SAP Logistics Business Network, Global Track and Trace Option
SAP ERP Integration

SAP Business Network
September 2020

THE BEST RUN SAP

Overview
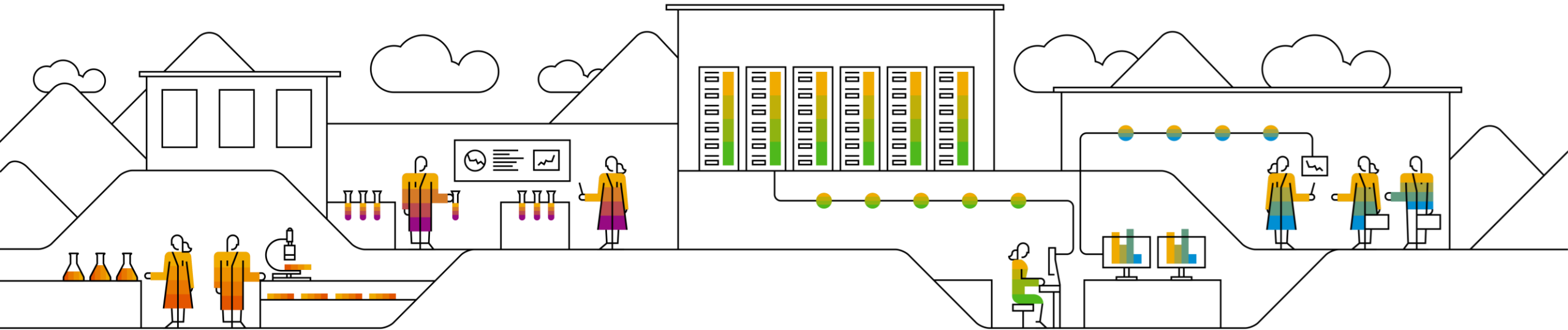
A) Prerequisites

STEP 1: Check the SAP Version

1-1: the SAP Product Version shall be SAP EHP1 FOR SAP NETWEAVER 7.3 or higher.

1-2: SAP NOTE 2937175 shall be implemented.

TIPs:

1, SAP version reference: https://support.sap.com/en/my-support/software-downloads/support-package-stacks/product-versions.html#section

2, Note-assistant reference: https://support.sap.com/en/my-support/knowledge-base/note-assistant.html

STEP 2: Log on the Development Client to Configure BTE

2-1: Ensure you have development access to the client for cross-client customizing and local development

2-2: Log on to the client and enter transaction code (T-code): **FIBF**

2-3: Click **More -> Settings -> Identification -> SAP Applications**
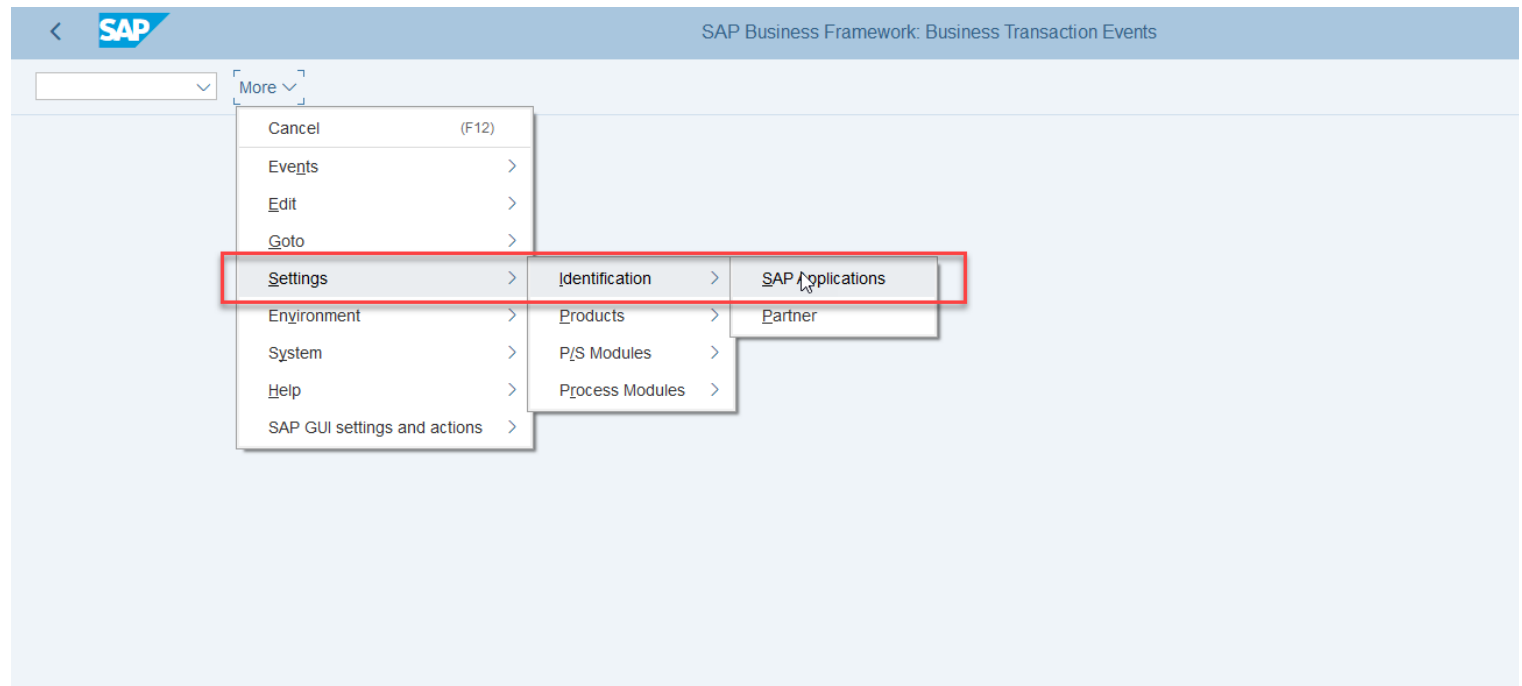
STEP 2: Activate SAP Event Manager Integration

2-4: Position on the Application ID: **PI-EM**

2-5: Check the field **Application Active**

2-6: Click **Save**

B) Configuration and Implementation - Basic

B1. IDOC Configuration

STEP 1: Define RFC Connection for GTT

1-1: Log on to the business client

1-2: Enter T-code *SPRO* and then click **SAP Reference IMG** to open **Display IMG page**

1-3: Click **Integration with Other SAP Components**
-> **Interface to Global Track and Trace**
-> **Define System Configuration**

1-4: Choose activity:
Define RFC Connection for SAP GTT
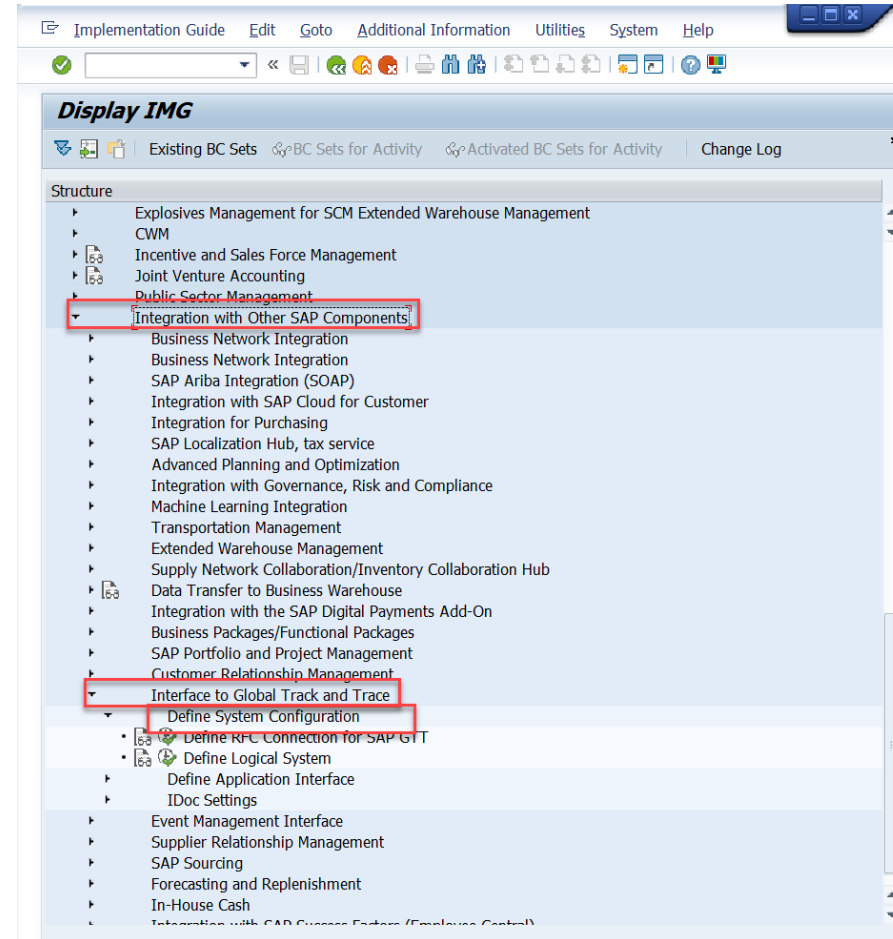
STEP 1: Define RFC Connection for GTT

1-5: Choose **HTTP Connections to External Server**, click **Create** and create a new RFC connection.

1-6: Fill in the **Destination** and choose the **Connection Type:**
'G-HTTP connection to external server'.
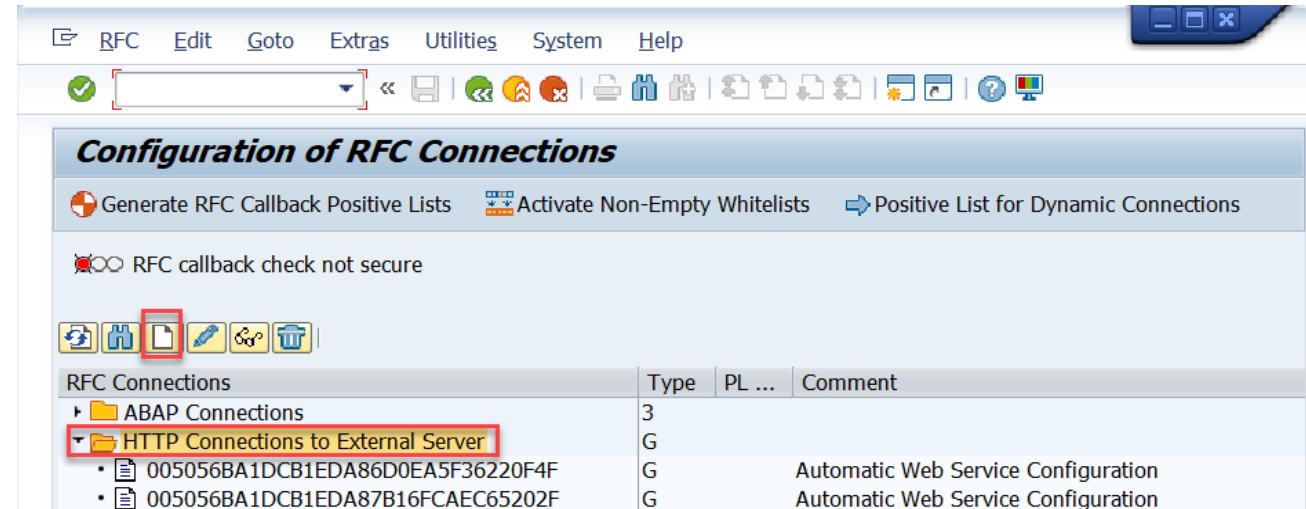
STEP 1: Define RFC Connection for GTT

1-7: Enter a description

1-8: In the **Technical Settings** tab, fill in the **Host**, **Port** and **Path Prefix**

For example, the url of solution owners is as below:

https://sat-so-01.gtt-flp-lbnplatform-pre-live.cfapps.eu10.hana.ondemand.com/

Host: *sat-so-01.gtt-flp-lbnplatform-pre-live.cfapps.eu10.hana.ondemand.com*
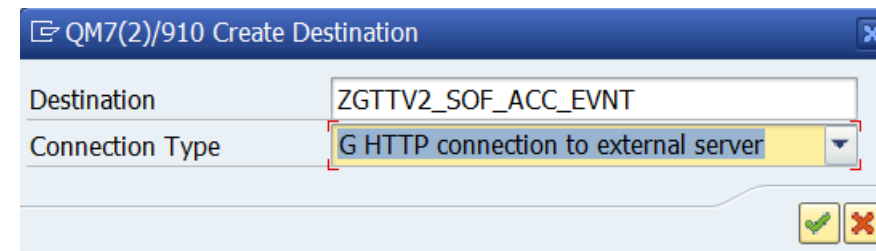
Port: *443*

You need to configure two RFC connections separately for event and tracked process. They have different **Path Prefix**es.

For the event:

Path Prefix: */api/idoc/em/v1/Event*

For the tracked Process:

Path Prefix: */api/idoc/em/v1/TrackedProcess*

STEP 1: Define RFC Connection for GTT

1-9: In the **Logon & Security** tab, enter the Logon information.

For basic authentication, the GTT technical user / password is needed. You can get this from your GTT administrator.

Also, SSL must be *Active.*
The recommended SSL Certificate is: *DFAULT SSL Client (Standard).*

1-10: Save the configuration

1-11: Click **Connection Test.** A successful connection returns a status HTTP response of 200.

Caution: You need to configure two RFC Connections:

- one for event and

- the other for tracked process.

STEP 2: Define Logical System

2-1: In **Display IMG** page, click
Integration with Other SAP Components ->
**Interface to Global Track and Trace** ->
Define System Configuration.

2-2: Choose activity **Define Logical System**.
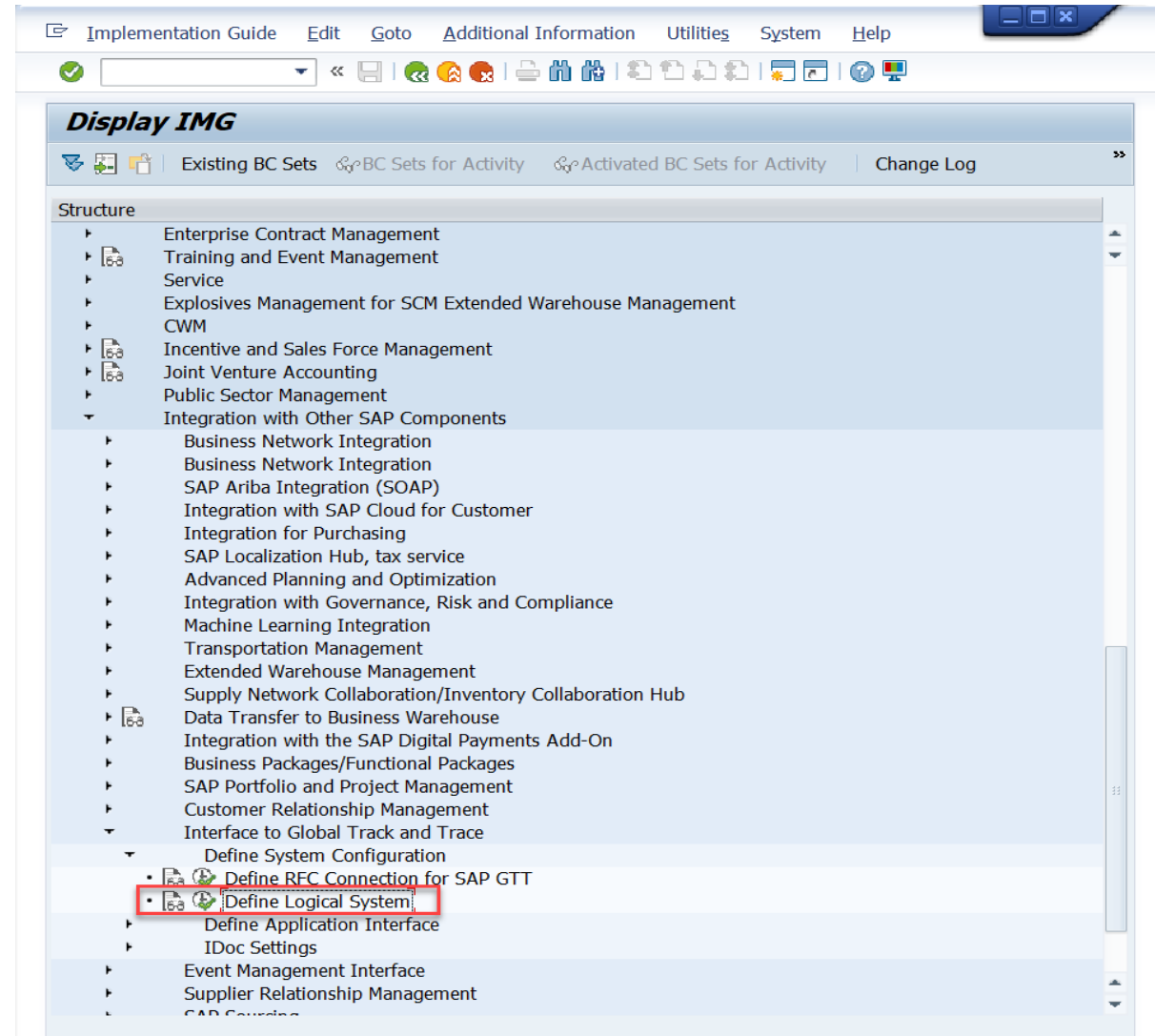
STEP 2: Define Logical System

2-3: Create **New Entries** to create a new Logical System, fill in the:

- Logical system code and

- Name of the new logical system

2-4: Save the configuration
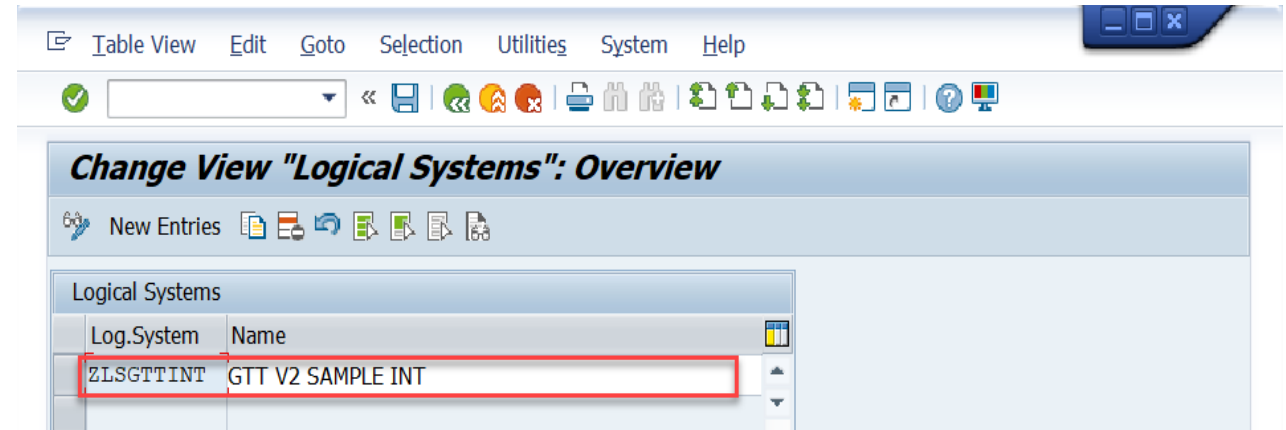
STEP 3: Define Ports

3-1: In **Display IMG** page, click
Integration with Other SAP Components ->
Interface to Global Track and Trace ->
IDoc Settings

3-2: Choose activity **Define Ports**
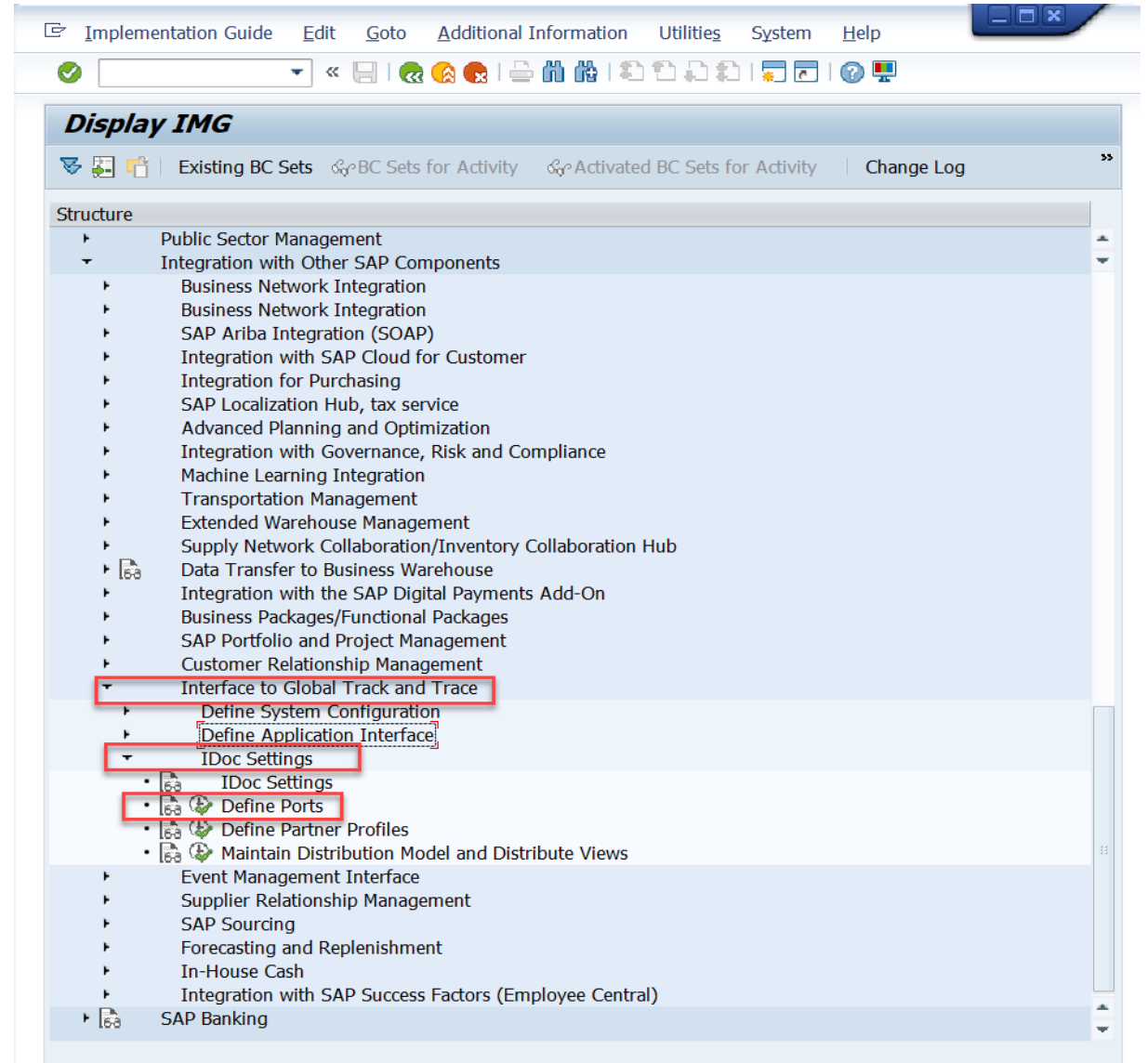
STEP 3: Define Ports

3-3: Choose **XML HTTP** folder, and click **Create** to create a new port

3-4: Fill in the **RFC Destination**, it is the RFC connection you created in STEP 1

3-5: Choose **Content Type** as *application/x-sap.idoc*

3-6: Choose **HTTP Versio**n as *Version 1.0*

3-7: Mark it as SOAP Protocol

3-8: Save the configuration

Caution: You need to define two ports, one for event and the other for tracked process.

STEP 4: Define Partner Profiles

4-1: In **Display IMG** page, unfold
Integration with Other SAP Components ->
Interface to Global Track and Trace ->
IDoc Settings

4-2: Choose activity **Define Partner Profiles**
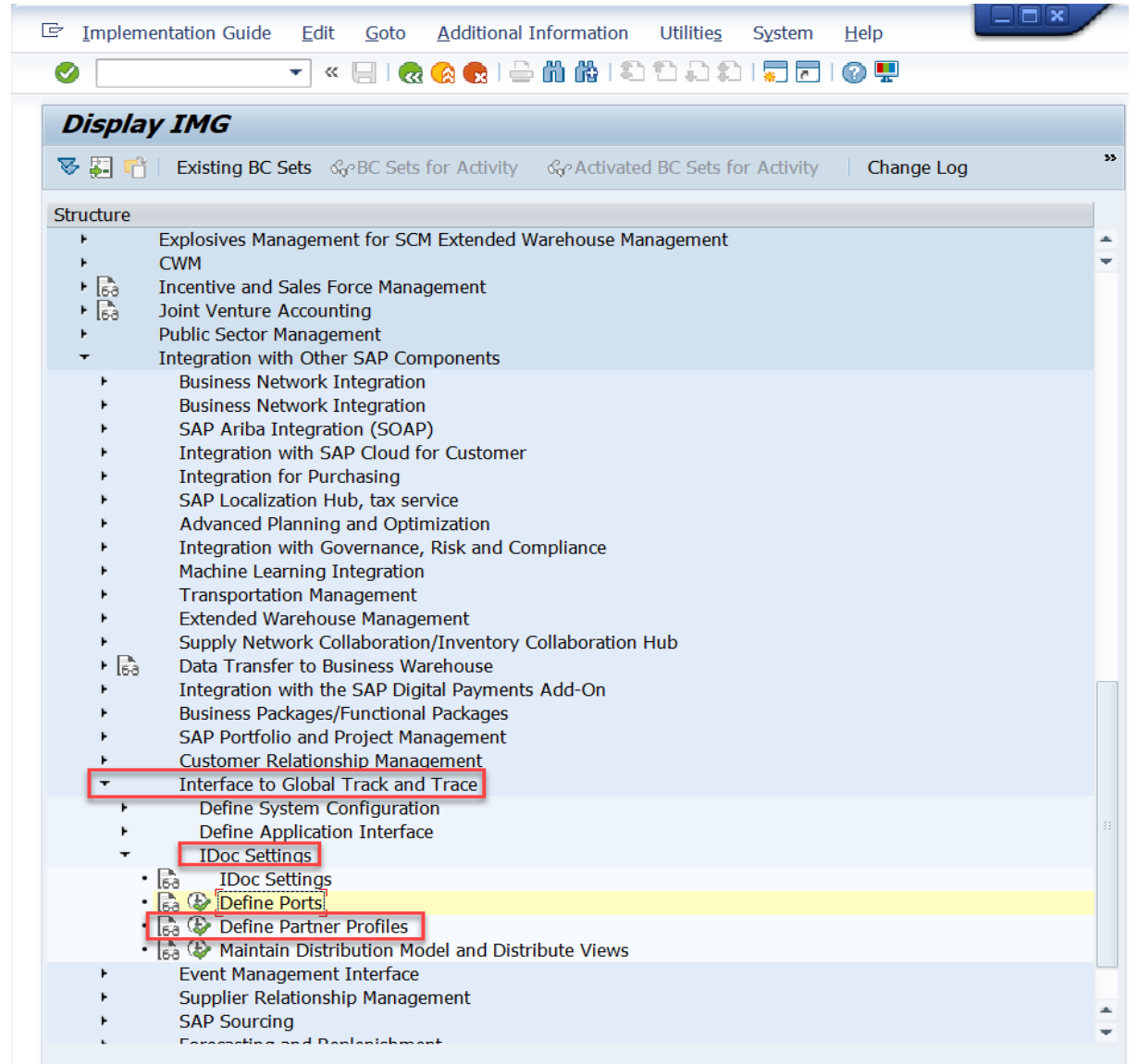
STEP 4: Define Partner Profiles

4-3: Choose **Partner Type LS** folder, and click **Create** to create a new partner profile
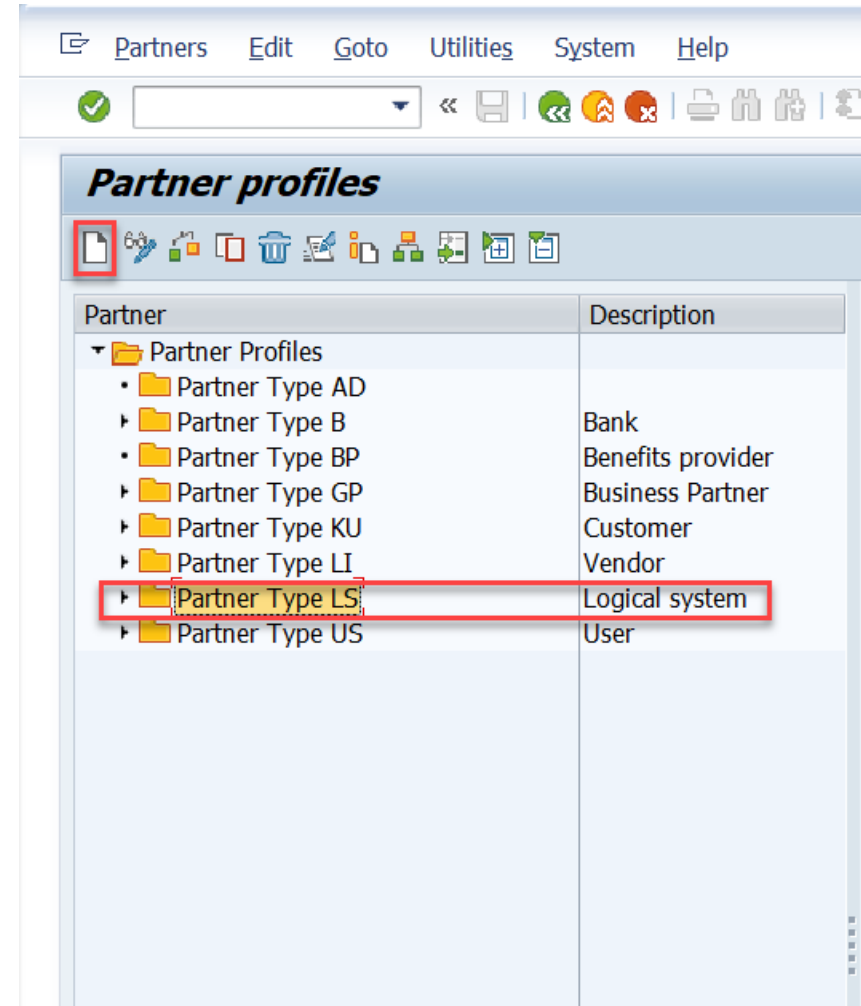
STEP 4: Define Partner Profiles

4-4: Fill in the **Partner No.** that you created in STEP 2

4-5: Fill in the **Processor** information

STEP 4: Define Partner Profiles

4-6: Click **Add** under **Outbound** box to create a new outbound parameter

STEP 4: Define Partner Profiles

4-7: Fill in the Message Type.

For the event:

Message Type: *EVMSTA*

For the tracked Process:

Message Type: *AOPOST*

4-8: Fill in the Receiver Port, that you created in STEP 3

4-9: Save the configuration

Caution: In this step, you need to repeat steps 4-6 ~ 4-9 to add two outbound parameters, one for event and the other for tracked process.

# STEP 5: Maintain Distribution Model and Distribute Views

5-1: In **Display IMG** page, click
Integration with Other SAP Components ->
Interface to Global Track and Trace ->
IDoc Settings

5-2: Choose activity **Maintain Distribution Model and Distribute Views**
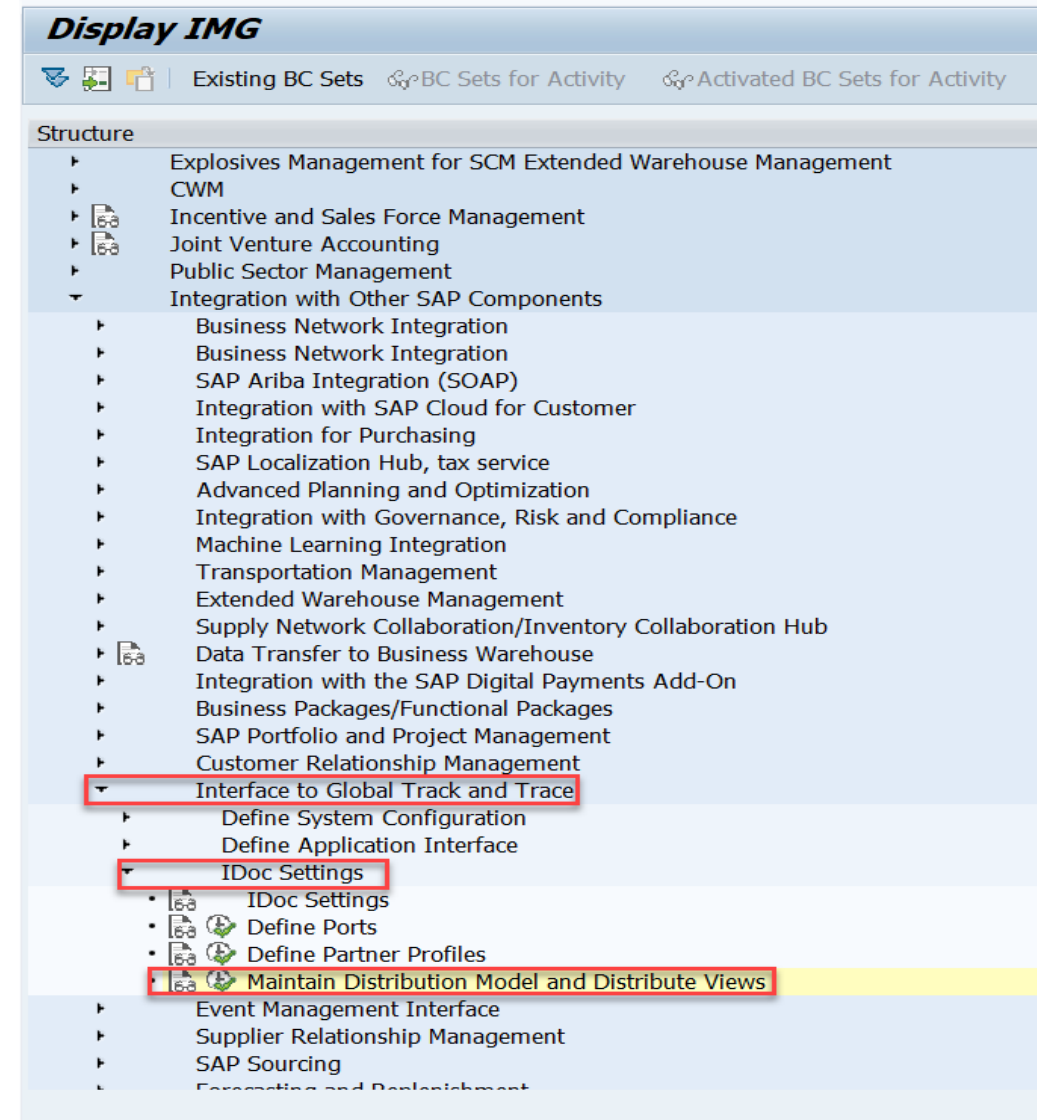
STEP 5: Maintain Distribution Model and Distribute Views

5-3: Click **Edit**, then click **Create Model View** to create a new model view

5-4: Fill in the Short Text and Technical Name of the model view

5-5: Select the new model view and click **Add Message Type** to create a new message

5-6: Fill in the logical systems of Sender and Receiver, and the message type to continue.

For the event:

Message Type: *EVMSTA*

For the tracked Process:

Message Type: *AOPOST*

5-7: Save the configuration

B) Configuration and Implementation - Basic

B2. Extractor Configuration
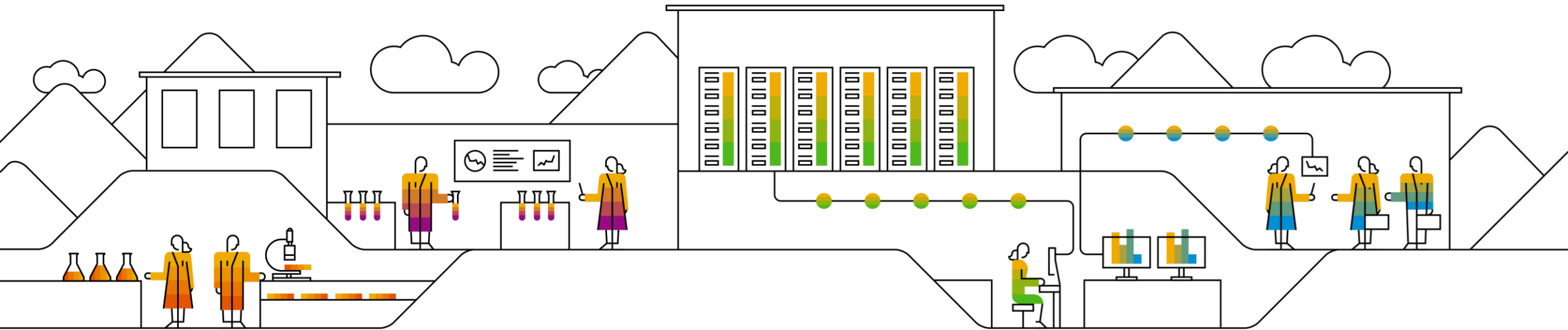
STEP 6: Define CI Tenant for GTT

6-1: In **Display IMG** page, click
Integration with Other SAP Components ->
Interface to Global Track and Trace ->
Define Application Interface

6-2: Choose activity
Define CI Tenant for SAP GTT

STEP 6: Define CI Tenant for GTT

6-3: Click **New Entries** to create a new CI tenant for GTT

6-4: Fill in the information for the new CI tenant. The **CI Log. System** is the logical system you created in STEP 2.
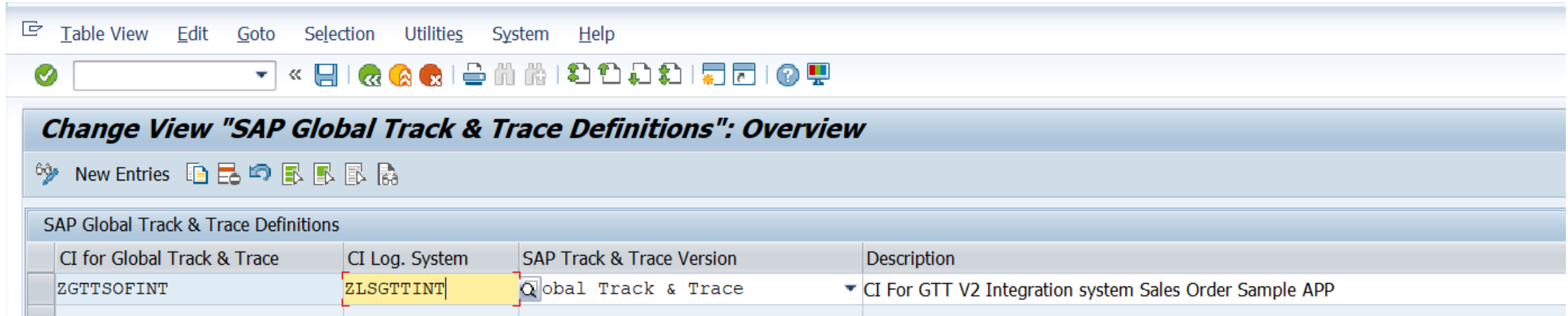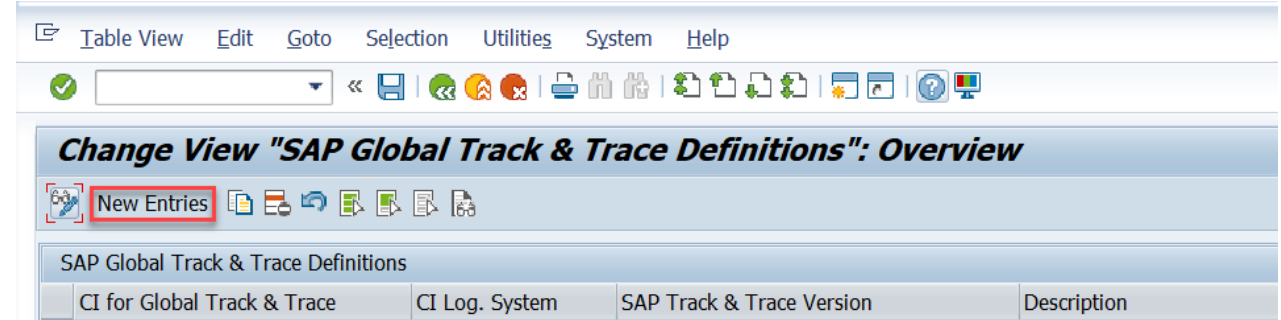
STEP 7: Define GTT Extraction Functions

7-1: In **Display IMG** page, click
Integration with Other SAP Components ->
Interface to Global Track and Trace ->
Define Application Interface

7-2: Choose activity
Define SAP GTT Extraction Functions

Display IMG

Existing BC Sets	BC Sets for Activity	Activated BC Sets for Activity	Change Log

Structure
- Public Sector Management
- Integration with Other SAP Components
  - Business Network Integration
  - Business Network Integration
  - SAP Ariba Integration (SOAP)
  - Integration with SAP Cloud for Customer
  - Integration for Purchasing
  - SAP Localization Hub, tax service
  - Advanced Planning and Optimization
  - Integration with Governance, Risk and Compliance
  - Machine Learning Integration
  - Transportation Management
  - Extended Warehouse Management
  - Supply Network Collaboration/Inventory Collaboration Hub
  - Data Transfer to Business Warehouse
  - Integration with the SAP Digital Payments Add-On
  - Business Packages/Functional Packages
  - SAP Portfolio and Project Management
  - Customer Relationship Management
  - **Interface to Global Track and Trace**
    - Define System Configuration
    - **Define Application Interface**
      - Define CI Tenant for SAP GTT
      - Define Business Process Types
      - Define Used Business Process Types, Appl. Object Types and Event Types
      - **Define SAP GTT Extraction Functions**
    - IDoc Settings
  - Event Management Interface
  - Supplier Relationship Management
  - SAP Sourcing
  - Forecasting and Replenishment
  - In-House Cash
  - Integration with SAP Success Factors (Employee Central)
- SAP Banking

STEP 7: Define GTT Extraction Functions

7-3: Choose the type of Extraction Function you want to create from the **Dialog Structure,** and click **New entries**
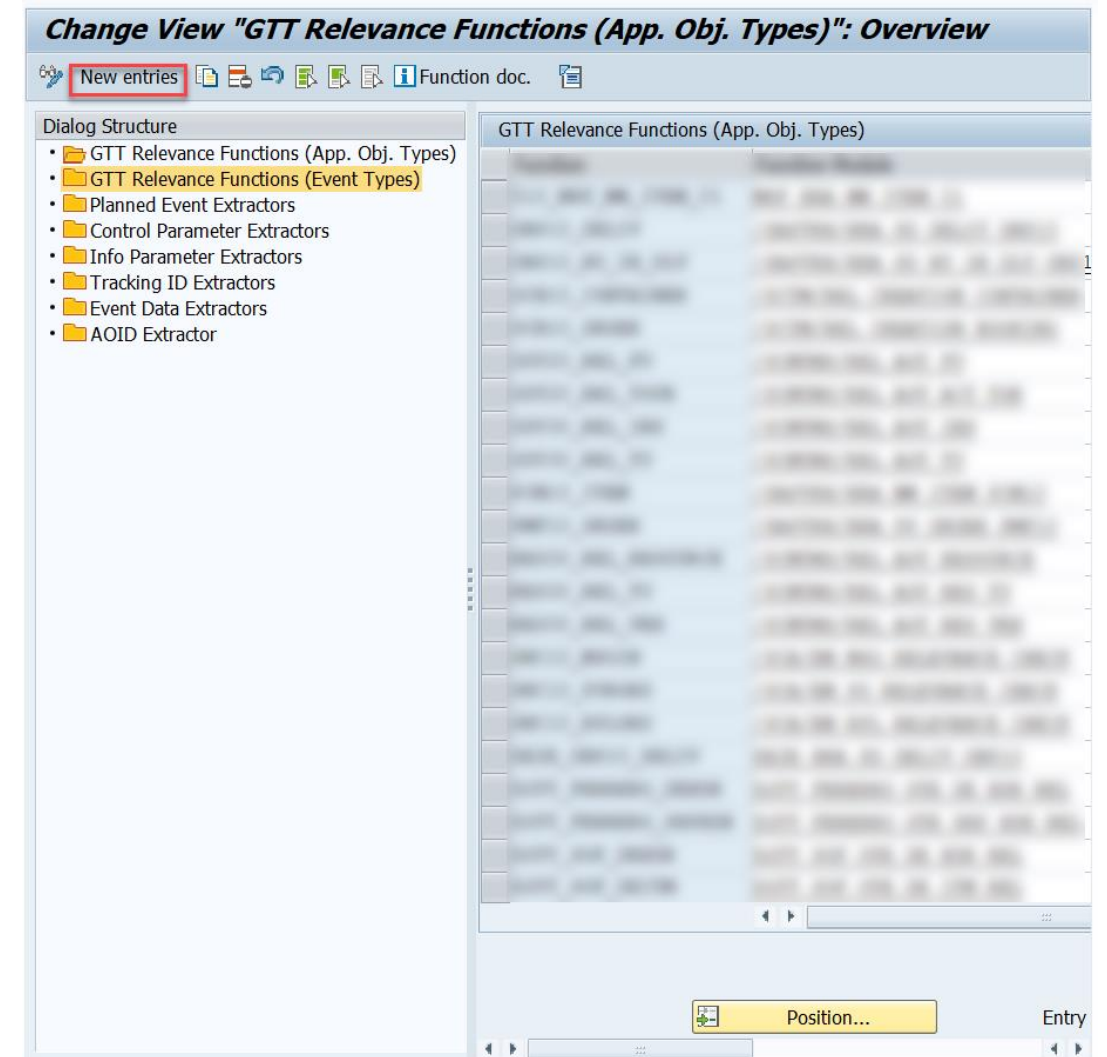
STEP 7: Define GTT Extraction Functions

7-4: Input the **Function** name and **Function Module** for the newly created extraction function

New Entries: Overview of Added Entries

Function doc.

Dialog Structure
- 📂 GTT Relevance Functions (App. Obj. Types)
- 📁 GTT Relevance Functions (Event Types)
- 📁 Planned Event Extractors
- 📁 Control Parameter Extractors
- 📁 Info Parameter Extractors
- 📁 Tracking ID Extractors
- 📁 Event Data Extractors
- 📁 AOID Extractor

GTT Relevance Functions (App. Obj. Types)

Function	Function Module
ZGTT_SOF_EE_GI_REL	ZGTT_SOF_EE_DE_GI_REL1

STEP 7: Define GTT Extraction Functions

7-5: Click **Save**
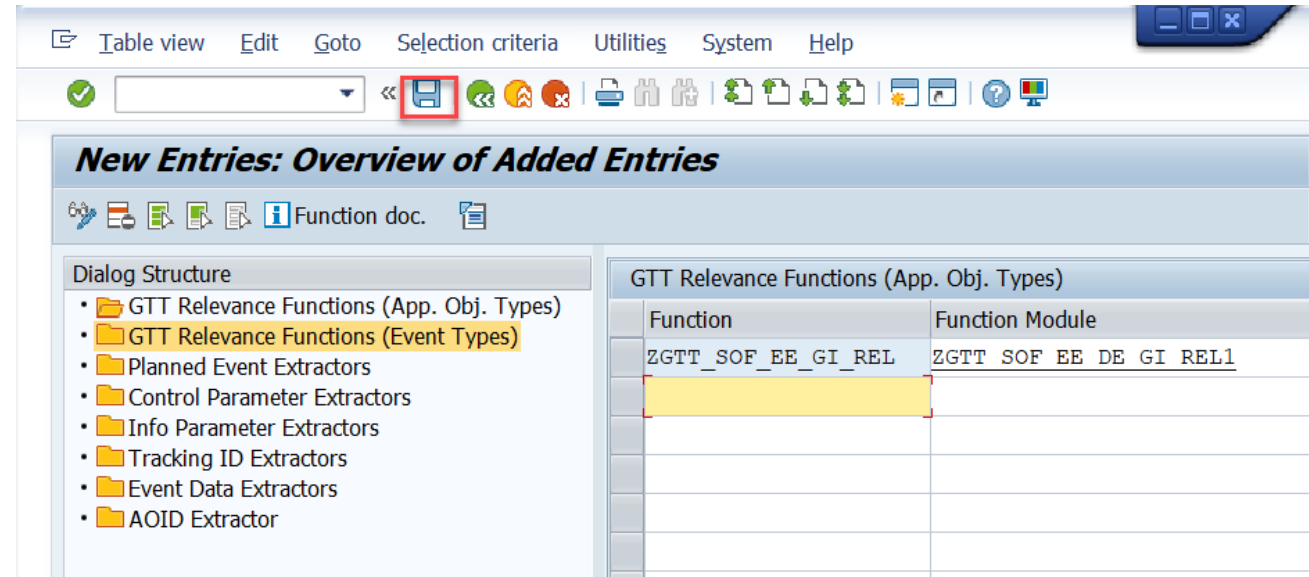
STEP 7: Define GTT Extraction Functions
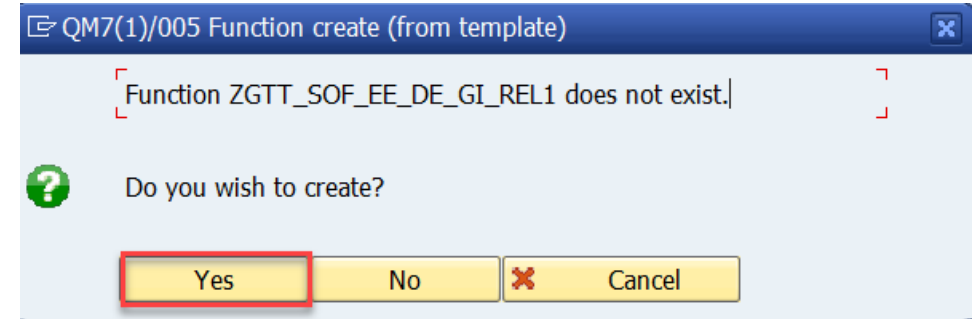
7-6: If the function module you use to create the extraction function has not been created yet, then a dialog reminds you to create the function module. Click **Yes** in the dialog box.

STEP 7: Define GTT Extraction Functions

7-7: Input the **Function Group** where the function module is to be created
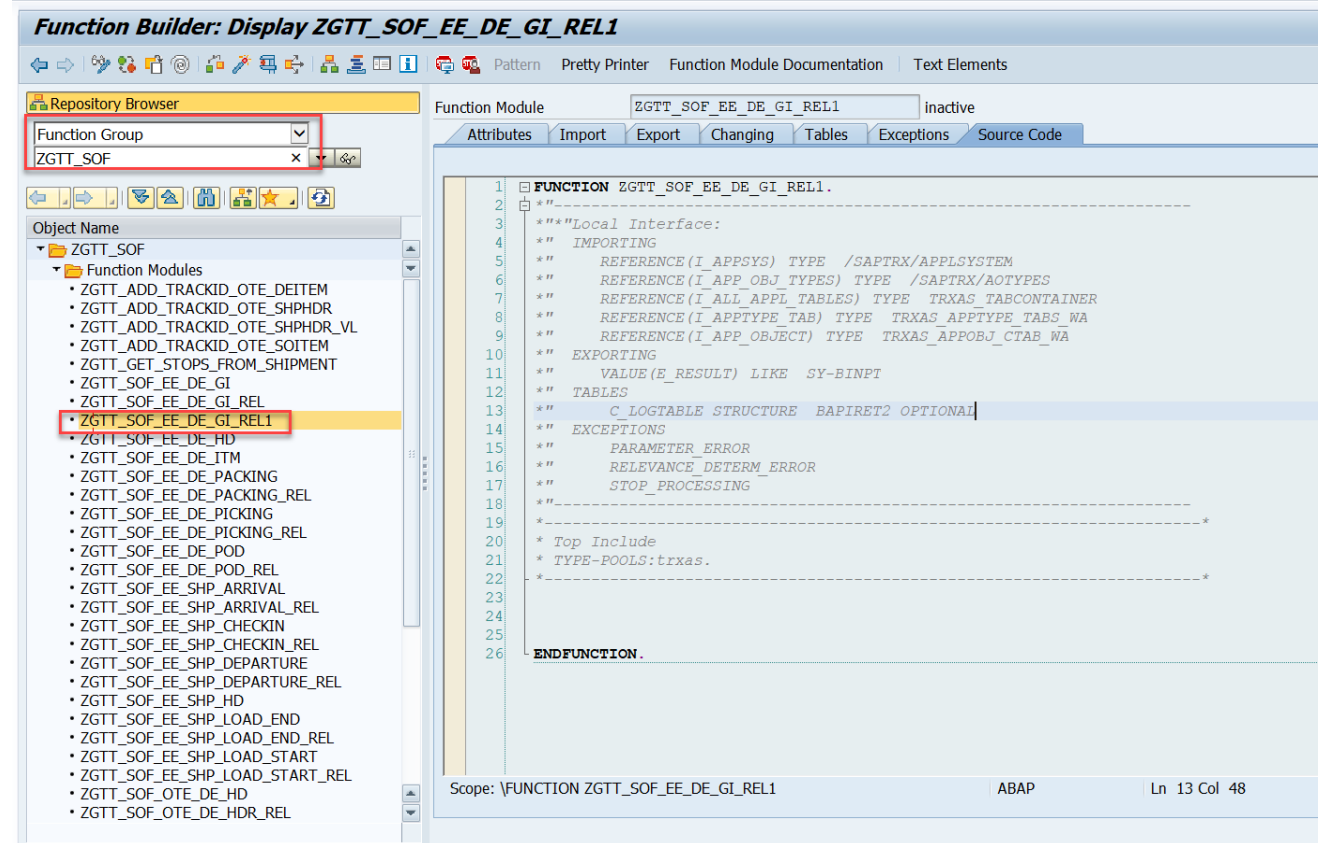
7-8: Click **Copy**

STEP 7: Define GTT Extraction Functions

7-9: Use T-Code SE80 to check the function module you just created

Caution: More information on how to implement extraction functions and the relevant sample code is introduced later.

STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

8-1: In **Display IMG** page, click
Integration with Other SAP Components ->
Interface to Global Track and Trace ->
Define Application Interface

8-2: Choose activity **Define Used Business Process Types, Appl. Object Types and Event Types**
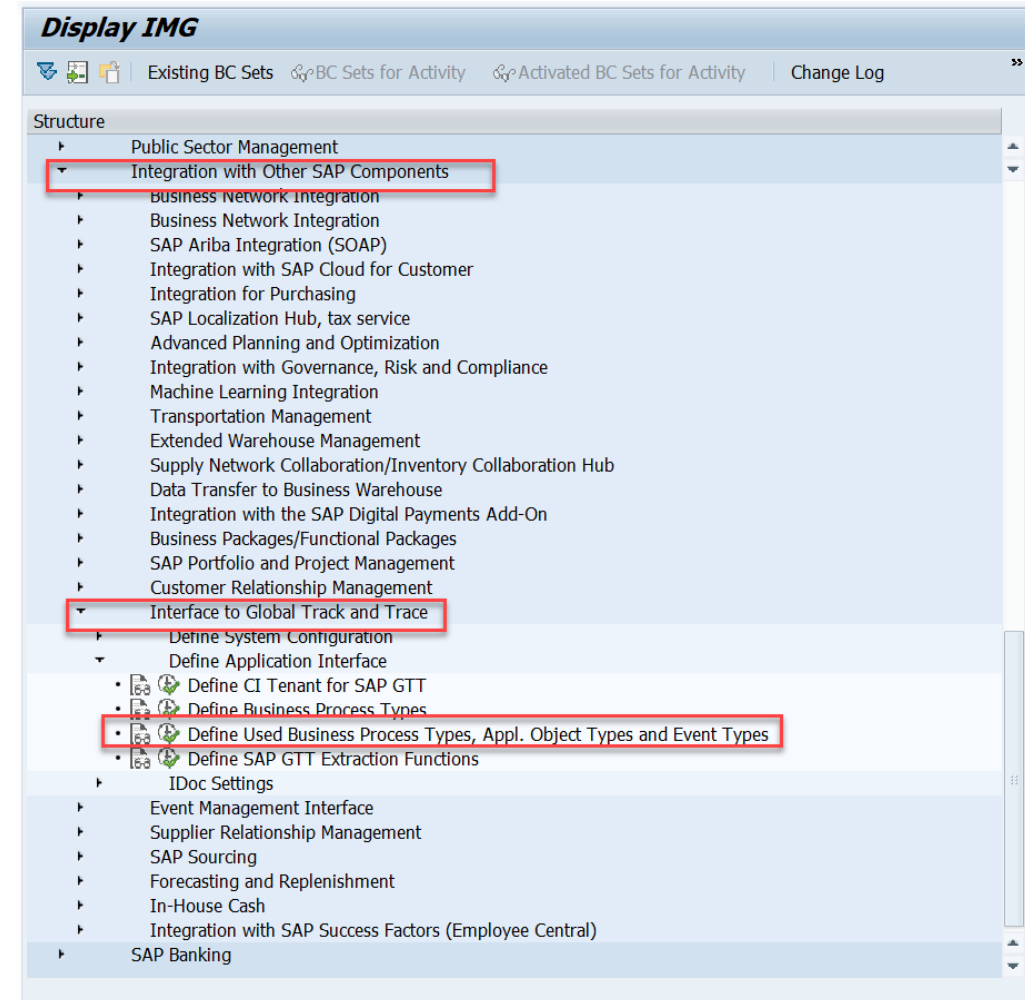
STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

You can create event types and application object types for each business process type.

In the following:

- Steps 8-3 to 8-10 demonstrate how to create an *Event Type* for a given business process type

- Steps 8-11 to 8-21 demonstrate how to create an *Application Object Type* for a given business process type

Change View "Define Used Business Process Types": Overview

New Entries

Dialog Structure
- ▼ 📂 Define Used Business Process Types
  - • 📁 Define Application Object Types
  - • 📁 Define Event Types

Define Used Business Process Types

Bus. Proc. Type	Update Mode	BPT Process Mod
EPL_NOTIF	Update Task (\ ▼	Active
ESC_DELIV	Update Task ... ▼	Active
ESC_FI_CLEARING	Update Task ... ▼	Active
ESC_MATDOC	Update Task ... ▼	Active
ESC_MM_INVOICE	Update Task ... ▼	Active
ESC_PURORD	Update Task ... ▼	Active
ESC_PURORD_FASHION	Update Task ... ▼	Active
ESC_SHIPMT	Update Task ... ▼	Active
ESC_SORDER	Update Task ... ▼	Active
ESC_WRKORD	Update Task ... ▼	Active
OCB10_ORDER	Dialog Update ▼	Active
SNC_MSGIN	Dialog Update ▼	Active
SNC_PURORD	Dialog Update ▼	Active
SNC_RPLORD	Dialog Update ▼	Active
TMS_INS	Update Task ... ▼	Active
TMS_RES	Update Task ... ▼	Active
TMS_TOR	Update Task ... ▼	Active

Position...   Entry 1 of 17

STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

8-3: Choose the business process type from the **Define Used Business Process Types** on the right side

8-4: Double click **Define Event Types**

Change View "Define Used Business Process Types": Overview

New Entries

Dialog Structure
- Define Used Business Process Types
  - Define Application Object Types
  - Define Event Types

Define Used Business Process Types

Bus. Proc. Type	Update Mode	BPT Process Mode	Description
EPL_NOTIF	Update Task ..	Active	Notification in SAP R/3 Enterprise
ESC_DELIV	Update Task ..	Active	Delivery in SAP R/3 Enterprise
ESC_FI_CLEARING	Update Task ..	Active	FI Clearing in SAP R/3 Enterprise
ESC_MATDOC	Update Task ..	Active	Material Document in SAP R/3 Enterprise
ESC_MM_INVOICE	Update Task ..	Active	MM Invoice in SAP R/3 Enterprise
ESC_PURORD	Update Task ..	Active	Purchase Order in SAP R/3 Enterprise
ESC_PURORD_FASHION	Update Task ..	Active	Purchase Order (Seasonal Procurement) in SAP R/3 Enterprise
ESC_SHIPMT	date Task ..	Active	Shipment (SAP R/3 Enterprise)
ESC_SORDER	Update Task ..	Active	Sales Order in SAP R/3 Enterprise
ESC_WRKORD	Update Task ..	Active	Workorder (Production, Service, Maintenance) in SAP R/3 Enter
OCB10_ORDER	Dialog Update	Active	Booking Order in Ocean Carrier Booking Process
SNC_MSGIN	Dialog Update	Active	SNC Inbound messages
SNC_PURORD	Dialog Update	Active	SNC Purchase Order
SNC_RPLORD	Dialog Update	Active	SNC Replenishment Order
TMS_INS	Update Task ..	Active	Instructions (SAP TM)
TMS_RES	Update Task ..	Active	Resources (SAP TM)
TMS_TOR	Update Task ..	Active	Transportation Order (SAP TM)

Position...   Entry 1 of 17

STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

8-5: Click **New Entries** to create a new event type

Change View "Define Event Types": Overview

Dialog Structure
- ▼ 🗀 Define Used Business Process Types
  - • 🗀 Define Application Object Types
  - • 🗀 Define Event Types

Define Event Types

Business Process Type	Event Type	Description
ESC_SHIPMT	GTT_ARRIVAL_ACC_SO	Arrival Event for GTT Sample SO Acceptance System
ESC_SHIPMT	GTT_ARRIVAL_INT_SO	Arrival Event for GTT Sample so Integration System
ESC_SHIPMT	GTT_CHIN_ACC_SO	Check In Event for GTT Sample So Acceptance System
ESC_SHIPMT	GTT_CHIN_INT_SO	Check In Event for GTT Sample SO Integration System
ESC_SHIPMT	GTT_DEPART_ACC_SO	Departure Event for GTT Sample So Acceptance System
ESC_SHIPMT	GTT_DEPART_INT_SO	Departure Event for GTT Sample So Integration System
ESC_SHIPMT	GTT_LDED_ACC_SO	Loading End Event for GTT Sample SO Acceptance System
ESC_SHIPMT	GTT_LDED_INT_SO	Loading End Event for GTT Sample SO Integration System
ESC_SHIPMT	GTT_LDST_ACC_SO	Loading Start Event for GTT Sample SO Acceptance System
ESC_SHIPMT	GTT_LDST_INT_SO	Loading Start Event for GTT Sample SO Integration System
ESC_SHIPMT	TRA10_ROAD	Road Shipment for Transportation Visibility
ESC_SHIPMT	YSHIPMENT_ACC	Road Shipment for Transportation Visibility
ESC_SHIPMT	YSHIPMENT_INT	Road Shipment for Transportation Visibility
ESC_SHIPMT	ZGTT_SOF_ARRIVAL_ACC	Arrival Event for GTT SOF Acceptance System
ESC_SHIPMT	ZGTT_SOF_ARRIVAL_INT	Arrival Event for GTT SOF Integration System
ESC_SHIPMT	ZGTT_SOF_CHIN_ACC	Check In Event for GTT SOF Acceptance System
ESC_SHIPMT	ZGTT_SOF_CHIN_INT	Check In Event for GTT SOF Integration System
ESC_SHIPMT	ZGTT_SOF_DEPART_ACC	Departure Event for GTT SOF Acceptance System
ESC_SHIPMT	ZGTT_SOF_DEPART_INT	Departure Event for GTT SOF Integration System
ESC_SHIPMT	ZGTT_SOF_LDED_ACC	Loading End Event for GTT SOF Acceptance System
ESC_SHIPMT	ZGTT_SOF_LDED_INT	Loading End Event for GTT SOF Integration System
ESC_SHIPMT	ZGTT_SOF_LDST_ACC	Loading Start Event for GTT SOF Acceptance System

STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

8-6: Fill in the **Event Type** and **Text** fields

8-7: Fill in the information required in the **General Data** tab. **HCI for GTT** is the CI Tenant you created in STEP 6. **Event Function** is the extractor function you created in STEP 7.

8-8: Check **GTT Relevant**

STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

8-9: Fill in the **Main Object Table** and **Master Table**.

Caution:

If the event type or application object type is on header level, then you only need to assign the **Main Object Table**. Otherwise, if the event type or application object type is on item level, then you need to assign the **Main Object Table** and **Master Table**, and assign the reference between the **Main Object Table** and **Master Table**.

Bus. Proc. Type	ESC_SHIPMT	
Event Type	ZGTT_SOF_CHIN_INT	Check In Event for GTT SOF Integration System
Text	Check In Event	

General Data   Control Tables   Global Track & Trace Relevance

Data Source for Events — Event on Header Level

Main Obj. Table	SHIPMENT_HEADER_NEW
Master Table	
Old Main Obj. Table	SHIPMENT_HEADER_OLD
Old Master Table	

Reference Between Main and Master Table

First Field Reference from Main to Master Table

Second Field Reference from Main to Master Table

Bus. Proc. Type	ESC_DELIV	
Event Type	ZGTT_SOF_PICKING_ACC	Picking for GTT SOF Acceptance System
Text	Picking Event	

General Data   Control Tables   Global Track & Trace Relevance — Event on Item Level

Data Source for Events

Main Obj. Table	DELIVERY_ITEM_NEW
Master Table	DELIVERY_HEADER_NEW
Old Main Obj. Table	DELIVERY_ITEM_OLD
Old Master Table	DELIVERY_HEADER_OLD

Reference Between Main and Master Table

First Field Reference from Main to Master Table

Uplink Field	VBELN	Uplink Mode	R
Uplink Target Fld	VBELN	Uplink Const	

Second Field Reference from Main to Master Table

Uplink Field		Uplink Mode	
Uplink Target Fld		Uplink Const	

STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

8-10: In the **Global Track & Trace Relevance** tab, choose the **GTT Relevance Method** you need.

If you choose the **GTT Relevance Method** *Check Function*, then you need to define a relevance function according to STEP 7, and fill in the relevance function name here.

Click **Save**.

Bus. Proc. Type	ESC_SHIPMT	
Event Type	ZGTT_SOF_CHIN_INT	Check In Event for GTT SOF Integration System
Text	Check In Event	

General Data | Control Tables | Global Track & Trace Relevance

GTT Rel. Method	Check Function (Functio… ▼
GTT Rel. Function	ZGTT_SOF_SHP_CHI_REL

STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

8-11: Choose the business process type from the **Define Used Business Process Types** on the right side

8-12: Double click **Define Application Object Types**

STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

8-13: Click **New Entries** to create a new
Application Object Type

STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

8-14: Fill in the **Application Object Type** and **Text** fields

8-15: Fill in the information required in the **General Data** tab. **CI for GTT** is the CI Tenant you created in STEP 6.

8-16: Check **GTT Relevant**

STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

8-17: Fill in the **Main Object table** and **Master Table**

Caution:

If the event type or application object type is on header level, then you only need to assign the **Main Object Table**. Otherwise, if the event type or application object type is on item level, then you need to assign the **Main Object Table** and **Master Table**, and assign the reference between the **Main Object Table** and **Master Table**.

STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

8-18: If there is no customized logic to determine the AOT ID, choose **Determine from Field**, use the key field to fill the AO ID fields

8-19: When choosing **Determine by Function**, you must enter the customized information in the AOID function field.

Change View "Define Application Object Types": Details

Display   New entries   Copy as...   Delete   Undo change   Previous entry   Next entry   Other entry...   Drill down   More ⌄

Bus. Proc. Type: ESC_DELIV
Appl. Obj. Type: ZGTT_DE_ACC_ITEM   Extract sales order item information to Global Track and Trace Acceptance
Text: Delivery Item

General Data   Control Tables   Object Identification   Global Track & Trace Relevance   Parameter Setup

Method for determination of AOID

AOID Method: Determine from Field

Application Object ID Source

First Field to Build Appl. Obj. ID   Cntrl Tab. Type: 1 Main Object Table
                                          AO ID Field: VBELN

Second Field to Build Appl. Obj. ID   Cntrl Tab. Type: 1 Main Object Table
                                          AO ID Field: POSNR

Determine AOID By Function

AOID Function:

STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

8-20: In the **Global Track & Trace Relevance** tab, choose the **GTT Relevance Method** you need.

If you choose the **GTT Relevance Method** *Check Function*, then you need to define a relevance function according to STEP 7, and fill in the relevance function name here.

STEP 8: Define Used Business Process Types, Appl. Object Types and Event Types

8-21: In the **Parameter Setup** tab, choose the **TrkID Method** as you need.

If you choose the **TrkID Method** as *Determine by Function*, then you need to define a tracking ID function according to STEP 7, and fill in the relevance function name here.

If no customized logic exists, for **TrkID Method** choose *Determine from Field,* then you need to fill the key field and name the Code Set for the AOT.

Fill in the extractor functions for **Control Data, Info Data(optional), Planned Event.**

Click **Save**.

C) Download ABAP Code from GitHub

STEP 1: Install abapGit

You need to install abapGit before downloading codes from GitHub.

To install abapGit, follow the instructions on https://docs.abapgit.org/guide-install.html.
Make sure you **Install the standalone version** in your dev system.

When installation is complete, a new report is created, *ZABAPGIT_STANDALONE*.

STEP 2: Download ABAP Code

2-1: Enter T-code *SE38* and fill in the report name from STEP 1, *ZABAPGIT_STANDALONE*

2-2: Click **Execute** to run the report
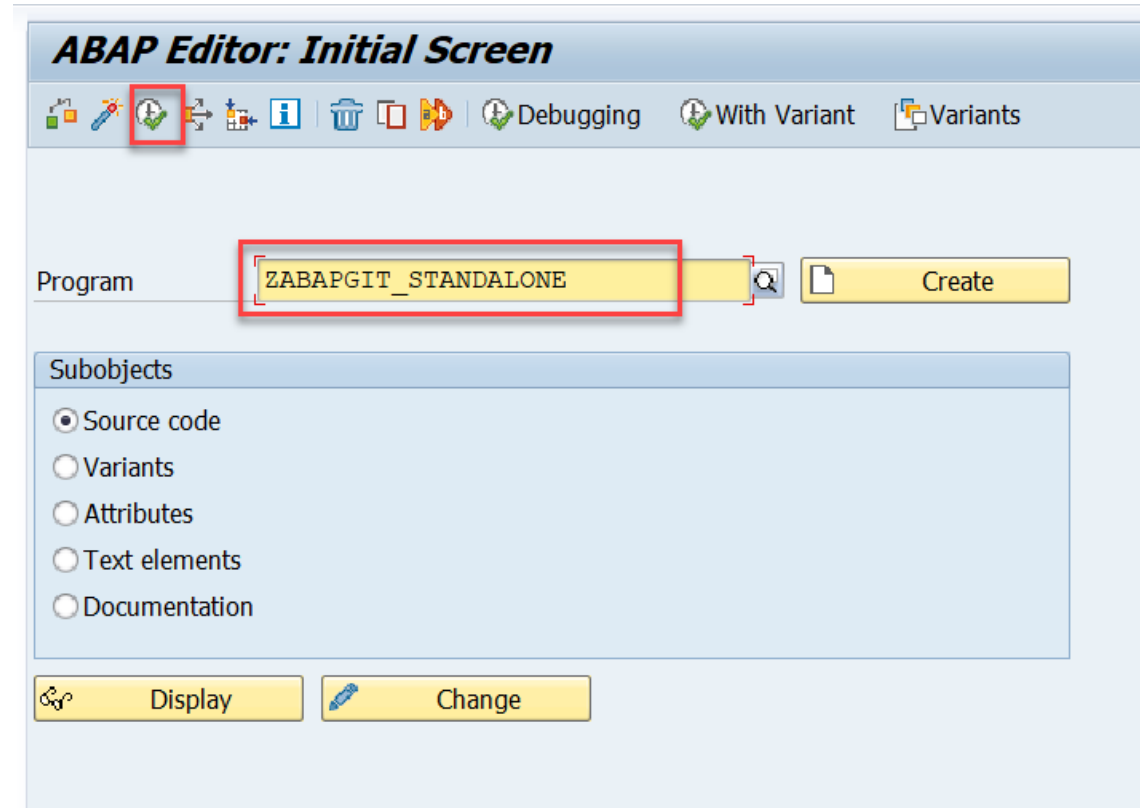
STEP 2: Download ABAP Code

2-3: Click **New Online** to download the code

STEP 2: Download ABAP Code

2-4: Fill in the **Git repository URL**:

https://github.com/SAP-samples/logistics-business-network-gtt-samples.git
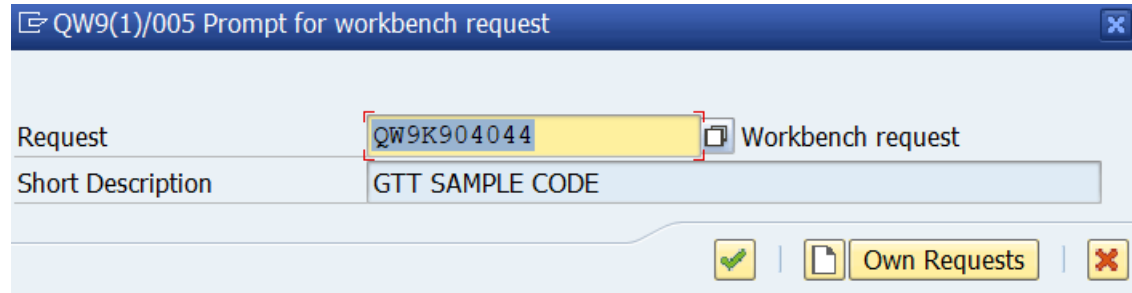
2-5: Fill in the **Package** where you want to create the new ABAP code. If the package does not exist yet, click **Create package** to create it.

2-6: Click **Clone online repo** to download the code

STEP 2: Download ABAP Code

2-7: Click **Pull** to pull down the latest version code

STEP 2: Download ABAP Code

2-8: Assign the change to a change request. If you do not have any available change request, you need to create a new one.

STEP 2: Download ABAP Code

2-9: After you download the code, you can check them with T-code *SE80*.
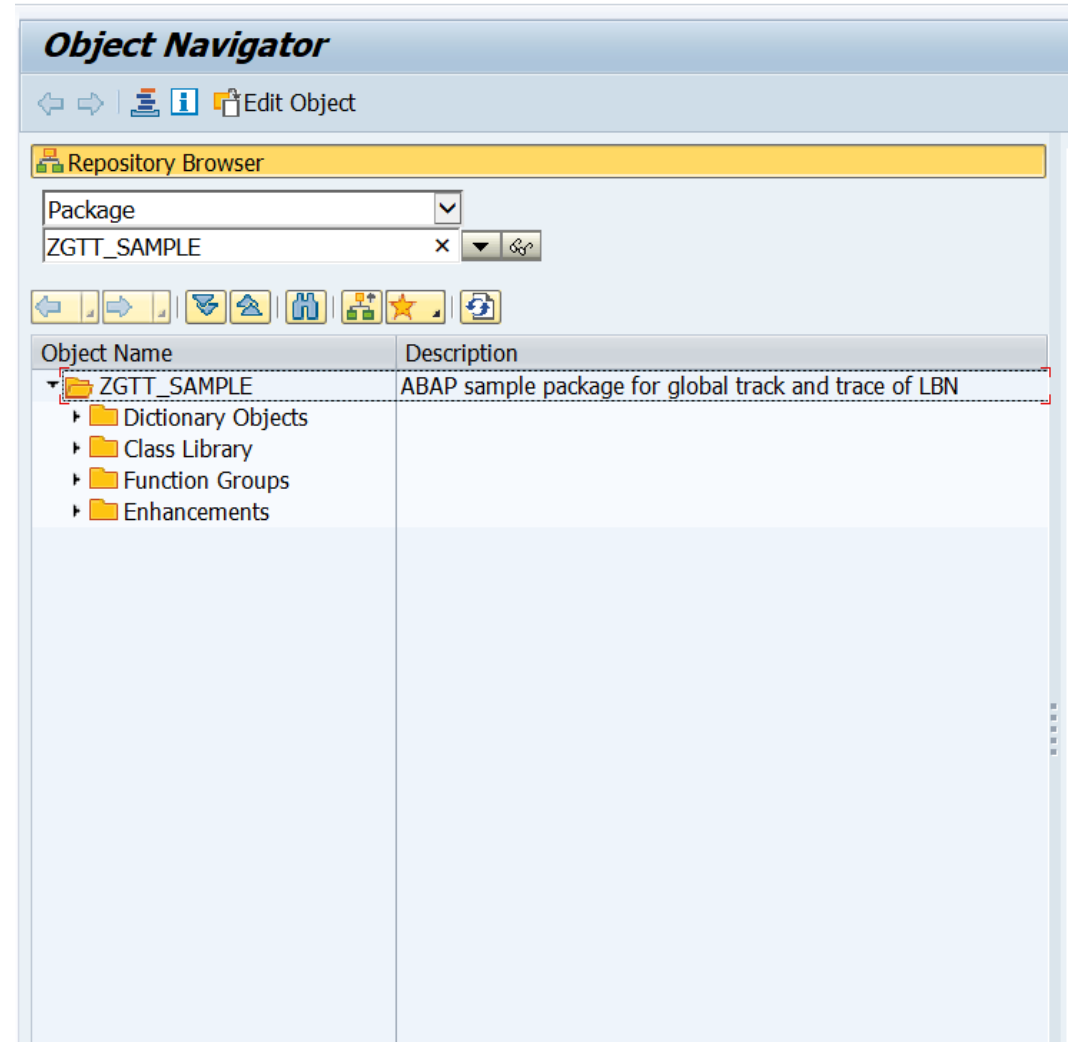
D) Configuration and Coding Guide - Advanced

1: Maintain AOT type

When you are creating Application Object Type for one Business Process Type, please make sure the AOT name must be the same as the name which is defined in the corresponding model in Manage Models application in GTT V2.

2: Maintain Tracking ID Type

In the AOT you maintained, please make sure the Tracking ID Type is the same as the name which is defined in the corresponding process type of the model in Manage Models application in GTT V2.

If the Tracking ID Type is determined by Field, then input the value source field in the Tracking ID field, and the Code Set which is referring to the Tracking ID Type for the AOT like below.

3: Make the customization logic in the function modules and assign them to the extractor function.

You can assign customization function models to the following extractor function:

1. GTT relevance function of AOT for tracked process tracking
2. GTT relevance function of Event Type for event tracking
3. Planned Event Extractors
4. Control Parameter Extractors
5. Info Parameter Extractors(optional)
6. Tracking ID Extractors
7. Event Data Extractors
8. AOT ID Extractors

Please select one category above, create the extractor

function and assign the corresponding modules.

For customization of GTT relevance and AOT ID, you need to

enable *Determine by Function* option.

For customization of Tracking ID Type, you need to enable

Check Function(Function Module) option.

Function	Function Module
510_WRF_MM_ITEM_01	WRF_XRA_MM_ITEM_01
OBP10_DELIV	/SAPTRX/XRA_SD_DELIV_OBP10
OBP10_HU_IN_DLV	/SAPTRX/XRA_SD_HU_IN_DLV_OBP10
OCB10_CONTAINER	/SCTM/REL_CREATION_CONTAINER
OCB10_ORDER	/SCTM/REL_CREATION_BOOKING
ODT20_REL_FU	/SCMTMS/REL_AOT_FU
ODT20_REL_TOUR	/SCMTMS/REL_AOT_ACT_TOR
ODT30_REL_INS	/SCMTMS/REL_AOT_INS
ODT30_REL_TU	/SCMTMS/REL_AOT_TU
PCM10_ITEM	/SAPTRX/XRA_MM_ITEM_PCM10
PMF10_ORDER	/SAPTRX/XRA_PP_ORDER_PMF10
RES30_REL_RESOURCE	/SCMTMS/REL_AOT_RESOURCE
RES30_REL_TU	/SCMTMS/REL_AOT_RES_TU
RES30_REL_VEH	/SCMTMS/REL_AOT_RES_VEH
SNC10_MSGIN	/SCA/EM_MSG_RELEVANCE_CHECK
SNC10_PURORD	/SCA/EM_PO_RELEVANCE_CHECK
SNC10_RPLORD	/SCA/EM_RPL_RELEVANCE_CHECK
ZE2E_OBP10_DELIV	ZE2E_XRA_SD_DELIV_OBP10
ZGTT_FERRERO_DEHDR	ZGTT_FERERRO_OTE_DE_HDR_REL
ZGTT_FERRERO_SHPHDR	ZGTT_FERERRO_OTE_SHP_HDR_REL

4: Sample Codes for Sales Order Fulfillment Application

To support the Sales Order Fulfillment Application, the sample codes covers the following cases by function group ZGTT_SOF:

Category	Business Process Type	Function Module Name	Description
Control Parameter Extractors	ESC_DELIV	ZGTT_SOF_OTE_DE_HD	Function for setup of control parameters of delivery header
Control Parameter Extractors	ESC_DELIV	ZGTT_SOF_OTE_DE_ITEM	Function for setup of control parameters of delivery item
Control Parameter Extractors	ESC_SHIPMT	ZGTT_SOF_OTE_SHP_HD	Function for setup of control parameters of shipment
Control Parameter Extractors	ESC_SORDER	ZGTT_SOF_OTE_SO_HD	Function for setup of control parameters of sales order header
Control Parameter Extractors	ESC_SORDER	ZGTT_SOF_OTE_SO_ITEM	Function for setup of control parameters of sales order item
Event Data Extractors	ESC_DELIV	ZGTT_SOF_EE_DE_GI	SOF Extractor: Actual Event of Goods Issue
Event Data Extractors	ESC_DELIV	ZGTT_SOF_EE_DE_PACKING	SOF Extractor: Actual Event of Packing
Event Data Extractors	ESC_DELIV	ZGTT_SOF_EE_DE_PICKING	SOF Extractor: Actual Event of Picking
Event Data Extractors	ESC_DELIV	ZGTT_SOF_EE_DE_POD	SOF Extractor: Actual Event of POD
Event Data Extractors	ESC_SHIPMT	ZGTT_SOF_EE_SHP_ARRIVAL	SOF Extractor: Actual Event of Arrival
Event Data Extractors	ESC_SHIPMT	ZGTT_SOF_EE_SHP_CHECKIN	SOF Extractor: Actual Event of Check In
Event Data Extractors	ESC_SHIPMT	ZGTT_SOF_EE_SHP_DEPARTURE	SOF Extractor: Actual Event of Departure
Event Data Extractors	ESC_SHIPMT	ZGTT_SOF_EE_SHP_LOAD_END	SOF Extractor: Actual Event of Loading End
Event Data Extractors	ESC_SHIPMT	ZGTT_SOF_EE_SHP_LOAD_START	SOF Extractor: Actual Event of Loading Start
GTT relevance function of AOT	ESC_DELIV	ZGTT_SOF_OTE_DE_HDR_REL	Extractor for relevance determination for Delivery Order Header
GTT relevance function of AOT	ESC_DELIV	ZGTT_SOF_OTE_DE_ITM_REL	Extractor for relevance determination for Delivery Order Items
GTT relevance function of AOT	ESC_SHIPMT	ZGTT_SOF_OTE_SHP_HDR_REL	Extractor for relevance determination for Shipment
GTT relevance function of AOT	ESC_SORDER	ZGTT_SOF_OTE_SO_HDR_REL	Extractor for relevance determination for Sales Order Header
GTT relevance function of AOT	ESC_SORDER	ZGTT_SOF_OTE_SO_ITM_REL	Extractor for relevance determination for Sales Order Items
GTT relevance function of Event Type	ESC_DELIV	ZGTT_SOF_EE_DE_GI_REL	Extractor for relevance determination for Goods Issue Event
GTT relevance function of Event Type	ESC_DELIV	ZGTT_SOF_EE_DE_PACKING_REL	Extractor for relevance determination for Packing Event
GTT relevance function of Event Type	ESC_DELIV	ZGTT_SOF_EE_DE_PICKING_REL	Extractor for relevance determination for Picking Event
GTT relevance function of Event Type	ESC_DELIV	ZGTT_SOF_EE_DE_POD_REL	Extractor for relevance determination for POD Event
GTT relevance function of Event Type	ESC_SHIPMT	ZGTT_SOF_EE_SHP_ARRIVAL_REL	Extractor for relevance determination for Arrival Event
GTT relevance function of Event Type	ESC_SHIPMT	ZGTT_SOF_EE_SHP_CHECKIN_REL	Extractor for relevance determination for Check In Event
GTT relevance function of Event Type	ESC_SHIPMT	ZGTT_SOF_EE_SHP_DEPARTURE_REL	Extractor for relevance determination for Departure Event
GTT relevance function of Event Type	ESC_SHIPMT	ZGTT_SOF_EE_SHP_LOAD_END_REL	Extractor for relevance determination for Loading End Event
GTT relevance function of Event Type	ESC_SHIPMT	ZGTT_SOF_EE_SHP_LOAD_START_REL	Extractor for relevance determination for Loading Start
Planned Event Extractors	ESC_DELIV	ZGTT_SOF_EE_DE_HD	SOF Extractor: Planned Event for Delivery Header of Outbound Delivery
Planned Event Extractors	ESC_DELIV	ZGTT_SOF_EE_DE_ITM	SOF Extractor: Planned Event for Delivery Item of Outbound Delivery
Planned Event Extractors	ESC_SHIPMT	ZGTT_SOF_EE_SHP_HD	SOF Extractor: Planned Event for Shipment
Tracking ID Extractors	ESC_DELIV	ZGTT_ADD_TRACKID_OTE_DEITEM	Function for setup of tracking IDs of delivery item
Tracking ID Extractors	ESC_SHIPMT	ZGTT_ADD_TRACKID_OTE_SHPHDR	Function for setup of tracking IDs of shipment
Tracking ID Extractors	ESC_SORDER	ZGTT_ADD_TRACKID_OTE_SOITEM	Function for setup of tracking IDs of sales order item

5: Available Contexts for the extractors' modules

5-1: In **Display IMG** page, click
Integration with Other SAP Components -> **Interface to Global Track and Trace** ->
Define Application Interface

5-2: Choose activity **Define Business Process Types**

5-3: Please select the Business Process Types to find all the context tables and their structure info.

6: Coding Tips in the GTT relevance function modules

To customize the GTT relevance function modules, key points are as below:

1. Make sure that the Main / Master tables are following the configuration of corresponding AOT or Event Type.

2. Add customization logics to determine the output parameters *E_RESULT*.

See sample code of function: *ZGTT_SOF_OTE_SHP_HDR_REL*

7: Coding Tips in the Tracking ID function modules

To customize the Tracking ID function modules, key points are as below:

1. Make sure that the Main / Master tables are following the configuration of corresponding AOT.

2. Add customization logics to fill the output table *E_TRACKIDDATA*.

3. The Tracking ID Type need to be the same as the definition in the process type of model in Manage Models application.

4. GTT v2 accepts delta transport for tracking IDs, which means that only the newly-created / changed / deleted tracking IDs shall be filled, while the ones without change need to be ignored in the logic.

5. In case of tracking ID deletion, the field *ACTION* shall be filled with 'D'.
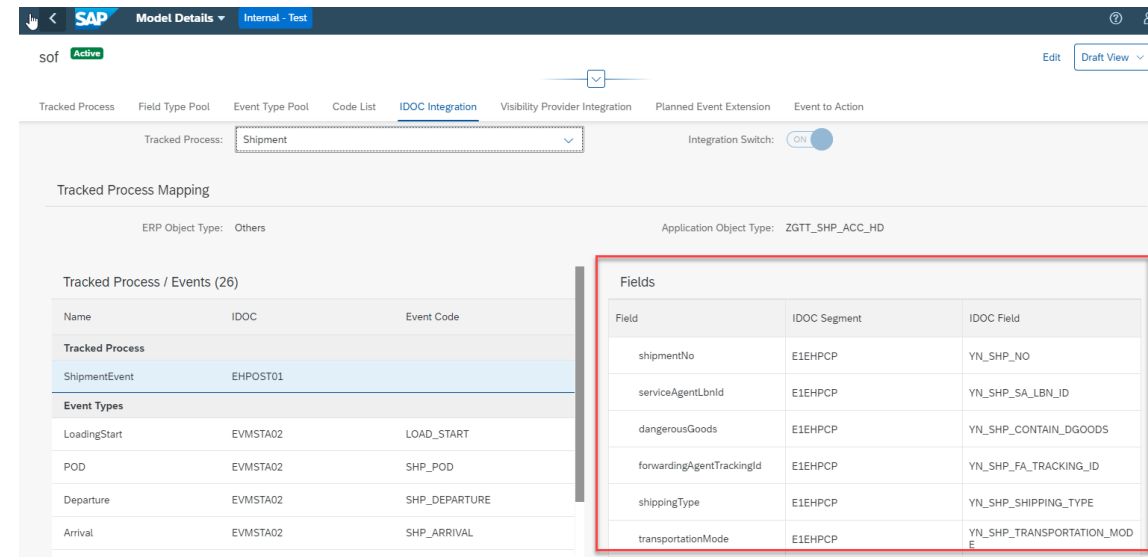
See sample code of function: *ZGTT_ADD_TRACKID_OTE_SHPHDR*

8: Coding Tips in the Control Parameter function modules

To customize the Control Parameter function modules, key points are as below:

1. Make sure that the Main / Master tables are following the configuration of corresponding AOT.

2. Add customization logics to fill the output table *E_CONTROL_DATA*.

3. GTT v2 asks for full transport for all the control parameters, which means that all the fields needs to be extracted in all cases, no matter whether their values have been changed.

4. To fill up the composition (table) fields defined in Manage Model applications, use the parameter field *PARAMINDEX* to specify the line number. If the field is empty, GTT regards it as a simple flat field.

5. To clear a composition, fill the key field using invalid values, for which key attribute has been checked in Manage Model application.

6. The field with fixed name 'ACTUAL_BUSINESS_DATETIME' and 'ACTUAL_BUSINESS_TIMEZONE' are mandatory fields to be transported for event handling sequencing in GTT V2.

7. In Manage Model application, click tab *IDOC Integration* to map the parameter names and model field names.

See sample code of function: *ZGTT_SOF_OTE_SHP_HD*

9: Coding Tips in the Planned Event function modules

To customize the Planned Event function modules, key points are as below:

1. Make sure that the Main / Master tables are following the configuration of corresponding AOT.

2. Add customization logics to fill the output table *E_EXPEVENTDATA*.

3. GTT v2 asks for full transport for all the planned events, which means that all the events needs to be extracted in all cases, no matter whether their values have been changed.

4. The field *MILESTONE* is mandatory to be transported.

5. The field *EVT_EXP_DATETIME* is optional, but need to be filled with relevant time zone *EVT_EXP_TZONE* together if it needs to be transported.

6. The field *LOC_ID1* is optional, but need to be filled with relevant location type *LOCTYPE* together if it needs to be transported. The values for field *LOCTYPE* are limited by *Manage Locations* application in GTT V2.

7. The field *LOCID2* is mandatory to specify the stop ID (match key) in case of shipment tracking.

See sample code of function: *ZGTT_SOF_EE_SHP_HD*

10: Coding Tips in the Event Data function modules

To customize the Event Data function modules, key points are as below:

1. Make sure that the Main / Master tables are following the configuration of corresponding Event Type.

2. Add customization logics to fill the output table *CT_TRACKINGHEADER, CT_TRACKLOCATION, C_EVENTID_MAP*.

3. If the event has user-defined fields in Manage Models application, fill the table *CT_TRACKPARAMETERS*.

4. If the event has reference table information, fill the table *CT_TRACKREFERENCES*.

5. The field *CT_TRACKINGHEADER-SRCCOD, SRCID, SRCTX* is used for event reason transport.

6. In Manage Model application, click tab IDOC Integration to map the user-defined parameter names and model field names.

See sample code of function: *ZGTT_SOF_EE_DE_PICKING*

11: Enhancement codes for cross-processes tracking

The Sales Order Fulfillment application asks for cross-processes tracking, which is used in below cases:

1. When the delivery item process is updated and transported to GTT, the preceding sales order item process needs to be updated and transported to GTT.

2. When the shipment process is updated and transported to GTT, the preceding delivery and item process, and their planned events needs to be updated and transported to GTT.

See sample code of BADI :

1. Method *SAVE_AND_PUBLISH_DOCUMENT* of implementation *Z_GTT_SOF_LE_SHP_DELIVERY_PROC*

2. Method *BEFORE_UPDATE* of implementation *Z_GTT_SOF_LE_SHIPMNT*

11: Enhancement codes for cross-processes tracking

The cross processes tracking scenarios cover below:

Delivery Item -> Sales Order Item:

1\ Delivery Item Composition (Full Transport)
    Case: Delivery Item Create / Delete
    Case: Delivery Create / Delete

Shipment -> Delivery and Delivery Item:

1\ Tracking ID   (Delta Transport)
    Case: Shipment Create / Delete with Delivery
    Case: Shipment Assign / Unassign Delivery

2\ Shipment Composition (Full Transport)
    Case: Shipment Create / Delete with Delivery
    Case: Shipment Assign / Unassign Delivery

3\ Planned Event in Delivery (Full Transport)
    Case: Shipment Create / Delete with Delivery / with stage
    Case: Shipment Assign / Unassign Delivery / with stage
    Case: Stage Assign / Unassign Delivery
    Case: Stage Insert / Delete
    Case: Stage Location Update
    Case: Stage Planned Datetime Update

4\ Planned Event in Delivery Item (Full Transport)
    Case: Shipment Create / Delete with Delivery / with stage
    Case: Shipment Assign / Unassign Delivery / with stage
    Case: Stage Assign / Unassign Delivery
    Case: Stage Insert / Delete
    Case: Stage Location Update
    Case: Stage Planned Datetime Update

12: Known Issues

1, Planned Event Extension not enabled

By now, on ERP side, the EXTENSION segment of process IDOC is not enabled for the planned event part, which means that user cannot make the user-defined fields based on the planned event level in Manage Models.

The workaround is to take use of Control Parameter's segment in IDOC and make the field mapping on process level in Manage Models.

2, IDOC sequencing issue

By now, on ERP side, when the user is reporting actual events while creating the process, the IDOCs will be sent out of sequence. For example, entering a PICK quantity and saving the new delivery in ERP will generate a PICK event IDOC and a delivery order IDOC. The event IDOC will approach GTT prior to the order IDOC, which will lead into processing failure.

This issue will be covered in short future by SAP Notes.

Thank you.

Contact information:

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