



## Mexico Electronic Documents: Setting Up SAP Cloud Platform Integration (SAP S/4HANA Cloud) - Cloud Foundry environment

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## 2 Introduction

The communication part of processing electronic documents in Mexico is taken care of by SAP Cloud Platform Integration. In order to get SAP Cloud Platform Integration working, there are some required steps on both your SAP S/4HANA Cloud system and SAP Cloud Platform Integration tenant.

These steps are typically taken care of by an SAP Cloud Platform Integration consulting team, who is responsible for configuring the SAP S/4HANA Cloud - SAP Cloud Platform Integration connection and maintaining the integration content and certificates/credentials on the SAP Cloud Platform Integration tenant.

**Note:** This document describes functionality that is provided by the Integration Package itself, that is, by the artifacts that are deployed in the SAP Cloud Platform Integration tenant. It may happen, however, that in the SAP S/4HANA Cloud tenant the access to such functionality is only partially implemented. Additionally, it may also happen that the tax authority servers do not provide all services that are described in this document. Please refer to SAP S/4HANA Cloud documentation and to the relevant tax authority information, respectively.

## 3 Prerequisites

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

### 3.1 Registration at SAT

Registration at SAT is completed. And the following data is available:

- Certificate used for digital signatures (private key + password).
- Public certificate to verify the SOAP response deployed in the keystore of your SAP Cloud Platform Integration tenant. Obtain the certificate from the SAT.  
For more information, see [http://www.sat.gob.mx/informacion\\_fiscal/factura\\_electronica/Paginas/certificado\\_sello\\_digital.aspx](http://www.sat.gob.mx/informacion_fiscal/factura_electronica/Paginas/certificado_sello_digital.aspx).

Create a keystore using the private key and public key information available. Refer to chapter 6 on how to create a certificate using private and public key information available.

### 3.2 Configuration of Document Compliance for Mexico

For more information, see the documentation for Document Compliance for Mexico on SAP Help Portal at [https://help.sap.com/viewer/product/SAP\\_S4HANA\\_CLOUD](https://help.sap.com/viewer/product/SAP_S4HANA_CLOUD). Select your product version. In the *Product Assistance* section, select a language and then select *Country/Region-Specific Functions -> Mexico -> General Functions -> Document Compliance for Mexico*.

### 3.3 Setup of SAP Cloud Platform Integration

You have performed all initial setup steps described in [Initial Setup of SAP Cloud Platform Integration in Cloud Foundry Environment](#). After completing the tenant provisioning step, you get your own tenant URL.

## 4 Configuration Steps in SAP Cloud Platform Integration

Perform the below steps to set up the iFlows.

## 4.1 Deploy the Customer Certificate and Credentials to SAP Cloud Platform Integration

If your PAC is Edicom, you can use an Edicom-specific iFlow to communicate with Edicom. If your PAC is Pegaso, you can use a Pegaso-specific iFlow to communicate with Pegaso. Before sending an XML file using either of the two iFlows, SAP Cloud Platform Integration signs it using a private/public key pair and client certificate. In these cases where the signing is done by SAP, you need to provide an SSL certificate recognized by the tax authority and a pair of private/public key. This information must be available in the keystore on your SAP Cloud Platform Integration tenant.

This integration package also provides a generic iFlow, which is meant to work with any PAC. If you use this generic iFlow to communicate with your PAC, the PAC does the signing.

Do the following to deploy your credentials and certificate on SAP Cloud Platform Integration:

1. Deploy the certificate (as private key with the alias <RfcEmisor>) in the JAVA\_KEYSTORE.  
See chapter 6 on how to create a single certificate chain containing both private key and public certificate.

Here's an example:

Alias	Type	Owner	Valid Until	Last Modified At	Actions
hhh9504107wa	Key Pair	Tenant Administrator	May 18, 2021, 09:24:56	Feb 13, 2018, 18:06:50	

For Edicom, credentials for the endpoint must be obtained and stored in the tenant under the name <RfcEmisor>\_EDICOM. If you have multiple company codes, you do not need to copy the package for every company code. You just need to maintain the credentials for every <RfcEmisor>.

Here's an example:

Name	Type	Status	Deployed By	Deployed On
HHH9504107WA_EDICOM	Credentials	Deployed	C5158632	Feb 20, 2018, 13:50:42

**Note:** Your <RfcEmisor> may contain special characters that are not supported in credentials names. In this case, you need to replace the special characters with underscores (\_). For example, your <RfcEmisor> is HH&9504107WA\_EDICOM. The character & is invalid. You need to enter HH\_9504107WA\_EDICOM as your credentials name.

For Pegaso, credentials (username and password) for the endpoint must be obtained and stored in the tenant under the name PEGASO\_CREDENTIALS. If you have multiple company codes, you must copy the package for every company code.

Here's an example:

Name	Type	Status	Deployed By	Deployed On
PEGASO_CREDENTIALS	Credentials	Deployed	I323590	Oct 19, 2017, 11:25:37

For other PACs, credentials (username and password) for the endpoint must be obtained and stored in the tenant under the name MX\_GENERIC\_CREDENTIALS. If you have multiple company codes, you must copy the package for every company code.

Here's an example:

Name	Type	Status	Deployed By	Deployed On
MX_GENERIC_CREDENTIALS	Credentials	Stored	I320925	Apr 27, 2020, 13:40:39

2. Deploy the public certificate for STAGING in the TEST tenant's JAVA\_KEYSTORE and the public certificate for PRODUCTION in the PRODUCTION tenant's JAVA\_KEYSTORE.

The details on how to create a jks file are available in chapter 6.

## 4.2 Copy the Integration Package

This package contains the following iFlows:

iFlow Name in WebUI	Project Names/Artifacts Name
Mexico Document Compliance	MexicoeDocument
Mexico Document Compliance Edicom	MexicoeDocument_edicom
Mexico Document Compliance Pegaso	MexicoeDocument_pegaso
Mexico Document Compliance Generic	MexicoeDocument_generic

There are two iFlow deployment options. The option that you should choose depends on your PAC.

### Option 1

If your PAC is Edicom or Pegaso, you can use this deployment option. Deploy the following iFlows on your tenant:

iFlow Name in WebUI	Explanation
Mexico Document Compliance	Whether your PAC is Edicom or Pegaso, you must deploy this iFlow.
Mexico Document Compliance Edicom	If your PAC is Edicom, in addition to the iFlow Mexico Document Compliance, deploy this iFlow as well.
Mexico Document Compliance Pegaso	If your PAC is Pegaso, in addition to the iFlow Mexico Document Compliance, deploy this iFlow as well.

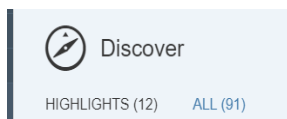
### Option 2

If you choose a PAC other than Edicom or Pegaso use this deployment option. Deploy the following iFlow on your tenant:

iFlow Name in WebUI	Explanation
Mexico Document Compliance Generic	You can find PACs who are SAP partners and can handle requests from this iFlow from <a href="#">SAP App Center</a> . Search with the keyword "SAP Document Compliance".

Do the following to copy the integration package:

1. Log in to your SAP Cloud Platform Integration tenant.
2. From the menu in the upper left corner, choose **Discover**.
3. Go to the tab **ALL**.



4. In the search field, enter **SAP Document Compliance: Electronic Documents for Mexico** and press ENTER.
5. Select the package **SAP Document Compliance: Electronic Documents for Mexico**. In the upper right corner, choose **Copy**.

## 4.3 Deploy Integration Flows

Do the following to deploy an iFlow:

### Configuring iFlows

1. Click on the package **SAP Document Compliance: Electronic Documents for Mexico**.
2. Go to the **Artifacts** tab page.
3. For the iFlow that you want to deploy, choose **Actions -> Configure**.
4. Choose **Save**.

**For Pegaso, follow the instructions below:**

1. Configure the following externalized parameters of the iFlow **Mexico Document Compliance Pegaso**:
  - URL: endpoint URL of the webservice from Pegaso
  - eInvoice\_URL: endpoint URL for getting statuses of eInvoice cancellation requests
  - ePayment\_URL: endpoint URL for getting statuses of ePayment cancellation requests
2. Enter the credential name that is maintained in the keystore.
3. Execute checks and deploy the iFlow in the tenant.
4. Before testing, ensure the handshake certificate from Pegaso is downloaded and deployed in the tenant's keystore. There is no constraint in the alias here. So, download and store it under any name.

**Configurable Parameters:**

Configure "MexicoeDocument\_pegaso"

Receiver More

Receiver: Receiver1

Adapter Type: SOAP

Connection Address: <Pegaso\_Endpoint\_URL>

WS-Security Credential Name: <PEGASO\_CREDENTIALS>

Configure "MexicoeDocument\_pegaso"

Receiver More

Type: All Parameters

loggingEnabled: NO

**For Edicom, follow the instructions below:**

1. Configure the following externalized parameters of the iFlow **Mexico Document Compliance Edicom**:
  - url: endpoint URL from Edicom
  - mode: The default mode is Test. Possible values are Test and Prod. Choose a mode based on the runtime environment. Edicom uses a common url for test and production modes.
2. Execute checks and deploy the iFlow.
3. Before testing, download the handshake certificate from the endpoint which Edicom has provided and store it in the tenant's keystore. There is no dependency on the alias name which you use to store this certificate. You can store it under any name.

**Configurable Parameters:**

Configure "MexicoDocument\_edicom"

Receiver More

Receiver: Receiver

Adapter Type: SOAP

Connection

Address: <Edicom\_endpoint\_URL>

Configure "Mexicoedocument\_edicom"

Receiver More

Type: All Parameters

logging-enabled: NO

mode: Test

For the generic iFlow **Mexico Document Compliance Generic**, follow the instructions below:

1. Configure the following externalized parameters:
  - Sender Address: endpoint URL of the iFlow
  - Receiver Address: endpoint URL from PAC
2. Enter the credential name that is maintained in the keystore.
3. Execute checks and deploy the iFlow in the tenant.

Sender Receiver More

Sender: Sender

Adapter Type: SOAP

Connection

Address: /MexicoGeneric

Sender Receiver More

Receiver: Receiver1

Adapter Type: SOAP

Connection

Address: <PAC\_ENDPOINT\_URL>

Credential Name: PAC\_CREDENTIALS

Sender Receiver **More**

Type: All Parameters

Transaction\_Handling: Not Required

After deploying all the required iFlows, note down the URLs of the endpoints for each service. The endpoints are used in the communication arrangement configurations.

## 5 Configuration Steps in SAP S/4HANA Cloud

### 5.1 Configure a Communication System

Note the following:

- Communication management settings are not transportable and should be explicitly maintained in quality and production systems.
- The S/4HANA Cloud user, who is following the guide, must be assigned to a business role that contains the business catalog SAP\_BCR\_CORE\_COM for accessing communication management apps.

Make settings as follows:

1. Login to your SAP S/4HANA Cloud tenant.
2. Find and launch the app **Communication Systems**.



3. Click **New**. In the pop-up window, enter the ID and description of your communication system. It is recommended to name it like *EDOC\_<name of SAP Cloud Platform Integration tenant>*. For example, *EDOC\_EXAMPLE* for a tenant host name beginning with *example-trn*.

New Communication System

\*System ID: EDOC\_EXAMPLE

\*System Name: EDOC\_EXAMPLE

Create Cancel

4. Click **Create**.
5. On the next page, enter the host name and port of your tenant.



You can find the host name for your SAP Cloud Platform Integration tenant, as follows:

- a. From the menu on the left, choose **Monitor**.
- b. Select **Manage Integration Content (All)**.
- c. Search for the integration flow for the scenario you are configuring.
- d. Find the host name from the **Endpoints** tab.
- e. The composition of an endpoint URL is **https://<host name>/<path>**.

6. Scroll down and press the '+' button next to **User for Outbound Communication**.

Contact Information

Contact Person Name:  Phone Number:

E-Mail:

OAuth 2.0 Identity Provider

Enabled:

User for Inbound Communication +

Authentication Method	User Name
	No data

User for Outbound Communication +

Authentication Method	User Name/Certificate/Client ID
	No data

7. In the new popup window, select the appropriate authentication method to connect to your SAP Cloud Platform Integration tenant.

New Outbound User

\*Authentication Method: User Name and Password ▼

\*User Name: User Name and Password

\*Password:

SSL Client Certificate

OAuth 1.0

OAuth 2.0

None

Cancel

- For the authentication method *User Name and Password*, enter the value of the **clientid** for *User Name*, and the value of **clientsecret** for *Password*. You create these values for your service instance in SAP Cloud Platform Integration. See [Creating Service Instances](#).
- For the authentication method *SSL Client Certificate*, select *X.509 SSL Client Certification* and choose *Create*. You must configure this certificate in SAP Cloud Platform Integration too. For that you create a service instance using the required grant type. You create the service key using the certificate uploaded to SAP S/4HANA Cloud. For more information, see [Defining a Service Key for the Instance in the Cloud Foundry Environment](#).

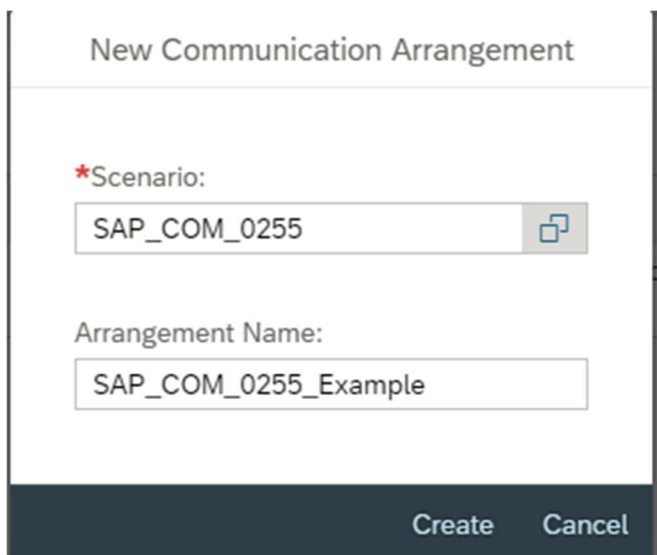
8. Save the changes.

## 5.2 Configure a Communication Arrangement

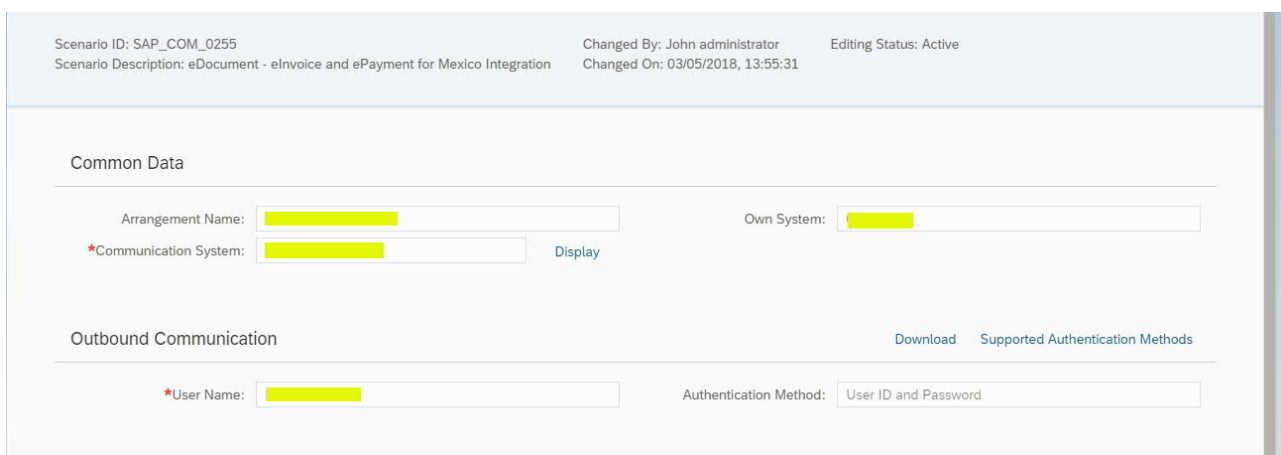
1. Log in to your SAP S/4HANA Cloud tenant.
2. Find and launch the app **Communication Arrangements**.



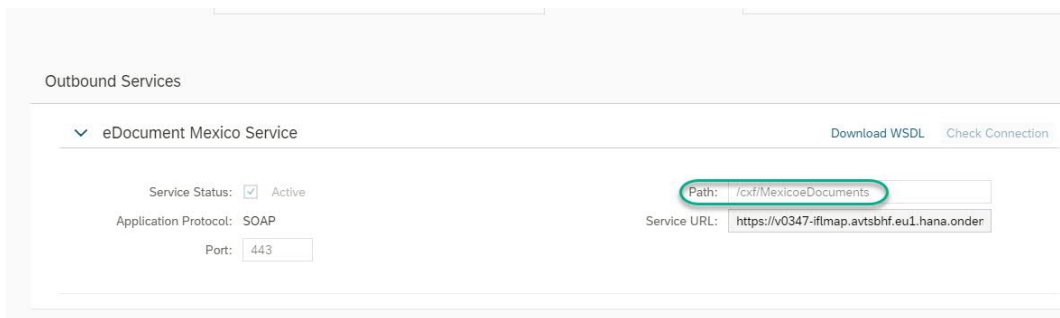
3. Click **New**. In the pop-up window, enter the ID and description of your communication system.
4. In the new popup window, enter the scenario SAP\_COM\_0255 and an arrangement name. It is recommended to choose a name like SAP\_COM\_0255\_<name of SAP Cloud Platform Integration tenant>. For example, SAP\_COM\_0225\_EXAMPLE for a tenant host name beginning with example-tmn.

A dialog box titled "New Communication Arrangement". It has two input fields: "Scenario:" with the value "SAP\_COM\_0255" and a copy icon to its right; and "Arrangement Name:" with the value "SAP\_COM\_0255\_Example". At the bottom, there are two buttons: "Create" and "Cancel".

5. Click **Create**.
6. In the new window, choose the communication system created in the previous step.

A configuration page for a communication arrangement. At the top, it shows metadata: "Scenario ID: SAP\_COM\_0255", "Scenario Description: eDocument - eInvoice and ePayment for Mexico Integration", "Changed By: John administrator", "Changed On: 03/05/2018, 13:55:31", and "Editing Status: Active". Below this is a "Common Data" section with fields for "Arrangement Name", "Own System", and "\*Communication System" (with a "Display" button). The "Outbound Communication" section has fields for "\*User Name" and "Authentication Method" (set to "User ID and Password"). There are "Download" and "Supported Authentication Methods" links in the top right of the Outbound Communication section.

7. Scroll down and enter the path part for your integration flow URL for all outbound services.



8. Save the changes.

## 6 Appendix

### 6.1 Generate and Import Certificates

#### 6.1.1 Prerequisites

- Install OPENSLL in your system (<http://slproweb.com/products/Win32OpenSSL.html>).
- You can also download Keystore Explorer for creating the keystore. (<http://keystore-explorer.sourceforge.net/downloads.php>)

#### 6.1.2 Generate PKCS#12 File from the Certificate and Key File

After the successful installation of openssl for Windows, follow the steps below to generate the keystore file that you can import into SAP Cloud Platform Integration:

1. Open command prompt in the folder where openssl is installed.
2. Convert the key file to pkcs8 format.  

```
openssl pkcs8 -inform DER -in aaa010101aaa_CSD_01.key -passin pass:a0123456789 -outform PEM -out CSD_01.key.pem -passout pass:a0123456789
```
3. Convert the certificate to pkcs8 format. `openssl x509 -inform DER -in aaa010101aaa_CSD_01.cer -outform PEM -out CSD_01.cer.pem.`
4. Append the certificate and key file to one file. `copy CSD_01.key.pem+CSD_01.cer.pem CSD_01_chain.pem.`
5. Convert pem file to pkcs12.  

```
openssl pkcs12 -in CSD_01_chain.pem -passin pass:a0123456789 -export -out CSD_01.p12 -name SAT -passout pass:a0123456789
```

In the Keystore Explorer, make the following settings:

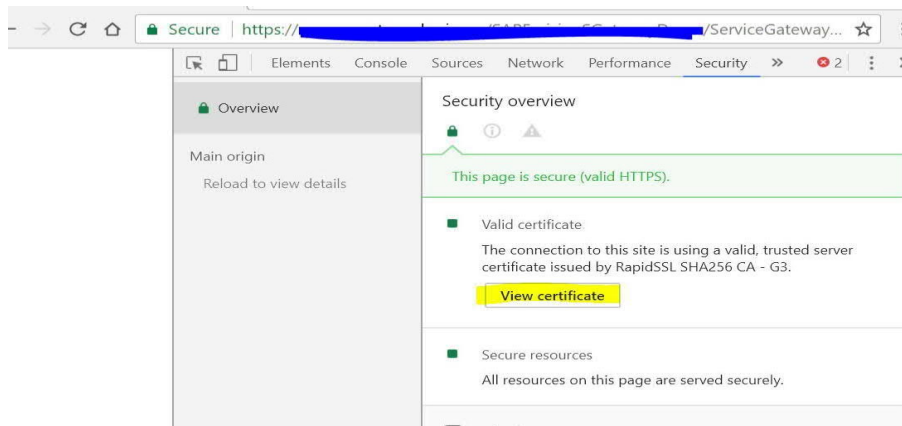
1. Click on *Create a New Keystore*, select the type of new Keystore as JKS.
2. Choose *Tools->Import Key Pair* and select the pkcs12 file created.
3. Enter a password and click on *Save*.
4. The created JKS file can be imported into SAP Cloud Platform Integration Keystore under a specific alias.

The same *alias* should be used as *external parameter* while deploying the iFlow.

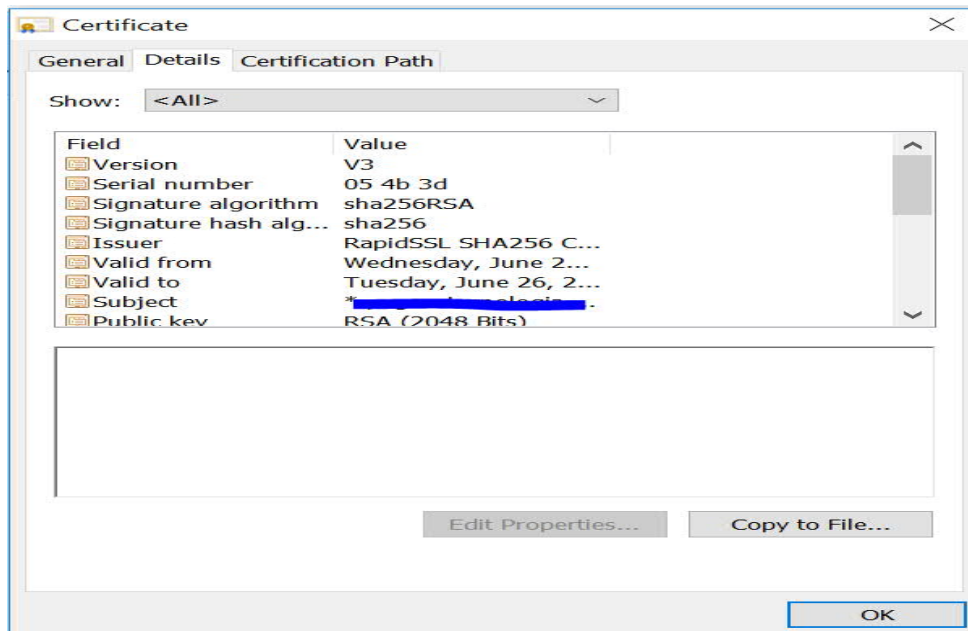
#### 6.1.3 Import the Handshake Certificate

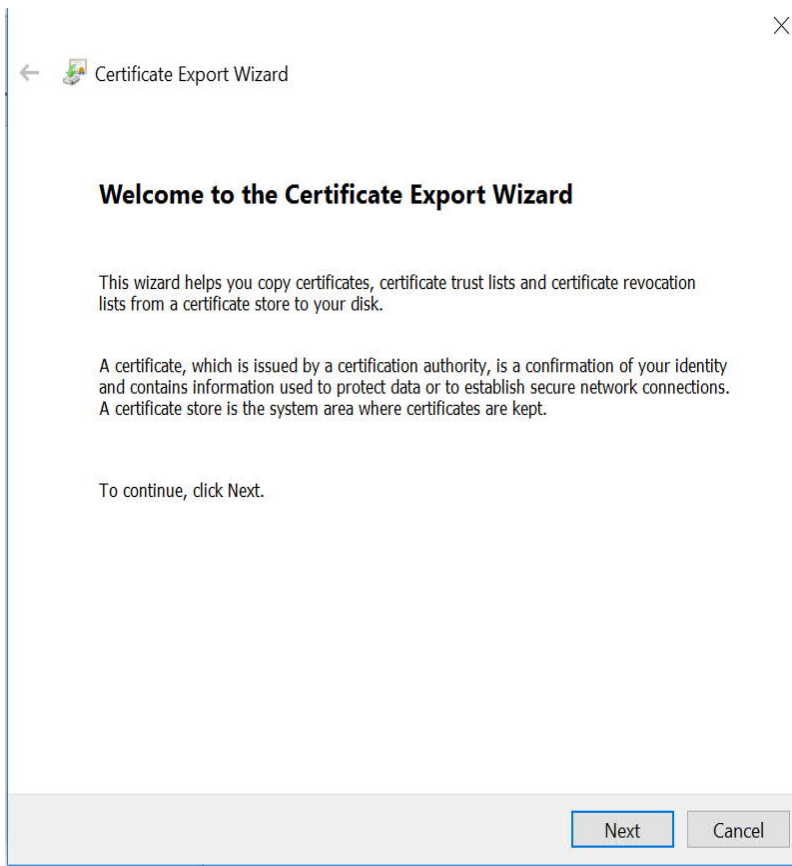
Irrespective of whether the signing happens in SAP Cloud Platform Integration or not, you must download the handshake certificate from the endpoint that is used to connect to the PAC.

1. Enter the URL into the browser and press F12.



2. Click on *View certificate* -> *Copy to file*, choose *Next* and select options as below until you reach *Finish*. You can import this certificate into a keystore and load it to the SAP Cloud Platform Integration tenant keystore.



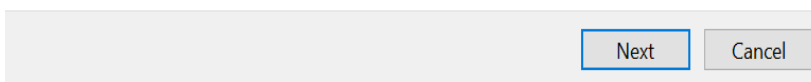


### Export File Format

Certificates can be exported in a variety of file formats.

Select the format you want to use:

- DER encoded binary X.509 (.CER)
- Base-64 encoded X.509 (.CER)
- Cryptographic Message Syntax Standard - PKCS #7 Certificates (.P7B)
  - Include all certificates in the certification path if possible
- Personal Information Exchange - PKCS #12 (.PFX)
  - Include all certificates in the certification path if possible
  - Delete the private key if the export is successful
  - Export all extended properties
  - Enable certificate privacy
- Microsoft Serialized Certificate Store (.SST)



**File to Export**

Specify the name of the file you want to export

File name:

C:\Users\j323590\Desktop\XXX\cer

Browse...

Next

Cancel

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