Integration Guide | PUBLIC
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Portugal Transport Registration: Setting Up SAP Integration Suite (SAP S/4HANA) - Cloud Foundry

THE BEST RUN SAP

Content

1 Introduction

You use SAP Integration Suite to establish the communication with external systems with whom you want to exchange electronic documents created with SAP Document and Reporting Compliance. This document lists the required setup steps you perform in the SAP ERP or SAP S/4HANA system* and the SAP Integration Suite tenant so that the integration between the systems works.

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

> **i Note**
>
> Although the service name **SAP Integration Suite** is used in the guide title and throughout the guide, this guide **also applies to SAP Cloud Integration running in the Cloud Foundry environment**. If you were onboarded before July 2020, the service you use is SAP Cloud Integration. The initial setup steps for the two services are different, while the integration flow settings and configuration steps in your back-end system are the same. See the **Prerequisites** section for their respective initial setup steps.

> **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 Integration Suite 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.

2 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 Document and Reporting Compliance Solution.
2. You have set up your tenant as follows:
   - If you have subscribed to Process Integration, perform all the initial setup steps described in Initial Setup of SAP Cloud Integration in Cloud Foundry Environment.
   - If you have subscribed to Integration Suite, perform all the initial setup steps described in Initial Setup.

> **i Note**
>
> SAP Document and Reporting Compliance requires the **Cloud Integration capability**. You need to activate this capability in the step **Provisioning the Capabilities**.

3 Connectivity Steps

3.1 Setup of Secure Connection

You establish a trustworthy SSL connection to set up a connection between the SAP back-end systems and the SAP Integration Suite. For more information, see Connecting a Customer System to Cloud Integration.

Inbound HTTP connections are not required for Portugal. Outbound HTTP connections are required, and are supported with specific, public certificates.

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 integration flow 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, see Operating and Monitoring Cloud Integration.

> **i Note**
>
> If you encounter any issues in the information provided in the SAP Integration Suite 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 Integration Flows [page 7].

3.1.1 Retrieve and Save Public Certificates

Context

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

Procedure

1. Access the SAP BTP 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 available.
5. Select an integration flow 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.

3.1.2 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 Integration Suite.

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.

3.1.3 Authenticate Integration Flows

Create an own certificate and get it signed by a trusted certificate authority (CA) to support integration flow 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 certicate. 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`).

3.2 Set Up SAP Integration Suite Tenants

SAP Integration Suite test and production tenants are live and users in the tenants have the rights to copy the integration package and to configure and deploy the integration flows.

To be able to deploy the security content you must be assigned the `AuthGroup.Administrator` role.

If you are a first-time user, you must first set up your users (members) and their authorizations in the SAP BTP cockpit.

4 Configuration Steps in SAP Integration Suite

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

4.1 General Information

The package **SAP Document and Reporting Compliance: Transport Registration for Portugal** contains the following integration flow:

Integration Flow for Document and Reporting Compliance for Portugal

Integration Flow Name in WebUI	Project Name/Artifact Name
Manage Transport Registration	com.sap.GS.Portugal.ManageTransportRegistration

4.2 Deploying Key Pairs

Context

You deploy the key pairs to the SAP Integration Suite tenants. You need separated key pairs for testing and production environments.

Procedure

1. Open to the attachement of the SAP Note 3287374 (Portugal Transport Registration: Certificates for Authentication) to get the necessary key pairs for authentication, which include `edocumentportugaltestdgita.p12` and `edocumentportugalproddgita.p12`.
2. Upload the private key in the *Keystore* app. Go to *Operations View* > *Keystore* > *Add* > *Key Pair*

You must upload the `edocumentportugaltestdgita.p12` and `edocumentportugalproddgita.p12` files to the keystore of the tenant. Create the alias for the key pair according to the following naming convention:

Value	Description
edocumentportugaltestdgita	Test environment
edocumentportugalproddgita	Production environment

4.3 Adding User Credentials

Context

To authenticate the request to the tax authority you need to add user credentials to the security materials.

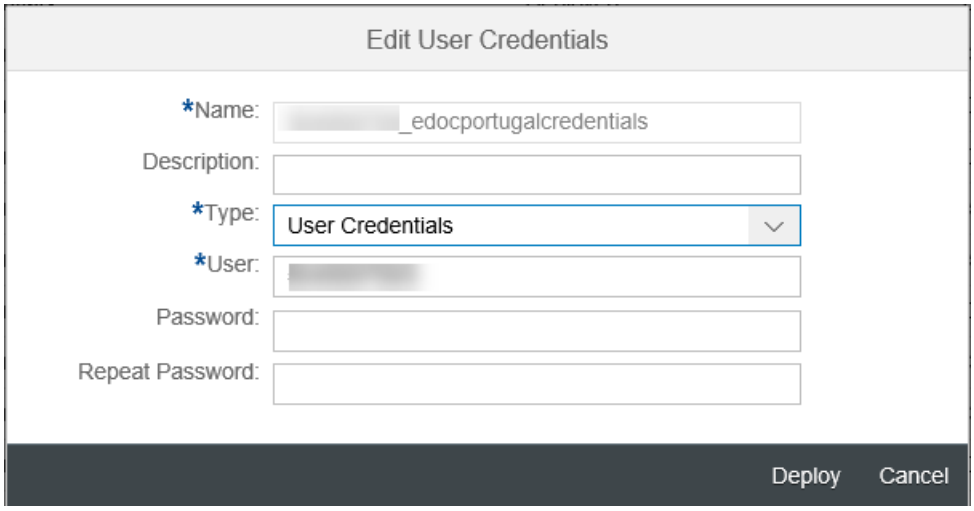
Procedure

Go to *Operations View* > *Security Material* > *Add* > *User Credentials* and enter the User ID and password to connect to the tax authority with the following alias:

User Credentials

Value	Description
<tax_code>_edocportugalcredentials	To connect to the tax authorities services in test environment.

> **i** Note
>
> Enter your tax code as a prefix for the credential.

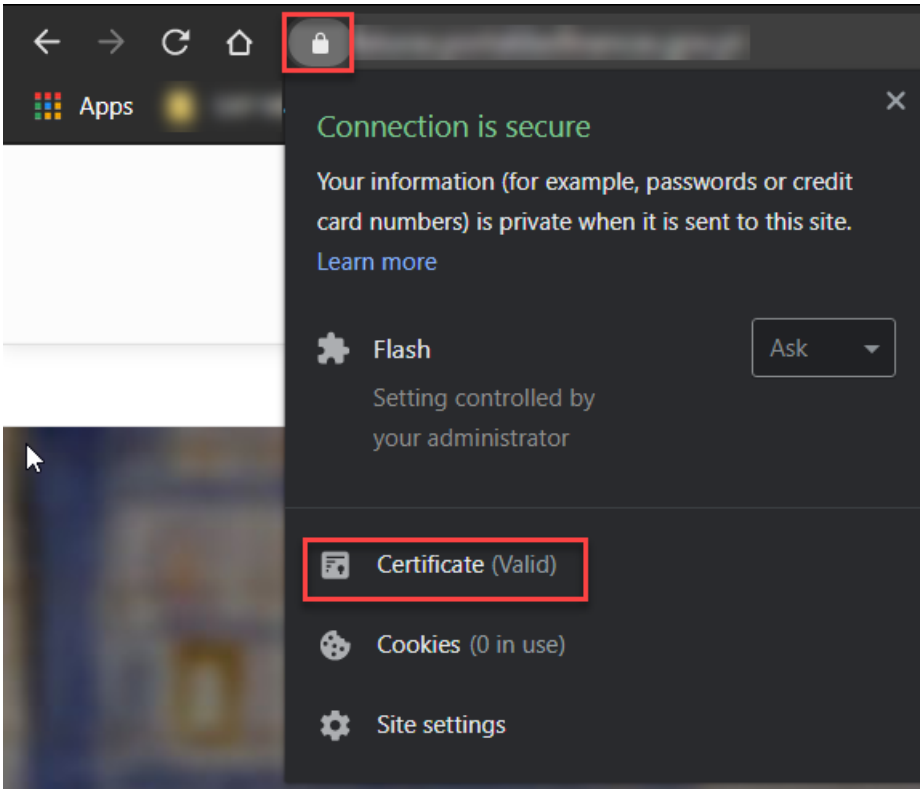


4.4 Uploading the Root Certificate

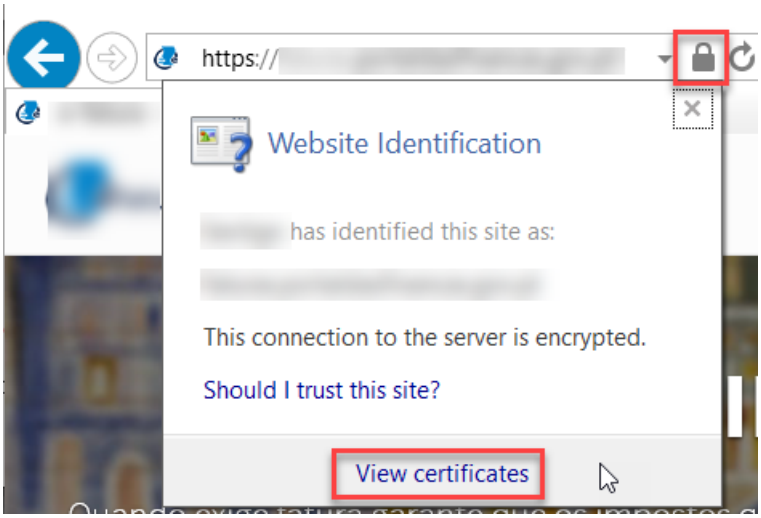
Provides a description on how to upload the root certificate to the keystore of your SAP Integration Suite Integration tenant.

Procedure

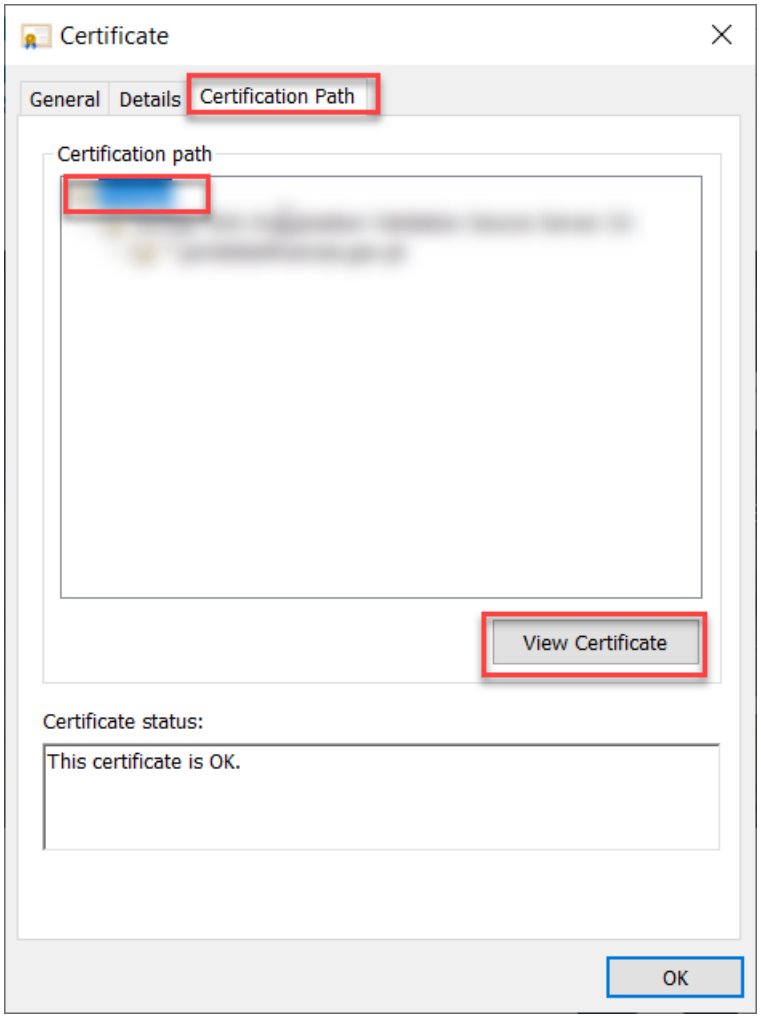
1. Go to the web site of the tax authorities (Portal das Finanças).
2. Choose the icon next to the URL and select *Certificate*:
    - In Chrome (recommended):



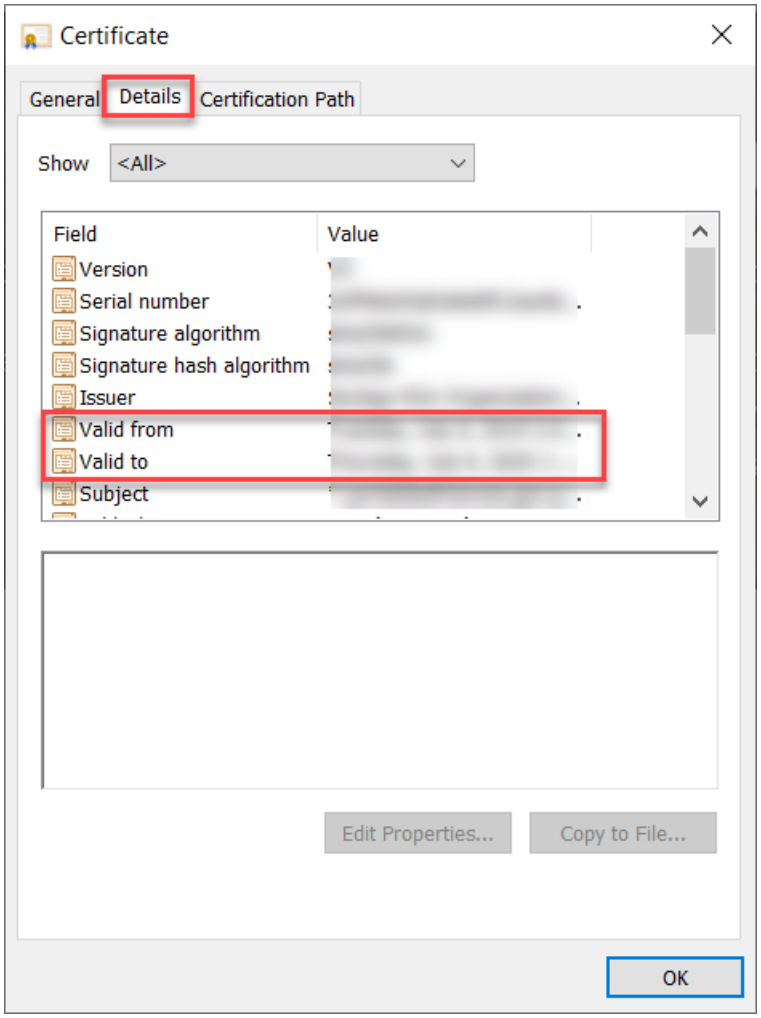
- In Internet Explorer:



3. Go to the *Certification Path* tab, choose the root certificate (first in the tree) and then select *View Certificate*:

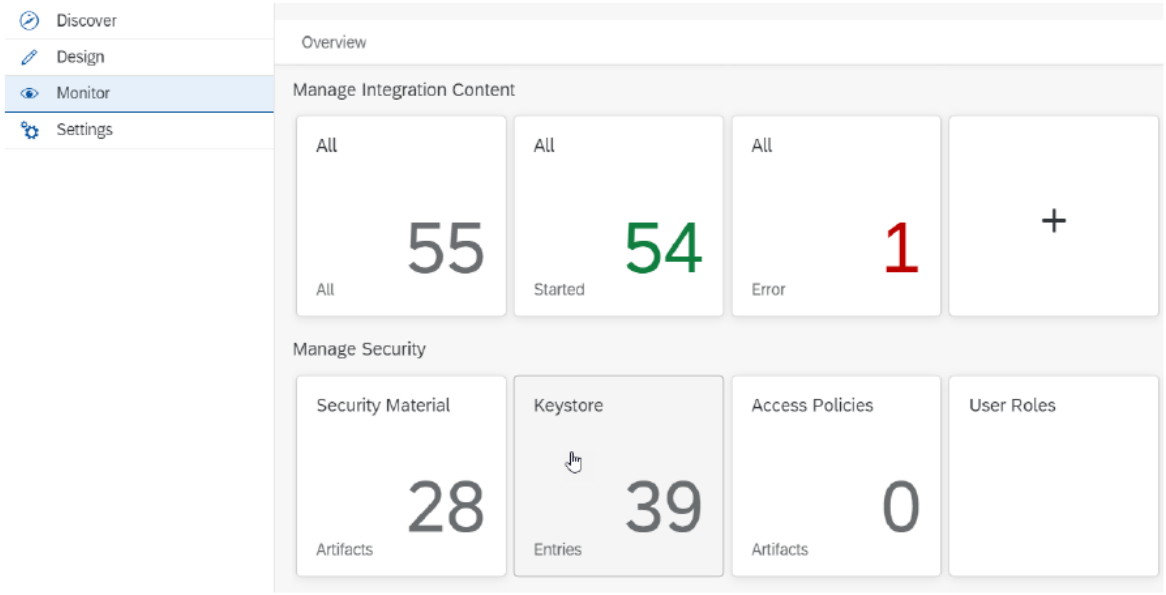


4. Go to the *Details* tab:

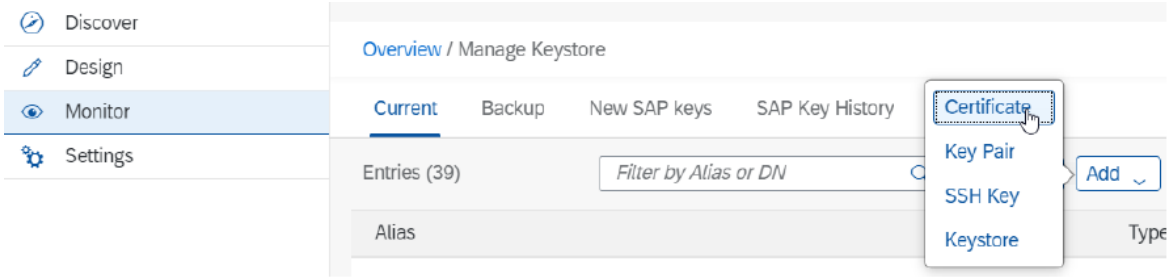


To ensure that you are downloading the correct certificate, check the values of *Valid from* and *Valid to*.

5. If everything is up-to-date, choose *Copy to File* and save it to your local directory.
6. Go to *Keystore* on your SAP Integration Suite tenant to upload the saved root certificate:



7. Choose *Monitor*, select *Certificate* and then *Add*.



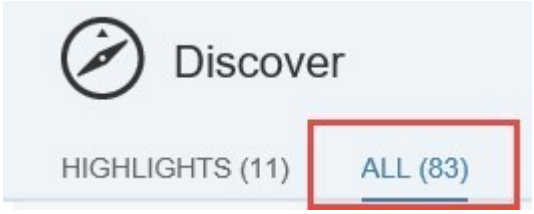
4.5 Copying Integration Flow

Context

Copy the integration flow in the package SAP Document and Reporting Compliance: Transport Registration for Portugal to the target tenant as follows:

Procedure

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



3. Search for **SAP Document and Reporting Compliance: Transport Registration for Portugal** .
4. Select the package and choose *Copy*.

4.6 Configuring Integration Flow

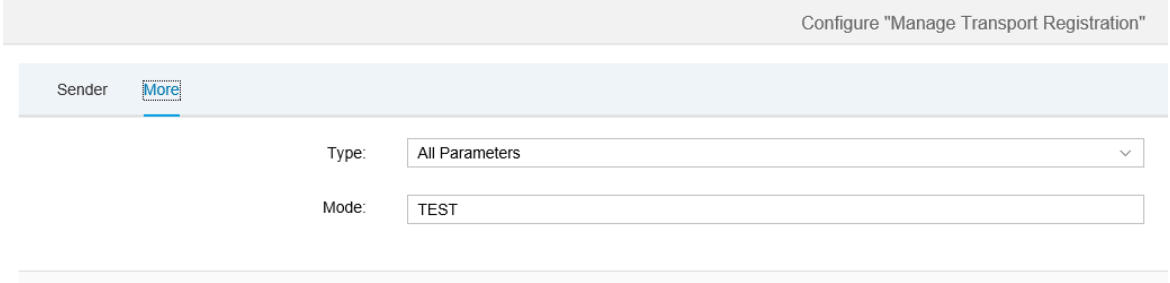
Context

You configure the package that you have copied as described in .

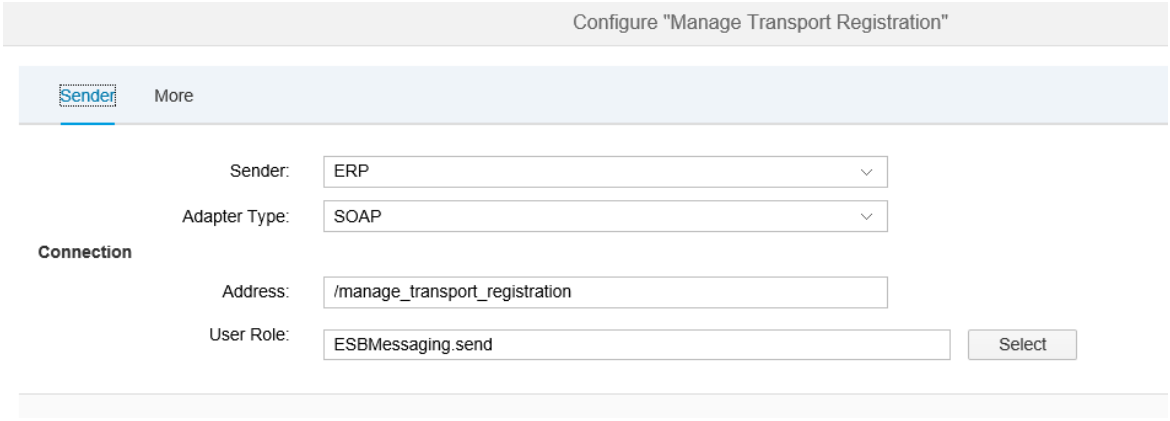
Procedure

1. There is one *Artifact* in the integration package SAP Document and Reporting Compliance: Transport Registration for Portugal.
2. Choose *Actions* > *Configure* for the artifact you are configuring.
3. Choose *Configure* > *More* tab (in some versions it may be *Externalized Parameters*). Use the `Mode` parameter to set up the integration package usage mode:

Value	Description
TEST	To use the test system of the tax authority.
PROD	To use the productive (that is, legally binding) system of the tax authority.



4. Choose *Configure* > *Sender* tab.
   - Use the `Address` parameter to set up the integration package address. Normally you don't have to change this field. In case you change the field, make sure to use the same address when configuring the logical ports in the next chapter.
   - Use the `User Role` parameter to configure the role based on which the inbound authorization is checked. Choose *Select* to get a list of all available roles.
     The role `ESBMessaging.send` is provided by default.



5. Choose *Save* and *Deploy* to deploy it actively to server. Note down the URLs of the endpoints for each service.

> **i Note**
>
> Depending on the version of your tenant, after pressing these buttons, a warning messages can appear. You can ignore these messages by choosing *Close* . The first two warnings are related to the payload attachments; currently the invoice registration process does not support or require message attachments (for example, scanned copies of invoices) in any stage of processing and communication.

5 Configuration Steps in Back-End Systems

The following sections tell you the necessary configuration you do in SAP back-end systems to connect with SAP Integration Suite.

5.1 Creating Logical Ports in SOAMANAGER

Required step for configuring the Integration Package for eDocument and SAP Integration Suite.

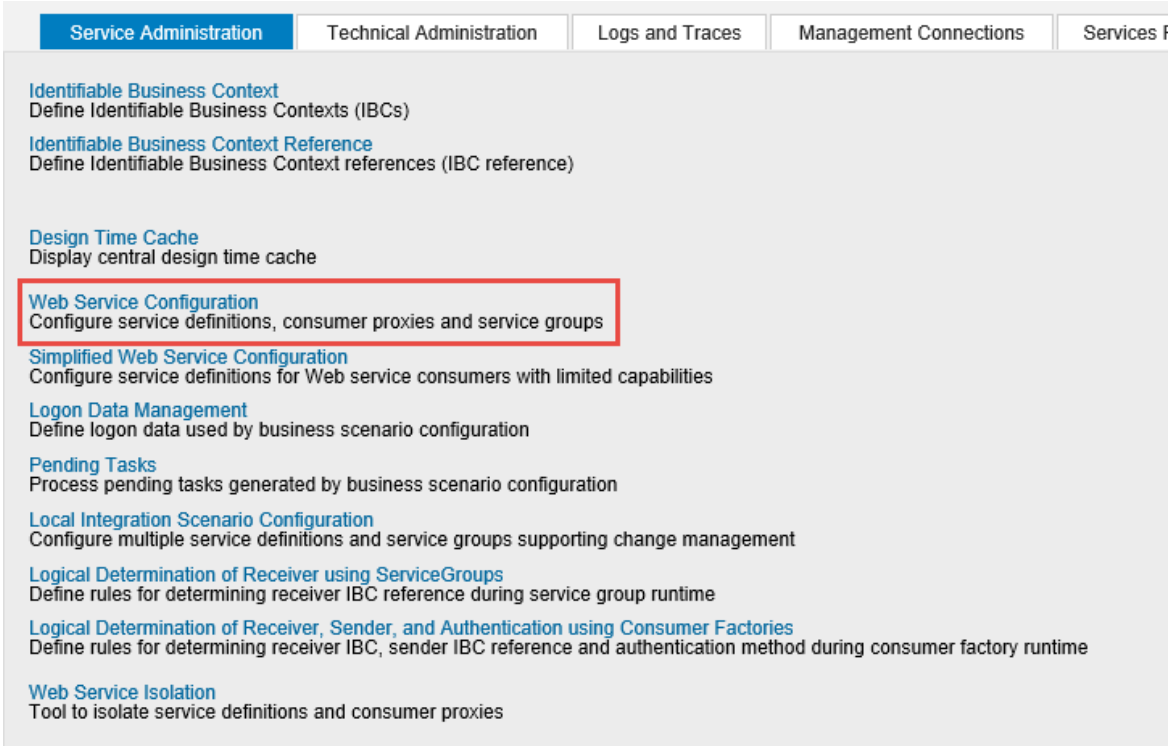
Context

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

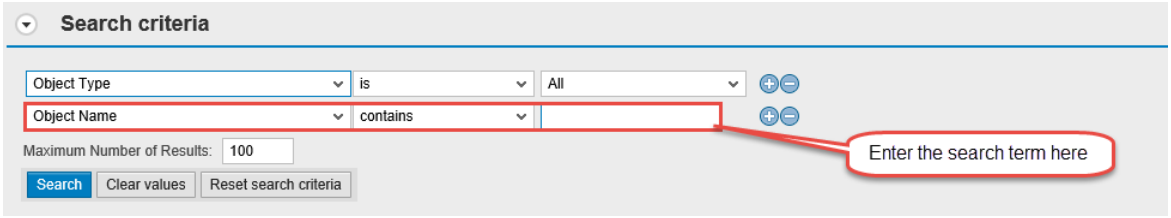
> **i** Note
>
> Depending on your release, the look-and-feel of the screens in your system may differ from the screenshots displayed below.

Procedure

1. In your back-end system, go to the `SOAMANAGER` transaction and search for *Web Service Configuration* .



2. Find the proxies for SAP Document and Reporting Compliance for Portugal with search term **`CO_EDO_PT*`**.

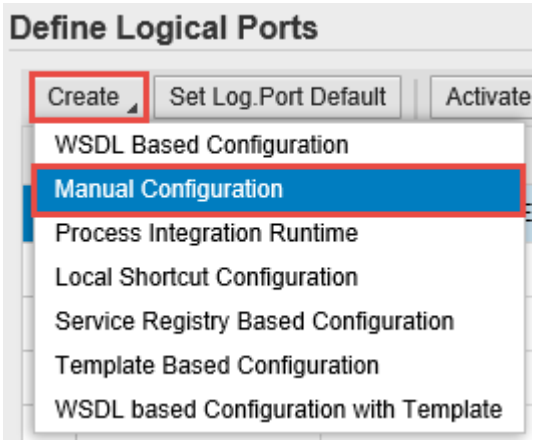


The following table lists the proxies and the logical port name, description and path for each proxy.

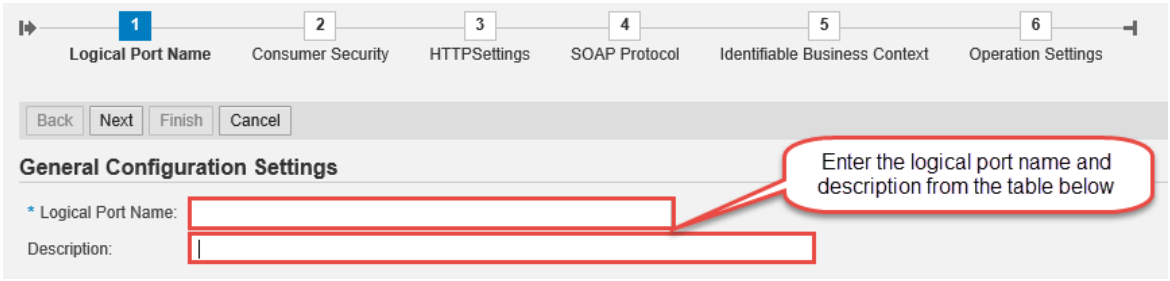
List of Proxies, Logical Port Names, and Paths

Proxy Name	Logical Port Name	Description	Path
CO_EDO_PT_MAN-AGE_TRREG_V1_0	EDO_PT_TRREG_TRANSM_SERV_PORT	Portugal eDocument - Transport Registration Transmission Service	/cxf/manage_trans-port_registration

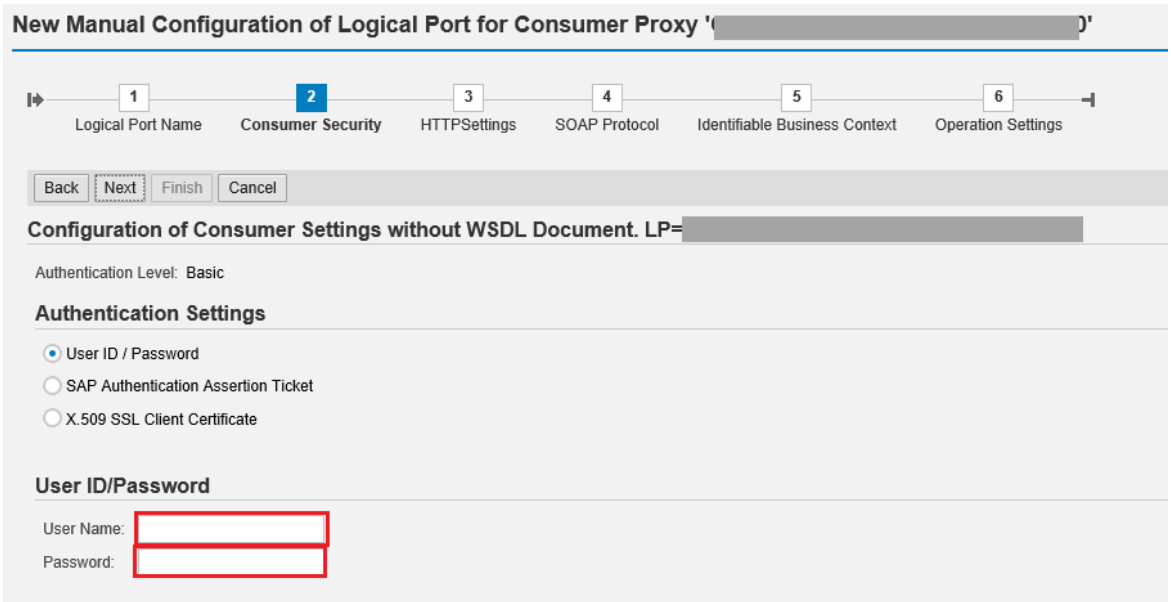
3. In the *Result List*, select a proxy and create a logical port for each proxy. Choose *Create* > *Manual Configuration*.



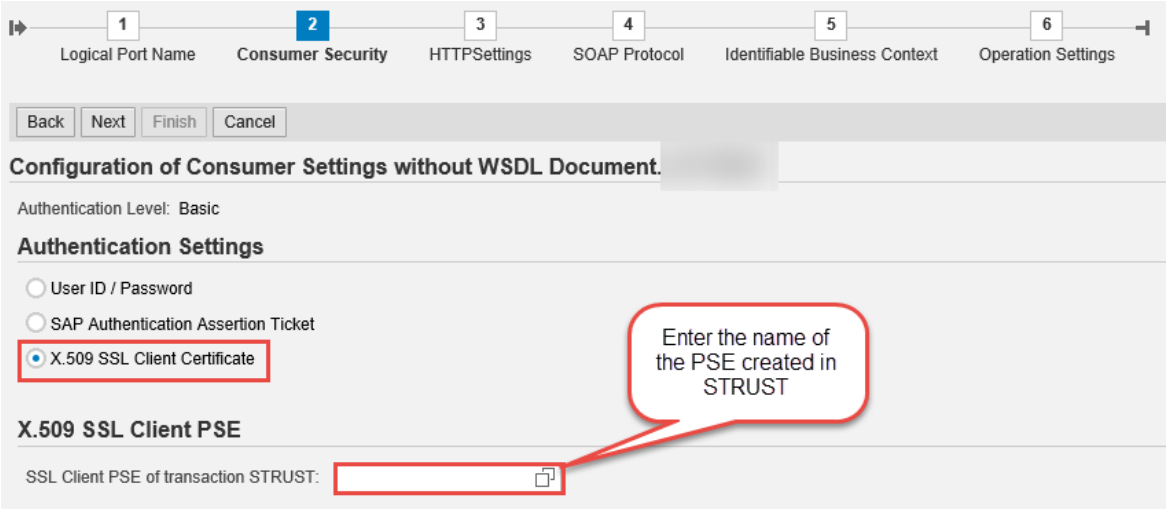
4. Enter the logical port name and a description.



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 Integration Suite.

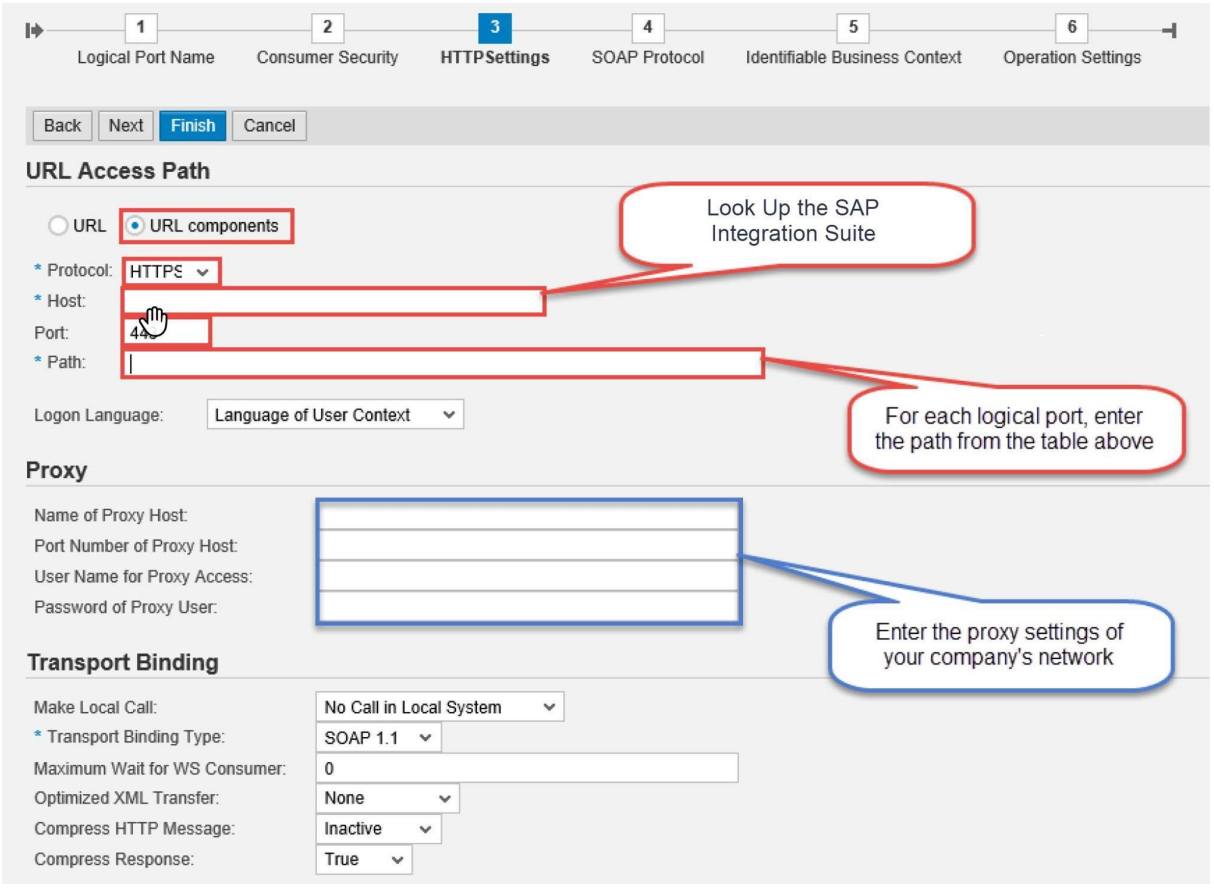


- If you use the basic authentication for *User Name*, enter the value for the **clientid** and for *Password*, enter the value for **clientsecret**. You have created these values for your service instance in SAP Integration Suite. See Creating Service Instances.



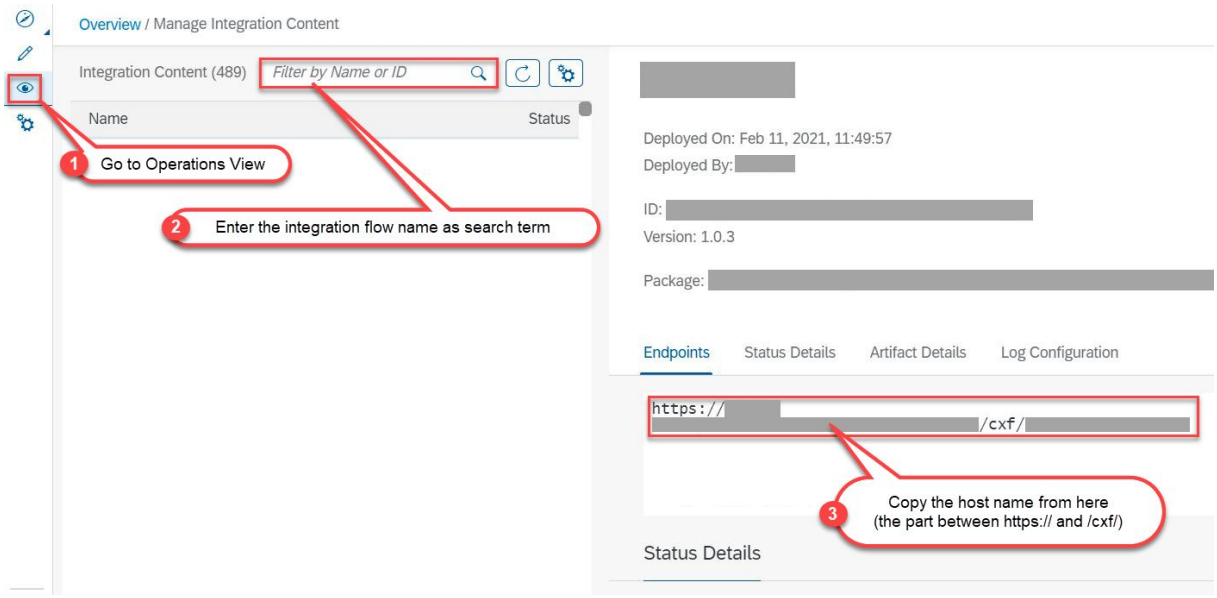
- If you use certificate-based authentication, select *X.509 SSL Client Certification* and choose the certificate you have updloaded to `STRUST`. Export the SSL Client PSE of the STRUST transaction.You must configure this certificate in SAP Integration Suite too. For that you create a service instance using the required grant_type as explained in Creating a Service Instance in the Cloud Foundry Environment. After the instance creation, you create the service key using the certificate exported from STRUST as explained in Defining a Service Key for the Instance in the Cloud Foundry Environment.

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



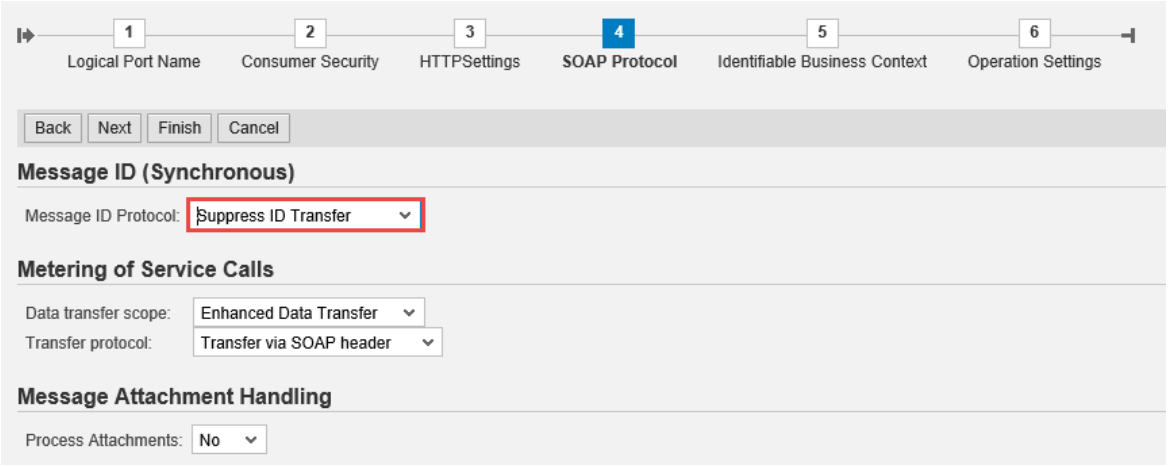
Port 443 is the standard port for the HTTPS protocol.

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



> ### 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 Integration Suite 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 Integration Suite service and execute a connection test. In case of a successful connection, you receive an error with HTTP return code 500.

   Remember to create logical port(s) for each proxy and to execute the following steps in the back-end systems, see SAP Note 3282752 for more information.

- 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 `EDOINTV` view

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