication channels you require particular system users so that you can call the relevant functions in the target application.

For more information, see 4.1.

Setting Up the System Landscape

The demo examples (integration scenarios) are defined in the Integration Repository independently of a specific system landscape. During configuration, you configure the integration scenarios for a particular system landscape. The SAP standard configuration is based on a system landscape comprising a travel agency system and two airline systems. This system landscape is simple enough to be easily understood yet complex enough to illustrate the most important concepts of SAP Exchange Infrastructure. To set up this system landscape with a minimum of effort, we recommend that you simulate the different business systems by using different clients of one SAP system.



Note that all the configuration steps specified in this guide are based on the implementation of this system landscape.

To generate the clients for the different business systems, you use client copy.

For more information, see 4.2.4.

Describing the System Landscape in the System Landscape Directory

To be able to access the metadata for the business systems in the later configuration steps, you must describe the system landscape in the System Landscape Directory.



During configuration of the individual integration scenarios in the Integration Directory, you define how messages are to be exchanged between the business systems involved (and executable integration processes, if applicable).

For more information, see 4.3.

Configuring the Business Systems as the Local Integration Engine

You must configure the involved business systems (clients) of the system landscape as the *local* Integration Engine and define the connection to the central Integration Server.

For more information, see 4.4.

Defining Services and Communication Channels

To be able to address business systems as the sender or receiver of messages, you must define them as services (business system services) in the Integration Directory.



If you want to use an integration process as the sender or receiver of messages at runtime, you must also define the integration process as a service (integration

process service). The demo examples include an integration scenario that uses an integration process (*MultipleFlightBooking*). The configuration instructions for this integration scenario include instructions for defining an integration process service.

To define the outbound processing of messages (from the Integration Server to a receiver business system), you must assign a communication channel to the corresponding service. The communication channel contains the technical information that is used for outbound processing of the message. The adapter type of the communication channel depends on the type of the receiver adapter. The SAP standard configuration uses communication channels with the adapter type *XI* (for communication using the proxy runtime), *RFC* (for communication using the RFC adapter), *SOAP* (for communication using the SOAP adapter) and *IDoc* (for communication using the IDoc adapter).

For more information, see 4.5.

Activating the BSP Application and Generating the Flight Data

A BSP (Business Server Pages) application is available in the SAP system for executing the demo examples once configuration is complete. You must activate this BSP application.

To be able to access flight data during execution of the demo examples, you first have to generate it. You can use a data generation program to do this.

For more information, see 4.6.

Configuring Integration Scenarios for Specific Communication Options

The integration scenarios for the demo examples and all the corresponding objects (such as interface objects and mapping objects) are shipped with SAP NetWeaver. An integration scenario contains the business logic for a particular cross-system process. This includes interfaces for message exchange, mappings for message transformation, and executable integration processes.

The integration scenarios are defined independently from the system landscape in which they are executed. During configuration of the demo examples, you map the relevant integration scenarios to the specific system landscape that you set up and described in the general configuration steps.

One or more component views are defined for each integration scenario, reflecting the different communication options that can be configured (for example, Proxy-to-Proxy, Proxy-to-IDoc communication).

During configuration of an integration scenario, you define the following:

- The adapter-specific settings
 - Some communication options (for example, Proxy-to-IDoc communication) require settings that are specific for the respective adapter (in this example, the IDoc adapter). These settings have to be defined before you can begin with the configuration of the integration scenario in the Integration Directory.
- The senders and receivers of messages
 - These can be executable integration processes or business systems. To use the business systems of the underlying system landscape as senders and receivers of messages, you access the defined business system services.
- The receiver interfaces (and mappings, if used) of messages
- The details for inbound and outbound message processing for particular sender/receiver pairs
 - To specify the details for inbound and outbound message processing, you use the defined communication channels.

To define the relevant objects in the Integration Directory, use the integration scenario configurator. This tool enables you to automate most of the configuration steps for an integration scenario.

The following table lists the available integration scenarios and the respective communication options that can be configured on the basis of this document:

Available Integration Scenarios and Supported Communication Options

Integration Scenario	Communication Option (Chapter)
CheckFlightSeatAvailability	Proxy-to-Proxy (see 5.1) Proxy-to-RFC (see 6.1) Proxy-to-Web Service (see 7.2)
SingleFlightBooking	Proxy-to-Proxy (see 5.2) Proxy-to-IDoc (see 6.2)
MultipleFlightBooking	Proxy-to-Proxy including an integration process (see 5.3)
DistributeBookingOrderInformation	Proxy-to-File System (see 8.1)

3.3 Estimating Configuration Duration

The time estimates below indicate approximately how long it will take you to configure the demo examples:

General Configuration Steps

Configuration Step	Duration Estimate
Setting Up Users/Authorizations	30 minutes
Setting Up the System Landscape (Client Copy)	15 (+30) minutes for each client The user activities for entering the necessary information take approximately 15 minutes for each client. Note that once these activities have been completed, the client copy itself then takes approximately 30 minutes (for each client). Note also that you can only execute one client copy in a system at one time. Take this into account and schedule the later configuration steps accordingly.
Configuring the Business Systems as the Local Integration Engine	15 minutes (total time for all three application clients)
Describing the System Landscape in the System Landscape Directory	1 hour
Defining the business system services and the communication channels	30 minutes
Generating the flight data and activating the BSP application	20 minutes (total)

Configuring Integration Scenarios for Specific Communication Options

Integration Scenario (Variant)	Estimate of Configuration Duration
CheckFlightSeatAvailability (Proxy-to-Proxy)	30 minutes
CheckFlightSeatAvailability (Proxy-to-RFC)	30 minutes
CheckFlightSeatAvailability (Proxy-to-Web Service)	30 minutes
SingleFlightBooking (Proxy-to-Proxy)	30 minutes

SingleFlightBooking (Proxy-to-IDoc)	2 hours and 30 minutes 2 hours (special settings for IDoc communication in SAP system) + 30 minutes (configuration in Integration Directory)
MultipleFlightBooking (Proxy-to-Proxy)	45 minutes
DistributeBookingOrderInformation (Proxy-to-File System)	1 hour 40 minutes (preparatory tasks) + 20 minutes (configuration in Integration Directory)



The times given above are approximate and are intended as a guide to help you with planning.

3.4 Notes on Tools and Transactions

You use different tools to execute the individual configuration steps.

- Transactions in the SAP system of the Integration Server



To log on to the SAP system and call the required transactions, use the user `XIISUPER`. This user is created during the installation of SAP Exchange Infrastructure.



Note that you can call the transactions in the SAP system in the user menu or in the SAP menu. To call the user menu, choose *User menu* () in the pushbutton bar. To call the SAP menu, choose *SAP menu* () in the pushbutton bar.

- System Landscape Directory
- Integration Builder (Integration Directory)

You only use the configuration part of the Integration Builder (Integration Directory) to configure the demo examples. You do not need the design part of the Integration Builder (Integration Repository). Wherever the term *Integration Builder* is used below, this refers to the Integration Builder (Integration Directory).



You call the System Landscape Directory and the Integration Builder (Integration Directory) on the initial screen of SAP Exchange Infrastructure. To call the initial screen of SAP Exchange Infrastructure, choose *Exchange Infrastructure* → *Start Integration Builder* in the user menu.

For more information about calling the relevant tools and transactions, see the descriptions of the respective configuration steps.

3.5 Notes on Upgrade from SAP NetWeaver 2004 to SAP NetWeaver 7.0

If you have already configured the demo examples based on SAP NetWeaver 2004 (SAP XI 3.0) and are upgrading to SAP NetWeaver 7.0, note the following:

Checking Activation of BSP Application

Check that the BSP (Business Server Pages) application is still activated after the upgrade (see 4.6.1)

Configuring the Integration Scenarios

The demo integration scenarios that are shipped with SAP NetWeaver 2004 are no different (from a business perspective) from those shipped with SAP NetWeaver 7.0.



In productive scenarios you can generally assume that, after a release upgrade, integration scenarios will be different from a business perspective from the previous version. This is not the case with the demo examples.

Moreover, the configuration objects previously created are still valid after the upgrade (configuration objects are independent of the underlying SAP NetWeaver release), the one exception being communication channels with adapter type *IDoc*, see below).

This means that, for the most part, you can still run the demo examples after an upgrade. You have the following options:

1. You reconfigure the demo examples in the Integration Directory.

In this case, you create a separate configuration scenario for each integration scenario that you want to configure in the Integration Directory and use the integration scenario configurator.

No new configuration objects are created during generation, but the objects that were created during configuration based on SAP NetWeaver 2004 (SAP XI 3.0) are reused. Therefore, you do not need to edit the generated objects manually.

2. You do not reconfigure the integration scenarios, but execute the demo examples using the configuration settings made before the upgrade.

In this case, you must be aware that the integration scenario information displayed in the configuration scenario in part no longer corresponds with the SAP NetWeaver release (example: release names of the application components).



In both cases, check the communication channels with adapter type *IDoc*. The *SAP Release* attribute must be 700 (not 640). Correct this, if necessary, and activate the communication channel again.

4 General Configuration Steps

4.1 Providing the Necessary Users and Authorizations

4.1.1 Authorizations for Configuration Steps in the SAP System

To log on to the SAP system of the Integration Server to configure the demo examples, you can use the user *XISUPER*. This user is created during the installation of SAP Exchange Infrastructure.



For more information, see *Installation Guide*.

4.1.2 Authorizations for Configuring the IDoc Variant

To configure the *SingleFlightBooking (Proxy-to-IDoc Communication)* variant, you must make specific ALE settings in the SAP system (see 6.2.1). To call the transactions necessary to do this, you must create an additional user that is assigned the following roles:

- SAP_BC_MID_ALE_IDOC_ADMIN
- SAP_BC_MID_ALE_IDOC_DEVELOPER

4.1.3 Authorizations for Configuring the RFC Variant

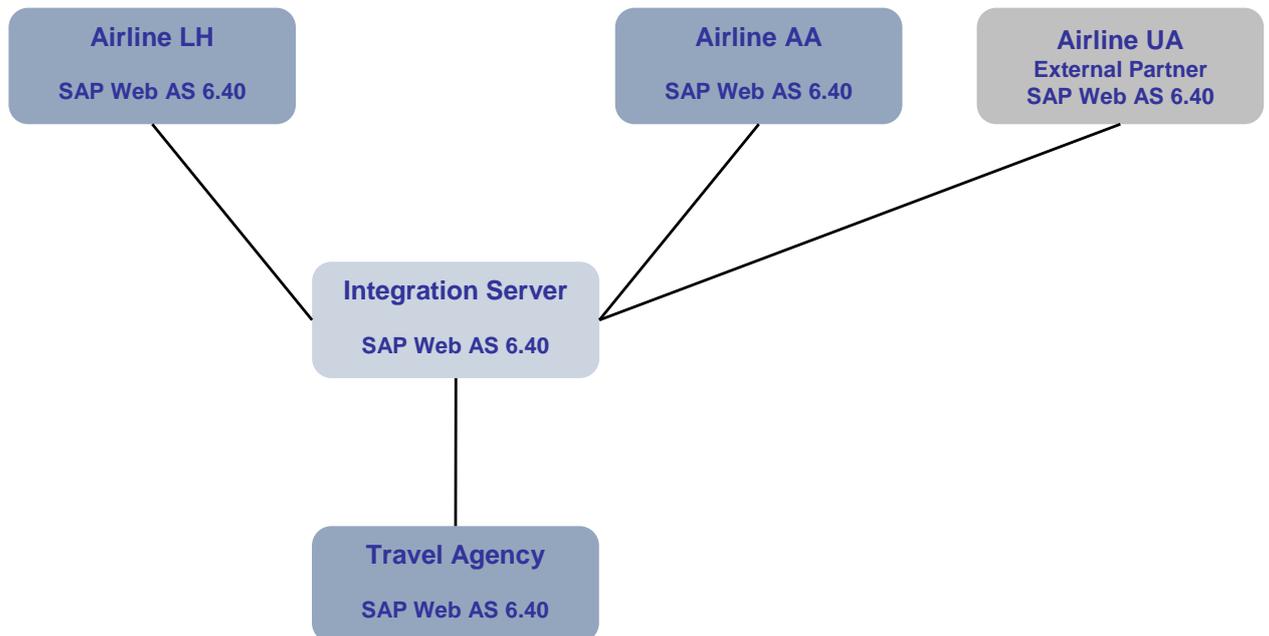
To configure the *Flight Availability Check (Proxy-to-RFC Communication)* variant, you require a system user that is assigned the role SAP_BC_JSF_COMMUNICATION_RO (see 4.5.2 under *Editing the Communication Channel with Adapter Type RFC*).

4.2 Setting Up the System Landscape

This section contains all the configuration steps for setting up the system landscape.

4.2.1 System Landscape

The figure below shows the system landscape that is used for the configuration of the demo examples:



System Landscape for the Demo Examples

The system landscape consists of one Integration Server and four different application systems (one system for the travel agency, and one system for each of the airlines *Lufthansa* (LH), *American Airlines* (AA), and *United Airlines* (UA), respectively).

The application systems of the travel agency and of the airlines LH and AA are implemented by business systems (“internal” systems). In the SAP standard configuration, you set up an additional client for each of the three business systems on the SAP system of the Integration Server (see table below).

The airline *UA* plays the role of an external partner and therefore the application system of the airline *UA* is represented by a business service (assigned to a communication party). Technically, the application system of the airline *UA* is also implemented by a separate client of the SAP system of the Integration Server. To keep the effort of setting up the system landscape low, the same client is used for both airlines *AA* and *UA*. Nevertheless, this technical feature is not “visible” when you carry out the configuration steps in the Integration Directory.

Representation of Systems by Different Clients

Use the following clients for the required systems:

Role	Communication Party	Implementing System (Client)
Travel agency	-	<SID> (105)
Airline Lufthansa	-	<SID> (106)
Airline American Airlines	-	<SID> (107)
Airline United Airlines	XIDemo_UnitedAirlines	<SID> (107)



Note that you are not permitted to implement and run additional productive applications on the SAP system of the Integration Server. The main reason for this is that connecting a productive application to the Integration Server in this way makes it impossible to upgrade the application or the Integration Server separately (see *Master Guide – SAP NetWeaver 7.0*, chapter 4 *System Landscape*).

This guideline does not apply to the demo examples. The reasoning behind this exception is as follows:

- The demo examples are not a productive application and are only for use in development or test systems.
- The demo examples are part of SAP NetWeaver usage type Process Integration and, therefore, do not have their own release cycle.

Setting up separate business systems would significantly increase the technical requirements for the demo examples. To keep the examples simple and easy to use, you are therefore permitted to use additional clients on the SAP system of the Integration Server for the demo examples.

Supported Communication Variants and Involved Clients

The following table lists the clients that are involved in the different integration scenarios/communication variants (according to the standard configuration described in this document).

Clients Involved in the different Communication Variants

Integration Scenario	Communication Variant	Clients Involved
CheckFlightSeatAvailability	Proxy-to-Proxy (see 5.1)	105, 106
	Proxy-to-RFC (see 6.1)	105, 107
	Proxy-to-Web Service (see 7.2)	105, 107
SingleFlightBooking	Proxy-to-Proxy (see 5.2)	105, 106
	Proxy-to-IDoc (see 6.2)	105, 107
MultipleFlightBooking	Proxy-to-Proxy (see 5.3)	105, 106, 107
DistributeBookingOrderInformation	Proxy-to-File System (see 8.1)	105 (and file system)



The individual variants are largely decoupled from each other. When you configure the different variants of one integration scenario one after the other, you simply add the communication options. For example, if you have configured the *Proxy-to-Proxy* and *Proxy-to-RFC* variants of the *CheckFlightSeatAvailability* integration scenario, you can run the flight seat availability check for both airlines *Lufthansa* (106) and *American Airlines* (107). However, if you only have configured the *Proxy-to-Proxy* variant, the flight availability check for airline *American Airlines* will cause an error.



The client for the Integration Server is set up during installation of SAP NetWeaver 7.0 with the usage type Process Integration. In this configuration guide, the client 100 is assigned to the Integration Server. You must set up additional clients for the business systems of the travel agency and the two airlines. These clients are referred to as *application clients* below.

Generation of Different Clients

You generate the application clients from the SAP reference client 000 by using *client copy*.

To do this, execute the following steps in the SAP system of the Integration Server:

1. Set up the logical systems (for travel agency and airlines)
2. Assign client and logical system
3. Client Copy



The three-figure ID of the SAP system on which the Integration Server is installed is referred to below as <SID>.

4.2.2 Setting Up the Logical Systems

To be able to configure a business system as a sender or receiver of IDocs, you must assign a logical system to it.



You must specify (ALE) logical systems for the configuration of the variant

Define a logical system for each business system.

1. Choose the transaction *Display IMG* (transaction code *SALE*).
2. Choose *Basic Settings* → *Logical Systems* → *Define Logical System*.



Ignore the message: Caution: The table is cross-client.

3. In the *Log.System* column, specify the logical systems for all three clients. Adhere to the naming convention <SID>CLNT<Client>.
4. In the *Name* column, enter a name for each logical system. Use a meaningful name. Make the following entries in the *Log.System* and *Name* columns:

Log.System	Name
<SID>CLNT100	Integration Server
<SID>CLNT105	Travel Agency
<SID>CLNT106	Airline LH
<SID>CLNT107	Airline AA and UA

5. Save your entries (.

4.2.3 Assigning the Logical Systems to Clients

Since the business systems in the SAP standard configuration are implemented using different clients, you must assign a logical system to each client.

1. In the SAP menu, choose *Tools* → *Administration* → *Administration* → *Client Administration* → *Client Maintenance* (SCC4).
2. Choose *Display* → *Change* (.



Ignore the message: Caution: The table is cross-client.

3. Choose *New Entries*.
4. In the *New Entries: Details of Added Entries* dialog box, enter the following information for client 105:

Field	Entry
Client	105
Description (Field to the left of <i>Client</i> field)	Travel Agency
Logical System	<SID>CLNT105  Select the entry in the dropdown list box.

5. Save your entries (.
6. Choose *Back* (.
7. Add an entry for each of the other clients. In the *New Entries: Details of Added Entries* dialog box, enter the following information:

Client	Description (field to the right of the <i>Client</i> field)	Logical System
100	INTEGRATION_SERVER	<SID>CLNT100
105	Travel Agency	<SID>CLNT105
106	Airline LH	<SID>CLNT106
107	Airline AA and UA	<SID>CLNT107

4.2.4 Client Copy

You use the steps below to enter additional attributes for the specified clients and execute the client copy.



Execute the following steps separately for each of the clients 105, 106, and 107.

1. Log on in client 105. Use the user `SAP*` and the password `PASS`.
2. In the SAP menu, choose *Tools* → *Administration* → *Administration* → *Client Administration* → *Client Copy* → *Local Copy (SCCL)*.
3. In the *Select Profile* field, select `SAP_UCSV`.
4. In the *Client* and *Source Client* fields, select the client of the Integration Server as the source client (client 100 in this configuration guide).
5. In the menu bar, choose *Client Copy* → *Start*.
6. Once the client copy is complete, execute the client copy for clients 106 and 107 **one after the other**.



Note that the user activities for entering the necessary information take approximately 15 minutes for each client. Once you have completed these activities, you must then allow approximately 30 minutes for the actual client copy (for each client). Take this into account and schedule the later configuration steps accordingly.

Note that other users cannot work in the system at the same time.

4.3 Describing the System Landscape in the System Landscape Directory

This section contains all the steps for describing the system landscape in the System Landscape Directory.

The description of the system landscape consists of:

- The technical system landscape
- The business system landscape



You access this data in the System Landscape Directory when executing the further configuration steps in the Integration Directory.

1. To call the System Landscape Directory, choose *Exchange Infrastructure* → *Start Integration Builder* in the user menu.
2. On the initial screen of SAP Exchange Infrastructure, choose the hyperlink *System Landscape Directory*.
3. Log on using your user and password.

4.3.1 Technical System Landscape

Since the involved business systems are each simulated by a different client of the same SAP system, you only need **one technical system** (the system of the Integration Server).

The system of the Integration Server registers itself as a technical system in the System Landscape Directory automatically during installation of SAP Exchange Infrastructure (according to the *Installation Guide*).

You must assign the application clients to this technical system.

1. On the initial screen of the System Landscape Directory, choose *Technical Landscape*. The system displays all the technical systems in a table. The technical system of the Integration Server has the following name: <SID> on <Server Name>.



If you have called the system <SID>, the name of the server (<Server Name>) is displayed in the corresponding status field in the status bar of the SAP window (for the system <SID>) (for example, PWDF1234).

2. Open the technical system <SID> on <Server Name>. To do this, click the corresponding entry.
3. The system opens the technical system browser.
4. Assign the travel agency client to the technical system. To do this, in the *Clients* line, choose *Add*.
5. In the *List, add, delete, and maintain technical systems* dialog box, enter the following information:

Field	Description	Entry
<i>Client Number</i>	Client	105
<i>Logical System Name</i>	Logical system for IDoc communication	<SID>CLNT105
<i>Description</i>	Description	Travel Agency



The specification of logical systems is relevant for the variant

6. To save your entries, choose *Save*.
7. Repeat this step for the other application clients (106 for the airline *Lufthansa* and 107 for the airline *American Airlines/United Airlines*). Specify the following logical systems for the clients:

Client Number	Logical System Name
106	<SID>CLNT106
107	<SID>CLNT107

8. Save your entries (choose *Save*).

4.3.2 Business System Description

The business system description comprises the following:

- A business system for the Integration Server
The business system for the Integration Server is defined in the System Landscape Directory during installation of SAP Exchange Infrastructure (see *Installation Guide*).
- Business systems for the clients of the travel agency and airlines (application clients)

You must create a business system in the System Landscape Directory for each *application* client (105, 106, and 107). You must assign the technical system of the Integration Server to each business system.

Execute the following steps separately for each application client (105, 106, and 107).

1. On the initial screen of the System Landscape Directory, choose *Business Landscape*.

2. Choose *New Business System*. The system opens the business system wizard.
3. On the *Business System Wizard – Details* screen, enter the name of the business system.

Use the following names:

Client	Business System Name
105 (Travel Agency)	<SID>_105
106 (Airline <i>Lufthansa</i>)	<SID>_106
107 (Airline <i>American Airlines and United Airlines</i>)	<SID>_107

4. Choose *Next*.
5. On the *Business System Wizard - Technical System Type* screen, select the system type *Web AS ABAP* with the corresponding radio button.
6. Choose *Next*.
7. On the *Business System Wizard - Select System* screen, first specify the technical system. In the dropdown list box for the *System* field, select the name of the technical system. The name of the technical system is <SID> on <Server Name>.
8. In the *Client* field, select the client that implements the application system:
 - 105 for the travel agency
 - 106 for the airline *Lufthansa*
 - 107 for the airlines *American Airlines and United Airlines*
9. Choose *Next*.
10. On the *Business System Wizard - Installed Products* screen, select all the specified products. The *Software Components for Selected Products* screen area displays all software component versions resulting from the product selection.
11. Choose *Next*.
12. On the *Business System Wizard - Integration Server* screen, enter the following information:
 - In the *Business System Role* field, specify the role of the business system. Specify the role *Application System* for the clients of the application systems.
 - In the *Related Integration Server* field, specify the technical system of the Integration Server (<SID> on <Server Name>).
 - To save your entries, choose *Finish*.

4.4 Configuring the Business Systems as the Local Integration Engine

4.4.1 Configuring the Role of the Business Systems

Each business system has a local Integration Engine, which controls the message exchange with other systems. You use the steps below to configure the involved business systems as the local Integration Engine and define the connection to the central Integration Server (client 100).

Execute the following steps separately for each application client (105, 106, and 107).

1. In the respective application client, choose *Exchange Infrastructure → Administration → Integration Engine – Administration* (SXMB_ADM) in the user menu.

2. Choose *Integration Engine Configuration*.
3. In the menu bar, choose *Edit* → *Change Global Configuration Data*.
4. In the *Global Configuration Data* frame, choose *Application System* as the role of the business system.
5. In the *Corresponding Integ. Server* field, specify the HTTP destination that the business system uses to address the central Integration Server. Use the following syntax:
`dest://<HTTP Destination>`



Specify the HTTP destination of the Integration Server that you created during the technical configuration of SAP Exchange Infrastructure.

For more information, see the document *Configuration of Usage Type Process Integration (PI)* under *Configuration of Business Systems with an Integration Engine* → *Connecting to the Integration Server*.

You can find this document on SAP Help Portal at <http://help.sap.com> → *SAP NetWeaver Library* → *Technology Consultant's Guide* → *Enabling Application-to-Application Processes* → *Application-to-Application Integration* → *Configuration of Usage Type Process Integration (PI)*.

6. Save your entries ()

4.4.2 Registering Queues

To enable the asynchronous message processing within the application clients, you have to register the qRFC queues at the QIN Scheduler in all PROXY clients.

Execute the following steps separately for each application client (105, 106, and 107).

1. Login to the SAP system (in the respective application client).
2. In the user menu, choose *Process Integration* → *Administration* → *Integration Engine – Administration* (transaction *SXMB_ADM*).
3. Choose *Manage Queues*.
Depending on the role of the Integration Engine (here: a local Integration Engine), the relevant queues are proposed.
4. Choose *Register Queues*.

4.5 Defining Services and Communication Channels (Integration Directory)

To prepare the configuration of the integration scenario, you must do the following:

- Define the involved business systems as services (business system services) in the Integration Directory

Only then can you address the business systems as senders or receivers of messages.



All variants use business system services and therefore these business system

- Define communication channels for outbound message processing (for all relevant receiver business systems)

You must define a communication channel for all communication types that you want to use (Proxy-to-Proxy and Proxy-to-IDoc) and for all potential receiver systems.

You define services and communication channels in the Integration Directory.

Therefore, to execute the activities described below, call the Integration Builder (Integration Directory).

1. To call the Integration Builder (Integration Directory), choose *Exchange Infrastructure* → *Start Integration Builder* in the user menu.
2. On the initial screen of SAP Exchange Infrastructure, choose the hyperlink *Integration Directory*.
3. Log on using your user and password. The system opens the Integration Builder (Integration Directory).

4.5.1 Defining Business System Services and Creating Communication Channels Automatically

You use the steps below to define a service (business system service) in the Integration Directory for each business system. You can also create communication channels for the involved business systems automatically.

1. In the Integration Builder navigation area, on the Objects tab page, position the cursor on the *Services Without Party* node.
2. To call the wizard for assigning business systems, choose *Assign Business System* in the context menu.
3. Choose *Continue*.
4. On the next screen, choose *Continue*.
The business system services are not assigned to a party.
5. On the next screen, select the following business systems by using the corresponding checkboxes:
 - *<SID>_105*
 - *<SID>_106*
 - *<SID>_107*
6. Make sure that the *Create Communication Channels Automatically* checkbox is selected. In this case, the receiver communication channels for the selected business systems are created automatically.
7. Choose *Finish*.

The system displays the services in the Integration Builder navigation area, on the *Objects* tab page, under *Services Without Party* → *Business System*.

The communication channels that are generated automatically are assigned to the selected services and displayed in the Integration Builder navigation area under *Services Without Party* → *Business System* → *<SID>_<Client>* → *Communication Channel*. Communication channels with adapter type *XI* have the name *GeneratedReceiverChannel_XI* and those with adapter type *IDoc* have the name *GeneratedReceiverChannel_IDoc*. Communication channels with adapter type *RFC* have the name *GeneratedReceiverChannel_RFC*.

You need receiver communication channels with adapter type *XI*, *IDoc*, and *RFC* for the standard configuration. To be able to use the communication channels, you have to edit them manually.

4.5.2 Editing the Communication Channels

Generating the communication channels automatically (4.5.1) creates receiver communication channels with adapter type XI, IDoc, RFC, and HTTP.

You require the following communication channels for the standard configuration:

- Each of the three application systems of the travel agency, airline *LH* and airline *AA* is used at least once as a proxy receiver. Therefore, you must define a receiver communication channel with adapter type *XI* for each business system service (<SID>_105, <SID>_106, and <SID>_107).
- In the integration scenario *Flight Availability Check (Proxy-to-RFC Communication)*, the application system of the airline *American Airlines* is used as an RFC receiver. Therefore, you must define a receiver communication channel with adapter type *RFC* for the business system service <SID>_107.
- In the integration scenario *Single Flight Booking (Proxy-to-IDoc Communication)*, the application system of the airline *American Airlines* is used as an IDoc receiver. Therefore, you must define a receiver communication channel with adapter type *IDoc* for the business system service <SID>_107.

To ensure an error-free configuration, you must edit these (automatically created) communication channels manually.



For the standard configuration of the variants *CheckFlightSeatAvailability*

Editing the Communication Channels with Adapter Type XI

To ensure that the outbound message processing (in the direction of a proxy receiver) can be executed without errors, you must edit the automatically generated communication channels *GeneratedReceiverChannel_XI* manually as follows:

You must execute the following steps for all three communication channels *GeneratedReceiverChannel_XI* for the services <SID>_105, <SID>_106, and <SID>_107.



Execute the following steps separately for each communication channel.

1. In the Integration Builder navigation area, under *Services Without Party* → *Business System*, navigate to the respective business system service. Expand the subtree for the service and position the cursor on the communication channel. In the context menu, choose *Open* (📁).
2. The system opens the communication channel in the Integration Builder work area.
3. Switch to change mode. To do this, choose *Switch between display and edit mode* (🔧).
4. Enter the following values for the communication channel attributes.



The table contains the correct entries for all fields in the communication channel. Note that some fields will be completed by the system when communication channels are created automatically. The *Specify Manually* column indicates which fields remain to be completed.

Entries for Communication Channels

Specify Manually	Attribute	Value
	Transport Protocol	HTTP 1.0
	Message Protocol	XI 3.0
	Addressing Type	URL Address
	Target Host	Name of the server of the target host (for example, pwf0005)
X	Service Number	Number of the HTTP port  To find out the number of the HTTP port (service number), see the ICM Monitor of the relevant Integration Server (call transaction SMICM and then Goto → Services). Select the Service Name/Port for the Protocol HTTP.
	Path	/sap/xi/engine?type=entry

Authentication Data

Specify Manually	Attribute	Value
x	Authentication Type	Use Logon Data for SAP System
x	User Name	XIAPPLUSER
x	User Password	XIPASS
x	Logon Language	EN
x	Client	<ul style="list-style-type: none"> • 105 (for channel in service <SID>_105) • 106 (for channel in service <SID>_106) • 107 (for channel in service <SID>_107)

5. Save the communication channel (.



Sender agreements are **not** necessary for adapter type XI and XI 3.0 protocol. Therefore, no sender communication channels are necessary.

Editing the Communication Channels with Adapter Type IDoc

To configure the variant *SingleFlightBooking (Proxy-to IDoc Communication)*, you must edit the receiver communication channel *GeneratedReceiverChannel_IDoc* (with adapter type *IDoc*) in service <SID>_107.



If you only want to configure the variants for Proxy-to-Proxy communication, you can omit the following steps.

1. In the Integration Builder navigation area, under *Services Without Party*, navigate to the business system service <SID>_107. Expand the subtree under the service and position the cursor on the communication channel *GeneratedReceiverChannel_IDoc*. In the context menu, choose *Open* (.

2. The system opens the communication channel in the Integration Builder work area.
3. Switch to change mode (.
4. In the *RFC Destination* field, specify the RFC destination for client 107: <SID>_107.
5. In the *SAP Release* field, enter 700.
6. Save the communication channel (.



Sender agreements are **not** necessary for adapter type *IDoc* and XI 3.0 protocol. Therefore, no sender communication channels are necessary.

The communication channel must be defined as follows:

Entries for the Communication Channel

Specify Manually	Attribute	Value
	Transport Protocol	IDoc
	Message Protocol	IDoc
	Adapter Engine	Integration Server
x	RFC Destination	<SID>_107
x	Segment Version	
	Interface Version	SAP Release 4.0 or higher
	Port	SAP<SID>
x	SAP Release	700

Editing the Communication Channel with Adapter Type RFC

To configure the *Flight Availability Check (Proxy-to-RFC-Communication)* variant, you must configure the receiver RFC adapter. For this purpose, edit the receiver communication channel *GeneratedReceiverChannel_RFC* (with adapter type *RFC*) in the <SID>_107 service, as described below.



For more information about configuring the receiver RFC adapter, see SAP Help Portal at help.sap.com, → SAP NetWeaver → SAP NetWeaver 7.0 → SAP NetWeaver Library → SAP NetWeaver by Key Capability → Process Integration by Key Capability → SAP NetWeaver Exchange Infrastructure → Runtime → Connectivity → Adapters → RFC Adapter → Configuring the Receiver RFC Adapter.



If you only want to configure the variants for Proxy-to-Proxy communication, you can omit the following steps.

1. In the Integration Builder navigation area, under *Services Without Party*, navigate to the business system service <SID>_107. Expand the subtree under the service and position the cursor on the communication channel *GeneratedReceiverChannel_RFC*. In the context menu, choose *Open* (.
2. The system opens the communication channel in the Integration Builder work area.
3. Switch to change mode (.

4. Enter the following values for the communication channel attributes:

Entries for the Communication Channel

Specify Manually	Attribute	Value
	Transport Protocol	RFC
	Message Protocol	RFC (RFC-XML)
	Adapter Engine	Integration Server
	Adapter Status	Active

RFC Client Parameter

Specify Manually	Attribute	Value
	Load balancing	Checkbox deactivated
	Application server	<Host name of the SAP system>
	System number	<System number>
	Authentication mode	Use logon data to SAP system
x	Logon user	Enter a user that is assigned the <i>SAP_BC_JSF_COMMUNICATION_RO</i> role (see 4.1.3).  The authorizations assigned to this role are required to read the RFC metadata in the receiver system.
x	Logon password	<Password for the user specified>
x	Logon language	EN
x	Logon client	107
	Maximum connections	1
	Advanced mode	Checkbox deactivated

RFC Metadata Repository

The *Use Alternative RFC Metadata Repository* checkbox must be deactivated.

Activating Services and Communication Channels

You must activate the services and communication channels.



When the communication channels are generated automatically, communication channels with adapter type *HTTP* are also generated for the selected business systems. These communication channels are **not required** for the configuration of the demo examples, but they are saved in the user's standard change list. Since these communication channels are not fully specified, you cannot activate them along with the other channels (adapter type *XI*, *IDoc*, and *RFC*).

The same applies to the communication channels *GeneratedReceiverChannel_IDoc* and *GeneratedReceiverChannel_RFC* for the services <SID>_105 and <SID>_106. These are also **not required** for the further configuration steps.

Therefore, you must delete the communication channels that are not required before activating.

1. In the Integration Builder navigation area, select the *Change Lists* tab page.

2. If you have created more than one change list, expand the change lists and check which one the communication channels are assigned to.
3. Delete all communication channels that are not required separately.



To delete an object in a change list, you must first open it (double-click). Then, choose *Communication Channel* → *Delete* (🗑️) in the menu bar of the object editor.

4. Position the cursor in the change lists with the communication channels and choose *Activate* in the context menu.

4.6 Further Steps for Configuring the Demo Examples

4.6.1 Activating the BSP Application

A BSP (Business Server Pages) application is available to enable you to execute the demo examples. You use this application to make the necessary entries and display the results. To be able to execute the demo examples after configuration, you must activate the BSP application.



For more information about the necessary ICF (Internet Communication Framework) services, see SAP Note 517484.

1. Log on to the SAP system in client 100 (Integration Server).
2. Call the transaction Maintain Service. To do this, choose *Tools* → *Administration* → *Administration* → *Network* → *HTTP Service Hierarchy Maintenance* (SICF) in the SAP menu.
3. In the *Virt.Hosts / Services* column, expand the following nodes: *default host* → *sap* → *bc* → *bsp* → *sap*. Select the entry *sxidemo_agcy_ui*.



Entry in gray font: Service is not activated. Entry in black font: Service is activated.

A service can only be activated if all nodes above it are activated.

4. In the context menu, choose *Activate Service*.
5. To open the service, double-click it.
6. Switch to change mode. To do this, choose *Change* (✎).
7. In the *Anonymous Logon Data* frame, make the following entries:
 - In the *Client* field, specify the client of the travel agency: 105.
 - In the *User* field, enter XISUPER.
 - In the *Password* field, enter the password for this user.



The user XISUPER is created during the installation of SAP NetWeaver 7.0 with the usage type Process Integration.

For more information about this user, see the *Installation Guide*.



The entries for user and password are optional. If you do not enter a user and password, you must log on separately with your user and password when you call the BSP application.

8. Choose *Input* (✓).



The system automatically creates a transport request for your change. A dialog box appears, in which you confirm this transport request.

4.6.2 Generating the Flight Data

To be able to access flight data during execution of the demo examples, you first have to generate it. A data generation program is available to enable you to generate data for flights with different airlines on different days.

The data for a flight is made up of “static” data (for example, airline, flight date, flight number) and “dynamic” data (seat availability in the three flight classes). The “dynamic” data is dependent on the business system (client). Therefore, you must generate the data separately in all three clients.

The data generation process generates flight data for flights in a time interval from 40 weeks before until 40 weeks after the date of data generation. It also generates **flights for the first day of every month** for the year following the date of data generation for each airline and flight number. This simplifies the execution of the demo examples: When you select the first day of the month as the flight date, it is guaranteed that a flight is available for each airline and connection number.



Generate the data in all three clients on the same day. This guarantees that the (static) flight data (that is, the set of flights offered) is identical in all three clients.

The data generation does not generate any booking data.

To represent the distribution of the data management tasks between the travel agency and the airlines as realistically as possible, the data generation program generates the following results:

- If data generation is carried out in the client of the travel agency, the maximum number of seats is set to zero for all flights.
- If data generation is carried out in an airline client, the maximum number of seats is set greater than zero for airline(s) represented by this client and set to zero for the other airline(s).

This guarantees that you can only ever book the appropriate flights (for the respective client).

Execute the following steps separately in each application client (105, 106, and 107).

1. Log on to the SAP system in the respective client.
2. In the user menu, choose *Exchange Infrastructure* → *Demo Examples* → *Settings: Generate Flight Data*.
3. In the *Specify the airlines for this system* frame, specify the role of the respective application client.

Specifying Airlines for Individual Application Clients

Client you are Logged on	Activities
--------------------------	------------

105	Select the <i>No</i> radio button.
106	Select the <i>Yes</i> radio button and specify the airline ID LH in the <i>Airline</i> field. You can leave the <i>to</i> field empty.
107	Select the <i>Yes</i> radio button and choose <i>Multiple Selection</i> (). In the screen <i>Multiple Selection for Airline Carrier</i> (tab <i>Single vals</i>) select the pushbutton <i>Multiple Selection</i> . In the following screen select AA and UA (checkboxes). Choose <i>Copy</i> (). In the screen <i>Multiple Selection for Airline Carrier</i> choose <i>Copy</i> ().

- In the *Select data range* frame, specify the range of the generated data set. Select the *Optimized Flight Data* radio button.



We strongly recommend that you select the *Optimized Flight Data* radio button. In this case, a manageable number of flight connections is generated (for **LH 0400**, **LH 0401**, **AA 0017**, **AA 0064**, **UA 0941**, **UA 3504**).

Only select the *Complete Flight Data* option if you want to use the generated flight data for other demo examples that require access to a more extensive data set. In this case, flight data is generated for other airlines that do not belong to the system landscape of the demo examples. However, note that in this case you must adjust the configuration of the demo examples to the more extensive data set (for example, by adjusting the routing conditions). The configuration steps below are based on the data set generated using the *Optimized Flight Data* option.

- Choose *Execute* ().

5 Configuring Integration Scenarios for Proxy-to-Proxy Communication

5.1 Checking Flight Seat Availability (Proxy-to-Proxy Communication)

This section describes how to configure the *Checking Flight Seat Availability* integration scenario in the *Proxy-to-Proxy Communication* variant. In this variant, you configure both business systems of travel agency (client 105) and airline *Lufthansa* (**LH**) (client 106) as receiver of proxies.

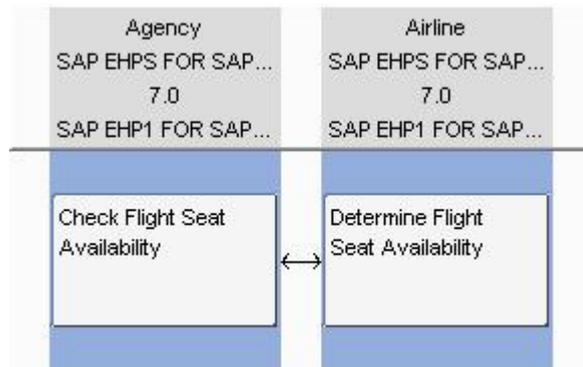


This demo example is implemented as the integration scenario *CheckFlightSeatAvailability*. The integration scenario is located in the Integration Repository, in the software component *SAP BASIS*, software component version *SAP BASIS 7.01*, in the namespace <http://sap.com/xi/XI/Demo/Agency>.

5.1.1 Business Description (Brief)

A travel agency uses the integration scenario *CheckFlightSeatAvailability* to check the seat availability of a flight with an airline. The maximum number of seats and the number of available seats in the three flight classes (economy, business, and first class) are specified for the flight.

You use this integration scenario to check the current seat availability before booking.



SAP Exchange Infrastructure, Integrationszenario-Editor

5.1.2 Configuration in Integration Directory

Start Integration Builder (Integration Directory)

You perform the following configuration steps in the Integration Directory. Therefore, to execute the activities described below, call the Integration Builder (Integration Directory).

1. In the user menu (in the SAP system of the Integration Server), choose *Exchange Infrastructure* → *Start Integration Builder*.
2. On the initial screen of SAP Exchange Infrastructure, choose the hyperlink *Integration Directory*.
3. Log on using your user and password. The system opens the Integration Builder.

The central tool is the integration scenario configurator. For more information about the integration scenario configurator, see SAP Help Portal at help.sap.com, → SAP NetWeaver → SAP NetWeaver 7.0 → *SAP NetWeaver Library* → *SAP NetWeaver Developer's Guide* → *IT Scenario-Driven Enhancements to Applications* → *Enabling Application-to-Application Processes* → *Core Development Tasks* → *Business Solution Configuration* → *Configuration* → *Configuring Integration Scenarios*.

Selecting the Integration Scenario (Component View)

You use the steps below to do the following:

- Select the integration scenario and the component view from the Integration Repository
 - Create the scenario in the Integration Directory to group all the relevant configuration objects
1. To call the integration scenario configurator, choose *Tools* → *Transfer Integration Scenario from Integration Repository* in the Integration Builder (Integration Directory) menu bar.
 2. This calls a wizard, which you use to select an integration scenario and create a scenario in the Integration Directory.
 3. In the *Select Integration Scenario from Integration Repository* dialog box, choose the input help (for the *Name* field). This calls an input help, which displays all integration scenarios from the Integration Repository in a list.
 4. Select the integration scenario *CheckFlightSeatAvailability* (software component version *SAP BASIS 7.01*, namespace *http://sap.com/xi/XI/Demo/Agency*), and choose *Continue*.
 5. In the wizard, choose *Continue*.

6. On the next screen, you edit the predefined name of the scenario. Change the name to *XIDemo_CheckFlightSeatAvailability*.
7. Choose *Finish*.
The system creates the scenario.
8. Choose *Close*.
The system calls the integration scenario configurator. The integration scenario *CheckFlightSeatAvailability* is displayed in a graphical editor.
9. In the Configuration Steps bar, choose step 1 *Select Component View*.
10. In the *Select Component View* dialog box, in the preview area of the graphical editor, select the component view *ABAP_Proxy_2_ABAP_Proxy* and choose *Apply*.

Assigning Services

You use the steps below to assign services to the application components of the integration scenario.

1. In the *Configuration Steps* bar, choose step 2 *Assign Services*. This calls the *Assign Services* dialog box for the *Agency* application component.
2. In the *Assign Services* dialog box, on the *Service Assignment* tab page, insert a line .
3. Click in the input field in the *Service* column and call the input help .
The system displays all services of type *Business System*.
4. Select the service *<SID>_105* and choose *OK*.
5. In the *Assign Services* dialog box, click the navigation arrow  to switch to the application component *Airline*.
6. In the *Assign Services* dialog box, on the *Service Assignment* tab page, insert a line .
7. On the *Service Assignment* tab page, choose the input help  in the pushbutton bar.
8. On the *Select Business System Services* screen, select the service *<SID>_106*.
9. Choose *OK*.
10. In the *Assign Services* dialog box, on the *Service Assignment* tab page, choose *Assign*.

Configuring the Connection

You use the steps below to configure the connection of the integration scenario.

1. In the Configuration Steps bar, choose step 3 *Configure Connections*. This calls the *Configure Connection* dialog box for the connection between the actions *Check Flight Seat Availability* and *Determine Flight Seat Availability*.
2. In the *Configure Connection* dialog box, check that the sender/receiver relation is activated (select checkbox).
3. To specify a receiver communication channel for the relation between sender service *<SID>_105* and receiver service *<SID>_106*, click in the input field in the *Communication Channel* column.
4. Call the input help .



If there are not yet any configuration objects in the system, the system displays all communication channels that are assigned to the service <SID>_106. If receiver agreements already exist for the inbound interface of the connection, the system only displays the communication channel assigned to this receiver agreement.

5. Select the communication channel *GeneratedReceiverChannel_XI* and choose *OK*.
6. In the *Configure Connection* dialog box, choose *Apply*.

Generating the Configuration Objects

You use the steps below to generate the relevant configuration objects.

1. In the *Configuration Steps* bar, choose step 4 *Generate*. This calls the *Create Configuration Objects* dialog box.
2. Under *General*, select the *Generation* radio button.
3. Under *Scope of Generation*, select the checkboxes *Receiver Determination*, *Interface Determination*, and *Sender/Receiver Agreement*.
4. Under *Change List for Generated Objects*, select the *Create New* radio button. This means that the changes resulting from the generation are saved in a separate change list with the name of the scenario.



The scenario itself is saved in the standard change list.

5. Choose *Start*.
The objects are generated. The generation log is called.

The generation log contains an overview of all information relating to the generation and indicates if any manual editing is necessary for the generated objects.

Manual Editing

You use the steps below to execute the necessary manual editing for the generated configuration objects.

To define exactly how a message is to be forwarded from the travel agency to the airline, you must add a routing condition to the receiver determination.

1. In the generation log, expand the *Connections* area.
2. Navigate to the receiver determination |<SID>_105 |
FlightSeatAvailabilityQuery_Out.



The yellow traffic light symbol signifies that manual editing may be necessary for this object.

3. To open the receiver determination, click the key |<SID>_105 |
FlightSeatAvailabilityQuery_Out.
The system opens the receiver determination.
4. To switch to change mode, choose the function *Switch Between Display and Edit Modes* () in the pushbutton bar of the *Display Receiver Determination* editor. In the *Configured Receivers* area, insert the condition for forwarding messages to the receiver service.

5. In the line containing the service <SID>_106, click in the input field in the *Condition* column and call the input help (🔍). The system calls the condition editor.
6. In the condition editor, click in the input field in the *Left Operand* column and call the input help (🔍). The system calls the expression editor.
7. In the expression editor, select the *Context Object* radio button.
8. In the dropdown list box, choose the context object *AirlineID*.
9. Choose *OK*.
10. In the condition editor, enter LH (for the airline *Lufthansa*) in the input field in the *Right Operand* column.
11. In the *Op.* column, choose the operator =.
12. Choose *OK*.
You have specified the routing condition *AirlineID=LH* for the receiver <SID>_106.
13. Save the receiver determination (💾).

Final Steps

Execute the following steps:

1. Close the generation log.



You can save the generation log as a file.

2. Close the integration scenario configurator. The system displays the message *Do you want to keep the changes?* Confirm with *Apply*.
3. Save the scenario *XIDemo_CheckFlightSeatAvailability*.
4. Activate the scenario *XIDemo_CheckFlightSeatAvailability* and all objects that it uses.



Note that there are two change lists:

- Standard change list (containing the scenario *XIDemo_CheckFlightSeatAvailability*)
- Change list *XIDemo_CheckFlightSeatAvailability* (containing all objects of the scenario)

You must activate both change lists.

5.1.3 Executing and Testing

There is an application in the SAP system of the Integration Server (client 105) that you can use to test the configuration of the integration scenario. To start the application, login to the SAP system (client 105). In the user menu, choose *Exchange Infrastructure* → *Demo Examples* → *Travel Agency: Execute Demo Examples*. On the start page of the application, choose the scenario *Check Flight Seat Availability*.

You can select a restricted number of flights (see also 4.6.2) and the flight date. SAP recommends that you use the default setting (the first day of next month).

To run the integration scenario, choose *Check Availability*. The system displays a dialog containing the results of the availability check (see table).

Possible Input and Expected Results

Input (Airline and Flight ID)	Expected Result
Lufthansa 0400 Lufthansa 0401	System displays the maximum number of seats and the number of available seats in the three flight classes (economy, business, and first class). You can compare this result with the flight seat availability data in the SAP system (client) of the airline.
Lufthansa 9999	System displays application error: the flight does not exist
N.N. 9999	System displays system error: receiver is unknown



You can also choose flights for the airlines *American Airlines* (AA) and *United*



For more information about how to start the application, how to check that the integration scenario has been executed correctly and how to monitor the XI message exchange, see SAP Help Portal at help.sap.com → *SAP NetWeaver Library* → *SAP NetWeaver Developer's Guide* → *IT Scenario-Driven Enhancements to Applications* → *Enabling Application-to-Application Processes* → *Reference* → *Examples* → *Demo Examples* → *Checking Flight Seat Availability* → *Checking Flight Seat Availability (Proxy-to-Proxy)* → *Executing the Integration scenario*.

5.2 Booking a Single Flight (Proxy-to-Proxy Communication)

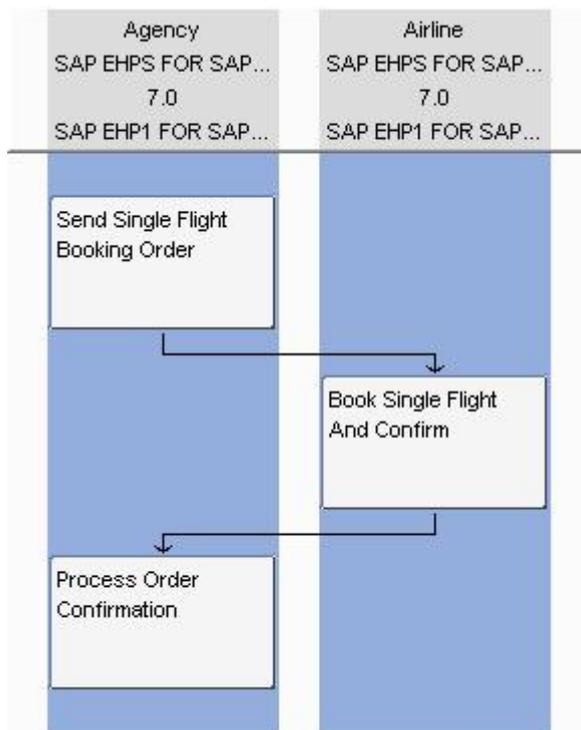
This section describes how to configure the *Booking a Single Flight* integration scenario in the *Proxy-to-Proxy Communication* variant. In this variant, you configure both business systems of travel agency (client 105) and airline *Lufthansa* (LH) (client 106) as receiver of proxies.



This demo example is implemented as the integration scenario *SingleFlightBooking*. The integration scenario is located in the Integration Repository, in the software component *SAP BASIS*, software component version *SAP BASIS 7.01*, in the namespace <http://sap.com/xi/XI/Demo/Agency>.

5.2.1 Business Description (Brief)

A travel agency uses the *SingleFlightBooking* integration scenario to book a flight with an airline. The booking refers to exactly one flight for exactly one passenger. The airline sends a response stating whether the booking was successful or not.



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5.2.2 Configuration in Integration Directory

Settings in the Integration Scenario Configurator

To accomplish the following configuration steps in the Integration Directory, proceed as described in detail in section 5.1.2. To configure the integration scenario *SingleFlightBooking* in the *Proxy-to-Proxy Communication* variant, use the settings as listed in the table below.

Settings for the Integration Scenario SingleFlightBooking (Proxy-to-Proxy Communication)

Configuration Step	Settings
Selecting the Integration Scenario (Component View) and Creating the Scenario	In the Integration Scenario Configurator select the integration scenario <i>SingleFlightBooking</i> (software component version <i>SAP BASIS 7.01</i> , namespace <i>http://sap.com/xi/XI/Demo/Agency</i>). Change the predefined name of the scenario to <i>XIDemo_SingleFlightBooking</i> . Select the component view <i>ABAP_Proxy_2_ABAP_Proxy</i> .
Assigning Services	For the <i>Agency</i> application component assign the service <i><SID>_105</i> . For the <i>Airline</i> application component assign the service <i><SID>_106</i> .
Configuring the Connection	Always select the receiver communication channel <i>GeneratedReceiverChannel_XI</i> (assigned to the respective receiver service).
Generating the Configuration Objects	Same as described under 5.1.2.

<p>Manual Editing</p>	<p>To define exactly how a message is to be forwarded from the travel agency to the airline, you must add a routing condition to the receiver determination <SID>_105 BookingOrderRequest_Out.</p> <p>You can navigate to this receiver determination in the generation log of the Integration Scenario Configurator (by selecting the connection between the actions <i>Send Single Flight Booking Order</i> and <i>Book Single Flight And Confirm</i>).</p> <p>Specify the following routing condition:</p> <p>AirlineID=LH for the receiver <SID>_106</p> <div style="text-align: center;">  </div> <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <p>In case you have already configured the integration</p> </div>
<p>Final Steps</p>	<p>Save the scenario <i>XIDemo_SingleFlightBooking</i>.</p> <p>Activate the scenario <i>XIDemo_SingleFlightBooking</i> and all objects that it uses (follow the procedure as described in section 5.1.2).</p>

5.2.3 Executing and Testing

There is an application in the SAP system of the Integration Server (client 105) that you can use to test the configuration of the integration scenario. To start the application, login to the SAP system (client 105). In the user menu, choose *Exchange Infrastructure* → *Demo Examples* → *Travel Agency: Execute Demo Examples*. On the start page of the application, choose the scenario *Book Single Flight*.

You can select a restricted number of flights (see also 4.6.2), the flight date, the flight class and you can select the name and date of birth of the passenger. SAP recommends that you use the default setting for the flight date (the first day of next month).

To run the integration scenario, choose *Create Booking Order*. The system displays a dialog containing the order status. You can check if the booking was successful by choosing *Refresh*. Note that you can check the flight seat availability of both airlines before and after you have executed the integration scenario.

Possible Input and Expected Results

Input (Airline and Flight ID)	Expected Result
<p>Lufthansa 0400 Lufthansa 0401</p>	<p>If seats are available, flight booking is successful (green traffic light icon  is displayed in <i>Order Status</i> field).</p> <p>If no seats are available or you chose a date on which the flight is not scheduled, flight booking is not successful (red traffic light icon  is displayed in <i>Order Status</i> field).</p>
<p>Lufthansa 9999</p>	<p>Flight booking is not successful because flight does not exist (red traffic light icon  is displayed in <i>Order Status</i> field).</p>

N.N. 9999	No answer arrives as there is no such airline configured. Status of booking order stays on <i>Awaiting confirmation</i> (amber traffic light icon  is displayed in <i>Order Status</i> field).
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Make a note of the order number in case you want to check the order status again later (choose *Query Booking Status* on the start page of the application).



For more information about how to start the application, how to check that the integration scenario has been executed correctly and how to monitor the XI message exchange, see SAP Help Portal at help.sap.com → *SAP NetWeaver Library* → *SAP NetWeaver Developer's Guide* → *IT Scenario-Driven Enhancements to Applications* → *Enabling Application-to-Application Processes* → *Reference* → *Examples* → *Demo Examples* → *Booking a Single Flight* → *Booking a Single Flight (Proxy-to-Proxy)* → *Executing the Integration scenario*.

5.3 Booking Connecting Flights (Proxy-to-Proxy Communication)

This section describes how to configure the *Booking Connecting Flights* integration scenario in the *Proxy-to-Proxy Communication* variant. In this variant, you configure the business systems of the travel agency (client 105) and both airlines *Lufthansa* (LH) (client 106) and *American Airlines* (AA) (client 107) as receiver of proxies.



This demo example is implemented as the integration scenario *MultipleFlightBooking*. The integration scenario is located in the Integration Repository, in the software component *SAP BASIS*, software component version *SAP BASIS 7.01*, in the namespace <http://sap.com/xi/XI/Demo/Agency>.



In order to run this integration scenario, make sure that SAP Note 708338 is applied.

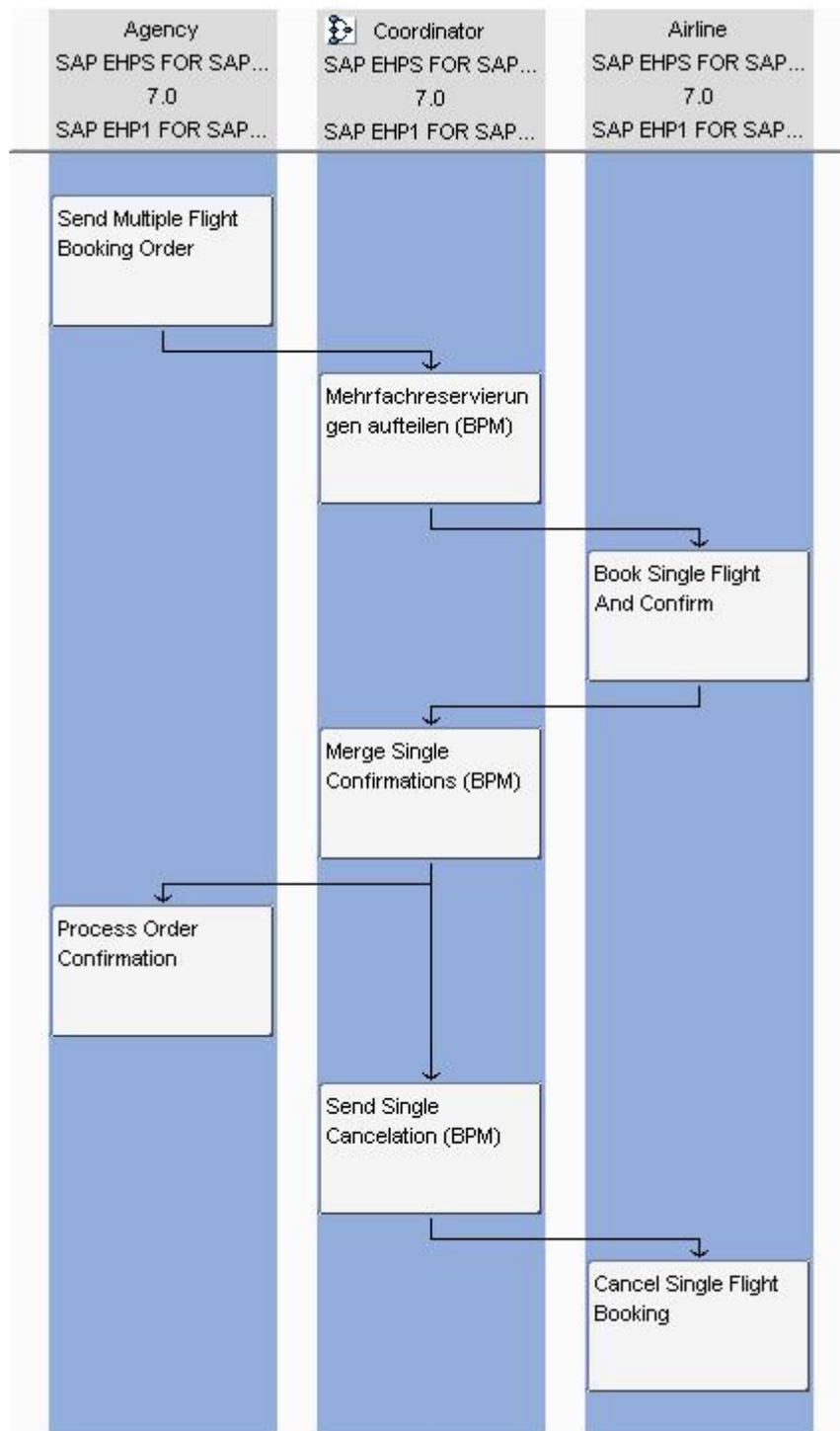
5.3.1 Business Description (Brief)

A travel agency uses the integration scenario *MultipleFlightBooking* to book a flight and a connecting flight (for a passenger).

The travel agency requests flight bookings for both legs of the trip (flight and connecting flight) with the respective airlines. The two legs of the trip can be with different airlines. The booking of a flight and a connecting flight is only successful if both individual flights are booked successfully.

Therefore, it is necessary to coordinate the results of both flight bookings. This is done by an application between the travel agency and airline applications. Technically speaking, this coordinating application is an executable integration process.

SAP NetWeaver 7.0 (EhP1) – Process Integration Demo Examples Configuration



SAP Exchange Infrastructure, Integrations Szenario-Editor

5.3.2 Preliminary Steps

Activating Workflow Customizing

To get BPE working correctly the initial configuration has to be executed successfully. Check and if necessary execute the configuration.

1. Start transaction **SWF_XI_CUSTOMIZING** in the integration server client.

2. Check and if necessary execute all Workflow Customizing Steps (Definition and Runtime Environment).

5.3.3 Configuration in Integration Directory

Defining the Integration Process Service

The executable integration process *MultipleFlightBookingCoordination* (with a separate application component) is integrated in the integration scenario *MultipleFlightBooking*. To be able to address the integration process as a sender or receiver of messages, you must create a service for the integration process in the Integration Directory.

1. In the Integration Builder (Integration Directory), select the *Objects* tab page.
2. Expand the *Service Without Party* node.
3. Position the cursor on the *Integration Process* node and choose *New* () in the context menu.
The system calls the wizard for creating an integration process service.
4. Choose *Continue*.
5. The next screen displays all integration processes from the Integration Repository in a list. Select the integration process *MultipleFlightBookingCoordination* (software component version *SAP BASIS 7.01*, namespace *http://sap.com/xi/XI/Demo/Agency*).
6. Choose *Continue*.
7. On the next screen, enter the following in the *Name* field:
MultipleFlightBookingCoordinator.
8. Choose *Finish*.
9. Activate the change list containing the service *MultipleFlightBookingCoordinator*.

Settings in the Integration Scenario Configurator

To accomplish the following configuration steps in the Integration Directory, proceed as described in detail in section 5.1.2. To configure the integration scenario *MultipleFlightBooking* in the *Proxy-to-Proxy Communication* variant, use the settings as listed in the table below.

Settings for the Integration Scenario MultipleFlightBooking (Proxy-to-Proxy Communication)

Configuration Step	Settings
Selecting the Integration Scenario (Component View) and Creating the Scenario	In the Integration Scenario Configurator select the integration scenario <i>MultipleFlightBooking</i> (software component version <i>SAP BASIS 7.01</i> , namespace <i>http://sap.com/xi/XI/Demo/Agency</i>). Change the predefined name of the scenario to <i>XIDemo_MultipleFlightBooking</i> . Select the component view <i>ABAP_Proxy_2_ABAP_Proxy</i> .

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Assigning Services	<p>For the <i>Agency</i> application component assign the service <SID>_105.</p> <p>For the <i>Coordinator</i> application component assign the service (integration process service) <i>MultipleFlightBookingCoordinator</i>.</p> <p style="text-align: center;"></p> <p style="text-align: center;">To select the service, choose the input help on the <i>Service Assignment</i> tab page. The input help icon () is to the right of the <i>Party</i> and <i>Service</i> input fields.</p> <p>For the <i>Airline</i> application component assign the services <SID>_106 and <SID>_107.</p>
Configuring the Connection	<p>For each sender/receiver relation with a business system as receiver, select the receiver communication channel <i>GeneratedReceiverChannel_XI</i> (assigned to the respective receiver service).</p> <p>For each sender/receiver relation with an integration process as receiver, no receiver communication channel is necessary.</p>
Generating the Configuration Objects	Same as described under 5.1.2.

<p>Manual Editing</p>	<p>To define exactly how a message is to be forwarded from the executable integration process to the two airlines, you must add routing conditions to the following two receiver determinations.</p> <ul style="list-style-type: none"> • <i>MultipleFlightBookingCoordinator</i> <i>FlightBookingOrderCancelationRequest_Abstract</i> • <i>MultipleFlightBookingCoordinator</i> <i>FlightBookingOrderRequest_Abstract</i> <p>Insert the following routing conditions in the two receiver determinations respectively. Use the context object <i>AirlineID</i>:</p> <ul style="list-style-type: none"> • (<i>AirlineID=LH</i>) for receiver <i><SID>_106</i> • (<i>AirlineID=AA</i>) for receiver <i><SID>_107</i> <p>If you have already configured the integration scenario <i>SingleFlightBooking</i> in the <i>Proxy-to-Proxy</i> variant (see 5.2) before, you have to define whether the message from the airline systems is forwarded to the executable integration process (integration scenario <i>MultipleFlightBooking</i>) or to the travel agency system (integration scenario <i>SingleFlightBooking</i>). To do this, you must add conditions to the following receiver determinations:</p> <ul style="list-style-type: none"> • <i><SID>_106</i> <i>FlightBookingOrderConfirmation_Out</i> • <i><SID>_107</i> <i>FlightBookingOrderConfirmation_Out</i> <p></p> <p>The airlines use the same outbound interface for both variants <i>SingleFlightBooking</i> and <i>MultipleFlightBooking</i>. This differentiation is necessary in routing to enable both scenarios to be used simultaneously.</p> <p>The forwarding of the message depends on whether you are booking a single flight or a flight and a connecting flight. This is defined by the booking type (<i>OrderType</i>).</p> <ul style="list-style-type: none"> • If <i>OrderType=Single</i>, the booking is for a single flight. • If <i>OrderType=Multiple</i>, the booking is for a flight and a connecting flight. <p>Add the following routing conditions to the two receiver determinations. Use the context object <i>OrderType</i>:</p> <ul style="list-style-type: none"> • (<i>OrderType=Multiple</i>) for receiver <i>MultipleFlightBookingCoordinator</i> • (<i>OrderType=Single</i>) for receiver <i><SID>_105</i>
<p>Final Steps</p>	<p>Save the scenario <i>XIDemo_MultipleFlightBooking</i>.</p> <p>Activate the scenario <i>XIDemo_MultipleFlightBooking</i> and all objects that it uses (follow the procedure as described in section 5.1.2).</p>

5.3.4 Executing and Testing

There is an application in the SAP system of the Integration Server (client 105) that you can use to test the configuration of the integration scenario. To start the application, login to the SAP system (client 105). In the user menu, choose *Exchange Infrastructure* → *Demo Examples* → *Travel Agency: Execute Demo Examples*. On the start page of the application, choose the scenario *Book Flight and Connecting Flight*.

Select one of the available flight combinations, the flight date, the flight class and specify the name and date of birth of the passenger. SAP recommends that you use the default setting for the flight date (the first day of next month). For each flight you can select a restricted number of flights (see also 4.6.2),

To run the integration scenario, choose *Create Booking Order*. The system displays a dialog containing the order status. You can check if the booking was successful by choosing *Refresh*. Note that you can check the flight seat availability of both airlines before and after you have executed the integration scenario.

Possible Input and Expected Results

Input (Airline and Flight ID)	Expected Result
Combination of Lufthansa 0400 and American Airlines 0017	If seats are available for both flights, overall flight booking is successful (“green traffic light” icon  is displayed in <i>Order Status</i> field).
Combination of Lufthansa 0400 and American Airlines 9999 Combination of Lufthansa 9999 and American Airlines 0017	Overall flight booking is not successful because one flight (with the number 9999) does not exist (red traffic light icon  is displayed in <i>Order Status</i> field). For this flight a seat is booked but later canceled.
Combination of Lufthansa 9999 and American Airlines 9999	Overall flight booking is not successful because both flights do not exist. For both flights there will be no bookings created (red traffic light icon  is displayed in <i>Order Status</i> field).



Make a note of the order number in case you want to check the order status again later (choose *Query Booking Status* on the start page of the application).



For more information about how to start the application, how to check that the integration scenario has been executed correctly and how to monitor the XI message exchange, see SAP Help Portal at help.sap.com → SAP NetWeaver Library → SAP NetWeaver Developer’s Guide → IT Scenario-Driven Enhancements to Applications → Enabling Application-to-Application Processes → Reference → Examples → Demo Examples → Booking Connecting Flights → Booking Connecting Flights (Proxy-to-Proxy) → Executing the Integration Scenario.

6 Configuring Integration Scenarios for Proxy-to-RFC/IDoc Communication

6.1 Checking Flight Seat Availability (Proxy-to-RFC Communication)

This section describes how to configure the *Checking Flight Seat Availability* integration scenario in the *Proxy-to-RFC Communication* variant. In this variant you configure the business system of airline *American Airlines (AA)* (client 107) as receiver of RFCs.



This demo example is implemented as the integration scenario *CheckFlightSeatAvailability*. The integration scenario is located in the Integration Repository, in the software component *SAP BASIS*, software component version *SAP BASIS 7.01*, in the namespace <http://sap.com/xi/XI/Demo/Agency>.

For the business description of the integration scenario, see 5.1.1.

6.1.1 Configuration in Integration Directory



All configuration objects for this variant are saved in the same configuration scenario as used for the Proxy-to-Proxy variant (*XIDemo_CheckFlightSeatAvailability*).

Settings in the Integration Scenario Configurator

To accomplish the following configuration steps in the Integration Directory, proceed as described in detail in section 5.1.2. To configure the integration scenario *CheckFlightSeatAvailability* in the *Proxy-to-RFC-Communication* variant, use the settings as listed in the table below.

Settings for the Integration Scenario *CheckFlightSeatAvailability* (Proxy-to-RFC-Communication)

Configuration Step	Settings
Selecting the Integration Scenario (Component View) and Creating the Scenario	<p>Perform the following steps:</p> <p>Open the scenario <i>XIDemo_CheckFlightSeatAvailability</i>.</p> <p>Switch to change mode .</p> <p>In the pushbutton bar of the object editor, choose <i>Integration Scenario Configurator</i> .</p> <p>In the Configuration Steps bar, choose step 1 <i>Select Component View</i>.</p> <p>In the <i>Select Component View</i> dialog box, in the preview area of the graphical editor, select the component view <i>ABAP_Proxy_2_RFC</i> and choose <i>Apply</i>.</p> <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;">  <p>If you have not configured the <i>Check Flight Seat Availability</i> integration scenario in the <i>Proxy-to-Proxy Communication</i> variant before, you first have to start the integration scenario configurator and create the configuration scenario <i>XIDemo_CheckFlightSeatAvailability</i> before you can proceed with the next configuration steps. For a detailed description of the procedure, see 5.1.2 under <i>Selecting the Integration Scenario (Component View)</i>.</p> </div>
Assigning Services	<p>For the <i>Agency</i> application component assign the service <i><SID>_105</i>.</p> <p>For the <i>Airline</i> application component assign the service <i><SID>_107</i>.</p>

Configuring the Connection	<p>For the sender/receiver relation, select the receiver communication channel <i>GeneratedReceiverChannel_RFC</i> (assigned to receiver service <SID>_107).</p>  <p>No sender agreement with a sender channel is required for this variant since an RFC is only expected on the receiver side.</p>
Generating the Configuration Objects	Same as described under 5.1.2.
Manual Editing	<p>In receiver determination <SID>_105 FlightSeatAvailabilityQuery_Out specify the following routing condition <i>AirlineID = AA</i> (for the receiver <SID>_107).</p>
Final Steps	<p>Save the scenario <i>XIDemo_CheckFlightSeatAvailability</i>. Activate the scenario <i>XIDemo_CheckFlightSeatAvailability</i> and all objects that it uses (follow the procedure as described in section 5.1.2.).</p>

6.1.2 Executing and Testing

There is an application in the SAP system of the Integration Server (client 105) that you can use to test the integration scenario (for both configurations).

The execution of this variant of the integration scenario is not different from that of the Proxy-to-Proxy variant (see 5.1.3).

This time, however, you use the flights AA 0017, AA 0064, AA 9999 and N.N. 9999.



For more information about how to start the application, how to check that the integration scenario has been executed correctly and how to monitor the XI message exchange, see SAP Help Portal at help.sap.com → SAP NetWeaver Library → SAP NetWeaver Developer's Guide → IT Scenario-Driven Enhancements to Applications → Enabling Application-to-Application Processes → Reference → Examples → Demo Examples → Checking Flight Seat Availability → Checking Flight Seat Availability (Proxy-to-RFC) → Executing the Integration scenario.

6.2 Booking a Single Flight (Proxy-to-IDoc Communication)

This section describes how to configure the *Booking a Single Flight* integration scenario in the *Proxy-to-IDoc Communication* variant. In this variant, you configure the business system of airline *American Airlines* (AA) (client 107) as a receiver of IDocs.



This demo example is implemented as the integration scenario *SingleFlightBooking*. The integration scenario is located in the Integration Repository, in the software component *SAP BASIS*, software component version *SAP BASIS 7.01*, in the namespace <http://sap.com/xi/XI/Demo/Agency>.

For the business description of the integration scenario, see 5.2.1

6.2.1 Special Settings for IDoc Communication in the SAP System

You must make the following additional settings in the SAP system for the *SingleFlightBooking (Proxy-to-IDoc Communication)* variant.



For more information about IDoc communication and the integration technology Application Link Enabling (ALE), see SAP Help Portal at <http://help.sap.com> → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Application Platform by Key Capability* → *Platform-Wide Services* → *Components of SAP Communication Technology* → *Classical SAP Technologies (ABAP)* → *IDoc Interface/ALE*.



To call the transactions that are required for the configuration steps below, use a user that is assigned the following roles:

- SAP_BC_MID_ALE_IDOC_ADMIN
- SAP_BC_MID_ALE_IDOC_DEVELOPER



Make sure that SAP note 792957 is applied.

Specifying RFC Destinations

To enable the business system of the airline *American Airlines* (business system <SID>_107) to communicate with the Integration Server by using IDocs, you must do the following:

- Specify an R/3 connection to the Integration Server (client 100) in the client of the airline *American Airlines* (107)
- Specify an R/3 connection to the client of the airline *American Airlines* (107) in the system of the Integration Server (client 100)

Enter the required information as an RFC destination.

R/3 Connection to the Integration Server

1. In client 107, call the transaction Display and Maintain RFC Destinations. To do this, choose *Exchange Infrastructure* → *Environment* → *RFC Destinations (Display and Maintenance)* (SM59) in the user menu.
2. Select the R/3 connections node.
3. In the pushbutton bar, choose *Create*.
4. In the RFC destination field, enter the following name for the RFC destination for the Integration Server: <SID>_100.
5. In the Connection type field, in the dropdown list box, select 3 - Connection to R/3 System.
6. In the Description frame, in the Description 1 field, enter the following: *Connection to Integration Server*.
7. Choose *Enter* ().
8. On the Technical settings tab page, enter the following information:
In the Target host field, enter *localhost*.

In the System Number field, specify the system number of the SAP system (for example, 73).



To find the system number, choose *Properties* in the logon dialog box (SAP Logon). The system number is displayed in the *System Number* field.

9. On the *Logon/Security* tab page, enter the logon data for the target system. In the *Logon* frame, enter the following information:
 - In the *Client* field, specify the client of the Integration Server: 100.
 - In the *User* field, enter XIAPPLUSER.
 - In the *Password* field, enter XIPASS.
10. Save the RFC destination (choose the *Save* pushbutton).
11. To test the RFC destination, choose *Test connection* in the pushbutton bar.
12. Choose *Back* (.

R/3 Connection to the Application System of the Airline American Airlines

1. In client 100, call the transaction *Display and Maintain RFC Destinations*. To do this, choose *Exchange Infrastructure* → *Environment* → *RFC Destinations (Display and Maintenance)* (SM59) in the user menu.
2. Select the R/3 connections node.
3. In the pushbutton bar, choose *Create*.
4. In the RFC destination field, enter the following name for the RFC destination for the Integration Server: <SID>_107.
5. In the Connection type field, in the dropdown list box, select 3 - Connection to R/3 System.
6. In the Description frame, in the Description 1 field, enter the following: Connection to American Airlines.
7. Choose *Enter* (.
8. On the Technical settings tab page, enter the following information:
 - In the Target host field, enter localhost.
 - In the System Number field, specify the system number of the SAP system (for example, 73).



To find the system number, choose *Properties* in the logon dialog box (SAP Logon). The system number is displayed in the *System Number* field.

9. On the *Logon/Security* tab page, enter the logon data for the target system. In the *Logon* frame, enter the following information:
 - In the *Client* field, specify the client of the application system for American Airlines: 107.
 - In the *User* field, specify a user that is assigned the role SAP_XI_IS_SERV_USER and a role <Own Role> that you define yourself. Assign the following authorization objects to the <Own Role> role:
 - S_RFC (Activity Execute, RFC object EDIN, object type Function Group)

- B_ALE_RECV (Message type FLIGHTBOOKING_CREATEANDRESP)



Only then can the system (client) of the airline *American Airlines* receive and process IDocs.

- In the *Password* field, enter a password for this user.
10. Save the RFC destination (choose the *Save* pushbutton).
 11. To test the RFC destination, choose *Test connection* in the pushbutton bar.
 12. Choose *Back* (.

Specifying the IDoc Port

To be able to send the IDocs from the application system of American Airlines to the system of the Integration Server, you must specify the port of the Integration Server.

1. In client 107, call the transaction *Ports in IDoc Processing*. To do this, choose *Tools* → *ALE* → *ALE Administration* → *Runtime Settings* → *Port Maintenance* (WE21) in the SAP menu.
2. Select the *Ports* → *Transactional RFC* node and choose *Create* (.
3. In the *Ports in IDoc processing* dialog box, select the *own port name* radio button.
4. Enter the following port name: SAP<SID>.
5. Choose *Continue* (.
6. In the *Description* field, enter *Integration Server*.
7. In the *RFC destination* field, specify the RFC destination of the Integration Server: <SID>_100.
8. Save your entries (.

Specifying IDocs

To define the involved IDocs, you must execute the following steps.

Messages from the Travel Agency to the Airline American Airlines

First, define the IDocs for the messages from the travel agency to the airline American Airlines (client 105 → client 107). Execute the following steps in client 107.

1. Call the transaction *Partner Profiles* in client 107. To do this, choose *Tools* → *ALE* → *ALE Administration* → *Runtime Settings* → *Partner Profiles* (WE20) in the SAP menu.
2. In the *Partner no.* field, specify the logical system of the travel agency: <SID>CLNT105.
3. In the *Partn.Type* field, in the dropdown list box, select *LS* (for logical system).
4. On the *Post processing: permitted agent* tab page, specify the user for the IDoc administrator. The IDoc administrator can then execute the IDoc monitoring. In the *Type* field, specify the user type (for example, organizational unit, normal user).
5. Save your entries (.
6. In the Inbound parmtrs. table, add a new line (Create inbound parameter (.
7. In the *Partner profiles: Inbound parameters* dialog box, in the *Message Type* field, specify the inbound IDoc. In the dropdown list box, select *FLIGHTBOOKING_CREATEANDRESP*.

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8. On the *Inbound options* tab page, in the *Process code* field, select the entry `BAPI` in the dropdown list box.
9. Save your entries (.
10. Choose *Back* (.

Messages from the Airline American Airlines to the Integration Server

Define the IDocs for the messages from the airline American Airlines to the Integration Server (client 107 → client 100). Execute the following steps in client 107.



Note that the receiver in this send direction is the Integration Server (that is, the IDoc adapter) and not the travel agency. The actual receiver system (the travel agency) is not defined by the Integration Server until routing (receiver determination).

1. In the *Partner Profiles* dialog box, choose *Create* (.
2. In the *Partner no.* field, specify the logical system of the Integration Server: `<SID>CLNT100`.
3. In the *Partn.Type* field, in the dropdown list box, select `LS` (for logical system).
4. On the *Post processing: permitted agent* tab page, specify the user for the IDoc administrator. The IDoc administrator can then execute the IDoc monitoring. In the *Type* field, specify the user type (for example, organizational unit, normal user).
5. Save your entries (.
6. In the *Outbound parmtrs.* table, add a new line (*Create outbound parameter* (.
7. In the *Partner profiles: Outbound parameters* dialog box, in the *Message Type* field, specify the outbound IDoc. In the dropdown list box, select `FLIGHTBOOKING_SENDRRESPONSE`.
8. On the *Outbound Options* tab page, in the *Receiver Port* field, select the IDoc port of the Integration Server: `SAP<SID>`.
9. In the *Output Mode* frame, choose *Transfer IDoc immed.* (radio button).
10. In the *IDoc Type* frame, in the *Basic Type* field, select the basic type of the outbound IDoc: `FLIGHTBOOKING_SENDRRESPONSE01`.
11. Save your entries (.

Specifying the ALE Distribution Model (SALE)

Specifying the Sender, Receiver, and Underlying BAPI

Execute the following steps in client 107.

1. Call the transaction *Display IMG* (transaction code `SALE`).
2. Choose *Modeling and Implementing Integration processes* → *Maintain Distribution Model and Distribute Views*.
3. Switch to change mode. To do this, choose *Switch between display and edit mode* (.
4. Choose *Create model view*.
5. In the *Short Text* field, enter `XI - IDoc`.
6. In the *Technical Name* field, enter `XIDEMO`.

7. Choose *Continue* (✔).
8. The system displays the distribution model as another node under *Model views*. Select the node *XI – IDoc*.
9. Choose *Add BAPI*.
10. Call the input help in the *Sender/client* field.
11. Select the logical system <SID>CLNT107 and choose *Copy* (✔).
12. In the *Receiver/server* field, select the logical system <SID>CLNT100.
13. In the *Obj. name/interface* field, select the business object *FlightBooking* (by using the input help).
14. In the *Method* field, select the BAPI *SendResponse* (as a method of the business object *FlightBooking*).
15. Choose *Continue* (✔).

Generating the Partner Profile

1. Choose *Change Distribution Model*.
2. In the menu bar, choose Environment → Generate partner profiles.
3. Choose *Execute* (✔).

Defining the Ports in the IDoc Adapter

The IDoc adapter requires metadata to be able to convert the IDocs sent to it into IDoc XML.



For more information about the IDoc adapter, see SAP Help Portal at <http://help.sap.com> → *SAP NetWeaver Library* → *SAP NetWeaver by Key Capability* → *Process Integration by Key Capability* → *SAP NetWeaver Exchange Infrastructure* → *Runtime* → *Connectivity* → *Adapters* → *IDoc Adapter*.

To establish an RFC connection to the system that contains the metadata, you must execute the following steps.

1. In client 100, call the transaction *Port Maintenance in IDoc Adapter* (IDX1). To do this, choose *Exchange Infrastructure* → *Configuration* → *Port Maintenance in IDoc Adapter* in the user menu.
2. Choose *Create* (📄).
3. In the *Port* field, enter SAP<SID>.
4. In the *Client* field, enter 107.
5. In the *Description* field, enter *Airline American Airlines*.
6. In the *RFC destination* field, specify the RFC destination of the airline American Airlines: <SID>_107.
7. Save your entries (💾).



The name of the port is generated automatically: SAP<SID>_107.

To define the direction from the IDoc adapter to the application system of the airline American Airlines, enter the following information.

1. In the user menu, choose *Exchange Infrastructure* → *Configuration* → *Metadata Display in IDoc Adapter*.
2. Choose *Create* (📄).
3. In the Reload a type description dialog box, in the IDoc Type field, specify the **basic type** of the outbound IDoc: `FLIGHTBOOKING_SENDRESPONSE01`.
4. In the Source Port field, enter `SAP<SID>`.
5. Choose *Continue*.

6.2.2 Configuration in Integration Directory



All configuration objects for this variant are saved in the same configuration scenario as used for the Proxy-to-Proxy variant (`XIDemo_SingleFlightBooking`).

Settings in the Integration Scenario Configurator

To accomplish the following configuration steps in the Integration Directory, proceed as described in detail in section 5.1.2. To configure the integration scenario *SingleFlightBooking* in the *Proxy-to-IDoc Communication* variant, use the settings as listed in the table below.

Settings for the Integration Scenario SingleFlightBooking (Proxy-to-IDoc Communication)

Configuration Step	Settings
Selecting the Integration Scenario (Component View) and Creating the Scenario	<p>Open the scenario <code>XIDemo_SingleFlightBooking</code> and call the Integration Scenario Configurator (as described under 6.1.1).</p> <p>Select the component view <code>ABAP_Proxy_2_Idoc</code>.</p> <div style="text-align: center;"> </div> <p>If you have not configured the <i>Check Flight Seat Availability</i> integration scenario in the <i>Proxy-to-Proxy Communication</i> variant before, you first have to start the integration scenario configurator and create the configuration scenario <code>XIDemo_CheckFlightSeatAvailability</code> before you can proceed with the next configuration steps. For a detailed description of the procedure, see 5.1.2 under <i>Selecting the Integration Scenario (Component View)</i>.</p>
Assigning Services	<p>For the <i>Agency</i> application component assign the service <code><SID>_105</code>.</p> <p>For the <i>Airline</i> application component assign the service <code><SID>_107</code>.</p>

Configuring the Connection	<p>For the connection between the actions <i>Sending Single Flight Booking Order</i> and <i>Book Single Flight And Confirm</i> (sender/receiver relation: <SID>_105/<SID>_107) select the receiver communication channel <i>GeneratedReceiverChannel_IDoc</i> (assigned to the receiver service <SID>_107).</p> <p>For the connection between the actions <i>Book Single Flight And Confirm</i> and <i>Process Order Confirmation</i> (sender/receiver relation: <SID>_107/<SID>_105) select the communication channel <i>GeneratedReceiverChannel_XI</i> (assigned to the receiver service <SID>_105).</p>
Generating the Configuration Objects	Same as described under 5.1.2.
Manual Editing	<p>In receiver determination</p> <p> <SID>_105 BookingOrderRequest_Out</p> <p>specify the following routing condition</p> <p>AirlineID = AA (for the receiver <SID>_107).</p>
Final Steps	<p>Save the scenario <i>XIDemo_SingleFlightBooking</i>.</p> <p>Activate the scenario <i>XIDemo_SingleFlightBooking</i> and all objects that it uses (follow the procedure as described in section 5.1.2).</p>

6.2.3 Executing and Testing

There is an application in the SAP system of the Integration Server (client 105) that you can use to test the integration scenario (for both configurations).

The execution of this integration scenario variant is not different from the Proxy-to-Proxy variant (5.2.3).

Select the flights AA 0017 or AA 0064 (instead of the Lufthansa flights) to receive a successful flight booking.



For more information about how to start the application, how to check that the integration scenario has been executed correctly and how to monitor the XI message exchange, see SAP Help Portal at help.sap.com → SAP NetWeaver Library → SAP NetWeaver Developer's Guide → IT Scenario-Driven Enhancements to Applications → Enabling Application-to-Application Processes → Reference → Examples → Demo Examples → Booking a Single Flight → Booking a Single Flight (Proxy-to-IDoc) → Executing the Integration Scenario.

7 Configuring Integration Scenarios for B2B-like Communication

7.1 Creating Communication Parties for B2B Communication

In the SAP standard configuration of the following variants, the senders and receivers of messages are addressed as services of communication parties. Because of this, you have to create the following:

- One communication party for the travel agency

- One communication party for the airline *United Airlines*

To do so, perform the following steps in the Integration Builder (Integration Directory).

1. In the navigation area, choose the *Objects* tab page.
2. Position the cursor on the node *Party*.
3. In the context menu choose *New* (📄).
4. In the dialog *Create Object* enter *XIDemo_Agency* in the *Name* field.
5. Enter *XI demo agency* in the *Description* field.
6. Choose *Save* (💾).
7. Create another party with the name *XIDemo_UnitedAirlines* (description: *XI demo United Airlines*).
8. Activate the change list that contains the parties (tab *Change Lists*).

7.2 Checking Flight Seat Availability (Proxy-to-Web-Service Communication)

This section describes how to configure the *Checking Flight Seat Availability* integration scenario in the *Proxy-to-Web Service Communication* variant. In this variant, you configure the airline *United Airlines* (UA) (client 107) as Web service provider.



This demo example is implemented as the integration scenario *CheckFlightSeatAvailability*. The integration scenario is located in the Integration Repository, in the software component *SAP BASIS*, software component version *SAP BASIS 7.01*, in the namespace <http://sap.com/xi/XI/Demo/Agency>.

For the business description of the integration scenario, see 5.1.1.

In this variant, the airline *United Airlines* offers a Web service for the communication with the Integration Server.



The Web service definition is delivered with the demo examples.

To display the Web service definition, call transaction *Object Navigator* (SE80) in the SAP system. Select the package *SAI_DEMO_AIRLINE* and open the node *Enterprise Services* → *Web Service Library* → *Web Service Definitions*. The name of the Web service is *SXIDAL_FLIGHTSEATAVAIL_CHECK*.

In order to configure the *Flight Availability Check (Proxy-to-Web Service Communication)* variant, you have to activate the Web service in the SAP system (see 7.2.1).

7.2.1 Preliminary Steps

Activating SICF Path

You must activate the path to the SOAP runtime of the Integration Engine.

1. Call transaction *SICF* (Maintain Service)
2. Activate the path
`default_host/sap/bc/srt/xip/sap/SXIDAL_FLIGHTSEATAVAIL_CHECK` by selecting *Activate* in the Context menu for this service.

3. Activate the whole path by selecting the second Yes button.

Activating Web Service

You must make the following additional settings in the SAP system (client 107):

1. Call transaction WSCONFIG (*Release Web Services for SOAP Runtime*).
2. In the field *Web Service Definition* call the input help.
3. Select the Web Service definition *SXIDAL_FLIGHTSEATAVAIL_CHECK*.
4. Choose *Copy* (✔).
5. Choose *Enter* (✔).
6. Choose *Create* (📄).
7. In the following pop-up, choose *Continue* (✔).
8. Choose *Save* (💾).



The system automatically creates a customizing request for your change. A dialog box appears, in which you confirm this transport request.

Finding out Web Service Address

To specify the receiver communication channel for the airline, you need to know the Web service address.

Perform the following steps in the SAP system (client 107):

1. Call transaction WSADMIN (*Web Service Administration for SOAP Runtime*).
2. Open the node *SOAP Application for Web Services* → *SXIDAL_FLIGHTSEATAVAIL_CHECK* and select the entry *Web Service SXIDAL_FLIGHTSEATAVAIL_CHECK*.
3. In the menu, choose *Web Service* → *WSDL*.
4. In the following screen, in the frame *Style Definition in WSDL*, mark the radio button *Document Style*.
5. Choose *Continue* (✔).

The WSDL definition of the Web service is displayed. You can find the address of the Web service at the following location within the WSDL document:

```
<wsdl:service name="SXIDAL_FLIGHTSEATAVAIL_CHECKService">
  <wsdl:port name="SXIDAL_FLIGHTSEATAVAIL_CHECKSoapBinding"
binding="tns:SXIDAL_FLIGHTSEATAVAIL_CHECKSoapBinding">
    <soap:address location="<Web service address>" />
  </wsdl:port>
</wsdl:service>
```



Web service address looks like:

```
http://myserver:myport/sap/bc/srt/xip/sap/SXIDAL_FLIGHTSEAT
AVAIL_CHECK?sap-client=107
```

6. Store the Web service address into a temporary storage (for example, a notepad file) for later use.

7.2.2 Configuration in Integration Directory

Settings in the Integration Scenario Configurator

To accomplish the following configuration steps in the Integration Directory, proceed as described in detail in section 5.1.2. To configure the integration scenario *CheckFlightSeatAvailability* in the *Proxy-to-Web Service Communication* variant, use the settings as listed in the table below.



All configuration objects for this variant are saved in the same configuration scenario as used for the Proxy-to-Proxy variant (*XIDemo_CheckFlightSeatAvailability*).

Settings for the Integration Scenario *CheckFlightSeatAvailability* (Proxy-to-Web Service Communication)

Configuration Step	Settings
Selecting the Integration Scenario (Component View) and Creating the Scenario	<p>Open the scenario <i>XIDemo_CheckFlightSeatAvailability</i> and call the Integration Scenario Configurator (as described under 6.1.1).</p> <p>Select the component view <i>ABAP_Proxy_2_Web_Service</i>.</p>  <p>If you have not configured the <i>Check Flight Seat Availability</i> integration scenario in the <i>Proxy-to-Proxy Communication</i> variant before, you first have to start the integration scenario configurator and create the configuration scenario <i>XIDemo_CheckFlightSeatAvailability</i> before you can proceed with the next configuration steps. For a detailed description of the procedure, see 5.1.2 under <i>Selecting the Integration Scenario (Component View)</i>.</p>

<p>Assigning Services</p>	<p>For the <i>Agency</i> application component</p> <ul style="list-style-type: none"> • Assign the business system service <SID>_105 (tab <i>Business System Services for A2A</i>) • Create a business service <p>To do this, perform the following steps.</p> <ol style="list-style-type: none"> a. On the tab <i>Business Services for B2B</i> tap page, choose <i>Create Business Service</i> (). b. Select <i>Continue</i>. c. Select party <i>XIDemo_Agency</i>. d. Do not change the pre defined name of the business service (<i>CheckFlightSeatAvailability</i>). e. Choose <i>Apply</i>. f. Choose <i>Finish</i>. g. Choose <i>Close</i>. <ul style="list-style-type: none"> • Assign business system service to business service <p>Select business system service <SID>_105 (tab page <i>Business Services for B2B</i>, column <i>Corresponding Business System</i>).</p> <p>For the <i>Airline</i> application component</p> <ul style="list-style-type: none"> • Create a business service <p>For the party <i>XIDemo_UnitedAirlines</i> create business service <i>ProvideFlightSeatAvailability</i> (on the tab page <i>Business Services for B2B</i>, choose <i>Create Business Service</i> () and proceed as described above).</p> <p style="text-align: center;"></p> <p style="background-color: #e0e0e0; padding: 5px;">For the <i>Airline</i> application component you do not need to assign a business system service.</p>
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<p>Configuring the Connection</p>	<p>For the sender/receiver relation you have to specify a receiver communication channel (receiver service <i>ProvideFlightSeatAvailability</i>).</p> <p>In this variant you specify the communication channel by creating a new channel on the basis of a communication channel template from the Integration Repository. To do this, proceed as follows:</p> <ol style="list-style-type: none"> 1. Position the cursor on the input field in the <i>Communication Channel</i> column (for receiver service <i>ProvideFlightSeatAvailability</i>). 2. Call the context menu and choose <i>Create Communication Channel</i> () → <i>Create Communication Channel with Template</i>. A wizard for creating a communication channel on the basis of a communication channel template is started. 3. Choose <i>Continue</i>. 4. In the <i>Select Template</i> step, select the <i>XIDemoChannel_WebServiceSOAP</i> communication channel template (software component version SAP BASIS 7.01, namespace <code>http://sap.com/xi/XI/Demo/Agency</code>). 5. Choose <i>Continue</i>. 6. In the <i>Create New Communication Channel</i> step, confirm all entries by clicking <i>Finish</i>. 7. Click <i>Close</i> to close the <i>Create New Communication Channel</i> dialog box. The system creates a communication channel with the name <i>XIDemoChannel_WebServiceSOAP</i>. 8. In the <i>Configure Connection</i> dialog box, choose <i>Apply</i>.
<p>Generating the Configuration Objects</p>	<p>Same as described under 5.1.2.</p>
<p>Manual Editing</p>	<p>To define exactly how a message is to be forwarded from the travel agency to the airline, you must add a routing condition to the receiver determination</p> <pre> <SID>_105 FlightSeatAvailabilityQuery_Out</pre> <p>Specify the following routing condition for receiver party <i>XIDemo_UnitedAirlines</i> and receiver service <i>ProvideFlightSeatAvailability</i>:</p> <pre>AirlineID=UA</pre> <p>For a detailed description on how to make these settings with the generation log, see 5.1.2.</p> <p>To determine the outbound processing of the message, you have to specify the receiver communication channel <i>XIDemoChannel_WebServiceSOAP</i>.</p> <ul style="list-style-type: none"> • In the field <i>Target URL</i> enter the URL you have found out before (see 7.2.1). • In the Field <i>User</i> enter <i>XIAPPLUSER</i>. • In the Field <i>Password</i> enter <i>XIPASS</i>. <p>For a detailed description on how to make these settings, see 8.1.3 under <i>Specifying the Communication Channel</i>.</p>

Final Steps	<p>Save the scenario <i>XIDemo_CheckFlightSeatAvailability</i>.</p> <p>Activate the scenario <i>XIDemo_CheckFlightSeatAvailability</i> and all objects that it uses (follow the procedure as described in section 5.1.2).</p>
-------------	---

7.2.3 Executing and Testing

There is an application in the SAP system of the Integration Server (client 105) that you can use to test the integration scenario (for both configurations).

The execution of this variant of the integration scenario is not different from that of the Proxy-to-Proxy and Proxy-to-RFC variant (see 5.1.3).

This time, however, you use the flights UA 0941, UA 3504, UA 9999 and N.N. 9999.



For more information about how to start the application, how to check that the integration scenario has been executed correctly and how to monitor the XI message exchange, see SAP Help Portal at help.sap.com → SAP NetWeaver Library → SAP NetWeaver Developer's Guide → IT Scenario-Driven Enhancements to Applications → Enabling Application-to-Application Processes → Reference → Examples → Demo Examples → Check Flight Seat Availability → Check Flight Seat Availability (Proxy-to-Web Service) → Executing the Integration Scenario.

8 Configuring Integration Scenarios for Communication with File/FTP Adapter

8.1 Distributing Booking Order Data (Proxy-to-File System)

This section describes how to configure the *Distribute Booking Order Data* integration scenario in the *Proxy-to-File System Communication* variant.



This demo example is implemented as the integration scenario *DistributeBookingOrderInformation*. The integration scenario is located in the Integration Repository, in the software component *SAP BASIS*, software component version *SAP BASIS 7.01*, in the namespace <http://sap.com/xi/XI/Demo/Agency>.

You configure two file stores as the receivers of the messages for this purpose. The received messages are stored in XML format in the one file store, and in CSV (Comma Separated Values) format in the other file store.

In the Integration Repository, two component views are defined in the *DistributeBookingOrderInformation* integration scenario for this purpose:

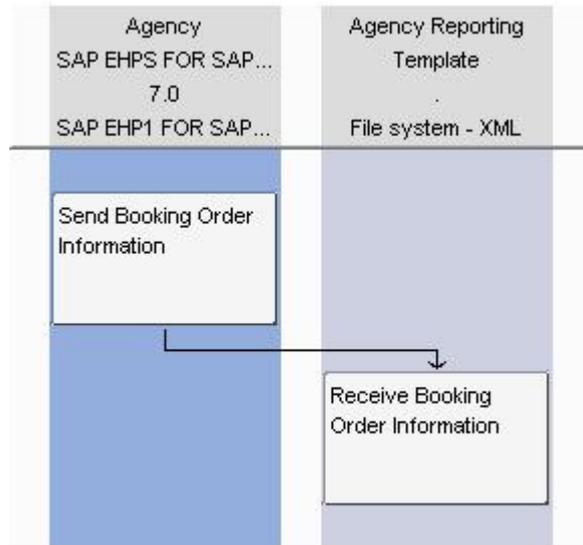
- Component view *ABAP_Proxy_2_File_XML* describes how data about flight booking orders is received in XML format.
- Component view *ABAP_Proxy_2_File_CSV* describes how data about flight booking orders is received in CSV format.

Using the instructions below, configure both component views in turn. At runtime, the data about flight booking orders sent from the travel agency to the file system is written to one file in XML format and another file in CSV format simultaneously (message splitting).

8.1.1 Business Description (Brief)

A travel agency uses the integration scenario *DistributeBookingOrderInformation* to send data about flight booking orders to subscribed receivers (publish and subscribe).

A possible receiver is a travel agency file system. The travel agency performs statistical evaluations of its flight booking orders using a spreadsheet program (for example, Microsoft Excel).



SAP Exchange Infrastructure, Integrationsscenario-Editor

8.1.2 Preliminary Steps

Before you can begin configuring the integration scenario, you must first perform the following steps for the configuration of the *Distributing Booking Order Data (Proxy-to-File System)* variant (8.1.2).

- Create a file directory on the Integration Server
- System Landscape Directory: Define a technical system for the file directory
- System Landscape Directory: Define a second business system for the file directory
- Integration Directory: Define the business system services for the file system

Creating a File Directory

You require a file directory on the Integration Server host where you can save the documents received.



In an actual customer installation, the two file stores are probably replaced by two directories. SAP recommends that you instead only use one physical directory so you can compare the XML and CSV files with each other easier.

For this purpose, create the `XIDemo` directory at the appropriate position in the file directory of the host.



A work directory already exists on many computers that can be used for this purpose and under which you can create the `XIDemo` directory.



You must have authorization to access this directory to be able to test the integration scenario. Bear this in mind when you define the directory, and, if applicable, contact your system administrator.

System Landscape Directory: Define a Technical System for the File Directory

To define a technical system for the target directory in the System Landscape Directory, proceed as follows:

1. Log on to the System Landscape Directory (see 4.3).
2. Choose *Technical Systems*.
3. Choose *New Technical System*.
4. In the Technical System Wizard - Technical System Type dialog, select the Standalone radio button.



The file system is not an application system; therefore, select this option.

5. Choose *Next*.
6. In the *Technical System Wizard - System Details* dialog, enter the following: Field *Technical System Identification*: <SID>_FileSystem, Field *System Host Name*: <Host Name of Integration Server> (for example, pdf00001).



You can determine the host name from the list of technical systems in the System Landscape Directory (*Technical System Browser* dialog). The naming convention for technical systems of type *Web AS ABAP* is: <SID> on <Host-Name>. To determine the host name of the Integration Server, search for the technical systems with the system ID (<SID>) of the Integration Server.

7. Choose *Finish*.

System Landscape Directory: Define a Second Business System for the File Directory

In the *Distributing Booking Order Data (Proxy-to-File System)* variant (8.1.2), the data can be received in two ways on the database: in XML format and in Comma Separated Value (CSV) format.

In the following steps you define:

- A business system for the file system to receive the data in XML format
 - A business system for the file system to receive the data in CSV format
1. On the initial screen of the System Landscape Directory, choose *Exchange Infrastructure*.
 2. Choose *New Business System*.
 3. On the *Business System Wizard – Details* screen, enter the following name for the business system: <SID>_FileSystem_XML.
 4. Choose *Next*.

5. On the *Business System Wizard - Technical System Type* screen, select the system type *Standalone* with the corresponding radio button.
6. Choose *Next*.
7. On the *Business System Wizard - Select System* screen, enter the technical system that you defined previously. In the dropdown list box for the *System* field, select the name of the technical system. The name of the technical system is `<SID>_FileSystem` on `<Host Name of Integration Server>`. You do not need to specify the logical system.
8. Choose *Next*.
9. In the *Business System Wizard - Integration Server* dialog, specify the assigned Integration Server. Select the entry: `<SID>` on `<Server Name>`.
10. Choose *Finish*.
11. Following the same procedure, define a business system with the name `<SID>_FileSystem_CSV`.

Integration Directory: Define the Business System Services for the File System

To define services in the Integration Directory for the business systems created before, proceed as follows:

1. In the Integration Builder in the menu select Environment → Clear SLD Data Cache
2. In the Integration Builder (Integration Directory), select the *Objects* tab page.
3. Expand the *Service Without Party* node.
4. Position the cursor on the *Business System* node and choose *New* () in the context menu.
The system calls the wizard for creating a business system service.
5. Choose *Assign Business System*.
6. In the business system wizard, choose *Continue*.
7. In the *Assign Partner* step, choose *Continue*.
8. In the *Select Business Systems* step, select the business systems `<SID>_FileSystem_XML` and `<SID>_FileSystem_CSV` by using the check boxes.
9. Deselect the *Create Communication Channels Automatically* check box.
10. Choose *Finish*.
11. Activate the change list containing the services `<SID>_FileSystem_XML` and `<SID>_FileSystem_CSV`.

8.1.3 Distributing Booking Order Data (Proxy-to-File System for XML File)

This section describes how to configure the integration scenario *DistributeBookingOrderInformation* to receive files in XML format.

Settings in the Integration Scenario Configurator

To accomplish the following configuration steps in the Integration Directory, proceed as described in detail in section 5.1.2. To configure the integration scenario *DistributeBookingOrderInformation* in the *Proxy-to-File System for XML File Communication* variant, use the settings as listed in the table below.

Settings for the Integration Scenario DistributeBookingOrderInformation (Proxy-to-File System for XML File)

Configuration Step	Settings
Selecting the Integration Scenario (Component View) and Creating the Scenario	<p>In the Integration Scenario Configurator select the integration scenario <i>DistributeBookingOrderInformation</i> (software component version <i>SAP BASIS 7.01</i>, namespace <i>http://sap.com/xi/XI/Demo/Agency</i>).</p> <p>Change the predefined name of the scenario to <i>XIDemo_DistributeBookingOrderInformation</i>.</p> <p>Select the component view <i>ABAP_Proxy_2_XML</i>.</p>
Assigning Services	<p>For the <i>Agency</i> application component assign the service <i><SID>_105</i>.</p> <p>For the application component of the file system assign the service <i><SID>_FileSystem_XML</i>.</p>
Configuring the Connection	<p>To configure the connection between the actions <i>Send Booking Order Information</i> and <i>Receive Booking Order Information</i>, you have to specify a receiver communication channel for the relation between sender service <i><SID>_105</i> (proxy) and receiver service <i><SID>_FileSystem_XML</i>.</p> <p>In this variant you specify the communication channel by creating a new channel on the basis of a communication channel template from the Integration Repository.</p> <p>Select the communication channel template <i>XIDemoChannel_FileXML</i> (software component version <i>SAP BASIS 7.01</i>, namespace <i>http://sap.com/xi/XI/Demo</i>).</p> <p>The system creates a communication channel with the name <i>XIDemoChannel_FileXML</i>.</p> <div style="text-align: center;">  </div> <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <p>The detailed procedure how to create a communication</p> </div>
Generating the Configuration Objects	Same as described under 5.1.2.
Manual Editing	Define the communication channel <i>XIDemoChannel_FileXML</i> (see below).
Final Steps	Close the generation log, close the integration scenario configurator and then save the scenario <i>XI_Demo_DistributeBookingOrderInformation</i> .

Specifying the Communication Channel

You specify the *XIDemoChannel_FileXML* communication channel, open the communication channel by navigating to the receiver agreement in the generation log of the Integration Scenario Configurator (*Connections* area).

In the generation log open to the receiver agreement | *<SID>_105* |
 | *<SID>_FileSystem_XML* | *BookingOrderDataInformation_Ext*.

In the *Receiver Communication Channel* field, click the `XIDemoChannel_FileXML` entry. The `XIDemoChannel_FileXML` communication channel is opened.

Edit the communication channel. Make the following entries:

Settings for the Receiver Communication Channel

Field	Entry
<i>Adapter Engine</i>	Integration Server
<i>Target Directory</i>	Enter the directory defined in 8.1.2.  In UNIX systems, it is possible that the default relative path in the communication channel already points to your directory. However, in Windows systems you must always specify an absolute path.

For a detailed description on how to accomplish these settings with the generation log, see 5.1.2.

8.1.4 Distributing Booking Order Data (Proxy-to-File System for CSV File)

This section describes how to configure the integration scenario *DistributeBookingOrderInformation* to receive files in CSV format.

Settings in the Integration Scenario Configurator

To accomplish the following configuration steps in the Integration Directory, proceed as described in detail in section 5.1.2. To configure the integration scenario *DistributeBookingOrderInformation* in the *Proxy-to-File System for CSV File Communication* variant, use the settings as listed in the table below.

Settings for the Integration Scenario *DistributeBookingOrderInformation* (Proxy-to-File System for CSV File)

Configuration Step	Settings
Selecting the Integration Scenario (Component View) and Creating the Scenario	Open the scenario <i>XIDemo_DistributeBookingOrderInformation</i> and call the Integration Scenario Configurator (as described under 5.1.3). Select the component view <code>ABAP_Proxy_2_File_CSV</code> .
Assigning Services	For the <i>Agency</i> application component assign the service <code><SID>_105</code> . For the application component of the file system assign the service <code><SID>_FileSystem_CSV</code> .
Configuring the Connection	To configure the connection between the actions <i>Send Booking Order Information</i> and <i>Receive Booking Order Information</i> , you have to specify a receiver communication channel for the relation between sender service <code><SID>_105</code> (proxy) and receiver service <code><SID>_FileSystem_CSV</code> . Proceed as described under 8.1.3. Note that you have to select the <code>XIDemoChannel_FileCSV</code> communication channel template (software component version <i>SAP BASIS 7.01</i> , namespace <code>http://sap.com/xi/XI/Demo/Agency</code>). Use this template to then create the <code>XIDemoChannel_FileCSV</code> communication channel.

Generating the Configuration Objects	Same as described under 5.1.2.
Manual Editing	During manual editing, make the same additional entries in the <code>XIDemoChannel_FileCSV</code> communication channel as in the <code>XIDemoChannel_FileXML</code> communication channel.
Final Steps	<p>Save the scenario <code>XIDemo_DistributeBookingOrderInformation</code> .</p> <p>Activate the scenario <code>XIDemo_DistributeBookingOrderInformation</code> and all objects that it uses (follow the procedure as described in section 5.1.2).</p> <p></p> <p>Note that you save the configurations of both component views (<code>ABAP_Proxy_2_File_XML</code> and <code>ABAP_Proxy_2_File_CSV</code>) in scenario <code>XIDemo_DistributeBookingOrderInformation</code>.</p> <p>Do not create new change list. Instead, use the change list <code>XIDemo_DistributeBookingOrderInformation</code> which was created in the <i>Distributing Booking Order Data (Proxy-to-File System for XML File)</i> variant (8.1.3).</p> <p>Otherwise the integration scenario generator will generate an error because the receiver determination that is already changed in the change list from the former variant cannot be updated.</p> <p>Alternatively, you can activate the change list from the <i>Distributing Booking Order Data (Proxy-to-File System for XML File)</i> variant first and then configure the <i>Distributing Booking Order Data (Proxy-to-File System for CSV File)</i> variant.</p>

8.1.5 Executing and Testing

There is an application in the SAP system of the Integration Server (client 105) that you can use to test the integration scenario.



For more information about how to start the application, how to check that the integration scenario has been executed correctly and how to monitor the XI message exchange, see SAP Help Portal at help.sap.com → SAP NetWeaver Library → SAP NetWeaver Developer's Guide → IT Scenario-Driven Enhancements to Applications → Enabling Application-to-Application Processes → Reference → Examples → Demo Examples → Distributing Booking Order Data → Distributing Booking Order Data (Proxy-to-File System) → Executing the Integration scenario.

Log on to the SAP system (client 105). In the user menu, choose *Exchange Infrastructure* → *Demo Examples* → *Travel Agency: Send Booking Order Data*.

You have the option of restricting the number of booking orders to be sent; available criteria are the order key, the order date, or the order status (the selection criteria are linked by a logical AND). After the integration scenario is executed successfully, you can check the file directory (that you specified as the target directory during communication channel configuration) and display the CSV and XML files that were created.

9 Notes on Troubleshooting

To execute the demo examples correctly, both SAP Exchange Infrastructure (XI) and the demo examples must be configured correctly. If errors occur when executing the demo examples, this is often due to a configuration error. This section describes some common problems and how to find and correct the errors.

Missing Context Objects in Routing Conditions

Problem: When editing the routing conditions in the receiver determinations, the context objects specified in this document are not available.

Possible Cause: This problem is often due to an error in the configuration of the business systems in the System Landscape Directory.

Procedure: Check in the System Landscape Directory that the technical system defined in 4.3.1 and the business systems defined in 4.3.2 contain the product *SAP EhP1 for SAP NetWeaver 7.0*.



For a detailed description of the procedure, see 4.3.

To make the changes visible, you must then delete the cache for SLD data in the Integration Builder - Integration Directory. To do this, choose *Environment* → *Clear SLD Data Cache*.

Demo Application (BSP Application) Does Not Start

Problem: You cannot start the demo application (BSP application) for the travel agency. (The message `HTTP 403 - Forbidden` appears in the browser.)

Possible Cause: This problem is often due to an error in the configuration of the BSP application.

Procedure: Check that the ICF service (that the BSP application belongs to) is configured correctly.



For more information, see section 4.6.1.

Check that the service is activated (shown black in the tree).

Error Message: Proxy calls not permitted in client of Integration Server

Problem: When executing one of the demo scenarios in the BSP application, you get an *XI System Error* with the detailed information that proxy calls are not permitted in the client of the Integration Server.

Possible Cause: The demo examples must be executed in the client of the travel agency (105). The error message means either that the client 105 is configured as the Integration Server or the Web application is executed in the client of the Integration Server (100).

Procedure:

1. First, check that the business system of the travel agency `<SID>_105` is configured in the System Landscape Directory with the role of an application system (see section 4.3.2).
2. Check that that ICF service (that the Web application belongs to) is configured correctly. (For more information, see section 4.6.1.) Check in particular that the service is activated and that client 105 is entered in the logon data.
3. If another Web application (System Landscape Directory, Runtime Workbench) is already running in client 100, the Web application may be executed in client 100, even though the configuration is correct. In this case, we recommend the following troubleshooting steps (alternatively):

- Close the other Web applications and restart the demo application.
- Add `?sap-client=105` to the URL of the demo application manually and choose *Enter*. (Example:
`http://host:port/sap(bD1lbiZjPTAwMQ==)/bc/bsp/sap/sxidem
o_agcy_ui/main.htm?sap-client=105`)

Error Message: No receiver could be determined

Problem: When executing one of the demo scenarios in the BSP application, you get an *XI System Error* with the detailed information that no receiver could be determined.

Possible Cause: The demo examples must be executed in the client of the travel agency (105). The error message means that either the scenario is not configured correctly or the application is executed in another client than 105.

Procedure:

1. First, check the sender business system for the erroneous message in monitoring (SXMB_MONI or Runtime Workbench).
2. If the sender business system is <SID>_105, the application is executed in the correct client. In this case, the configuration of the scenario seems to be wrong. Re-check the configuration in the Integration Directory and check that the cache refresh was executed successfully. This can be checked in the cache notification table in the Integration Directory choosing *Environment* → *Cache Notifications*.
3. If one of the business systems <SID>_106 or <SID>_107 can be seen as sender of the message, the demo application is called in the wrong client. This may happen after you execute a browser based application (e.g. WSDL display in WSADMIN in client 107). In this case, we recommend the following troubleshooting steps (alternatively):
 - Close the other Web applications and restart the demo application.
 - Add `?sap-client=105` to the URL of the demo application manually and choose *Enter*. (Example:
`http://host:port/sap(bD1lbiZjPTAwMQ==)/bc/bsp/sap/sxidem
o_agcy_ui/main.htm?sap-client=105`)

XML Messages Not Found on the Integration Server

Problem: The demo application was executed without errors, but no corresponding XML messages are displayed in the *Monitor for Processed XML Messages* (transaction SXMB_MONI) on the Integration Server (client 100).

Synchronous or Asynchronous Communication

Possible Cause: The messages have not been sent by the sender system.

Procedure: Switch to the *Monitor for Processed XML Messages* in the sender system (for example, SID (105) for the travel agency) and analyze the status of the message in the sender system (see also point 5 below).

Synchronous Communication (Only Relevant for Scenario *CheckFlightSeatAvailability*)

Problem: Synchronous XML messages are only stored permanently in the data base if an error occurs. If the application was executed without errors, the corresponding XML messages are not displayed in the monitoring. This is due to the fact that *Logging for Synchronous Messages* is deactivated by default.

Procedure: Activate logging for synchronous messages.

To activate logging for synchronous messages, choose *Integration Engine - Administration* (transaction SXMB_ADM) → *Integration Engine Configuration*. Choose *Configuration* and switch to change mode. Select the parameter LOGGING_SYNC (in category RUNTIME) and choose the value 1 (from the input help).

XML Messages Not Sent

Problem: XML messages are displayed as not sent in XML monitoring.

Possible cause: This problem is often caused by the queue being blocked by a message with errors or the queue not being activated.

Procedure:

1. In the *Monitor for Processed XML Messages*, navigate to the queue for the message (*Queue ID* column). If the queue contains a message with errors, you must correct or remove it (contact the owner of the message, if necessary) before the other messages can be processed.
2. Check that the queue is activated. (A common configuration error is activating queues on the Integration Server only and not in the connected business systems).

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