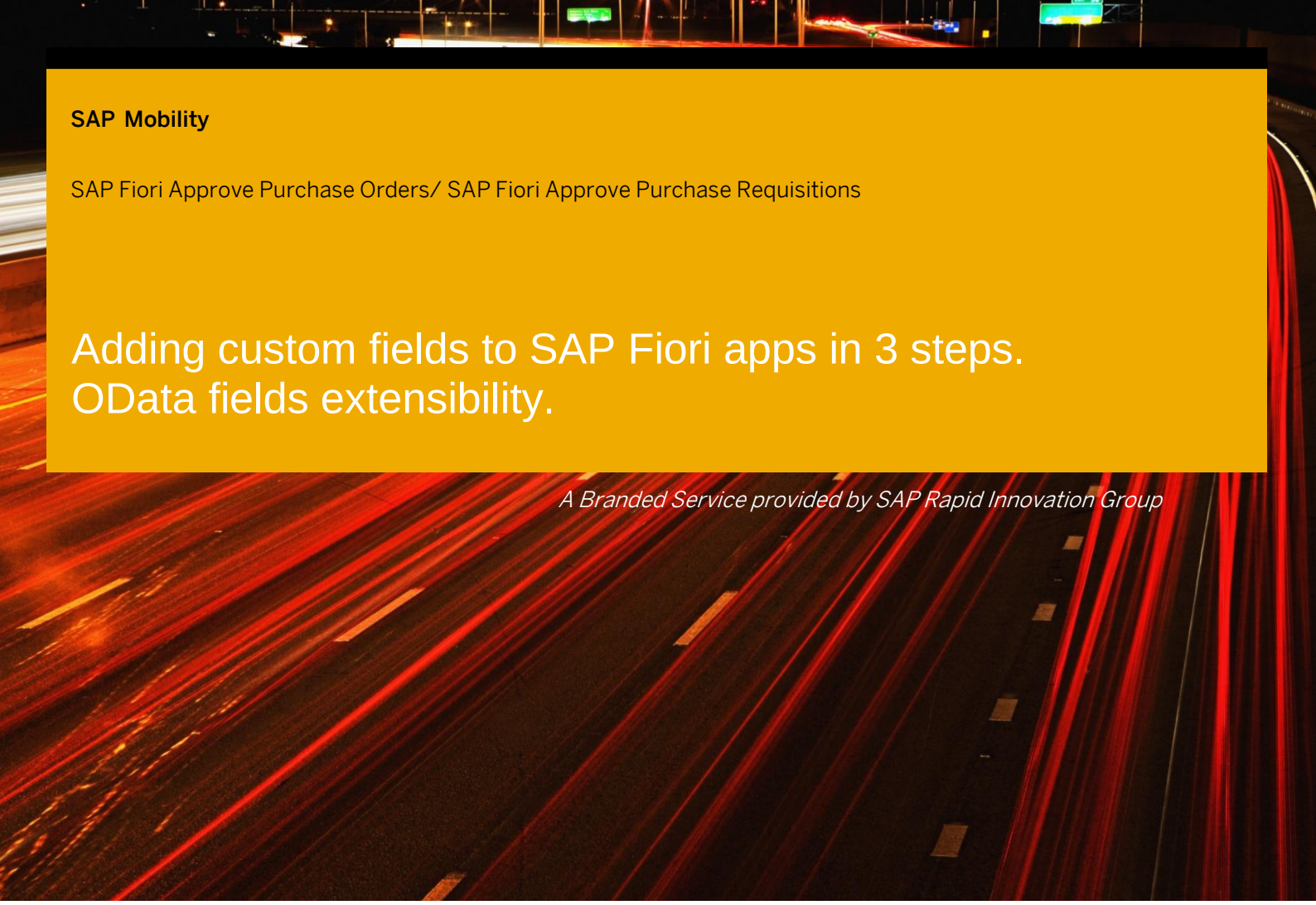

SAP Mobility

SAP Fiori Approve Purchase Orders/ SAP Fiori Approve Purchase Requisitions

Adding custom fields to SAP Fiori apps in 3 steps. OData fields extensibility.

A Branded Service provided by SAP Rapid Innovation Group

Applicable Releases:

SAP Fiori Approve Purchase Orders 1.0

SAP Fiori Approve Purchase Requisitions 1.0

SAP NetWeaver Gateway 2.0 SP 06

Version 1

June 2013

The Best-Run Businesses Run SAP™

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The Best-Run Businesses Run SAP™

Document History

Document Version	Description
1	The first release version

Typographic Conventions

Type Style	Description
Example Text	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Cross-references to other documentation
Example text	Emphasized words or phrases in body text, graphic titles, and table titles
Example text	File and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
Example text	User entry texts. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example text>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE TEXT	Keys on the keyboard, for example, F2 or ENTER.

Icons

Icon	Description
	Caution
	Note or Important
	Example
	Recommendation or Tip

Table of Contents

1. Business scenario 1

1.1 Sample scenario 1

1.2 Prerequisites 1

2. Architecture 2

2.1 Overview 2

2.2 Test OData services [Gateway] 3

3. Implementation 6

3.1 Step 1 . Extend the OData Entity in the GW Model Provider by implementing BAdI [ERP] 6

3.2 Step 2 . Extend the corresponding ABAP DDIC Structure by Append Structure [ERP] 6

3.3 Step 3. Fill data to the custom fields in the GW Data Provider by implementing BADI [ERP] 12

4. Test the OData service 17

4.1 Check the OData service - Before 17

4.2 Clear the Cache 17

4.3 Test the OData service - after 17

4.4 UI extensibility 18

1. Business scenario

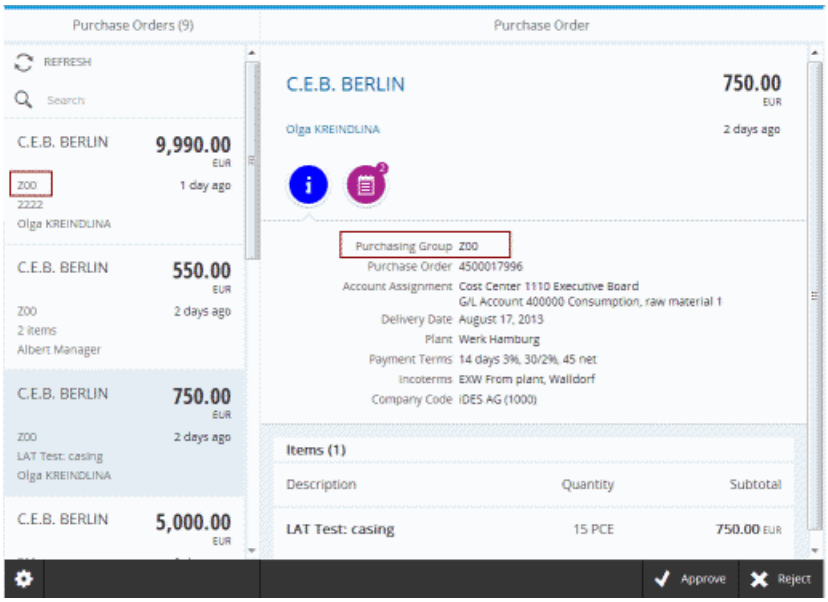
Adding custom fields in SAP Fiori apps UI is common requirement from customers. Customers have custom fields in ERP backend applications. You are a consultant to enable those customer fields in SAP Fiori apps.

There are 2 how to guides for adding custom fields.

- Part 1: Adding custom fields to SAP Fiori apps in 3 steps. OData fields extensibility.
- Part 2: Adding custom fields to SAP Fiori apps. UI fields extensibility.

1.1 Sample scenario

In this How to Guide we will show you how to add the “Purchasing Group” field in SAP Fiori Approve Purchase Orders.



Implementation steps are in 3 steps.

1. Extend the corresponding ABAP DDIC Structure by Append Structure
2. Extend the OData Entity in the GW Model Provider by implementing BADI
3. Fill data to the custom fields in the GW Data Provider by implementing BADI

Steps are also same for SAP Fiori Approve Purchase Requisitions.

Note: The standard delivered BADI is different in each app. Please look at the Installation and Configuration Guide in the http://help.sap.com/fiori and also look at details in the transaction SE18 and SE80

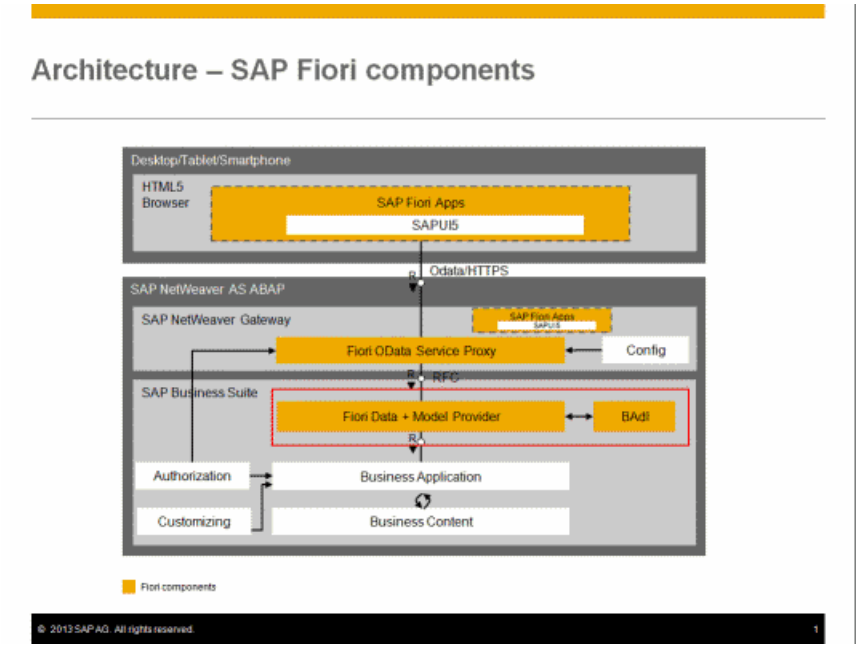
1.2 Prerequisites

- SAP Fiori Approve Purchase Order is up and running.
- You have ABAP programming knowledge.

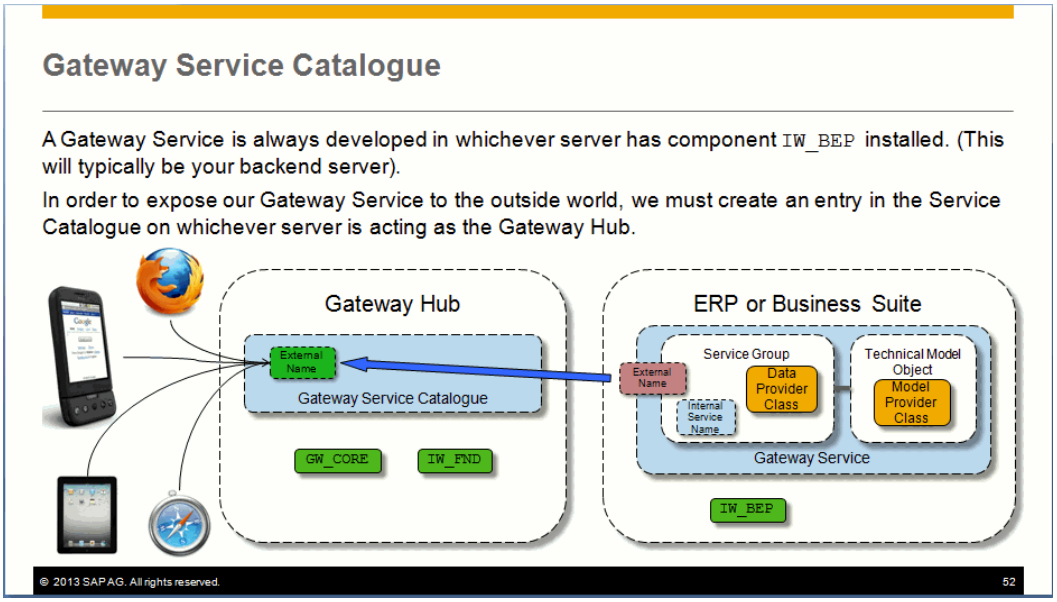
2. Architecture

2.1 Overview

The OData components are installed on SAP Business Suite backend.



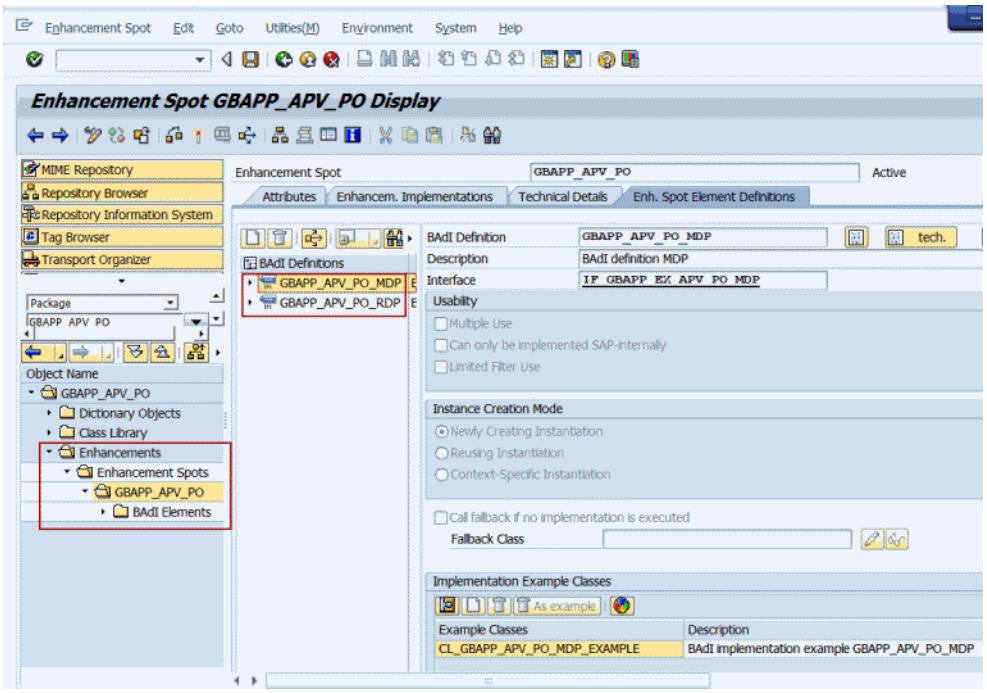
It has Model Provider Class and Data Provider Class and methods have enhancement spots which call BAdI (Business Add In) implementations.



You can check the enhancement details in SE80 or SE18.

Transaction: SE80

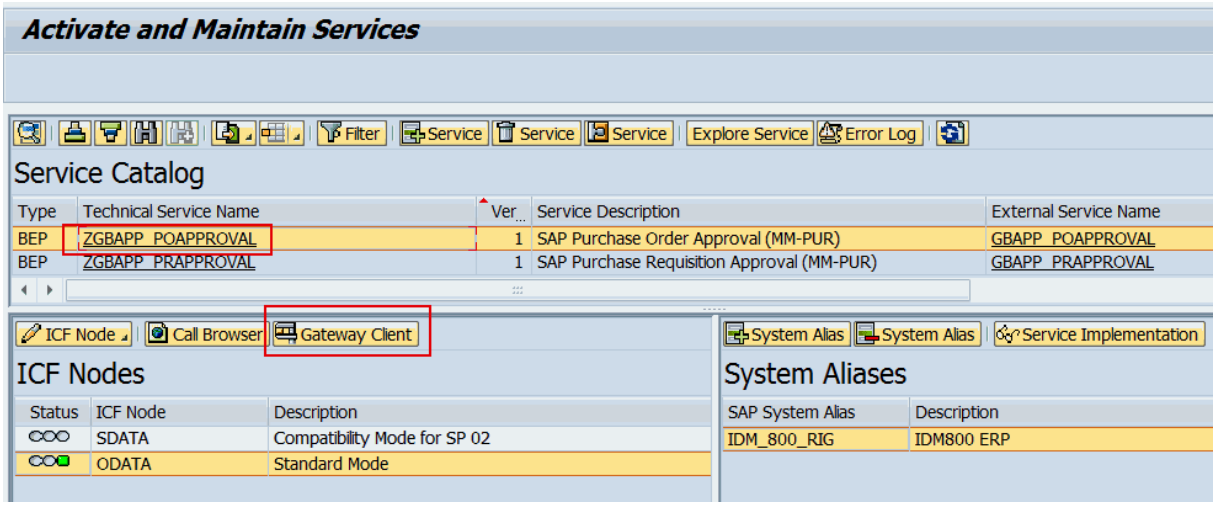
Package: GBAPP_APV_PO



2.2 Test OData services [Gateway]

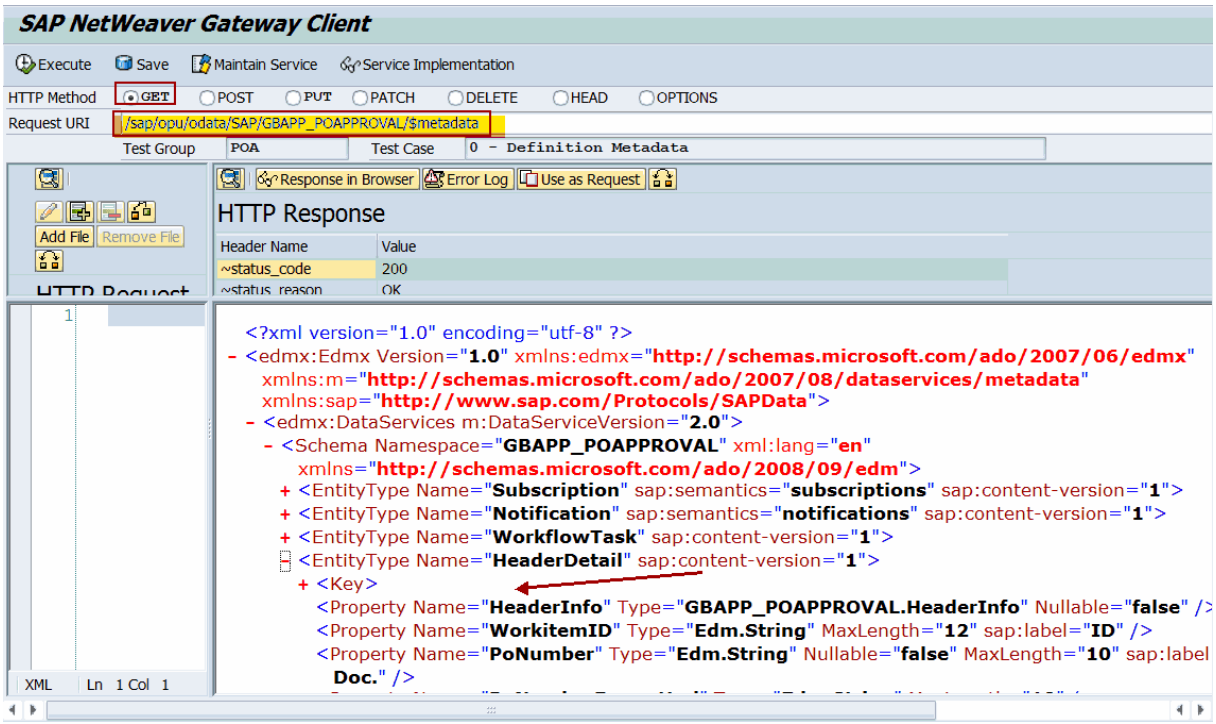
1. Logon to NetWeaver Gateway system and call transaction /IWFND/MAINT_SERVICE. Logon user should be the approver who has workitems for approving Purchase Orders. Test OData using Gateway Client tool.

   Transaction: /IWFND/MAINT_SERVICE



2. Test the **$metadata**.

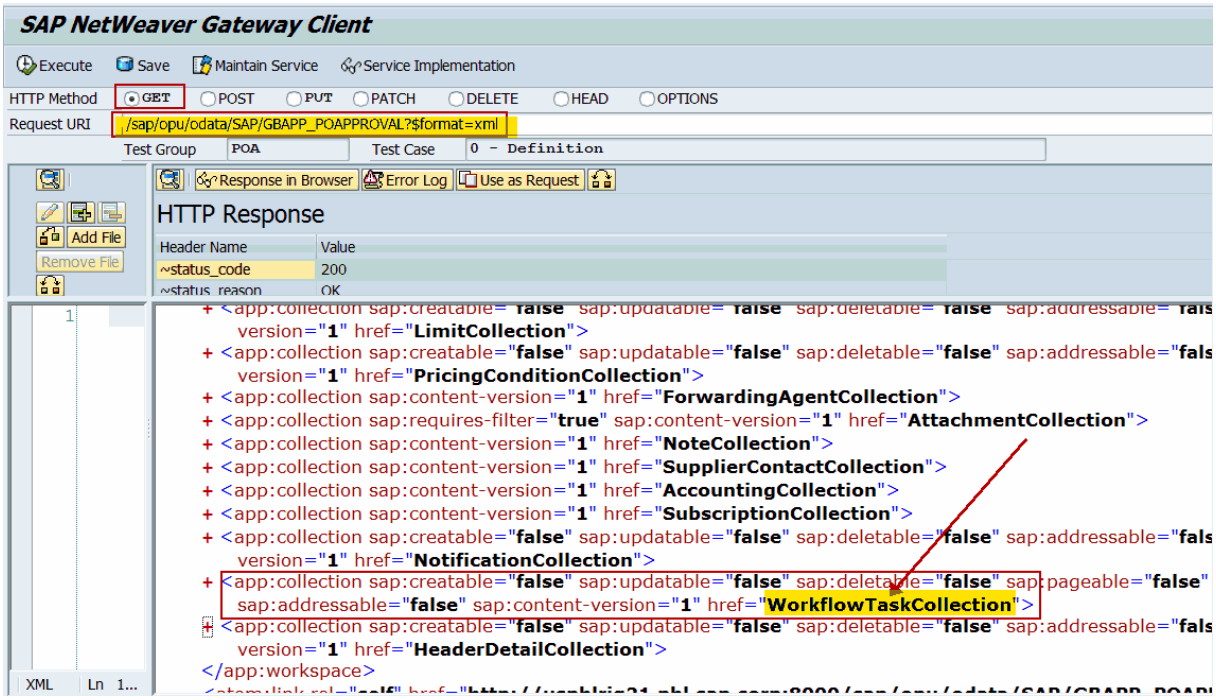
   /sap/opu/OData/SAP/GBAPP_POAPPROVAL/$metadata



There is no Property for “Purchasing Group” in Header detail.

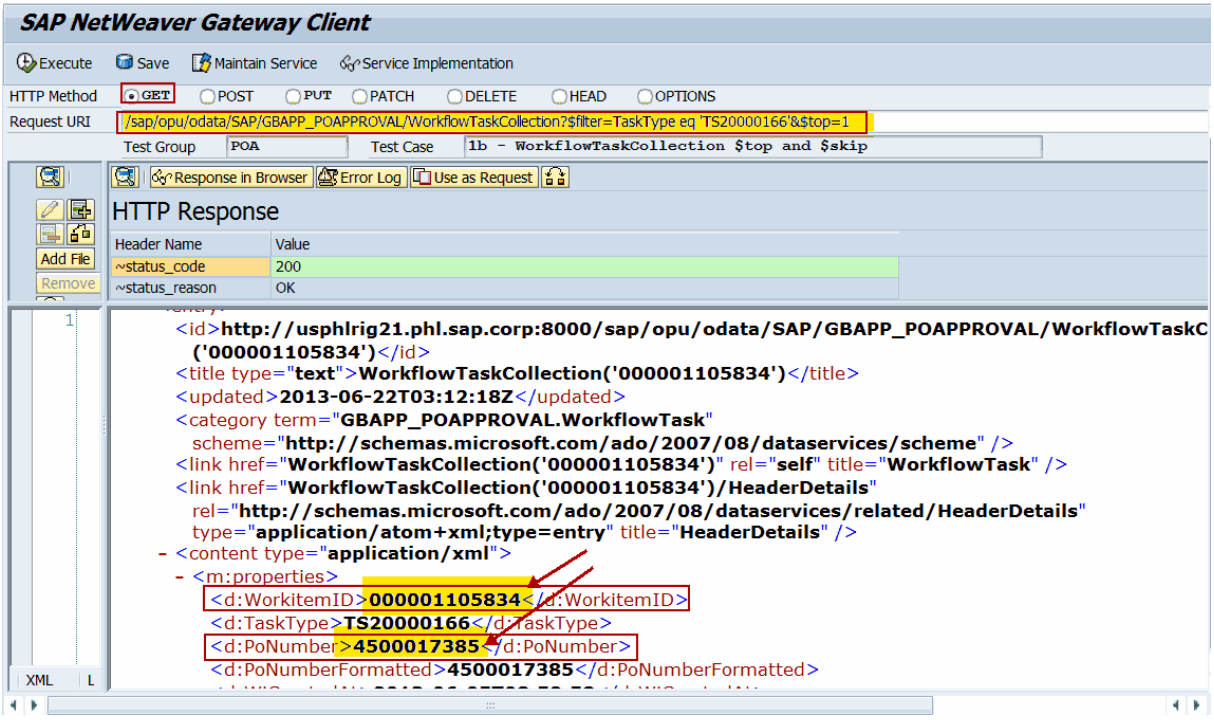
3. Test the OData service and check collections.

   /sap/opu/OData/SAP/GBAPP_POAPPROVAL?$format=xml

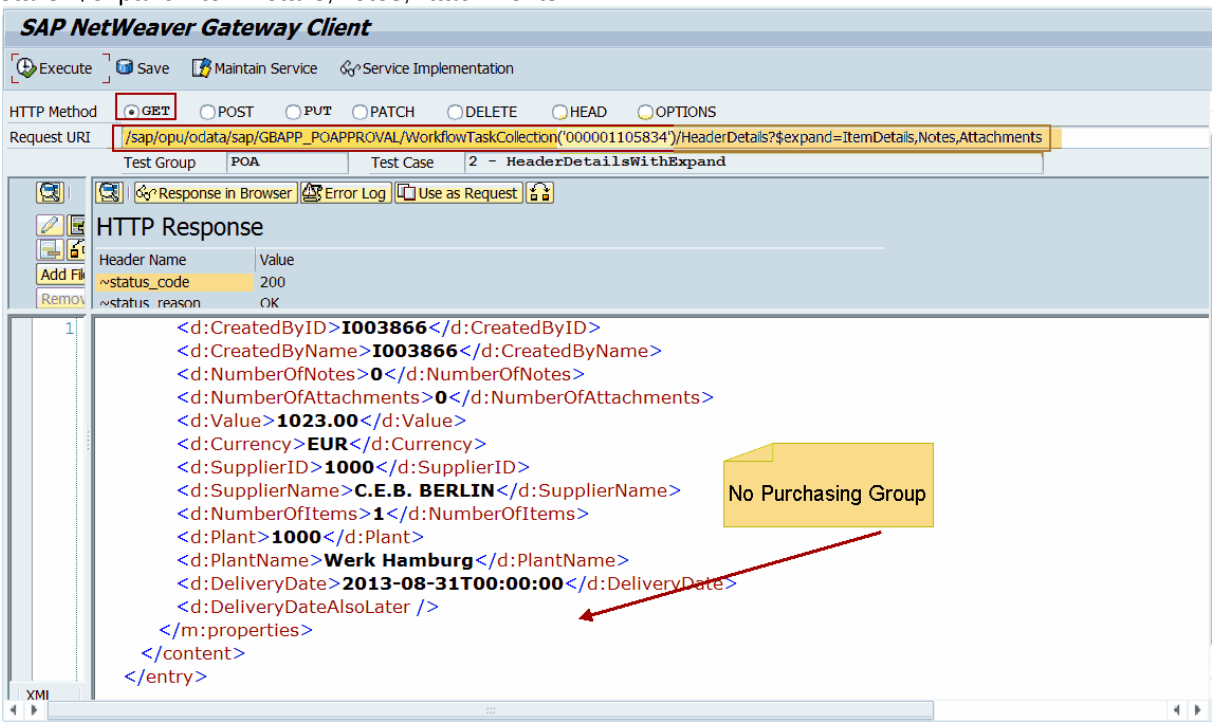


4. Get a workitem ID

   /sap/opu/OData/SAP/GBAPP_POAPPROVAL/WorkflowTaskCollection?$filter=TaskType eq 'TS20000166'&$top=1



5. Get the Purchase Order detail /sap/opu/OData/sap/GBAPP_POAPPROVAL/WorkflowTaskCollection('000001105834')/HeaderDetails?$expand=ItemDetails,Notes,Attachments



At the end of this How to Guide, you see Purchasing Group data in here. It means the OData service provides Purchasing Group value and HTML5 UI can consume it.

3. Implementation

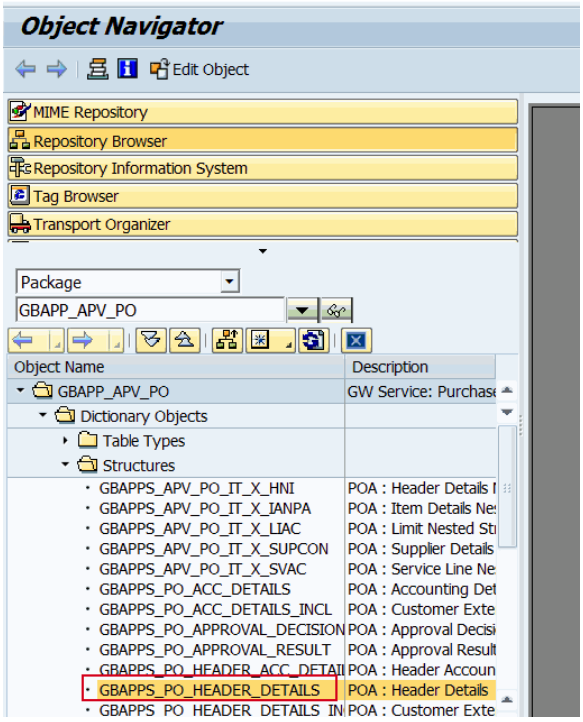
3.1 Step 1 . Extend the corresponding ABAP DDIC Structure by Append Structure [ERP]

In the step 1 , you are going to add the field „Purchasing Group“ in the structure of entity.

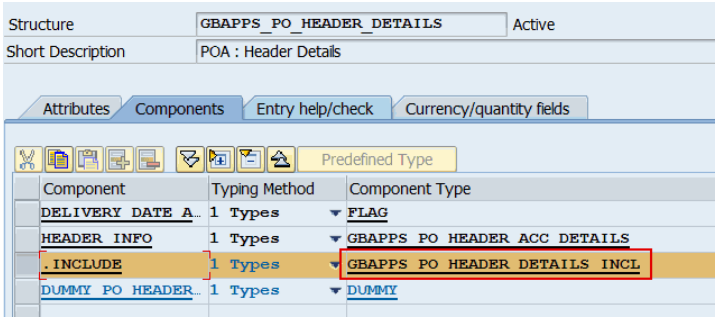
1. Open the structure

   Transaction: SE80

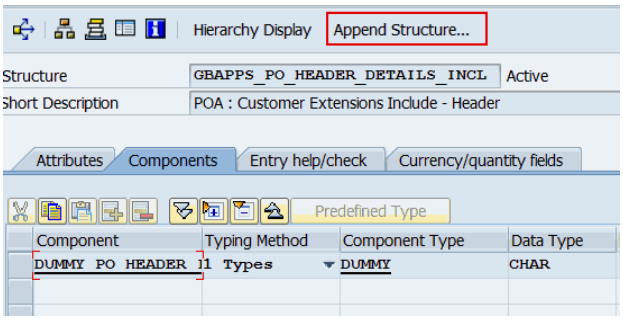
   Structure: GBAPPS_PO_HEADER_DETAILS and GBAPPS_PO_WORKFLOW_TASK



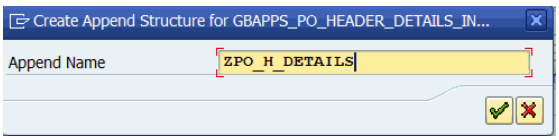
2. Double click the include GBAPPS_PO_HEADER_DETAILS_INCL.



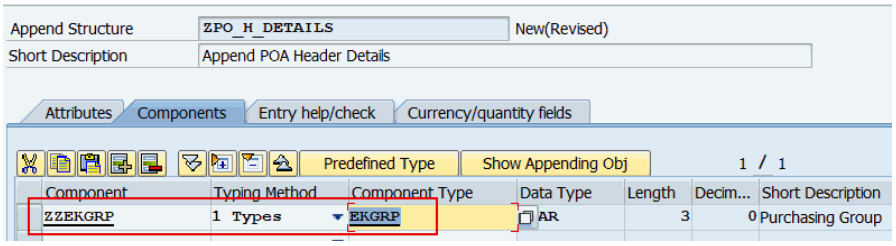
3. Select the „Append Structure...“ button.



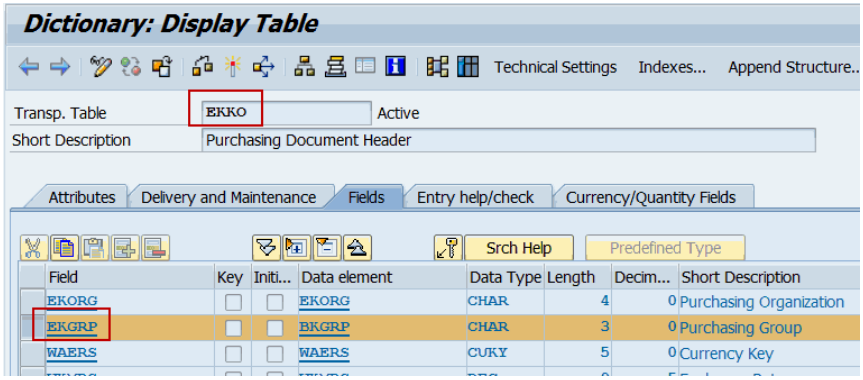
4. Enter the Append name. For example ZPO_H_DETAILS..



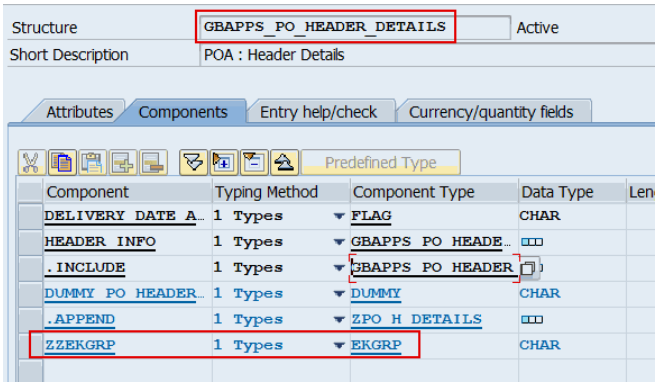
5. Add field. For example ZZEKGRP.



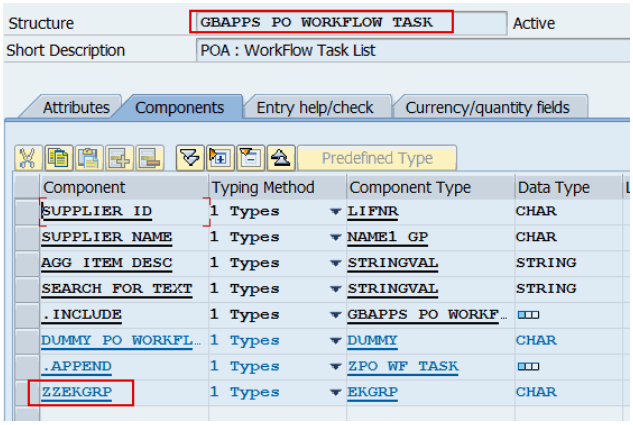
Information only: Purchasing Group field „EKGRP“ is in the table „EKKO“.



6. Activate the Append Structure. You should see the ZZEKGRP in the Structure GBAPPS_PO_HEADER_DETAILS.



7. Repeat same steps for GBAPPS_PO_WORKFLOW_TASK structure. There is include GBAPPS_PO_WORKFLOW_TASK_INCL.



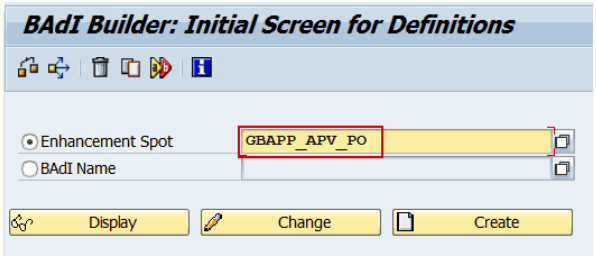
3.2 Step 2 . Extend the OData Entity in the GW Model Provider by implementing BAdI [ERP]

In the step 2, you are going to implement a BAdI method which adds “Purchasing Group” property in the Model Provider class.

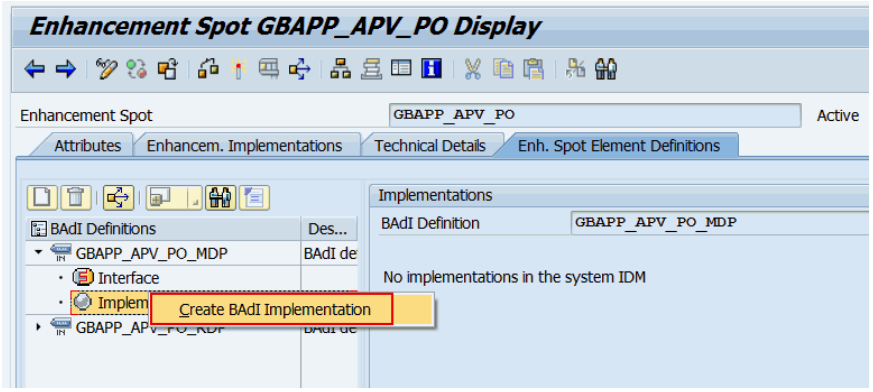
8. Display Enhancement Spot

   Transaction: SE18

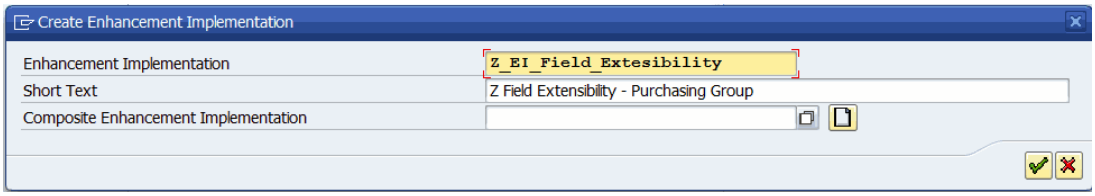
   Enhancement Spot: GBAPP_APV_PO



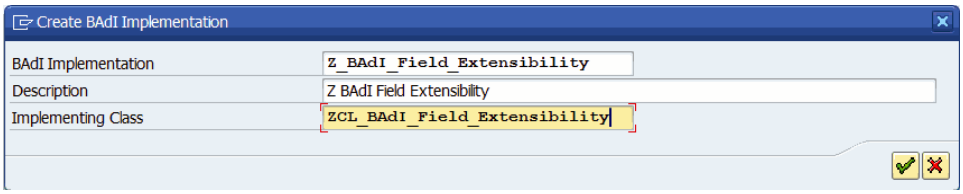
9. Right click on Implementations and select “Create BAdI Implementation”.



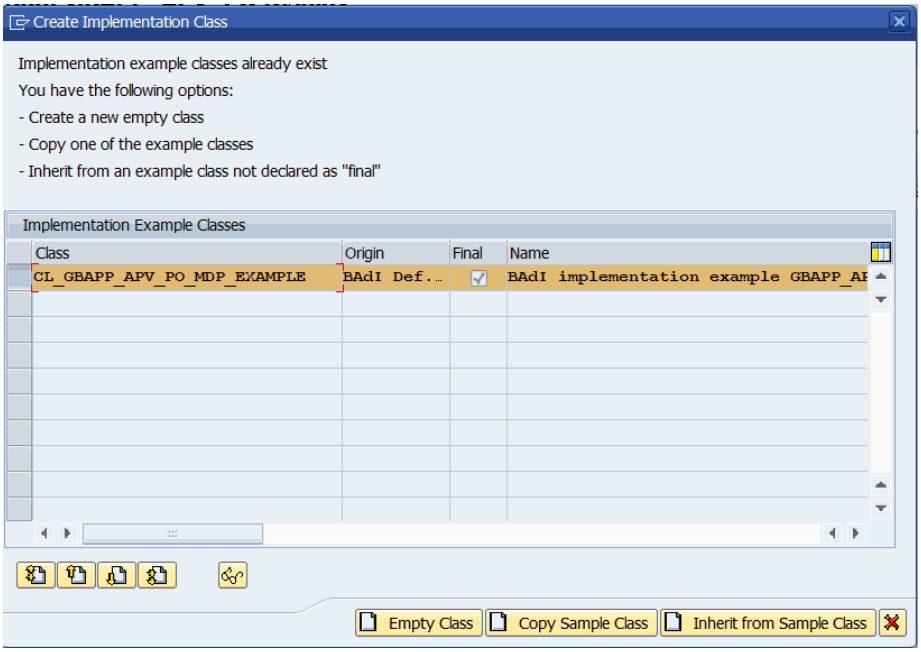
10. Type Enhancement Implementation name



11. Type BAdI Implementation name

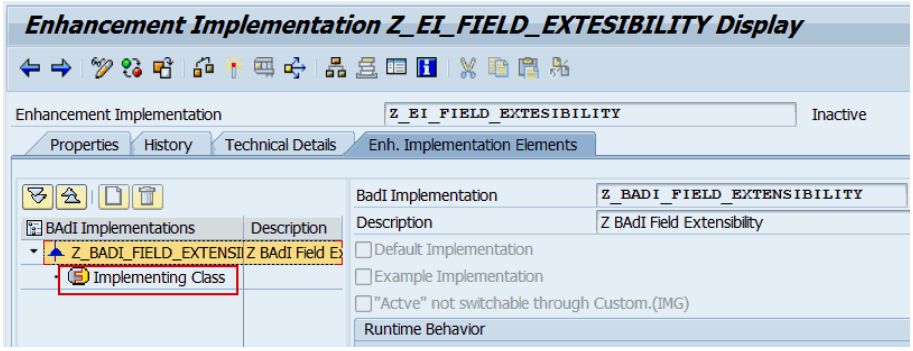


You have option for copying the sample class. In this guide, we copy the sample class.

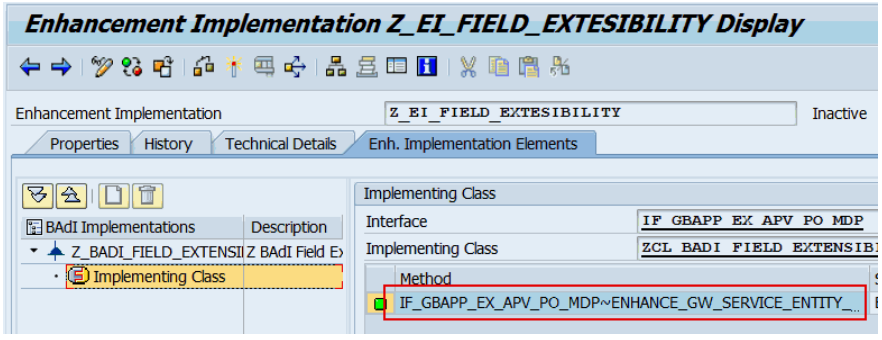


12. Implement the DAdI

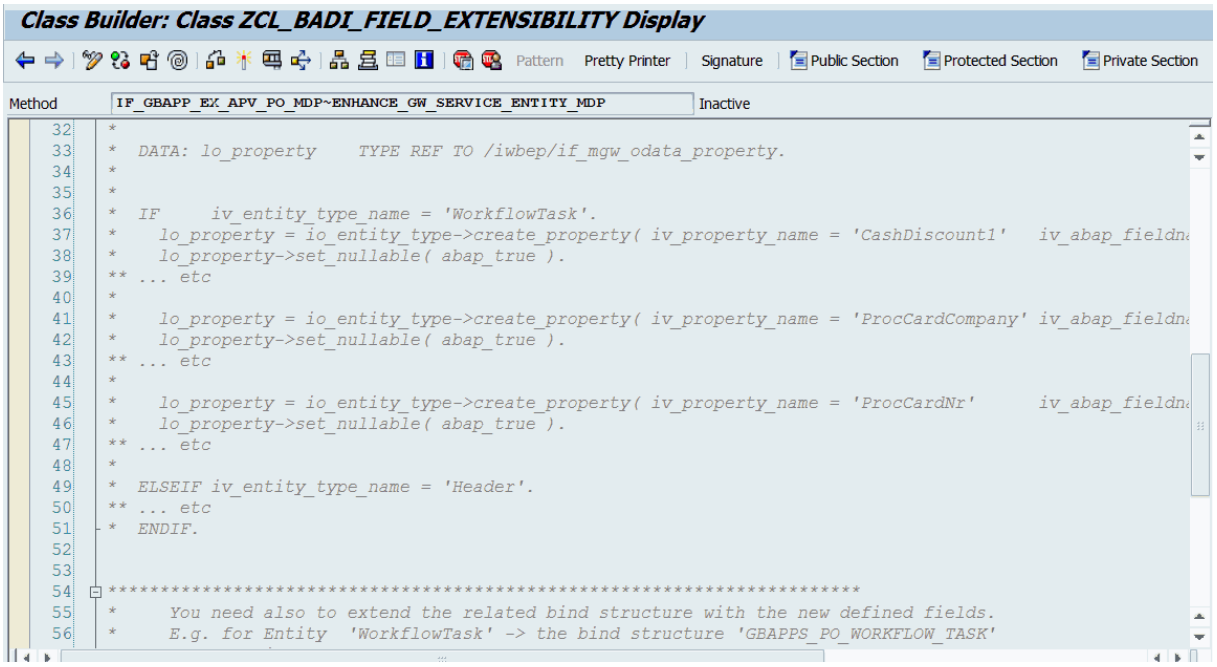
Double click the Implementing Class.



Double click the method.

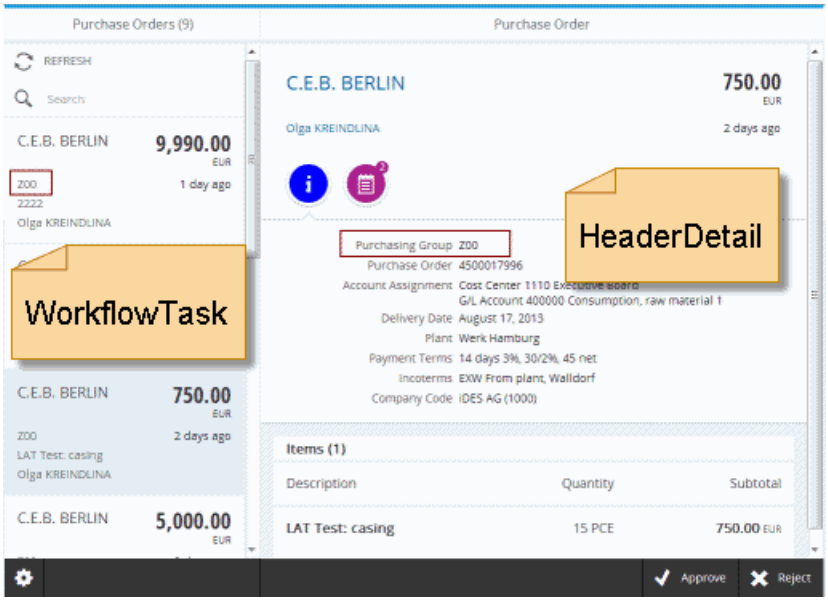


You see the sample code with comments.

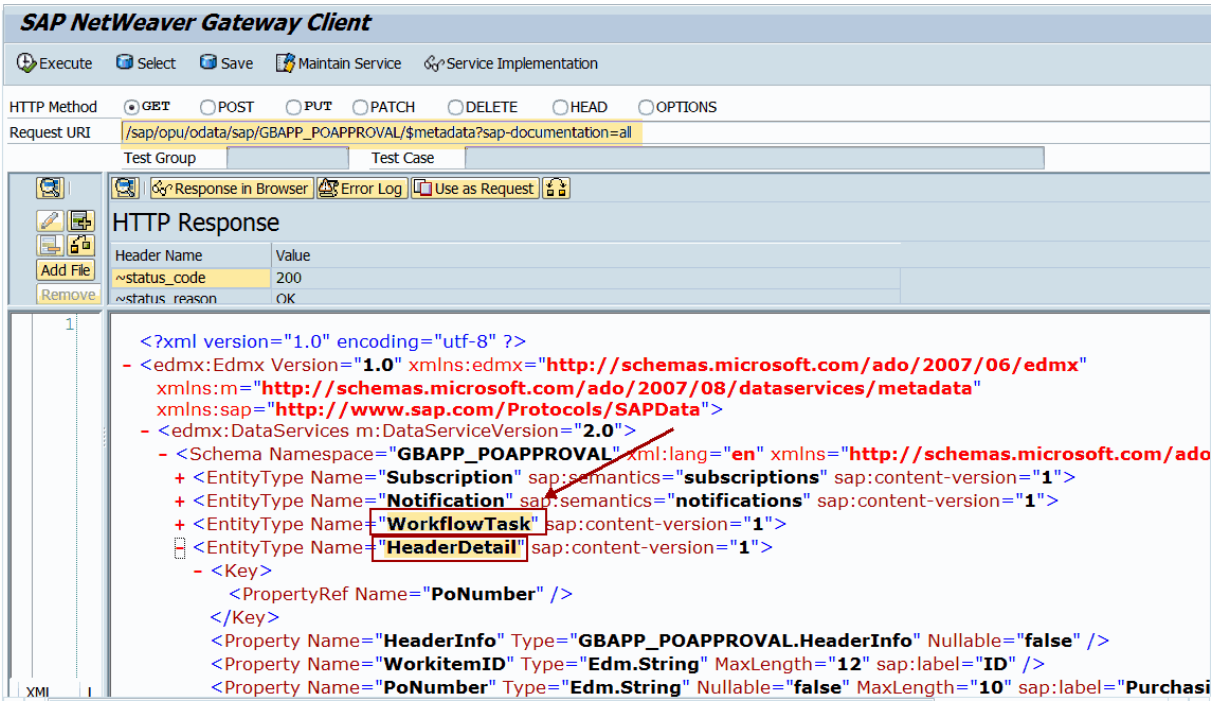


13. Go to change mode and add “ZPurchasingGroup” property in both entity “WorkflowTask” and “HeaderDetail”.

    The UI screenshot helps you to understand why you handle 2 entity types.

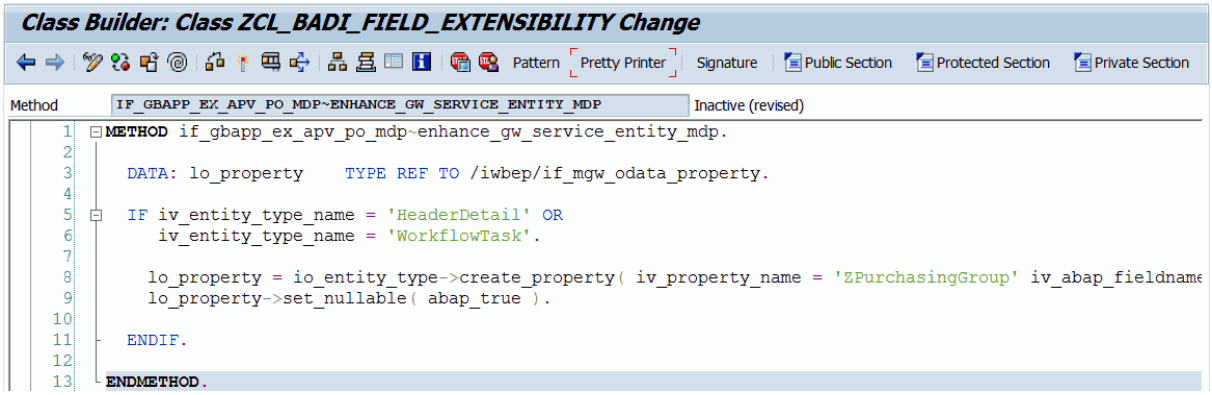


Remember that you have looked at the meta deta definition in the section 2.2.



Program Code:

```
METHOD if_gbapp_ex_apv_po_mdp~enhance_gw_service_entity_mdp.

  DATA: lo_property    TYPE REF TO /iwbep/if_mgw_OData_property.

  IF iv_entity_type_name = 'HeaderDetail' OR
     iv_entity_type_name = 'WorkflowTask'.

    lo_property = io_entity_type-
>create_property( iv_property_name = 'ZPurchasingGroup' iv_abap_fieldname = 'ZZEKGRP' ).
    lo_property->set_nullable( abap_true ).

  ENDIF.

ENDMETHOD.
```



14. Activate the method.

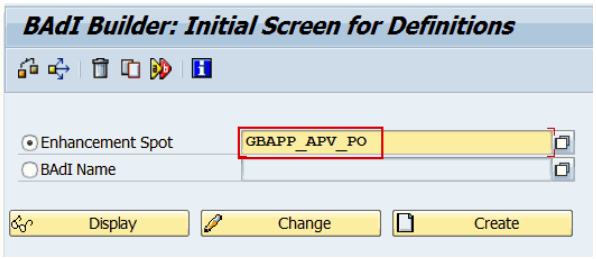
3.3 Step 3. Fill data to the custom fields in the GW Data Provider by implementing BADI [ERP]

In the step 3, you are going to implement a BAdI method which fills “Purchasing Group” value in the Data Provider class.

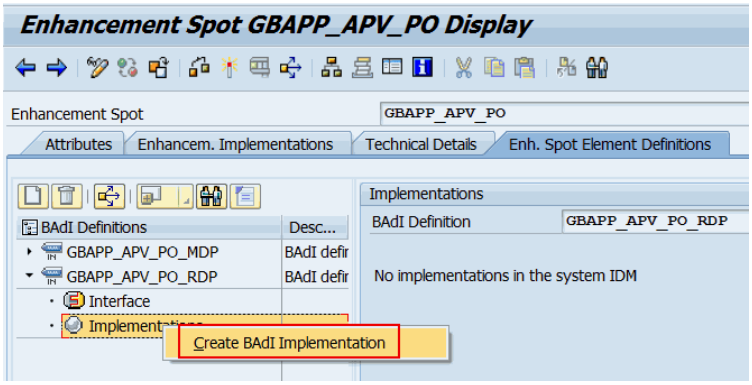
1. Open the Enhancement Spot.

   Transaction: SE18

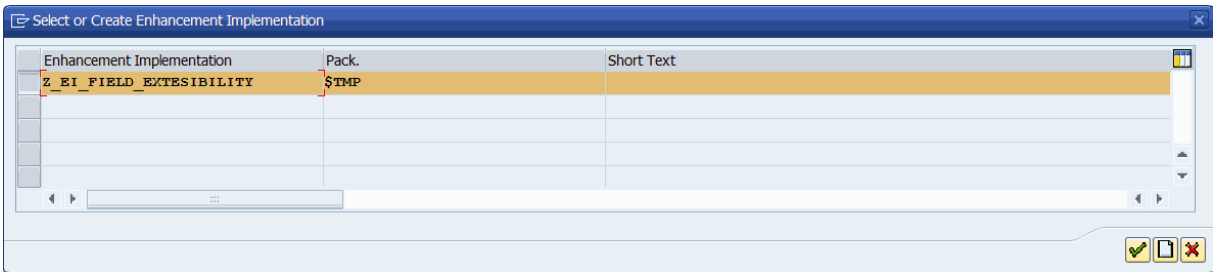
   Enhancement Spot: GBAPP_APV_PO



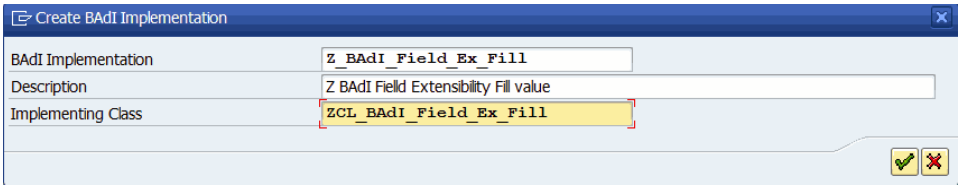
2. Right click on Implementations and select “Create BAdI Implementation”.



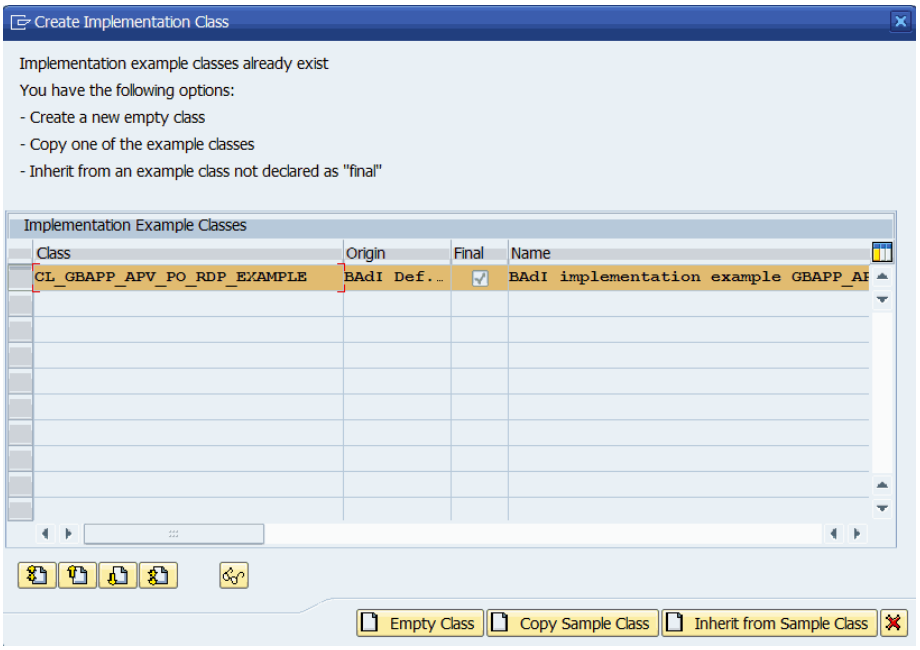
3. You can use same Enhancement Implementation created in the step 1.



4. Type BAdI Implementation name

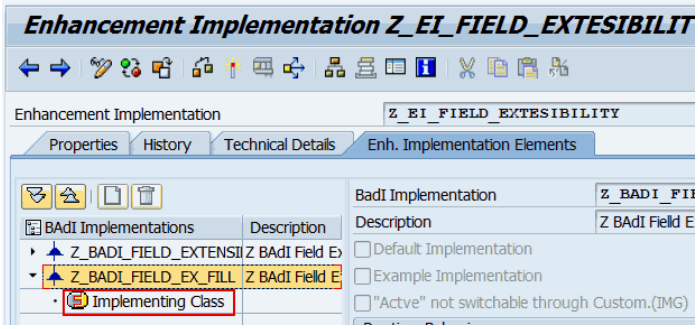


You have option for copying the sample class. In this guide, we copy the sample class.

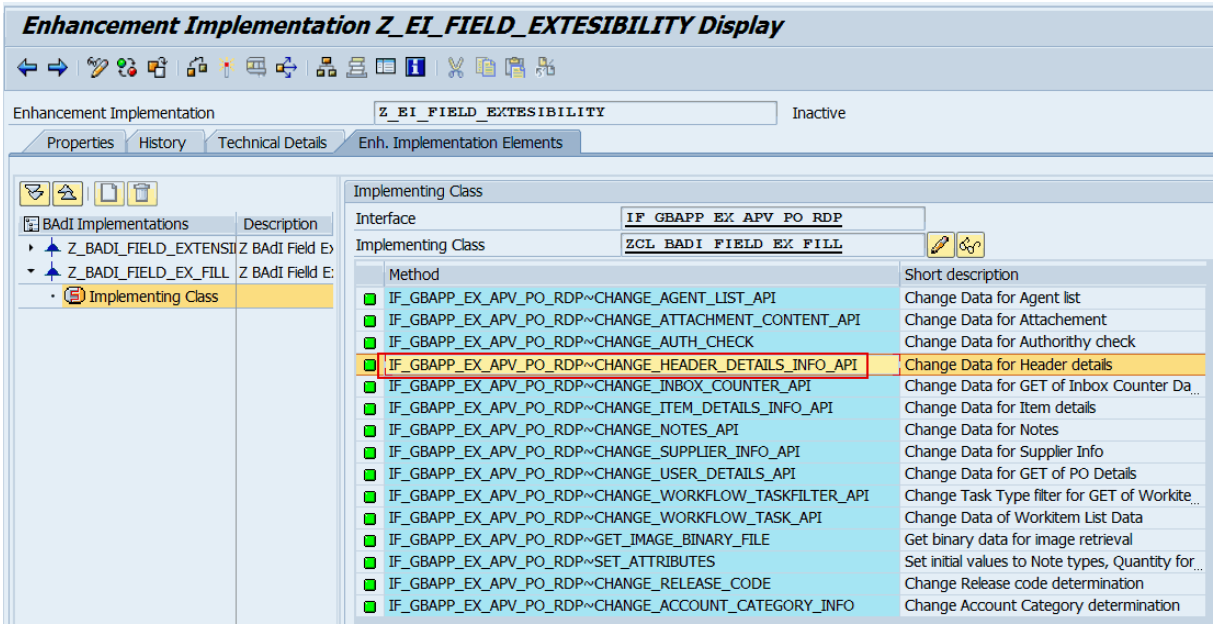


5. Implement the BAdI

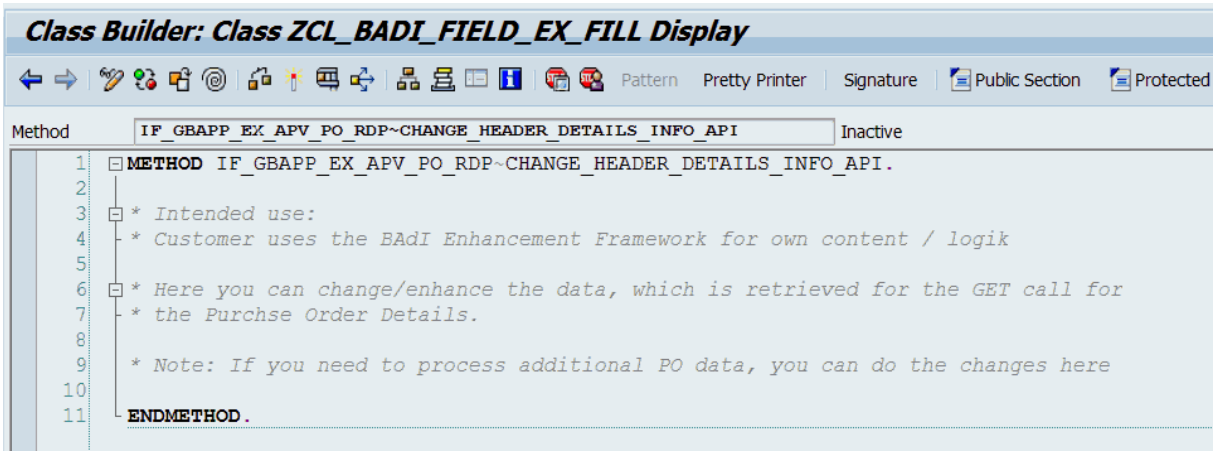
   Double click the Implementing Class.



Double click the method CHANGE_HEADER_DETAILS_INFO_API.

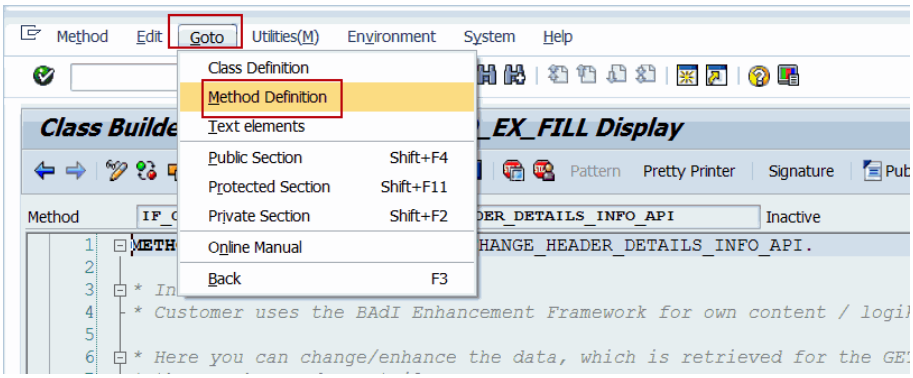


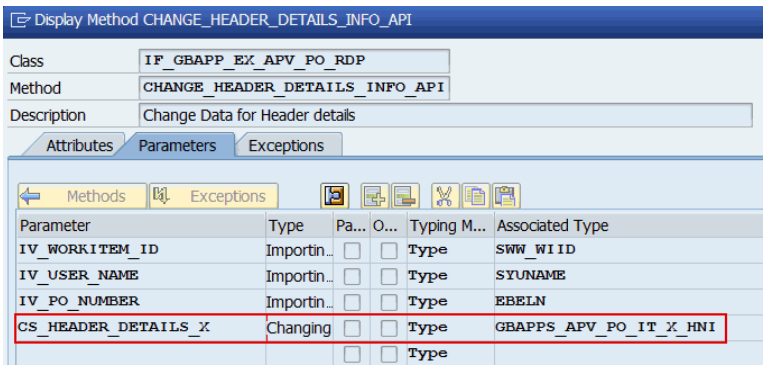
You see the sample code with comments.



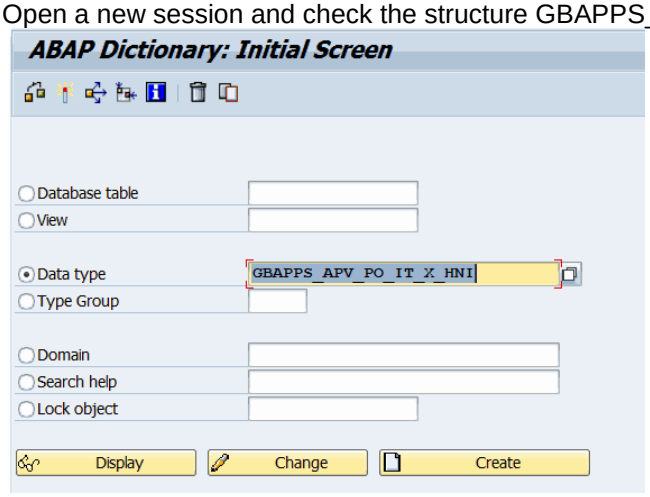
6. Check the Method definition and find the field you have to fill the value.

Select the menu Goto -> Method Definition.

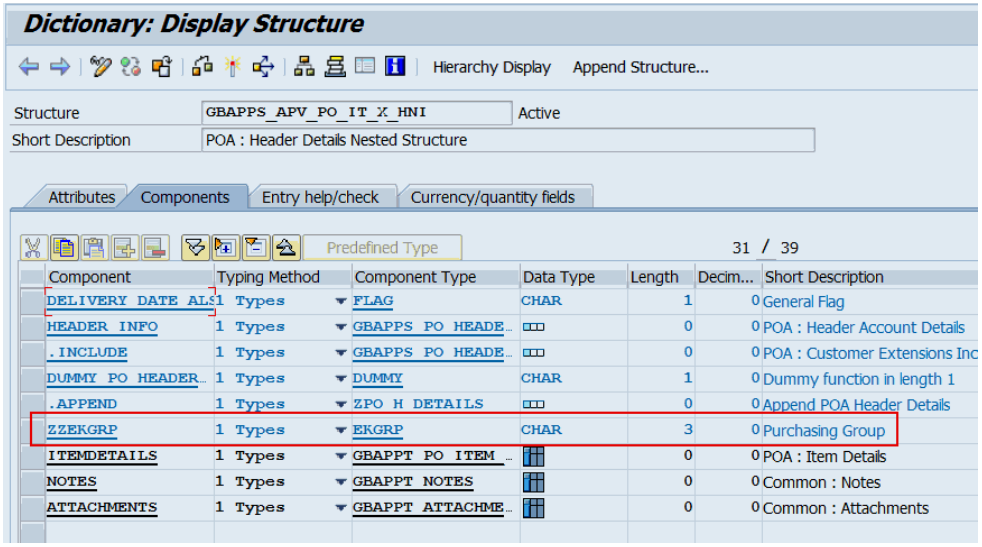




7. Open a new session and check the structure GBAPPS_APV_PO_IT_X

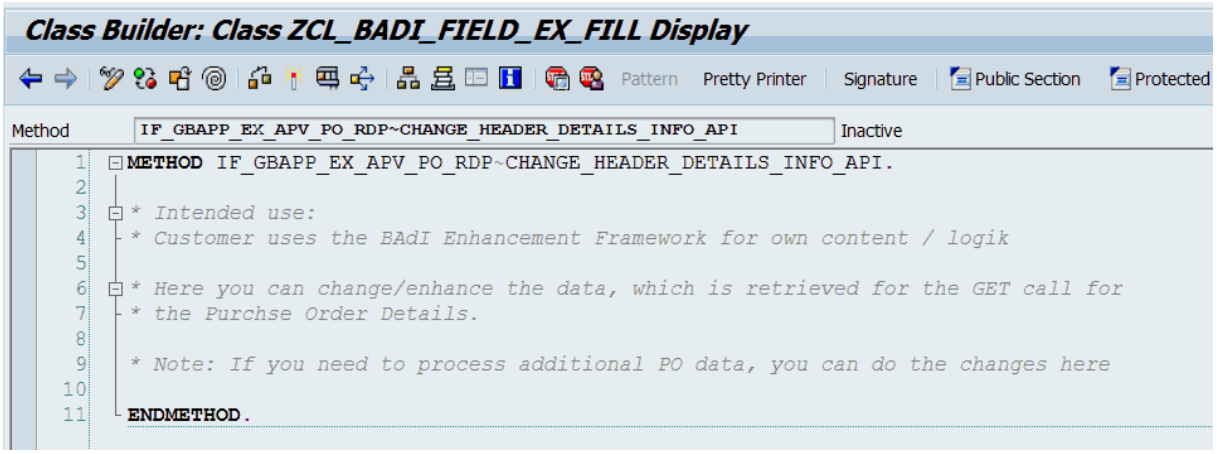


ZZEKGRP is there.



You have to fill the Purchasing Group value to the cs_header_details_x-zzekgrp.

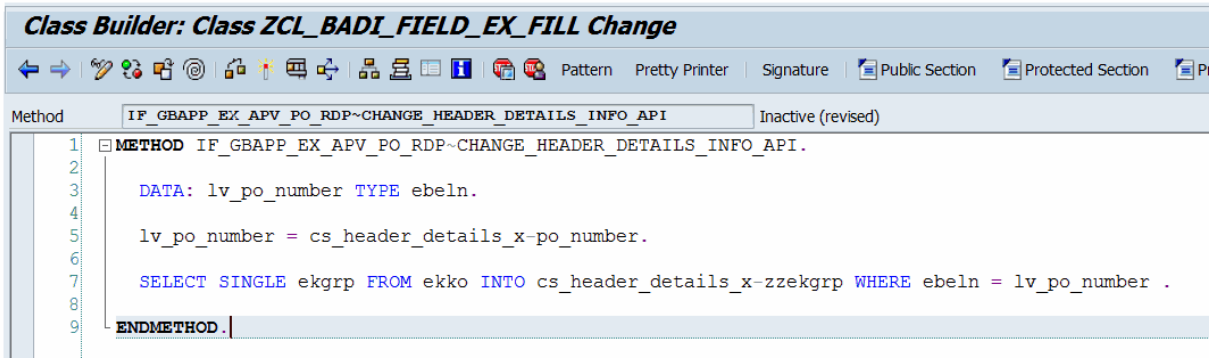
8. Go back to the original session.



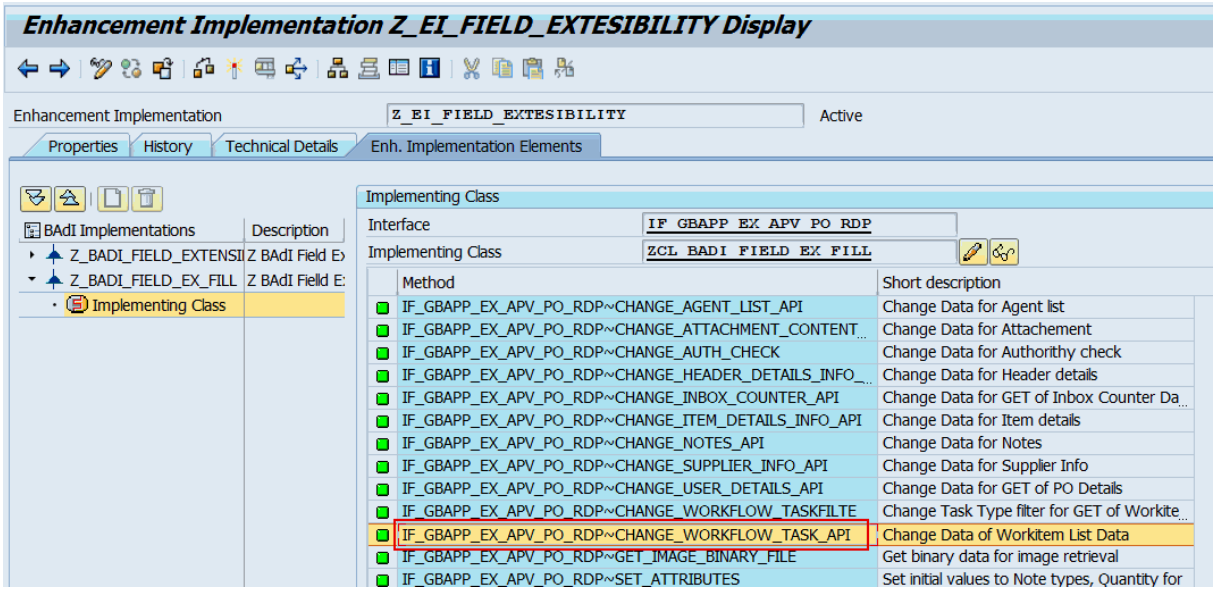
9. Switch to change mode and implement the code.

Program Code:

```
METHOD if_gbapp_ex_apv_po_rdp~change_header_details_info_api.

  DATA: lv_po_number TYPE ebeln.

  lv_po_number = cs_header_details_x-po_number.

  SELECT SINGLE ekgrp FROM ekko INTO cs_header_details_x-
zzekgrp WHERE ebeln = lv_po_number .

ENDMETHOD..
```



10. Activate the method. Status should be Active.
11. Repeat same step for CHANGE_WORKFLOW_TASK_API method.



Program Code:

```
METHOD IF_GBAPP_EX_APV_PO_RDP~CHANGE_WORKFLOW_TASK_API.

  DATA: lv_po_number TYPE ebeln.
  FIELD-SYMBOLS: <ls_workflow_list> TYPE GBAPPS_PO_WORKFLOW_TASK.

  LOOP AT CT_WORKFLOW_LIST ASSIGNING <ls_workflow_list>.
    lv_po_number = <ls_workflow_list>-po_number.
    SELECT SINGLE ekgrp FROM ekko INTO <ls_workflow_list>-
zzekgrp WHERE ebeln = lv_po_number .
  ENDLOOP.

ENDMETHOD..
```

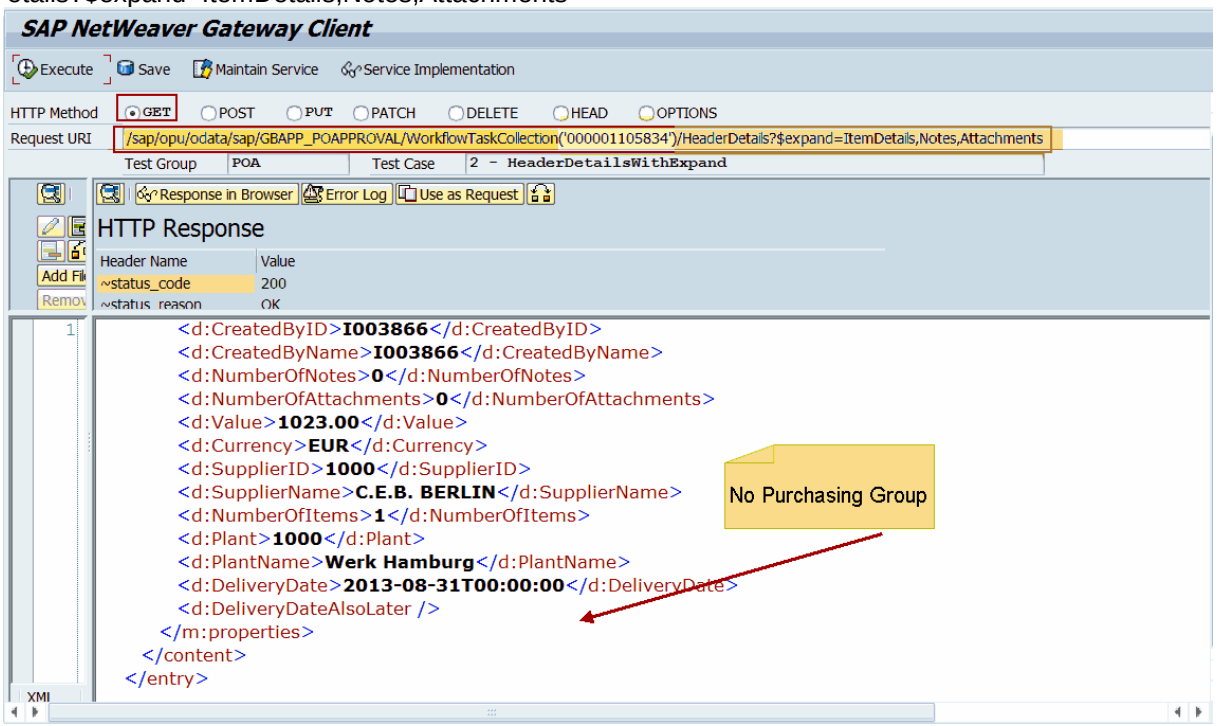
---

4. Test the OData service

Before implementing 3 steps, there was nOData for Purchasing Group.

4.1 Check the OData service - Before

Get the Purchase Order detail
/sap/opu/OData/sap/GBAPP_POAPPROVAL/WorkflowTaskCollection('000001105834')/HeaderDetails?$expand=ItemDetails,Notes,Attachments

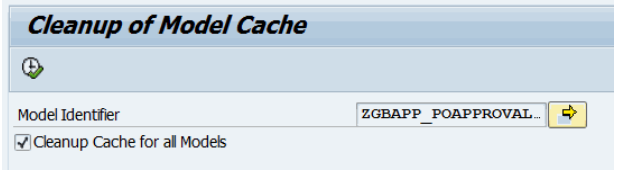


There was no Purchasing Group in the end of xml.

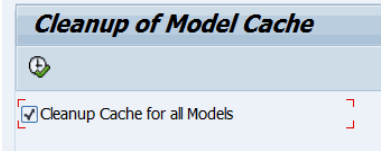
4.2 Clear the Cache

When you changed the Model, you have to clear Gateway cache in both Gateway and ERP backend.

Transaction: **/IWFND/CACHE_CLEANUP** on Gateway server

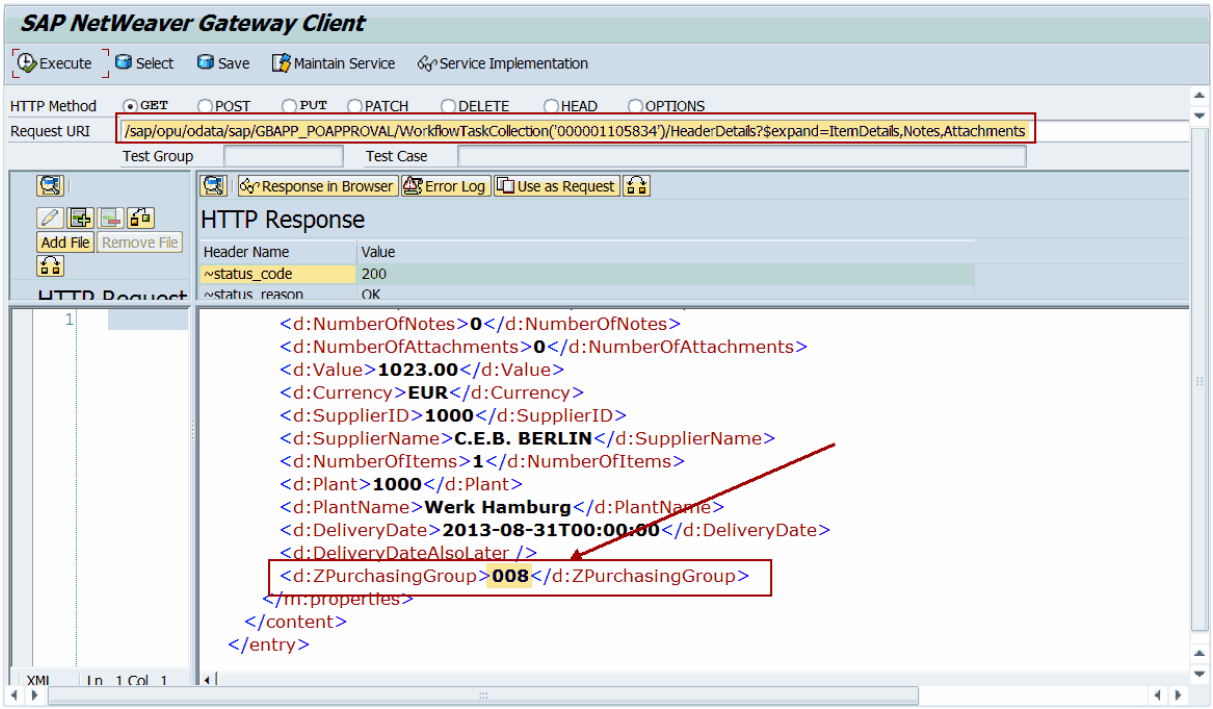


Transaction: **/IWBEP/CACHE_CLEANUP** on ERP Server

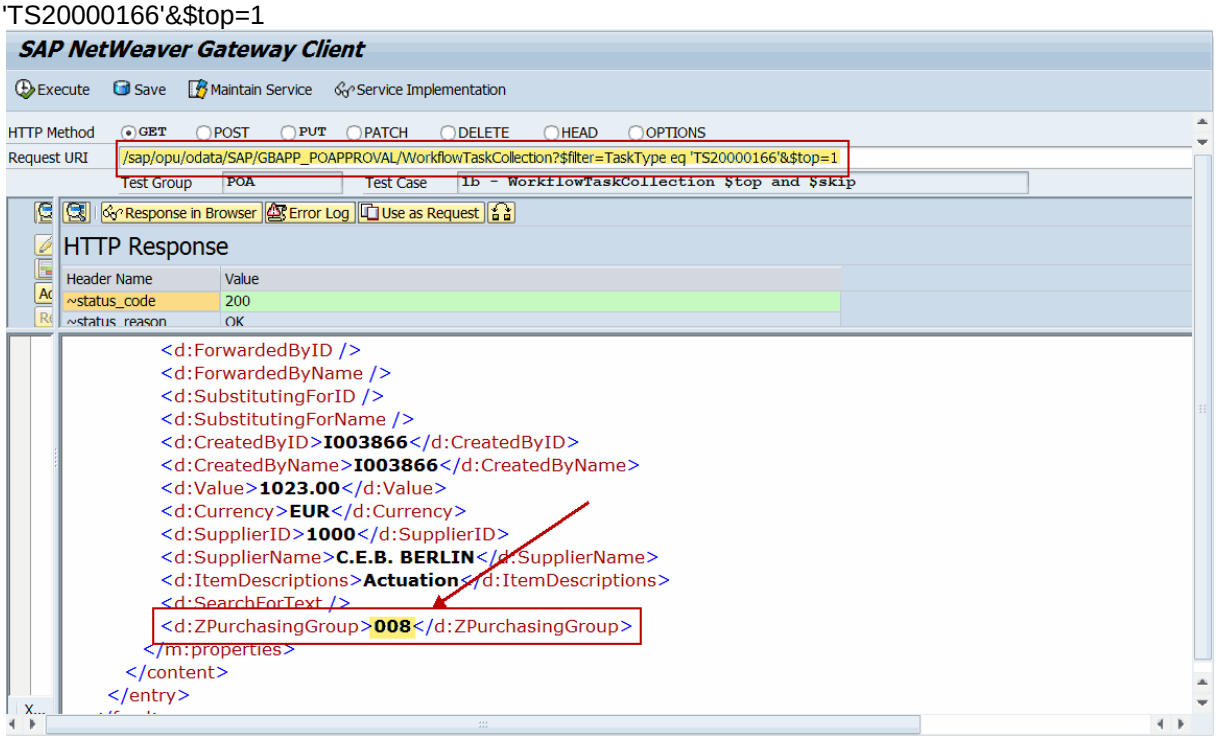


4.3 Test the OData service - after

Get the Purchase Order detail
/sap/opu/OData/sap/GBAPP_POAPPROVAL/WorkflowTaskCollection('000001105834')/HeaderDetails?$expand=ItemDetails,Notes,Attachments

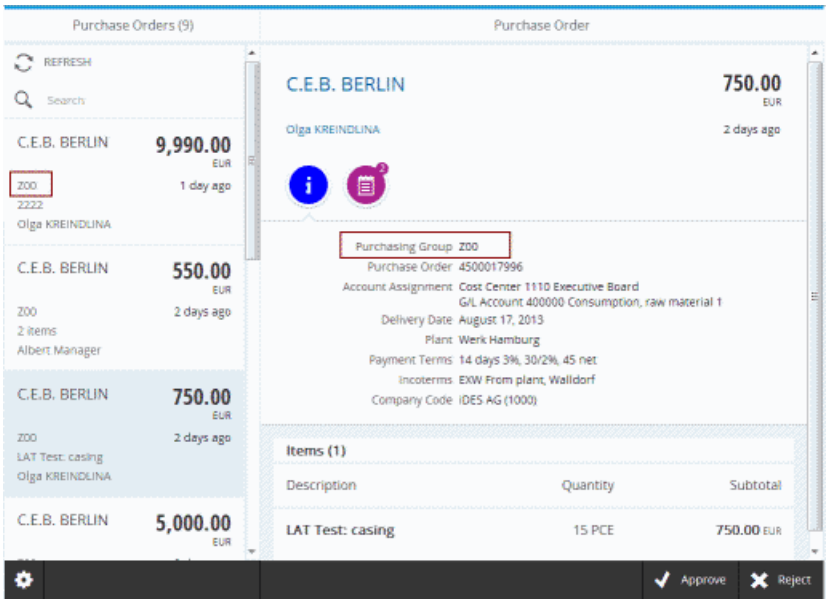


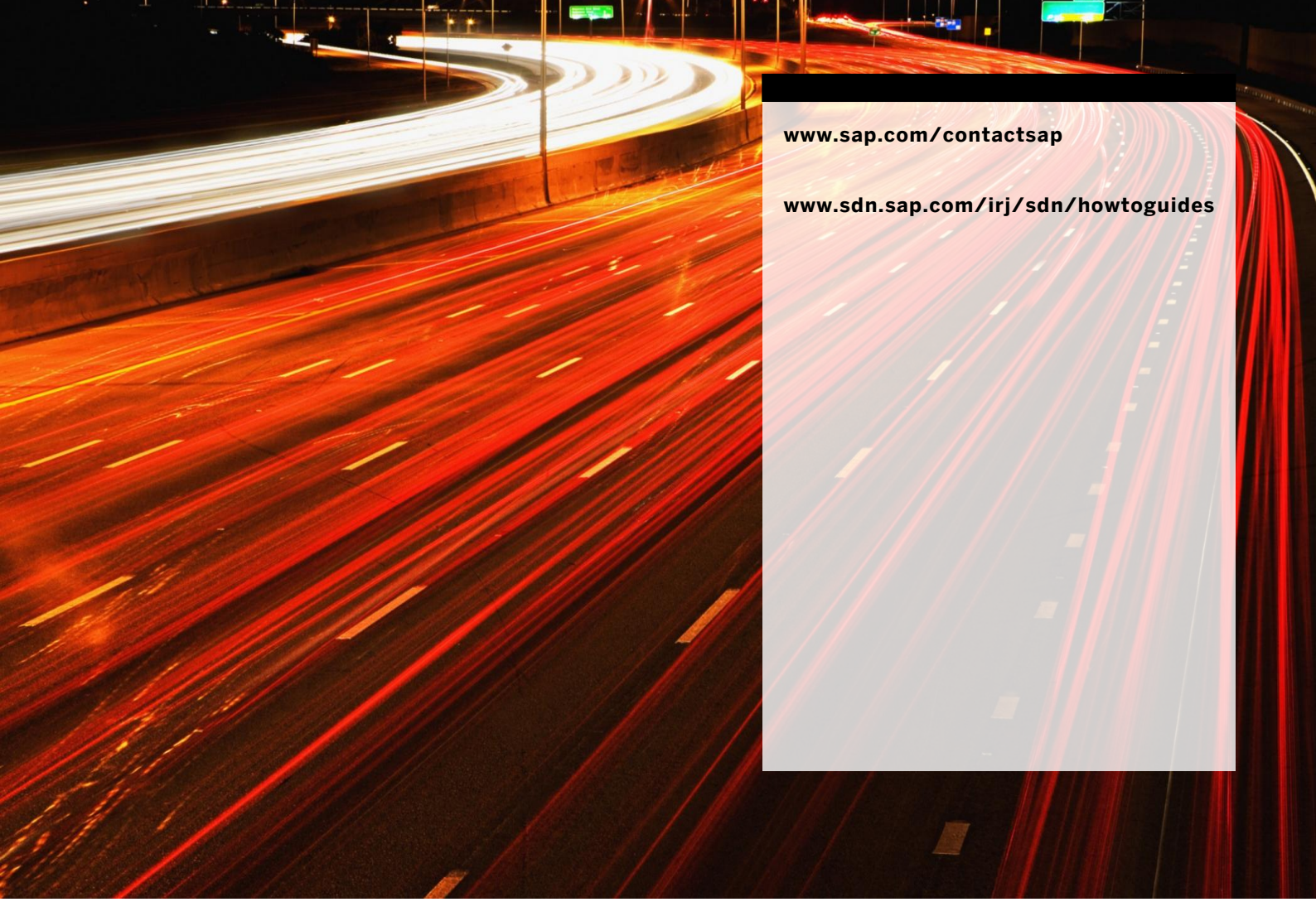
The Workflow Task entity has also Purchasing Group value.
/sap/opu/OData/SAP/GBAPP_POAPPROVAL/WorkflowTaskCollection?$filter=TaskType eq 'TS20000166'&$top=1



4.4 UI extensibility

The next step is you are going to display the Purchasing Group field in the UI. Please refer to the separate How to Guide “Adding custom fields to SAP Fiori apps. UI fields extensibility”.


Purchase Orders (9)
Purchase Order
REFRESH
Search
C.E.B. BERLIN
9,990.00
EUR
Z00
1 day ago
2222
Olga KREINDLINA
C.E.B. BERLIN
550.00
EUR
Z00
2 days ago
2 items
Albert Manager
C.E.B. BERLIN
750.00
EUR
Z00
2 days ago
LAT Test: casing
Olga KREINDLINA
C.E.B. BERLIN
5,000.00
EUR
C.E.B. BERLIN
750.00
EUR
Olga KREINDLINA
2 days ago
Purchasing Group Z00
Purchase Order 4500017996
Account Assignment Cost Center 1110 Executive Board
G/L Account 400000 Consumption, raw material 1
Delivery Date August 17, 2013
Plant Werk Hamburg
Payment Terms 14 days 3%, 30/2%, 45 net
Incoterms EXW From plant, Walldorf
Company Code IDES AG (1000)
Items (1)
Description
Quantity
Subtotal
LAT Test: casing
15 PCE
750.00 EUR
Approve
Reject



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