

Additional Connectivity Options

from the book

SAP® Cloud Platform Integration

by Bilay, Gutsche, Krimmel, and Stiehl



“Your guide to mastering SAP Cloud Platform Integration!”



Additional Connectivity Options

In this online appendix, we briefly touch on some key adapters you should know as an integration expert. In the first section, we provide a brief introduction for each adapter and point toward to additional information material publicly available in the Web.

When studying this book, you made yourself familiar with various connectivity options. However, when you go back to check out Chapter 1, Section 1.3.3 (Table 1.2), you notice that we haven't covered all adapters provided by SAP Cloud Platform Integration. To cover each and every adapter in the detail they deserve would fill another book of the size of the one. Additionally, some adapters would not fit into the flow of our chapters, and some of them would have required a complex system setup to provide demo scenarios.

SOAP Receiver Adapter

In the many integration flows described within this book, we used a Simple Objects Access Protocol (SOAP) sender channel as a sender. This is because it's simple to set up using a SOAP client such like SoapUI (see, for example, Chapter 2, Section 2.3.4). However, we haven't covered the SOAP receiver adapter. In this Appendix, Section 1.1.2 rounds out this chapter with a simple demo scenario that involves an outbound SOAP connection. As SOAP is one of the key protocols used in with SAP Cloud Platform Integration, we did not want to close this book without covering this connectivity option (outbound) as well.

Additional Adapters

This section provides a brief summary of certain adapters that have not been covered in the book. For each adapter, we refer to additional information sources that provide more details.

AS4 Receiver Adapter

The Applicability Statement 4 (AS4) receiver adapter is another extension of the B2B capabilities of SAP Cloud Integration. It supports AS4, which is a secure protocol that uses Web services to transmit business-to-business documents.

For more information, navigate to <https://www.sap.com/community.html> and search for “Configuring SAP AS4 Receiver Adapter for ATO Integration”.

JDBC Adapter

The Java Database Connectivity (JDBC), adapter enables you to connect SAP Cloud Integration with a JDBC database and to execute SQL commands on the database.

LDAP Receiver Adapter

The Lightweight Directory Access Protocol (LDAP) receiver adapter allows you to connect SAP Cloud Integration to a service that supports LDAP. LDAP allows you to access and maintain distributed directory information services. Such services map the names of network resources (for example, printers, users, devices) to their respective network addresses. One example of such a service is MS Active Directory.

For more information, navigate to <https://www.sap.com/community.html> and search for “LDAP Adapter in SAP HANA Cloud Integration (SAP HCI)”.

RFC Receiver Adapter

You can use the remote function call (RFC) receiver adapter to connect SAP Cloud Integration to an SAP system based on ABAP Application Server through the RFC. As prerequisite to use this connectivity option, you need to connect the SAP system with SAP Cloud Integration through the SAP Cloud Platform Connectivity, known as the cloud connector. At the time of publication, the RFC adapter supports synchronous communication.

For more information, navigate to <https://www.sap.com/community.html>, and search “How to use RFC adapter to execute remote function module on ABAP system”.

SFTP Sender and Receiver Adapter

This adapter allows you to access files on a remote system through the Secure Shell File Transfer protocol (SFTP). Like the mail sender adapter, the SFTP sender adapter is a polling adapter that sends a request to the sender system (in this case, an SFTP server) to read data from it. The SFTP receiver adapter allows you to write files to the SFTP server.

For more information, navigate to <https://www.sap.com/community.html> and search “Cloud Integration – How to Setup Secure Connection to sftp Server”.

SOAP Receiver Adapter

The SOAP sender adapter has been used in many scenarios throughout this book. Using SoapUI, you could easily set up a SOAP client to simulate a SOAP sender. Simulating a SOAP request through SoapUI was also a simple way to start a message processing. However, we have not so far covered the SOAP receiver adapter (which is also one of the key adapters of SAP Cloud Integration). For an easy-to-set up integration flow using this connectivity option, see Section 1.1.2.

XI Sender and Receiver Adapter

The Exchange Infrastructure (XI) adapter allows you to connect SAP Cloud Integration to an on-premise backend system over the XI 3.0 protocol. XI is the first version of SAP Process Integration. Technically speaking, the XI adapter supports the connectivity of SAP Cloud Integration with a local integration engine configured in the on-premise system.

For more information, navigate to <https://www.sap.com/community.html> and search for “Configuring a Scenario Using the XI Sender Adapter” and “Configuring a Scenario Using the XI Receiver Adapter”.

Invoking a SOAP-Based Web Service

Throughout this book, you have worked already extensively with the SOAP (SOAP 1.x) sender adapter. SOAP is an important protocol often used in inte-

gration projects. Therefore, we would like to show you in this appendix how you can easily configure an integration flow with a SOAP receiver adapter.

We'll invoke a public web service (at <http://www.dneonline.com/calculator.asmx>) though the SOAP protocol. This web service provides functions to calculate integers. Although we tested it at the time of publication, public web services can change. Therefore, we cannot guarantee that the integration flow works always as expected.

For your convenience, we provide the WSDL file for the web service at www.sap-press.com/4650. The file name is **calculator.wsdl**.

The following simple integration flow allows you to add two integers (provided with an inbound SOAP request). Optionally, you can send the result to your email inbox. Here, you can use the same mail receiver adapter configuration like in previous scenarios in this book.

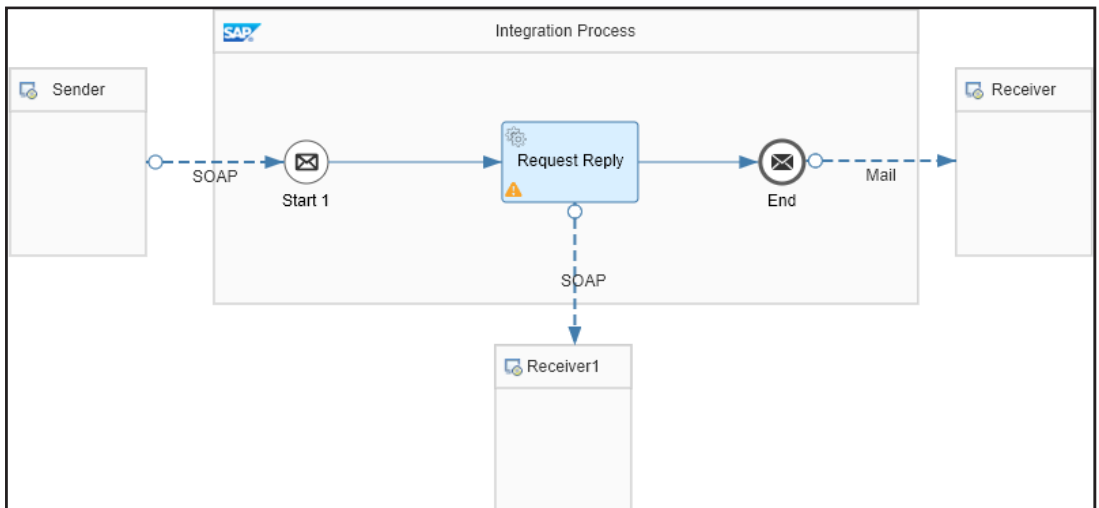


Figure 1 Target Itegration Flow

Channel Between Sender Pool and Start Message Event

For the configuration of the SOAP sender adapter, we propose to proceed as described in Chapter 2. When creating the channel between the **Sender** pool

and the **Start Message** event, choose **SOAP • SOAP 1.x**. We propose to configure the adapter settings (**Connection** tab) like shown in [Figure 2](#):

1. For **Address**, enter “/soap2calc”.
2. For **Service Definition** select **WSDL**.
3. Next to **URL to WSDL** choose **Select** and browse for the WSDL file **calculator.wsdl** (downloaded before from the book website).
4. When selecting the WSDL file, you are asked to select a service operation. Select the Operation **Add**. Based on your choice, the entries for **Service** and **Endpoint** are automatically filled. For further information on the namespace prefix (p1), refer to Section 5.2.3.
5. For **Processing Settings**, select **WS Standard**.
6. Keep the default settings for **Authorization** and **User Role**.

For more information on the SOAP 1.x sender adapter, see Chapter 5, Section 3.1.

The screenshot shows the 'SOAP' configuration window with the 'Connection' tab selected. The 'CONNECTION DETAILS' section contains the following fields:

*Address:	/soap2calc
Service Definition:	WSDL
*URL to WSDL:	/wsdl/calculator.wsdl Select
*Service:	p1:Calculator
*Endpoint:	p1:CalculatorSoap
Processing Settings:	WS Standard
Authorization:	User Role
*User Role:	ESBMessaging.send Select

Figure 2 SOAP 1.x Sender Adapter Settings

Channel Between Request Reply and Receiver1 Pool

For the channel between the **Request Reply** step and the **Receiver1** pool, choose **SOAP · SOAP 1.x**. Specify the following settings (in the **Connection** tab) as shown in [Figure 3](#):

1. In the Address field, enter “http://www.dneonline.com/calculator.asmx”.
This is the same URL which you can find when opening the WSDL file **calculator.wsdl** and searching for the tag <soap:address>. The attribute named location points to the address we are interested in.
2. For **Proxy Type**, keep the setting **Internet** (as we are invoking a service over the Internet).
3. Click **Select** next to **URL to WSDL**. Select the operation (**Add** in our case).
4. The entries for **Service** and **Endpoint** are automatically filled like shown in [Figure 2](#).
5. For **Authentication** choose **None**.

SOAP		External
General	Connection	WS-Security
CONNECTION DETAILS		
*Address:	http://www.dneonline.com/calculator.asmx	
Proxy Type:	Internet ▾	
URL to WSDL:	/wsdl/calculator.wsdl	Select
Service:	p1:Calculator	
Endpoint:	p1:CalculatorSoap	
Operation Name:	p1:Add	
Authentication:	None ▾	
Timeout (in ms):	60000	
<input type="checkbox"/>	Compress Message	
<input checked="" type="checkbox"/>	Allow Chunking	
<input checked="" type="checkbox"/>	Clean-up Request Headers	

Figure 3 SOAP 1.x Receiver Adapter Settings

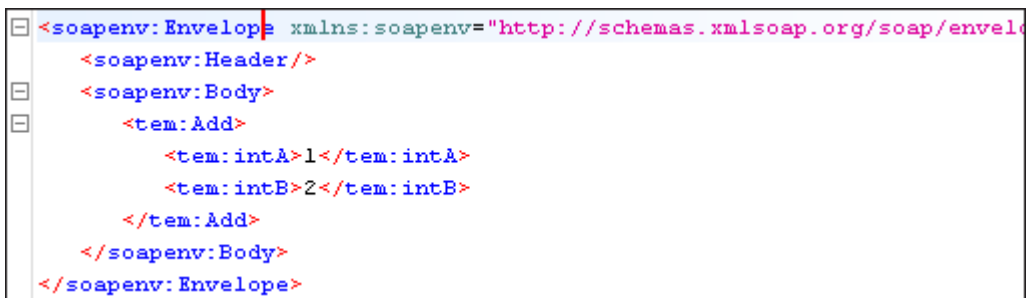
Additional SOAP Receiver Adapter Settings

There are additional SOAP receiver adapter settings that you can keep (default values):

1. **Timeout:** Specify the time the client should wait for a response before the connection is interrupted.
2. You can keep the **Compress Message** setting as it is (disabled) and the **Allow Chunking** enabled.
3. **Clean-up Request Headers:** Certain adapters might add headers to the message (depending on the adapter type). With this setting, you have the option to remove those headers before passing over the message to the next processing step (after the request reply step, see Figure 1.1). With this setting, you can make sure that another SOAP request after the request reply step is not executed with the same headers.
4. Finally, add a mail receiver channel, deploy the integration flow.

In SoapUI, enter the endpoint address for your integration flow (which you find in the **Monitor** application under **Manage Integration Content** when selecting the deployed integration flow (in the **Endpoints** tab).

In SoapUI, you click the request message and enter two integers you like to add (as seen in [Figure 4](#)).

The image shows a screenshot of the SoapUI interface displaying an XML request message. The XML is a SOAP envelope with a header, a body, and a 'tem:Add' element containing two integers, '1' and '2'.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header/>
  <soapenv:Body>
    <tem:Add>
      <tem:intA>1</tem:intA>
      <tem:intB>2</tem:intB>
    </tem:Add>
  </soapenv:Body>
</soapenv:Envelope>
```

Figure 4 Request Message in SoapUI

When invoking the integration flow, as a result you should receive an email with the result of the calculation.