

# **SAP Finance Applications Integration with ELSTER** *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/368c481cd6954bdfa5d0435479fd4eaf/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.

The screenshot shows the SAP Finance Applications Integration with ELSTER package page. The breadcrumb is "Design / SAP Finance Applications Integration with ELSTER /". The package name is "SAP Finance Applications Integration with ELSTER". The description is "Finance Integration to transfer German tax-specific notifications to the authority". The vendor is "SAP", version is "1.0.0", and mode is "Editable". The tabs are "Overview", "Artifacts (1)", "Documents (1)", "Tags", and "Comments". The "Artifacts" tab is active, showing a table with columns "Name", "Type", "Version", and "Actions". The table contains one artifact: "Send Finance Tax Data" (Integration Flow, 1.1.0). A context menu is open over the artifact, showing options: "Copy", "View metadata", "Download", "Configure" (highlighted with a red box), and "Deploy".

Name	Type	Version	Actions
<input type="checkbox"/> Send Finance Tax Data Integration Flow to exchange Finance notifications with the tax authority in Germany. Created	Integration Flow	1.1.0	Copy View metadata Download Configure Deploy

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, /ELSTER\_HTTP\_Sender\_1). 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.

Configure "Send Finance Tax Data"

Sender

Sender: SAP

Adapter Type: HTTPS

Connection

Address: /FI\_ELSTER\_HTTP

User Role: ESBMessaging.send

Save Deploy Close

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

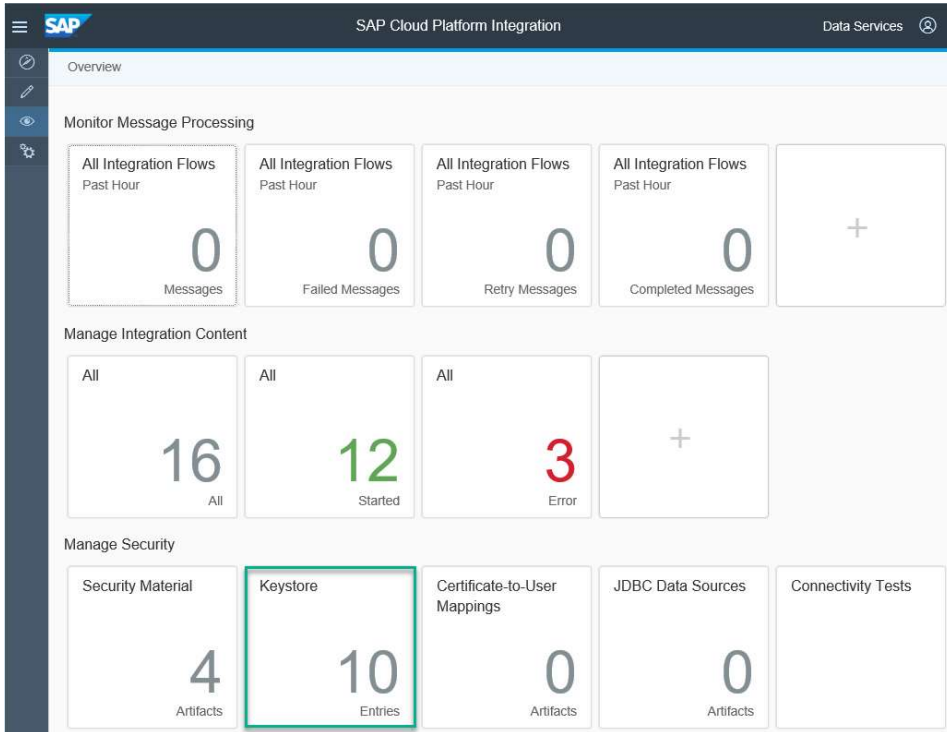


Figure 3. Monitor Keystore

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

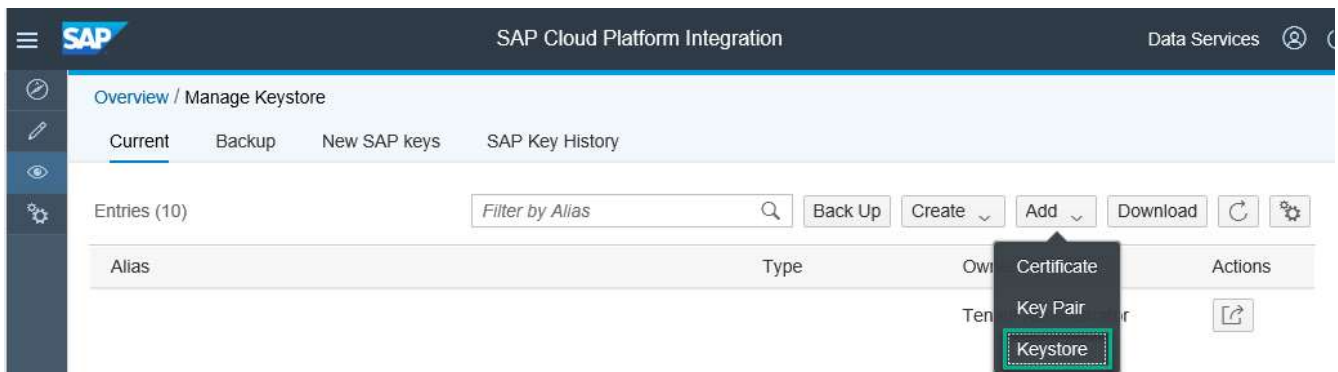


Figure 4. Add PFX-File to the keystore

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 'Send Finance Tax Data' integration flow details in the SAP Cloud Platform Integration (CPI) console. At the top, the title 'Send Finance Tax Data' is shown alongside 'Restart' and 'Undeploy' buttons. Below this, deployment information is provided: 'Deployed On: Jul 12, 2019, 14:52:44', 'ID: Send\_FI\_Tax\_Data', 'Deployed By: [redacted]', and 'Version: 1.0.23'. A navigation bar includes tabs for 'Endpoints', 'Status Details', 'Artifact Details', and 'Log Configuration'. The 'Endpoints' tab is active, showing the URL 'https://[redacted]/http/FI\_ELSTER\_HTTP' with a copy icon. Below the tabs, the 'Status Details' section shows a green message box stating 'The Integration Flow is deployed successfully.'

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

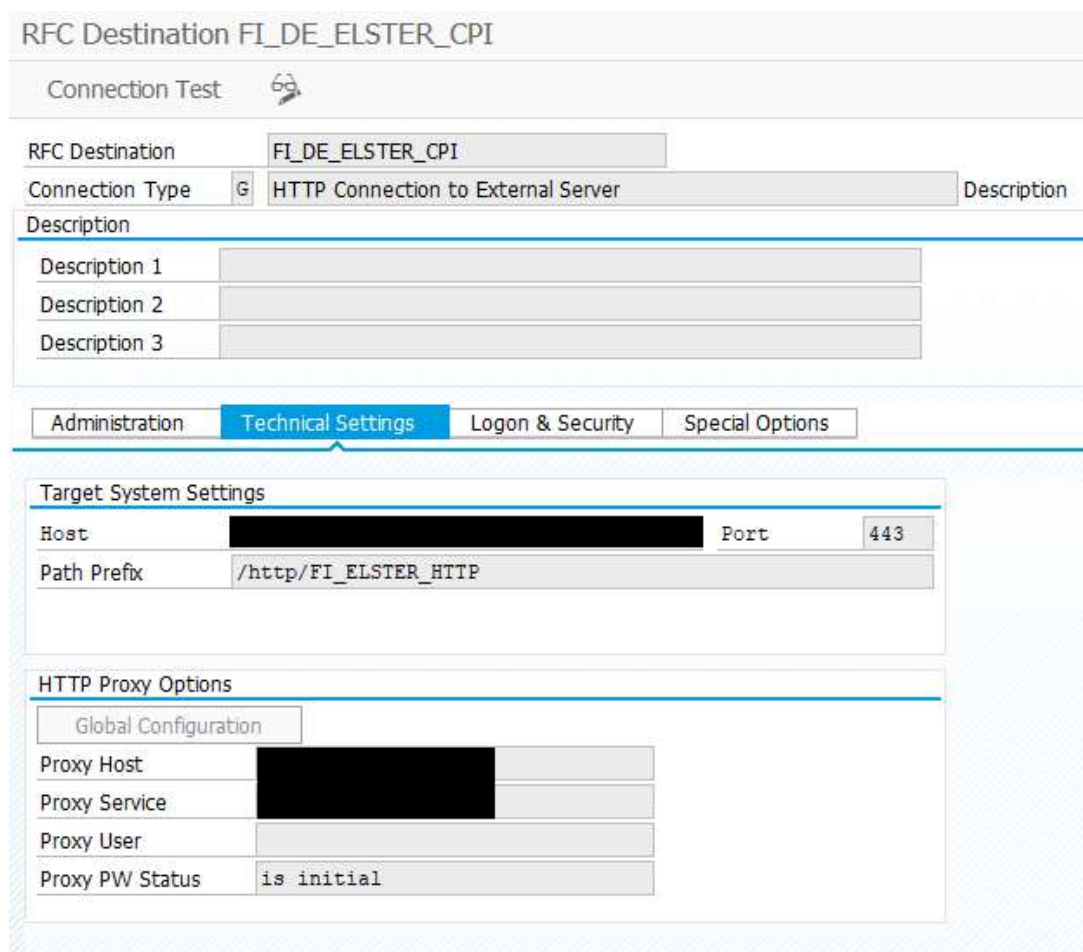
To setup a secure HTTPS connection between the application system (HR/Finance) and the Cloud Integration tenant, add the load balancer root certificate to the HR/Finance trust store. Further details are available in the




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/>

1. Start transaction SM59.
2. To create a new connection, select Edit-> Create.
3. For the RFC destination, enter value *FI\_DE\_ELSTER\_CPI* for the connection name.
4. Set connection type *G* (http connection to external serv).
5. Enter *ELSTER HTTPS – CPI connection* in the *Description* field.
6. On the *Technical Settings* tab, enter the following values:
  - a. *Target Host*: < IFLMAP URL for the CPI tenant>  
Note: Make sure that you don't enter https:// in the field *Target Host*  
Example: 1234567890-iflmap.hcisbp.eu3.hana.ondemand.com
  - b. *Service No.*: 443
  - c. *Path Prefix*: /http/FI\_ELSTER\_HTTP
  - d. *http Proxy Options* <Enter own proxy values>

Example:



RFC Destination FI\_DE\_ELSTER\_CPI

Connection Test 

RFC Destination

Connection Type  HTTP Connection to External Server Description

Description

Description 1

Description 2

Description 3

Administration **Technical Settings** Logon & Security Special Options

Target System Settings

Host  Port

Path Prefix

HTTP Proxy Options

Global Configuration

Proxy Host

Proxy Service

Proxy User

Proxy PW Status

Figure 7. Transaction SM59 - Customizing HTTPS Connection

## 7. Logon & Security tab

There are two options for setting up the authentication: basic authentication or client certificate-based authentication. The more secure option is to use client certificates.

### Basic Authentication

- 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>

In the Logon & Security tab enter:

- a. Logon with user: Choose *Basic Authentication* and enter a valid user and password for logging on to CPI
- b. Logon with ticket: Select *Do Not Send Logon Ticket*
- c. Security options: Select *SSL Active* and *SSL Certificate Default SSL Client (Standard)*

Example:

The screenshot displays the configuration page for RFC Destination FI\_DE\_ELSTER\_CPI. The 'Logon & Security' tab is selected and highlighted with a red box. The configuration is as follows:

- Logon Procedure:**
  - Logon with User:** ☒ Basic authentication. User: [redacted], PW Status: saved.
  - Logon with Ticket:** ☒ Do not send logon ticket.
  - Logon with MQTT:** User: [redacted], PW Status: is initial.
- Security Options:**
  - Status of Secure Protocol:** ☒ Active.
  - SSL Certificate:** DEFAULT SSL Client (Standard).
- Authorization for Destination:** [redacted]

Figure 8. Transaction SM59 - Customizing HTTPS Connection

## Client certificate-based authentication

- Set up the client certificate in the HR/Finance system and upload to Cloud Integration in the certificate-to-user mapping as described in the blog *How to setup 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 Finance Customizing

### 4.2.1 FOTED1

Customization takes place in two steps. First, run transaction FOTED1. Enter return type 0001 and execute.

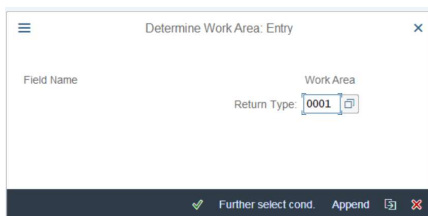


Figure 9. Transaction FOTED1

You can also use return types 0011 or 0012. These will also be transmitted via the CPI as long as you make the corresponding change to the transmission method in return type 0001.

Create a new entry. Enter a company code, the country (DE), select the **Transfer Type**, and define the **Period**. For **Transfer Type**, select **CP**. **Save** your changes.

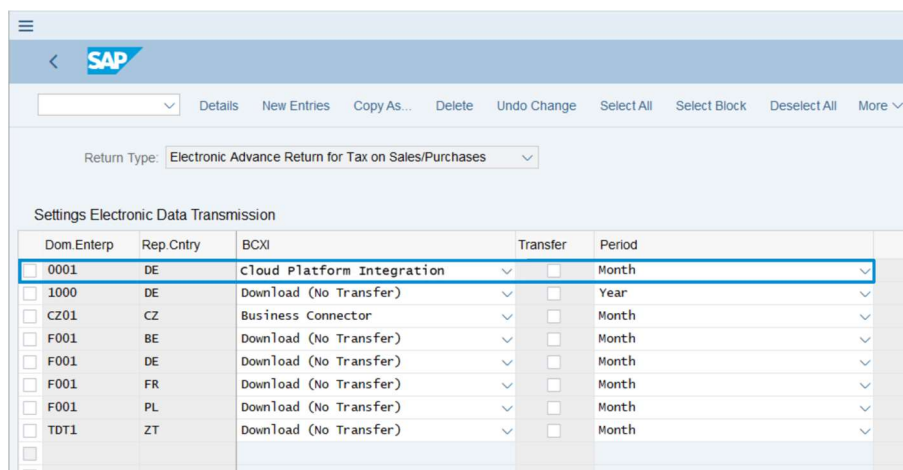


Figure 10. Transaction FOTED1

#### 4.2.2 FOTED2

Run transaction FOTED2. Enter the return type, then enter the company code that you defined in the previous configuration step. Enter the country key (DE), and execute. Then fill in the required fields as shown in Figure 12.

Determine Work Area: Entry

Field Name: Work Area

Return Type: 0001

Dominant Enterprise/Company Co.: 0001

Country of Reporting Authority: DE

Further select cond. Append

Figure 11. Transaction FOTED2

SAP

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

Dom.Ent./CoCode: 1010

Rep. Country: DE

Parameter Values Electronic Data Transmission

Reporting Country-Spec. Parameter Text	ParameterValue 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	
<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	

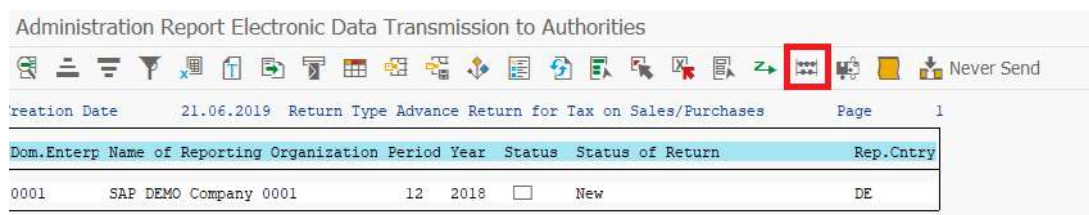
Figure 12. Transaction FOTED2

## 5. TESTING

For testing return type 0001, use transaction FOTV. Please note that this transaction uses data generated using report RFUMSV00. For this to test to function properly, you need to have postings with taxes and the correct tax box mappings.

For testing return type 0011 or 0012, use transaction FOTV. The data needed for the test are generated using transaction FOTP. Generating this data requires entries in view V\_T007J.

To run the test, select the test button in transaction FOTV.



Creation Date	21.06.2019	Return Type	Advance Return for Tax on Sales/Purchases	Page	1
Dom. Enterp Name of Reporting Organization	Period Year	Status	Status of Return	Rep. Cntry	
0001	SAP DEMO Company 0001	12	2018	<input type="checkbox"/> New	DE

## 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.

## 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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