

CCH[®] SureTax[®]

CCH[®] SureTax[®] Integration for SAP S/4HANA Cloud Technical Guide

v2.0.8

3/25/2021

Table of Contents

1	Introduction	3
2	Installation and Configuration	3
2.1	Requirements:.....	3
2.2	SAP S4HC Configuration Requirements	3
2.3	Package needed for Installation:	3
2.4	In SAP CI: Install Package and Deploy Artifacts.....	3
2.5	In SAP CI: Configure your SAP CI instance for CCH SureTax Artifacts (iFlows).....	5
2.6	In SAP CI: Configure CCH SureTax URLs	7
2.7	In CI: Configure Default Values used by Artifacts for CCH SureTax API Requests	10
2.8	Configure S4/HANA Public Cloud system with External Sales and Use Tax Calculation (SAP_COM_0177).....	11
2.9	In SAP S4HC Configure Tax Jurisdiction Code Structure to use CCH SureTax Geocode.....	11
2.10	In S4HC Disable Tax Calculation on line-by-line basis.....	12
2.11	In S4HC: Update Tax Jurisdiction Code for all addresses	13
2.12	In S4HC: Update Tax Jurisdiction Code for Company Code & Plant Master Data	13
3	CCH SureTax iFlows Configuration with Externalized Parameters	15
4	CCH SureTax iFlows Logging and Log Configuration	17
5	CCH SureTax iFlows Error Codes and Messages	18
6	SAP S4HC Data Mappings to CCH SureTax's Web Service Data Elements used in Artifacts.....	19
7	Important Notes and Known Issues:.....	24
8	Release Notes.....	25

1 Introduction

This guide will cover technical details for CCH SureTax's iFlows used to integrate with SAP's 'External Sales & Use Tax Calculation – Integration with 3rd Party Tax Solution on SAP S/4HANA Cloud (S4HC)'.

This integration supports:

- General Merchandise
- Certified by SAP ICC
- Support for SAP S4HC 2011

This uses SAP Communication Scenario SAP_COM_0177, which uses 6 outbound services from S4HC to pass all needed data to CCH SureTax Artifacts (iFlows) deployed on CI.

1. CO_TAX_JURI_DETER_SPRX: Determine Tax Jurisdiction Codes
2. CO_TAX_CALCULATION_SPRX: Calculate Taxes
3. CO_TAX_UPDATE_SPRX: Update Tax Documents
4. CO_TAX_FORCE_UPDATE_SPRX: Force Update Tax Documents
5. CO_TAX_JURI_GET_CHANGE_LIST_SPRX: Gets all changed Tax Jurisdiction Codes
6. CO_TAX_JURI_REDEFINE_SPRX: Mass Redefine Tax Jurisdiction Codes

2 Installation and Configuration

2.1 Requirements:

- CCH SureTax account for V07 with an active ClientNumber and ValidationKey
- SAP Cloud Integration (CI formerly CI) instance
 - Used for Deploying SAP integration Flows (iFlows)
- SAP S4HANA Cloud (S4HC)

2.2 SAP S4HC Configuration Requirements

- DOC_NUMBER is expected to be unique
- TAX_DATE is expected to be the date of the transaction
- REP_DATE is expected to be the date of posting of the transaction

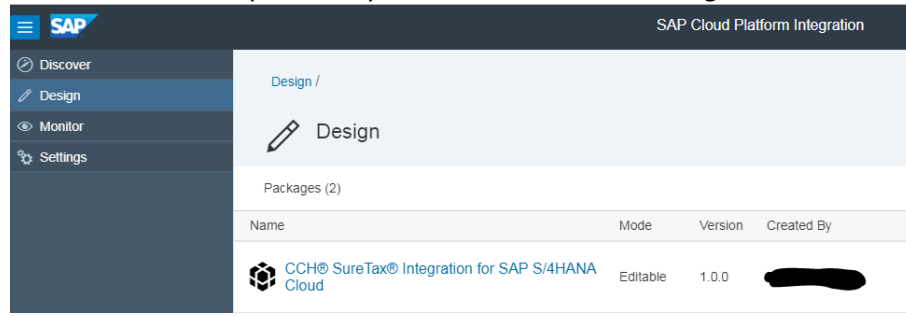
2.3 Package needed for Installation:

- Get the latest SAP CI package for CCH SureTax (CCH SureTax Integration for SAP S/4HANA Cloud).
 - This package contains the following CCH SureTax artifacts (iFlows):
 - CalculateTax
 - DetermineJurisdiction
 - UpdateTax
 - ForceUpdate
 - GetChanged
 - MassRedefine

2.4 In SAP CI: Install Package and Deploy Artifacts

- Log in to your SAP CI instance and click on 'Design'

- If you have the CCH SureTax package
 - Select 'Import' from the top right corner
 - Import using the CCH SureTax package (CCH® SureTax® Integration for SAP S/4HANA Cloud)
 - Alternative:
 - You can use SAP CI's Discover section and search (if available) from there
 - You should see it imported in your SAP CI instance -> 'Design':



-
- To Deploy in SAP CI, you can go to 'Design' -> select the CCH SureTax package -> Select 'Artifacts' tab -> deploy each of the below artifacts via 'Actions':
 - CalculateTax
 - DetermineJurisdiction
 - All steps for CCH SureAddress in this document are only required if Address Validation is enabled for DetermineJurisdiction iFlow.
 - Address Validation using CCH SureAddress is used only when address validation is enabled, CCH SureAddress connection and user are setup in SAP CI, and the address received in TAX_JURISDICTION_SEND from SAP meets the minimum address requirements.
 - CCH SureAddress requires at minimum the following:
 - PrimaryAddressLine
 - State
 - City or Zipcode
 - UpdateTax
 - ForceUpdate
 - MassRedefine
 - GetChanged
- Verify deployment via SAP CI -> 'Monitor' -> Manage Integration Content -> 'All'

Overview / Manage Integration Content

Integration Content (6)

Name	Status
CCH SureTax - Update Tax Integration Flow	Started
CCH SureTax - Mass Redefine Integration Flow	Started
CCH SureTax - Get Changed Integration Flow	Started
CCH SureTax - Force Update Integration Flow	Started
CCH SureTax - Determine Jurisdiction Integration Flow	Started
CCH SureTax - Calculate Tax Integration Flow	Started

2.5 In SAP CI: Configure your SAP CI instance for CCH SureTax Artifacts (iFlows)

- Add 'suretaxuser' to SAP CI:
 - Log into SAP CI and select 'Monitor' -> open 'Security Material'
 - Click on Add -> User Credentials
 - Name = suretaxuser
 - Use this exact name because it is used by the iFlows
 - User = Your CCH SureTax ClientNumber
 - Password = Your CCH SureTax ValidationKey
 - After adding, you should see:

SAP Cloud Platform Integration

Discover Design Monitor Settings

Overview / Manage Security Material

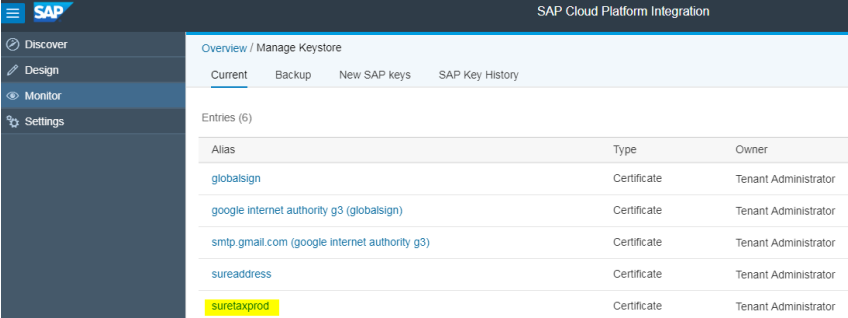
Security Material (4)

Name	Type	Status
system.jks	Keystore	Deployed
suretaxuser	Credentials	Deployed

- Add 'sureaddressuser' to SAP CI:
 - Log into SAP CI and select 'Monitor' -> open 'Security Material'
 - Click on Add -> User Credentials
 - Name = sureaddressuser
 - Use this exact name because it is used by the iFlows

- User = Your CCH SureAddress ClientNumber
 - Password = Your CCH SureAddress ValidationKey
 - Add CCH SureTax's SSL certificate to the keystore for connections to work
 - Log into SAP CI and select 'Monitor' -> open 'Manage Keystore'
 - Click on Add -> Certificate
 - Alias = you can use a descriptive name here (e.g. suretaxprod)
 - File = upload SSL certificate for CCH SureTax
 - You can easily download the SSL certificate by using your internet browser.
 - E.g. for Cert
 - With your browser go to <https://testapi.taxrating.net> (hostname may vary for Production/Cert/QA)
 - Use browser's export certificate feature (steps vary depending on browser used)
 - Note that you do not need to export the 'chain' version of this file as it may exceed the max upload size in SAP CI for certificates.

- After adding, you should see:



The screenshot shows the 'Manage Keystore' interface in SAP Cloud Platform Integration. The table below represents the data shown in the interface:

Alias	Type	Owner
globalsign	Certificate	Tenant Administrator
google internet authority g3 (globalsign)	Certificate	Tenant Administrator
smlp.gmail.com (google internet authority g3)	Certificate	Tenant Administrator
sureaddress	Certificate	Tenant Administrator
suretaxprod	Certificate	Tenant Administrator

- You can verify connectivity via 'Monitor' -> 'Connectivity Tests' -> enter CCH SureTax hostname (e.g. testapi.taxrating.net)
 - Add CCH SureAddress's SSL certificate to the keystore for connections to work
 - Log into SAP CI and select 'Monitor' -> open 'Manage Keystore'
 - Click on Add -> Certificate
 - Alias = you can use a descriptive name here (e.g. sslcertsureaddress)
 - File = upload SSL certificate for CCH SureTax
 - You can easily download the SSL certificate by using your internet browser.
 - E.g. for Cert
 - With your browser go to <https://testapi.sureaddress.net/sureaddress.asmx> (hostname may vary for Production/Cert/QA)
 - Use browser's export certificate feature (steps vary depending on browser used)
 - Note that you do not need to export the 'chain' version of this file as it may exceed the max upload size in SAP CI for certificates.
 - After adding, you should see:

Configure "CCH SureTax - Determine Jurisdiction"

Sender Receiver More

Receiver: SureAddress_Receiver

Adapter Type: SOAP

Connection

Address: https://testapi.sureaddress.net/sureaddress.asmx

Timeout (in ms): 60000

- You can Optionally enable address validation from the above form by selecting 'More' in the header and entering '1' for Enable_Address_Validation field:

Configure "CCH SureTax - Determine Jurisdiction"

Sender Receiver More

Type: All Parameters

Enable_Address_Validation: 0

- Open SAP CI -> 'Design' -> Select the CCH SureTax package -> Select **CalculateTax Artifact** -> Click on 'Edit'
 - Select 'Receiver' tab there is 'Connection' section where in 'Address' field would hold the URL to SureTax API.
 - Edit the hostname in the Address field
 - Click on Save and then Deploy
 - Highlighted areas are referred to in the above steps

Configure "CCH SureTax - Calculate Tax"

Sender Receiver More

Receiver: SureTax_Receiver

Adapter Type: SOAP

Connection

Address: https://testapi.taxrating.net/Services/V07/SureTax.asmx

Timeout (in ms): 60000

-
- Open SAP CI -> 'Design' -> Select the CCH SureTax package -> Select **UpdateTax Artifact** -> Click on 'Edit'
 - Select 'Receiver' tab there is 'Connection' section where in 'Address' field would hold the URL to SureTax API.
 - Edit the hostname in the Address field
 - Click on Save and then Deploy
 - Highlighted areas are referred to in the above steps

Configure "CCH SureTax - Update Tax"

The screenshot shows the configuration interface for 'CCH SureTax - Update Tax'. It features three tabs: 'Sender', 'Receiver', and 'More'. The 'Receiver' tab is active. Under the 'Connection' section, the following fields are visible: 'Receiver' is set to 'SureTax_Receiver', 'Adapter Type' is 'SOAP', 'Address' is 'https://testapi.taxrating.net/Services/V07/SureTax.asmx', and 'Timeout (in ms)' is '60000'. The 'Address' field is highlighted in yellow.

-
- Open SAP CI -> 'Design' -> Select the CCH SureTax package -> Select **ForceUpdate Artifact** -> Click on 'Configure'
 - Select 'Receiver' tab there is 'Connection' section where in 'Address' field would hold the URL to SureTax API.
 - Edit the hostname in the Address field
 - Click on Save and then Deploy
 - Highlighted areas are referred to in the above steps

Configure "CCH SureTax - Force Update"

The screenshot shows the configuration interface for 'CCH SureTax - Force Update'. It features three tabs: 'Sender', 'Receiver', and 'More'. The 'Receiver' tab is active. Under the 'Connection' section, the following fields are visible: 'Receiver' is set to 'SureTax_Receiver', 'Adapter Type' is 'SOAP', 'Address' is 'https://testapi.taxrating.net/Services/V07/SureTax.asmx', and 'Timeout (in ms)' is '60000'. The 'Address' field is highlighted in yellow.

-
- Open SAP CI -> 'Design' -> Select the CCH SureTax package -> Select **MassRedefine Artifact** -> Click on 'Configure'
 - Select SOAP connection between Request Reply and SureTax_Receiver
 - Click on the Connection tab
 - Edit the hostname in the Address field
 - Highlighted areas are referred to in the above steps

Configure "CCH SureTax - Mass Redefine"

The screenshot shows the configuration interface for 'CCH SureTax - Mass Redefine'. It features three tabs: 'Sender', 'Receiver', and 'More'. The 'Receiver' tab is active. Under the 'Connection' section, the following fields are visible: 'Receiver' is set to 'SureTax_Receiver', 'Adapter Type' is 'SOAP', 'Address' is 'https://testapi.taxrating.net/Services/V07/SureTax.asmx', and 'Timeout (in ms)' is '60000'. The 'Address' field is highlighted in yellow.

- Open SAP CI -> 'Design' -> Select the CCH SureTax package -> Select **GetChanged Artifact** -> Click on 'Configure'
 - Select SOAP connection between Request Reply and SureTax_Receiver
 - Click on the Connection tab
 - Edit the hostname in the Address field
 - Highlighted areas are referred to in the above steps

Sender	Receiver
	Receiver: SureTax_Receiver
	Adapter Type: SOAP
Connection	Address: https://testapi.taxrating.net/Services/V07/SureTax.asmx
	Timeout (in ms): 60000

2.7 In CI: Configure Default Values used by Artifacts for CCH SureTax API Requests

Various other CCH SureTax values can be configured using externalized parameters for each iFlow. Please see section 3 ("CCH SureTax iFlows Configuration with Externalized Parameters") for a complete list. Below are some common configurations for CCH SureTax.

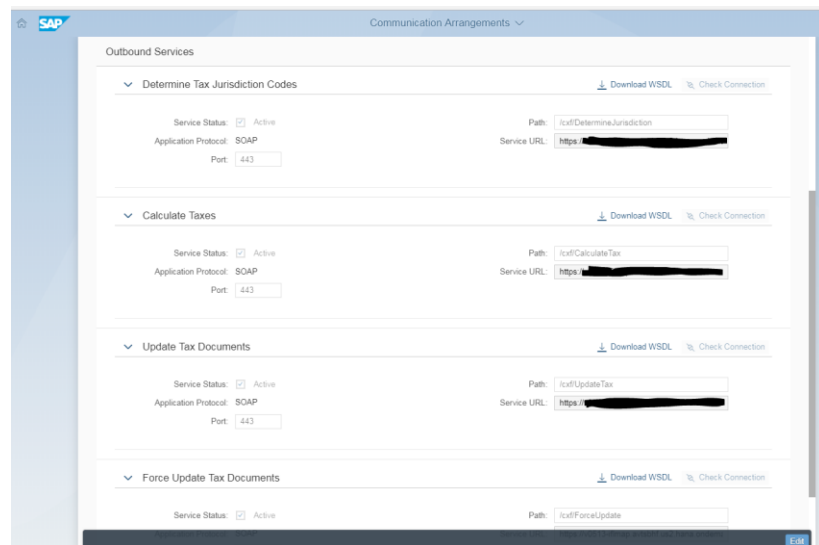
- Update by opening CCH SureTax Package -> open artifacts CalculateTax or UpdateTax or ForceUpdate -> Configure -> More, all the fields that can be configured are under this tab
 - BusinessUnit
 - SalesTypeCode
 - 'R' is default
 - RegulatorCode
 - '99' is default
 - UnitType
 - '00' is default
 - Other CCH SureTax fields can be edited to match your business needs, but the above are the most common elements.
 - Screenshot of Configure page is as follows and it contains all the fields that can be set top a default value:

Sender	Receiver	More
		Type: All Parameters
		SureTax_APRateOverride: 3
		SureTax_ARRateOverride: 0
		SureTax_AuxRevenueType: 02
		SureTax_BusinessUnit: SAPBusinessUnit
		SureTax_CommonCarrier: 1
		SureTax_DefaultExemptReason: 99
		SureTax_DefaultTransTypeCode: 990103
		SureTax_FreightOnBoard: D
		SureTax_MailOrder: 0
		SureTax_Param1:
		SureTax_Param2:
		SureTax_Param3:
		SureTax_Param4:
		SureTax_Param5:
		SureTax_Param6:
		SureTax_Param7:
		SureTax_Param8:

Save Deploy Close

2.8 Configure S4/HANA Public Cloud system with External Sales and Use Tax Calculation (SAP_COM_0177)

- Download and follow the directions in SAP_COM_0177_ConfigGuide file, which can be found in SAP Release Note for external Sales and Use Tax Calculation - <https://launchpad.support.sap.com/#/notes/2598888>
 - Directions for following SAP_COM_0177_ConfigGuide file:
 - In S4HC's Fiori LaunchPad - when you create the Communication Arrangement for SAP_COM_0177, please follow the below directions.
 - Outbound Services section should have the following settings to match CCH SureTax iFlows:
 - Determine Tax Jurisdiction Codes
 - Path = /cxf/DetermineJurisdiction
 - Calculate Taxes
 - Path = /cxf/CalculateTax
 - Update Tax Documents
 - Path = /cxf/UpdateTax
 - Force Update Tax Documents
 - Path = /cxf/ForceUpdate
 - Get Changed Jurisdictions
 - Path = /cxf/GetChanged
 - Mass Redefine Jurisdiction Code
 - Path = /cxf/MassRedefine
- Screenshot of Outbound Services section



- More documentation from SAP release note can be found here - <https://launchpad.support.sap.com/#/notes/2528016>

2.9 In SAP S4HC Configure Tax Jurisdiction Code Structure to use CCH SureTax Geocode

This is required for configuration.

External US Tax Jurisdiction Code should be set to the following, below is screenshot from SAP S4HC Fiori Launchpad. The steps to reach the below form is found in SAP's External Tax Calculation Integration Configuration Guide -> Specify the Tax Jurisdiction Code section:



Alternatively, the below can be performed by a SAP expert using SAP GUI:

Following steps are from SAP:

Specify Structure for Tax Jurisdiction Code

Use

In this activity, you determine the structure of the tax jurisdiction code. This code is used for calculating taxes which are defined below the federal level (for example, US taxes, Canadian taxes). The tax jurisdiction code can be subdivided into a maximum of four levels (for example, state/county/city/district). This way the tax rate is defined per level and the tax value is calculated individually per level

Procedure

To perform the activity, do one of the following:

IMG Menu	<i>Financial Accounting (New) → Financial Accounting Basic Settings (New) → Tax on Sales / Purchases → Basic Settings → Specify Structure for Tax Jurisdiction</i>
Transaction code	OBCO

Make the following entries:

Schema	Name	LG columns
OTXUSX	Standard US Tax Jurisdiction Code	In the four Lg columns, from left to right, enter 2, 2, 3, 5

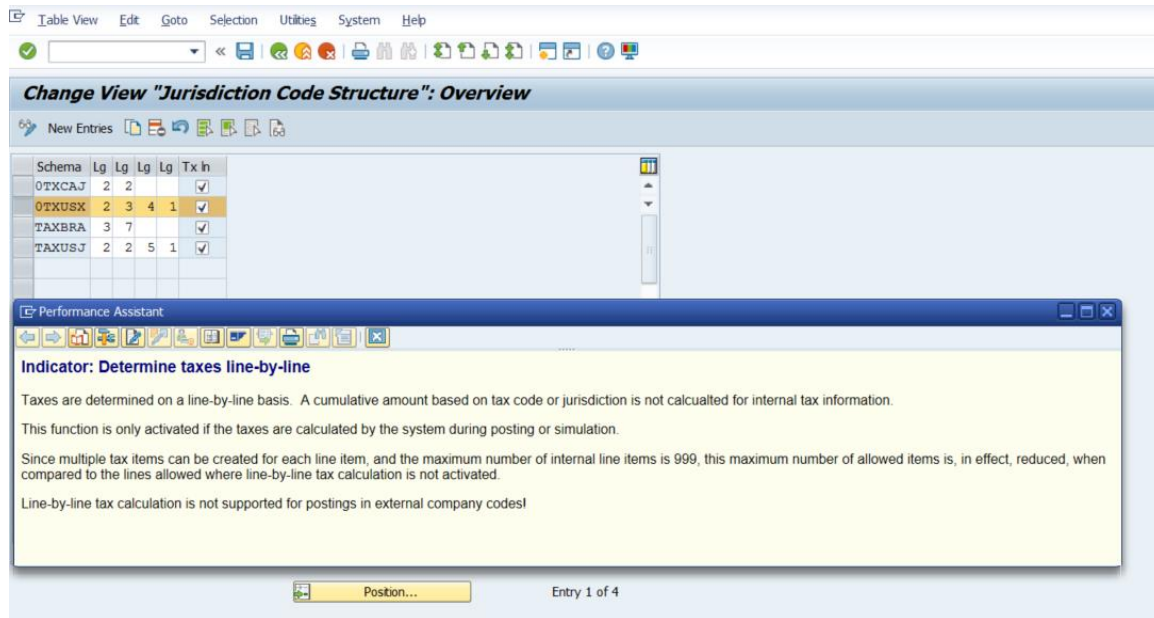
Choose *Save*.

2.10 In S4HC Disable Tax Calculation on line-by-line basis

This is recommended for accurate tax calculation.

To be performed by a SAP expert.

There is a configuration setting on the tax jurisdiction structure definition that controls whether tax is determined on a line-by-line basis. This can be set on:



2.11 In S4HC: Update Tax Jurisdiction Code for all addresses

Required: SAP Tax Jurisdiction Codes for every stored address must be updated before the CCH SureTax integration can be used.

Here are the directions to update all the jurisdictions at once

- In your SAP Fiori LaunchPad:
 - Open Schedule Tax Job App
 - Select New (+)
 - Under Job Template select → External Tax Jurisdiction Code Mass Update
 - Under same screen Parameters section select all options Cost Center, Business Partner and Profit Center. You can select the last changed date as well.
 - Click on Schedule which will call GetChanged iFlow and then Mass Redefine iFlow.

2.12 In S4HC: Update Tax Jurisdiction Code for Company Code & Plant Master Data

Here are directions for updating your Company Code and Plan Master Data

- In your SAP Fiori LaunchPad:
 - Open Manage your solution -> Configure your Solution
 - Search for 'company code master data' (for plant: search for 'plant')
 - Select the search result (for plant: click on 'Logistics')
 - Click on Configure for 'Company Code Master Data' (for plant: click on configure for 'Plants')
 - Select Address you want to update
 - Click on Edit
 - Update value for Tax Jurisdiction to match CCH SureTax geocode for that address

- There is a limitation with Fiori LaunchPad, so you must manually enter the CCH SureTax geocode.
- An easy way to find the geocode is to use the DetermineJurisdiction iFlow via a test Business Partner address, or using a SOAP client like SOAP UI or Postman to call the DetermineJurisdiction iFlow you have deployed to your SAP CI instance.

3 CCH SureTax iFlows Configuration with Externalized Parameters

All CCH SureTax iFlows can be configured with externalized parameters.

Externalized parameters can be accessed in SAP CI -> CCH SureTax Integration package -> <Select any CCH SureTax artifact (iFlow) -> click on 'Configure' link on top right of your browser.

Following is a complete list of CCH SureTax externalized parameters that you can 'Configure' along with their default values:

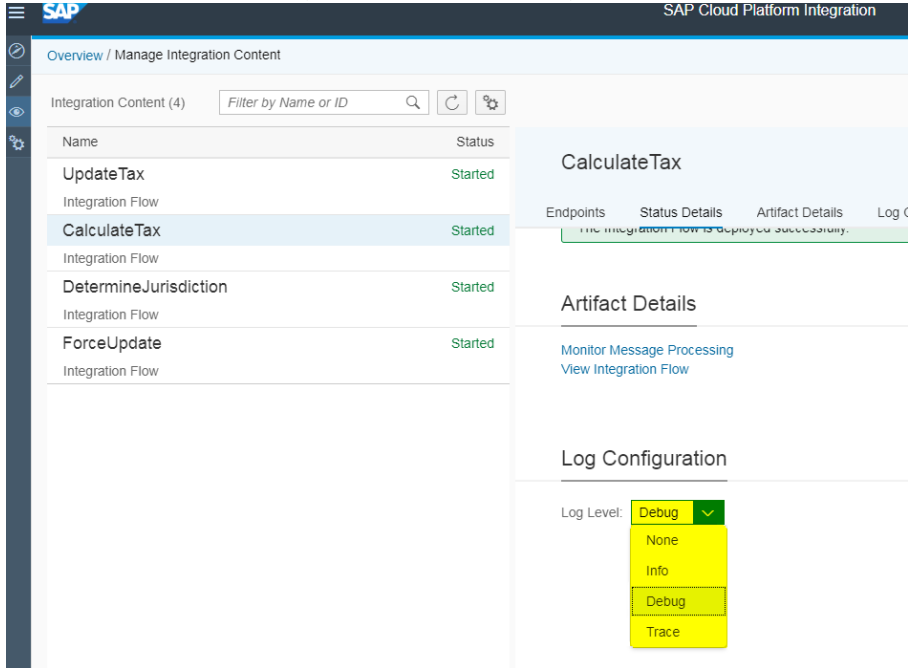
Artifact/iFlow	Section	Externalized Parameter	SureTax Mapping	Default Value
CalculateTax	Sender	Authorization		User Role (aka RoleBased)
CalculateTax	Sender	Body Size		40
CalculateTax	Sender	Attachments Size		100
CalculateTax	Receiver	Address		https://<suretax_hostname>/Services/V07/SureTax.asmx
CalculateTax	Receiver	Timeout		60000
CalculateTax	More	{{SureTax_BusinessUnit}}	BusinessUnit	SAPBusinessUnit
CalculateTax	More	{{SureTax_DefaultTransTypeCode}}	TransTypeCode	990101
CalculateTax	More	{{SureTax_UnitType}}	UnitType	"00"
CalculateTax	More	{{SureTax_TaxSitusRule}}	TaxSitusRule	22
CalculateTax	More	{{SureTax_SalesTypeCode}}	SalesTypeCode	R
CalculateTax	More	{{SureTax_RegulatoryCode}}	RegulatoryCode	99
CalculateTax	More	{{SureTax_UDF}}	UDF	
CalculateTax	More	{{SureTax_UDF2}}	UDF2	
CalculateTax	More	{{SureTax_FreightOnBoard}}	FreightOnBoard	D
CalculateTax	More	{{SureTax_ShipFromPOB}}	ShipFromPOB	1
CalculateTax	More	{{SureTax_MailOrder}}	MailOrder	1
CalculateTax	More	{{SureTax_CommonCarrier}}	CommonCarrier	1
CalculateTax	More	{{SureTax_AuxRevenueType}}	AuxRevenueType	03
CalculateTax	More	{{SureTax_ARRuleOverride}}	RuleOverride	0
CalculateTax	More	{{SureTax_APRuleOverride}}	RuleOverride	3
CalculateTax	More	{{SureTax_ExemptReason}}	ExemptReason	
CalculateTax	More	{{SureTax_Param1}}	Param1	
CalculateTax	More	{{SureTax_Param2}}	Param2	
CalculateTax	More	{{SureTax_Param3}}	Param3	
CalculateTax	More	{{SureTax_Param4}}	Param4	
DetermineJurisdiction	Sender	Authorization		User Role (aka RoleBased)
DetermineJurisdiction	Sender	Body Size		40
DetermineJurisdiction	Sender	Attachments Size		100
DetermineJurisdiction	Receiver	Address		https://<suretax_hostname>/Services/V07/SureTax.asmx
DetermineJurisdiction	Receiver	Timeout		60000
DetermineJurisdiction	More	Enable_Address_Validation (When SureAddress_Receiver Selected)		0 ('1' can be used to enable Address Validation using CCH SureAddress)
DetermineJurisdiction	Receiver	Address		https://<sureaddress_hostname>/sureaddress.asmx
ForceUpdate	Sender	Authorization		User Role (aka RoleBased)
ForceUpdate	Sender	Body Size		40
ForceUpdate	Sender	Attachments Size		100
ForceUpdate	Receiver	Address		https://<suretax_hostname>/Services/V07/SureTax.asmx
ForceUpdate	Receiver	Timeout		60000
ForceUpdate	More	{{SureTax_BusinessUnit}}	BusinessUnit	SAPBusinessUnit
ForceUpdate	More	{{SureTax_DefaultTransTypeCode}}	TransTypeCode	990101
ForceUpdate	More	{{SureTax_UnitType}}	UnitType	"00"

ForceUpdate	More	{{SureTax_TaxSitusRule}}	TaxSitusRule	22
ForceUpdate	More	{{SureTax_SalesTypeCode}}	SalesTypeCode	R
ForceUpdate	More	{{SureTax_RegulatoryCode}}	RegulatoryCode	99
ForceUpdate	More	{{SureTax_UDF}}	UDF	
ForceUpdate	More	{{SureTax_UDF2}}	UDF2	
ForceUpdate	More	{{SureTax_FreightOnBoard}}	FreightOnBoard	D
ForceUpdate	More	{{SureTax_ShipFromPOB}}	ShipFromPOB	1
ForceUpdate	More	{{SureTax_MailOrder}}	MailOrder	1
ForceUpdate	More	{{SureTax_CommonCarrier}}	CommonCarrier	1
ForceUpdate	More	{{SureTax_AuxRevenueType}}	AuxRevenueType	03
ForceUpdate	More	{{SureTax_ARRuleOverride}}	RuleOverride	0
ForceUpdate	More	{{SureTax_APRuleOverride}}	RuleOverride	3
ForceUpdate	More	{{SureTax_DefaultExemptReason}}	ExemptReason	
ForceUpdate	More	{{SureTax_Param1}}	Param1	
ForceUpdate	More	{{SureTax_Param2}}	Param2	
ForceUpdate	More	{{SureTax_Param3}}	Param3	
ForceUpdate	More	{{SureTax_Param4}}	Param4	
GetChanged	Sender	Authorization		User Role (aka RoleBased)
GetChanged	Sender	Body Size		40
GetChanged	Sender	Attachments Size		100
GetChanged	Receiver	Address		https://<suretax_hostname>/Services/V07/SureTax.asmx
GetChanged	Receiver	Timeout		60000
MassRedefine	Sender	Authorization		User Role (aka RoleBased)
MassRedefine	Sender	Body Size		40
MassRedefine	Sender	Attachments Size		100
MassRedefine	Receiver	Address		https://<suretax_hostname>/Services/V07/SureTax.asmx
MassRedefine	Receiver	Timeout		60000
UpdateTax	Sender	Authorization		User Role (aka RoleBased)
UpdateTax	Sender	Body Size		40
UpdateTax	Sender	Attachments Size		100
UpdateTax	Receiver	Address		https://<suretax_hostname>/Services/V07/SureTax.asmx
UpdateTax	Receiver	Timeout		60000
UpdateTax	More	{{SureTax_BusinessUnit}}	BusinessUnit	SAPBusinessUnit
UpdateTax	More	{{SureTax_DefaultTransTypeCode}}	TransTypeCode	990101
UpdateTax	More	{{SureTax_UnitType}}	UnitType	00
UpdateTax	More	{{SureTax_TaxSitusRule}}	TaxSitusRule	22
UpdateTax	More	{{SureTax_SalesTypeCode}}	SalesTypeCode	R
UpdateTax	More	{{SureTax_RegulatoryCode}}	RegulatoryCode	99
UpdateTax	More	{{SureTax_UDF}}	UDF	
UpdateTax	More	{{SureTax_UDF2}}	UDF2	
UpdateTax	More	{{SureTax_FreightOnBoard}}	FreightOnBoard	D
UpdateTax	More	{{SureTax_ShipFromPOB}}	ShipFromPOB	1
UpdateTax	More	{{SureTax_MailOrder}}	MailOrder	1
UpdateTax	More	{{SureTax_CommonCarrier}}	CommonCarrier	1
UpdateTax	More	{{SureTax_AuxRevenueType}}	AuxRevenueType	03
UpdateTax	More	{{SureTax_ARRuleOverride}}	RuleOverride	0
UpdateTax	More	{{SureTax_APRuleOverride}}	RuleOverride	3
UpdateTax	More	{{SureTax_DefaultExemptReason}}	ExemptReason	
UpdateTax	More	{{SureTax_Param1}}	Param1	
UpdateTax	More	{{SureTax_Param2}}	Param2	
UpdateTax	More	{{SureTax_Param3}}	Param3	
UpdateTax	More	{{SureTax_Param4}}	Param4	

4 CCH SureTax iFlows Logging and Log Configuration

In SAP CI all CCH SureTax iFlows log at the DEBUG or TRACE levels, which can be set for deployed artifacts' Log Configuration.

- CCH SureTax artifacts will log all payloads when enabled.
 - Only recommended for debugging and not to be used on production systems.
- Artifact Log configuration is accessed via SAP CI -> Monitor -> Manage Integration Content -> All -> select artifact (see below screenshot)



5 CCH SureTax iFlows Error Codes and Messages

Error codes and messages returned by CCH SureTax iFlows.

1xxx for General iFlow issue:

- 1001: Duplicate TID 'XXXXXXXXXXXXXXXXXXXX' used in update call
- 1002: Credential Error: 'XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX'
- 1999: Uncatched Error: 'XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX'

2xxx for master data from SAP is missing external system:

- 2001: Company Code 'XXXX' is not supported in external system → Not supported
- 2002: Tax Type 'X' is not supported in external system → Not supported
- 2003: Material 'XXXXXX' is not supported in external system → Not supported
- 2004: Currency 'XXX' is not supported in external system → Supported for USD
- 2005: Tax Jurisdiction Code is not supported in external system. Invalid value for YYYYYY = 'XXXXX'
 - E.g. 2005: Tax Jurisdiction Code is not supported in external system. TXJCD_ST = '000000'

3xxx iFlow element errors (error raised by iFlow):

- 3001: Missing required data elements
- 3002: Script Error
- 3003: Router Error
- 3004: ZIPCODE has invalid value 'XXXX'
 - Returned by DetermineJurisdiction iFlow
- 3005: COUNTRY is required
 - Returned by DetermineJurisdiction iFlow
- 3006: STATE is required
 - Returned by DetermineJurisdiction iFlow

4xxx External network errors:

- 4001: Network Timeout
- 4002: Server not found

5xxx Soap Client Fault:

- 5001: Bad Date
- 5002: Jurisdiction Code not found
- 5003: Generic Soap Fault

6xxx Soap Server Fault:

- 6001: Database Error
- 6002: Calculation Failure not due to information in the request
- 6003: Address Validation Error: <Message from CCH SureAddress>

6 SAP S4HC Data Mappings to CCH SureTax's Web Service Data Elements used in Artifacts

DetermineJurisdiction Artifact		
<i>SureTax Field</i>	<i>SAP API Field</i>	<i>SAP Description</i>
CountryCode	COUNTRY	Required
StateCode	STATE	Required
County	COUNTY	Optional
City	CITY	Recommended
Zipcode	ZIPCODE	for US, ZIPCODE can be Zip 5 (e.g. 12345) or Zip 9 (e.g. 12345-1234) CCH SureTax Zipcode is Zip 5.
Plus4	ZIPCODE	if Zip Plus4 is available from ZIPCODE
PrimaryAddressLine (SureAddress)	STREET_ADDRESS->STREET	optional
SecondaryAddressLine (SureAddress)	STREET_ADDRESS->STREET1	optional
N/A	TXJCD_L1	2
N/A	TXJCD_L2	2
N/A	TXJCD_L3	3
N/A	TXJCD_L4	5
Geocode	TXJCD	SAP Tax Jurisdiction Code is set by CCH SureTax Geocode
N/A	OUTOF_CITY	
ResponseCode	RETCODE	0 for success (ResponseCode = 9999 for success)
ResponseCode	ERRCODE	0000 for success (ResponseCode = 9999 for success)

CalculateTax Artifact		
<i>SureTax Field</i>	<i>SAP API Field</i>	<i>SAP Description</i>
CurrencyCode	CURRENCY	CCH SureTax does not perform currency conversion, so currency is expected to be the currency of the Ship To country.
ResponseType	CURR_DEC	Currency Decimal value is taken and concatenated with D to map to ResponseType. E.g. 2 = D2
ReturnFileCode	N/A	Q for Quote
LineNumber	ITEM_NO	
CurrencyCode	COUNTRY	Expect 2 digit Country Code
TransTypeCode	MATNR	Material Number and Prod Code are mapped to TransTypeCode. ProdCode is sent. If not present then Material number is sent. If not default 990101 is sent

TransTypeCode	PROD_CODE	Material Number and Prod Code are mapped to TransTypeCode. ProdCode is sent. If not present then Material number is sent. If not default 990101 is sent
N/A	TAX_TYPE	Not Supported
TaxExemptionCodeList/ string	EXEMPT_AMT	Exempt amount is used to calculate the exemption percentage we set for TaxExemptionCodeList. We use code 99:(exempt percentage) for exemption and 00 otherwise
AuxRevenue	FREIGHT_AM	Freight amount is divided by 100 to get correct amount sent by SAP and mapped to AuxRevenue
AuxRevenueType	FREIGHT_AM	AuxRevenueType is set to default 03 (externalized variable) if we have freight amount. Otherwise it's 01.
Parameter5	N/A	Reserved for future use
Parameter6	N/A	Reserved for future use
Parameter7	N/A	Reserved for future use
Parameter8	N/A	Reserved for future use
Parameter9	SOLD_TO_CUST	If available, SOLD_TO_CUST is sent as Parameter9 in calculation requests
Parameter10	Constant	FREIGHT (SKU named 'FREIGHT' must be mapped in SureTax) is sent as Parameter10.
Units	QUANTITY	Quantity is divided by 1000 and mapped to units
N/A	TAX_PER_ITEM	X
N/A	NR_LINE_ITEMS	
RuleOverride	APAR_IND	If value of APAR_IND is A then RuleOverride is set to 1, if V then 2 else 0
TransDate	TAX_DATE	Date of the transaction
DataYear	TAX_DATE	Year is extracted from TAX_DATE and set to DataYear
DataMonth	TAX_DATE	Month is extracted from TAX_DATE and set to DataMonth
CmplDataYear	TAX_DATE	Year is extracted from TAX_DATE and set to CmplDataYear.
CmplDataMonth	TAX_DATE	Month is extracted from TAX_DATE and set to CmplDataMonth
ShipToAddress- Geocode	TXJCD_ST	Ship To geocode from SAP is mapped to ShipToAddress geocode. Expected to be CCH SureTax geocode.
ShipFromAddress- Geocode	TXJCD_SF	Expected to be CCH SureTax geocode.
OrderPlacementAddress- s-Geocode	TXJCD_POO	Expected to be CCH SureTax geocode. (Optional)
OrderApprovalAddress- Geocode	TXJCD_POA	Expected to be CCH SureTax geocode. (Optional)
N/A	AMOUNT	Not used since GROSS_AMOUNT is the same value

Revenue	GROSS_AMOUNT	Gross Amount is divided by 100 to get correct amount sent by SAP and mapped to each item level Revenue
TotalRevenue	GROSS_AMOUNT	Item Level Gross amounts added up and set to TotalRevenue at the SureTax request level
LineNumber	ITEM_NO	in CALCULATION_ITEM
TaxTypeCode	TXJLV	1. State 2. County 3. City 4. Local 5. Reporting Agency
TaxTypeDesc	TXJLVDESC	The description that correspond to the TaxTypeCode.
Revenue	TAXBAS	Revenue is multiplied by 100 to match SAP representation of amounts
Revenue PercentTaxable	EXAMT	This amount is calculated based on Revenue and PercentTaxable element
TaxAmount	TAXAMOV	All TaxAmount are added under TaxAmountList and multiplied by 100 to get TAXAMOV
TaxAmount	TAXAMT	All TaxAmount are added under TaxAmountList and multiplied by 100 to get TAXAMT
TaxRate	TAXPCT	All TaxRate are added under TaxRateList multiplied by 10000 and then assigned to TAXPCT
ClientNumber	N/A	taken from Security Material 'suretaxuser'
ValidationKey	N/A	taken from Security Material 'suretaxuser'
ResponseType	CURR_DEC	'12D'+ the integer value of the currency if it exists. Otherwise ResponseType is '12D2'
ResponseGroup	N/A	'00'
BusinessUnit	N/A	Can be updated in artifact's Mapping_S4HC_Request_to_SoapRequest.
UnitType	UNIT	UnitType set to default of '00' since no mapping available to SAP's UNIT
TaxSitusRule	N/A	Only General Sales Supported, default value set to '22'
SalesTypeCode	N/A	Can be updated in artifact's Mapping_S4HC_Request_to_SoapRequest. Default is 'R'. Important to update this to match your business
RegulatoryCode	N/A	Can be updated in artifact's Mapping_S4HC_Request_to_SoapRequest. Default is '99'. Important to update this to match your business.

FreightOnBoard	N/A	Can be updated in artifact's Mapping_S4HC_Request_to_SoapRequest. Default is 'D'
ShipFromPOB	N/A	Can be updated in artifact's Mapping_S4HC_Request_to_SoapRequest. Default is '1'
MailOrder	N/A	Can be updated in artifact's Mapping_S4HC_Request_to_SoapRequest. Default is '1'
CommonCarrier	N/A	Can be updated in artifact's Mapping_S4HC_Request_to_SoapRequest. Default is '1'

UpdateTax Artifact		
(Similar to CalculateTax, only different items added below)		
<i>SureTax Field</i>	<i>SAP API Field</i>	<i>SAP Description</i>
CmplDataYear	REP_DATE	Year value is set to CmplDataYear
CmplDataMonth	REP_DATE	Month value is set to CmplDataMonth
N/A	TID	Not supported
INVOICE_NUMBER	DOC_NUMBER	DOC_NUMBER is expected to be unique
ReturnFileCode	N/A	Value set to '0' to post in CCH SureTax

ForceUpdate Artifact		
(Similar to CalculateTax, only different items added below)		
<i>SureTax Field</i>	<i>SAP API Field</i>	<i>Description</i>
N/A	TID	Not supported
INVOICE_NUMBER	DOC_NUMBER	DOC_NUMBER is expected to be unique
ReturnFileCode	N/A	Set to '0' for Post to CCH SureTax
	TAX_TYPE	Tax Category of tax code configuration (T007A-TXIND) Is not used for all tax codes and may appear as empty in the system, but is always filled
	EXEMP_IND	Empty: Tax-relevant; external system decides whether the tax code is tax-relevant 0 - Tax-relevant; external system decides whether the tax code is tax-relevant 1 - Is always tax-relevant; external system is not used 2 - Is not tax-relevant; external system is not used
CmplYear	REP_DATE	Year is extracted from REP_DATE and set to CmplDataYear.

CmplMonth	REP_DATE	Month is extracted from REP_DATE and set to CmplDataMonth
	CREDIT_IND	" " or 0 - SAP Tax liability account is credited 1 - SAP Tax liability account is debited
CustomerNumber	ACCNT_NO	
	TAXPCOV	Sum of tax rates of all jurisdiction code levels Must be filled and must match values in TAX_CAL_JUR_LEVEL_OUTXX-TAXPCT The last three characters in TAXPCOV are the digits after the decimal point
Tax	TAXAMOV	Sum of tax rates of all jurisdiction code levels Must be filled and must match values in TAX_CAL_JUR_LEVEL_OUTXX-TAXAMT Relies on CURR_DEC
TaxTypeCode	TXJLV	TXJLV is mapped to CCH SureTax TaxTypeCode: 1. State 2. County 3. City 4. Local - CCH SureTax county local and city locals mapped to this 5. Reporting Agency
TaxCatCode	N/A	"-1" is hardcoded in mapping
TaxAuthorityID	N/A	"-1" is hardcoded in mapping
TaxAmount	TAXAMT	TAXAMT is sent in TaxAmount
TaxRate	TAXPCT	TAXPCT is sent in TaxRate
N/A	CREDIT_IND	0 = Credit, 1 = Debit. When Value is '1', amounts for CCH SureTax REVENUE and TAX are multiplied by -1

MassRedefine Artifact		
SureTax Field	SAP Field	Description
DataYear	N/A	Current Year sent
DataMonth	N/A	Current Month sent
SequenceNum	SEQUENCE_NUM	Sequence number of the location
CountryCode	COUNTRY	Country Code
StateCode	STATE	State Code
County	COUNTY	County name
City	CITY	City name
Zipcode	ZIPCODE	ZipCode

Plus4	ZIPCODE	ZipCode – We send Plus4 if present in case if Country is "US"
AddressLine1	STREET	Address line1
AddressLine2	STREET1	Address line2

7 Important Notes and Known Issues:

- SAP's Tax Jurisdiction Code must be updated frequently for addresses; otherwise, stale Tax Jurisdiction Code can be sent to CCH SureTax for tax calculation. This can lead to incorrect or no tax calculation.
- SAP's TID cannot be supported by CCH SureTax due to its length being too long
- SAP's FREIGHT_AM is supported in the following manner for Calculate and Update iFlows:
 - SAP only supports taxes for freight to be returned with the tax for the associated line item.
 - Your CCH SureTax account must have a product code mapping for a SKU named 'FREIGHT'. This can be done via CCH SureTax console.
 - Each line item's FREIGHT_AM is sent to CCH SureTax in the AuxRevenue request field. When AuxRevenueType is '03', your freight amount's taxability will follow what is mapped to your 'FREIGHT' SKU
 - Taxes returned for each line item's FREIGHT line item is added to the taxes returned for the associated line item
- ForceUpdate iFlow
 - Only line item level taxes are supported. Although CCH SureTax supports tax jurisdiction level tax adjustments, this cannot be supported due to lack CCH SureTax required data from SAP S4HC requests.
- GetChanged iFlow
 - Uses SureTax method GetAllGeocodes.
- Calculate/Update/Force iFlows currently support 2 digit precision (CURR_DEC = 2). Support for higher precision planned in upcoming release.
- EXEMPT_AMT is used with GROSS_AMOUNT to get the exempt ratio sent to SureTax for calculation, so only absolute values are used.

8 Release Notes

- V2.0.8
 - Calculate/Update/Force Update Iflows – Changes to support precision based on CURR_DEC.
 - Changes related to Unified Jurisdiction Code
- V2.0.7
 - Changes pertaining to date sent to SureTax in Determine Jurisdiction iflow.
- V2.0.6
 - Calculate iFlow – Fixed ClientTracking send to CCH SureTax
 - Update/Force iFlows – updated version for ClientTracking
- v2.0.5
 - Fixed Calculate iFlow, so the same number of line items will be returned for when no taxes are returned by CCH SureTax (e.g. no tax states).
- v2.0.4
 - Added address validation support with CCH SureAddress to DetermineJurisdiction iFlow.
- v2.0.3
 - Calculate/Update/Force iFlows updated to handle SAP format for negative numbers (- symbol on right e.g. for -100, SAP sends 100-) sent in amount fields.
- v2.0.2
 - Removed configuration for Parameter5 to 9 for Calculate/Update/Force iFlows as they are now reserved for internal use.
 - Calculate/Update/Force iFlows will now send SOLD_TO_CUST in CCH SureTax Parameter9 request field.
 - Updated logic for Parameter10 mapping in SureTax request.
- v2.0.1
 - Patch for Calculate, Update, and Force iFlows to correctly assign CCH SureTax TransTypeCode (calculate request input) based on PROD_CODE, MATNR, or configured default Transaction Type code value.
- v2.0.0
 - Certified update with support for SAP S4HC 1908.
 - Added GetChanged and MassRedefine iFlows
 - Existing iFlows updated to support updated WSDLs from 1908
 - Added externalized parameters for easy configuration of data used in CCH SureTax requests.
- v1.0.0
 - Initial certified release.