



Integration Guide | PUBLIC  
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# Setting up SAP Cloud Integration with External Tax Calculation Engines (SAP S/4HANA Cloud)

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# 1 Introduction

You use SAP Cloud Integration to establish the communication with external systems and calculate taxes in a business transaction according to the guidelines of local tax authorities. This document describes the setup steps that you must perform in your SAP S/4HANA Cloud tenant and SAP Cloud Integration tenant so that the integration between the systems works.

## 2 Prerequisites

Before you start with the activities described in this document, ensure that you've performed all initial setup steps described in [Initial Setup of SAP Cloud Integration in Cloud Foundry Environment](#). After completing the *Provisioning the Tenant* step, you've created your own tenant URL; that is the URL you need to complete the steps described in this guide.

# 3 Configuration Steps in SAP Cloud Integration

See the necessary to be performed in SAP Cloud Integration to configure the integration with SAP S/4HANA Cloud and external systems. The setup steps are typically done by an SAP Cloud Integration consulting team, which is responsible for configuring the SAP S/4HANA Cloud tenant and the connection with SAP Cloud Integration. This team may be also responsible for maintaining the integration content and certificates/credentials on the SAP Cloud Integration tenant.

## General Information

The package *SAP S/4HANA Integration with External Tax Calculation Engines* contains the following integration flows:

Integration Flow Name in WebUI	Project Name/Artifact Name
Request Tax Calculation for Multiple External Engines	Request Tax Calculation for Multiple External Engines
Request Tax Calculation for Single External Engine	Request Tax Calculation for Single External Engine

## 3.1 Managing Security Material Keys

### Context

Your tax calculation engine might require authorization to trigger the tax calculation. You can provide the authorization artifacts in the *Manage Security Material* area in SAP Cloud Integration.

### Procedure

1. Contact your tax partner to identify the type of authorization that you need to provide.
2. Follow the steps described in [Managing Security Material](#).

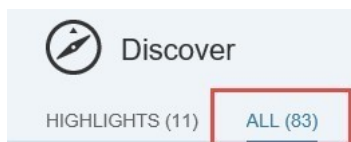
## 3.2 Copying Integration Flows

### Context

Follow the steps to copy the integration flows that are in the package *SAP S/4HANA Integration with External Tax Calculation Engines* to your target tenant.

### Procedure

1. In your browser, go to the WebUI of your tenant (<Tenant URL>/itspaces/#shell/discover).
2. Go to **Discover** > **All**



3. Search for *SAP S/4HANA Integration with External Tax Calculation Engines*.
4. Select the package and choose **Copy**.



## 3.3 Configuring Integration Flows and External Tax Calculation Engines

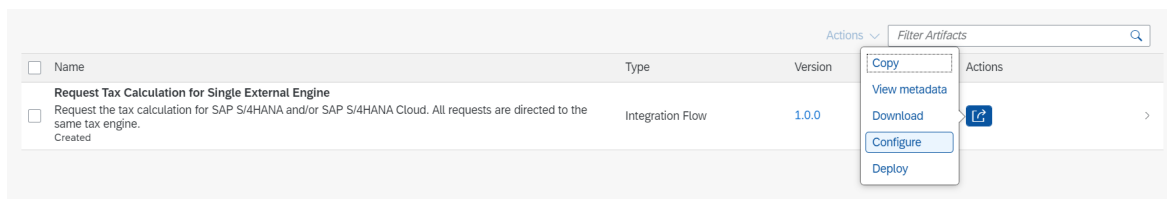
### Context

Configure the package that you have copied as described in [Copying Integration Flows \[page 6\]](#).

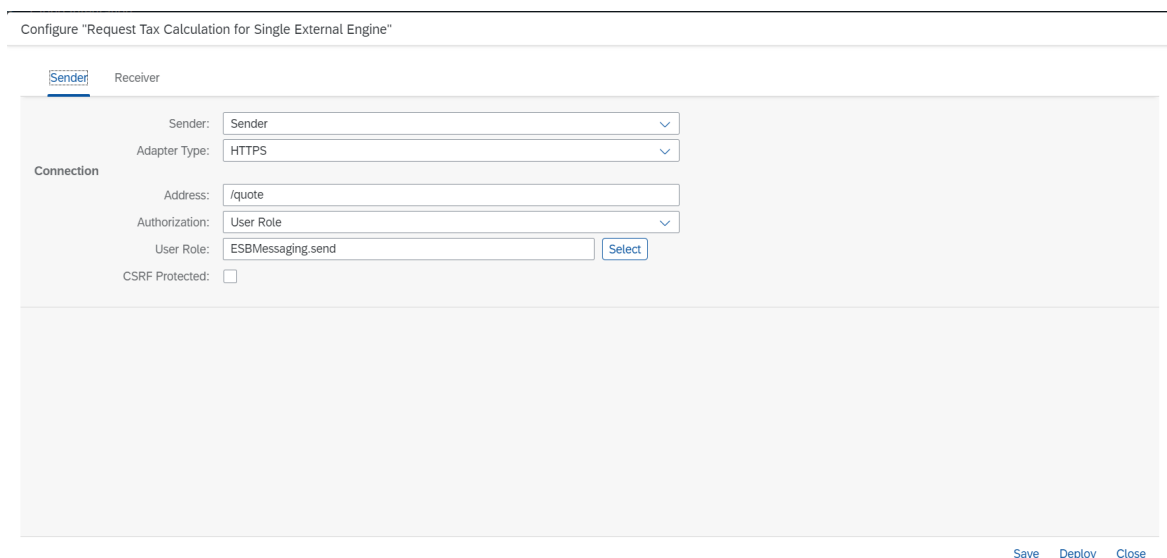
For the artifacts available in the integration package, see [Configuration Steps in SAP Cloud Integration \[page 5\]](#).

### Procedure

1. In the artifact you want to configure, choose the *Action* button and choose *Configure*.



2. Select the *Sender* tab and change the fields as described below.



- a. In the *Address* field, enter the value that the system uses for the endpoint route. The `/quote` value is provided by default.
- b. In the *Authorization* field, choose the `User Role` parameter to configure the role based on which the inbound authorization is checked.

- c. In the *User Role* field, choose the `ESBMessaging.send` user role that is provided by default.
3. Select the *Receiver* tab and change the fields as described below.

Configure "Request Tax Calculation for Single External Engine"

Sender: [Receiver](#)

Receiver: ExternalTaxCalculationEngine

Adapter Type: HTTP

Connection

Address:

Query:

Proxy Type: Internet

Method: POST

Authentication: None

Timeout (in ms): 60000

Save Deploy Close

- a. In the *Address* field, enter the value that points to the endpoint of your external tax calculation engine.
- b. Select the *Authentication* type accordingly.

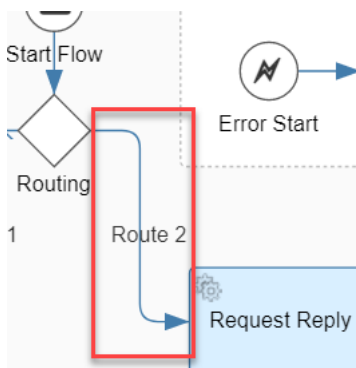
When required, inform the key name you created in [Managing Security Material Keys \[page 5\]](#).

4. Choose *Save*.

## 3.4 Configuring Multiple External Tax Calculation Engines Handling

### Procedure

1. Select the artifact *Request Tax Calculation for Multiple External Engines*.
2. Choose *Edit*.
3. Choose the *Route 2* (nondefault route) from *Routing* to *Request Reply*.





4. Select the *Processing* tab.

The screenshot shows the 'Route' configuration window with the 'Processing' tab selected. The 'Expression Type' dropdown is set to 'Non-XML'. The 'Condition' text box contains the expression: `${header.X-Routing-Key} = ' '`. The 'Default Route' checkbox is currently unchecked.

5. In *Condition*, enter the name of the external tax calculation engine you want to use.

### **i** Note

Enter the name engine in the following format: `${header.X-Routing-Key} = '<name_of_the_external_tax_calculation_engine>'`.

For more information, see [Define Router](#).

# 4 Configuration Steps for SAP S/4HANA Cloud

This section describes the additional configuration steps that must be carried out by customers to activate the SAP S/4HANA Cloud Integration with External Tax Calculation Engines.

## Prerequisites

During the activities described in this guide, you are required to enter or provide system-specific information. To ensure a smooth and efficient integration to SAP S/4HANA, we recommend that you have the information listed in the table below at hand before starting the integration process.

### Information Required

Integration with External Tax Calculation integration flow endpoint	Recommendation: Copy your integration flow endpoint.
Integration with External Tax Calculation integration flow authentication	You need your integration flow OAuth2.0 clientID, client secret, and token endpoint.

## 4.1 Add Certificate to Certificate Trust List

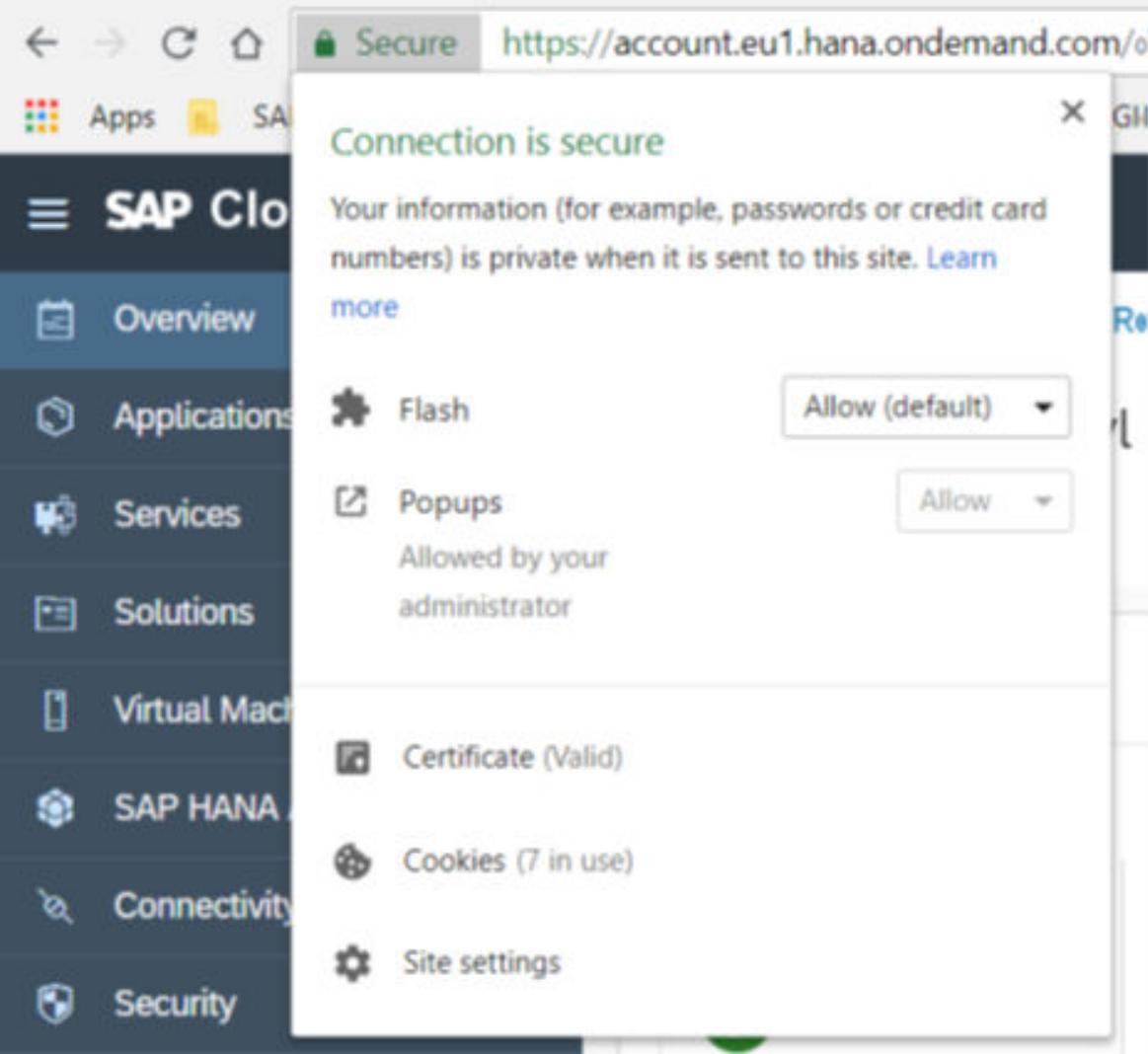
### Prerequisites

In order to carry out the following activity, a business user with a business role must exist. The business role must contain the business catalog `SAP_CORE_BC_SEC` (Security). For example, you can use the business role `SAP_BR_ADMINISTRATOR` (Administrator).

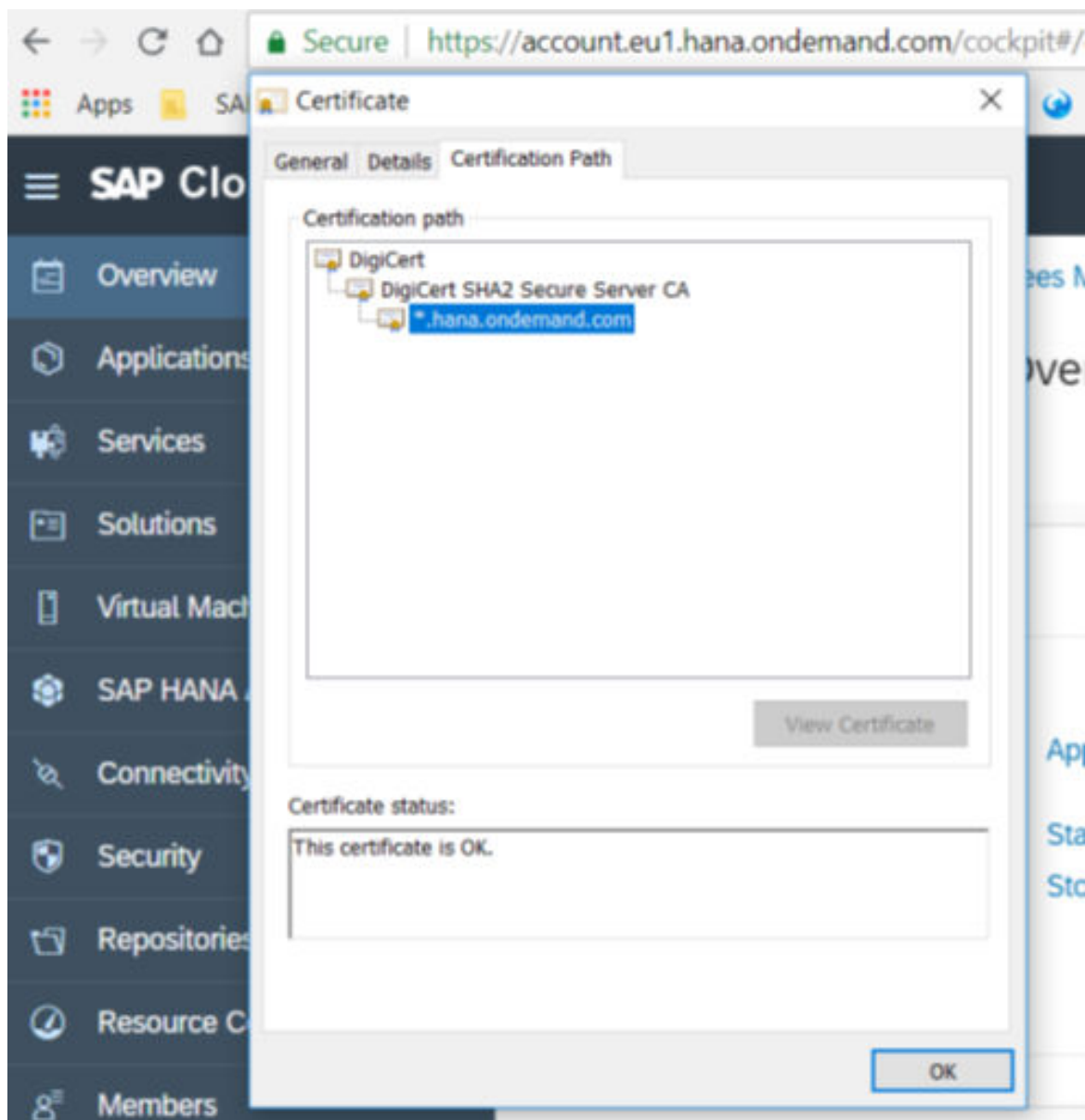
### Context

**Procedure**

- 1. Log on to the SAP BTP account where Integration with External Tax Calculation Engines is configured.
- 2. Choose *Secure* and *Certificate* under the site URL, as shown in the picture below:



3. Export all three certificates shown in the certificate path with the *Details* tab. The export format must be **Base-64 encoded X.509 (.CER)**.



4. Log on to the SAP Fiori launchpad in the SAP S/4HANA Cloud system.
5. Choose *Maintain Certificate Trust List*.
6. Choose *Add (+)* to upload new certificates.
7. Browse the file for the exported certificates.
8. Choose *Upload*.

## 4.2 Configuring a Communication System

Create a communication system that represents your SAP Cloud Integration tenant.

### Prerequisites

- You have a live SAP Cloud Integration test or productive tenant available.
- You've configured the communication systems and communication arrangements in your quality and production systems.
- Your user is assigned to the business catalog role `SAP_BCR_CORE_COM` (Communication Management).

### Procedure

1. Log in to your SAP S/4HANA Cloud tenant.
2. Find and launch the *Communication Systems* app.
3. Choose *New*.

A *New Communication System* dialog box appears.

4. Create a system ID and give it a descriptive name.



The screenshot shows a dialog box titled "New Communication System". It contains two input fields: "\*System ID:" and "\*System Name:". At the bottom right, there are two buttons: "Create" and "Cancel".

5. Choose *Create*.

An editing screen for the communication system appears.

6. In the *Technical Data* section, enter the host name and HTTPS port of your SAP Cloud Integration tenant.

Follow the steps to find the host name for your tenant in SAP Cloud Integration:

- a. Go to your SAP Cloud Integration cockpit.
- b. From the menu on the left, choose the *Operations* view.
- c. Select *Manage Integration Content (All)*.
- d. Search for the integration flow for the scenario you're configuring.
- e. Find and copy the host name in the *Endpoints* tab.

The endpoint URL is a concatenation of host name and path:

## ❁ Example

https://<host name>/<path>

7. In the *User for Outbound Communication* section, choose +.

The screenshot shows a configuration page with the following sections:

- Contact Information:** Includes input fields for Contact Person Name, E-Mail, and Phone Number.
- OAuth 2.0 Identity Provider:** Includes an 'Enabled' checkbox.
- User for Inbound Communication:** A table with columns 'Authentication Method' and 'User Name'. The current entry shows 'No data' under 'User Name'. A '+' button is visible to the right.
- User for Outbound Communication:** A table with columns 'Authentication Method' and 'User Name/Certificate/Client ID'. The current entry shows 'No data' under 'User Name/Certificate/Client ID'. A '+' button is visible to the right, highlighted with a red box.

8. Select the authentication method *OAuth 2.0*.

The 'New Outbound User' dialog box contains the following fields and a dropdown menu:

- Authentication Method: \*** A dropdown menu with 'OAuth 2.0' selected. The menu is open, showing options: 'User Name and Password', 'SSL Client Certificate', 'OAuth 1.0', 'OAuth 2.0' (highlighted), and 'None'.
- Client Authentication: \***
- OAuth 2.0 Client ID: \***
- Client Secret: \***

At the bottom right, there are 'Create' and 'Cancel' buttons.

- Enter your **clientID** in *OAuth2.0 Client ID* and your **clientsecret** in *Client Secret*. You create these values for your service instance in SAP Cloud Integration. See [Creating Service Instances](#).

The screenshot shows a 'New Outbound User' dialog box. It contains the following fields and options:

- Authentication Method:** A dropdown menu with 'OAuth 2.0' selected.
- Client Authentication:** Two radio buttons: 'Basic' (selected) and 'mTLS'.
- OAuth 2.0 Client ID:** A text input field, highlighted with a red border.
- Client Secret:** A text input field, highlighted with a red border.
- Buttons:** 'Create' and 'Cancel' buttons at the bottom right.

9. Choose [Save](#).

## 4.3 Configuring the Communication Arrangement

Configure SAP S/4HANA Cloud to complete the integration with SAP Cloud Integration and external systems.

### Prerequisites

The communication arrangement `SAP_COM_0249` must be activated in SAP S/4HANA Cloud for communication with Integration with External Tax Calculation Engines.

### Procedure

1. Log in to your SAP S/4HANA Cloud tenant with the Cloud User.
2. Launch the application [Communication Arrangements](#).
3. Choose [New](#).
4. In the new pop-up window, enter the scenario `SAP_COM_0249` (the scenario designated for communication with the tax calculation partners via SAP Cloud Integration package).
5. Enter an [Arrangement Name](#).

#### → Tip

It's recommended to add the scenario and your tenant to the communication arrangement name.

## ❖ Example

SAP\_COM\_0249\_<name of SAP Cloud Integration tenant>



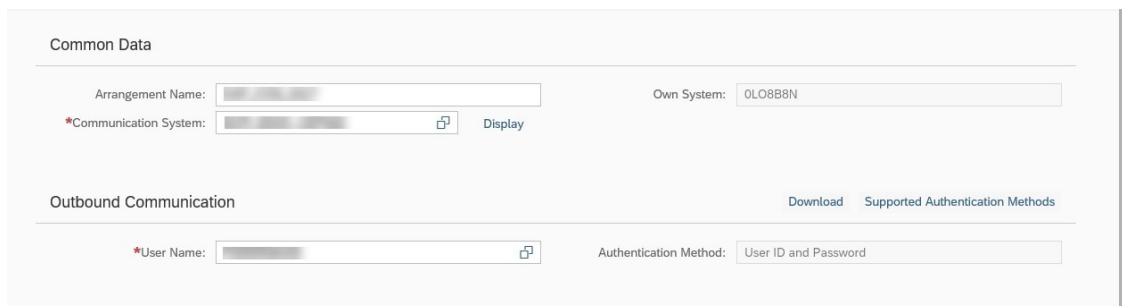
**New Communication Arrangement**

\*Scenario:

Arrangement Name:  
*Enter Communication Arrangement Name*

Create Cancel

6. Choose *Create*.
7. In the new window, choose the communication system created in the previous step and the authentication method relevant to the communication system.
  - If you choose to authenticate with a *User ID*, select *User Name* and *Password* from the *Outbound Communication* list.



Common Data

Arrangement Name: [blurred] Own System: OLO888N

\*Communication System: [blurred] Display

Outbound Communication Download Supported Authentication Methods

\*User Name: [blurred] Display Authentication Method: User ID and Password

8. Scroll down and enter the *Path* of your integration flow URL for the tax calculation inbound service.



Service Status:  Active

Application Protocol: SOAP

Port: 443

Path: /cxf/XmItoHtml

Service URL: [blurred]

9. Choose *Save*.





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