



SAP Logistics Business Network, Global Track and Trace Option Track Sales Orders - Deep Dive with SAP ERP Integration

Logistics Business Network
December 2020

PUBLIC

Objectives



After completing this learning module, you will be able to:

- ☐ Learn what prerequisite is necessary for Global Track and Trace Option
- ☐ Learn how to maintain IDOC configurations in ERP for integration
- ☐ Learn how to maintain extractors in ERP for integration
- ☐ Learn how to download and implement sample ABAP codes from Github
- ☐ Learn how to customize own logic based on sample codes

Agenda

A Prerequisites

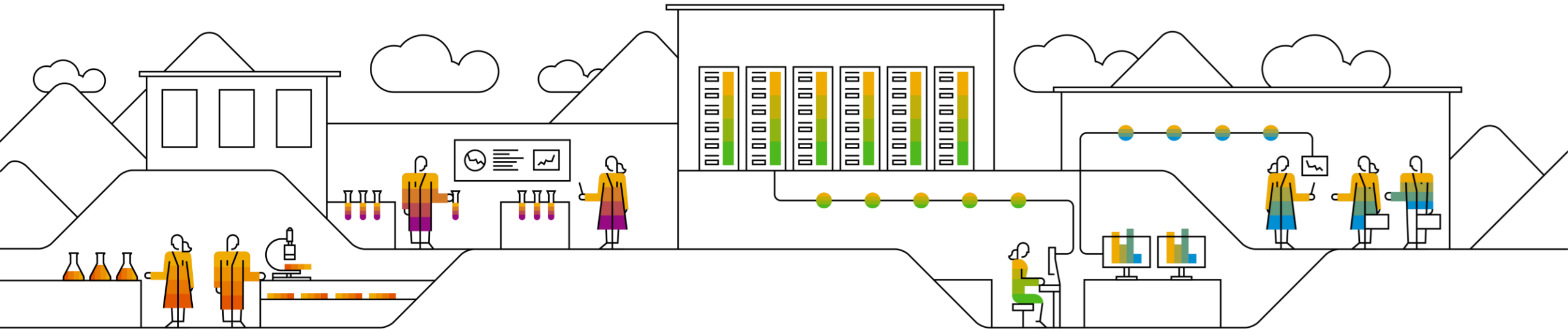
B Configuration and Implementation - Basic

B1 IDOC Configuration

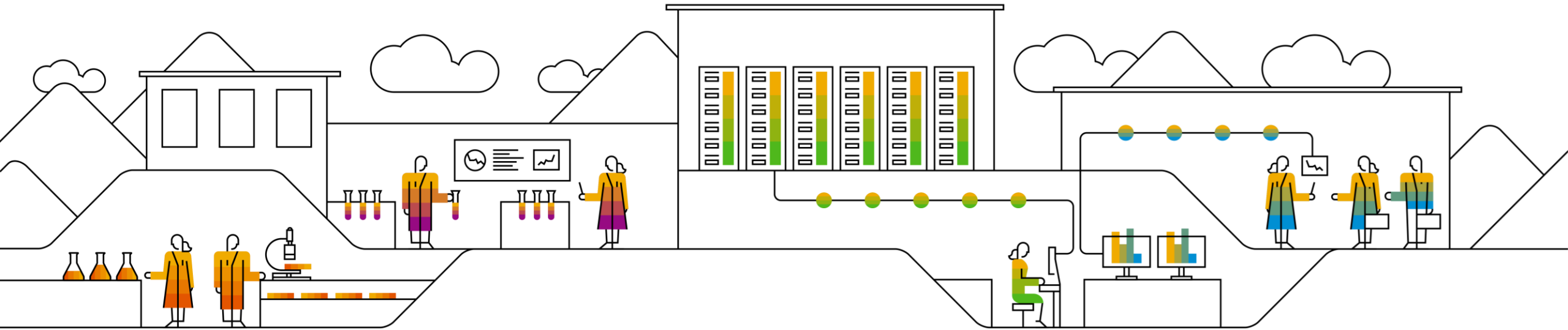
B2 Extractor Configuration

C Download ABAP Code from GitHub

D Configuration and Coding Guide - Advanced



A) Prerequisites



STEP 1: Check the SAP Version

1-1: The SAP Product Version for GTT v2 shall be SAP EHP1 FOR SAP NETWEAVER 7.3 or higher.

1-2: SAP NOTE 2937175 shall be implemented.

1-3: The ABAP codes to support sample applications for GTT v2 can be implemented in S4 HANA 2101 on premise, which is not validated in lower release.

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>

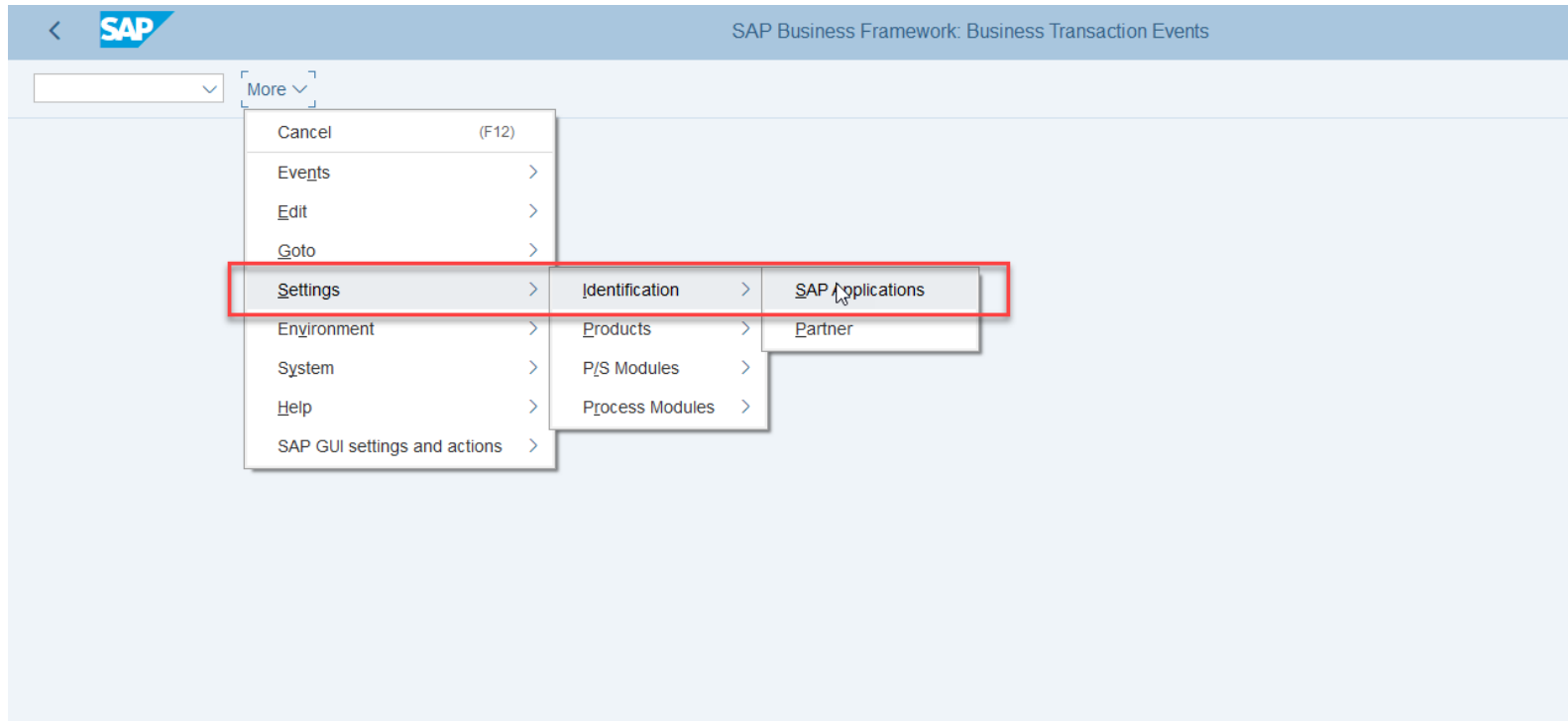
SAPNotes								
11 SAP Note(s) found								
SAP Component	Number	Ver...	Score	Title	Changed On	Status	Responsible	Category
SCM-EM-AS	2959576	1	1	Amendments to EM API for LBNTT2.0	18.08.2020	In Process	Thomas Rumbach	Program error
SCM-EM-AS	2937175	1	1	Enhancement of IDOCs sent to GTT	16.09.2020	Released for Customer	Thomas Rumbach	Advance development
SCM-EM-AS	2834393	1	1	Solving ATC Issues	27.09.2019	Released for Customer	D046164	Program error
SCM-EM-AS	2819787	1	1	TM-EM integration - analyzing errors	25.07.2019	In Process	Bernd Sieger	Help for error analysis
SCM-EM-AS-CNF	2798670	1	1	IMG activity inactive: Define SAP EM Extraction Functions	29.05.2019	Released for Customer	Bernd Sieger	Program error
SCM-EM-AS	2609449	4	1	Delete orphaned entries in table /SAPTRX/AOTREF (2)	11.07.2019	Pilot Release	Bernd Sieger	Workaround of missing
SCM-EM-AS	2502086	2	1	Aligning the BAPI processing mode with the communication mode	11.07.2017	Pilot Release	Bernd Sieger	Special development
SCM-EM-AS	2339984	2	1	Orphaned EM inbound queues in application systems	18.04.2019	Released for Customer	Bernd Sieger	Consulting
SCM-EM-AS	2159436	1	1	Runtime-Error "ABAP Programming" when trying to save delivery. System QSC-800	22.04.2015	In Process	D025889	Program error
SCM-EM-AS	1507998	4	1	Expert Consulting in the area of SAP Event Management	09.05.2011	Released for Customer	Florian Frey	Consulting
IS-R-PUR-PCC	896191	3	1	FAQ: EM seasonal procurement (Consulting, Tips, Customizing)	13.07.2006	Released for Customer	Andreas Lange	FAQ

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**

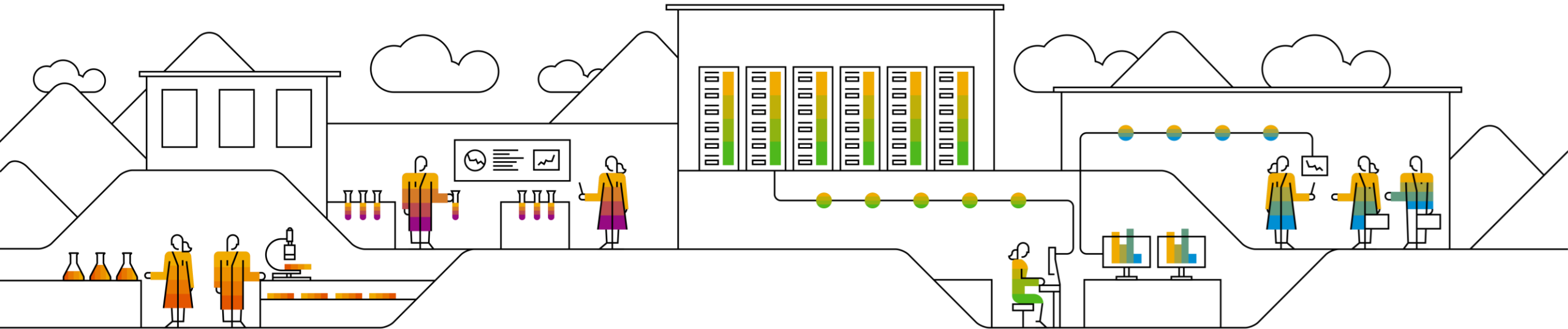
The screenshot shows the SAP 'Change View BTE Application Indicator' dialog. The 'PI-EM' application is selected, and the 'Application Active' checkbox is checked. The 'Save' button is visible at the bottom right.

Appl.	A	Text
PI-EM	<input checked="" type="checkbox"/>	SAP Event Manager Integration
PM	<input checked="" type="checkbox"/>	Instandhaltung
PM-BW	<input checked="" type="checkbox"/>	Instandhaltung-BW
PM-EQM	<input checked="" type="checkbox"/>	Instandhaltung, Equipment
PM-PAM	<input checked="" type="checkbox"/>	Instandhalt. Pool Assest Mgmt
PMA-PC	<input checked="" type="checkbox"/>	Product Compliance
PMAT	<input checked="" type="checkbox"/>	Produkt - Material
PMIPUR	<input type="checkbox"/>	PMI Anschluss Einkauf
PMPUSH	<input type="checkbox"/>	MAM Push
PP-BD	<input checked="" type="checkbox"/>	Production Planning MasterData
PP-DD	<input checked="" type="checkbox"/>	Demand Driven Replenishment
PP-MRP	<input checked="" type="checkbox"/>	Material Requirements Planning
PRICAT	<input type="checkbox"/>	Preiskatalog
PS-REP	<input checked="" type="checkbox"/>	Projektsystem
PSRV	<input checked="" type="checkbox"/>	Produkt - Service
QBEXT	<input checked="" type="checkbox"/>	External Inspection Procuremt.
QBEXTP	<input checked="" type="checkbox"/>	External Inspection Production
QILPO	<input checked="" type="checkbox"/>	Inspection Lot Order Integr.
RDSVFI	<input type="checkbox"/>	Dgtl Signature Validation FI
RDSVMD	<input checked="" type="checkbox"/>	Dgtl Signature BP Check

B) Configuration and Implementation

- Basic

B1. IDOC Configuration



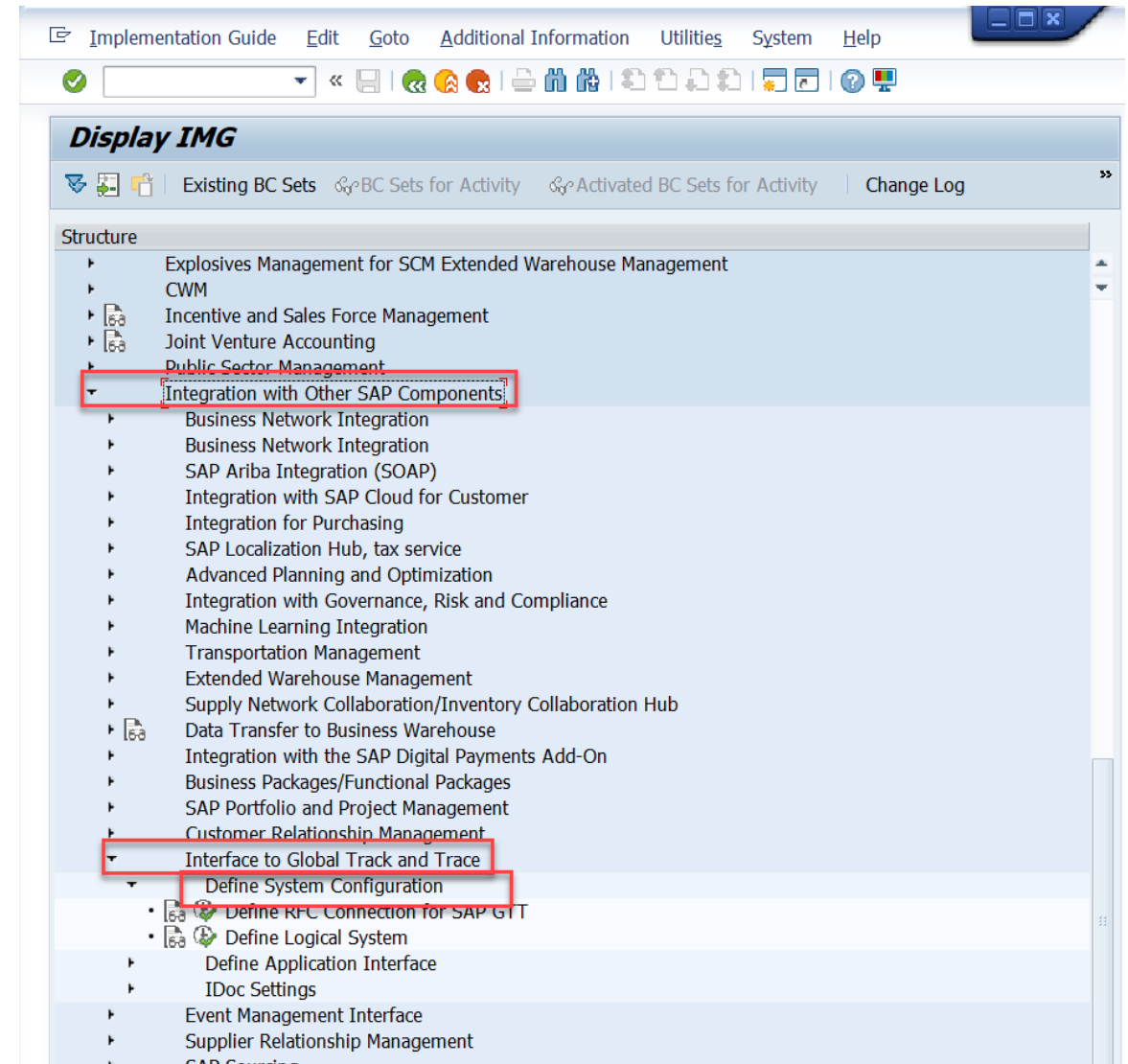
STEP 1: Define RFC Connection for GTT

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**

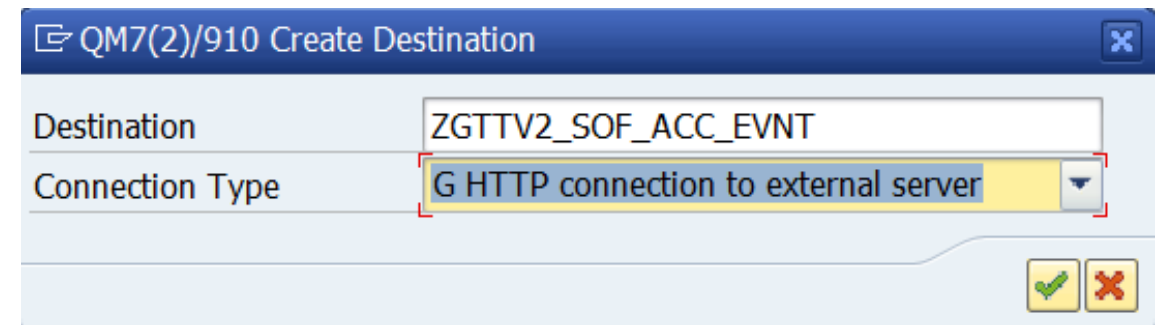
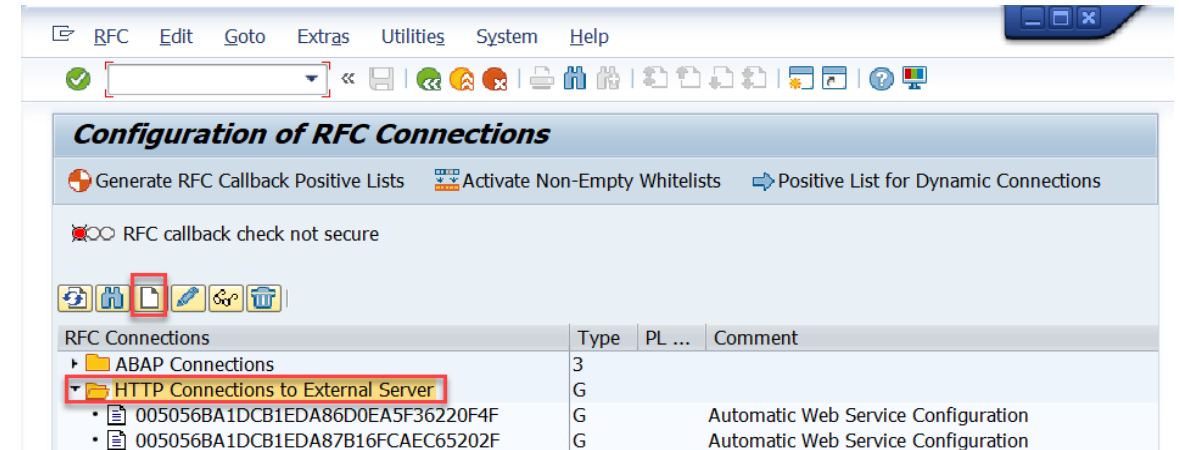
1-4: Choose activity:
Define RFC Connection for SAP GTT



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 Prefixes**.

For the event:

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

For the tracked Process:

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

The screenshot shows the SAP 'RFC Destination' configuration window for 'ZGTTV2_SOF_ACC_EVNT'. The 'Technical Settings' tab is selected and highlighted with a red box. Within this tab, the 'Target System Settings' section is also highlighted with a red box. It contains the following fields:

- Host:** [Redacted]
- Port:** [Redacted]
- Path Prefix:** /api/idoc/em/v1/Event

Below the 'Target System Settings' is the 'HTTP Proxy Options' section, which includes a 'Global Configuration' button and fields for 'Proxy Host', 'Proxy Service', 'Proxy User', and 'Proxy PW Status' (set to 'is initial').

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.

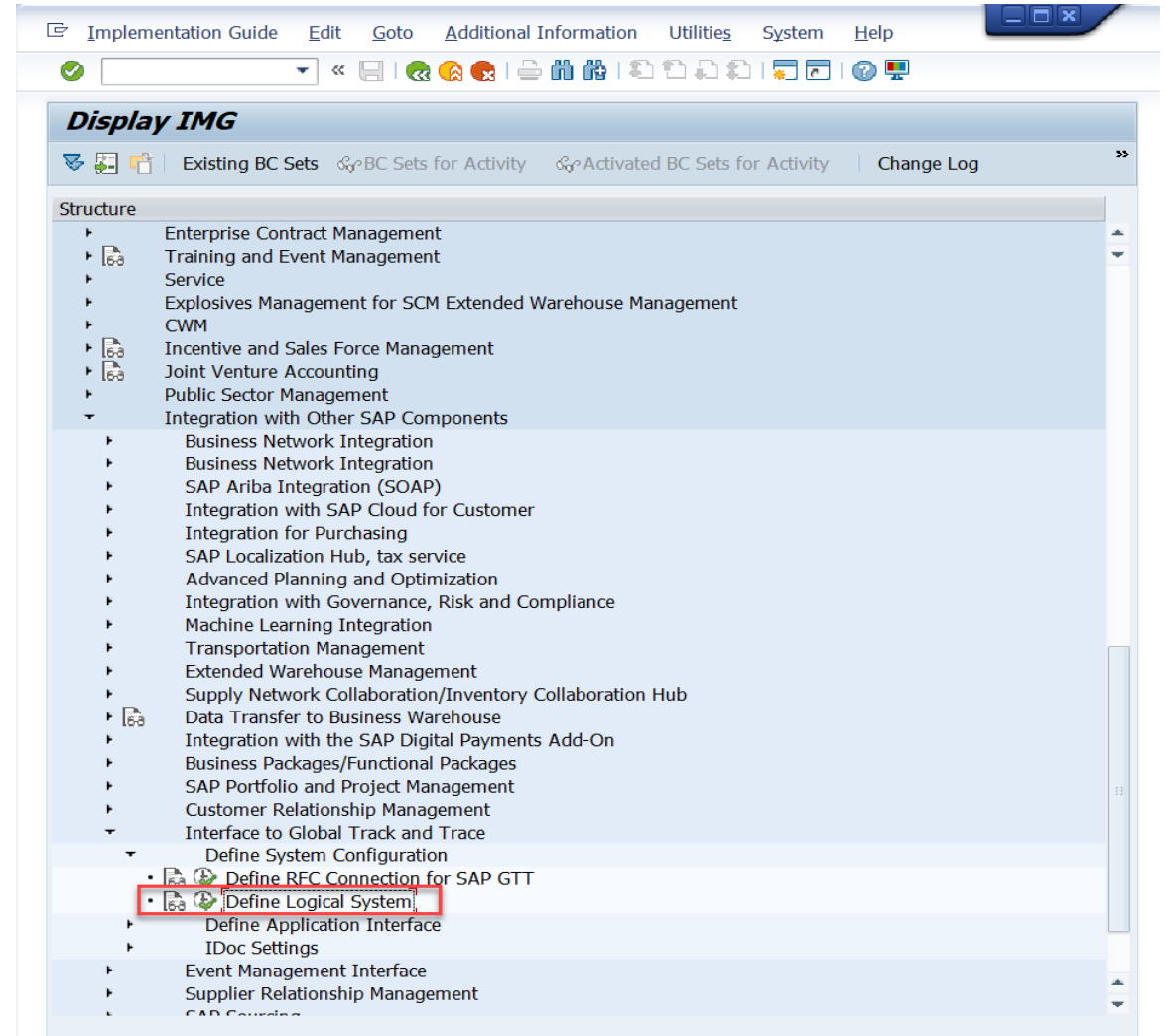
The screenshot shows the SAP configuration interface for an RFC Destination named 'ZGTTV2_SOF_ACC_EVNT'. The 'Logon & Security' tab is selected and highlighted with a red box. The 'Connection Test' button is also visible. The configuration details are as follows:

RFC Destination ZGTTV2_SOF_ACC_EVNT	
Connection Test	
RFC Destination	ZGTTV2_SOF_ACC_EVNT
Connection Type	G HTTP Connection to External Server
Description	
Description 1	RFC for Event of Sales Order Sample Application
Description 2	
Description 3	
Administration Technical Settings Logon & Security Special Options	
Logon Procedure	
Logon with User	
<input type="radio"/> Do not use a user	
<input checked="" type="radio"/> Basic authentication	
User	
PW Status	saved
Logon with Ticket	
<input checked="" type="radio"/> Do not send logon ticket	
<input type="radio"/> Send ticket without reference to target system	
<input type="radio"/> Send assertion ticket for dedicated target system	
System ID	
Client	
Logon with MQTT/AMQP	
User	
PW Status	is initial

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.**

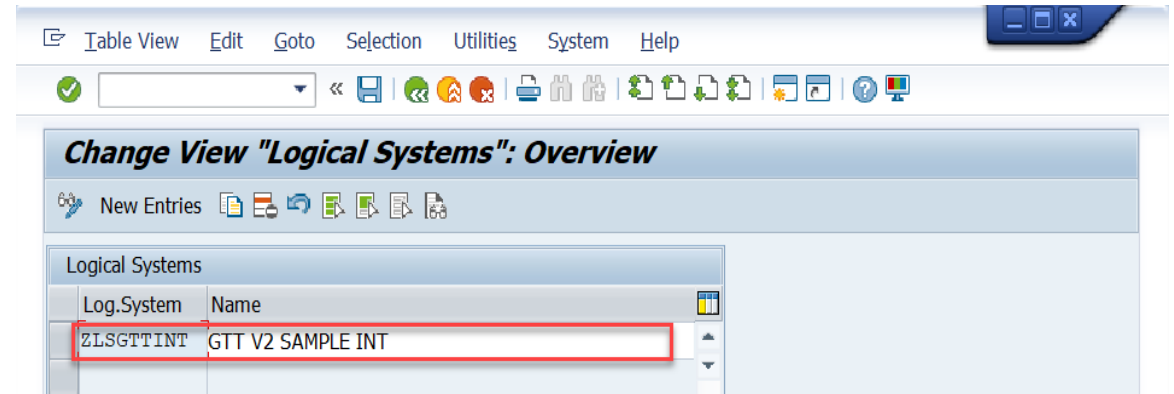


STEP 2: Define Logical System

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

- Logical system code and
- Name of the new logical system

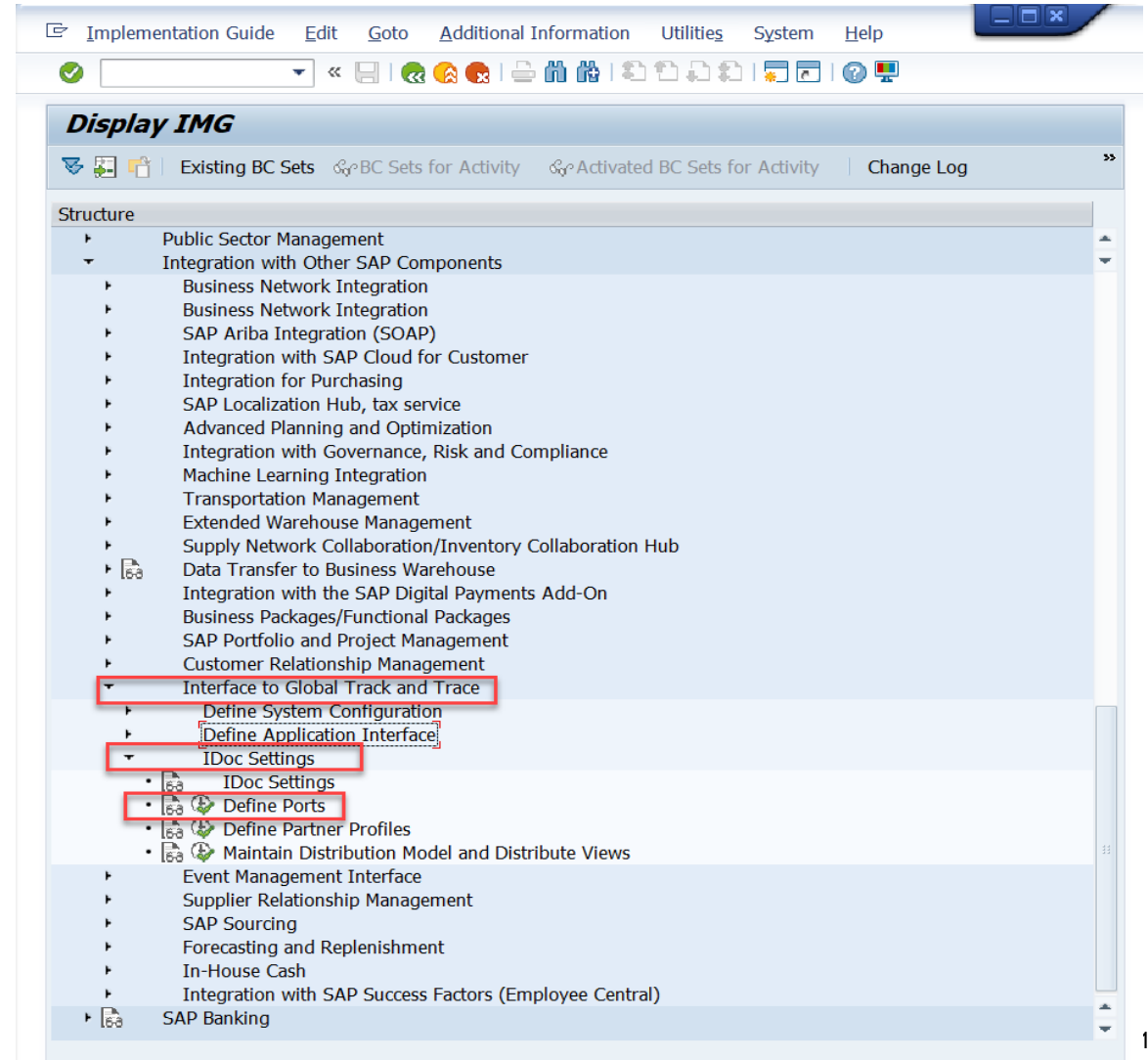
2-4: Save the configuration



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 Version** 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.

Port Edit Goto System Help

Ports in IDoc processing

Port: ZGTTTSINTEV

Description: GTT V2 Intregation Event for SOF

RFC Destination: ZGTTV2_SOF_INT_EVNT

Content Type

- ☐ Text/XML
- ☒ application/x-sap.idoc

HTTP Version

- ☒ Version 1.0
- ☐ Version 1.1

☒ SOAP Protocol

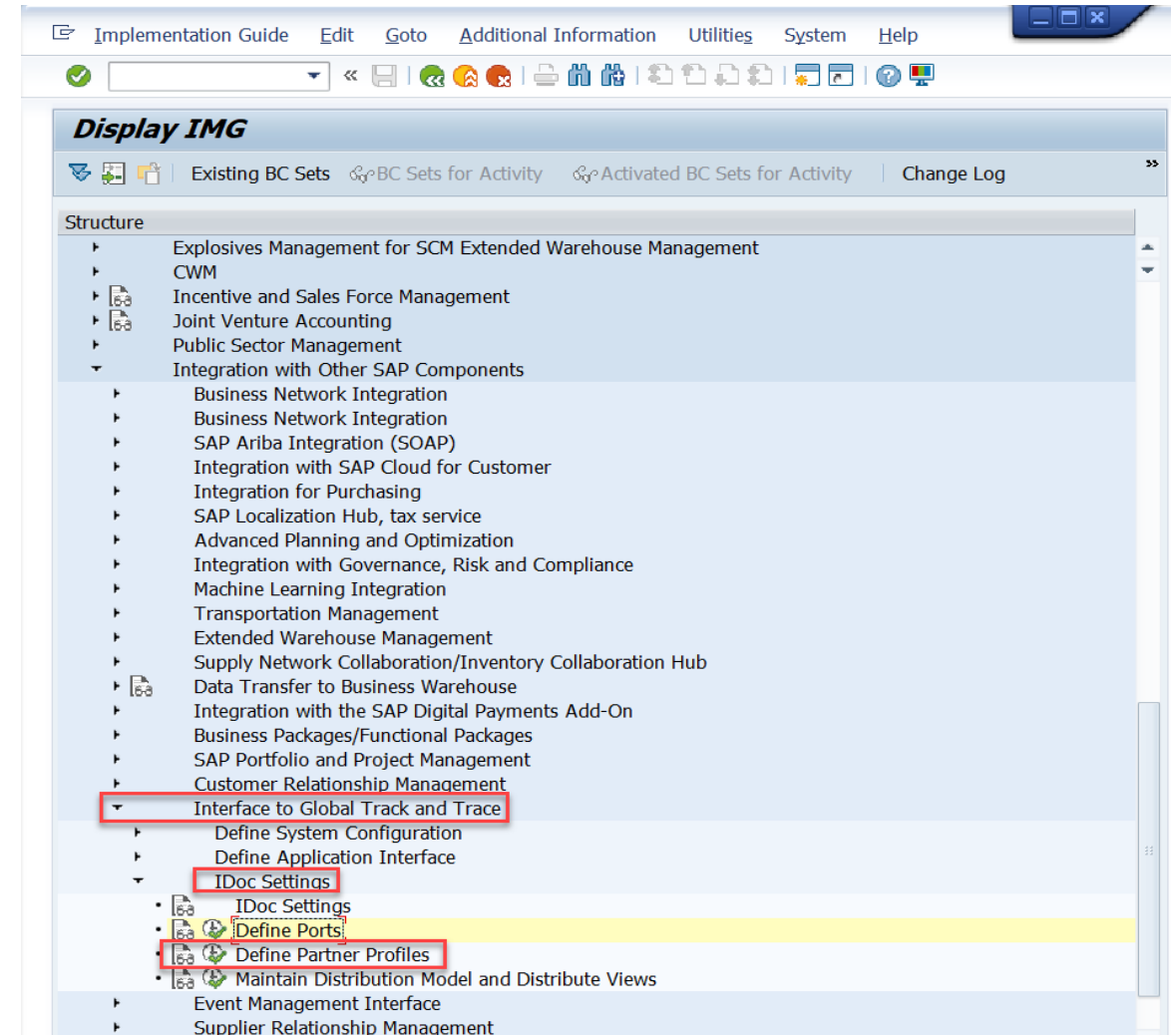
Port Options

Description	Value
No Initial Values for DATS, TIMS, NUMC for Alignment	<input type="checkbox"/>
Send Dynamic Enhancement Segments	<input type="checkbox"/>

STEP 4: Define Partner Profiles

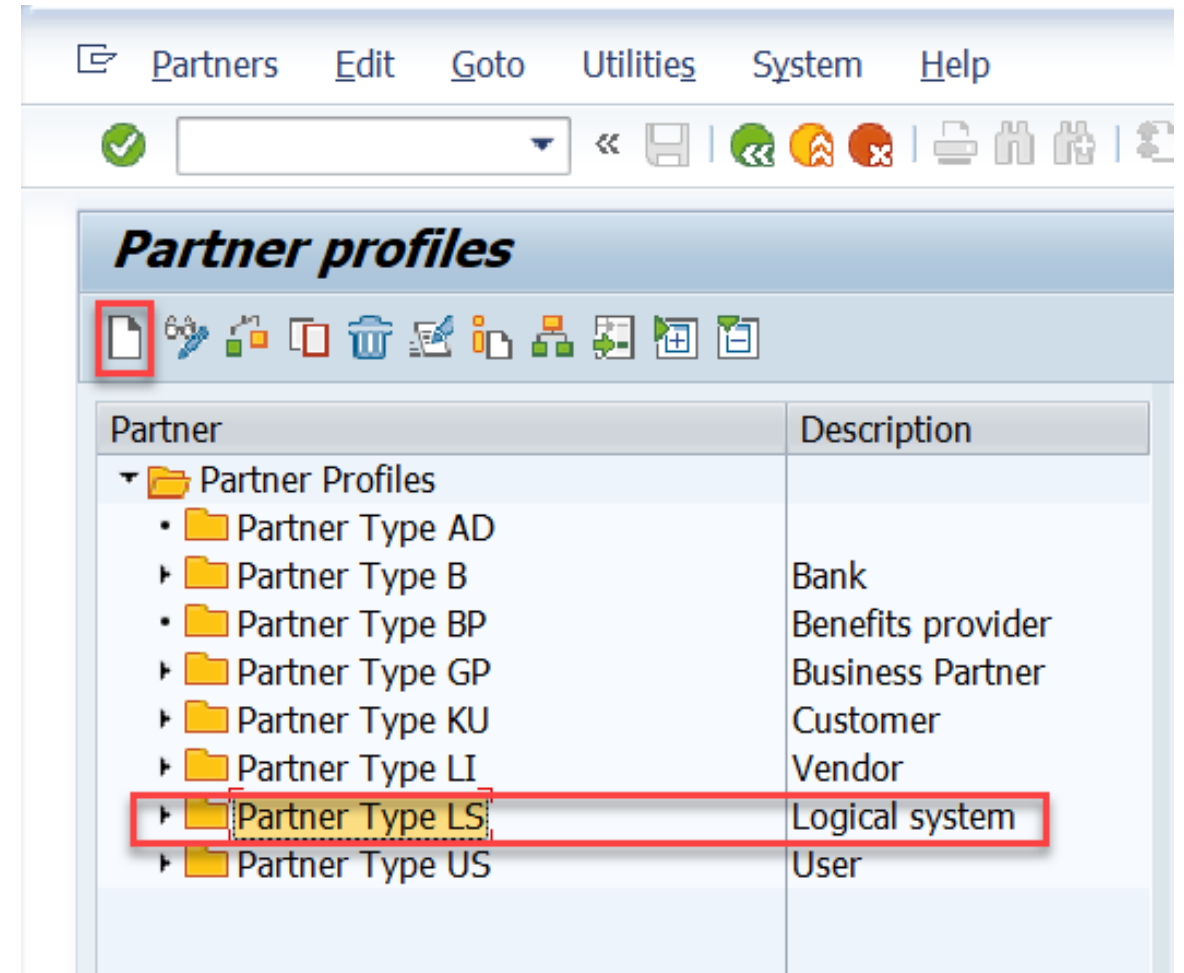
4-1: In **Display IMG** page, unfold
Integration with Other SAP Components ->
Interface to Global Track and Trace ->
IDoc Settings

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

The screenshot shows the SAP Partner Profiles configuration interface. The 'Partner No.' field is set to 'ZLSGTTINT' and the 'Type' is 'LS' (Logical system). The 'Processor' field is highlighted with a red box. The 'Outbound' and 'Inbound' tables are also visible.

Partner profiles

Partner No. ZLSGTTINT GTT V2 SAMPLE INT
Type LS Logical system

Post Processing: Valid Processors Classification Telephony

Ty. US User
Processor
Lang. EN English

Outbound

Partner Role	Message Type	Message Vari...	Function	Test	Receiver Port	I...	Pac...	Basic Type
	AOPOST			<input type="checkbox"/>	ZGTTTSINTTP	0		EHPOST01
	EVMSTA			<input type="checkbox"/>	ZGTTTSINTEV	0		EVMSTA02

Inbound

Partner Role	Message Type	Message Vari...	Function	Test	P..	Process Code
				<input type="checkbox"/>		
				<input type="checkbox"/>		
				<input type="checkbox"/>		

STEP 4: Define Partner Profiles

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





Partner No. ZLSGTTINT GTT V2 SAMPLE INT
Type LS Logical system

Post Processing: Valid Processors Classification Telephony

Ty. US User
Processor LINWINN Winnie Lin
Lang. EN English





Outbound

Test	Receiver Port	I...	Pac...	Basic Type	Extension	Release	Application ...

Inbound

Partner Role	Message Type	Message Vari...	Function	Test	P..	Process Code
				<input type="checkbox"/>		
				<input type="checkbox"/>		
				<input type="checkbox"/>		

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

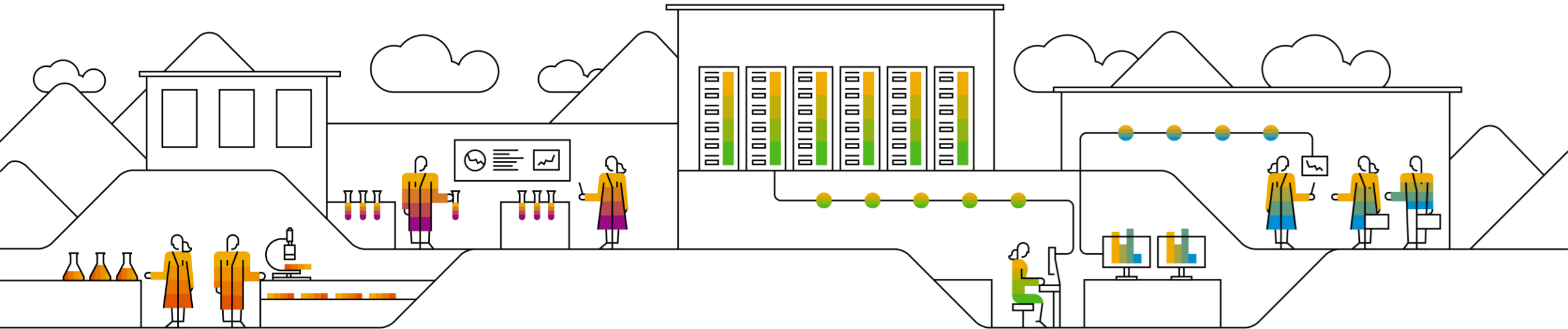
Caution: In this step, you need to repeat steps 4-6 ~ 4-9 to add two outbound parameters, one for event and the other for tracked process.

The screenshot displays the 'Partner profiles: Outbound parameters' configuration window in SAP. The window has a menu bar with 'Outbound parameters', 'Edit', 'Goto', 'System', and 'Help'. Below the menu bar is a toolbar with various icons. The main content area is titled 'Partner profiles: Outbound parameters' and contains several input fields and checkboxes. The 'Message Type' field is highlighted with a red box and contains the value 'EVMSTA'. The 'Receiver Port' field is also highlighted with a red box and contains the value 'ZGTTTSINTEV'. Other fields include 'Partner No.' (ZLSGTTINT), 'Type' (LS), 'Partner Role', 'Message Code', 'Message Function', 'Pack. Size', 'Queue Processing' (unchecked), 'Output Mode' (Pass IDoc Immediately selected), 'IDoc Type' (Basic Type: EVMSTA02), 'Extension', 'View', and a checkbox for 'Cancel Processing After Syntax Error' (checked). The 'Test' checkbox is also visible. The 'EDI Standard' tab is selected at the bottom.

B) Configuration and Implementation

- Basic

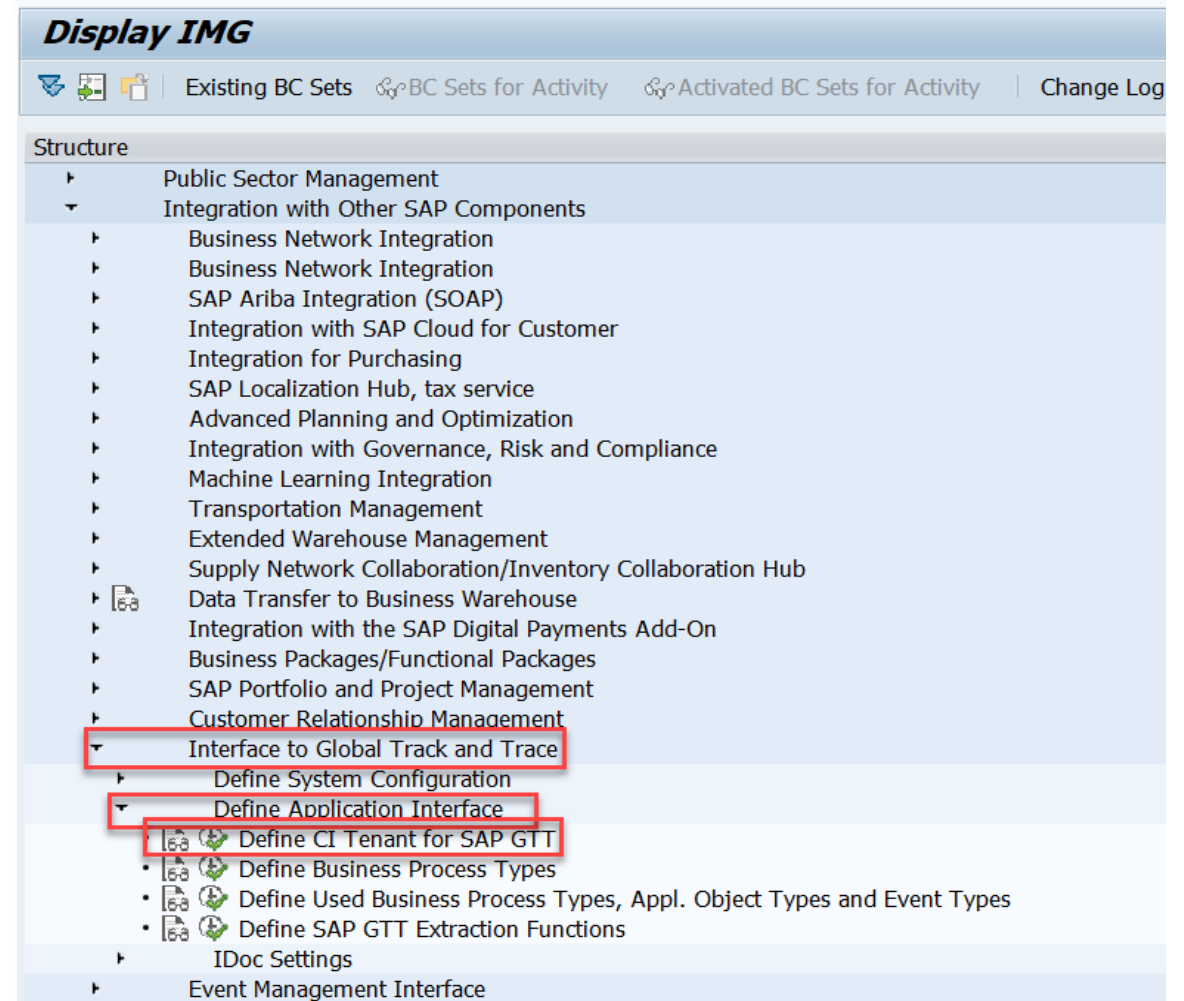
B2. Extractor Configuration



STEP 5: Define CI Tenant for GTT

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

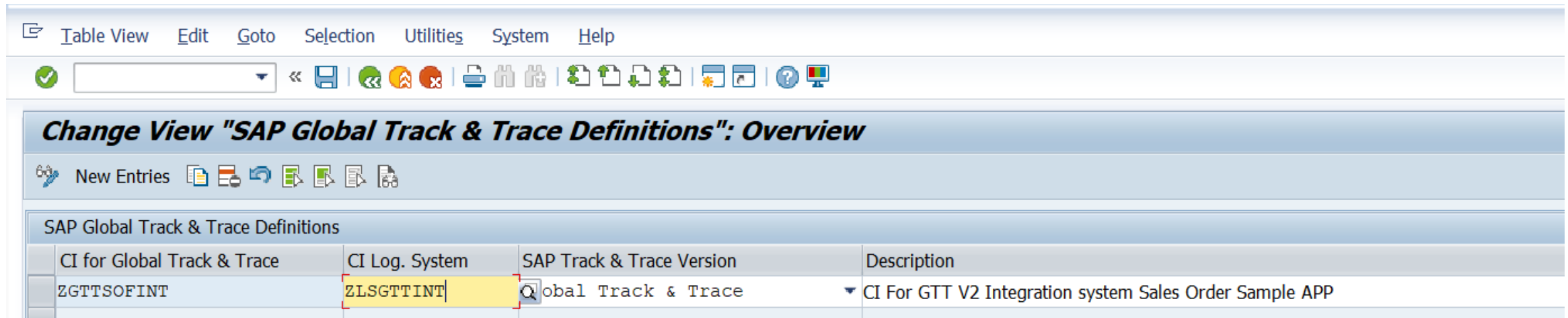
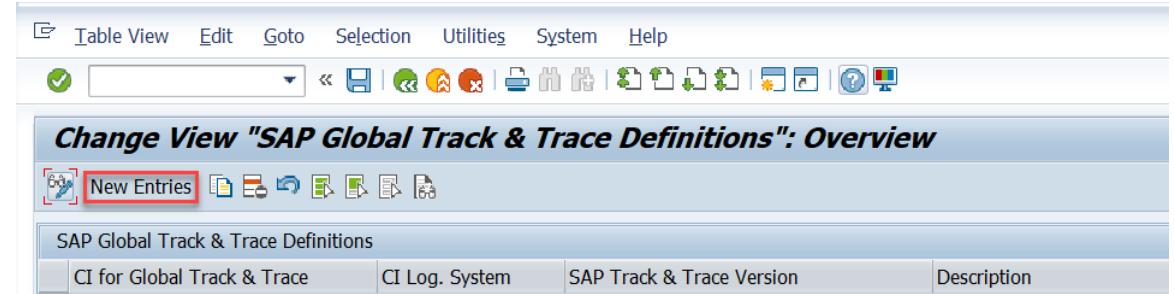
5-2: Choose activity
Define CI Tenant for SAP GTT



STEP 5: Define CI Tenant for GTT

5-3: Click **New Entries** to create a new CI tenant for GTT

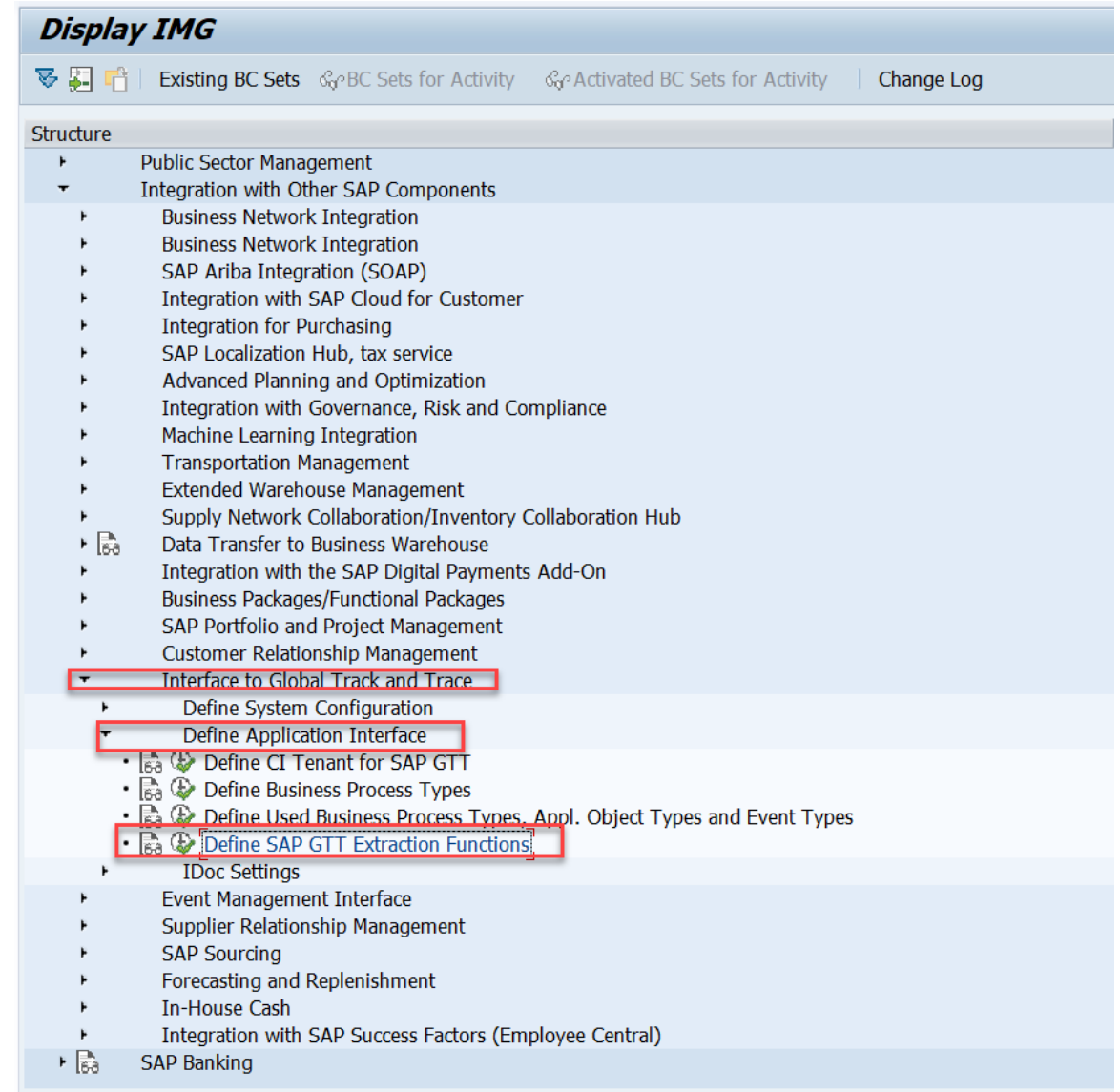
5-4: Fill in the information for the new CI tenant. The **CI Log. System** is the logical system you created in STEP 2.



STEP 6: Define GTT Extraction Functions

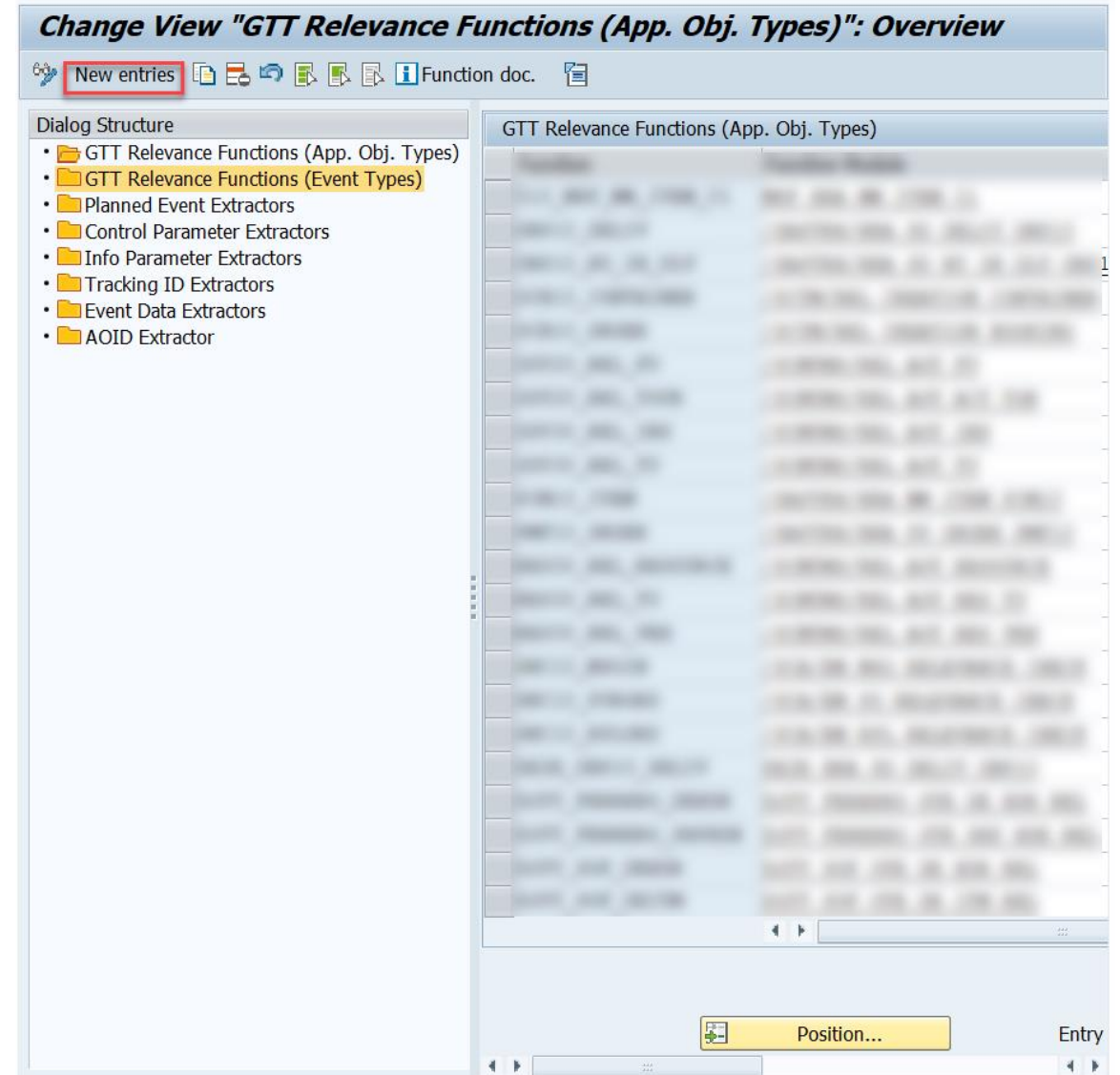
6-1: In **Display IMG** page, click
Integration with Other SAP Components ->
Interface to Global Track and Trace ->
Define Application Interface

6-2: Choose activity
Define SAP GTT Extraction Functions



STEP 6: Define GTT Extraction Functions

6-3: Choose the type of Extraction Function you want to create from the **Dialog Structure**, and click **New entries**



STEP 6: Define GTT Extraction Functions

6-4: Input the **Function** name and **Function Module** for the newly created extraction function

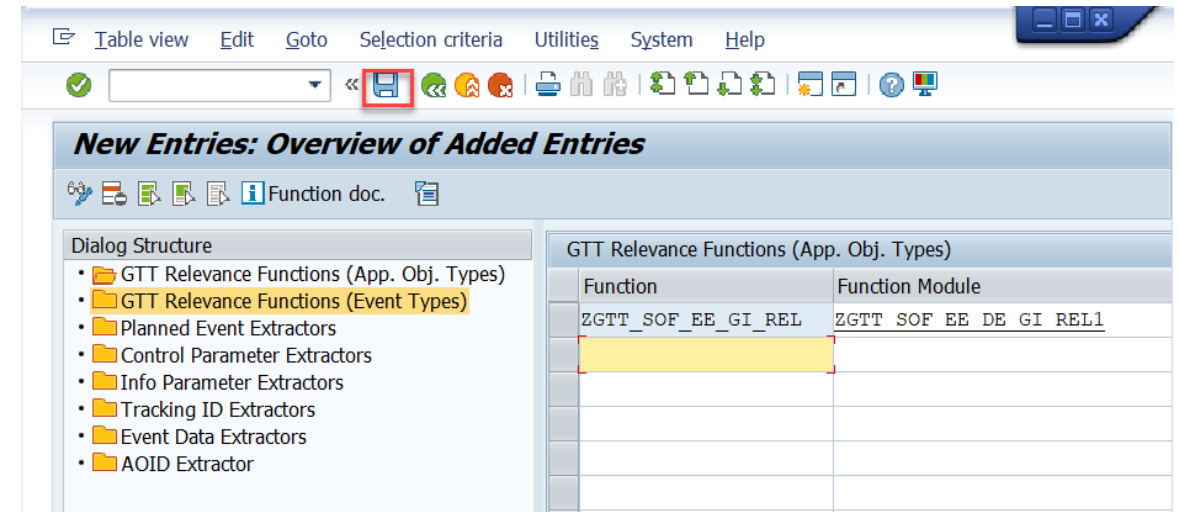
New Entries: Overview of Added Entries

Function doc.

Dialog Structure	GTT Relevance Functions (App. Obj. Types)																						
<ul style="list-style-type: none">GTT Relevance Functions (App. Obj. Types)GTT Relevance Functions (Event Types)Planned Event ExtractorsControl Parameter ExtractorsInfo Parameter ExtractorsTracking ID ExtractorsEvent Data ExtractorsAOID Extractor	<table><thead><tr><th>Function</th><th>Function Module</th></tr></thead><tbody><tr><td>ZGTT_SOF_EE_GI_REL</td><td>ZGTT_SOF_EE_DE_GI_REL1</td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table>	Function	Function Module	ZGTT_SOF_EE_GI_REL	ZGTT_SOF_EE_DE_GI_REL1																		
Function	Function Module																						
ZGTT_SOF_EE_GI_REL	ZGTT_SOF_EE_DE_GI_REL1																						

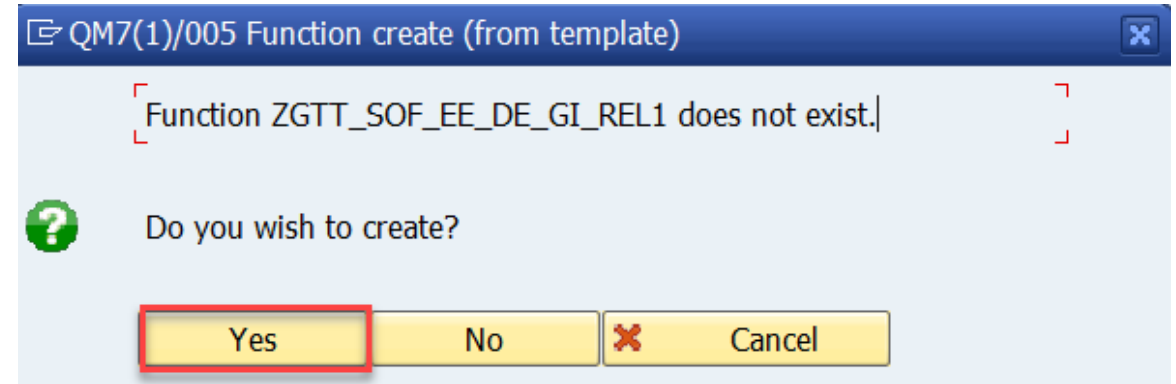
STEP 6: Define GTT Extraction Functions

6-5: Click **Save**



STEP 6: Define GTT Extraction Functions

6-6: 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 6: Define GTT Extraction Functions

6-7: Input the **Function Group** where the function module is to be created

6-8: Click **Copy**

QM7(1)/005 Copy Function Module

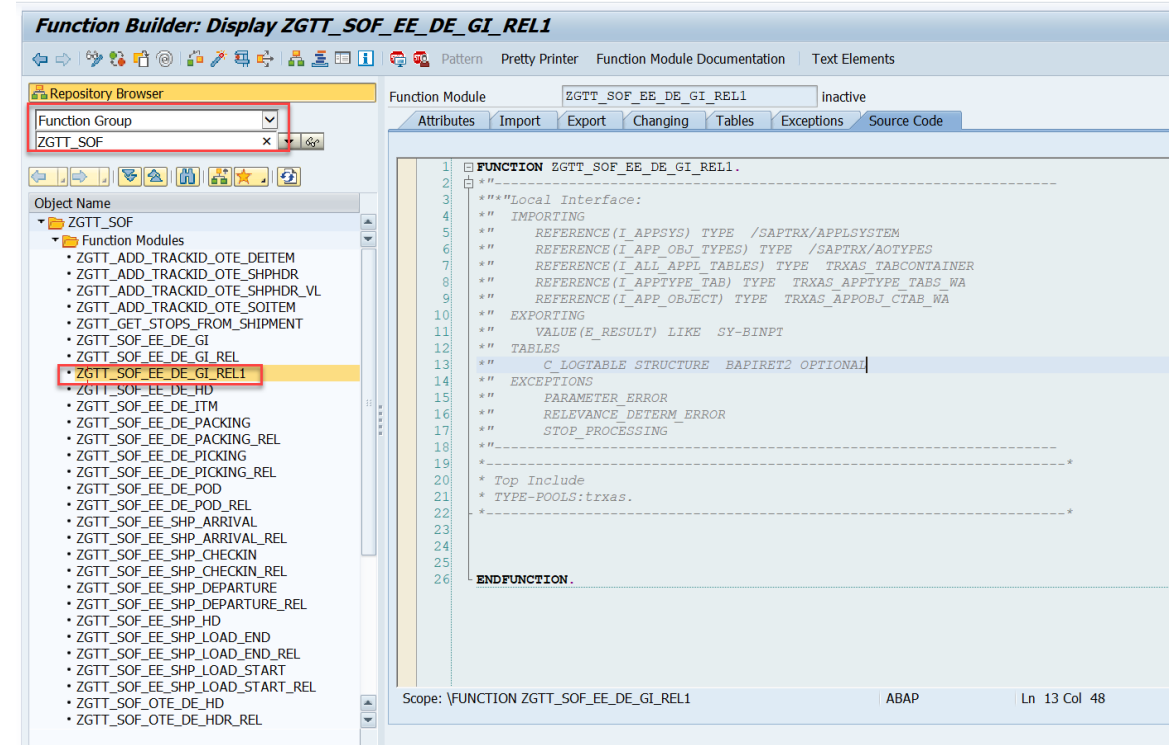
fr. Function Module	/SAPTRX/EVMGMT_RELEV_TEMPLATE
to Function Module	ZGTT_SOF_EE_DE_GI_REL1
Function Group	ZGTT_SOF

Copy

STEP 6: Define GTT Extraction Functions

6-9: Use T-Code SE80 to check the function module you just created

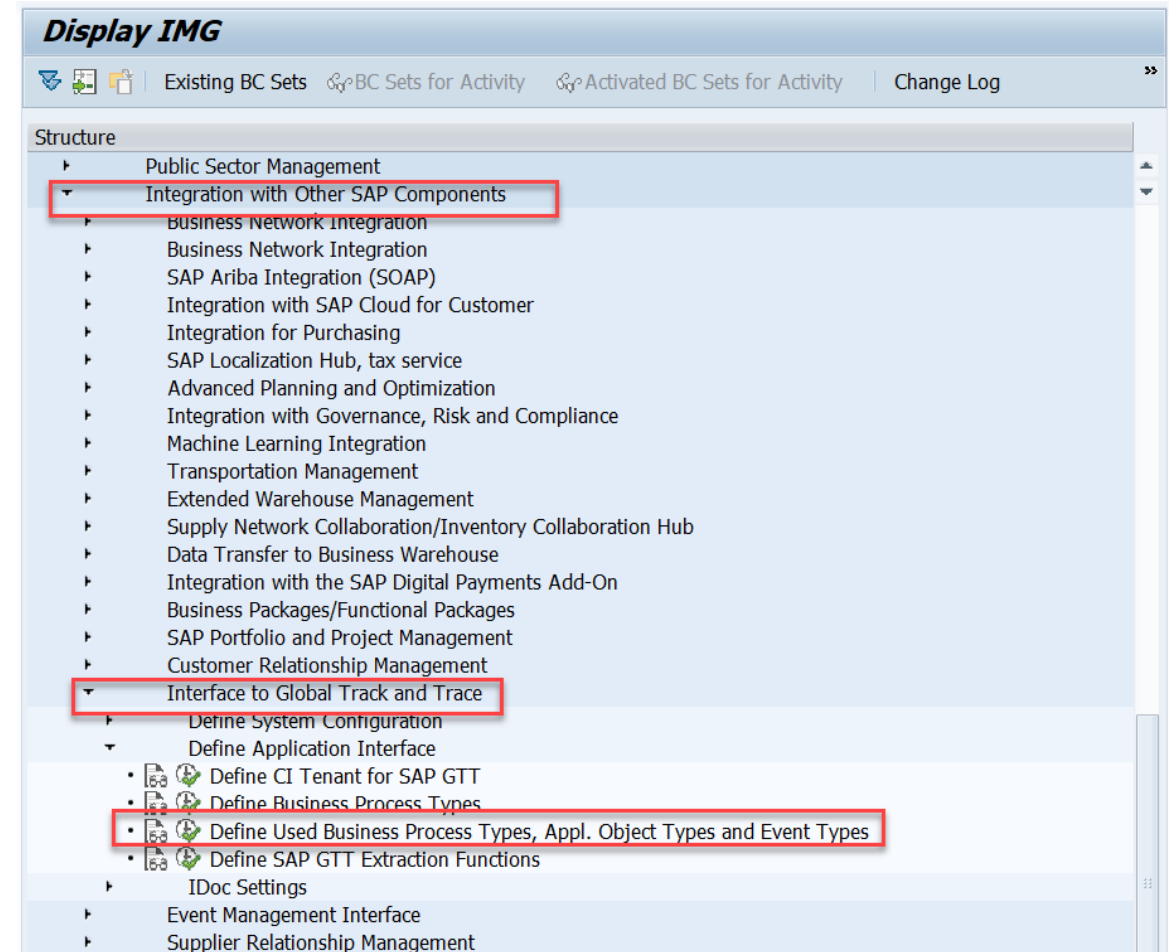
Caution: More information on how to implement extraction functions and the relevant sample code is introduced later.



STEP 7: Define Used Business Process Types, Appl. Object Types and Event Types

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 Used Business Process Types, Appl. Object Types and Event Types**



STEP 7: 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 7-3 to 7-10 demonstrate how to create an *Event Type* for a given business process type
- Steps 7-11 to 7-21 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 (1)	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 7: Define Used Business Process Types, Appl. Object Types and Event Types

7-3: Choose the business process type from the **Define Used Business Process Types** on the right side

7-4: 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

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	Update 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 Enterprise
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 7: Define Used Business Process Types, Appl. Object Types and Event Types

7-5: Click **New Entries** to create a new event type

Change View "Define Event Types": Overview

New Entries [Icons]

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	TRAI0_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 7: Define Used Business Process Types, Appl. Object Types and Event Types

7-6: Fill in the **Event Type** and **Text** fields

7-7: Fill in the information required in the **General Data** tab. **HCI for GTT** is the CI Tenant you created in STEP 5. **Event Function** is the extractor function you created in STEP 6.

7-8: Check **GTT Relevant**

The screenshot shows the SAP configuration interface for defining event types. The 'General Data' tab is selected. The 'Bus. Proc. Type' is 'ESC_SHIPMT'. The 'Event Type' is 'ZGTT_SOF_CHIN_INT', with a tooltip 'Check In Event for GTT SOF Integration System'. The 'Text' is 'Check In Event'. The 'Sequencing / Destination' section shows 'Seq. No.' as '10' and 'HCI for GTT' as 'ZGTTSOFINI' with a description 'CI For GTT V2 Integration system Sales Order Sa'. The 'Data Setup' section shows 'Event Function' as 'ZGTT_SOF_EVNT_CHIN'. The 'Behavior' section has the checkbox 'GTT Relevant' checked, with 'Stop ET Det.' and 'Appl. Log Deact' unchecked.

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

Sequencing / Destination

Seq. No.	10	
HCI for GTT	ZGTTSOFINI	CI For GTT V2 Integration system Sales Order Sa

Data Setup

Event Function	ZGTT_SOF_EVNT_CHIN
----------------	--------------------

Behavior

<input checked="" type="checkbox"/> GTT Relevant
<input type="checkbox"/> Stop ET Det.
<input type="checkbox"/> Appl. Log Deact

STEP 7: Define Used Business Process Types, Appl. Object Types and Event Types

7-9: 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

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

Event on Header Level

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

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	

Event on Item Level

STEP 7: Define Used Business Process Types, Appl. Object Types and Event Types

7-10: 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 6, and fill in the relevance function name here.

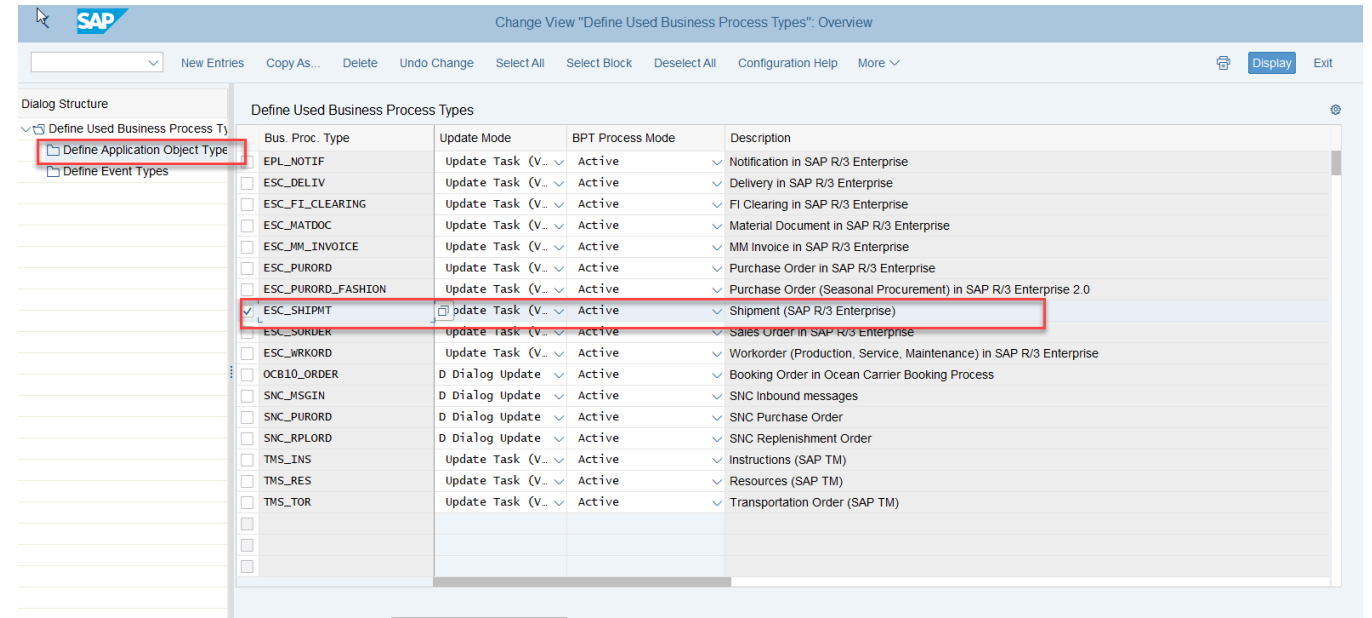
Click **Save**.

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 (Funcio..		
GTT Rel. Function		
ZGTT_SOF_SHP_CHI_REL		

STEP 7: Define Used Business Process Types, Appl. Object Types and Event Types

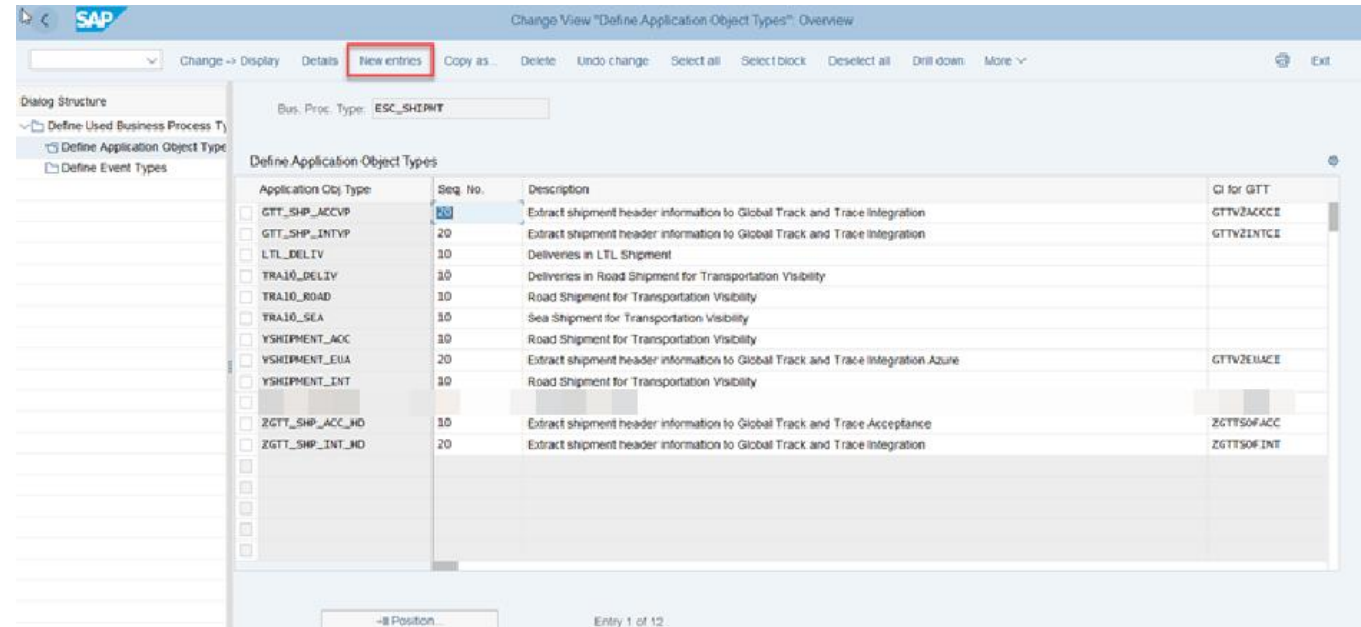
7-11: Choose the business process type from the **Define Used Business Process Types** on the right side

7-12: Double click **Define Application Object Types**



STEP 7: Define Used Business Process Types, Appl. Object Types and Event Types

7-13: Click **New Entries** to create a new Application Object Type



STEP 7: Define Used Business Process Types, Appl. Object Types and Event Types

7-14: Fill in the **Application Object Type** and **Text** fields

7-15: Fill in the information required in the **General Data** tab. **CI for GTT** is the CI Tenant you created in STEP 5.

7-16: Check **GTT Relevant**

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_SHIPMT

Appl. Obj. Type: ZGTT_SHP_ACC_HD Extract shipment header information to Global Track and Trace Acceptance

Text:

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

Sequencing / Destination

Seq. No.: 10

CI for GTT: ZGTTSOFACC CI For GTT V2 Acceptance system Sales Order Sample

Business Object Reference

Object Type:

BO Setup Fnct.:

Behavior

☒ GTT Relevant

☐ Stop AO Determ.

☐ Appl. Log Deact

Alt. BusProcType:

STEP 7: Define Used Business Process Types, Appl. Object Types and Event Types

7-17: 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**.

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_SHIPMT
Appl. Obj. Type: ZGTT_SHP_ACC_HD Extract shipment header information to Global Track and Trace Acceptance
Text:

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

Data Source for Created and Updated Objects

Main Obj. Table: SHIPMENT_HEADER_NEW AOT on Header Level
Master Table:

Data Source for Deleted Objects

Del. Obj. Table: SHIPMENT_HEADER_OLD

Reference Between Main and Master Table

First Field Reference from Main to Master Table

Second Field Reference from Main to Master Table

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

Data Source for Created and Updated Objects

Main Obj. Table: DELIVERY_ITEM_NEW AOT on Item Level
Master Table: DELIVERY_HEADER_NEW

Data Source for Deleted Objects

Del. Obj. Table: DELIVERY_ITEM_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

STEP 7: Define Used Business Process Types, Appl. Object Types and Event Types

7-18: 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

7-19: 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 7: Define Used Business Process Types, Appl. Object Types and Event Types

7-20: 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 6, and fill in the relevance function name here.

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

GTT Rel. Method: A Check Function (Function Module)

GTT Rel. Function: ZGTT_SOF_DEITM

STEP 7: Define Used Business Process Types, Appl. Object Types and Event Types

7-21: 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 6, 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**.

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

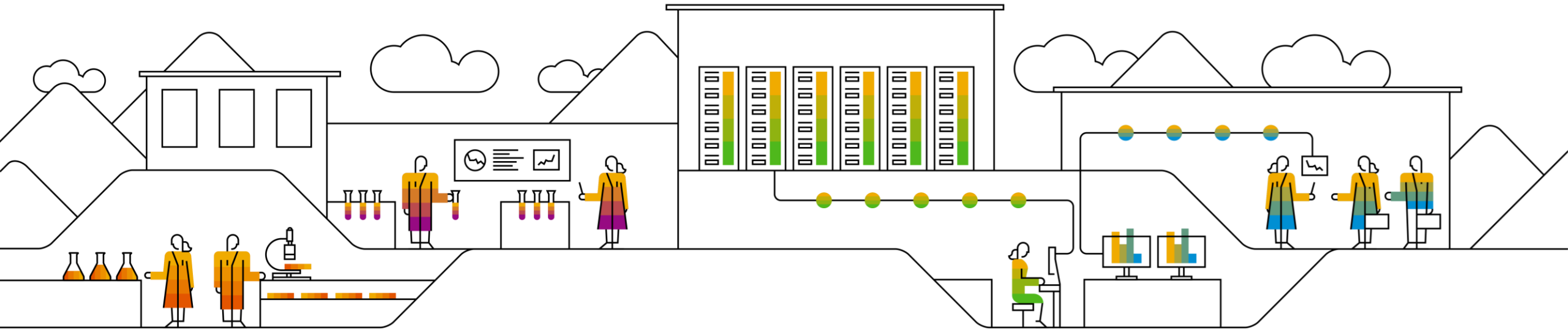
Tracking ID Setup

TrkID Method: A Determine by Function ▾
Tr.ID Tab. Type: ▾ Tracking ID Fld:
Tr. ID Code Set:
TrkID Function: ZGTT_TID_DE_ITEM ⓘ

Parameter Setup

Ctrl Data Function: ZGTT_OTE_DE_ITEM ⓘ
Info Data Function: ⓘ
Planned Event Function: ZGTT_EE_DE_ITM ⓘ

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*.

 **abapGit** › documentation

Getting Started

- Installation
- Upgrading
- Uninstalling
- UI features

Setup

- SSL setup
- Proxy configuration
- Development version

Online Projects

- Installing online repo
- Keeping code up to date
- Uninstall repository
- First project
- Moving package into git
- Contributing to a project

Offline Projects

- Import zip
- Export zip

Reference

- Repo Settings (.abapgit.xml)
- Supported object types
- Icon Legend
- User Exits
- Authorizations
- Namespaces

Installation

[Improve this page](#)

Summary

abapGit exists in 2 flavours: *standalone* version or *developer* version.

- The standalone version is targeted at users. It consist of one (huge) program which contains all the needed code. You run the standalone version in transaction `SE38`, executing the program you created.
- The developer version is targeted at developers contributing to the abapGit codebase. It consists of all the ABAP programs/classes/interfaces/etc. of the abapGit project. You run the developer version with transaction `ZABAPGIT`.

Prerequisites

abapGit requires SAP BASIS version 702 or higher.

Install standalone version

- Download the **ABAP code**(right click -> save-as) to a file.
- Via `SE38` or `SE80`, create a new report named `ZABAPGIT_STANDALONE` (formerly `ZABAPGIT_FULL`). NB: Don't use the name `ZABAPGIT` if you plan to install the developer version.
- In source code change mode, upload the code from the file using Utilities -> More Utilities -> Upload/Download -> Upload
- Activate

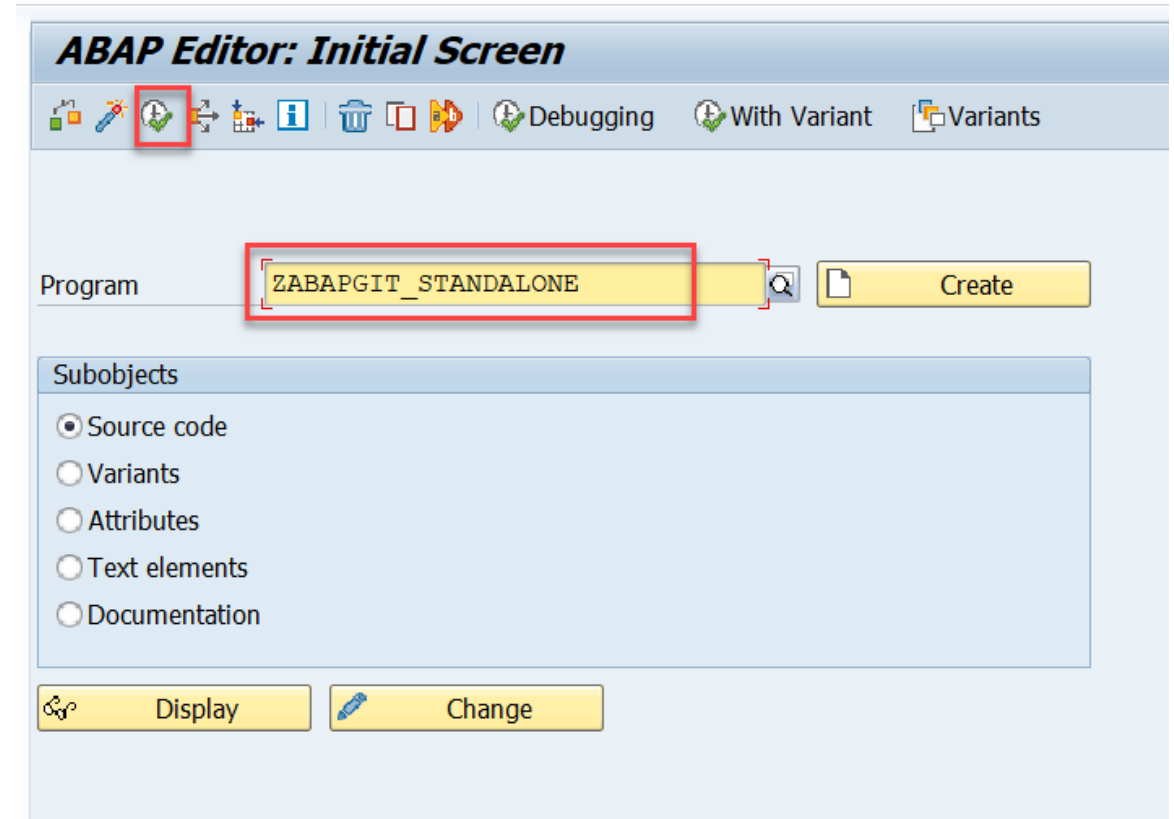
Typically, abapGit will only be used in the development system, so it can be installed in a local '\$' package (e.g. `$ZABAPGIT`).

Now you can use abapGit by executing the report in transaction `SE38`.

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

ABAP GIT for GTT

 Repository List New Online New Offline ⌘ ?

Filter: ☒ Only Favorites | ☒ Detail

Name ▾	Url	Package	Branch	Action
  SAP ABAP Development Tools for Eclipse	https://github.com/SAP/abapGit	SAP_ABAPGIT	main	Clone Pull Push More
  SAP ABAP Development Tools for Eclipse	https://github.com/SAP/abapGit	SAP_ABAPGIT	main	Clone Pull Push More

 1.98.0 js: OK

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

The screenshot shows the 'ABAP GIT for GTT' interface. At the top, there is a header bar with the text 'ABAP GIT for GTT'. Below it, the 'abapGit' logo is followed by a right-pointing arrow and the text 'Clone online repository'. The main content area is a form with several fields and buttons. A red rectangle highlights the 'Git repository URL' field, which contains the URL 'https://github.com/SAP-samples/logistics-business-network-gtt-samples.git'. Below this is the 'Package' field, which contains 'ZGTT_SAMPLE'. Further down are fields for 'Branch' (set to 'master') and 'Folder logic' (with 'Prefix' and 'Full' buttons). A 'Display name' field is also present. At the bottom of the form, there are two checkboxes: 'Ignore subpackages' and 'Serialize master language only'. A red rectangle highlights the 'Clone online repo' button, which is blue with white text. To its right are 'Create package' and 'Back' buttons. The bottom right corner of the interface shows the 'abapGit' logo and the version number '1.98.0'.

STEP 2: Download ABAP Code

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

ABAP GIT for GTT

abapGit ▶ Repository Repository List ?

logistics-business-network-gtt-samples <https://github.com/SAP-samples/logistics-business-network-gtt-samples.git> c86ad2d ★ master ZGTT_SAMPLE

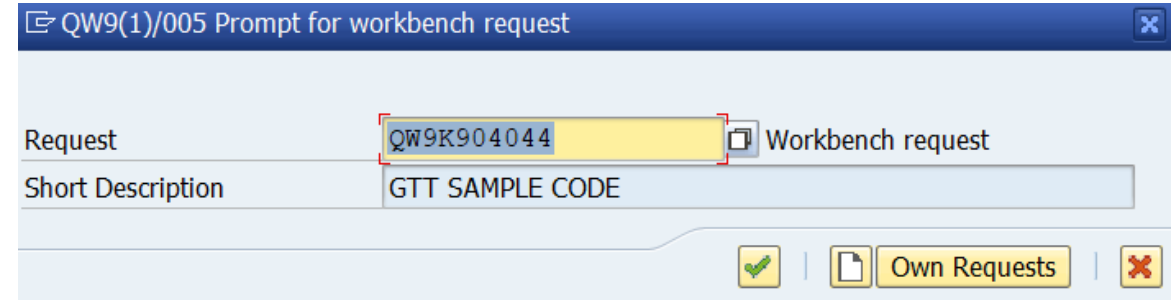
Pull Stage Diff Branch Tag Advanced Refresh ⚙

non-code and meta files				
			/abapgit.xml	
			/NOTICE	diff x A
📄	AVAS	0894EF4577391EEAAB910BD805B24F18	/src/0894ef4577391eeaab910bd805b24f18.avas.xml	diff x A
📄	CLAS	ZCL_GTT_SOF_IM_LE_SHIPPING	/src/zcl_gtt_sof_im_le_shipping.clas.abap	diff x A
			/src/zcl_gtt_sof_im_le_shipping.clas.xml	diff x A
📁 📁	DEVC	ZGTT_SAMPLE	/src/package.devc.xml	diff M M
📄	TABL	ZGTT_SOF_EE_REL	/src/zgtt_sof_ee_rel.tabl.xml	diff x A

abapGit js: OK

STEP 2: Download ABAP Code

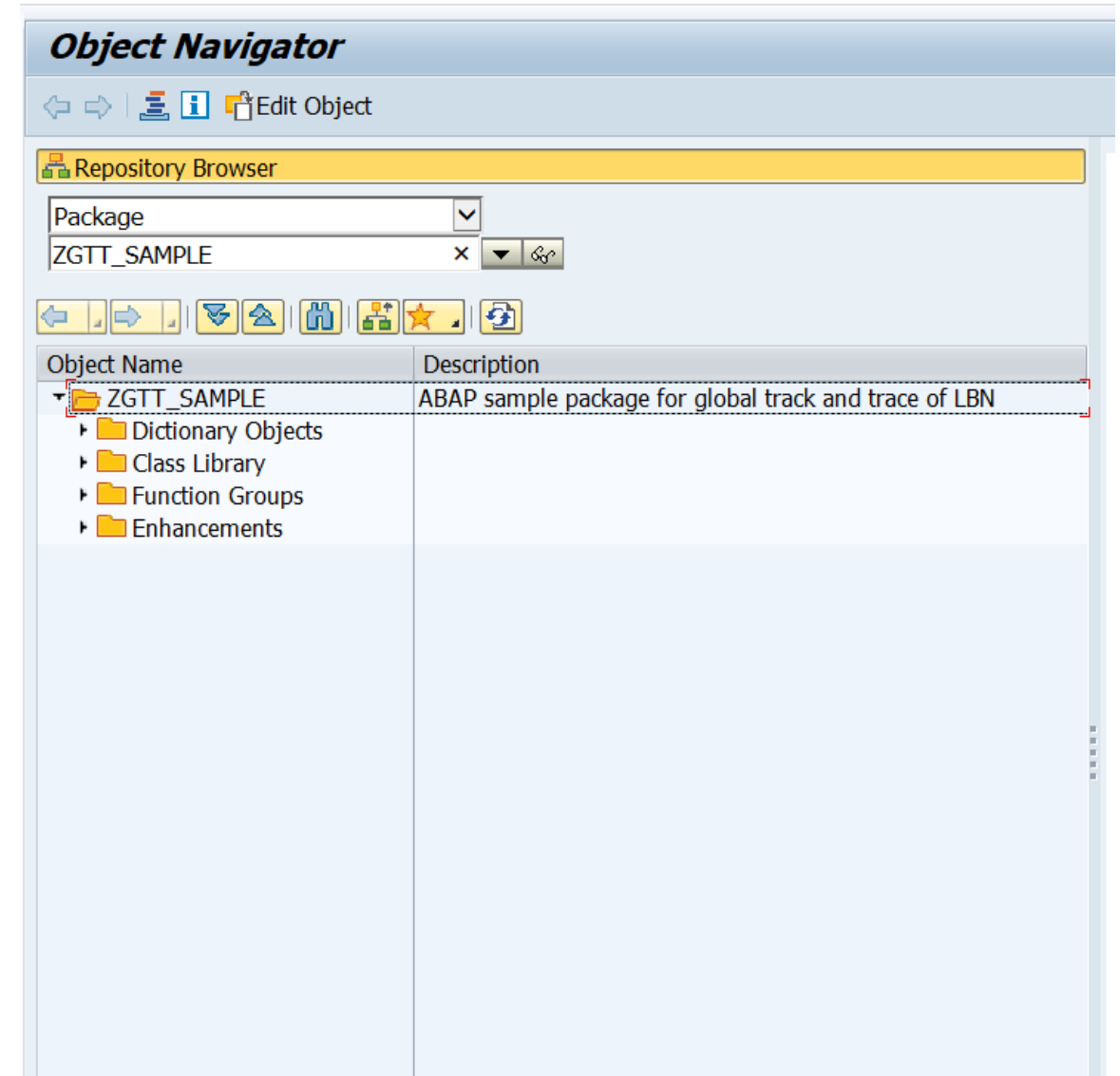
2-8: Assign the change to a change request. If you do not have any available change request, you need to create a new one.



The screenshot shows a SAP dialog box titled "QW9(1)/005 Prompt for workbench request". It contains two input fields: "Request" with the value "QW9K904044" and "Short Description" with the value "GTT SAMPLE CODE". To the right of the "Request" field is a button labeled "Workbench request". At the bottom right, there are three buttons: a green checkmark icon, a document icon, and a button labeled "Own Requests", followed by a red 'X' icon.

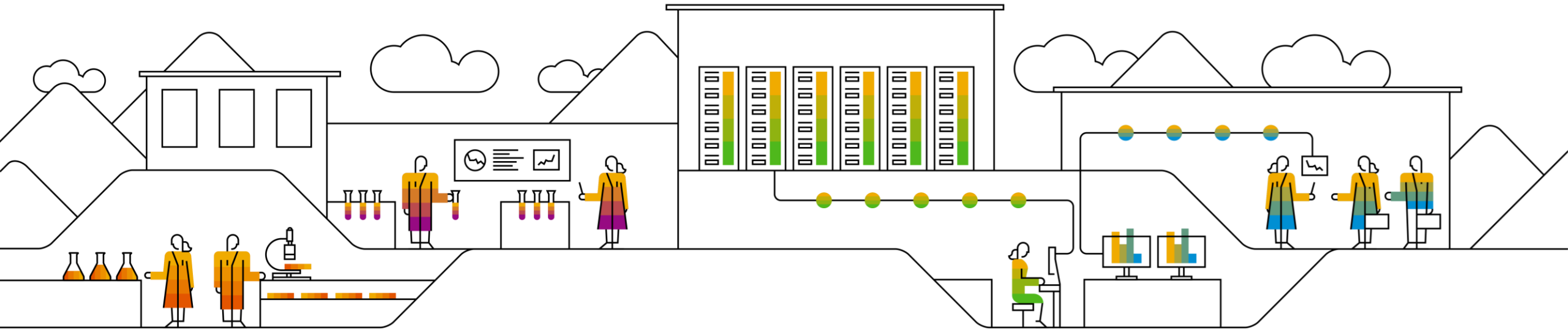
STEP 2: Download ABAP Code

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.

Change View "Define Application Object Types": Details

Bus. Proc. Type: ESC_SORDER

Appl. Obj. Type: ZGTT_SO_ACC_HD Extract sales order header information to Global Track and Trace Acceptance

Text: Sales Order Header

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

Cntri Tab. Type: 1 Main Object Table

AO ID Field: VBELN

Second Field to Build Appl. Obj. ID

Cntri Tab. Type:

AO ID Field:

Determine AOID By Function

AOID Function:

sof Active

Sales Order Fulfillment

Namespace: com.lbggttsamples.gtt.app.sof Correlation Level: 5

Tracked Process Field Type Pool Event Type Pool Code List IDOC Integration Visibility Provider Integration Planned Event Extension Event to Action

Tracked Process: SalesOrder Integration Switch: ON

Tracked Process Mapping

ERP Object Type: Others

Application Object Type: ZGTT_SO_ACC_HD

Tracked Process / Events (2)

Name	IDOC	Event Code
Tracked Process		
SalesOrderEvent	EHPOST01	
Event Types		
Completion		

Fields

Field	IDOC Segment	IDOC Field
salesOrderNo	E1EHPCP	YN_SO_NO
incoterms	E1EHPCP	YN_SO_INCOTERM1
netValue	E1EHPCP	YN_NET_VALUE
currency	E1EHPCP	YN_NET_VALUE_CURRENCY

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.

The screenshot shows the 'Define Application Object Types' dialog in SAP. The 'Tracking ID Setup' tab is active. The 'Trk ID Method' is set to 'B Determine from Field'. The 'Tr ID Tab. Type' is set to '1 Main Object Table'. The 'Tr. ID Code Set' is set to 'SALES_ORDER'. The 'Tracking ID Fld.' is set to 'VBELN'. The 'Parameter Setup' section shows the 'Cntl Data Function' set to 'ZGTT_OTE_SO_HD'.

The screenshot shows the 'Model Details' view in SAP. The 'Tracked Process' tab is active. The 'SalesOrder' item is selected, and its 'Tracking Id Type' is set to 'SALES_ORDER'. An 'Edit Tracked Process' dialog is open, showing the 'Name' as 'SalesOrder' and the 'Tracking Id Type' as 'SALES_ORDER'. The dialog also includes a warning that 'Item is used by other objects'.

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	<u>WRF_XRA_MM_ITEM_01</u>
OBP10_DELIV	<u>/SAPTRX/XRA_SD_DELIV_OBP10</u>
OBP10_HU_IN_DLV	<u>/SAPTRX/XRA_SD_HU_IN_DLV_OBP10</u>
OCB10_CONTAINER	<u>/SCTM/REL_CREATION_CONTAINER</u>
OCB10_ORDER	<u>/SCTM/REL_CREATION_BOOKING</u>
ODT20_REL_FU	<u>/SCMTMS/REL_AOT_FU</u>
ODT20_REL_TOUR	<u>/SCMTMS/REL_AOT_ACT_TOR</u>
ODT30_REL_INS	<u>/SCMTMS/REL_AOT_INS</u>
ODT30_REL_TU	<u>/SCMTMS/REL_AOT_TU</u>
PCM10_ITEM	<u>/SAPTRX/XRA_MM_ITEM_PCM10</u>
PMF10_ORDER	<u>/SAPTRX/XRA_PP_ORDER_PMF10</u>
RES30_REL_RESOURCE	<u>/SCMTMS/REL_AOT_RESOURCE</u>
RES30_REL_TU	<u>/SCMTMS/REL_AOT_RES_TU</u>
RES30_REL_VEH	<u>/SCMTMS/REL_AOT_RES_VEH</u>
SNC10_MSGIN	<u>/SCA/EM_MSG_RELEVANCE_CHECK</u>
SNC10_PURORD	<u>/SCA/EM_PO_RELEVANCE_CHECK</u>
SNC10_RPLORD	<u>/SCA/EM_RPL_RELEVANCE_CHECK</u>
ZE2E_OBP10_DELIV	<u>ZE2E_XRA_SD_DELIV_OBP10</u>
ZGTT_FERRERO_DEHDR	<u>ZGTT_FERRERO_OTE_DE_HDR_REL</u>
ZGTT_FERRERO_SHPHDR	<u>ZGTT_FERRERO_OTE_SHP_HDR_REL</u>

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:

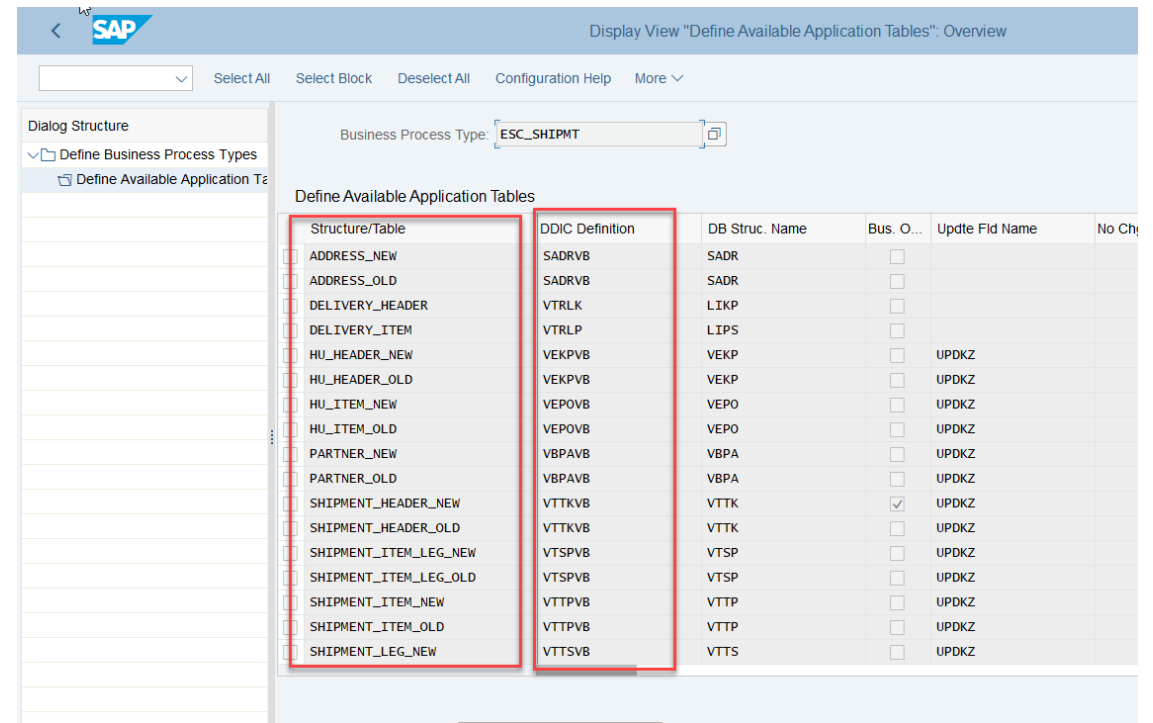
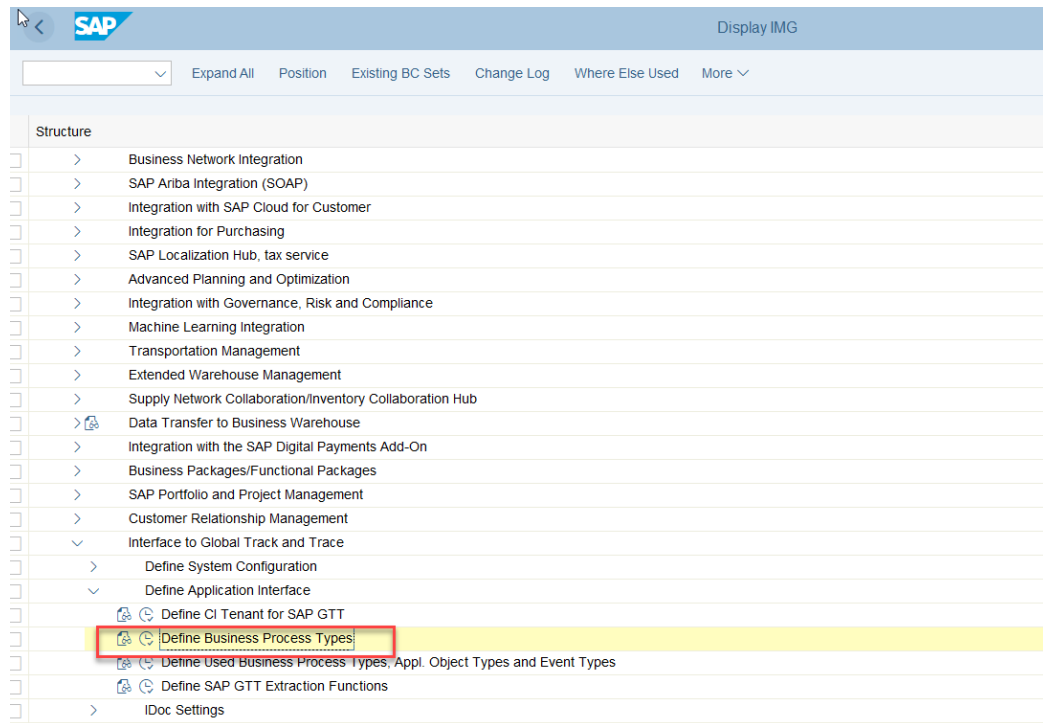
Category	Business Process Type	Function Module Name	Description
Control Parameter Extractors	ESC_DELIV	ZGTT_SOF_OTE_DE_HD	Function for setup of control parameters of delivery header
Control Parameter Extractors	ESC_DELIV	ZGTT_SOF_OTE_DE_ITEM	Function for setup of control parameters of delivery item
Control 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.

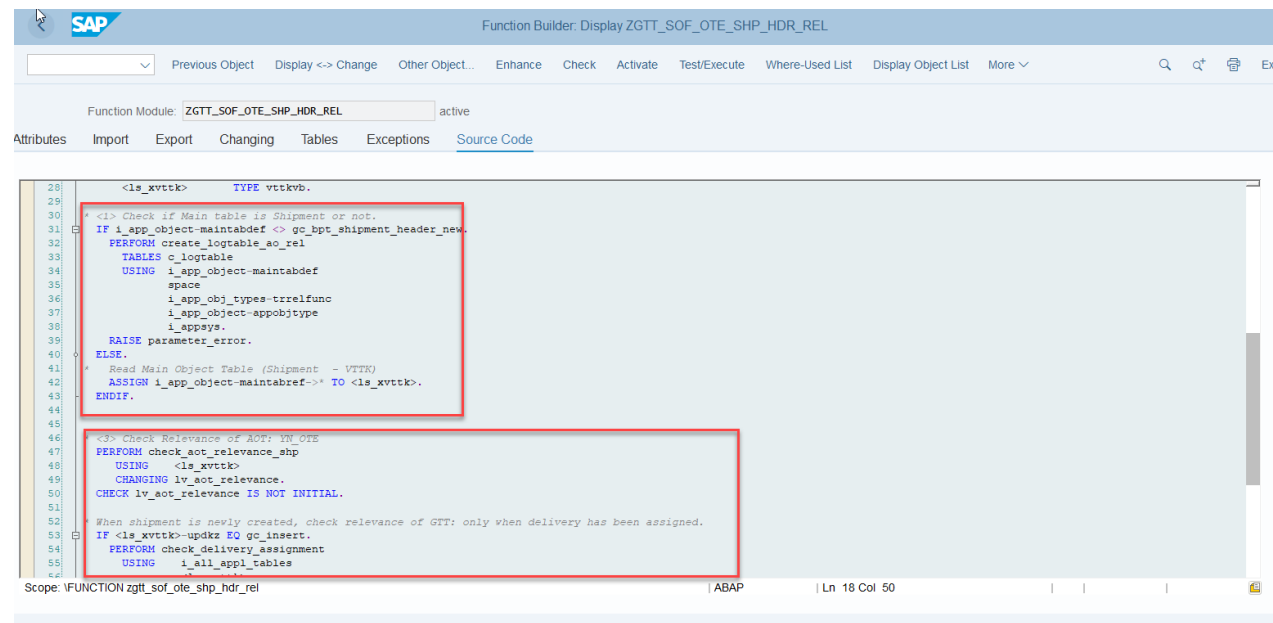


6: Coding Tips in the GTT relevance function modules

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*



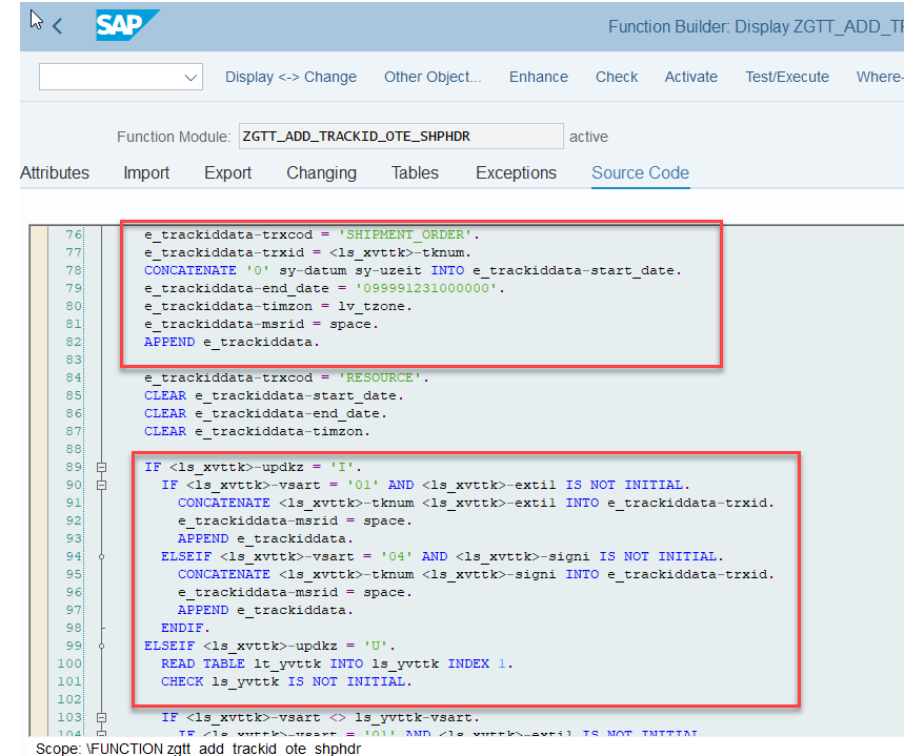
```
28 <ls_xvttk> TYPE vttkvb.
29
30 <1> Check if Main table is Shipment or not.
31 IF i_app_object-maintabdef <> gc_bpt_shipment_header_new.
32   PERFORM create_logtable_ao_rel
33   TABLES c_logtable
34   USING i_app_object-maintabdef
35         space
36         i_app_obj_types-trrelfunc
37         i_app_object-appobjtype
38         i_appsys.
39   RAISE parameter_error.
40 ELSE.
41   * Read Main Object Table (Shipment - VTTK)
42   ASSIGN i_app_object-maintabref->* TO <ls_xvttk>.
43   ENDIF.
44
45 <3> Check Relevance of AOT: Yn_OTE
46 PERFORM check_ao_relevance_shp
47   USING <ls_xvttk>
48   CHANGING lv_ao_relevance.
49 CHECK lv_ao_relevance IS NOT INITIAL.
50
51
52 * When shipment is newly created, check relevance of GTT: only when delivery has been assigned.
53 IF <ls_xvttk>-updkz EQ gc_insert.
54   PERFORM check_delivery_assignment
55   USING i_all_appl_tables
```

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. The tracking ID for its own process type needs to be filled for each process update.
6. In case of tracking ID deletion, the field *ACTION* shall be filled with 'D'.

See sample code of function:
ZGTT_ADD_TRACKID_OTE_SHPHDR



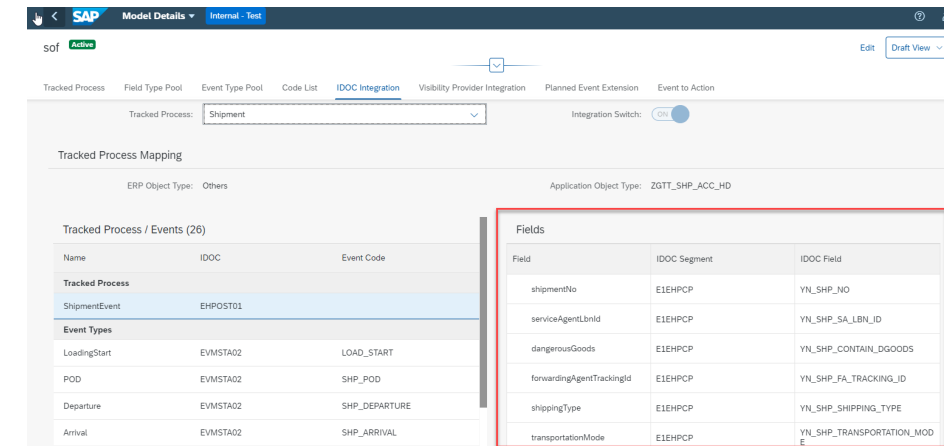
```
76 e_trackiddata-trxcod = 'SHIPMENT_ORDER'.
77 e_trackiddata-trxid = <ls_xvttk>-tknum.
78 CONCATENATE '0' sy-datum sy-zeit INTO e_trackiddata-start_date.
79 e_trackiddata-end_date = '099991231000000'.
80 e_trackiddata-timzon = lv_tzone.
81 e_trackiddata-msrid = space.
82 APPEND e_trackiddata.
83
84 e_trackiddata-trxcod = 'RESOURCE'.
85 CLEAR e_trackiddata-start_date.
86 CLEAR e_trackiddata-end_date.
87 CLEAR e_trackiddata-timzon.
88
89 IF <ls_xvttk>-updkz = 'I'.
90 IF <ls_xvttk>-vsart = '01' AND <ls_xvttk>-extil IS NOT INITIAL.
91   CONCATENATE <ls_xvttk>-tknum <ls_xvttk>-extil INTO e_trackiddata-trxid.
92   e_trackiddata-msrid = space.
93   APPEND e_trackiddata.
94 ELSEIF <ls_xvttk>-vsart = '04' AND <ls_xvttk>-signi IS NOT INITIAL.
95   CONCATENATE <ls_xvttk>-tknum <ls_xvttk>-signi INTO e_trackiddata-trxid.
96   e_trackiddata-msrid = space.
97   APPEND e_trackiddata.
98 ENDIF.
99 ELSEIF <ls_xvttk>-updkz = 'U'.
100   READ TABLE lt_yvttk INTO ls_yvttk INDEX 1.
101   CHECK ls_yvttk IS NOT INITIAL.
102
103 IF <ls_xvttk>-vsart <> ls_yvttk-vsart.
104   IF <ls_xvttk>-vsart = '01' AND <ls_xvttk>-extil IS NOT INITIAL.
```

Scope: FUNCTION zgitt_add_trackid_ote_sphhdr

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. It's not recommended to fill a code list type field to clear a composition even if it's a key field.**
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.
8. **For DATE or DATETIME fields, when the source value is initial like '00000000' '0000000000000000', then please ensure to only enable `PARAMNAME` and `PARAMINDEX` in the extractor code, not enable `VALUE` for IDOC sending.**
9. **For Amount field which has reference currency, please ensure to call BAPI 'BAPI_CURRENCY_CONV_TO_EXTERNAL' using the reference currency to make the amount tracked correctly by GTT v2. The BAPI will output the conversion result in 4 decimals as fixed, which needs additional rounding in the extractor if the corresponding field defined in the tracking model is of less then 4 decimals.**



Field	IDOC Segment	IDOC Field
shipmentNo	E1EHPCP	YN_SHP_NO
serviceAgentLbnId	E1EHPCP	YN_SHP_SA_LBN_ID
dangerousGoods	E1EHPCP	YN_SHP_CONTAINER_DGOODS
forwardingAgentTrackingId	E1EHPCP	YN_SHP_FA_TRACKING_ID
shippingType	E1EHPCP	YN_SHP_SHIPPING_TYPE
transportationMode	E1EHPCP	YN_SHP_TRANSPORTATION_MODE

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.

The screenshot displays the SAP Model Details - Internal - Test interface. The 'IDOC Integration' tab is active, showing the configuration for the 'Shipment' process. The 'Tracked Process' is set to 'Shipment' and the 'Integration Switch' is 'ON'. The 'Tracked Process Mapping' section shows the 'ERP Object Type' as 'Others' and the 'Application Object Type' as 'ZGTT_SHP_ACC_HD'. The 'Tracked Process / Events (26)' table lists the following events:

Name	IDOC	Event Code
Tracked Process		
ShipmentEvent	EHPOST01	
Event Types		
LoadingStart	EVMSTA02	LOAD_START
POD	EVMSTA02	SHP_POD
Departure	EVMSTA02	SHP_DEPARTURE
Arrival	EVMSTA02	SHP_ARRIVAL

The 'Fields' table lists the following fields:

Field	IDOC Segment	IDOC Field
shipmentNo	E1EHPCP	YN_SHP_NO
serviceAgentLbnld	E1EHPCP	YN_SHP_SA_LBN_ID
dangerousGoods	E1EHPCP	YN_SHP_CONTAIN_DGOODS
forwardingAgentTrackingId	E1EHPCP	YN_SHP_FA_TRACKING_ID
shippingType	E1EHPCP	YN_SHP_SHIPPING_TYPE
transportationMode	E1EHPCP	YN_SHP_TRANSPORTATION_MODE

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*

The screenshot displays the SAP Manage Model application interface. The top navigation bar includes the SAP logo, 'Model Details', and 'Internal - Test'. The main header shows 'sof' with an 'Active' status and buttons for 'Edit' and 'Draft View'. The 'IDOC Integration' tab is selected, showing a configuration for the 'DeliveryItem' tracked process. The 'Integration Switch' is turned 'ON'. Below, the 'Tracked Process Mapping' section shows the 'ERP Object Type' as 'Others' and the 'Application Object Type' as 'ZGTT_DE_ACC_ITEM'. The 'Tracked Process / Events (4)' table lists 'DeliveryItemEvent' with IDOC 'EHPOST01' and 'Picking' with IDOC 'EVMSTA02'. The 'Fields' table maps 'quantity' to IDOC Segment 'E1EVMPAR' and IDOC Field 'QUANTITY'. Red boxes highlight the 'Picking' event type and its corresponding field mapping.

Tracked Process / Events (4)			Fields		
Name	IDOC	Event Code	Field	IDOC Segment	IDOC Field
Tracked Process					
DeliveryItemEvent	EHPOST01		quantity	E1EVMPAR	QUANTITY
Event Types					
Picking	EVMSTA02	PICKING			
Packing	EVMSTA02	PACKING			

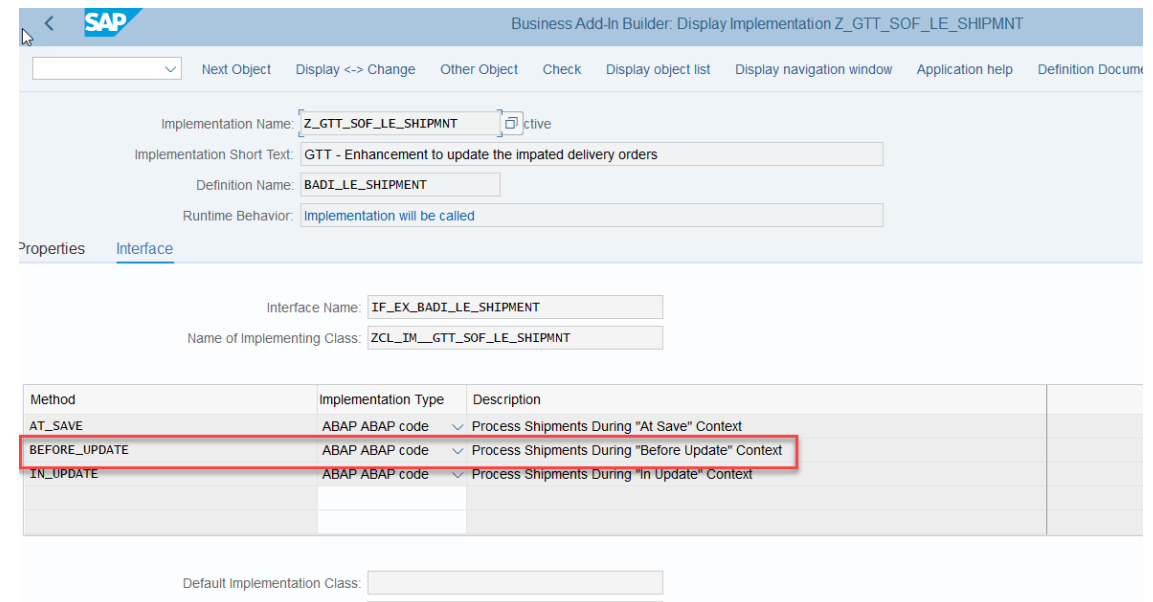
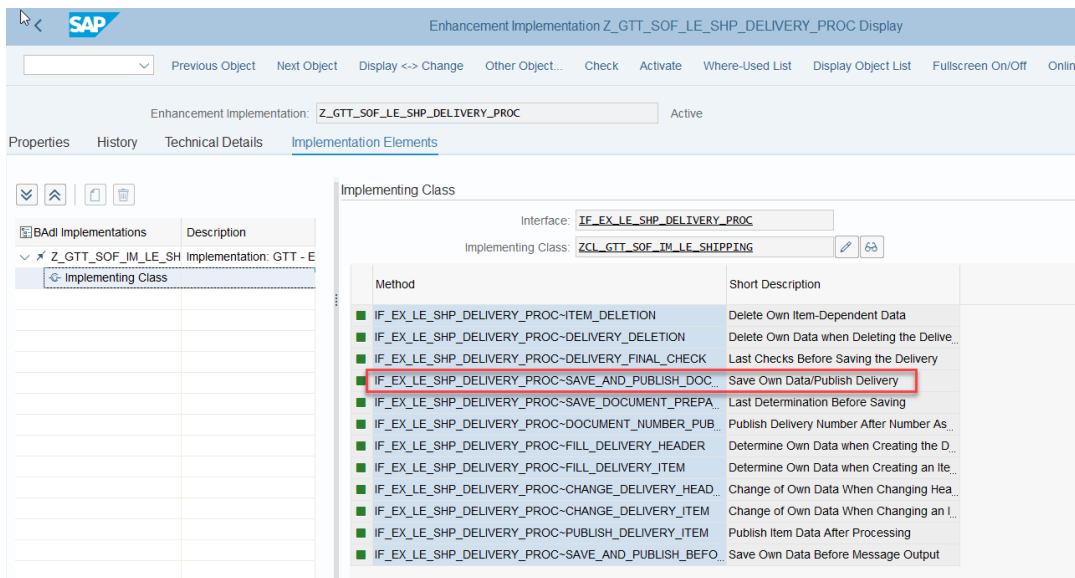
11: Enhancement codes for cross-processes tracking

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.

IMPORTANT: To enable cross-processes tracking, please update the below sample codes after downloading:

1. Replace your Sales Order Item AOT type name in Method *SAVE_AND_PUBLISH_DOCUMENT* of BADI implementation *Z_GTT_SOF_LE_SHP_DELIVERY_PROC*
2. Replace your Delivery AOT type name in Method *BEFORE_UPDATE* of BADI 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. If the event IDOC approaches GTT prior to the order IDOC, which will lead into processing failure.

This issue will be covered in short future.

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