

**SAP Finance Applications Integration with ELSTER  
in SAP S/4HANA Cloud**  
*Finance Tax Integration for Germany (UStVA)*

**SAP Cloud Platform Integration Configuration**



**THE BEST RUN**





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## 1. OVERVIEW AND PREREQUISITES

This integration package enables you to transfer German tax-specific notifications to the authority. The following notifications are supported: UStVA.

For the transfer, the integration package applies specific requirements for message security, which are set by the German authorities. Therefore, the integration package uses the mandatory ERiC Libraries. The functionality is valid for German customers only. On-Premise System (ERP min. Release 6.00), SAP Simple Finance and S/4 HANA.

Before you start with the activities described in this document, ensure that the following prerequisites are met:

### 1.1 Configure SAP CLOUD PLATFORM INTEGRATION

#### 1.1.1 Initial Configuration of the Cloud Integration Tenant

SAP CLOUD PLATFORM INTEGRATION (CPI) test and productive tenants are live and users in the tenants have sufficient rights and privileges to copy the integration package and to configure and deploy the integration flow. To deploy the security content, role "AuthGroup.Administrator" is required.

Set up and configure the Cloud Platform Integration tenant as described in the *Get Started* documentation for SAP Cloud Platform Integration. <https://help.sap.com/viewer/368c481cd6954bd0435479fd4eaf/Cloud/en-US/e7b1eaa2246641b3a6188233cf219ab8.html>

For the subsequent configuration of the Finance System, note down the URL of the tenant (the TMN URL you received when the tenant was provisioned).

#### 1.1.2 ELSTER certificates for SAP Cloud Integration

To exchange data with the authority, you need one or more certificates from the authority. These certificates can be obtained from the ELSTER Online-Portal. If you already use the data exchange with the authority and you want to switch communication from middleware Business Connector (BC) or PI/PO to CPI, you must use the existing certificates.

The ELSTER certificates are files in PFX format (<filename>.pfx) and are password-protected.

For subsequent configuration, make sure that the certificate file and password are available.

## 2 SETUP STEPS IN SAP CLOUD PLATFORM INTEGRATION

### 2.1 Copy Published Package "SAP Finance Applications Integration with ELSTER" to your Package

Go to the "Discover" chapter of your tenant and find the package "SAP Finance Applications Integration with ELSTER":

Click on package name, then click "Copy" in the upper left corner.

Note: the package version on the screenshot may differ from the current one.

## 2.2 Configure Integration Flow for Finance Data

These steps are optional. Steps 2.2 and 2.2.1 are only necessary if the package is copied more than once or if it was not possible to use the default URL for the connection with the Finance System.

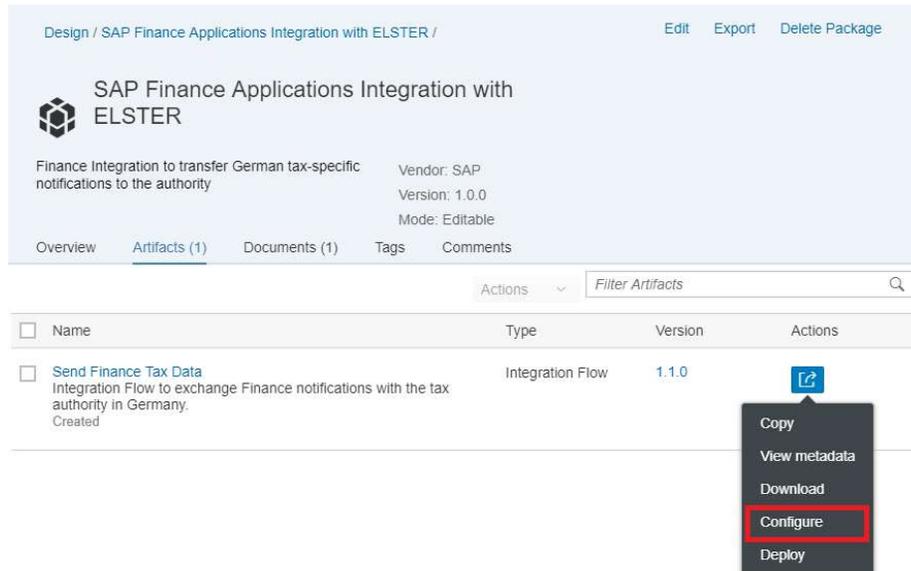


Figure 1. ELSTER integration package "Artifacts" tab

### 2.2.1 Configure Sender Tab

**Address:** Update the connection address to a name that allows you to differentiate between different packages (for example, /FI\_ELSTER\_HTTP). As previously mentioned, you should only change this default value if absolutely necessary.

**User Role:** If you want to use a specific role for the ELSTER Integration Flow you can select a user role different from ESBMessaging.send. This role must be created in Cloud Platform Cockpit. You should only change this default value if absolutely necessary.

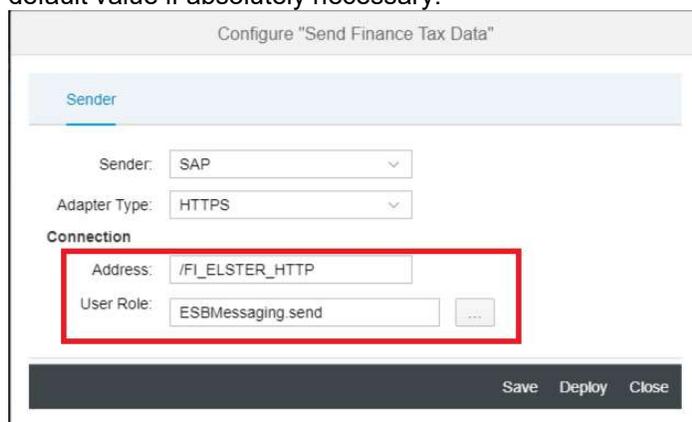


Figure 2. "Send Finance Tax Data to German Tax Office" iFlow - Sender adapter properties

### 3. DEPLOY CERTIFICATES FOR SAP CLOUD INTEGRATION

The certificates for the data exchange with the authority are stored in the CPI Keystore. Therefore, add certificate <filename>.pfx provided from the authority to the CPI Keystore.

1. Navigate to the keystore. Overview -> Manage Security -> Keystore

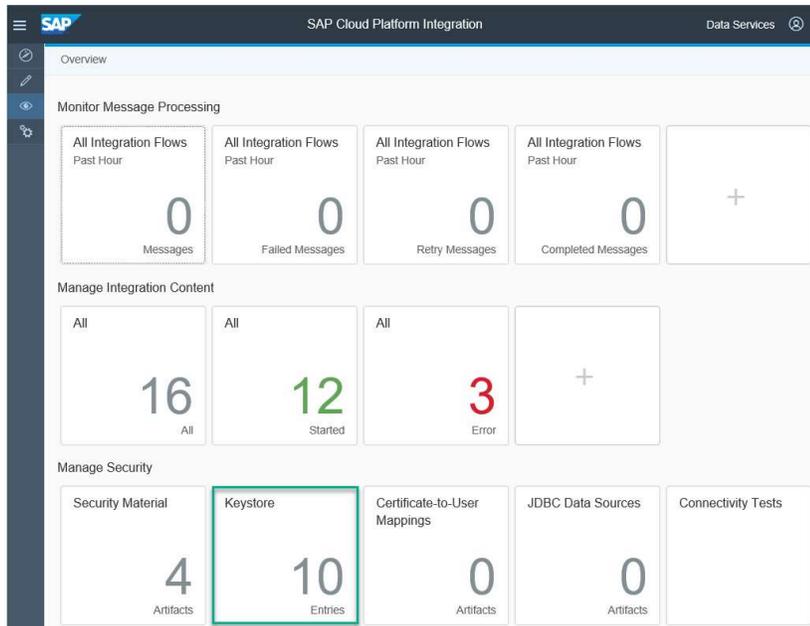


Figure 3. Monitor Keystore

2. Add the PFX-file with the certificate to the keystore. Choose Add -> Keystore

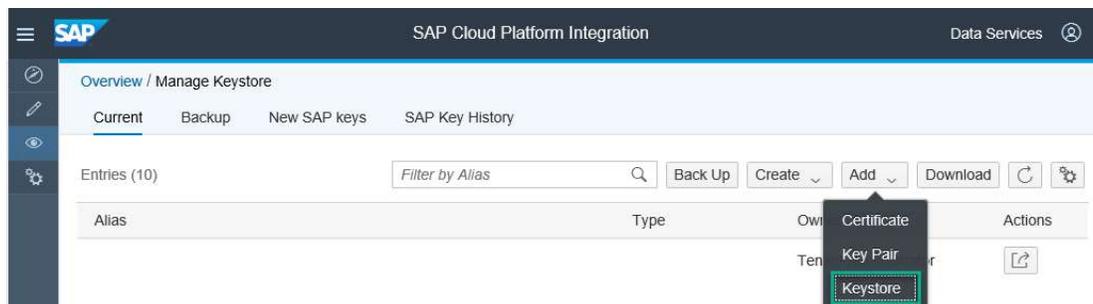


Figure 4. Add PFX-File to the keystore

Figure 5. Add PFX-File to the keystore

After adding the PFX-file to the CPI Keystore, you will find two new entries in the certificate list of the keystore. The new entries are called *encryptionkey* and *signaturekey*.

### 3. Rename the new entries

One of the certificates in the PFX-file is for the encryption and one is for the signature.

Rename entry *encryptionkey* to *[prefix]\_enc* and entry *signaturekey* to *[prefix]\_sig*.

#### Remarks:

- The suffixes *\_enc* and *\_sig* are obligatory and cannot be changed.
- The *[prefix]* is a placeholder. Enter here the Digitale Signatur Key Store Entry Parameter that you configure in your Finance Customizing (see 4.2.2).

For more information about certificate deployment in SAP Cloud Platform Integration, see SAP Note 2469460 “Key-store management in SAP Cloud Platform Integration for process services”.

### 3.1 CPI - Using Multiple Certificates for Different Companies

If it is necessary to use different certificates for multiple companies, you must upload these pfx-files to the CPI keystore. Make sure that you rename each of the two different keys with suffix *\_enc* and *\_sig*.

Example:

Company ABC (DE01)		Company XYZ (DE02)	
Key Store	Finance System	Key Store	Finance System
elster_fi_de01_enc	elster_fi_de01	elster_fi_de02_enc	elster_fi_de02
elster_fi_de01_sig		elster_fi_de02_sig	

## 4. SETUP OF THE FINANCE SYSTEM

In the Finance system, you need to configure the HTTPS connection to the CPI solution and also configure some additional Customizing tables.

Please note that if you are using SAP Cloud Platform Integration in the Cloud Foundry environment, you need to set up secure inbound communication using client certificates. Step-by-step instructions on how to do this can be found in the blog article “Cloud Integration on CF – How to Set Up Secure HTTP Inbound Connection with Client Certificates”: <https://blogs.sap.com/2019/08/14/cloud-integration-on-cf-how-to-setup-secure-http-inbound-connection-with-client-certificates/>. Otherwise, follow the instructions below to set up a secure HTTPS connection between the application system (HR/Finance) and the Cloud Integration tenant.

### 4.1 Set up HTTPS Connection to CPI System

To set up the HTTPS connection, you need the URL of the tenant (the TMN URL you received when the tenant was provisioned). You can also find the URL in the CPI Overview -> Manage Integration Content by clicking on the Integration Content.

The screenshot displays the SAP Cloud Platform Integration (CPI) interface for an integration flow named "Send Finance Tax Data". At the top right, there are buttons for "Restart", "Undeploy", and a menu icon. Below the title, deployment information is shown: "Deployed On: Jul 12, 2019, 14:52:44" and "ID: Send\_FI\_Tax\_Data". Below that, it says "Deployed By: [redacted]" and "Version: 1.0.23". A navigation bar contains four tabs: "Endpoints" (which is selected and underlined), "Status Details", "Artifact Details", and "Log Configuration". Under the "Endpoints" tab, a URL is displayed: "https://[redacted]/http/FI\_ELSTER\_HTTP", with a copy icon to its right. Below this, the "Status Details" section is visible, featuring a green message box that states: "The Integration Flow is deployed successfully."

Figure 6. Manage Integration Content - Details Send Finance Tax Data to German Tax Office

To setup a secure HTTPS connection between the application system (HR/Finance) and the Cloud Integration tenant, add the load balancer root certificate to the HR/Finance trust store. Further details are available in the blog article “Cloud Integration – How to Set Up Secure HTTP Inbound Connection with Client Certificates”:  
<https://blogs.sap.com/2017/06/05/cloud-integration-how-to-setup-secure-http-inbound-connection-with-client-certificates/>

## 4.2 Set up Communication Arrangement

The following communication arrangement must be activated in SAP S/4HANA Cloud for communication with web services:

Communication Arrangement ID	Name of Communication Arrangement
SAP_COM_0645	Finance - ELSTER Integration

### 4.2.1 Create Communication System

#### Prerequisites

To carry out the following activity, you need a business user with a business role that contains the business catalog SAP\_CORE\_BC\_COM (Communication Management). For example, you can use a user with the same minimum authorizations as the SAP\_BR\_ADMINISTRATOR (Administrator) business role template.

You also need to create a user in Cloud Integration and assign the ESBMessaging.send role. More information can be found in the documentation in chapter *Defining Permissions for senders to Process Messages on the Runtime Node*. <https://help.sap.com/viewer/368c481cd6954bd0435479fd4eaf/Cloud/en-US/24585cc503334e6c917ef383efb5558a.html?q=ESBMessaging.send>.

#### Procedure

1. Log on to the SAP Fiori launchpad in your SAP S/4HANA Cloud system.
2. Open [Communication Systems](#).
3. Choose [New](#) to create a new system.
4. Enter a system ID and a system name.
5. Choose [Create](#).
6. In the [Technical Data](#) section, enter the information regarding the system that you wish to integrate.
7. Under [Users for Outbound Communication](#), add your user or certificate.
8. Choose [Save](#).

### 4.2.2 Create Communication Arrangement

#### Procedure

1. Log on to the SAP Fiori launchpad in your SAP S/4HANA Cloud system.
2. Open [Communication Arrangements](#).
3. Choose [New](#) to create a new communication arrangement.
4. Select SAP\_COM\_0645 (Finance - ELSTER Integration).
5. Adapt the [Arrangement Name](#) if required.
6. Choose [Create](#).
7. In the [Common Data](#) section, select the [Communication System](#) from the input help. This is the communication system that you created in 4.2.2., Create Communication System.  
The technical user that you created in 4.2.1, Create Technical Communication User, is automatically added to the [Outbound Communication](#) section.

8. Choose [Save](#).

The communication arrangement has been activated.

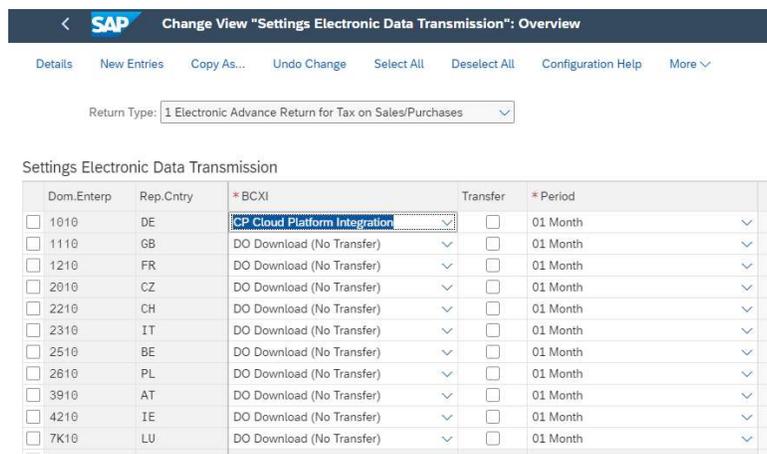
## 4.3 Finance Customizing

### 4.3.1 Settings for Electronic Communication with Authorities

Customization takes place in two steps. First, use the Make Settings for Electronic Communication with Authorities configuration step (SSCUI ID 103726). You can find this step by logging in to the SAP Fiori launchpad with a user with the same minimum authorizations as the SAP\_BR\_BPC\_EXPERT business role template. Check to make sure that the Tax - Configuration business catalog (SAP\_CA\_BC\_IC\_LND\_FIN\_TAX\_PC) is assigned to your user before proceeding. You need this business catalog to complete this process, so if it is not assigned, you must assign it.

Open the Manage Your Solution app, make sure that the local version is set to Germany, then open Configure Your Solution. You can search for the configuration step using the SSCUI ID or set the Application Area to Finance, then set the Sub Application Area to Statutory Reporting. Open the Electronic Communication item and then select Configure for the Make Settings for Electronic Communication with Authorities configuration step.

Select Return Type 0001, Electronic Advance Return for Tax on Sales/Purchases, then, in column BCXI, select CP (Cloud Platform Integration). Save your changes.



Dom.Enterp	Rep.Cntry	* BCXI	Transfer	* Period
<input type="checkbox"/> 1010	DE	CP Cloud Platform Integration	<input type="checkbox"/>	01 Month
<input type="checkbox"/> 1110	GB	DO Download (No Transfer)	<input type="checkbox"/>	01 Month
<input type="checkbox"/> 1210	FR	DO Download (No Transfer)	<input type="checkbox"/>	01 Month
<input type="checkbox"/> 2010	CZ	DO Download (No Transfer)	<input type="checkbox"/>	01 Month
<input type="checkbox"/> 2210	CH	DO Download (No Transfer)	<input type="checkbox"/>	01 Month
<input type="checkbox"/> 2310	IT	DO Download (No Transfer)	<input type="checkbox"/>	01 Month
<input type="checkbox"/> 2510	BE	DO Download (No Transfer)	<input type="checkbox"/>	01 Month
<input type="checkbox"/> 2610	PL	DO Download (No Transfer)	<input type="checkbox"/>	01 Month
<input type="checkbox"/> 3910	AT	DO Download (No Transfer)	<input type="checkbox"/>	01 Month
<input type="checkbox"/> 4210	IE	DO Download (No Transfer)	<input type="checkbox"/>	01 Month
<input type="checkbox"/> 7K10	LU	DO Download (No Transfer)	<input type="checkbox"/>	01 Month

Figure 7. Make Settings for Electronic Communication with Authorities

### 4.3.2 Parameters for Electronic Communication with Authorities

From within Configure Your Solution, open the Define Parameters for Electronic Communication with Authorities. You can find this configuration step by searching for the SSCUI ID (102367) or by opening the Electronic Communication item under Finance → Statutory Reporting.

Select Return Type 0001, Electronic Advance Return for Tax on Sales/Purchases, enter a company code, and enter DE as the country. Fill in the mandatory fields indicated. Please note that the “Digitale Signatur Key Store Entry” is the entry that you set up in 3.1.

Determine Work Area: Entry X

Field Name: Work Area

Return Type:

Dominant Enterprise/Company Co:

Country of Reporting Authority:

Further select cond.
  Append

Figure 8. Define Parameters for Electronic Communication with Authorities.

<
SAP
Change View "Parameter Values Electronic Data Transmission": Overview

Copy As... Undo Change Select All Deselect All Configuration Help More ▾

Return Type:  Electronic Advance Return for Tax on Sales/Purchases ▾

Dom.Ent./CoCode:

Rep. Country:

Parameter Values Electronic Data Transmission

Reporting Country-Spec. Parameter Text	Parameter/Value Elect. Data Transmission
<input type="checkbox"/> Finanzamtsnummer	
<input type="checkbox"/> Verrechnung der Rückerstattung	
<input type="checkbox"/> Distinguished Name Steuerpflichtiger	
<input type="checkbox"/> Distinguished Name Steuerbehörde	
<input type="checkbox"/> Belege werden gesondert eingereicht	X
<input type="checkbox"/> Digital Signieren	
<input type="checkbox"/> Ergänzende Angaben Zeile 1	
<input type="checkbox"/> Ergänzende Angaben Zeile 2	
<input type="checkbox"/> IP-Adresse 1 der Finanzverwaltung	
<input type="checkbox"/> IP-Adresse 2 der Finanzverwaltung	
<input type="checkbox"/> IP-Adresse 3 der Finanzverwaltung	
<input type="checkbox"/> IP-Adresse 4 der Finanzverwaltung	
<input type="checkbox"/> Digitale Signatur Key Store Entry	
<input type="checkbox"/> Digitale Signatur Key Store View	
<input type="checkbox"/> eMail-Adresse der Kontaktperson	
<input type="checkbox"/> Berufsbezeichnung Kontaktperson	
<input type="checkbox"/> Name der Kontaktperson	
<input type="checkbox"/> Telefonnummer der Kontaktperson	
<input type="checkbox"/> Ort der Kontaktperson	
<input type="checkbox"/> PLZ der Kontaktperson	
<input type="checkbox"/> Straße der Kontaktperson	
<input type="checkbox"/> Elster-Steuernummer des Steuerpflichtigen	
<input type="checkbox"/> Widerruf der Einzugsermächtigung	
<input type="checkbox"/>	
<input type="checkbox"/>	

Figure 9. Define Parameters for Electronic Communication with Authorities.

## 5. TESTING

For testing return type 0001, use the Create Advance Return on Sales/Purchase Tax and Prepare Electronic Tax Return apps. Before you can proceed to this step, you need to make sure that you have a user for outbound communication.

Once your user is set up, log in with your test user. If you are using your own user for outbound communication from 4.2.1, make sure that they have the same minimum authorizations as the SAP\_BR\_GL\_ACCOUNTANT (GL\_Accountant) business role template.

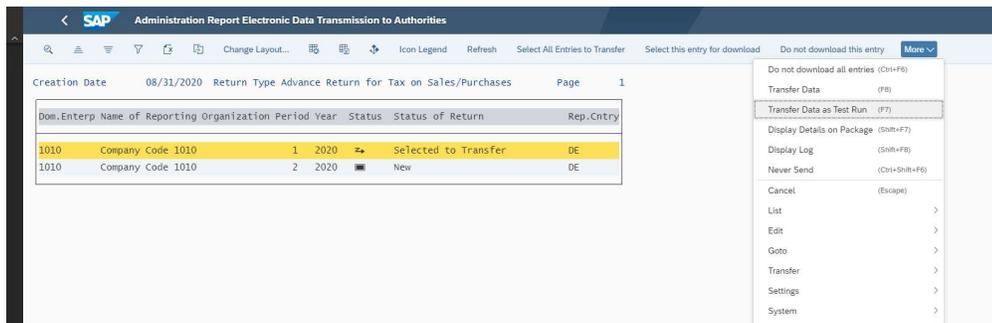
Open the Create Advance Return on Sales/Purchase Tax app and enter the required data. You may use these sample parameters:

- Posting Date: 02/01/2020 – 02/29/2020
- Taxes on sales/purchases group: DE01
- Electronic Advance Return: checked
- Reporting Year: 2020
- Reporting Period: 02

Now open the Prepare Electronic Tax Return app and run the report. You may use these sample parameters:

- Dom.Ent./CoCode: 1010
- Return Type: 0001
- Reporting Country: DE
- Rep. Year: 2020
- Select All Returns: checked

Then select the tax declaration by double-clicking that line item. Select Transfer Data as Test Run and confirm your selection. The Status of Return column now shows the “Test transfer successful” message. |



Figures 10 and 11. Prepare Electronic Tax Return.

## 6. ERROR HANDLING

During testing, always check the back end for errors with the iFlows. In some cases, there may be problems with document validation or with the response from ELSTER. These errors are logged in the back end but are not visible in the front end.

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## 7. EXTERNAL INFORMATION AND LINKS

**[Overview: Cloud Integration - Usage of the ELSTER Adapter](#)**

**[Cloud Integration on CF -- How to Set Up Secure HTTP Inbound Connection with Client Certificates](#)**

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