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Spain Electronic Invoicing: Setting Up SAP Cloud Platform Integration (SAP ERP, SAP S/4HANA) - Cloud Foundry

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2 Introduction

You use SAP Cloud Platform Integration to establish the communication with external systems and transfer to them the electronic documents you have created using the SAP Document Compliance. This document lists the required setup steps you perform in the SAP ERP or SAP S/4HANA system* and the SAP Cloud Platform Integration tenant so that the integration between the systems works.

The setup steps are typically done by an SAP Cloud Platform Integration consulting team, which is responsible for configuring the SAP back-end systems and the connection with SAP Cloud Platform Integration. This team may be also responsible for maintaining the integration content and certificates/credentials on the SAP Cloud Platform Integration tenant.

i 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 back-end systems 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 the relevant SAP back-end systems documentation and to the relevant tax authority information, respectively.

For the sake of simplicity in this guide, we mention SAP back-end systems when something refers to both SAP ERP or SAP S/4HANA.

3 Prerequisites

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

1. You have installed in the test and productive systems all necessary SAP Notes for the eDocument Solution.
2. You have performed all initial setup steps described in [Initial Setup of SAP Cloud Platform Integration in Cloud Foundry Environment](#) . After completing the Provisioning the Tenant step, you have created your own tenant URL. This is the URL needed to complete the steps described in the Configuration Steps section of this guide.

3.1 Installation of SAP Document Compliance Solution for Spain Electronic Invoicing

You must install and configure the SAP Document Compliance solution for Spain Electronic Invoicing of Public Entities in your test and productive systems. If you did not install the latest support package for your system, see the SAP Note [2070409](#) (for SAP ERP) or SAP Note [2735302](#) (for SAP S/4HANA) for the list of SAP Notes to be installed. For generic information about the installation of the eDocument Framework, refer to the SAP Note [2134248](#) (for SAP ERP) or SAP Note [2343822](#) (for SAP S/4HANA) for the installation guide of SAP Notes.

Application Help for eDocument

For more information about features and country availability of each solution, see the application help in the product page for eDocuments. https://help.sap.com/viewer/p/SAP_E_DOCUMENT. To find the latest published documentation for eDocument for your country, follow the steps below:

1. Choose from *Version* the release you are interested in.
2. To get to the documentation for a given country, under *Application Help* choose *View All* and select your country.

3.2 Registration at FACe

You must complete the registration at the General Point of Entry of Electronic Invoices of the General State Administration (FACe) and the following data must be available:

- Certificate used for digital signature (private key and password)

- Public certificate to verify the SOAP response deployed on SAP Cloud Platform Integration tenant's keystore. Follow the steps below to generate the public certificate:
 1. Download the appropriate certificate from the FACe Portal.
At the time of publishing this document, the relevant link is <http://administracionelectronica.gob.es/ctt/face/descargas#.VOsMYvmG-4I> ➔

2. Search for the certificate NUEVO Certificado para WS as shown in the example below:

FACe - Punto General de Entrada de Facturas Electrónicas de la AGE



General Info. Adicional **Área Descargas** Indicadores

NOTA : Está accediendo al contenido **público** del área de Descargas de esta solución. Acceda a través de la **red SARA** con un **usuario registrado de las Administraciones Públicas** y podrá encontrar aquí disponibles más contenidos específicos para las Administraciones Públicas.

Expandir

Presentación de FACe

Instrumento jurídico para el consumo del servicio

Legislación Asociada

Kit de bienvenida

Documentación para usuarios - Organismos

Documentación para usuarios - Proveedores

Documentación para integradores

NUEVO Certificado para WS - PRUEBAS

Se publica el nuevo certificado para el entorno de Pruebas con el que FACe firmará las respuestas SOAP. Dicho certificado entrará en vigor el 18 de Enero de 2019 y estará vigente hasta Diciembre de 2021

↓ [SELLO ENTIDAD SGAD PRUEBAS crt \(3 KB · TXT\)](#)

Fecha de modificación: 14/01/2019

NUEVO Certificado para WS - PRODUCCIÓN

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↓ [SELLO DE ENTIDAD SGAD crt \(2 KB · TXT\)](#)

Fecha de modificación: 14/01/2019

i Note

The screenshot is from June, 2020. SAP cannot guarantee that the layout of the page and the name of the certificate remain constant. SAP is not responsible for the content of external web pages.

3. Copy the content of the certificate into a text file and save it with **.cer** extension.



i Note

The screenshot is from June, 2020. SAP cannot guarantee that the layout of the page and the name of the certificate remain constant. SAP is not responsible for the content of external web pages.

- Public certificate “*.redsara.es” to communicate with FACE.
These certificates can be obtained from the respective contacts from FACE.



4 Connectivity Steps

4.1 Setup of Secure Connection

You establish a trustworthy SSL connection to set up a connection between the SAP back-end systems and the SAP Cloud Platform Integration. For more information, refer to the documentation of the [SAP Cloud Platform Integration](#).

You use SAP ERP Trust Manager (transaction `STRUST`) to manage the certificates required for a trustworthy SSL connection. The certificates include public certificates to support outbound connections, as well as trusted certificate authority (CA) certificates to support iFlow authentication.

Refer to the system documentation for more information regarding the certificate deployment to SAP back-end systems. In case of issues, refer to the following SAP notes:

- [2368112](#)  Outgoing HTTPS connection does not work in AS ABAP
- [510007](#)  Setting up SSL on Application Server ABAP

For more information, refer to [Operations guide for SAP Cloud Platform Integration](#)

i Note

If you encounter any issues in the information provided in the SAP Cloud Platform Integration product page, open a customer incident against the `LOD-HCI-PI-OPS` component.

Client Certificate

If you are using a client certificate, this must be signed by one of the root certificates supported by the load balancer. A self-signed certificate is not suitable. For more information see [Load Balancer Root Certificates Supported by SAP](#).

For information about creating your own certificate and get it signed by a trusted certificate authority (CA), see [Authenticate iFlow \[page 11\]](#).

4.1.1 Retrieve and Save Public Certificates

Context

Find and save the public certificates from your SAP Cloud Platform Integration runtime.

Procedure

1. Access the SAP Cloud Platform cockpit, and navigate to your subaccount (tenant) page.
2. Click the subscriptions link to display the subscriptions for your subaccount.
3. Use the tenant URL you created as defined in the prerequisites of this document. The URL has the following format: <https://<tenant>.cfapps.<data center>.hana.ondemand.com>, where <tenant> corresponds to the dynamic part and is unique for each subaccount and <data center> corresponds to the data center you are using.
4. In the *Operations* view, choose *Manage Integration Content* and select *All* to display the integration flows (iFlows) available.
5. Select an iFlow to display its details.
6. Copy the URL listed within the *Endpoints* tab, and paste the URL into your web browser.
7. When prompted by the *Website Identification* window, choose *View certificate*.
8. Select the root certificate, and then choose *Export to file* to save the certificate locally.
9. Repeat these steps for each unique root, intermediate and leaf certificate, and repeat for both your test and production tenants.

4.1.2 Upload the Certificates

Store the public certificates used for your productive and test tenants.

Context

You use the SAP ERP Trust Manager (transaction `STRUST`) to store and manage the certificates required to support connectivity between SAP back-end systems and SAP Cloud Platform Integration.

Procedure

1. Access transaction `STRUST`.
2. Navigate to the PSE for **SSL Client (Anonymous)** and open it by double-clicking the PSE.
3. Switch to edit mode.
4. Choose the *Import certificate* button.
5. In the *Import Certificate* dialog box, enter or select the path to the required certificates and choose *Enter*. The certificates are displayed in the *Certificate* area.
6. Choose *Add to Certificate List* to add the certificates to the *Certificate List*.
7. Save your entries.

4.1.3 Authenticate iFlow

Create an own certificate and get it signed by a trusted certificate authority (CA) to support iFlow authentication.

Context

You use the SAP ERP Trust Manager (transaction `STRUST`) for this purpose.

This process is required only if you use certificate-based authentication (that is, you choose the **x.509 SSL Client Certification** option in your settings for SOAMANAGER).

Procedure

1. Access transaction `STRUST`.
2. Create your own PSE (for example, Client SSL Standard) and then generate a certificate sign request.
3. Export the certificate sign request as a `*.csr` file.
4. Arrange for the certificate to be signed by a trusted certificate authority (CA).

If you are using a client certificate, this must be signed by one of the root certificates supported by the load balancer. A self-signed certificate is not suitable. For more information, see [Load Balancer Root Certificates Supported by SAP](#).

The CA may have specific requirements and request company-specific data, they may also require time to analyze your company before issuing a signed certificate. When signed, the CA provides the certificate for import.

5. Navigate to the PSE for **SSL Client Standard** and open it by double-clicking the PSE.
6. Switch to edit mode.
7. Choose the *Import certificate* button.

8. In the *Import Certificate* dialog box, enter or select the path to the CA-signed certificate and choose *Enter*.
The certificate is displayed in the *Certificate* area.

9. Choose *Add to Certificate List* to add the signed certificate to the *Certificate List*.

Ensure that you import the CA root and intermediate certificates to complete the import.

10. Save your entries.

The certificates can now be used in the SOA Manager (transaction `SOAMANAGER`).

5 Configuration Steps in SAP Cloud Platform Integration

The following sections tell you the necessary configuration you do in SAP Cloud Platform Integration.

5.1 General Information

The package **SAP Document Compliance: Electronic Invoicing of Public Entities for Spain** contains the following iFlows:

iFlows for Spain Electronic Invoicing

| iFlow Name in WebUI | Project Name/Artifact Name |
|-----------------------|---------------------------------|
| <i>Send Invoice</i> | com.sap.GS.Spain.SendInvoice |
| <i>Get Status</i> | com.sap.GS.Spain.GetStatus |
| <i>Cancel Invoice</i> | com.sap.GS.Spain.CancellInvoice |

5.2 Deploy Certificates and Credentials

You deploy the certificates and the credentials to the SAP Cloud Platform Integration tenants.

1. Deploy the certificate (as private key with alias) in the tenants JAVA_KEYSTORE.
To allow the iFlows to be updated with minimal adaptation effort, use the following alias for the private key:
Private key alias: **spainsignaturekey**

i Note

If you deploy the private key with another alias, you must configure the alias name in the iFlow parameters. For information about how to configure the alias name, see [Configure and Deploy Integration Flows \[page 15\]](#).

2. Deploy the public certificate that you generated in the [Registration at FAcE \[page 5\]](#) section into the tenants JAVA_KEYSTORE. Deploy the public certificate for staging in the TEST tenants JAVA_KEYSTORE and the public certificate for production in the PRODUCTION tenants JAVA_KEYSTORE.

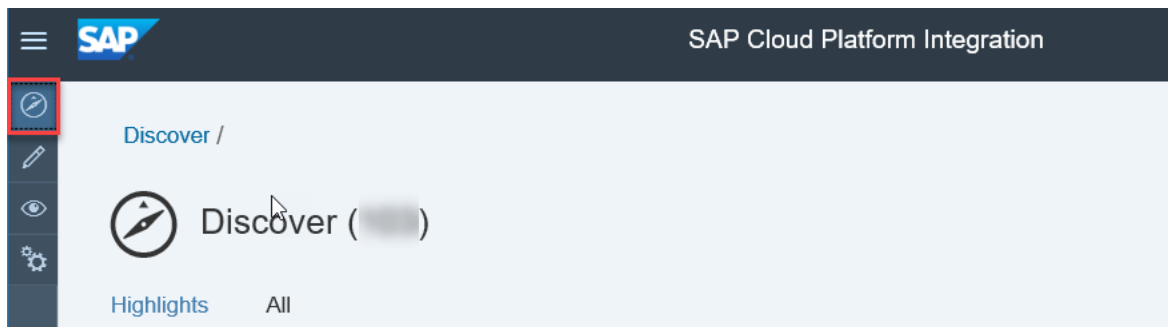
5.3 Copy Published Package

Context

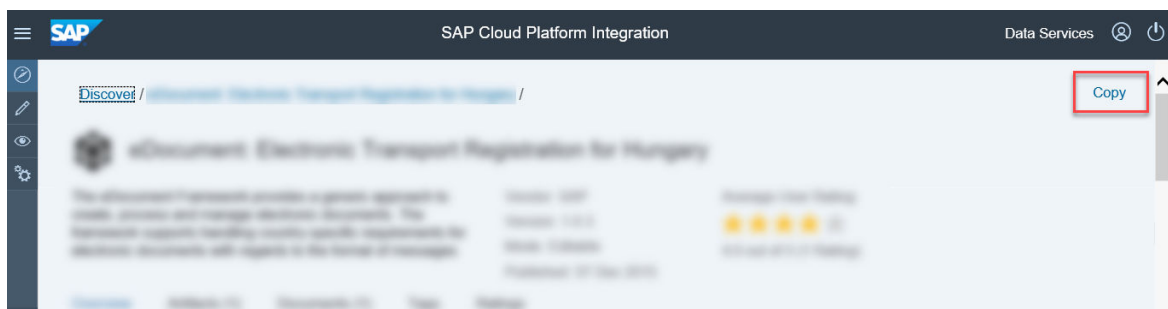
Copy all iFlows in the package *SAP Document Compliance: Electronic Invoicing of Public Entities for Spain* to the target tenant as follows:

Procedure

1. In your browser, go to the WebUI of the tenant (URL: <Tenant URL>/itspaces/#shell/catalog).
2. In the *Discover* section of your tenant, select the package **SAP Document Compliance: Electronic Invoicing of Public Entities for Spain**.



3. Select the package and choose *Copy*.



5.4 Configure and Deploy Integration Flows

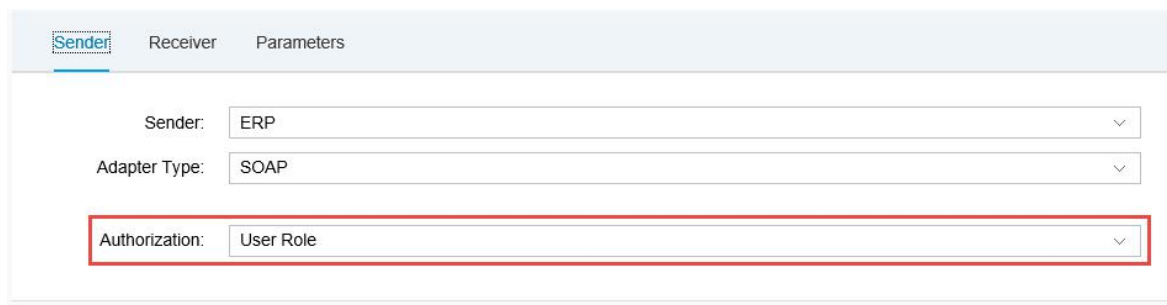
Context

You configure the package that you have copied as described in [Copy Published Package \[page 14\]](#). For each iFlow, you must maintain several parameters as described below.

Procedure



1. Choose *Design* from the upper left corner of the page.
2. Click on the *SAP Document Compliance: Electronic Invoicing of Public Entities for Spain* package.
3. Go to the *Artifacts* tab page.
4. Choose **► Actions ► Configure ▾** for the artifact you are configuring.
5. Choose the *Sender* tab and make settings as follows:
 - *Authorization* field: Select **User Role** or **Client Certificate**
 - *Client Certificate* only: Upload your client certificates. *Subject DN* and *Issuer DN* are filled from the certificate information.

See the following example:



The screenshot shows the configuration interface for the Sender tab. It includes three tabs: 'Sender', 'Receiver', and 'Parameters'. The 'Sender' tab is active. Below the tabs, there are three dropdown menus: 'Sender' set to 'ERP', 'Adapter Type' set to 'SOAP', and 'Authorization' set to 'User Role'. The 'Authorization' dropdown is highlighted with a red border.

6. Choose the *Receiver* tab and make settings as follows:
 - Maintain the receiver URL in the *Address* field:

| Environment | URL |
|-------------|---|
| TEST | https://se-face-webservice.redsara.es/facturasspp  |
| PRODUCTION | https://webservice.face.gob.es/facturasspp  |

- *Private Key Alias for Signing* field: The default alias for the private key is **spainsignaturekey**. If you deployed the private key with a different alias, definit it here.

See the following example:

The screenshot shows the configuration interface for an iFlow. The 'Receiver' tab is selected, and the 'Parameters' section is visible. The settings are as follows:

- Receiver: FACE
- Adapter Type: SOAP
- CONNECTION: Address: https://example.com/sspp
- WS-SECURITY: WS-Security Configuration: Via Manual Configuration in Channel; WS-Security Type: Sign Message
- Private Key Alias for...: spainsignaturekey

7. Choose the *Parameters* tab and make settings as follows:

Note

The iFlows *Get Status* and *Cancel Invoice* do not have the *Parameters* tab page. You make the settings in this step only for the *Send Invoice* iFlow.

- *Correo* field: Enter the e-mail ID for all communications with FACE.
- The *Send Invoice* iFlow supports both the 3.2 and 3.2.2 version of the XML file, depending on which version you use, enter data in the fields below as follows:

| Field | Value for 3.2 Version | Value for 3.2.2 Version |
|--------------------------|---|---|
| <i>responseNamespace</i> | http://www.sap.com/eDocument/Spain/SendInvoice/v1.1 | http://www.sap.com/eDocument/Spain/SendInvoice/v1.2 |
| <i>Signing_Namespace</i> | http://www.facturae.es/Facturae/2009/v3.2/Facturae | http://www.facturae.gob.es/formato/Versiones/Facturaev3_2_2.xml |

8. Choose *Save* and *Deploy* to deploy it actively to server. Note down the URLs of the endpoints for each service. Provide the endpoint URLs for FACE in the externalized parameters of the iFlows for the test and productive tenants.

6 Configuration Steps in Back-End Systems

The following section tell you the necessary configuration you do in SAP back-end systems to connect with SAP Cloud Platform Integration.

6.1 Create Logical Ports in SOAMANAGER

Required step for configuring the Integration Package for eDocument and SAP Cloud Platform Integration.

Context

You configure proxies which are needed to connect to the SAP Cloud Platform Integration tenant via logical ports. In test SAP back-end systems, the logical ports are configured to connect to the test tenant. In productive SAP back-end systems, the logical ports are configured to connect to the productive SAP Cloud Platform Integration tenant.

i Note

Depending on your release, the look-and-feel of the screens in your system may differ from the screenshots displayed below.

Procedure

1. In your SAP back-end system, go to the SOAMANAGER transaction and search for [Web Service Configuration](#) .

Service Administration | Technical Administration | Logs and Traces | Management Connections | Services

Identifiable Business Context
Define Identifiable Business Contexts (IBCs)

Identifiable Business Context Reference
Define Identifiable Business Context references (IBC reference)

Design Time Cache
Display central design time cache

Web Service Configuration
Configure service definitions, consumer proxies and service groups

Simplified Web Service Configuration
Configure service definitions for Web service consumers with limited capabilities

Logon Data Management
Define logon data used by business scenario configuration

Pending Tasks
Process pending tasks generated by business scenario configuration

Local Integration Scenario Configuration
Configure multiple service definitions and service groups supporting change management

Logical Determination of Receiver using ServiceGroups
Define rules for determining receiver IBC reference during service group runtime

Logical Determination of Receiver, Sender, and Authentication using Consumer Factories
Define rules for determining receiver IBC, sender IBC reference and authentication method during consumer factory runtime

Web Service Isolation
Tool to isolate service definitions and consumer proxies

- Find the proxies for Spain electronic invoicing with search term CO_EDO_ES_*V1_1.

Search criteria

Object Type is All

Object Name contains

Maximum Number of Results: 100

Search Clear values Reset search criteria

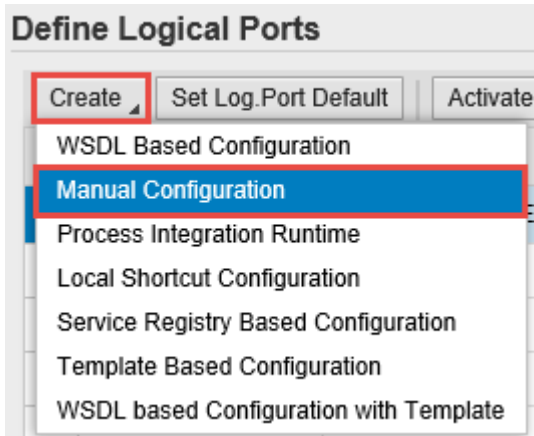
Enter the search term here

The following table lists the proxies and the logical port name, description and path for each proxy.

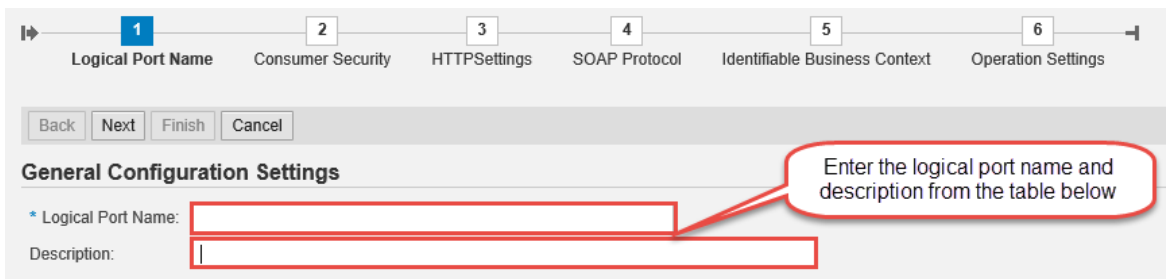
List of Proxies, Logical Port Names, and Paths

| Proxy Name | Logical Port Name | Description | Path |
|--------------------------------|-----------------------------------|--|-------------------------|
| CO_EDO_ES_SEND_IN-VOICE_V1_1 | EDO_ES_IN-VOICE_TRANSMI_SERV_PORT | Spain eDocument – Send Invoice Service | /cxf/SpainSendInvoice |
| CO_EDO_ES_GET_STATUS_V1_1 | EDO_ES_GET_STATUS_SERV_PORT | Spain eDocument – Get Status Service | /cxf/SpainGetStatus |
| CO_EDO_ES_CANCEL_IN-VOICE_V1_1 | EDO_ES_CANCEL_IN-VOICE_SERV_PORT | Spain eDocument – Cancel Invoice Service | /cxf/SpainCancelInvoice |

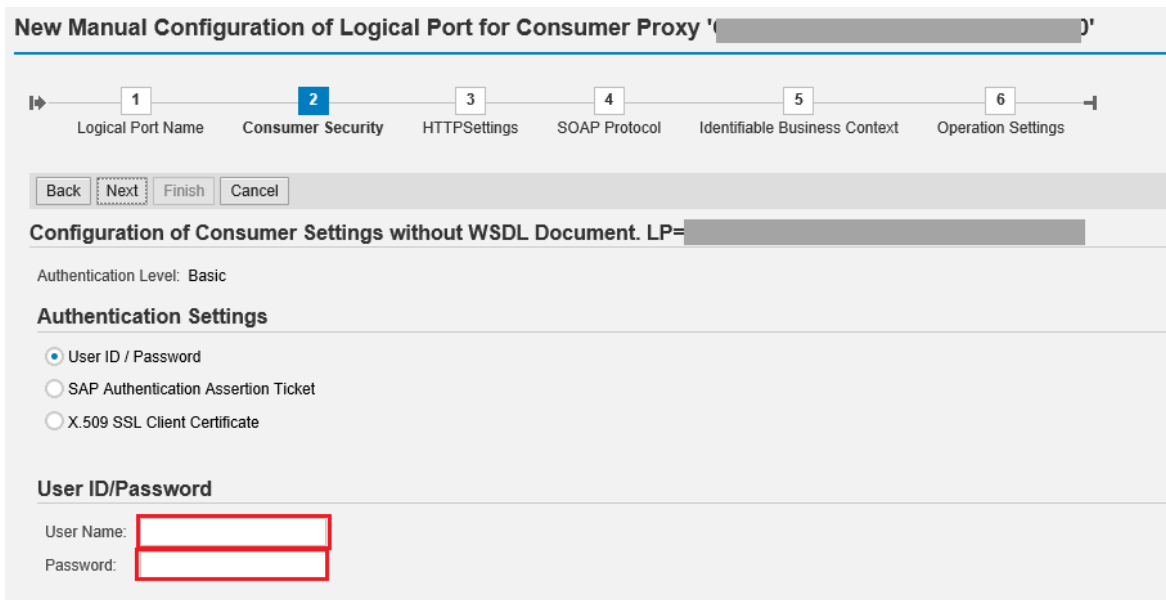
- In the *Result List*, select a proxy and create a logical port for each proxy. Choose **Create** **Manual Configuration**.



4. Enter the logical port name and a description.



5. The configuration you do in the *Consumer Security* tab in the *Configuration* screen depends on the security being used in the communication between the back-end system and SAP Cloud Platform Integration.



- If you use the basic authentication for *User Name*, enter the value for the **clientid** and for *Password*, enter the value for **clientsecret**. You have created these values for your service instance in SAP Cloud Platform Integration. See [Creating Service Instances](#).

1 Logical Port Name 2 **Consumer Security** 3 HTTPSettings 4 SOAP Protocol 5 Identifiable Business Context 6 Operation Settings

Back Next Finish Cancel

Configuration of Consumer Settings without WSDL Document.

Authentication Level: Basic

Authentication Settings

User ID / Password
 SAP Authentication Assertion Ticket
 X.509 SSL Client Certificate

X.509 SSL Client PSE

SSL Client PSE of transaction STRUST:

Enter the name of the PSE created in STRUST

- If you use certificate-based authentication, select *X.509 SSL Client Certification* and choose the certificate you have uploaded to STRUST. 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 the STRUST. For more information, see [Defining a Service Key for the Instance in the Cloud Foundry Environment](#)

6. On the *HTTP Settings* tab, make the following entries:

1 Logical Port Name 2 Consumer Security 3 **HTTPSettings** 4 SOAP Protocol 5 Identifiable Business Context 6 Operation Settings

Back Next **Finish** Cancel

URL Access Path

URL **URL components**

* Protocol: **HTTPS**

* Host:

Port: **443**

* Path:

Logon Language: **Language of User Context**

Proxy

Name of Proxy Host:

Port Number of Proxy Host:

User Name for Proxy Access:

Password of Proxy User:

Transport Binding

Make Local Call: **No Call in Local System**

* Transport Binding Type: **SOAP 1.1**

Maximum Wait for WS Consumer:

Optimized XML Transfer: **None**

Compress HTTP Message: **Inactive**

Compress Response: **True**

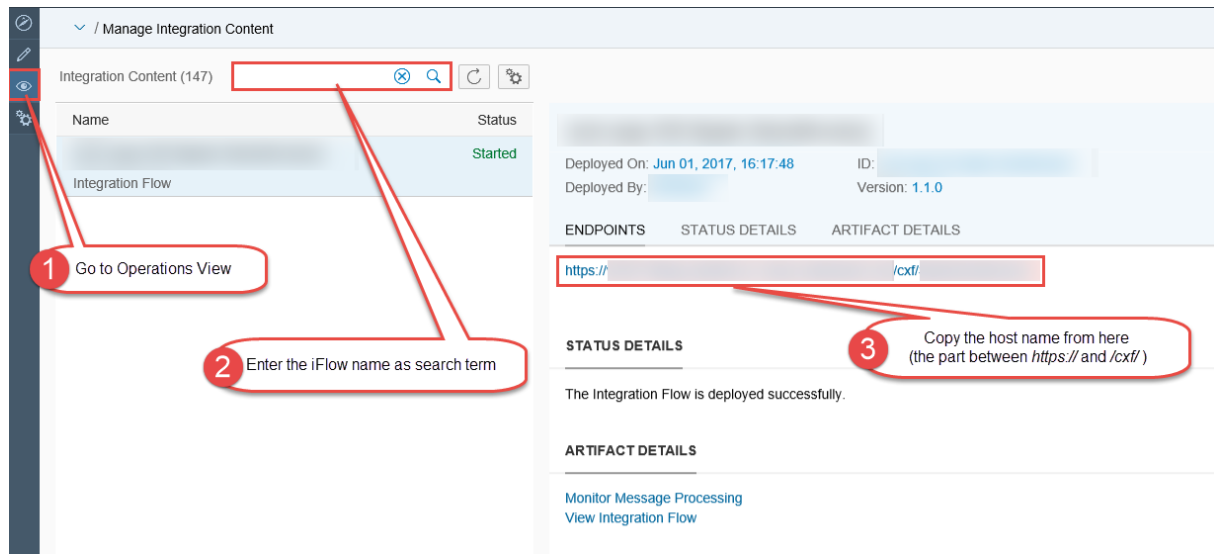
Look up the host in Cloud Platform Integration Web UI

For each logical port, enter the path from the table above

Enter the proxy settings of your company's network

Port 443 is the standard port for the HTTPS protocol.

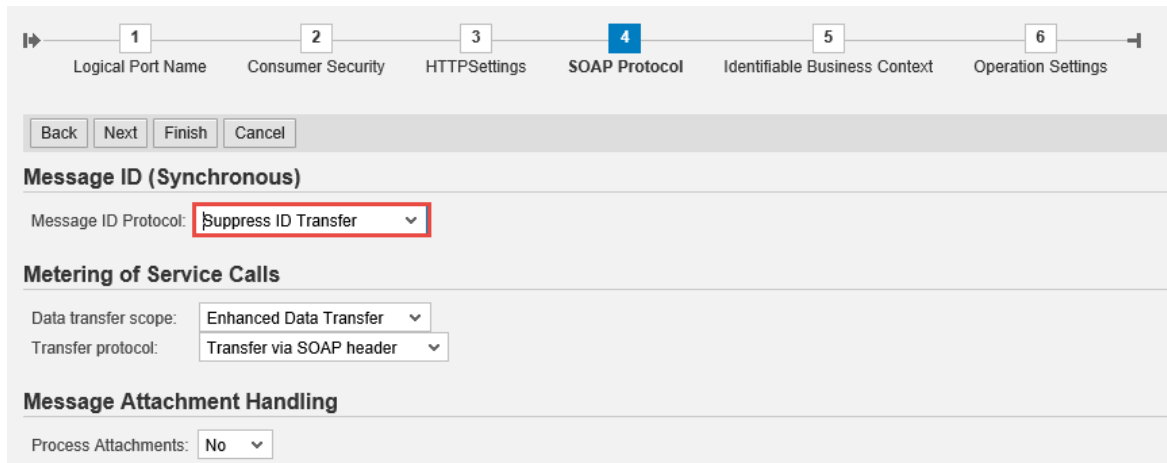
To find the Host, go to SAP Cloud Platform Integration Web UI and under Managed Integration Content, go to **Monitor** > **All** . Use the search to find your integration flow as in the screenshot below:



i Note

The entries for the proxy fields depend on your company's network settings. The proxy server is needed to enable the connection to the internet through the firewall.

7. On the *SOAP Protocol* tab, set *Message ID Protocol* to *Suppress ID Transfer*.



8. No settings are required in the *Identifiable Business Context* and *Operation Settings* tabs. Just select **Next** > **Finish** .

SAP Cloud Platform Integration does not support WebService Pin for testing your configuration.

You can set up a HTTP connection in the `SM59` transaction. Maintain a host and a port of SAP Cloud Platform Integration service and execute a connection test. In case of a successful connection, you receive an error with HTTP return code 500.

9. Remember to create logical ports for each proxy and to execute the following steps in the SAP back-end systems. For more information, see SAP Note [2095919](#) .

- Define the SOA service names and assign the logical ports to the combination of a SOA service name and a company code in `EDOSOASERV` view.
- Assign the SOA service names you created before to an interface ID in the `EDOINTV` view.

7 Testing the Integration

Describes the steps to test the integration of SAP Document Compliance (eDocument) with the integration scenario from SAP Cloud Platform Integration.

Context

The best way to test if the integration works is to create and submit an eDocument from SAP backend system and see if that reaches the destination system, typically the tax authority's system.

Procedure



1. In the back-end system, go to the *eDocument Cockpit* (EDOC_COCKPIT) transaction, in the relevant process.
2. Select an eDocument and check the status of the eDocument in the Cockpit and perform the following actions, accordingly:
 - If the status of the eDocument is *Created*, the eDocument was created but not submitted yet. In this case, select it and choose *Submit*. This action triggers the creation of the XML and the subsequent communication with SAP Cloud Platform Integration.
 - If the status is green or yellow, but not *Created*, the communication with SAP Cloud Platform Integration was triggered and was probably successful. You can double-check if the message went through on the SAP Cloud Platform tenant. Alternatively, you can use a trace from the *SRT_UTIL* transaction to look at the XMLs transmitted via web services from the SAP back-end systems.
 - If the status is red, an error happened during the submission of the eDocument. Select the *Interface Field* to be directed to the Application Interface Platform (AIF) where you can check the log. Any communication errors are displayed there.

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