

# **SAP S/4HANA Integration with Coupa Configuration Guide**

For SAP Cloud Integration

Version 1.0

# Contents

1	Prepackaged Content Introduction .....	2
1.1	Introduction .....	2
1.2	Coding Samples.....	2
1.3	Internet Hyperlinks .....	2
2	Overview .....	2
3	Preparing the Systems for Integration .....	3
3.1	Prerequisites .....	3
3.1.1	Access Requirements .....	3
3.2	Authorization Requirements .....	3
3.3	Adapter Installation .....	3
3.4	Plug-in Installation .....	3
4	Configuration.....	4
4.1	Configuration in SAP S/4HANA .....	4
4.1.1	Create Technical Communication User .....	4
4.1.2	Enable Data Replication Framework and Configure SOA Manager .....	5
4.2	Configuration in Coupa .....	5
4.3	Configuration in SAP Integration Suite .....	5
4.3.1	Replicate Suppliers from SAP S/4HANA to Coupa one to one .....	5
5	Appendix .....	13
5.1	Generating XSD-schema from Eclipse Plug-in .....	13
5.2	Deploying User Credentials in SAP Cloud Integration .....	14
5.2.1	Deploying User Credentials for Coupa .....	14
5.2.2	Deploying User Credentials for SAP S/4HANA .....	14

# 1 Prepackaged Content Introduction

## 1.1 Introduction

This document provides an overview of the artifacts delivered as part of the SAP S/4HANA Integration with Coupa for the SAP Integration Suite. The document discusses some of the common configuration steps needed before deploying the Integration Flows within the package. Read this guide carefully before configuring the integration content.

## 1.2 Coding Samples

Any software coding and/or code lines/strings ("Code") included in this documentation are only examples and are not intended to be used in a productive system environment. The Code is only intended to better explain and visualize the syntax and phrasing rules of certain coding. We do not warrant the correctness and completeness of the Code given herein.

## 1.3 Internet Hyperlinks

The documentation may contain hyperlinks to the Internet. These hyperlinks are intended to serve as a hint about where to find related information. We do not warrant the availability and the correctness of this related information or the ability of this information to serve a particular purpose.

# 2 Overview

The integration of SAP S/4HANA and Coupa processes can be customized. It is expected that you customize the process as per your business requirements. Adjustments can be made at different components, including:

- Adjustment to the integration flow externalized parameters,
- Adjustments to the Coupa setup,
- Adjustment to the mapping step to reflect the possible custom properties in Coupa.

In case changes have been made to the standard tables in Coupa to include custom fields, XSD needs to be generated using the Eclipse Plug-in. These XSDs need to be uploaded to the Integration Flow and the mapping adjusted accordingly.

# 3 Preparing the Systems for Integration

## 3.1 Prerequisites

To configure the integration content using this guide, you need to have access and authorizations to the systems listed below.

### 3.1.1 Access Requirements

- SAP S/4HANA Tenant Details
- SAP Integration Suite Tenant Details.
- Coupa Tenant Details

## 3.2 Authorization Requirements

- SAP S/4HANA On-Premises Details
  - Appropriate authorizations for the technical user that will be used to connect to the SAP S/4HANA System.
  - Access to SAP Gateway.
  - Access to create a user and assign roles.
  - Access to Suppliers.
- SAP Integration Suite Tenant Details.
  - AuthGroup.IntegrationDeveloper
- Coupa Tenant
  - Appropriate authorizations for the technical user that will be used to connect to the Coupa Tenant.

## 3.3 Adapter Installation

Installing the Coupa adapter is a prerequisite to using this Integration Package. For information about Adapter installation, see *2. Installation and Configuration* in *Coupa Adapter for SAP Integration Suite Guide*.

## 3.4 Plug-in Installation

For Eclipse plug-in (or Workbench) installation, see *2.4 Coupa Plug-in Installation* in *Coupa Adapter for SAP Integration Suite Guide*.

# 4 Configuration

SAP S/4HANA, Coupa, and SAP Integration Suite need to be configured and prepared before the integration content package can be configured and deployed.

## 4.1 Configuration in SAP S/4HANA

This section describes the mandatory configurations which need to be performed in the SAP S/4HANA system before you can start implementing the configuration for Coupa or configuring the Integration content in SAP Cloud Platform Integration. Follow the steps mentioned in the following sub-sections.

### 4.1.1 Create Technical Communication User

A Technical Communication User is needed to call OData services in SAP S/4HANA from Cloud Platform Integration. Communication Users in SAP S/4HANA are used for inbound communication and for processing messages in the system.

#### Purpose

To create a communication user in SAP S/4HANA.

#### Procedure

1. Access the Transaction Code **SU01** which allows user creation.
2. On the **User Maintenance: Initial screen**, enter value for your **User**.
3. Click Create.
4. On the **Maintain User** screen, populate the applicable fields:
  - **Last name** in the **Address** tab.
  - Set **User Type** as `Communication Data` in **Logon data** tab.
  - Set **Password** in **Logon data** tab.



Ensure you have been assigned relevant authorizations to execute OData API Calls.

5. Click Save icon to finish user creation.

## 4.1.2 Enable Data Replication Framework and Configure SOA Manager

Before the replication of master data from SAP S/4HANA to Coupa, Data Replication Framework and SOA Manager configuration must be performed.

For more information, see [Data Replication Framework Configuration](#).

Outbound Message to be configured: 986\_3.



The backend SAP S/4HANA application must ensure that the replication output is pointed to the Logical port created as part of the SOA Manager configuration.

Outbound implementation for Business Partner: 986\_3.

For more information, see [Business Partner - Replicate from SAP S/4HANA to Client](#).

## 4.2 Configuration in Coupa

This integration package is configured using OAuth Authentication toward Coupa.

For more information on how to configure OAuth, see *9.1 Initialize OAuth setup in Coupa and SAP CI in Coupa Adapter for SAP Integration Suite Guide*.

## 4.3 Configuration in SAP Integration Suite

You will learn about the configuration and settings of the relevant Integration Flows, including prerequisites, parameters of Sender and Receiver systems, and additional parameters specific to the integration flow.

### 4.3.1 Replicate Suppliers from SAP S/4HANA to Coupa one to one

This integration flow replicates Suppliers from SAP S4HANA to Coupa, with a one-to-one relationship, which means that for each Supplier in SAP S4HANA, there will be exactly one corresponding Supplier in Coupa. An overview is provided in Figure 4-1 Process Diagram.



- The integration synchronizes Suppliers, based upon DRF configuration in SAP S/4 HANA.
- Hierarchy is not in scope of this replication.
- Only default address of Supplier is covered in covered in this replication.
- This is a template and can be adjusted based on business scenario.

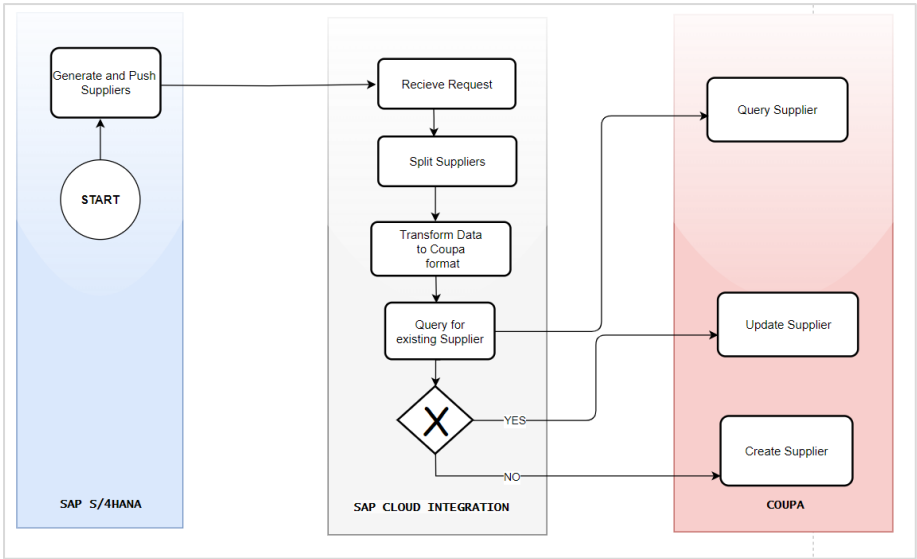


Figure 4-1 Process Diagram

The SAP Cloud Integration implementation is provided below in Figure 4-2 Process Implementation.

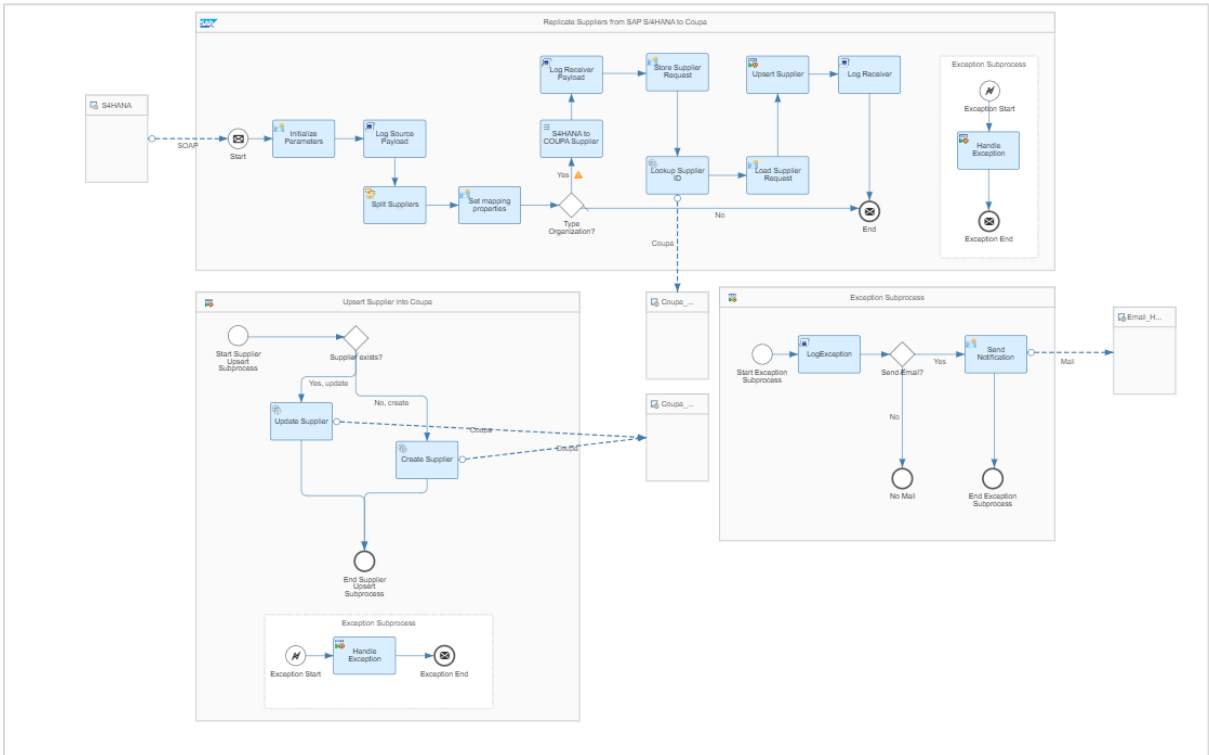


Figure 4-2 Process Implementation

## Prerequisites

The following actions need to be performed as a prerequisite:

- Deploy the security artifacts which will be required during the configuration of the integration flow.
- Configure S/4HANA to push Suppliers to SAP Cloud Integration Endpoint.

## Configuration

Follow the below steps to configure the integration flow:

1. Open the integration flow “**Replicate Supplier from SAP S4HANA to Coupa one to one**”.
2. Click **Configure**.
3. Configure **Sender**. Provide an endpoint to the iflow as per the organization’s naming standards.

The screenshot shows the configuration interface for the Sender connector. At the top, there are three tabs: 'Sender' (selected), 'Receiver', and 'More'. Below the tabs, the 'Connection' section is visible. It contains five configuration fields:

Sender:	S4HANA
Adapter Type:	SOAP
Address:	/s4hana/bp/coupa
Authorization:	User Role
User Role:	ESBMessaging.send

Figure 4-3 Configure Sender SAP S4HANA for SOAP



Replace the default values of the parameters in the configurations based on your scenario and landscape.


4. Go to **Receiver**.
5. Configure the **Receiver** connector type **Coupa** to fit your specific landscape.

The screenshot shows the configuration interface for a Receiver connector. At the top, there are tabs for 'Sender', 'Receiver' (which is selected), and 'More'. Below the tabs, the configuration is organized into sections. The 'Receiver' section includes a dropdown menu for 'Receiver' set to 'Coupa\_Supplier' and another dropdown for 'Adapter Type' set to 'Coupa'. The 'Connection' section includes a dropdown for 'Authentication', a text field for 'Address', a text field for 'OAuth Credential Name', and a text field for 'Scopes'. All text fields contain redacted information.

Figure 4-4. Configure Receiver SAP S4HANA for SOAP

The description of each of the fields in [Figure 4-4. Configure Receiver SAP S4HANA for SOAP](#) is documented in the table below.

Table 4-1 Configure Receiver for Coupa Parameters

<b>Parameter</b>	<b>Description</b>
Authentication	Specify the type of Coupa Authentication.
Address	Specify the recipient's endpoint URL, this is Coupa tenant's URL of the organization.  Example: <code>https://&lt;your_coupa_instance&gt;.coupacloud.com</code>
OAuth Credential Name	Specify the name of the User Credentials artifact configured or saved in the SAP Security Material. It contains the Coupa OAuth key and client secret pair.   This property enables the system to fetch the security token from the Keystore for authentication.
Scopes	Specify the permissions configured in Coupa. You can enter multiple scope values separated by a space.  Example: <code>core.accounting.read core.account.write core.budgeting.write</code>

6. Configure the **Receiver** connector named **Email\_Handler**.

Sender **Receiver** More

Receiver: Email\_Handler

Adapter Type: Mail

**Connection**

Address: [Redacted]

Proxy Type: Internet

Timeout (in ms): 30000

Protection: STARTTLS Mandatory

Authentication: Plain User/Password

Credential Name: [Redacted]

**Processing**

From: [Redacted]

To: [Redacted]

Subject: [Redacted]

Figure 4-5. Configure Receiver Mail Server

The description of each of the fields in [Figure 4-5. Configure Receiver Mail Server](#) is presented in the table below.

Table 4-2 Configure Receiver Mail Server Parameters

<i>Parameter</i>	<i>Description</i>
Address	https://<mail host>:<port number>
Basic Credential Name	<email credentials name>
From	Specify the email address from which the exception notification should come from.
To	Specify the email address where to send the exception notification to.
Subject	Specify the template to be used as a subject of your email.

7. For information on how to Configure **More**, see [Figure 4-6. Configure More Parameters](#).

Sender Receiver More

Type: All Parameters

BodyLogging: FALSE

BuyerHold: False

EnableMailNotification: TRUE

ExceptionLogging: TRUE

HeaderLogging: FALSE

HoldInvoiceApReview: False

InvoiceMatchingLevel: 3-way

PaymentMethod: Invoice

PoChangeMethod: prompt

PoMethod: prompt

PropertyLogging: FALSE

Figure 4-6. Configure More Parameters



The description of each of the fields in Table 4-3 Configure More Parameters is presented in the table below.

Table 4-3 Configure More Parameters

<i>Parameter</i>	<i>Description</i>
EnableMailNotification	<p>Possible values “TRUE” / “FALSE”. In case the value is set to “TRUE”, the integration Flows will send a notification to the email address specified in the To field of the Mail server. For more information, see <a href="#">Table 4-2 Configure Receiver Mail Server Parameters</a>.</p> <p>The notification is sent in case an exception occurs.</p>
ExceptionLogging	<p>Specify TRUE to log the exception (Not recommended in a live environment).</p> <p>Use FALSE as a default value.</p> <p>Possible values: TRUE/FALSE.</p>
LogMessageBody	<p>Specify TRUE to log the Message Body (Not recommended in a live environment).</p> <p>Use FALSE as a default value.</p> <p>Possible values TRUE/FALSE.</p>
LogMessageHeader	<p>Specify YES to log Message Headers.</p> <p>Possible values YES/NO .</p> <p>Use YES as a default value.</p>
LogMessageProperty	<p>Specify TRUE to log Message properties (Not recommended in a live environment).</p> <p>Use FALSE as a default value.</p> <p>Possible values TRUE/FALSE</p>
BuyerHold	<p>Buyer_Hold indicator for Supplier in Coupa Portal.</p> <p>Default value is False</p>
HoldInvoiceApReview	<p>“Hold_invoice_ap_review” indicator for Supplier in Coupa Portal.</p>

<i>Parameter</i>	<i>Description</i>
InvoiceMatchingLevel	Default value: False . "Invoice_matching_level" indicator for Supplier in Coupa Portal. Default value: "3-way"
PaymentMethod	"Payment_method" indicator for Supplier in Coupa Portal. Default value: "invoice"
PoChangeMethod	"Po_change_method" indicator for Supplier in Coupa Portal. Default value: "prompt"
PoMethod	"Po_method" indicator for Supplier in Coupa Portal. Default value: "prompt"

8. Save and deploy.


## 5 Appendix

### 5.1 Generating XSD-schema from Eclipse Plug-in

Currently, the integration package uses standard fields and properties provided in Coupa. In case other custom fields are needed; a new XSD must be generated with the Coupa Eclipse Plug-in, the default XSD on mapping must be replaced by the created one, and these fields should also be mapped.

Steps to create an XSD:

1. Open **Eclipse**.
2. Go to **Windows > Perspective > Open Perspective > Other**.
3. Select **Coupa Workbench Adapter** and click **Open**.
4. Go to XSD Generator.
5. Select an **Operation, Resource** and **Level**.

 Level 5 is recommended to fully capture the Coupa message.

6. Select the appropriate Request or Response tab.
7. Click **Generate XSD**.

8. If needed, manually modify the XSD in your editor of choice.
9. Replace default XSD from mapping in SAP Cloud Integration to the recently created XSD.

## 5.2 Deploying User Credentials in SAP Cloud Integration

To enable the Integration Flows to run, credentials for both Coupa and SAP S/4HANA need to be deployed in the Cloud Integration Tenant. These are discussed in the next sections.

### 5.2.1 Deploying User Credentials for Coupa

The most secure method to connect to Coupa is using OAuth 2.0. For the OAuth 2.0 setup for the Coupa adapter, refer to the Coupa adapter user guide. To deploy, follow the steps below:

1. In your SAP Cloud Integration tenant go to **Monitor**.
2. In **Manage Security**, click **Security Material**.
3. Click on the **Create** dropdown button and select **User Credentials**.
4. Specify the **name** and **description** of the Credentials.
5. Enter the *oAuth2 client\_id* as **user** and *client\_secret* as **password**, as generated in your Coupa tenant for OAuth Credentials.
6. Click **Deploy**.

### 5.2.2 Deploying User Credentials for SAP S/4HANA

This is necessary to connect to SAP S/4HANA using basic Authentication (username and password). Follow the steps below:

1. In your SAP Cloud Integration tenant go to **Monitor**.
2. In **Manage Security**, click **Security Material**.
3. Click on the **Add** dropdown and select **User Credentials**.
4. Specify the **name** and **description** of the User Credential.
5. Fill in the **username** and **password** of your technical User.
6. Click **Deploy**.