

# Integration of Digital Compliance Service to GST Suvidha Provider

## Integration Guide



# Typographic Conventions

Type Style	Description
<i>Example</i>	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Textual cross-references to other documents.
<b>Example</b>	Emphasized words or expressions.
<b>EXAMPLE</b>	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
<code>Example</code>	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
<b>Example</b>	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<b>&lt;Example&gt;</b>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
<b>EXAMPLE</b>	Keys on the keyboard, for example, <b>F2</b> or <b>ENTER</b> .

# Document History

Version	Date	Change
1.0	2017-07-25	First release of the GSP Integration Template
1.1	2017-08-14	Better handling of GSTN request and response GSP/GSTN Exceptions are handled GSTN Authentication, GSTR1 and GSTR2 API Changes handled in the integration flow Ping DCS integration flow is included to check the connection between DCS Application and the Cloud Integration tenant
1.2	2021-08-16	<ol style="list-style-type: none"> <li>Updated the document to reflect the latest SAP branding changes. <ul style="list-style-type: none"> <li>Renamed SAP Cloud Platform to SAP Business Technology Platform (BTP)</li> <li>Renamed SAP Cloud Platform Integration to SAP Cloud Integration</li> <li>Renamed iFlow to Integration Flow</li> <li>Updated the images</li> </ul> </li> <li>Updated the Prerequisites section with link to the Help Document</li> <li>Updated section 'Import SSL Certificates to SAP Cloud Integration Tenant' with relevant screenshots</li> <li>Added section 'Import GSTN Public key to SAP Cloud Integration Tenant'</li> <li>Updated section 'Adapt GSP Integration Template' with relevant screenshots</li> <li>Refined the contents of the section 'Deploy Ping DCS Integration Flow'</li> <li>Added section 'Appendix'</li> </ol>
1.3	2021-11-29	<ol style="list-style-type: none"> <li>Updated section 'General Information' with a new Mail Adapter Integration flow</li> <li>Added section 'Adapt and Deploy Mail Adapter Integration Flow'</li> </ol>
1.4	2022-03-24	<ol style="list-style-type: none"> <li>The document is revised to support configuration in SAP Cloud Integration Cloud Foundry environment along with the existing configuration for Neo environment.</li> <li>Added new section 'Get Web UI URL of the integration tenant' in Appendix.</li> </ol>

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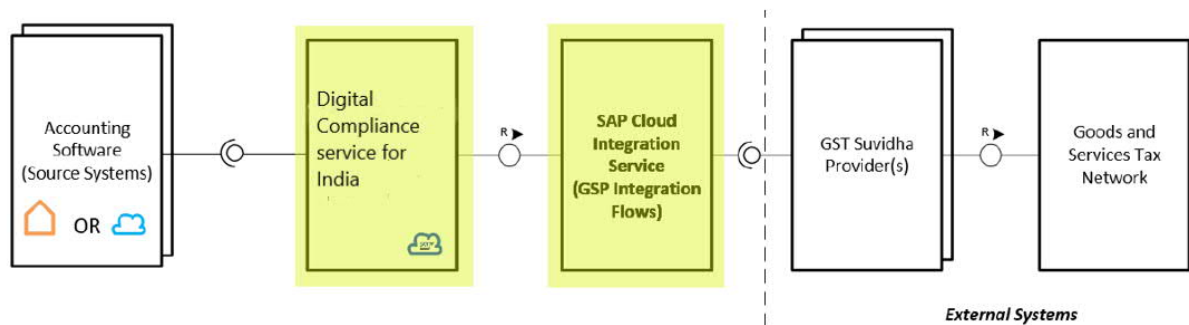
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# 1 Introduction

The communication part of the Digital compliance service for integration with GST Suvidha Provider (GSP) is taken care of by the SAP Cloud Integration Service.

The below diagram provides an overview of integration between digital compliance service for India and GSP(s):



The following documentation contains steps to adapt and deploy SAP BTP, integration flow to establish communication between digital compliance service for India and GSP(s).

The Digital compliance service for India supports integration with SAP Cloud Integration in both Neo and CF environment.

This document covers the setup for both the environments and the environment specific details are maintained wherever required.

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## 2 Prerequisites

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

1. Installed the Digital compliance service for India solution in your [SAP BTP](#) test and/or productive landscape. For detailed information, refer [SAP note 2460667](#).
2. If you have entitlement for SAP BTP Integration tenant in Neo environment, ensure that you have performed all initial setup steps described in [Initial Setup of SAP Cloud Integration in the Neo Environment](#).
3. If you have entitlement for SAP BTP Integration suite in Cloud foundry environment, ensure that you have performed all initial setup steps described in [Initial Setup of SAP Integration Suite](#).

Note : Digital compliance service for India solution uses only the capability 'Cloud Integration' in Integration suite.

After activating the Cloud Integration capability, the tenant URL appears under the Cloud Integration tab. This is the URL (referred as WEB UI URL) needed to complete the steps described in the Deployment Steps section of this guide

4. Completed registration with [GST Suvidha Provider \(GSP\)](#) system and have received the following:
  1. Application Service Provider (ASP) to GST Suvidha Provider (GSP) integration/set up manual.
  2. Certificates from the GSP provider for SSL handshake.
  3. GSTN Public Key Certificate for Sandbox and Production.
5. Provisioned live SAP BTP, Integration Services test and/or productive tenants.

### Note

When you buy the Digital compliance service for India license, you get two Cloud Integration tenant with it. One tenant serves for development/testing, while the other should be used for production.

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## 3 General Information

The content catalog package *Digital Compliance Service Integration with GST Suvidha Provider* contains the following integration flows:

Integration Flow Name in WebUI	Project Names/Artifact Names
GSP Integration Template	com.sap.slh.dcs.gsp.template
Ping DCS	com.sap.slh.dcs.ping
Mail Adapter Integration	com.sap.slh.dcs.mailadapter

## 4 Deployment Setup

The below mentioned steps should be performed in your TEST and PRODUCTION accounts.

### 4.1 Import SSL Certificates to SAP Cloud Integration Tenant

To set up an SSL connection between the SAP Cloud Integration Tenant and GST Suvidha Provider (GSP), you must import the required security certificates into SAP Cloud Integration Tenant JAVA keystore.

#### Note

You receive these certificates from your GSP.

#### Procedure

1. Access the SAP Cloud Integration

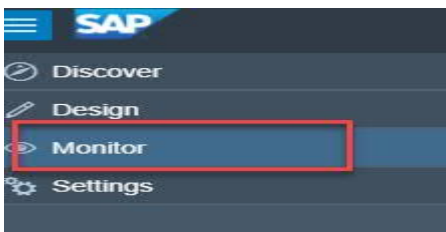
Access the SAP Cloud Integration tenant using the [Web UI URL](#). for example, <https://IXXXXtmn.hci.euX.hana.ondemand.com/itspaces>

Use this URL to go to the Web UI of the tenant.

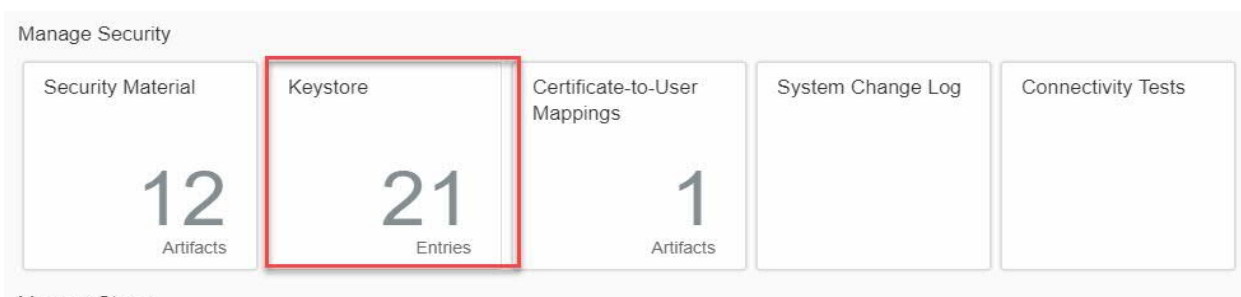
2. To logon, enter your P user or S user.

If you get *HTTP Status 403* error, contact your Tenant Administrator or write to [service@sap.com](mailto:service@sap.com).

3. After successful login, from the menu in the upper left corner, choose Monitor.

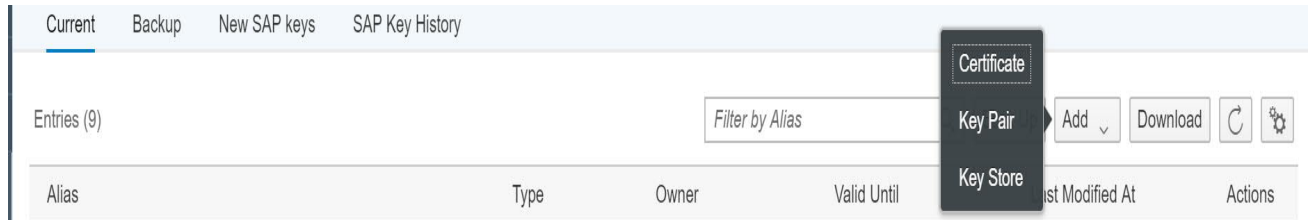


4. Choose *Manage Security* and then *Keystore*

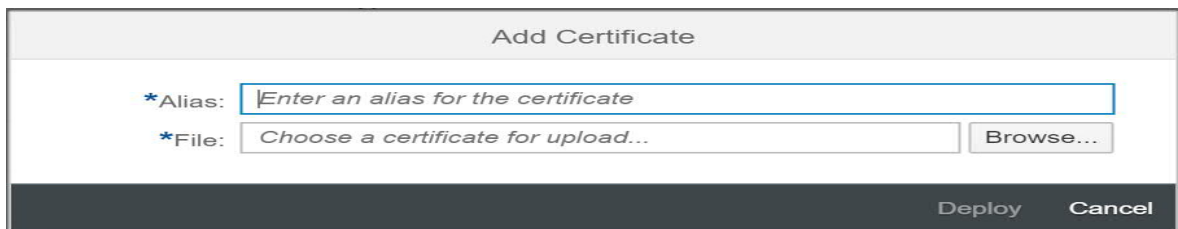




5. Click Add > Certificate > Add Certificate



6. Enter an alias to identify the certificate. Browse the GSP SSL certificate from local desktop and then Deploy



**i** Note

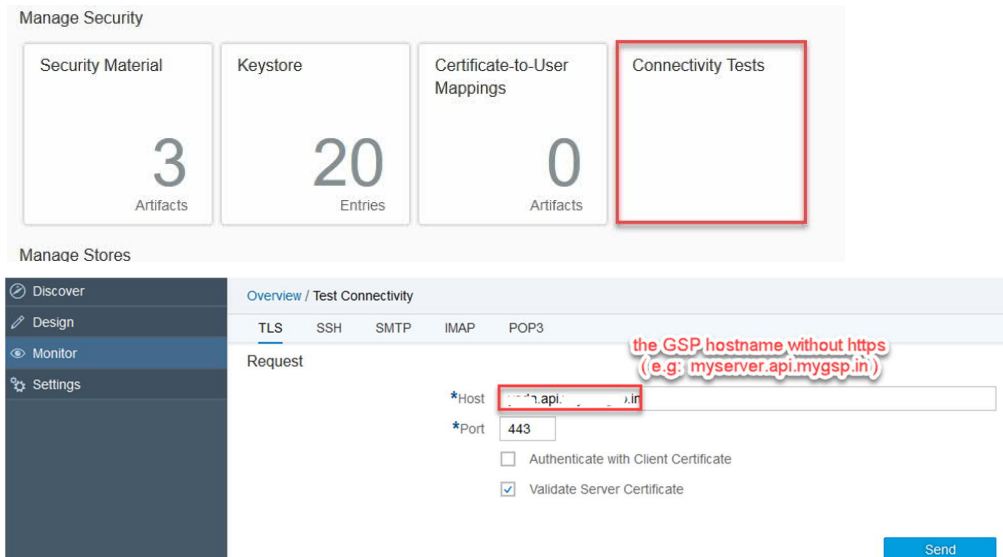
To perform above operation, the user should have the administrator role assigned to them.  
If you are using neo environment, assign the role AuthGroup.Administrator.  
If you are using CF environment, assign the role PI\_Administrator.  
The certificate should be in Base-64 encoded X.509(.CER) format. Refer [here](#).

7. Check Connectivity with GSP.

You can perform the Connectivity test with the GSP by using the feature TLS Connectivity Test as mentioned [here](#).

1. Run connectivity test using the Monitor-> Manage Security->Connectivity Tests.
2. Enter the GSP Base URL without http(s). Enter port.
3. Click Send.

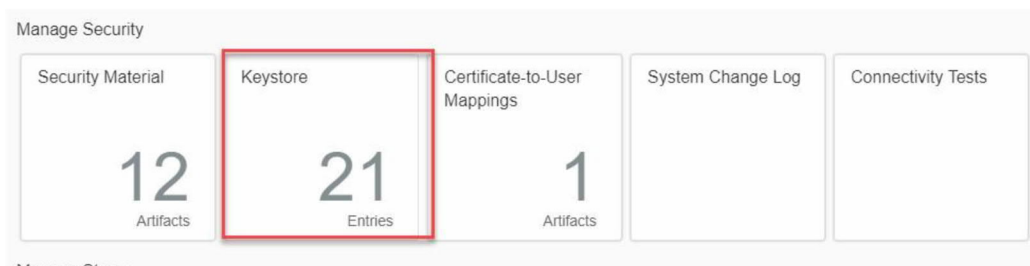
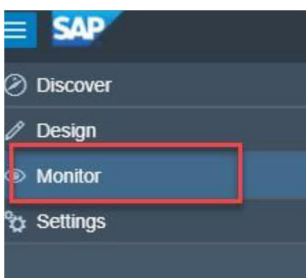
On successful connection, system displays successful response message



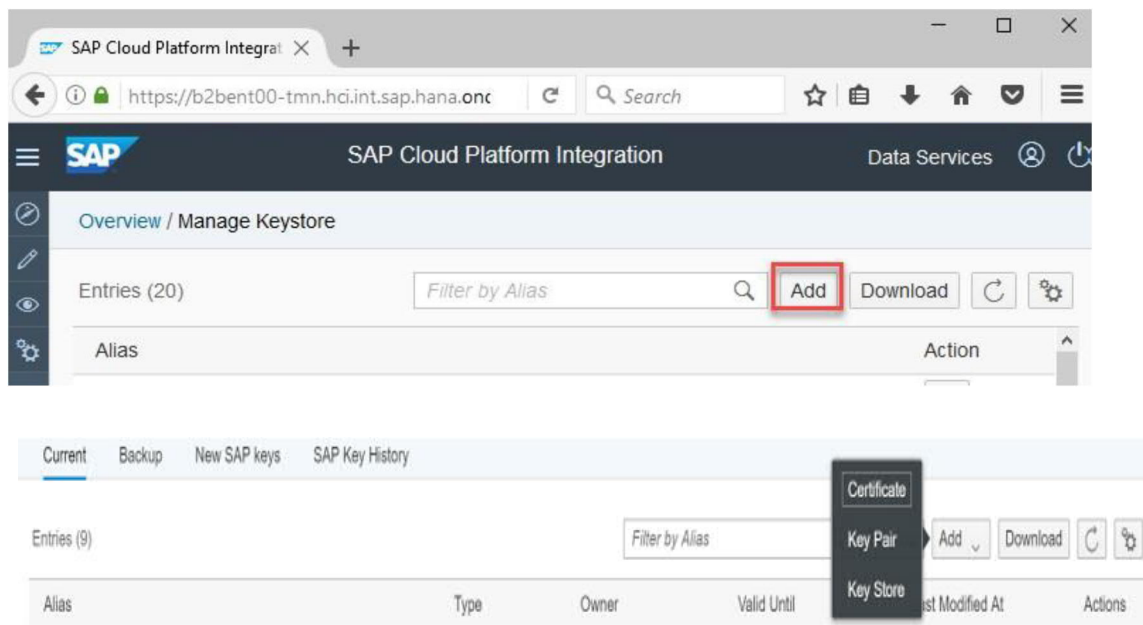
## 4.2 Import GSTN Public Key Certificate to SAP Cloud Integration Tenant

You need to add the GSTN Public Key Certificate. You get this certificate from your GSP. Follow the below steps to add the GSTN Public Key Certificate to the SAP Cloud Integration KeyStore.

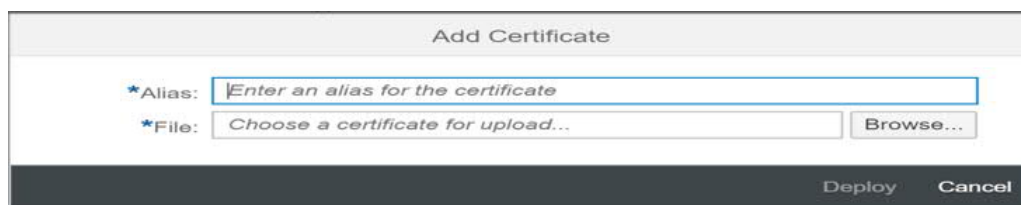
1. Navigate to Monitor > Manage Security > Keystore



2. Click Add > Certificate > Add Certificate.



3. Enter an alias(gstncert) to identify the certificate. Browse the GSTN Public Key Certificate from local desktop.



4. Click Deploy

**i** Note

To perform above operation, the user should have the administrator role assigned to them.

If you are using neo environment, assign the role AuthGroup.Administrator.

If you are using CF environment, assign the role PI\_Administrator.

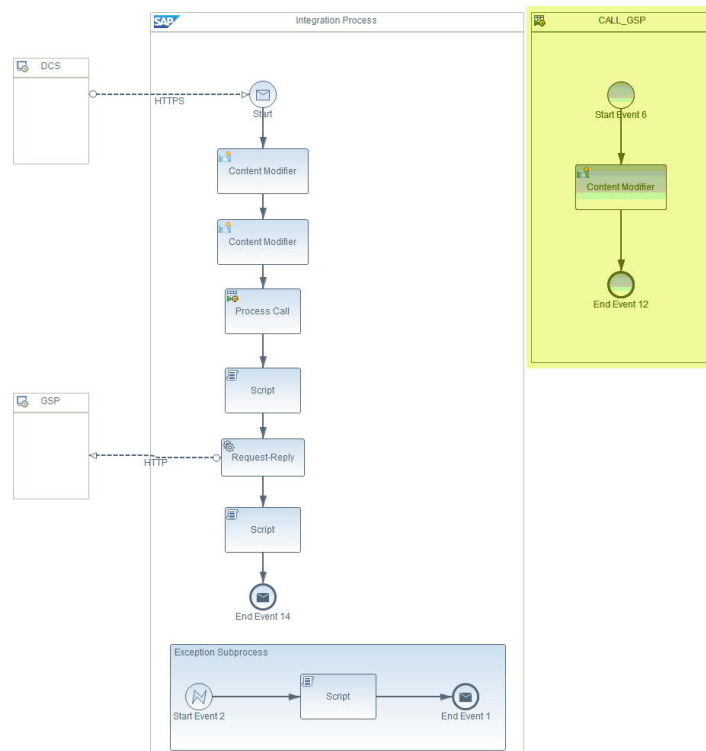
The certificate should be in Base-64 encoded X.509(.CER) format. For more information, see [here](#).

## 4.3 Adapt GSP Integration Template

- If you are registered with a GSP that is in the SAP certified list, you can get the GSP specific pre-built integration flow from your respective GSP(s).  
For more details check note [2512413](#) for the list of GSPs working with SAP for their integration certification.
- If you are registered with a GSP that is not in the SAP certified list, you can use the integration flow [GSP Integration Template](#) to build the integration flow.

### Procedure

1. In your browser, go to the WebUI of the tenant using the [Web UI URL](#).  
Example: <https://IXXXX-tmn.hci.euX.hana.ondemand.com/itspaces>
2. To logon, enter your P user or S user.  
If you get HTTP Status 403 error, contact your Tenant Administrator or write to [service@sap.com](mailto:service@sap.com).
3. After successful login, from the menu in the upper left corner, choose Discover.
4. In the subsequent screen, search for Integration package [Digital Compliance Service Integration with GST Suidha Provider and eSign Application Service Provider](#).
5. Click on the entry and in the subsequent screen choose Copy.
6. From the menu in the upper left corner, choose Design.
7. Click on the package [Digital Compliance Service Integration with GST Suidha Provider and eSign Application Service Provider](#) and in the subsequent screen choose ARTIFACTS. The system displays different Integration Flows.
8. Select the integration flow GSP Integration Template.
9. Click Edit and adapt the GSP specific authentication for the highlighted sections as shown in the below diagram.



## 10. Click Configure

Modify the parameters as shown below

Configure "GSP Integration Template"

More

Type:	All Parameters
auth_evc_ver:	v1.0
comm_ret_ver:	v0.3
default_ret_ver:	v1.1
gspurl:	https://example.gsp.com/
gsp_comm_gstin:	33GSPTN0741G1ZF
gsp_gstin_auth:	
gsp_gstin_comm:	https://example.gsp.com/commonapi/v0.3/search
gsp_gstin_comm_track_returns:	https://example.gsp.com/commonapi/v1.0/returns
gsp_gstin_ledr:	https://example.gsp.com/taxpayerapi/version/ledgers
gsp_gstin_ret:	https://example.gsp.com/taxpayerapi/version/returns
gstr10_ret_ver:	v1.1
gstr1_ret_ver:	v2.0
gstr2b_ret_ver:	v1.0
gstr2_ret_ver:	v2.0
gstr3_ret_ver:	v0.3
gstr4_ret_ver:	v1.1
gstr5_ret_ver:	v1.0
gstr6_ret_ver:	v1.0
gstr7_ret_ver:	v1.1
gstr8_ret_ver:	v0.3
gstr9_ret_ver:	v1.1
gstranx1_ret_ver:	v1.0
gstranx2_ret_ver:	v1.0
gstreinvoice_ret_ver:	v1.0
gstrprofile_ret_ver:	v1.0
gstr_ledr_ver:	v0.3
itc04_ret_ver:	v1.1

### Note

You receive details about the fields from your GSP.

The version for the APIs change based on the latest versions deployed by GSTN in the respective environment.

The appropriate version must be maintained under the respective version fields in the external parameter.

Sample URLs received from your GSP:

- o GSTN Communication API: <https://example.gsp.com/commonapi/v0.3/search>
- o GSTN Ledger API: <https://example.gsp.com/taxpayerapi/version/ledgers>
- o GSTN Returns API: <https://example.gsp.com/taxpayerapi/version/returns>
- o GSTN Communication Track Returns API: <https://example.gsp.com/commonapi/v1.0/returns>

## 11. Save your changes.

## 12. Click Deploy to deploy the modified integration flow.

### Note

After the deployment, check if the integration flow is in Started state. You can check this in the Web UI by choosing Monitor->Manage Integration Content.

After successful deployment, the endpoint URL is `https://<Tenant Runtime URL>/http/gspemplate`

## 4.4 Deploy Ping DCS Integration Flow

The Ping DCS integration flow is used to check the connection status from DCS application to Cloud Integration account.

### Procedure

1. In your browser, go to the Web UI of the tenant using the [Web UI URL](#).  
Example: `https://IXXXX-tmn.hci.euX.hana.ondemand.com/itspaces`
2. To logon, enter your P user or S user.  
If you get HTTP Status 403 error, contact your Tenant Administrator or write to [service@sap.com](mailto:service@sap.com).
3. From the menu in the upper left corner, choose Design.
4. Click on the package *Digital Compliance Service Integration with GST Suvidha Provider and eSign Application Service Provider* and in the subsequent screen choose ARTIFACTS.  
The system displays different Integration Flows.
5. Select the integration flow 'Ping DCS', choose Actions -> Deploy.

### Note

After the deployment, check if the integration flow is in Started state. You can check this in the Web UI by choosing Monitor->Manage Integration Content.

After successful deployment, the endpoint URL is `https://<Tenant Runtime URL>/http/pingdcs`.

## 4.5 Adapt and Deploy Mail Adapter Integration Flow

The Mail adapter Integration flow is used to send the email notification to own taxpayer users and suppliers regarding any purchase invoice reconciliation issues.

Refer the Mail Adapter Configuration document in the API Hub for more details.

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## 4.6 Client-Certificate Based Authentication Settings

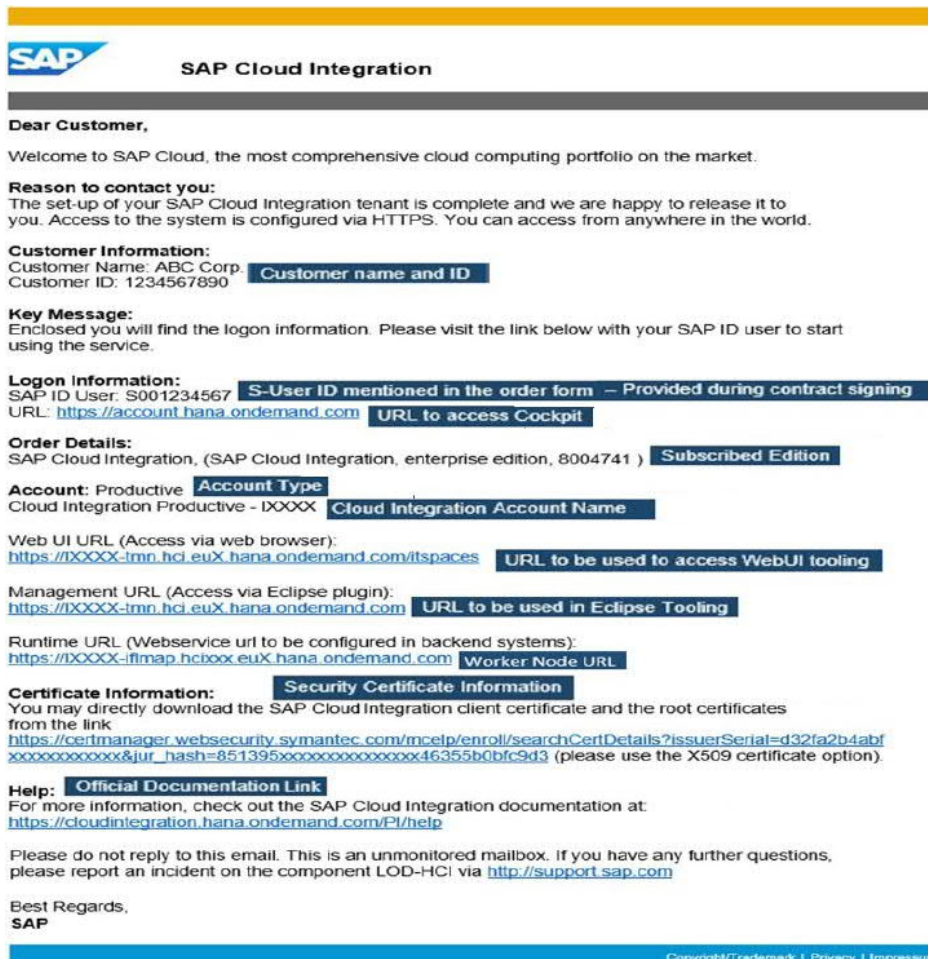
For client certificate based authentication settings, refer the document [Client\\_Certificate\\_Authentication.pdf](#) under the attachments in the master note [2460667](#).

# 5 Appendix

## 5.1 Get Web UI URL of the integration tenant

If you have entitlement for SAP BTP Integration tenant in Neo environment, for each tenant, you get a welcome email outlining the details about the tenant.

Copy the Web UI URL mentioned in the mail. This is the URL needed to complete the steps described in the Deployment Steps section of this guide



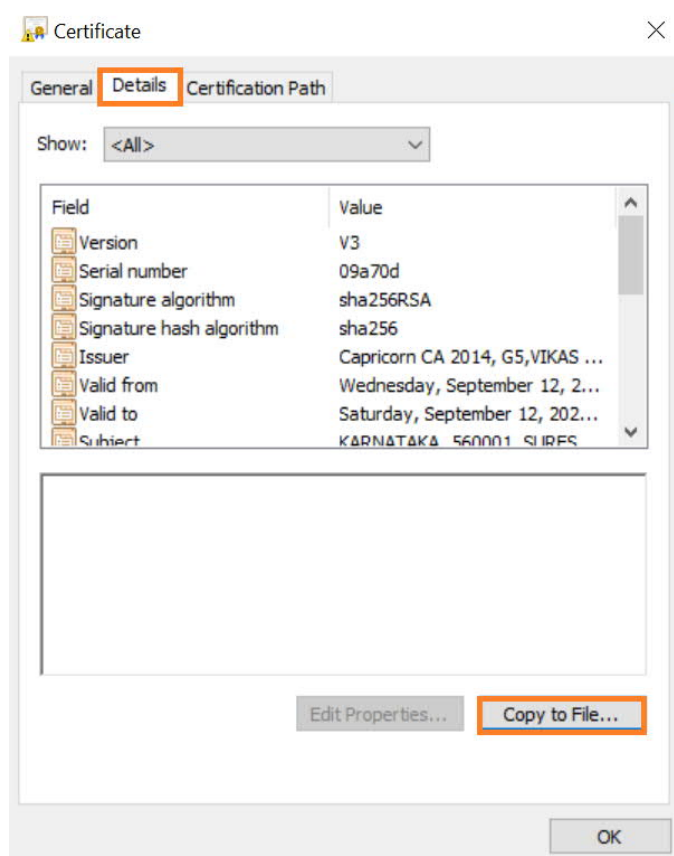


If you have entitlement for SAP BTP Integration suite in Cloud foundry environment, follow the below steps in SAP BTP Cockpit.

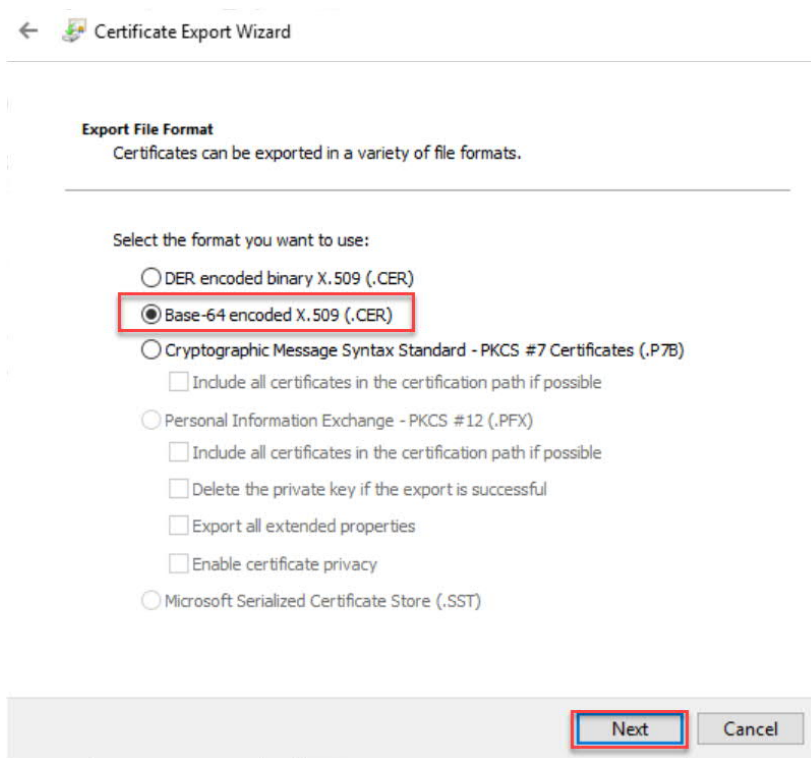
- o In the menu, choose Instances and Subscriptions and go to the Process Integration, and then choose Go to Application.
- o The Integration Suite Launchpad opens in a new browser instance.
- o Select the tile ' Design, Develop and Operate Integration Scenarios '.
- o The Web UI of cloud integration is launched.

## 5.2 Exporting Certificate as Base-64 encoded X.509(.CER) format

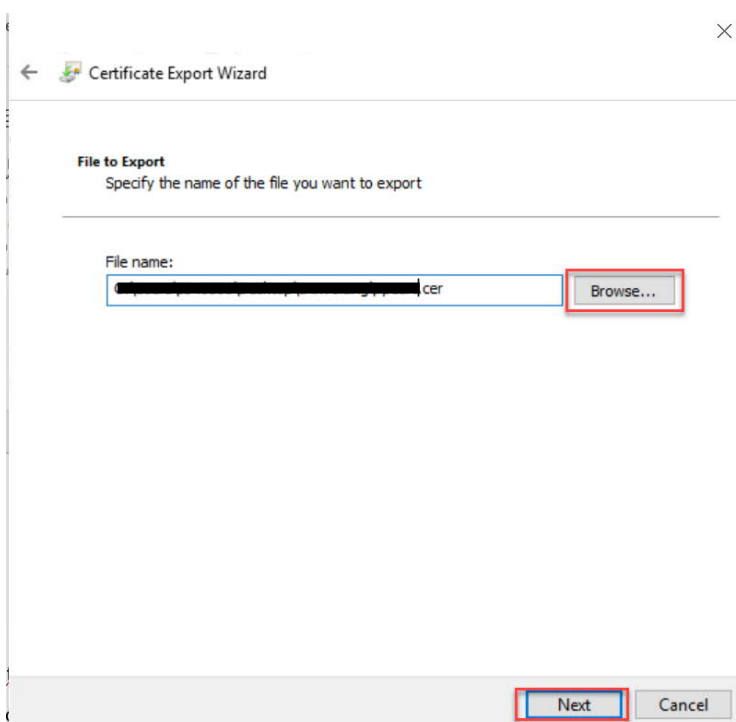
1. Double click the certificate.  
Go to Details -> Copy to File.  
A new window opens. Click Next.



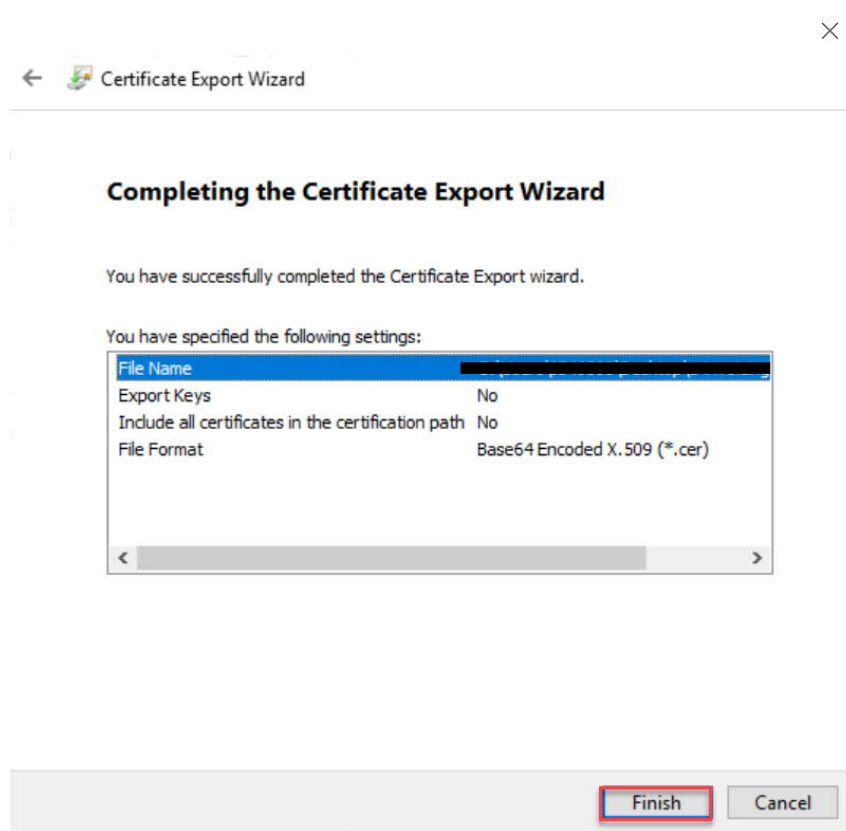
2. Select Base-64 encoded X.509(.CER) and click Next.



3. Browse the path where the certificate has to be saved and click Next.



4. Click Finish. Certificate will be saved in the selected location.

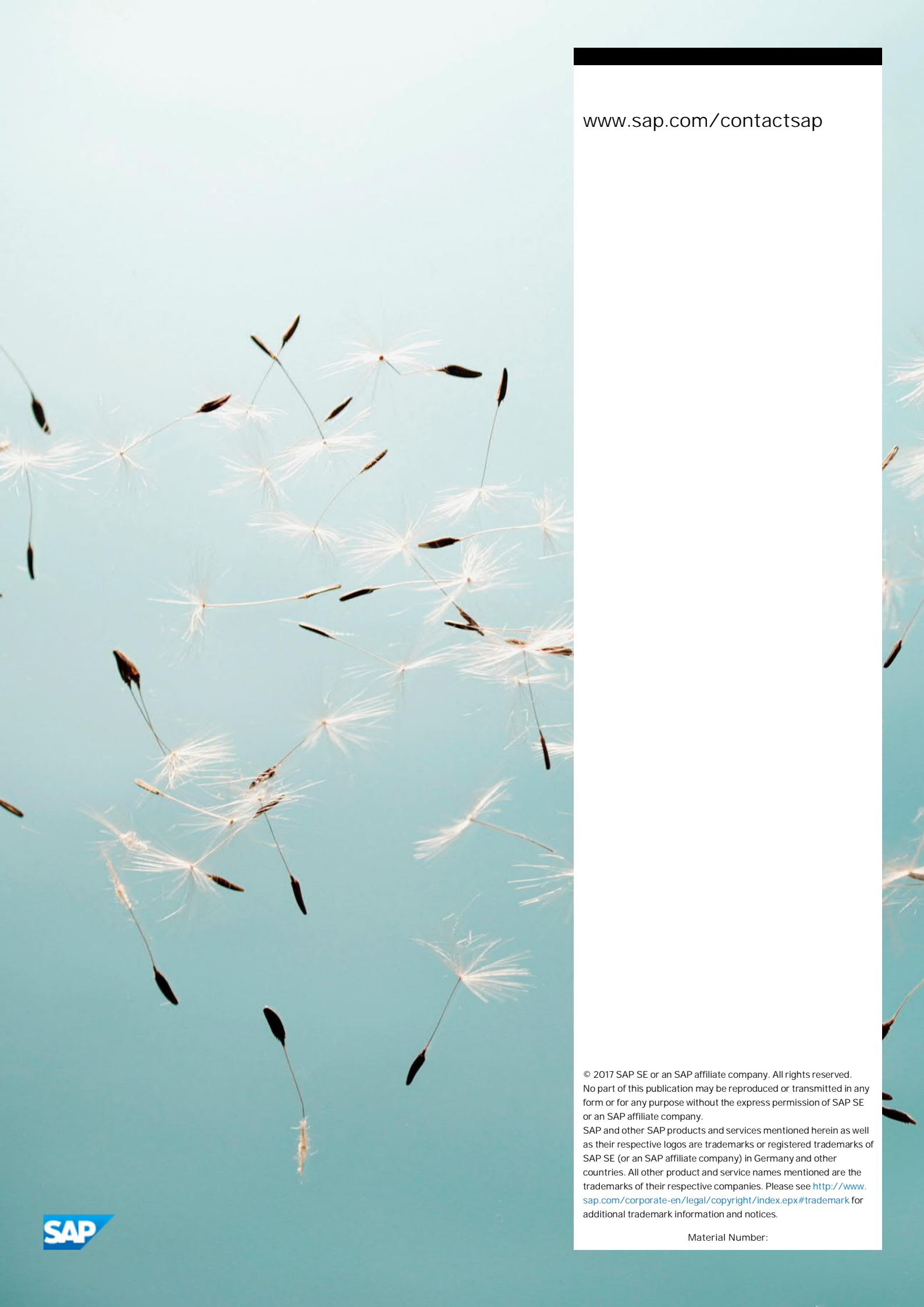


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## 5.3 Useful Links

- SAP Cloud Integration - Overview  
[https://help.sap.com/viewer/product/CLOUD\\_INTEGRATION/Cloud/en-US](https://help.sap.com/viewer/product/CLOUD_INTEGRATION/Cloud/en-US)
- SAP Cloud Integration - Overview of Authorization Groups:  
<https://help.sap.com/viewer/368c481cd6954bdfa5d0435479fd4eaf/Cloud/en-US/4b4ba1c553474259b5be661f4ef0702c.html>
- SAP Cloud Integration – Importing a Keystore:  
<https://help.sap.com/viewer/368c481cd6954bdfa5d0435479fd4eaf/Cloud/en-US/Odb193a325a94675928e717c9310734a.html>
- SAP Cloud Integration – Importing a Certificate:  
<https://help.sap.com/viewer/368c481cd6954bdfa5d0435479fd4eaf/Cloud/en-US/03cf78a217574e7abd75bfbbba990c085.html>





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Material Number:

