

Implementation Guide – Sales Order Fulfillment App

Contents

0.Prerequisites	2
1.Environment configurations in LBN Track and Trace Option.....	2
1.1 Enable cloud foundry and create space.....	2
1.2 Maintain roles and users.....	3
1.3 Maintain technical user	5
2.Implement Sales Order Fulfillment APP.....	7
2.1 Download Sample Code	7
2.2 Download and Setup Tools	8
2.3 Deploy Model.....	8
2.4 Package and Deploy	9
2.4.1 Login to SAP Cloud Foundry	9
2.4.2 Package and Deploy SOF Frontend App.....	9
2.4.3 Package and Deploy SOF Fiori Launchpad	10
2.4.4 Package and Deploy SOF Backend Service.....	11
2.4.5 Check Deployed Apps on SAP Cloud Foundry Cockpit.....	12
2.4.6 Maintain Destination	12
2.4.7 Maintain Roles and Users	14
2.4.8 Start SOF App from Fiori Launchpad.....	14
3.Implement ERP extractor.....	15
4.Other Configuration	15
4.1 Maintain Here map license.	15
4.2 Maintain location master	15

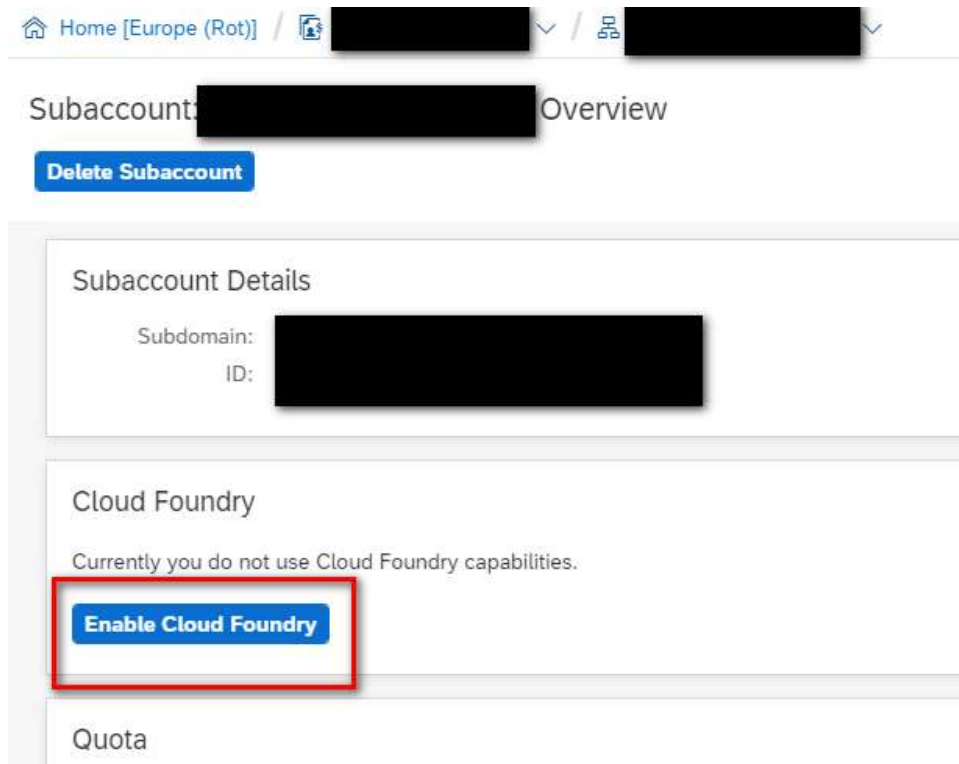
0.Prerequisites

- An SAP Cloud Platform global account with entitlements for SAP LBN Track and Trace option, 1 portal service quota and 10 GB Application Runtime quota.
- To integrate with ERP, you need an SAP ERP or SAP ECC system running on Netweaver 7.31 or higher with SAP NOTE 2937175 being implemented.
- To integrate with visibility provider, please log your incident in SAP BCP system under component “SCM-LBN-GTT-COR”. Currently it will supported manually.

1.Environment configurations in LBN Track and Trace Option

1.1 Enable cloud foundry and create space

1. Enable Cloud Foundry. Click the “Enable Cloud Foundry” to enable development landscape.



2. Enter organization name and click “Create”.

Create Cloud Foundry Organization

Organization Name *

Create Cancel

- Go to "Cloud Foundry" -> "Spaces". Click "Create Space". Give a name click "Create".

The screenshot shows the Cloud Foundry console interface. On the left, the 'Spaces' menu item is highlighted. In the center, the 'Create Space' button is highlighted. On the right, the 'Create Space' dialog is open, showing the 'Space Name' field with the value 'development' and the 'Assign space roles to' section with checkboxes for 'Space Manager', 'Space Developer', and 'Space Auditor'.

Cloud Foundry

Spaces

Quota Plans

Org. Members

HTML5 Applications

Connectivity

Destinations

Cloud Connectors

Security

Subaccount: LBP-ENT-Sample-Scenario

All: 1

Create Space

Applications

2 Started

2 Stopped

Quota

1.25 of 15GB Memory

5 of 1500 Services

Learn how

Create Space

Space Name: *

Assign space roles to [redacted]

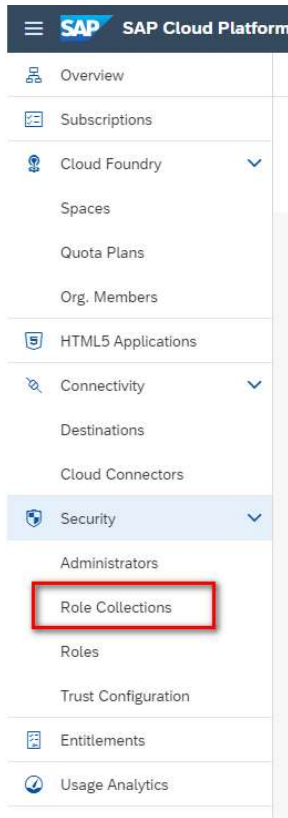
☒ Space Manager

☒ Space Developer

☐ Space Auditor

1.2 Maintain roles and users

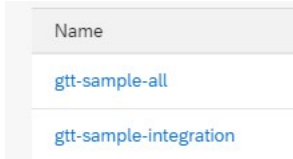
- Configure Roles and Role Collections



2. Create 2 role collections (names can vary):

gtt-sample-all

gtt-sample-integration



Role template “gtt-sample-all” will be granted to users who will access GTT and Sales Order Fulfillment App.

Role template “gtt-sample-integration” will be granted to only technical user who will access GTT APIs for development purpose.

Role	Application
MessageLogAdminTemplate	lbn_gtt_core
DataModelAdminTemplate	lbn_gtt_core
LocationProcessTemplate	lbnplatform-loc-broker
BPEditTemplate	lbnplatform-bprepo
BusinessPartnerDiscoveryTemplate	lbnplatform-bprepo
InviteBPPProcessTemplate	lbnplatform-bprepo

ManageInvitationsProcessTemplate	lbnplatform-bprepo
BlockStoreProcessTemplate	lbn-retentionmanagement-sb
ReminderTemplateProcessTemplate	lbn-retentionmanagement-sb

3. Go to role of gtt-sample-all, and add the

following roles:

- Grant this role to your **application** user:

Application users are those who could access GTT and Sales Order Fulfillment Applications.

IT Administrator need to maintain application users in identity provider.

For example, user1@sap.com

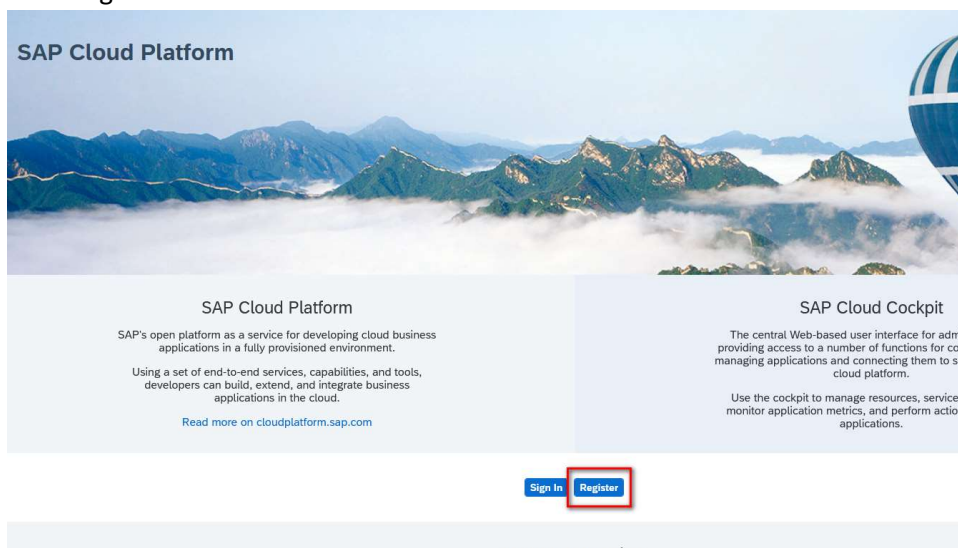
Users (51)				
ID	Identity Provider	E-Mail	First Name	Last Name
[REDACTED]@sap.com	SAP ID Service	[REDACTED]@sap.com	[REDACTED]	[REDACTED]
[REDACTED]@sap.com	SAP ID Service	[REDACTED]@sap.com	[REDACTED]	[REDACTED]
[REDACTED]@sap.com	SAP ID Service	[REDACTED]@sap.com	[REDACTED]	[REDACTED]

1.3 Maintain technical user

- Go to the SAP Cloud Platform to create technical user account:

<https://account.hana.ondemand.com/#/home/welcome>

Click Register



2. Fill the required blanks:

Tell us about yourself

E-mail address *	First name *
Last name *	Company *
Country/Region United States	Phone +1 XXX-XXX-XXXX
Department *	Relationship to SAP *
Create password *	Confirm password *

Must have at least 8 characters.

☐ I have read and understood the Terms and Conditions of [SAP.com](#)

SAP will use any of the data provided hereunder in accordance with the [Privacy Statement](#).

This site is protected by reCAPTCHA and the Google [Privacy Policy](#) and [Terms of Service](#) apply.

[Submit](#)

3. Go to the mail inbox to activate the account.

SAP CLOUD IDENTITY

Hello [redacted]

An account has been created for you. To activate your account for [Administration Console](#) of SAP Cloud Identity, click the link below. You will be taken to a page where you will also set a password for your account.

[Click here to activate](#)

If the link above is not displayed or does not work, copy and paste the link below to the address bar of your browser.

[redacted]

For more information, see [SAP Cloud Identity service documentation](#)

In case of any issues, create a ticket with BC-IAM-IDS component in [SAP Support Portal](#).

4. As shown in step 1.2, go to role of gtt-sample-integration, and add the following roles:

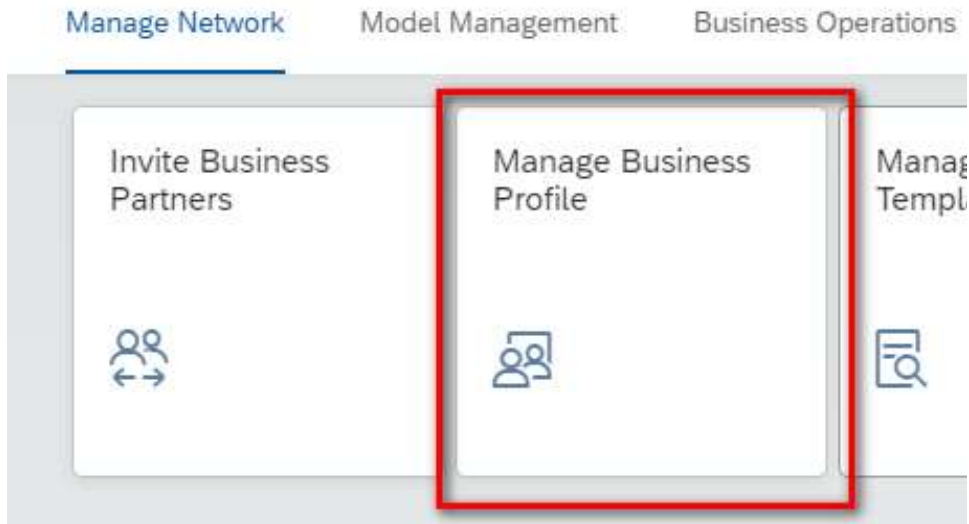
Role	Application
EMIDocIntegrationTemplate	lbn_gtt_core
MetadataServiceIntegrationTemplate	lbn_gtt_core
ReadServiceIntegrationTemplate	lbn_gtt_core
WriteServiceIntegrationTemplate	lbn_gtt_core

5. Grant this role to your **technical** user created in step 1:
For example, techuser1@techcompany.com

Users (1)

ID	Identity Provider	E-Mail	First Name	Last Name
[REDACTED]	[REDACTED].com	[REDACTED].com	[REDACTED]	[REDACTED]

- Go to GTT Launchpad and click “Manage Business Profile



- Edit and maintain the “Alternate Identifiers”.
Identifier: Technical User
ID: email address of technical user created in step 2

Email	Phone Number
[REDACTED]	[REDACTED]

Alternate Identifiers (1)

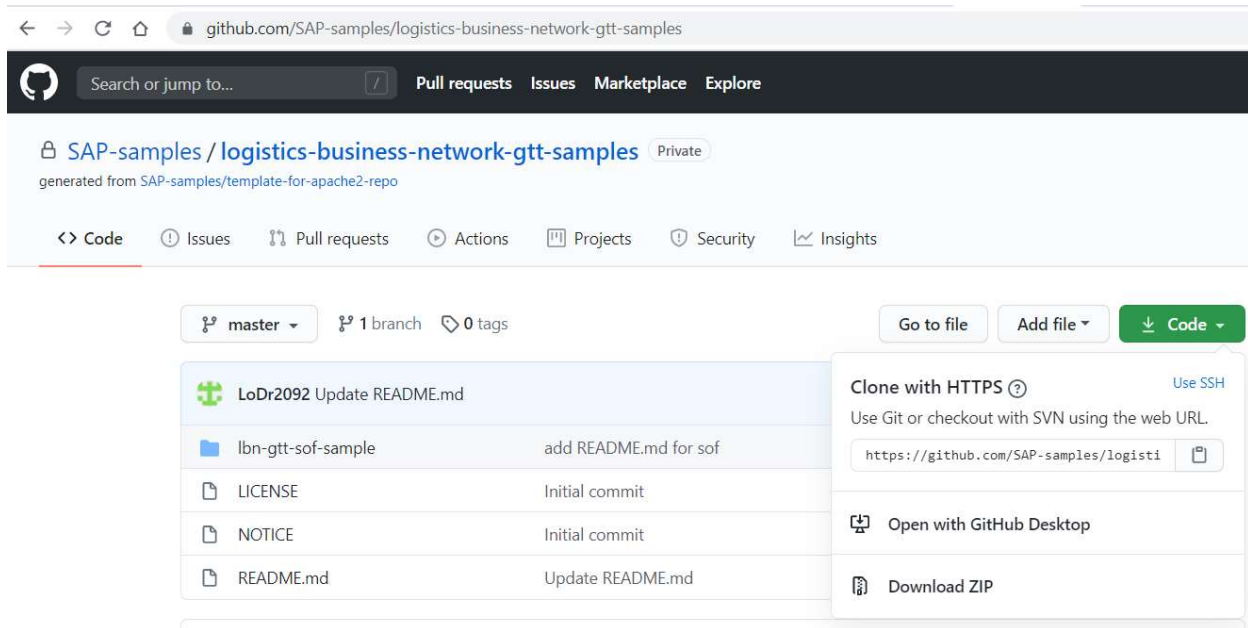
Identifier Type	ID
Technical User	[REDACTED].com

2. Implement Sales Order Fulfillment APP

2.1 Download Sample Code

Go to <https://github.com/SAP-samples/logistics-business-network-gtt-samples>

Download and extract or git clone the sample code from SAP-samples on GitHub.



2.2 Download and Setup Tools

- Set Up Java Development Environment (only JDK8 and maven is mandatory)

<https://developers.sap.com/tutorials/cp-java-reference-app-setup.html>

Make sure JDK 8 and maven are installed.

- Install NPM, Node JS and grunt-cli

<https://www.saplearners.com/how-to-install-node-js-and-npm/>

run following command after npm installed:

```
npm config set @sap:registry "https://npm.sap.com" -g
```

- Install Cloud Foundry Command Line Interface

<https://developers.sap.com/tutorials/cp-cf-download-cli.html>

- Install Cloud MTA Build Tool (MBT)

<https://sap.github.io/cloud-mta-build-tool/download/>

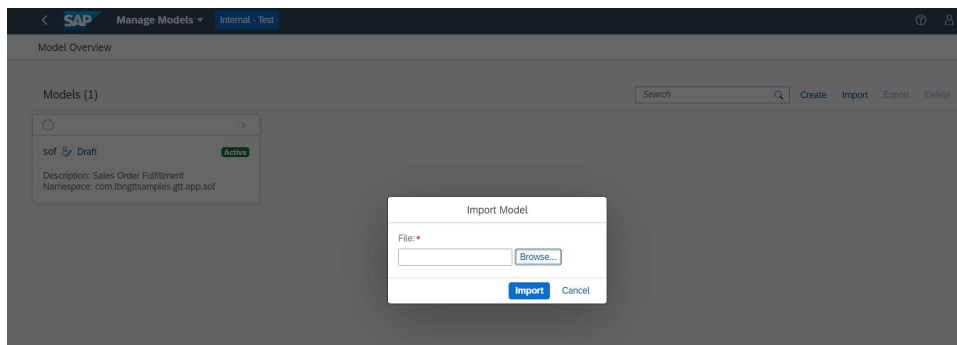
- Install make

<https://sap.github.io/cloud-mta-build-tool/makefile/>

2.3 Deploy Model

Go to *model* folder of downloaded source code, make sure *sof-model-xxxxxxx.json* (e.g. sof-model-2020091001.json) exists.

Open Manage Models APP through GTT Fiori launchpad, click Import and then click Browse to select the sof-model-xxxxxxx.json file. Then click Deploy button to deploy the model to GTT system.



2.4 Package and Deploy

2.4.1 Login to SAP Cloud Foundry

Open a command window, *cf login* to SAP Cloud Foundry with your username and password. And then select the organization and space in which you want to deploy the sample apps.

```
MINGW64 [redacted]
Authenticating...
OK
Select an org:
1. [redacted]
2. [redacted]
3. [redacted]
4. [redacted]
5. [redacted]
6. [redacted]
Org (enter to skip): 6
Targeted org [redacted]
Select a space:
1. acc
2. perf
3. int
4. inthf
5. sbx
Space (enter to skip): 5
Targeted space [redacted]

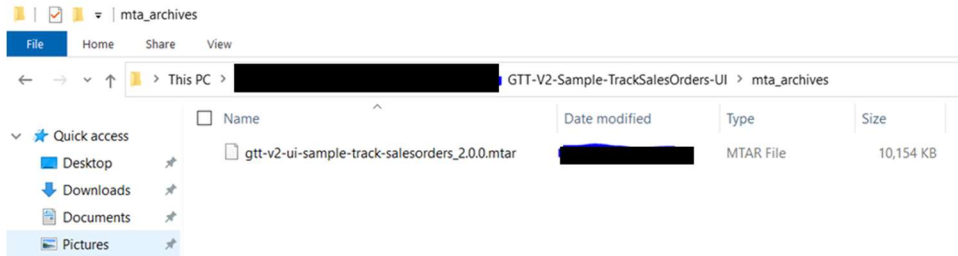
API endpoint: https://api.cf.sap.hana.ondemand.com (API version: 3.81.0)
User: [redacted]
Org: [redacted]
Space: [redacted]
```

2.4.2 Package and Deploy SOF Frontend App

In command line tool, navigate to GTT-V2-Sample-TrackSalesOrders-Service directory, run following command to build mtar package:

```
mbt build
```

There should be `./mta_archives/gtt-v2-ui-sample-track-salesorders-service_xxx.mtar` generated.



Deploy mtar package to Cloud Foundry by running following command:

```
cf deploy ./mta_archives/gtt-v2-ui-sample-track-salesorders-service_xxx.mta
```

The deployment will last several to tens of minutes depends on your network conditions.

2.4.3 Package and Deploy SOF Fiori Launchpad

In command line tool, navigate to GTT-V2-Sample-App-FLP directory, edit mtad.yaml,

Replace {unique-identifier} with something unique like your company name or cloud foundry global account name.

```

10 - name: lbn-gtt-sample-app-router
11   type: approuter.nodejs
12   path: flp_appRouter
13   parameters:
14     disk-quota: 256M
15     memory: 256M
16   routes:
17     - route: lbn-gtt-samples-app-flp-{unique-identifier}.${domain}
18   properties:
19     SAP_JWT_TRUST_ACL:
20       - clientid: ""
21         identityzone: ""
22     destinations:
23       - name: lbn-gtt-sof-api
24         url: "~(lbn-gtt-sof-api/url)"
25         forwardAuthToken: true
26   requires:
27     - name: lbn-gtt-sample-app-uaa
28     - name: lbn-gtt-sample-app-runtime
29     - name: lbn-gtt-sample-portal-resources
30     - name: lbn-gtt-sof-api
31
32 - name: flp
33   type: com.sap.portal.content
34   path: flp
35   parameters:
36     stack: cflinuxfs3
37     memory: 128M
38     buildpack: 'https://github.com/cloudfoundry/nodejs-buildpack/releases/download/v1.6.39/nodejs-buildpack-cflinuxfs3-v1.6.39.'
39   requires:
40     - name: lbn-gtt-sample-app-uaa
41     - name: lbn-gtt-sample-portal-resources
42     - name: gtt-ui-sample-track-salesorders-app-host
43
44 resources:
45   - name: lbn-gtt-sample-app-runtime
46     parameters:
47       service-plan: app-runtime
48       service: html5-apps-repo
49     type: org.cloudfoundry.managed-service
50   - name: lbn-gtt-sample-portal-resources
51     parameters:
52       service-plan: standard
53       service: portal
54     type: org.cloudfoundry.managed-service
55   - name: lbn-gtt-sof-api
56     properties:
57       url: https://gtt-sample-track-salesorders-service-{unique-identifier}.${domain}
58   - name: lbn-gtt-sample-app-uaa

```

Run following command to build mtar package:

mbt build

There should be `./mta_archives/lbn-gtt-sample-app-flp_xxx.mtar` generated.

Deploy mtar package to Cloud Foundry by running following command:

cf deploy ./mta_archives/lbn-gtt-sample-app-flp_xxx.mtar

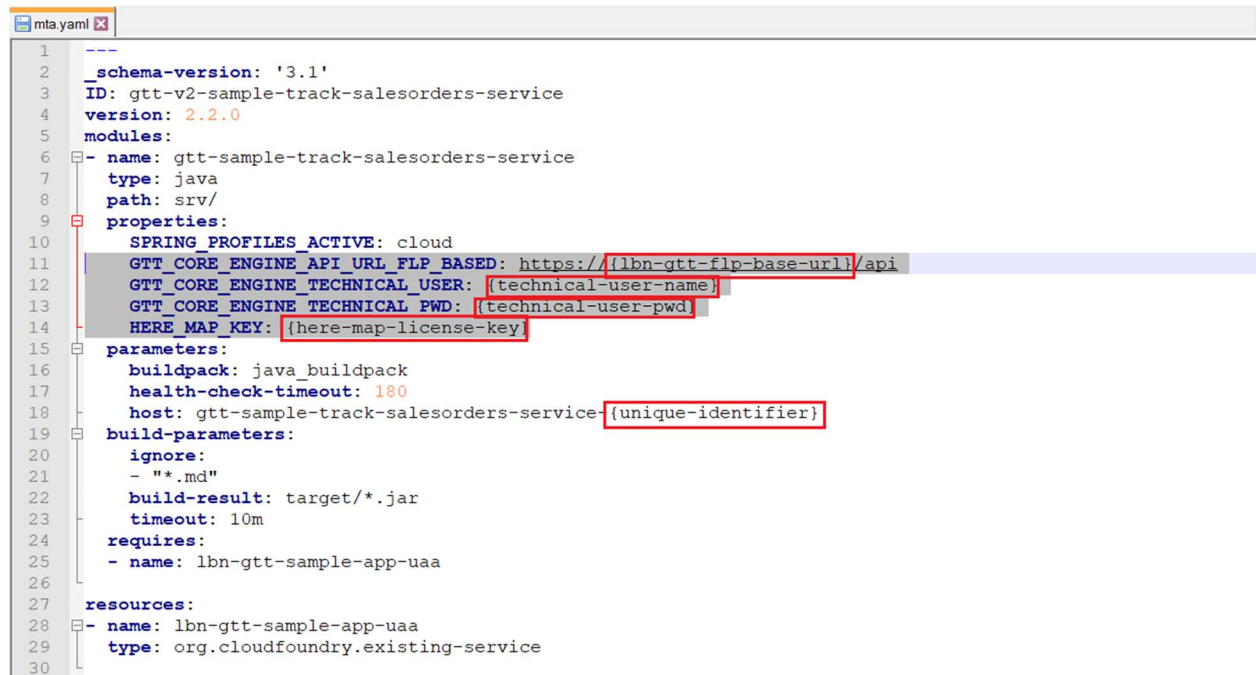
2.4.4 Package and Deploy SOF Backend Service

Replace user/password, HereMap key and host configuration

Get user/password from step 1.3. Get HereMap key from SAP support??? .

Replace following entries in `mtad.yaml` under folder GTT-V2-Sample-TrackSalesOrders-Service:

Replace `{unique-identifier}` with something unique like your company name or cloud foundry global account name.



```
1  ---
2  _schema-version: '3.1'
3  ID: gtt-v2-sample-track-salesorders-service
4  version: 2.2.0
5  modules:
6  - name: gtt-sample-track-salesorders-service
7    type: java
8    path: srv/
9    properties:
10     SPRING_PROFILES_ACTIVE: cloud
11     GTT_CORE_ENGINE_API_URL_FLP_BASED: https://{lbn-gtt-flp-base-url}/api
12     GTT_CORE_ENGINE_TECHNICAL_USER: {technical-user-name}
13     GTT_CORE_ENGINE_TECHNICAL_PWD: {technical-user-pwd}
14     HERE_MAP_KEY: {here-map-license-key}
15   parameters:
16     buildpack: java_buildpack
17     health-check-timeout: 180
18     host: gtt-sample-track-salesorders-service-{unique-identifier}
19   build-parameters:
20     ignore:
21     - "*.md"
22     build-result: target/*.jar
23     timeout: 10m
24   requires:
25   - name: lbn-gtt-sample-app-uaa
26
27   resources:
28   - name: lbn-gtt-sample-app-uaa
29     type: org.cloudfoundry.existing-service
30
```

Run following command to build mtar package:

mbt build

There should be `./mta_archives/gtt-v2-sample-track-salesorders-service_xxx.mtar` generated.

Deploy mtar package to Cloud Foundry by running following command:

cf deploy ./mta_archives/gtt-v2-sample-track-salesorders-service_xxx.mtar

2.4.5 Check Deployed Apps on SAP Cloud Foundry Cockpit

After operations from 2.2.1 to 2.3.3, check the deployed apps on SAP Cloud Platform Cockpit.

The screenshot shows the SAP Cloud Platform Cockpit interface. On the left is a navigation menu with options like Applications, Services, SAP HANA Cloud, SAP HANA, Database Systems, Tenant Databases, Service Requests, Portal, Routes, Security Groups, Events, and Members. The main area displays 'Space: [redacted] Applications' with a 'Deploy Application' button. Below this is a table of deployed applications:

Requested State	Name	Instances	Disk Quota	Memory
Started	ggt-sample-track-salesorders-service	1/1	1024 MB	1024 MB
Stopped	ggt-ui-sample-track-salesorders-ui_deployer	0/1	1024 MB	256 MB
Started	lbn-ggt-sample-app-appRouter	1/1	256 MB	256 MB

2.4.6 Maintain Destination

1. Fetch the UAA token

Go to the SOF backend application you deployed:

The screenshot shows a single application entry in the SAP Cloud Platform Cockpit. It has a green 'Started' status badge, the name 'ggt-sample-track-salesorders-service-green', and '1/1' instances.

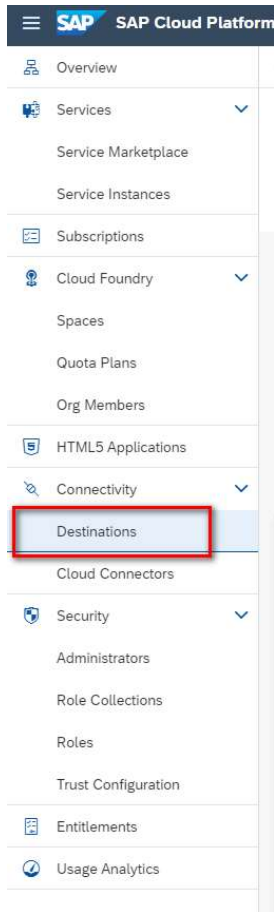
Find the environment of UAA

Copy the value of **clientid** and **clientsecret**

The screenshot shows the 'Service Bindings' page for the application 'ggt-sample-track-salesorders-service-green'. It lists one binding: 'lbn-ggt-sample-app-uaa' connected to the 'xsuaa' service. Below the table, there is a 'Hide sensitive data' button and a JSON object containing sensitive information. The 'clientid' and 'clientsecret' fields are highlighted with red boxes.

```
{
  "tenantmode": "dedicated",
  "sburl": "[redacted]",
  "subaccountid": "[redacted]",
  "clientid": "[redacted]",
  "xsappid": "[redacted]",
  "clientsecret": "[redacted]",
  "uri": "https://[redacted].authentication.eu10.hana.ondemand.com",
  "uaadomain": "authentication.eu10.hana.ondemand.com",
  "verificationkey": "-----BEGIN PUBLIC KEY-----
[redacted]
-----END PUBLIC KEY-----",
  "apiurl": "https://api.authentication.eu10.hana.ondemand.com",
  "identityzone": "lbn-ggt-samples",
  "identityzoneid": "[redacted]",
  "tenantid": "[redacted]",
  "zoneid": "[redacted]"
}
```

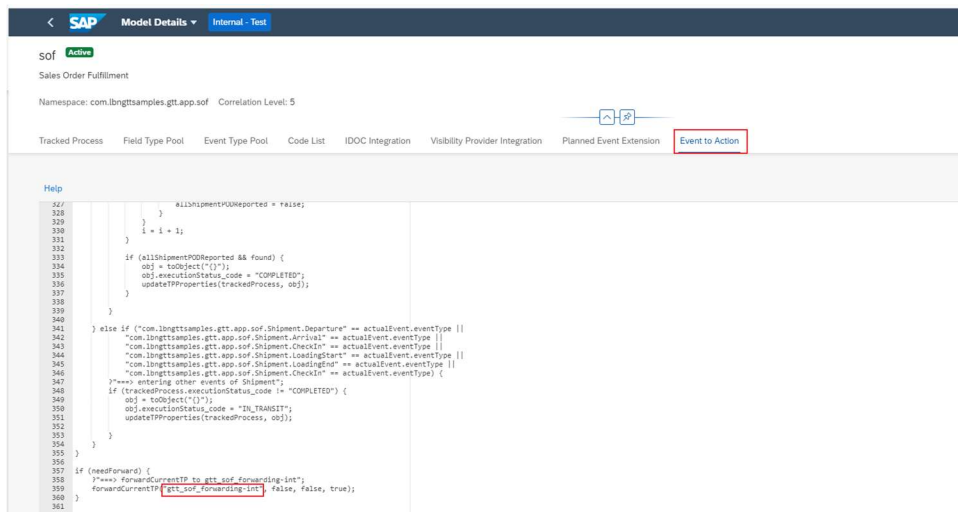
2. Go to "Destinations" Tab



3. Configure the destination

Name	e.g. gtt_sof_forwarding_int
Type	HTTP
Description	<optional>
URL	e.g. https://gtt-sample-track-salesorders-service.cfapps.eu10.hana.ondemand.com/sap/logistics/gtt/sample/sof/rest/v1/forward
Proxy Type	Internet
Authentication	OAuth2ClientCredentials
Client ID	Copied in previous step
Client Secret	Copied in previous step
Token Service URL	e.g. https://lbn-gtt-samples.authentication.eu10.hana.ondemand.com/oauth/token

Note: The destination name in Event to Action script of SOF model should be updated if you customize the destination name other than “gtt_sof_forwarding_int”.



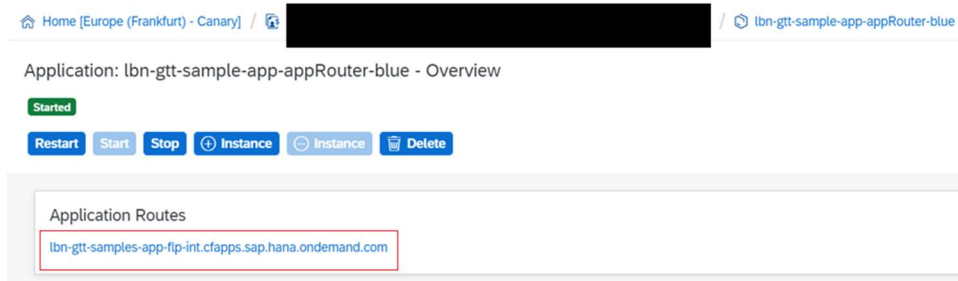
2.4.7 Maintain Roles and Users

- As shown in step 1.2, go to role of gtt-sample-all, and add the following roles:

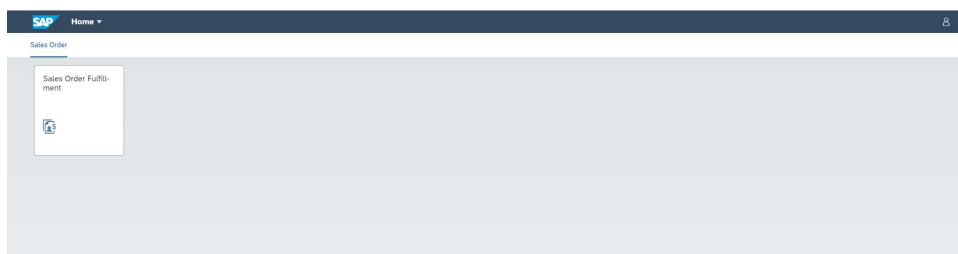
Role	Application
SalesOrderFulfillmentAppUser	tt_sof_{space}

2.4.8 Start SOF App from Fiori Launchpad

Get the Application Routes from SAP Cloud Foundry Cockpit,



Press the link of Application Routes and system browser will navigate to Fiori Launchpad of SOF:



Click on the Sales Order Fulfillment tile to open SOF sample app.

The screenshot shows the SAP Sales Order Fulfillment interface. At the top, there's a header with the SAP logo and 'Sales Order Fulfillment'. Below it, there's a search bar with 'Standard' selected. The search criteria include Sales Order Number, Purchase Order Number, Ship-To Party, Material Number, Material Description, and Is Delayed. A 'Go' button is present. Below the search bar, there's a table titled 'Sales Orders (443)'. The table has columns: Sales Order Number, Ship-To Party, Completion Rate, Overall Delay Impact (By Value), Net Value, and Is Delayed. The table contains five rows of data.

Sales Order Number	Ship-To Party	Completion Rate	Overall Delay Impact (By Value)	Net Value	Is Delayed
9900023663	0000010105	265.00 EUR		265.00 EUR	No
9900063395	0000010105			265.00 EUR	No
9900015038					No
9900095285	0000010105			265.00 EUR	No

3.Implement ERP extractor

View detailed slides at:

4.Other Configuration

4.1 Maintain Here map license.

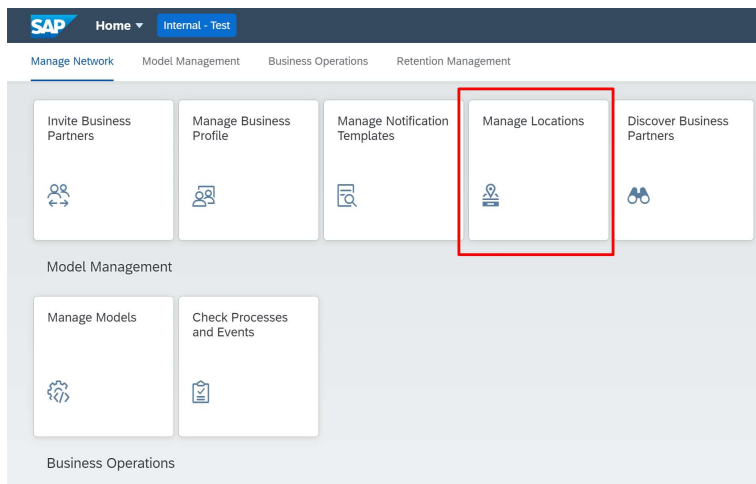
To have map view, please provide your URL with your incident in SAP BCP system under component “SCM-LBN-GTT-COR”, we will enable you with the Here map tile service manually.

For quick validation, you could also use other map service’s tile service as alternative.

4.2 Maintain location master

To show stops and planned events in map, you need to maintain location master data with valid geocoordinates in your Manage Locations app.

1. Open Manage Locations app in your LBN Track & Trace Option launchpad



2. Click “Create” to create new location

Standard
Download Excel Template
Upload Locations

Location ID:
Object Type:
Description:
Country/Region:
City:
Adapt Filters

Locations (22)								
Location ID	Description	Object Type	Country/Region	State	City	District	Street	House Number
QM7CLNT910:NL-HARBOR	NL Harbor	Logistic Location	Netherlands (the)		Leiden			
Changed On: Sep 8, 2020, 5:30:41 PM External ID: NL-HARBOR Source System: QM7CLNT910								
QM7CLNT910:MX91	CATT VZ MX91	Supplier	Germany		Herten			
Changed On: Sep 8, 2020, 5:29:24 PM External ID: MX91 Source System: QM7CLNT910								

3. Maintain location information with valid geocoordinates

Detailed guide to maintain the required fields to keep the location be consistent with ERP location, please check *ERP Extractor Implementation Guide* for more hints.

SAP

Manage Locations

Internal - Test

Create Location

GENERAL

ALTERNATIVE LOCATION IDS

Object Type: *

Logistic Location

Source System/External ID: *

Source System

External ID

Description: *

Time Zone:

Longitude:

+ (East)

Example: 000.00000000

Latitude:

+ (North)

Example: 00.00000000

Country/Region:

State:

City:

District:

Street/House Number:

Zip Code: