

# Implementation Guide

## – *Track Purchase Orders* Template App

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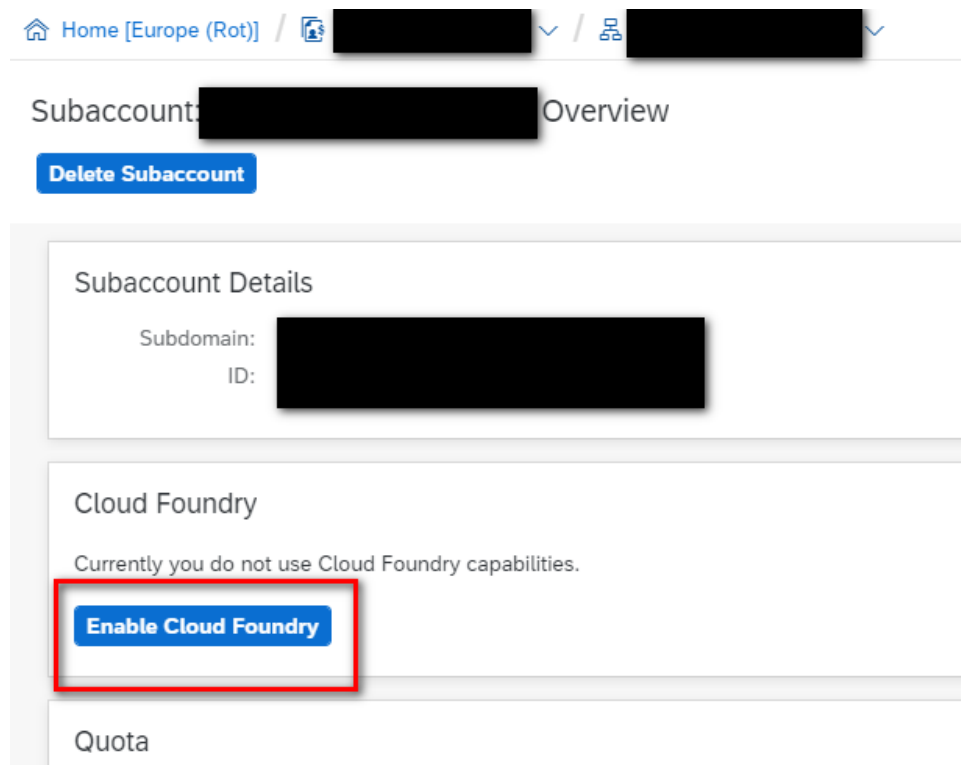
## 0.Prerequisites

- An SAP Cloud Platform global account with entitlement to the global track and trace option for SAP Logistics Business Network, 1 portal service quota and 10 GB Application Runtime quota
- To integrate with ERP, 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, log your incident in SAP BCP system with component “SCM-LBN-GTT-COR”

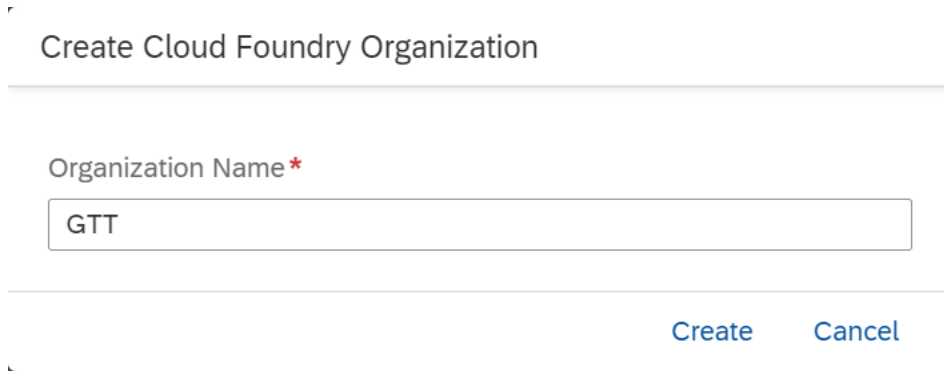
## 1.Environment Configuration in Logistics Business Network, Global Track and Trace Option

### 1.1 Enable Cloud Foundry and Create Space

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

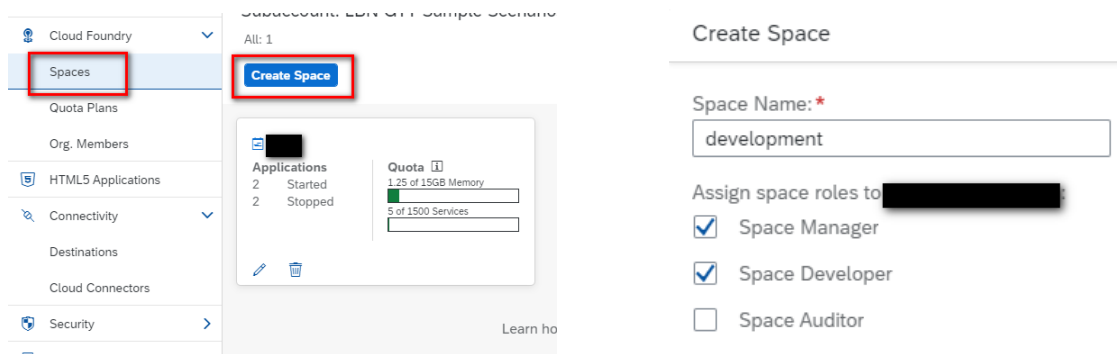


2. Fill in the Organization Name and click "Create"



The screenshot shows a form titled "Create Cloud Foundry Organization". It has a single text input field labeled "Organization Name\*" with the value "GTT" entered. At the bottom right, there are two buttons: "Create" and "Cancel".

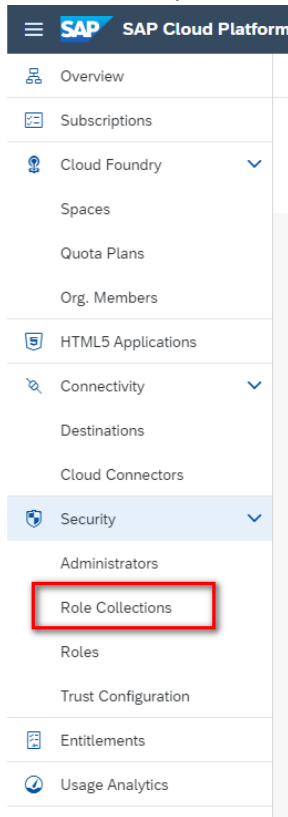
3. Go to "Cloud Foundry" -> "Spaces"  
Click "Create Space"  
Fill in the Space Name and click "Create"



The screenshot shows the Cloud Foundry console interface. On the left, a sidebar menu has "Spaces" highlighted with a red box. In the main area, a "Create Space" button is also highlighted with a red box. To the right, a modal window titled "Create Space" is open. It contains a "Space Name:" field with the value "development". Below this, there is a section "Assign space roles to" followed by a list of roles: "Space Manager" (checked), "Space Developer" (checked), and "Space Auditor" (unchecked). The user's name is partially visible as "All: 1" and "development".

## 1.2 Maintain Roles and Users

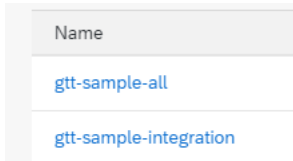
1. Go to “Security” -> “Role Collections”



2. Create 2 role collections (You can have user-defined names):

gtt-sample-all

gtt-sample-integration



- Role template “gtt-sample-all” is granted to users who have access to global track and trace option and *Track Purchase Orders* template app.
- Role template “gtt-sample-integration” is granted to technical users only who have access to the global track and trace APIs for development purpose.

3. Go to the role of “gtt-sample-all”, and add the following roles:

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

4. Grant "gtt-sample-all" to your **application** users:

- Application users are those who have access to global track and trace option and *Track Purchase Orders* template app.

IT Administrator needs to maintain application users in identity provider.

For example, [user1@sap.com](mailto:user1@sap.com)

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

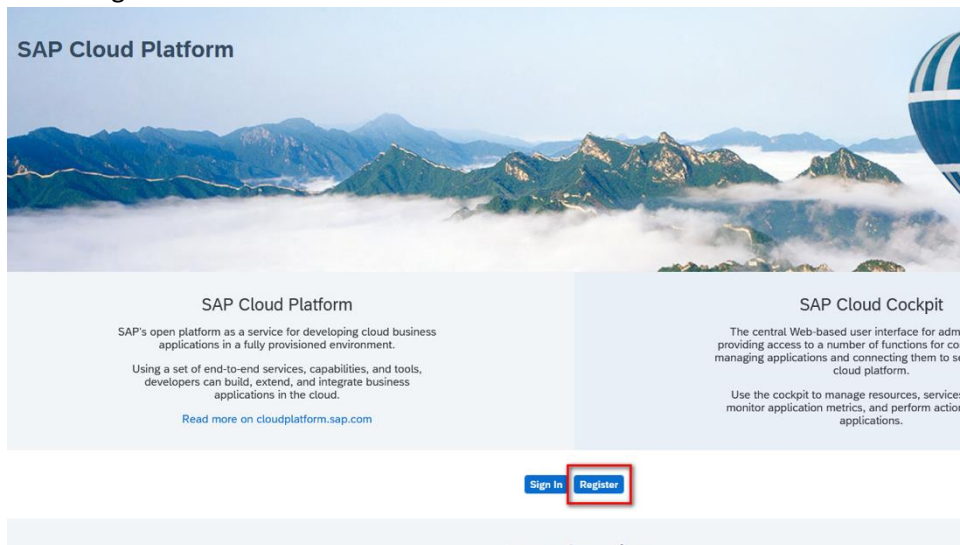
Note: The application user in this step should be different from the technical user created in Step 1.3.

### 1.3 Maintain Technical User

1. Go to the SAP Cloud Platform to create the technical user account:

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

Click "Register"



2. Fill in the mandatory fields:

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

 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](#).

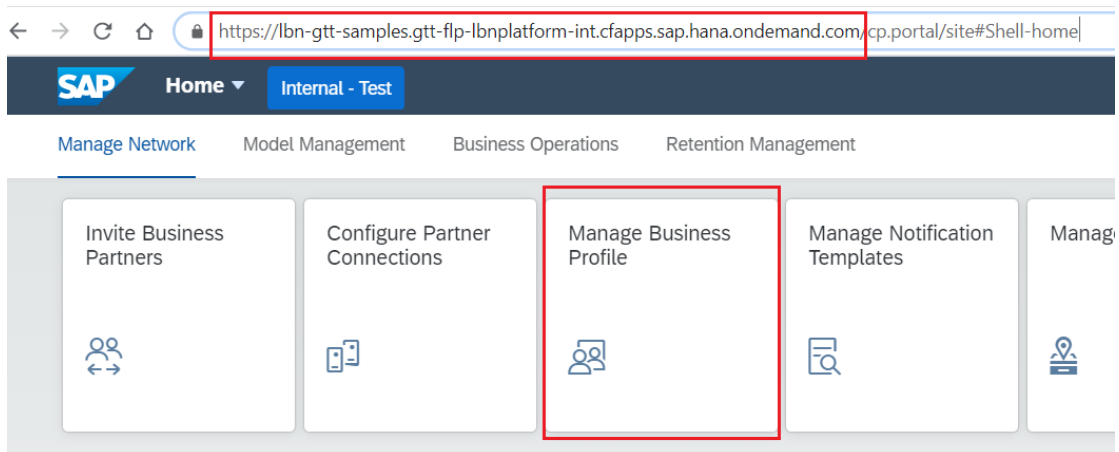
4. As shown in Step 1.2, go to the role of “gtt-sample-integration”, and add the following roles:

Role	Application
EMIDocIntegrationTemplate	lbn_gtt_core
MetadataServiceIntegrationTemplate	lbn_gtt_core
ReadServiceIntegrationTemplate	lbn_gtt_core
WriteServiceIntegrationTemplate	lbn_gtt_core
LocationProcessTemplate	lbnplatform-loc-broker

- Grant "gtt-sample-integration" to your **technical** user:  
For example, [techuser1@techcompany.com](mailto:techuser1@techcompany.com)

Users (1)				
ID	Identity Provider	E-Mail	First Name	Last Name
[REDACTED]	[REDACTED].com	[REDACTED].com	[REDACTED]	[REDACTED]

- Go to SAP Fiori Launchpad for global track and trace option  
Open *Manage Business Profile* app  
Please record the url for later reference



- Add one Alternate Identifier:  
Identifier Type: Technical User  
ID: the email address of technical user

Email	Phone Number
[REDACTED]	[REDACTED]

Alternate Identifiers (1)	
Identifier Type	ID
Technical User	[REDACTED].com

Note: The technical user in this step should be different from the application user in Step 1.2.4.

## 1.4 Maintain Destination of GTT Core Engine Base URL

- Configure Destination of GTT Core Engine Base URL

Name	gtt_core_engine_flp_base_url
------	------------------------------

Type	HTTP
Description	<optional>
URL	Refer to step1.3.6 e.g. <a href="https://lbn-gtt-samples.gtt-flp-lbnplatform-int.cfapps.sap.hana.ondemand.com/api">https://lbn-gtt-samples.gtt-flp-lbnplatform-int.cfapps.sap.hana.ondemand.com/api</a>
Proxy Type	Internet
Authentication	BasicAuthentication
User	User from Step 1.3
Password	Password from Step 1.3

Note: To know how to configure destination, please refer to 2.4.6.

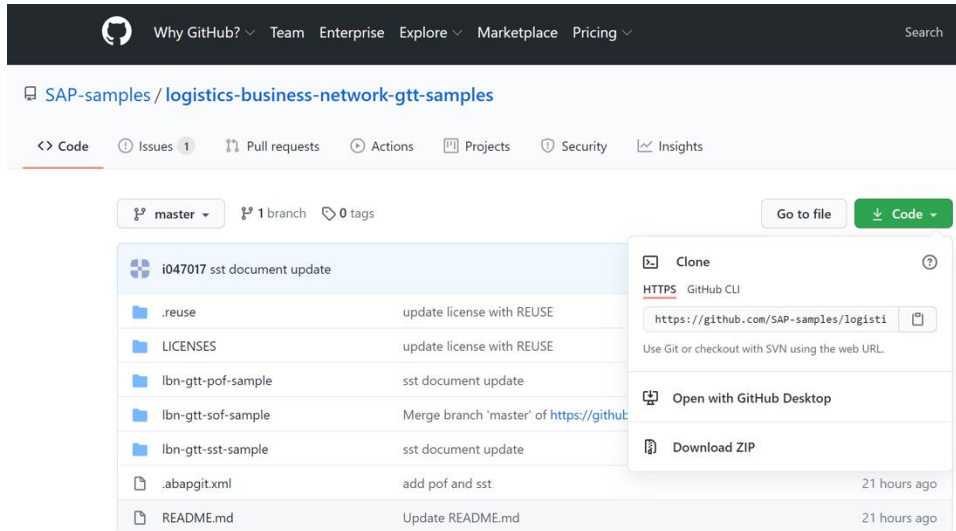


## 2. Implement *Track Purchase Orders* Template App

### 2.1 Download Template Code

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

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



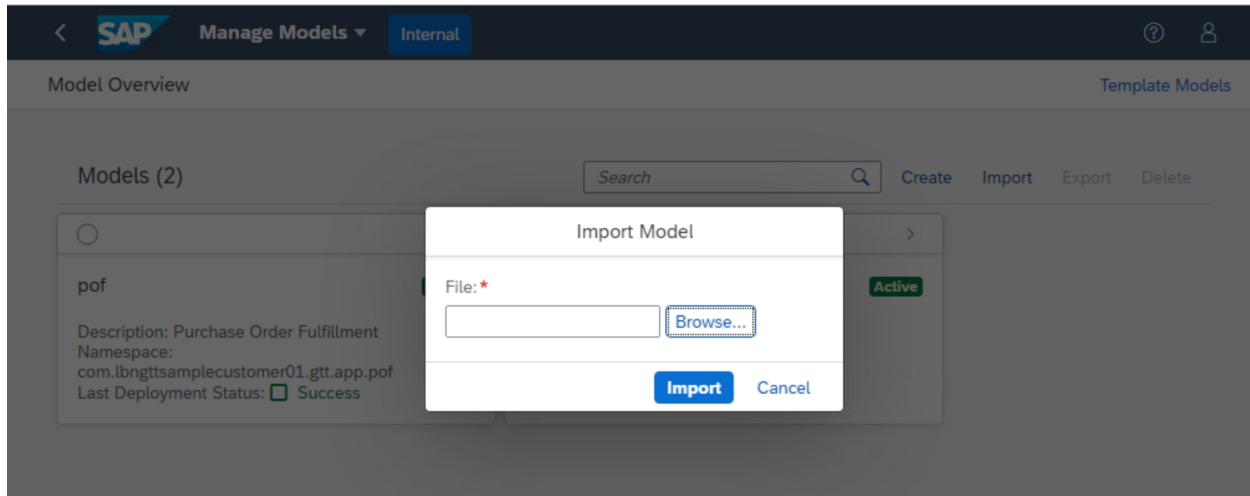
### 2.2 Download and Setup Tools

1. Install JDK 8 and Maven
2. Install NPM, Node JS, and grunt-cli  
<https://www.saplearners.com/how-to-install-node-js-and-npm/>  
Run the following command after NPM is installed:  
`npm config set @sap:registry "https://npm.sap.com" -g`
3. Install Cloud Foundry Command Line Interface  
<https://developers.sap.com/tutorials/cf-download-cli.html>
4. Install MultiApps CF CLI Plugin  
<https://github.com/cloudfoundry-incubator/multiapps-cli-plugin>
5. Install Cloud MTA Build Tool (MBT)  
<https://sap.github.io/cloud-mta-build-tool/download/>
6. Install MAKE  
<https://sap.github.io/cloud-mta-build-tool/makefile/>

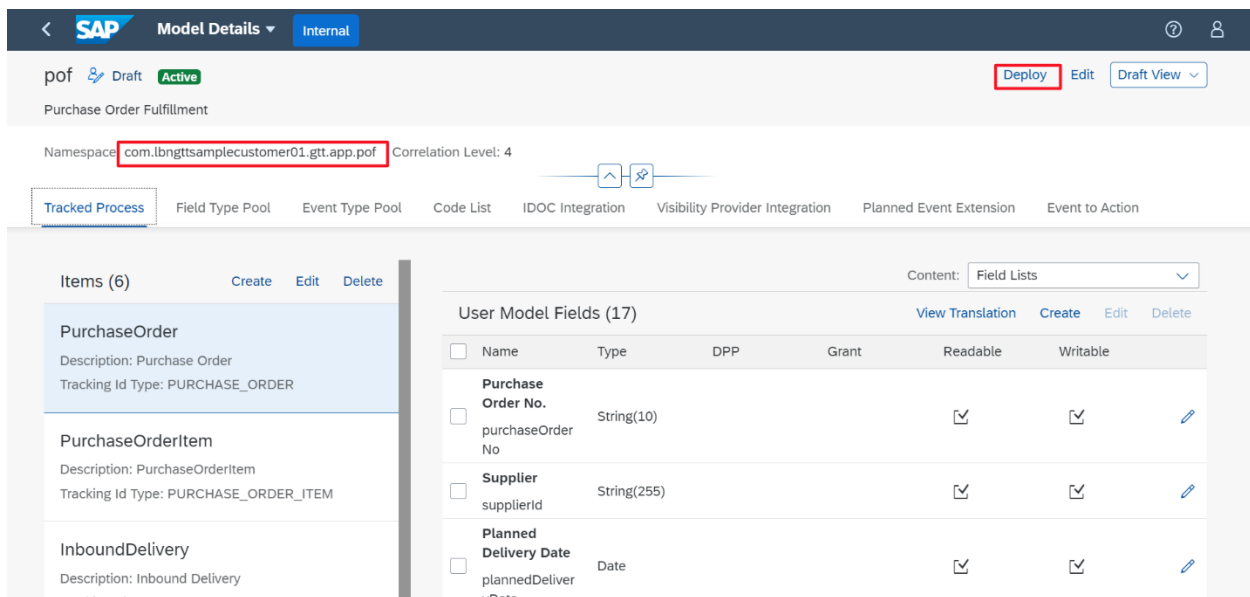
### 2.3 Deploy Model

- Go to the folder *model* with downloaded source code. Make sure you have a JSON file *pof-model-YYYYMMDDxx.json* (e.g. *pof-model-2020121901.json*).

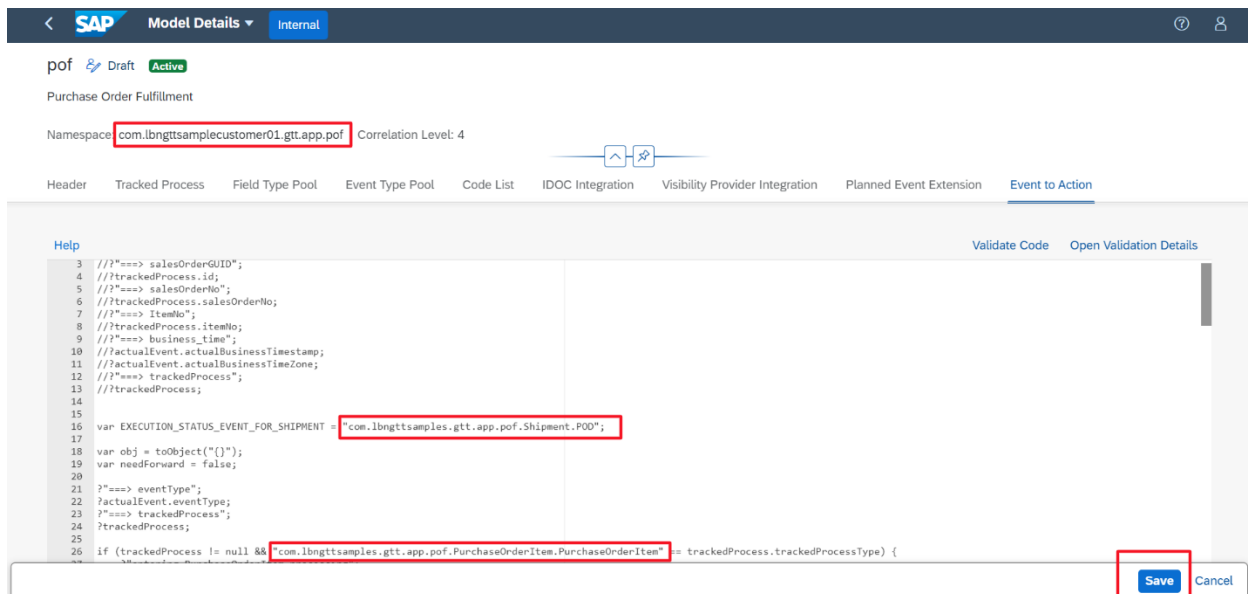
- Open *Manage Models* app on SAP Fiori Launchpad for global track and trace option
- Click “Import”
- Click “Browse” to select the *pof-model-YYYYMMDDxx.json* file
- Click “Import” to import the model



- Click “Deploy”
- Write down the model namespace for later use, in this case, “com.lbgnttsamples.gtt.app.pof” in the following screenshot:



- Click “Edit”
- Go to *Event to Action* tab
- Replace all the namespace strings, in this case, “com.lbgnttsamples.gtt.app.pof” in *Event to Action* script with the model namespace you wrote down in the previous step
- Click “Save and Deploy” to deploy the model



## 2.4 Package and Deploy

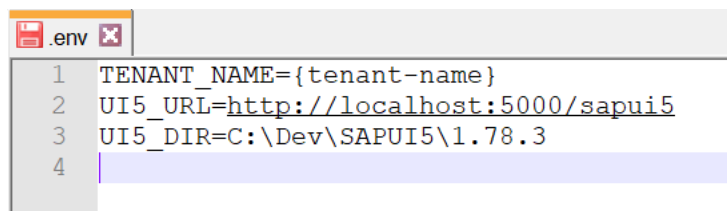
### 2.4.1 Login to SAP Cloud Foundry

- Open a command window, *cf login* to SAP Cloud Foundry with your username and password
- Select the organization and space in which you want to deploy the template apps

### 2.4.2 Package and Deploy *Track Purchase Orders* Frontend App

Go to GTT-V2-Sample-TrackPurchaseOrders-UI directory.

- Open the `./UI/.env` file
- Replace `{tenant-name}` with part of the namespace you got from Step 2.3.  
For example, replace it with "lbngttsamples" in "com.lbngttsamples.gtt.app.pof" shown in Step 2.3.

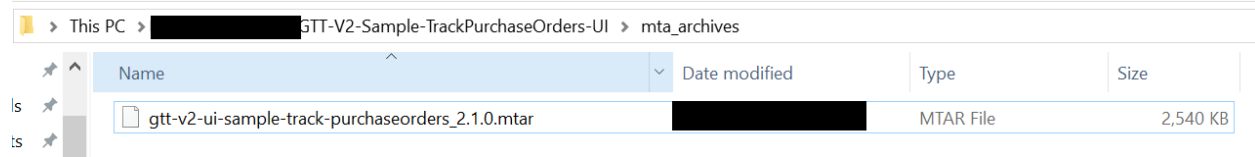


In the command line tool,

- Run the following command to build the MTAR package:

***mbt build***

A MTAR file `./mta_archives/gtt-v2-ui-sample-track-purchaseorders_xxx.mtar` is then generated.



Name	Date modified	Type	Size
gtt-v2-ui-sample-track-purchaseorders_2.1.0.mtar	[redacted]	MTAR File	2,540 KB

- To deploy the MTAR package in Cloud Foundry, run the following command:

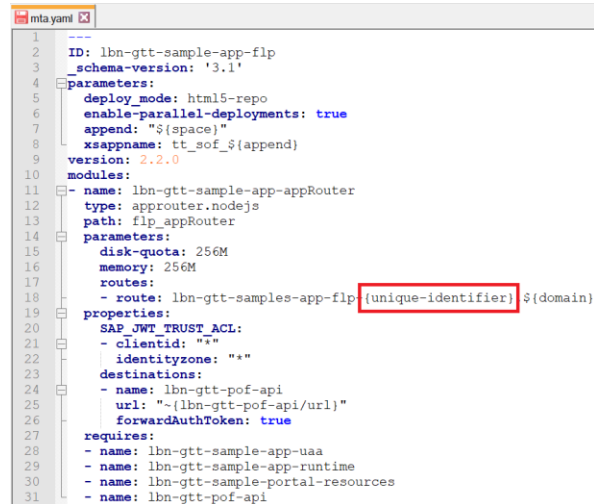
```
cf deploy ./mta_archives/gtt-v2-ui-sample-track-purchaseorders_xxx.mtar
```

The deployment time depends on your network performance.

### 2.4.3 Package and Deploy SAP Fiori Launchpad for *Track Purchase Orders*

Go to `GTT-V2-Sample-App-FLP` directory.

- Open the `mta.yaml` file
- Replace `{unique-identifier}` with unique information such as your company name or cloud foundry global account name



```
1  ---
2  ID: lbn-gtt-sample-app-flp
3  _schema-version: '3.1'
4  parameters:
5    deploy_mode: html5-repo
6    enable-parallel-deployments: true
7    append: "${space}"
8    xsappname: tt_sof_${append}
9  version: 2.2.0
10 modules:
11   - name: lbn-gtt-sample-app-appRouter
12     type:approuter.nodejs
13     path: flp_appRouter
14     parameters:
15       disk-quota: 256M
16       memory: 256M
17     routes:
18       - route: lbn-gtt-samples-app-flp {unique-identifier} ${domain}
19     properties:
20       SAP_JWT_TRUST_ACL:
21         - clientid: "*"
22         identityzone: "*"
23       destinations:
24         - name: lbn-gtt-pof-api
25           url: "${lbn-gtt-pof-api/url}"
26           forwardAuthToken: true
27     requires:
28       - name: lbn-gtt-sample-app-uaa
29       - name: lbn-gtt-sample-app-runtime
30       - name: lbn-gtt-sample-portal-resources
31       - name: lbn-gtt-pof-api
```

In the command line tool,

- Run the following command to build the MTAR package:

```
mbt build
```

A MTAR file `./mta_archives/lbn-gtt-sample-app-flp_xxx.mtar` is then generated.

- Deploy the MTAR package in Cloud Foundry by running the following command:

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

## 2.4.4 Package and Deploy *Track Purchase Orders* Backend Service

*Replace User/Password, Here Map License Key and Host Configuration*

- Obtain a Here Map license from Step 4.1
- Open the file *mta.yaml* under the folder “GTT-V2-Sample-TrackPurchaseOrders-Service”:

```
_schema-version: '3.1'
ID: gtt-v2-sample-track-purchaseorders-service
version: 2.3.0
modules:
- name: gtt-sample-track-purchaseorders-service
  type: java
  path: srv/
  properties:
    SPRING_PROFILES_ACTIVE: cloud
    DESTINATION_GTT: att_core_engine_flp_base_url
    HERE_MAP_KEY: {HERE_MAP_KEY}
  parameters:
    buildpack: java_buildpack
    health-check-timeout: 180
    host: gtt-sample-track-purchaseorders-service-{unique-identifier}
  build-parameters:
    ignore:
      - "*.md"
    build-result: target/*.jar
    timeout: 10m
  requires:
    - name: lbn-gtt-sample-app-uaa
    - name: lbn-gtt-sample-destination

resources:
- name: lbn-gtt-sample-app-uaa
  type: org.cloudfoundry.existing-service
- name: lbn-gtt-sample-destination
  type: org.cloudfoundry.existing-service
```

- Replace {here-map-license-key} with your license key
- Replace {unique-identifier} with unique information such as your company name or cloud foundry global account name
- Open the file *./srv/src/main/java/com/sap/gtt/v2/sample/pof/constant/Constants.java*
  - Replace “com.lbngttsamples.gtt.app.pof” with the model namespace you got from Step 2.3

```
package com.sap.gtt.v2.sample.pof.constant;

public class Constants {
    public static final String GTT_MODEL_NAMESPACE = "com.lbngttsamples.gtt.app.pof";
    public static final String GTT_MODEL_NAMESPACE_WRITE_SERVICE = GTT_MODEL_NAMESPACE + ".pofWriteService";
    public static final String MODEL_NAMESPACE = GTT_MODEL_NAMESPACE + ".pofService";
}
```

- Run the following command to build the MTAR package:

*mbt build*

A MTAR file *./mta\_archives/gtt-v2-sample-track-purchaseorders-service\_xxx.mtar* is then generated.

- Deploy the MTAR package in Cloud Foundry by running the following command:

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

## 2.4.5 Check Deployed Apps on SAP Cloud Foundry Cockpit

After completing Step 2.4.1 to Step 2.4.3, check the deployed apps on SAP Cloud Platform Cockpit.

The screenshot shows the SAP Cloud Platform Cockpit interface. The left sidebar contains navigation links: Applications, Services, SAP HANA Cloud, SAP HANA Cloud Migrations, SAP HANA, Portal, Routes, Security Groups, Events, Members, Useful Links, and Legal Information. The main area displays 'Space: [redacted] Applications' with 'All: 4' applications. A 'Deploy Application' button and a search bar are at the top. Below is a table of applications:

Requested State	Name	Instances	Disk Quota	Memory	Actions
Stopped	flp	0/1	1024 MB	128 MB	[Play] [Stop] [Trash]
Started	gtt-sample-track-purchaseorders-service	1/1	1024 MB	1024 MB	[Play] [Stop] [Trash]
Started	gtt-ui-sample-track-purchaseorders-ui_deployment	1/1	1024 MB	256 MB	[Play] [Stop] [Trash]
Started	lbn-gtt-sample-app-router	1/1	256 MB	256 MB	[Play] [Stop] [Trash]

## 2.4.6 Maintain Destination of Forwarding URL

### 8. Obtain the UAA Token

- Go to the *Track Purchase Orders* backend application that you have deployed

This block shows a close-up of the application table row for 'gtt-sample-track-purchaseorders-service'. The row includes a 'Started' status badge, the application name, '1/1' instances, '1024 MB' disk quota, '1024 MB' memory, and action icons (Play, Stop, Trash).

- Find the environment of UAA

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

SAP

SAP Cloud Platform Cockpit

Overview

Service Bindings

Security

User-Provided Variables

Environment Variables

Events

Logs

Useful Links

Application: gtt-sample-track-purchaseorders-service - Service Bindings

All: 2

Bind Service

Search

Name	Service	Plan	Actions
<input checked="" type="radio"/> lbn-gtt-sample-app-uaa	xsuaa	application	
<input type="radio"/> lbn-gtt-sample-destination	destination	lite	

Hide sensitive data

```

{
  "tenantmode": "dedicated",
  "sburl": "https://[redacted]",
  "subaccountid": "[redacted]",
  "clientid": "[redacted]",
  "xsappid": "[redacted]",
  "clientsecret": "[redacted]",
  "url": "https://[redacted].authentication.eu10.hana.ondemand.com",
  "uaadomain": "authentication.eu10.hana.ondemand.com",
  "apiurl": "https://api.authentication.eu10.hana.ondemand.com",
  "identityzoneid": "[redacted]",
  "tenantid": "[redacted]",
  "zoneid": "[redacted]"
}

```

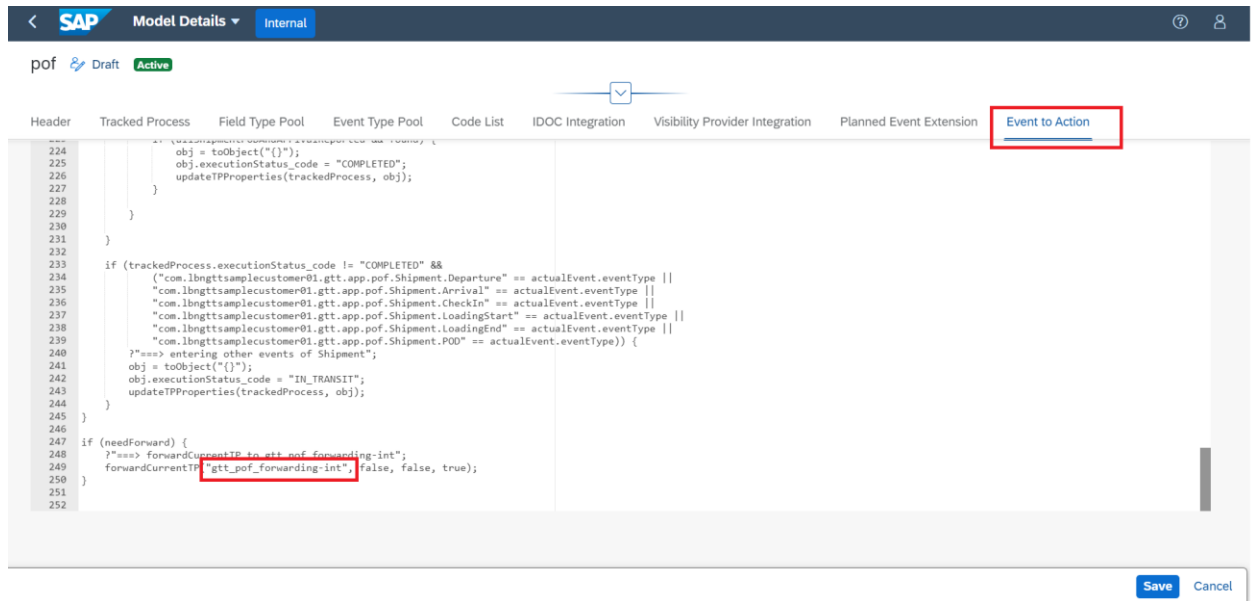
9. Go to “Destinations”

	SAP	SAP Cloud Platform
	Overview	
	Services	▼
	Service Marketplace	
	Service Instances	
	Subscriptions	
	Cloud Foundry	▼
	Spaces	
	Quota Plans	
	Org Members	
	HTML5 Applications	
	Connectivity	▼
	Destinations	
	Cloud Connectors	
	Security	▼
	Administrators	
	Role Collections	
	Roles	
	Trust Configuration	
	Entitlements	
	Usage Analytics	

## 10. Configure Destination of Event to Action Forwarding

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

Note: You need to update the destination name in *Event to Action* script of *Track Purchase Orders* model if you change the name from “gtt\_pof\_forwarding\_int” to others.



### 2.4.7 Maintain Roles and Users

- As shown in Step 1.2, go to the role of “gtt-sample-all”, and add the following role:

Role	Application
PurchaseOrderFulfillmentAppUser	tt_pof_{space}

Note that the role of “PurchaseOrderFulfillmentAppUser” is used to access the *Track Purchase Orders* application.

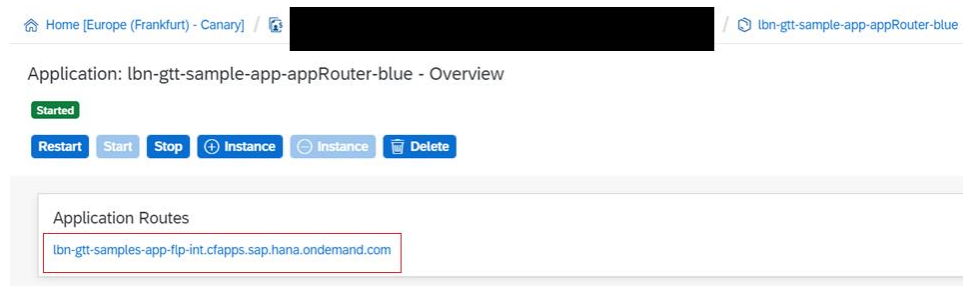


If you need to access other template applications such as *Track Shipments* or *Track Sales Orders*, add the following roles:

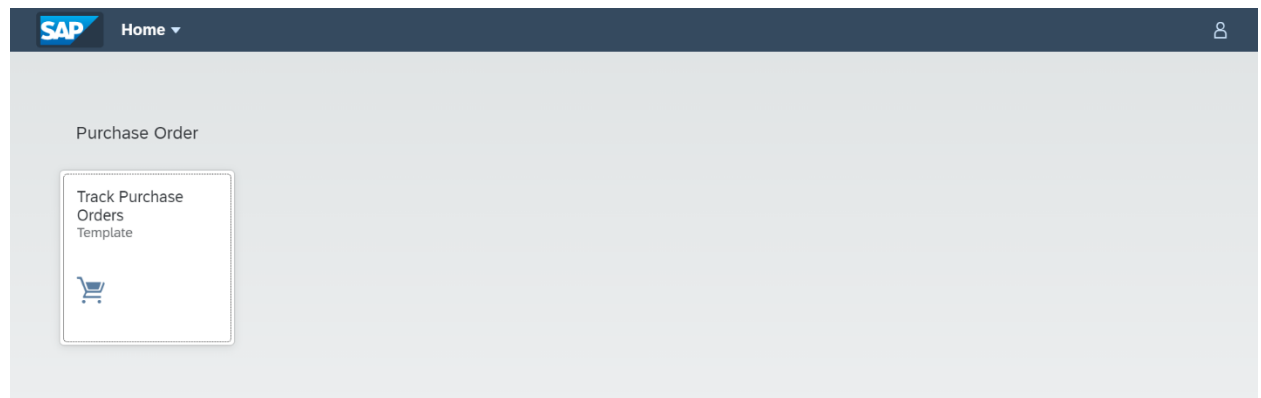
Role	Application
StandaloneShipmentTrackingAppUser	tt_sst_{space}
SalesOrderFulfillmentAppUser	tt_sof_{space}

#### 2.4.8 Open *Track Purchase Orders* Template App from SAP Fiori Launchpad

- Obtain the Application Routes from SAP Cloud Foundry Cockpit



- Click the link of Application Routes  
The system browser then navigates to the SAP Fiori Launchpad of *Track Purchase Orders*



- Open the *Track Purchase Orders* template app

Purchase Order No.	Supplier	Receiving Location	Planned Delivery Date	Net Value	Completion Rate	Incoterms
9900023133	VEN_CO	0001	Oct 19, 2020	110,000.00 INR	0.00 %	Costs and freight

### 3. Implement ERP Extractor

For ERP extractor implementation, refer to the following document:

02\_Extractor\_Creation\_Guide-TPO.pdf

### 4. Other Configuration

#### 4.1 Obtain A Here Map License

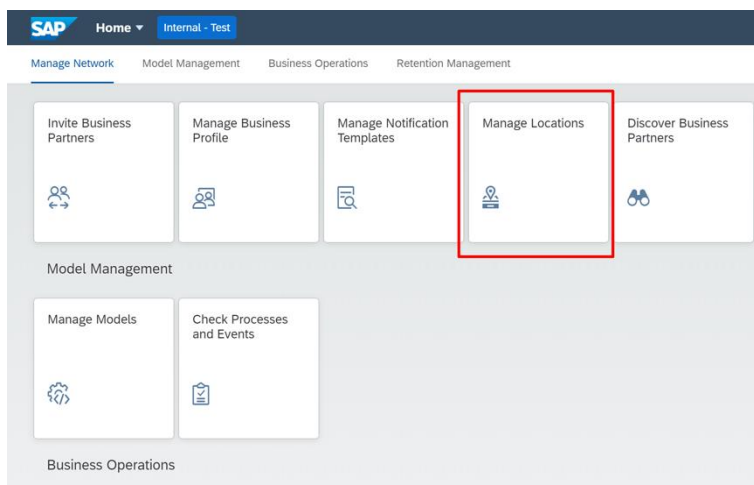
To have the map view, log the incident with the URL of Fiori Launchpad of *Track Purchase Orders* template app in SAP BCP system under component “SCM-LBN-GTT-COR”. The Here Map tile service is enabled manually.

For quick validation, you can also use the tile service of other map services.

#### 4.2 Maintain Location Master

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

1. Open *Manage Locations* app in your SAP Fiori Launchpad for global track and trace option



2. Click “Create” to create a new location

Standard ▾ Download Excel Template Upload Locations

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

Locations (22) <span style="float: right;">Create</span>								
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

To integrate with ERP, you need to keep the Object Type, Source System, and External ID location consistent with ERP location information.

For details, refer to the following document:

02\_Extractor\_Creation\_Guide-TPO.pdf

< 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:   Example: 000.00000000

Latitude:   Example: 00.00000000

Country/Region:

State:

City:

District:

Street/House Number:

Zip Code:

## 4.3 Maintain Data Contributors

To receive actual events from other business partners, you need to invite them to join your business network. For more, search for *Administration Guide for Version 2* at [help.sap.com/gtt](https://help.sap.com/gtt) and see the chapter “Onboarding and User Management (Data Contributors)”.