How to Create a Generic Data Source Based on a Custom View and Further Enhance the Data Source for BW Extraction

Applies to:

SAP BI/BW 3.5 and above. For more information, visit the EDW homepage.

Summary

The document will help us understand how to generate a generic data source based on a view created by joining two tables. The data source will be further enhanced to enable extraction of additional fields from other relevant tables.

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Author Bio

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Overview

Purpose of this document is to help us understand how to create a custom view based on transparent tables and create a generic data source based on the view. The document also describes the steps involved in enhancing the generic data source created to populate it with fields from other relevant tables.

The document considers a very unique situation which calls for extraction of Purchasing Info records from tables EINA and EINE.

The document explain step by step processes to execute the following activities :

- Creating a view based on the tables.
- Create a generic data source based on the view.
- Check the data in the newly created generic data source.
- Enhance the generic data source extractor with additional fields – in the appended structure.
- Unhide the fields in the appended structure.
- Populate the fields in the appended structure through an ABAP routine.
- Check the data in the data source – along with the appended fields which are now populated.

The entire set of activities are performed on the source system.

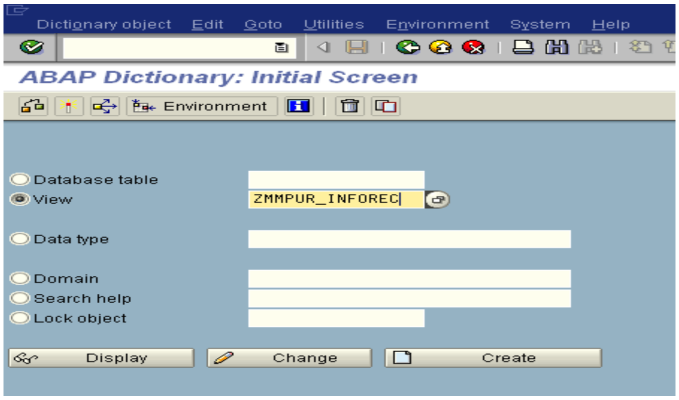
Creating a View Based on the DB Tables

Check the tables that you wish to create the join on. We are considering tables EINA and EINE. Please remember that EINE is not a table but a template and thus we are creating a join. Our objective is to obtain details of Purchasing info records and then establish a link between the info records and other tables viz. Condition tables (KONP, KONH, EORD) , purchase transaction tables (EKKO, EKPO).

EINA is Purchase Info record: General data table, EINE is Purchasing Info record: Purchasing Organization data table.

We create a join on these tables and build a generic data source on the join. The generic data source will then be enhanced with fields that we need additionally (and which will be populated from other tables mentioned above).

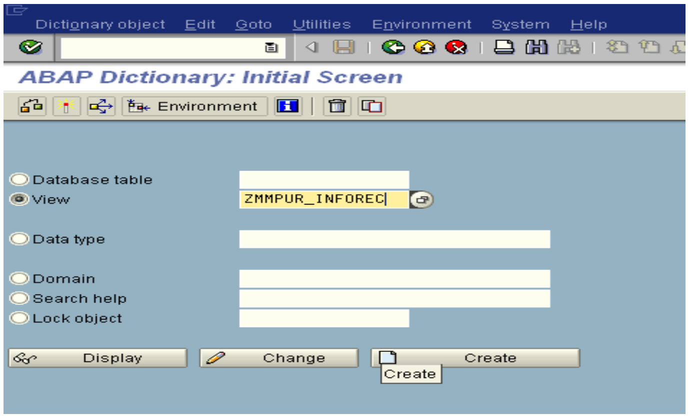
In SAP R/3 or ECC enter Transaction **Se11** which enables you to create a table or view. We are using the name ZMMPUR_INFOREC.



ABAP Dictionary: Initial Screen

○ Database table
● View ZMMPUR_INFOREC
○ Data type
○ Domain
○ Search help
○ Lock object

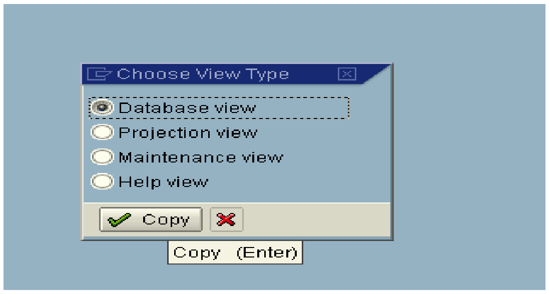
Click ‘Create’



ABAP Dictionary: Initial Screen

○ Database table
● View ZMMPUR_INFOREC
○ Data type
○ Domain
○ Search help
○ Lock object

Select the view type. We are creating a database view.

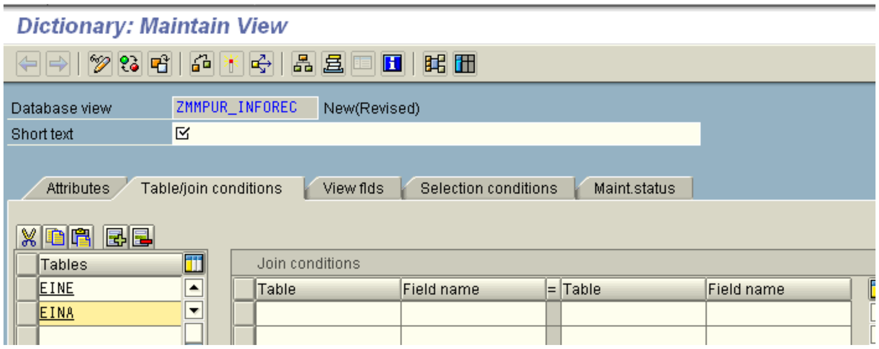


Choose View Type

● Database view
○ Projection view
○ Maintenance view
○ Help view

The system now displays the Maintenance view screen.

In the Table/Join Conditions tab, enter the tables that you wish to build the join on.



Dictionary: Maintain View

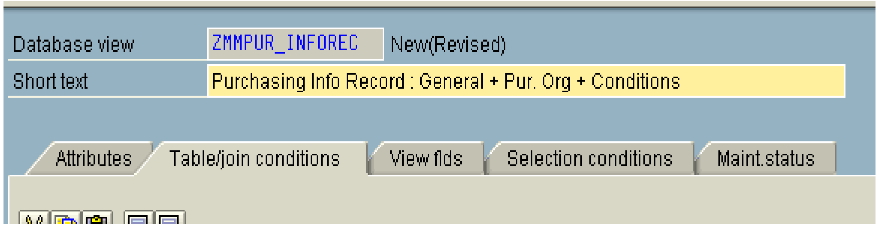
Database view ZMMPUR_INFOREC New(Revised)
Short text ☑

Tables
EINE
EINA

Join conditions

Table	Field name	=	Table	Field name

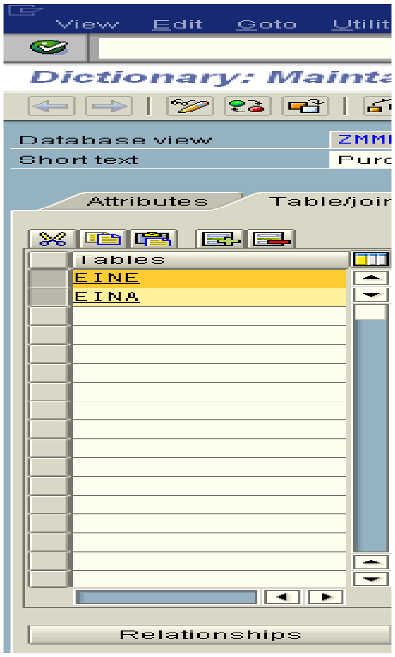
Enter a description for the View.

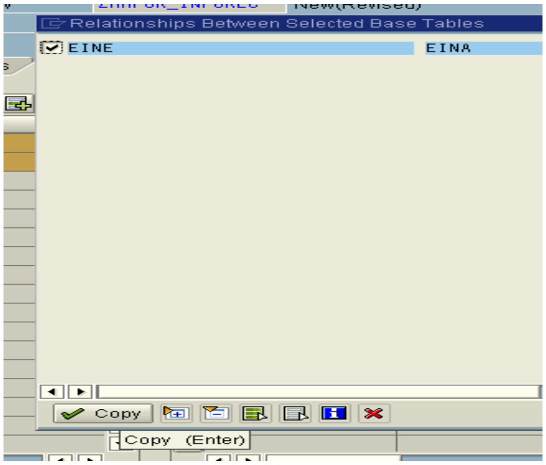


Database view ZMMPUR_INFOREC New(Revised)
Short text Purchasing Info Record : General + Pur. Org + Conditions

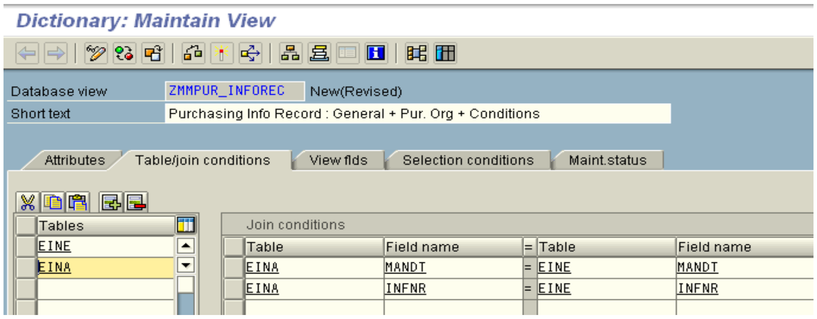
We now need to establish a relationship between these two tables i.e. identify fields that would integrate them with each other.

If you are unsure of this activity, then select the tables involved in the join and select ‘Relationships’ and system will automatically prompt you the relationship link between these tables.





The relationship is established between the two tables via fields MANDT and INFNR.



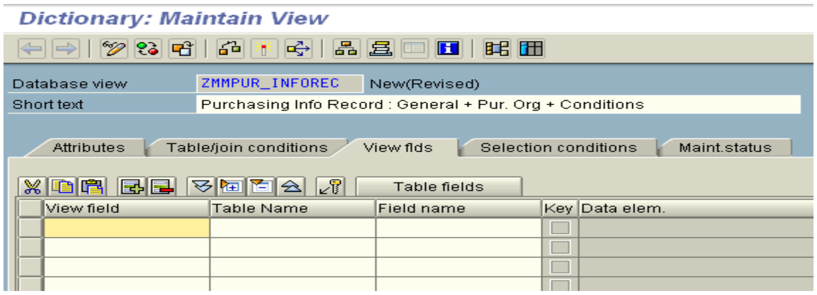
Database view ZMMPUR_INFOREC New(Revised)

Short text Purchasing Info Record : General + Pur. Org + Conditions

Join conditions

Table	Field name	=	Table	Field name
EINA	MANDT	=	EINE	MANDT
EINA	INFNR	=	EINE	INFNR

In the ‘View Fields’ tab enter the fields that you wish to include in the View. These fields will be from either of the tables on which the join is created.



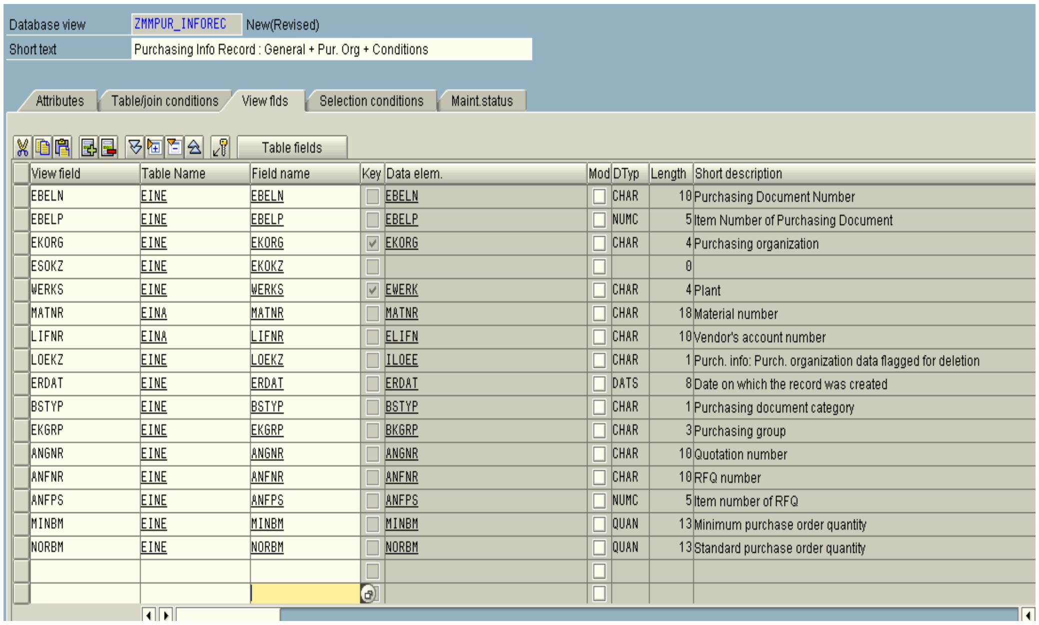
Dictionary: Maintain View

Database view	ZMMPUR_INFOREC	New(Revised)
Short text	Purchasing Info Record : General + Pur. Org + Conditions	

View field	Table Name	Field name	Key	Data elem.
			□	
			□	
			□	

Please remember to include the ‘key fields’ from each of the tables in the fields selection else you will encounter an error during activation of the view.

Key fields for EINA is INFNR – Info Record and for EINE are INFNR (Info record), EKORG (Purchasing Organization), ESOKZ (Info Category) and WERKS (Plant).



Database view	ZMMPUR_INFOREC	New(Revised)
Short text	Purchasing Info Record : General + Pur. Org + Conditions	

View field	Table Name	Field name	Key	Data elem.	Mod	DTyp	Length	Short description
EBELN	EINE	EBELN	□	EBELN	□	CHAR	10	Purchasing Document Number
EBELP	EINE	EBELP	□	EBELP	□	NUMC	5	Item Number of Purchasing Document
EKORG	EINE	EKORG	☑	EKORG	□	CHAR	4	Purchasing organization
ESOKZ	EINE	EKOKZ	□		□		0	
WERKS	EINE	WERKS	☑	EWERK	□	CHAR	4	Plant
MATNR	EINA	MATNR	□	MATNR	□	CHAR	18	Material number
LIFNR	EINA	LIFNR	□	ELIFN	□	CHAR	10	Vendor's account number
LOEKZ	EINE	LOEKZ	□	ILOEE	□	CHAR	1	Purch. info: Purch. organization data flagged for deletion
ERDAT	EINE	ERDAT	□	ERDAT	□	DATS	8	Date on which the record was created
BSTYP	EINE	BSTYP	□	BSTYP	□	CHAR	1	Purchasing document category
EKGRP	EINE	EKGRP	□	BKGRP	□	CHAR	3	Purchasing group
ANGNR	EINE	ANGNR	□	ANGNR	□	CHAR	10	Quotation number
ANFNR	EINE	ANFNR	□	ANFNR	□	CHAR	10	RFQ number
ANFPS	EINE	ANFPS	□	ANFPS	□	NUMC	5	Item number of RFQ
MINBM	EINE	MINBM	□	MINBM	□	QUAN	13	Minimum purchase order quantity
NORBM	EINE	NORBM	□	NORBM	□	QUAN	13	Standard purchase order quantity
			□		□			
					□			

In the ‘Selection Conditions’ tab, enter the specific condition/s that you wish to apply during view creation. for eg. You may want to consider only active records and ignore deleted records. In that case, the selection condition would be

<Table name> = to which the field belong s

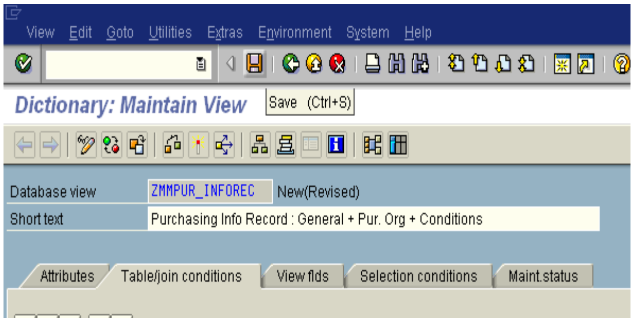
<Field name>=field on which you want to apply the condition

<Operator>=Applicable operator from the list

<Comparative Value>= value of the Field that needs to be applied during view creation.

You can include multiple selections by using the <AND/OR> operators.

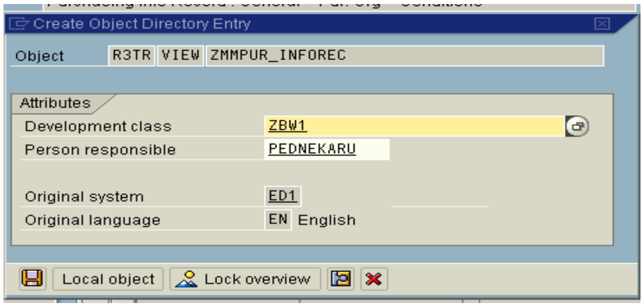
Save the View.



Dictionary: Maintain View

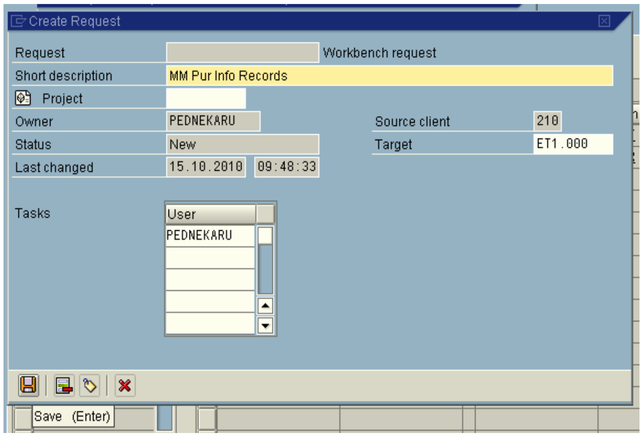
Database view	ZMMPUR_INFOREC	New(Revised)
Short text	Purchasing Info Record : General + Pur. Org + Conditions	

You will be prompted to enter the development class as well as Transport request # for the development that you are carrying. Enter the relevant values.



Create Object Directory Entry

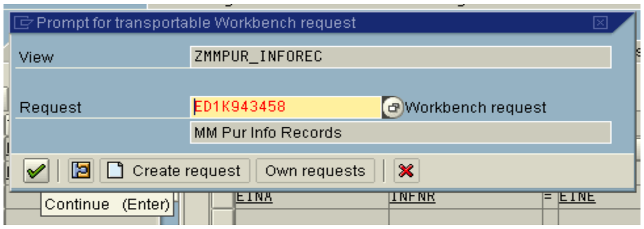
Object	R3TR VIEW ZMMPUR_INFOREC	
Attributes		
Development class	ZBW1	
Person responsible	PEDNEKARU	
Original system	ED1	
Original language	EN	English



Create Request

Request	Workbench request		
Short description	MM Pur Info Records		
Project			
Owner	PEDNEKARU	Source client	210
Status	New	Target	ET1.000
Last changed	15.10.2010 09:48:33		

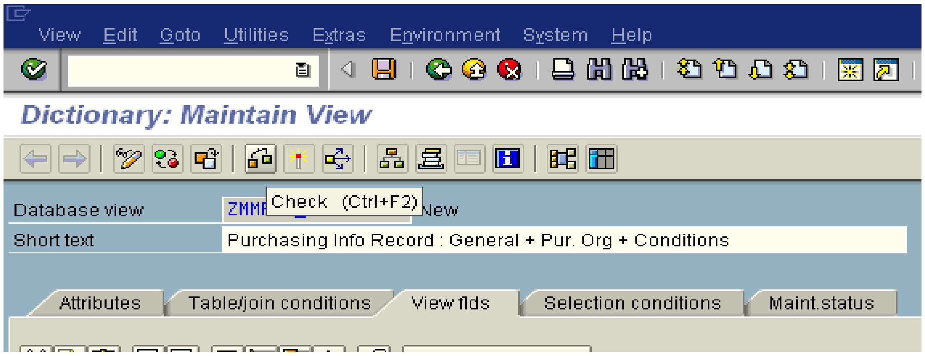
Tasks	User
	PEDNEKARU



Prompt for transportable Workbench request

View	ZMMPUR_INFOREC	
Request	ED1K943458	Workbench request
	MM Pur Info Records	

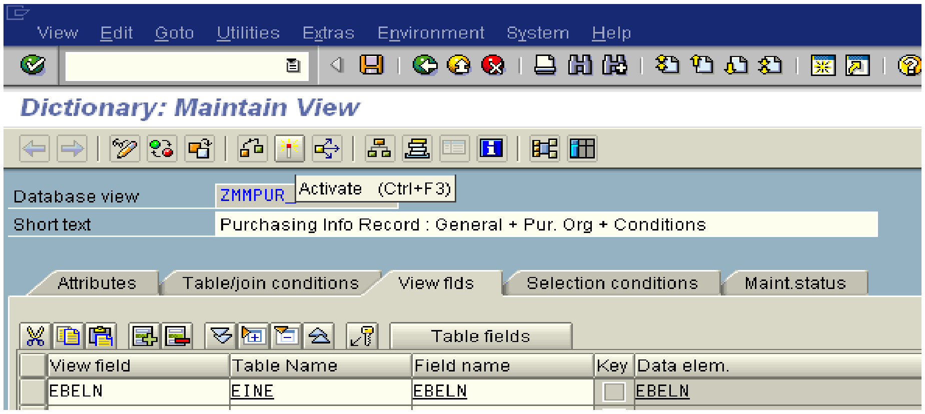
Click on the ‘Check’ button to check the View for inconsistencies.



Database view: ZMMP… New

Short text: Purchasing Info Record : General + Pur. Org + Conditions

Activate the View by clicking on the Activate icon.



Database view: ZMMPUR_

Short text: Purchasing Info Record : General + Pur. Org + Conditions

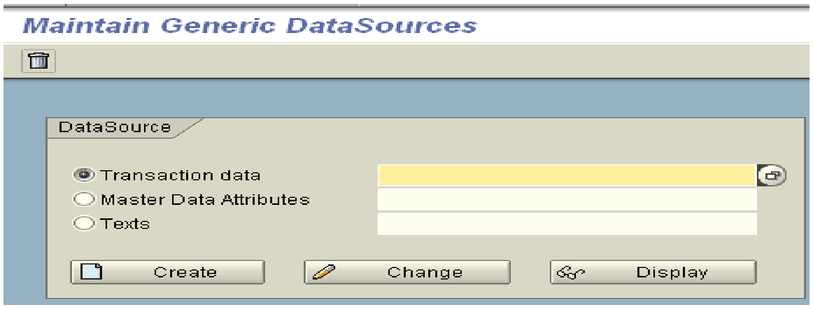
View field	Table Name	Field name	Key	Data elem.
EBELN	EINE	EBELN	□	EBELN

The view ZMMPUR_INFOREC is now activated.

Creating a Generic Data source based on the View

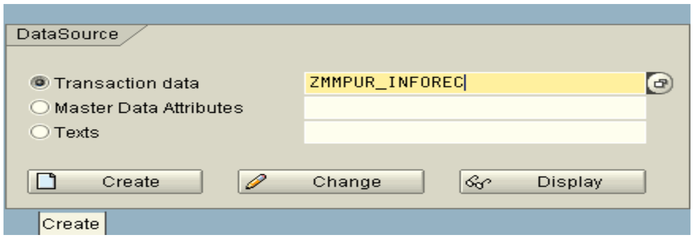
We will now proceed to the step of creating a Generic data source based on the view we just created.

Use Transaction Code **RSO2** to create a Generic data source.



● Transaction data
○ Master Data Attributes
○ Texts

Enter the name of the data source you wish to create. We are using ZMMPUR_INFOREC. Remember , this is a transaction data source. ‘Create’ the data source.



● Transaction data: ZMMPUR_INFOREC
○ Master Data Attributes
○ Texts

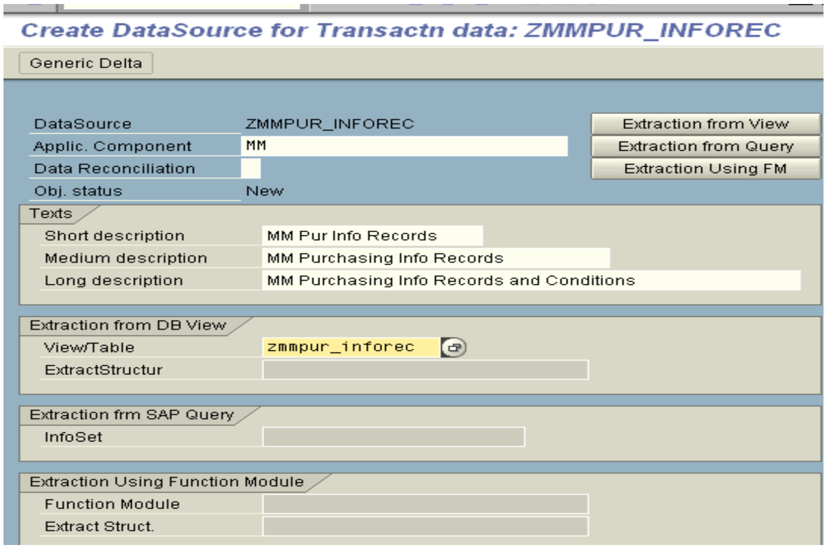
On the Create <data source> screen, enter the parameters as required.

Application Component: Component name where you wish to place the data source in the App. Component hierarchy.

Text: Descriptions (Short, Medium and Long) for the data source.

View/Table: Name of the Table/View on which you wish to create the Generic data source. In our case it is ZMMPUR_INFOREC.

You can also create a generic data source by extraction data through Infoset Queries and Function modules.



Create DataSource for Transactn data: ZMMPUR_INFOREC

DataSource ZMMPUR_INFOREC
Applic. Component MM
Data Reconciliation
Obj. status New

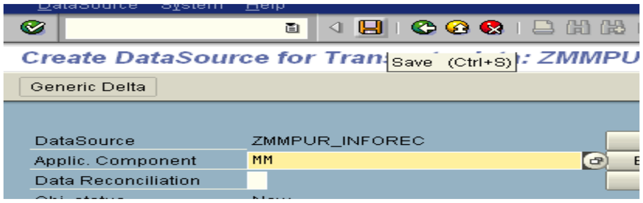
Texts
Short description MM Pur Info Records
Medium description MM Purchasing Info Records
Long description MM Purchasing Info Records and Conditions

Extraction from DB View
View/Table zmmpur_inforec
ExtractStructur

Extraction frm SAP Query
InfoSet

Extraction Using Function Module
Function Module
Extract Struct.

Save the data source.

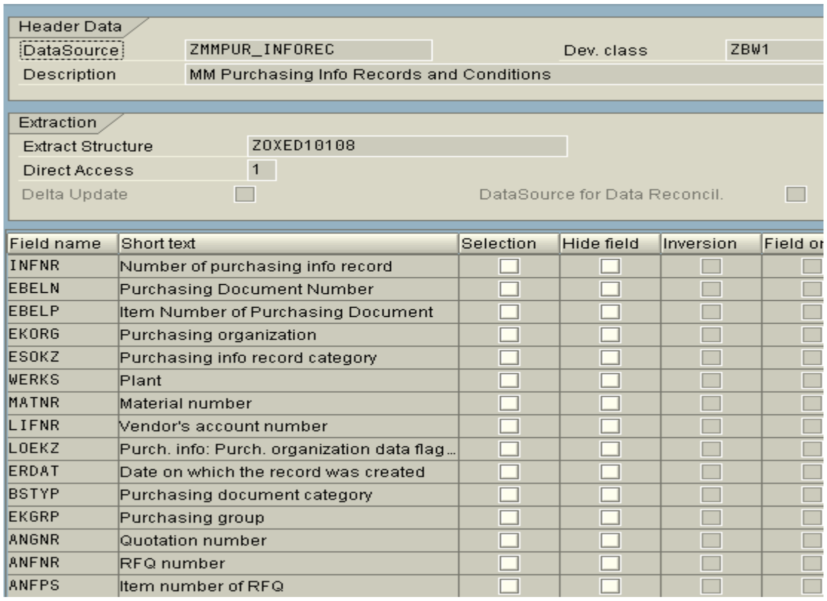


Create DataSource for Tran: ZMMPU

DataSource ZMMPUR_INFOREC
Applic. Component MM
Data Reconciliation

Enter the Development class followed by the request number.

The Generic datasource is now displayed allowing you to Select as well as Hide field. The fields ‘hidden’ will not be available for extraction. Fields in the ‘Selection’ tab will be available for Selection in the Infopackage during data extraction from the source system to the PSA.



Header Data

DataSource: ZMMPUR_INFOREC Dev. class: ZBW1

Description: MM Purchasing Info Records and Conditions

Extraction

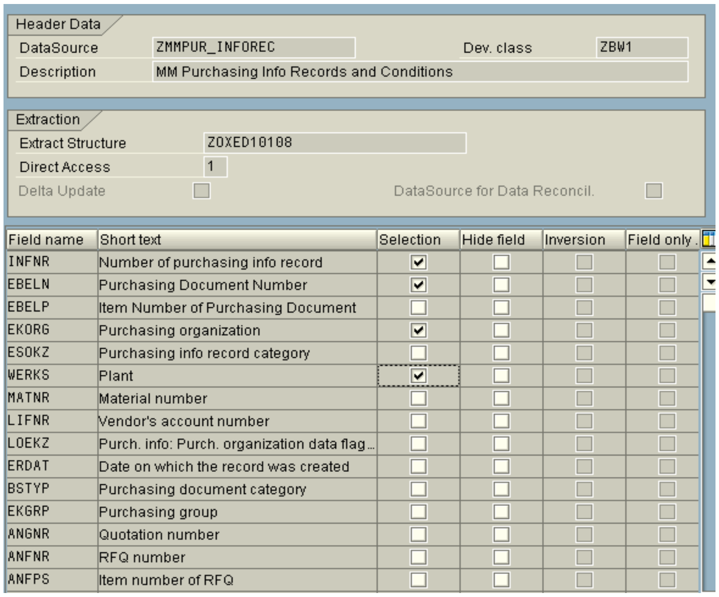
Extract Structure: ZOXED10108

Direct Access: 1

Delta Update □ DataSource for Data Reconcil. □

Field name	Short text	Selection	Hide field	Inversion	Field or
INFNR	Number of purchasing info record	□	□	□	□
EBELN	Purchasing Document Number	□	□	□	□
EBELP	Item Number of Purchasing Document	□	□	□	□
EKORG	Purchasing organization	□	□	□	□
ESOKZ	Purchasing info record category	□	□	□	□
WERKS	Plant	□	□	□	□
MATNR	Material number	□	□	□	□
LIFNR	Vendor's account number	□	□	□	□
LOEKZ	Purch. info: Purch. organization data flag...	□	□	□	□
ERDAT	Date on which the record was created	□	□	□	□
BSTYP	Purchasing document category	□	□	□	□
EKGRP	Purchasing group	□	□	□	□
ANGNR	Quotation number	□	□	□	□
ANFNR	RFQ number	□	□	□	□
ANFPS	Item number of RFQ	□	□	□	□

Select the relevant fields and Save the data source.



Header Data

DataSource: ZMMPUR_INFOREC Dev. class: ZBW1

Description: MM Purchasing Info Records and Conditions

Extraction

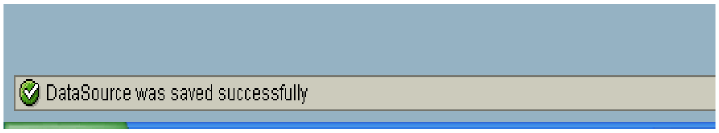
Extract Structure: ZOXED10108

Direct Access: 1

Delta Update □ DataSource for Data Reconcil. □

Field name	Short text	Selection	Hide field	Inversion	Field only...
INFNR	Number of purchasing info record	☑	□	□	□
EBELN	Purchasing Document Number	☑	□	□	□
EBELP	Item Number of Purchasing Document	□	□	□	□
EKORG	Purchasing organization	☑	□	□	□
ESOKZ	Purchasing info record category	□	□	□	□
WERKS	Plant	☑	□	□	□
MATNR	Material number	□	□	□	□
LIFNR	Vendor's account number	□	□	□	□
LOEKZ	Purch. info: Purch. organization data flag...	□	□	□	□
ERDAT	Date on which the record was created	□	□	□	□
BSTYP	Purchasing document category	□	□	□	□
EKGRP	Purchasing group	□	□	□	□
ANGNR	Quotation number	□	□	□	□
ANFNR	RFQ number	□	□	□	□
ANFPS	Item number of RFQ	□	□	□	□

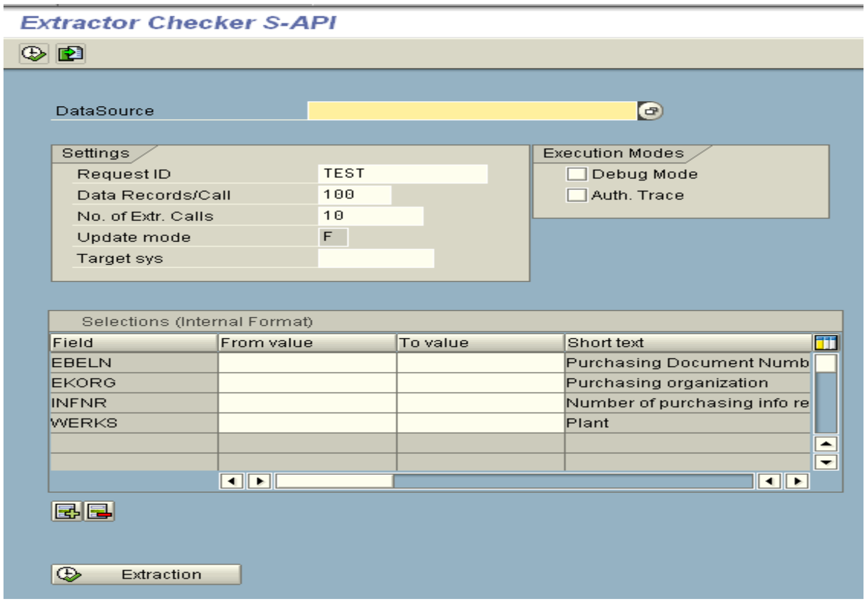
Data source is saved successfully.



✓ DataSource was saved successfully

Checking the data in the Generic Data source using the Extractor Checker

You can check the data in the data source by using the Extractor checked – Tcode **RSA3**.



Extractor Checker S-API

DataSource

Settings

Request ID	TEST
Data Records/Call	100
No. of Extr. Calls	10
Update mode	F
Target sys	

Execution Modes

☐ Debug Mode

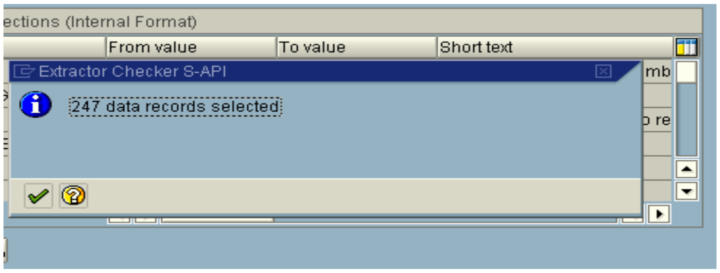
☐ Auth. Trace

Selections (Internal Format)

Field	From value	To value	Short text
EBELN			Purchasing Document Numb
EKORG			Purchasing organization
INFNR			Number of purchasing info re
WERKS			Plant

Enter the data source name which we created in the earlier step ie. ZMMPUR_INFOREC and click on ‘Extraction’.

The available no. of records as per the initial settings on RSA3 is available for viewing.

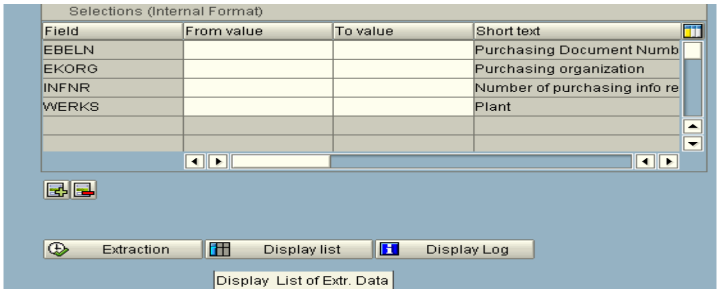


ections (Internal Format)

Extractor Checker S-API

247 data records selected

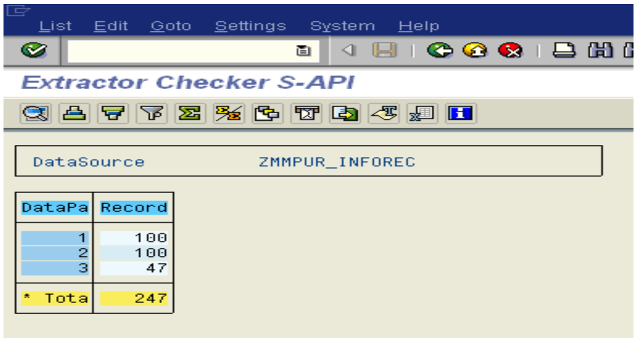
Select ‘Continue’ and on the next screen select ‘Display list’ to display the number of data packets available.



Selections (Internal Format)

Field	From value	To value	Short text
EBELN			Purchasing Document Numb
EKORG			Purchasing organization
INFNR			Number of purchasing info re
WERKS			Plant

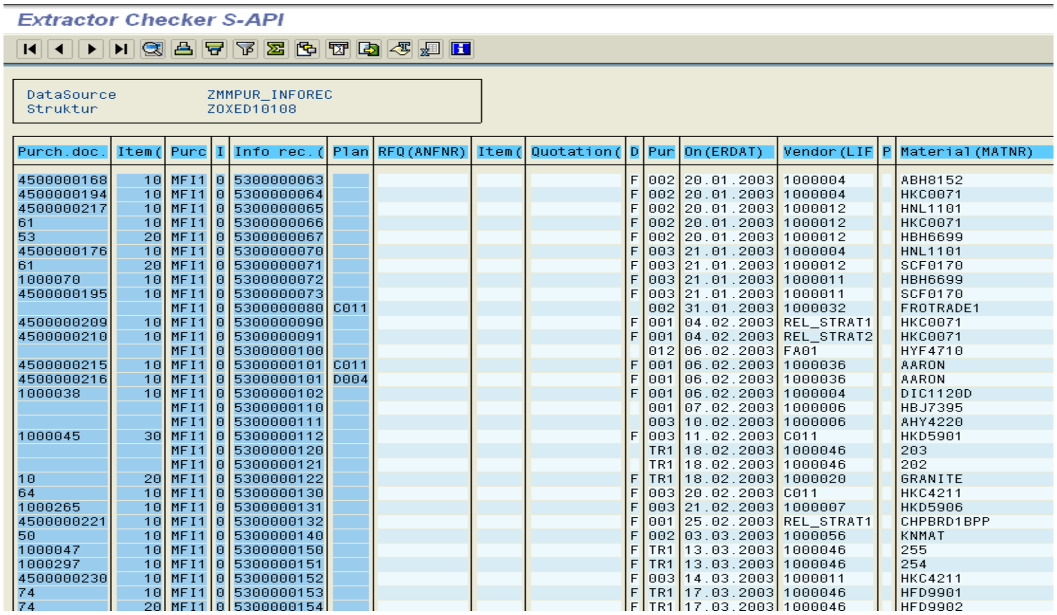
Select any one of the data packets and double-click.



DataSource ZMMPUR_INFOREC

DataPa	Record
1	100
2	100
3	47
* Tota	247

The records in the data packet are displayed.



DataSource ZMMPUR_INFOREC
Struktur ZOXED10108

Purch.doc.	Item(	Purc	I	Info rec.(	Plan	RFQ(ANFNR)	Item(	Quotation(	D	Pur	On(ERDAT)	Vendor(LIF	P	Material(MATNR)
4500000168	10	MFI1	0	5300000063					F	002	20.01.2003	1000004		ABH8152
4500000194	10	MFI1	0	5300000064					F	002	20.01.2003	1000004		HKC0071
4500000217	10	MFI1	0	5300000065					F	002	20.01.2003	1000012		HNL1101
61	10	MFI1	0	5300000066					F	002	20.01.2003	1000012		HKC0071
53	20	MFI1	0	5300000067					F	002	20.01.2003	1000012		HBH6699
4500000176	10	MFI1	0	5300000070					F	003	21.01.2003	1000004		HNL1101
61	20	MFI1	0	5300000071					F	003	21.01.2003	1000012		SCF0170
1000070	10	MFI1	0	5300000072					F	003	21.01.2003	1000011		HBH6699
4500000195	10	MFI1	0	5300000073					F	003	21.01.2003	1000011		SCF0170
		MFI1	0	5300000080	C011					002	31.01.2003	1000032		FROTRADE1
4500000209	10	MFI1	0	5300000090					F	001	04.02.2003	REL_STRAT1		HKC0071
4500000210	10	MFI1	0	5300000091					F	001	04.02.2003	REL_STRAT2		HKC0071
		MFI1	0	5300000100						012	06.02.2003	FA01		HYF4710
4500000215	10	MFI1	0	5300000101	C011				F	001	06.02.2003	1000036		AARON
4500000216	10	MFI1	0	5300000101	D004				F	001	06.02.2003	1000036		AARON
1000038	10	MFI1	0	5300000102					F	001	06.02.2003	1000004		DIC1120D
		MFI1	0	5300000110						001	07.02.2003	1000006		HBJ7395
		MFI1	0	5300000111						003	10.02.2003	1000006		AHY4220
1000045	30	MFI1	0	5300000112					F	003	11.02.2003	C011		HKD5901
		MFI1	0	5300000120						TR1	18.02.2003	1000046		203
		MFI1	0	5300000121						TR1	18.02.2003	1000046		202
10	20	MFI1	0	5300000122					F	TR1	18.02.2003	1000020		GRANITE
64	10	MFI1	0	5300000130					F	003	20.02.2003	C011		HKC4211
1000265	10	MFI1	0	5300000131					F	003	21.02.2003	1000007		HKD5906
4500000221	10	MFI1	0	5300000132					F	001	25.02.2003	REL_STRAT1		CHPBRD1BPP
50	10	MFI1	0	5300000140					F	002	03.03.2003	1000056		KNMAT
1000047	10	MFI1	0	5300000150					F	TR1	13.03.2003	1000046		255
1000297	10	MFI1	0	5300000151					F	TR1	13.03.2003	1000046		254
4500000230	10	MFI1	0	5300000152					F	003	14.03.2003	1000011		HKC4211
74	10	MFI1	0	5300000153					F	TR1	17.03.2003	1000046		HFD9901
74	20	MFI1	0	5300000154					F	TR1	17.03.2003	1000046		HFD9902

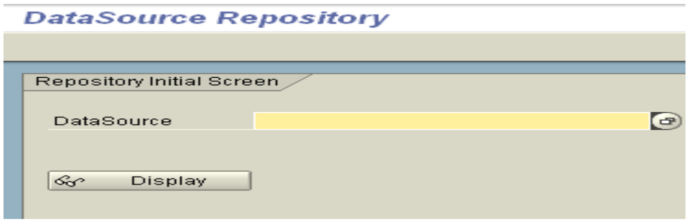
Enhance the generic data source extractor with additional fields – in the appended structure

The next step is to enhance the generic data source with fields that we need to populate from other tables. In this case, we need to pull data from Conditions tables viz. KONP, KONH, KONV, EORD as well as Text tables for conditions.

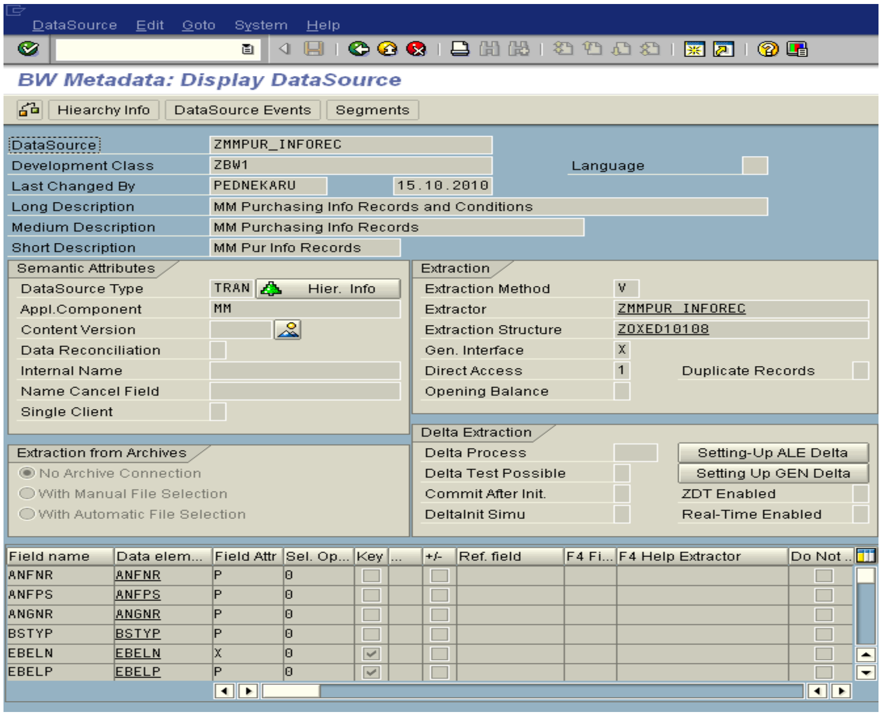
Fields that we need are:

#	Field Name	Description	Table	Source Field
1	KSCHL	Condition type	KONH / KONP / KONV	KSCHL
2	FESKZ	Indicator: Fixed vendor	EORD	FLIFN
3	KDATB	Valid-from date	KONH / EKKO	DATAB
4	KDATE	Valid to date	KONH / EKKO	DATBI
5	VTEXT	Name	T685T	VTEXT
6	KPEIN	Condition pricing unit	KONP / KONV	KPEIN
7	KMEIN	Condition unit	KONP / KONV	KMEIN
8	KBETR	Rate (condition amount or percentage) where no scale exists	KONP / KONV	KBETR
9	KONWA	Rate unit (currency or percentage)	KONP / KONV	KONWA

Use Transaction code **RSA2** to enhance any data source.



Enter the data source name we created in the earlier session and click ‘Display’.



BW Metadata: Display DataSource

DataSource	ZMMPUR_INFOREC		
Development Class	ZBW1	Language	
Last Changed By	PEDNEKARU 15.10.2010		
Long Description	MM Purchasing Info Records and Conditions		
Medium Description	MM Purchasing Info Records		
Short Description	MM Pur Info Records		

Semantic Attributes

DataSource Type	TRAN
Appl.Component	MM
Content Version	
Data Reconciliation	□
Internal Name	
Name Cancel Field	
Single Client	□

Extraction

Extraction Method	V		
Extractor	ZMMPUR_INFOREC		
Extraction Structure	ZOXED10108		
Gen. Interface	X		
Direct Access	1	Duplicate Records	□
Opening Balance	□		

Extraction from Archives

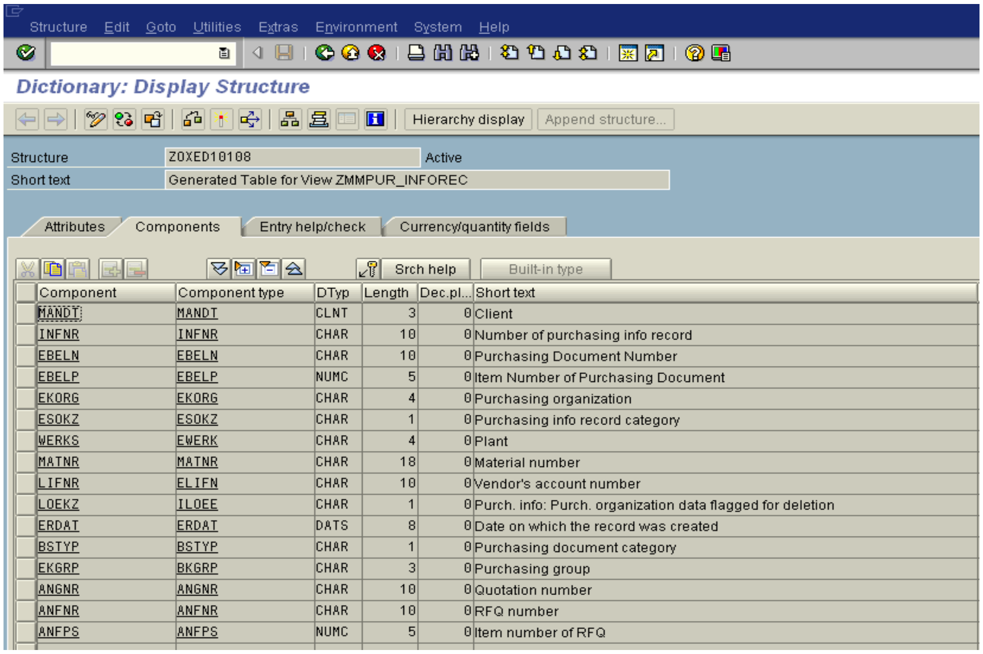
● No Archive Connection
○ With Manual File Selection
○ With Automatic File Selection

Delta Extraction

Delta Process			
Delta Test Possible	□		
Commit After Init.	□	ZDT Enabled	□
DeltaInit Simu	□	Real-Time Enabled	□

Field name	Data elem...	Field Attr	Sel. Op...	Key	...	+/-	Ref. field	F4 Fi...	F4 Help Extractor	Do Not ...
ANFNR	ANFNR	P	0	□		□				□
ANFPS	ANFPS	P	0	□		□				□
ANGNR	ANGNR	P	0	□		□				□
BSTYP	BSTYP	P	0	□		□				□
EBELN	EBELN	X	0	☑		□				□
EBELP	EBELP	P	0	☑		□				□

Select the ‘Extract Structure’ i.e. ZOXED10108 and double-click to view the structure of the data source.



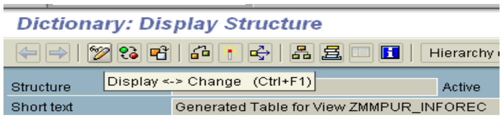
Dictionary: Display Structure

Structure	ZOXED10108	Active
Short text	Generated Table for View ZMMPUR_INFOREC	

Component	Component type	DTyp	Length	Dec.pl...	Short text
MANDT	MANDT	CLNT	3	0	Client
INFNR	INFNR	CHAR	10	0	Number of purchasing info record
EBELN	EBELN	CHAR	10	0	Purchasing Document Number
EBELP	EBELP	NUMC	5	0	Item Number of Purchasing Document
EKORG	EKORG	CHAR	4	0	Purchasing organization
ESOKZ	ESOKZ	CHAR	1	0	Purchasing info record category
WERKS	EWERK	CHAR	4	0	Plant
MATNR	MATNR	CHAR	18	0	Material number
LIFNR	ELIFN	CHAR	10	0	Vendor's account number
LOEKZ	ILOEE	CHAR	1	0	Purch. info: Purch. organization data flagged for deletion
ERDAT	ERDAT	DATS	8	0	Date on which the record was created
BSTYP	BSTYP	CHAR	1	0	Purchasing document category
EKGRP	BKGRP	CHAR	3	0	Purchasing group
ANGNR	ANGNR	CHAR	10	0	Quotation number
ANFNR	ANFNR	CHAR	10	0	RFQ number
ANFPS	ANFPS	NUMC	5	0	Item number of RFQ

We will edit the structure and Append relevant fields for population.

Click on the <Display-Change> icon



Dictionary: Display Structure

Display <-> Change (Ctrl+F1)

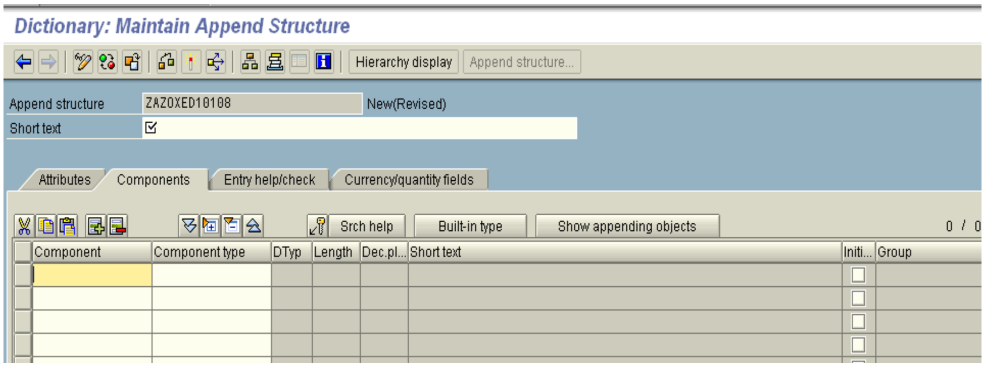
Structure		Active
Short text	Generated Table for View ZMMPUR_INFOREC	

You are now ready to append the data source structure.

In the 'GoTo' menu, select 'Append structure' as shown below.

The system prompts you to enter the name of the Append Structure.

Select 'continue' to get the Append Structure screen.



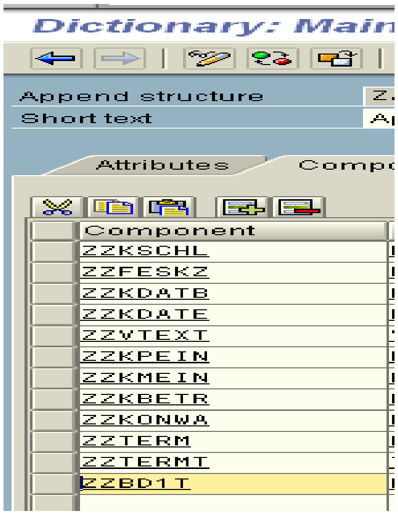
Dictionary: Maintain Append Structure

Append structure ZAZOXED10108 New(Revised)

Short text ☑

	Component	Component type	DTyp	Length	Dec.pl...	Short text	Initi...	Group
							☐	
							☐	
							☐	
							☐	

Enter the relevant fields in the 'Component' column and the name of the Structure in Short text. Please remember that these fields are Custom-fields and should be within defined rules of the Customer namespace.



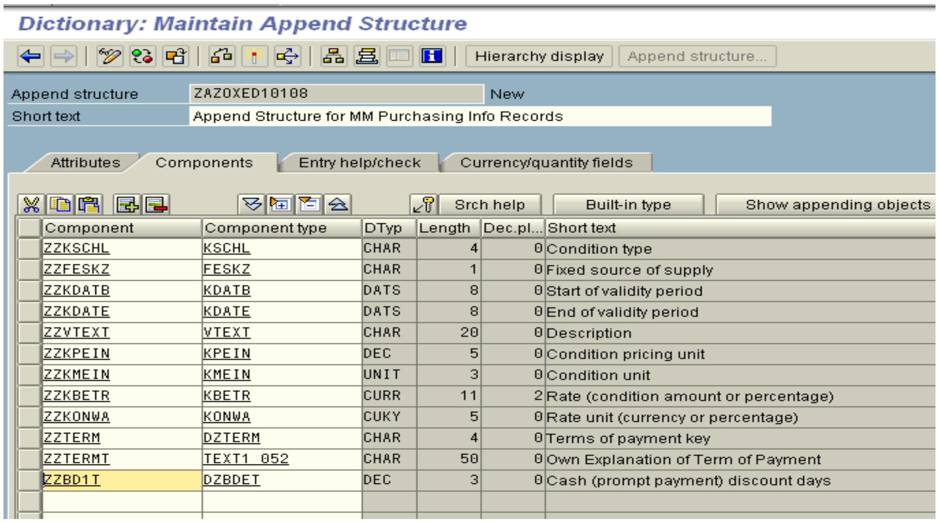
Dictionary: Main

Append structure Z.

Short text A

Component
ZZKSCHL
ZZFESKZ
ZZKDATB
ZZKDATE
ZZVTEXT
ZZKPEIN
ZZKMEIN
ZZKBETR
ZZKONWA
ZZTERM
ZZTERMT
ZZBD1T

Enter the Component Type for each of the fields – PI refers the base tables for these values.



Dictionary: Maintain Append Structure

Append structure ZAZOXED10108 New

Short text Append Structure for MM Purchasing Info Records

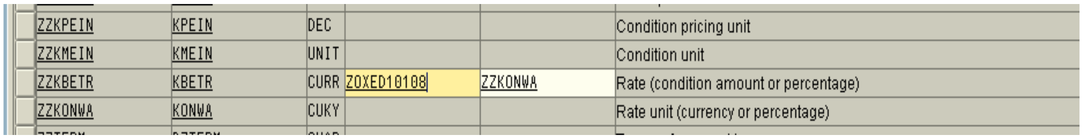
Component	Component type	DTyp	Length	Dec.pl...	Short text
ZZKSCHL	KSCHL	CHAR	4	0	Condition type
ZZFESKZ	FESKZ	CHAR	1	0	Fixed source of supply
ZZKDATB	KDATB	DATS	8	0	Start of validity period
ZZKDATE	KDATE	DATS	8	0	End of validity period
ZZVTEXT	VTEXT	CHAR	20	0	Description
ZZKPEIN	KPEIN	DEC	5	0	Condition pricing unit
ZZKMEIN	KMEIN	UNIT	3	0	Condition unit
ZZKBETR	KBETR	CURR	11	2	Rate (condition amount or percentage)
ZZKONWA	KONWA	CUKY	5	0	Rate unit (currency or percentage)
ZZTERM	DZTERM	CHAR	4	0	Terms of payment key
ZZTERMT	TEXT1_052	CHAR	50	0	Own Explanation of Term of Payment
ZZBD1T	DZBDET	DEC	3	0	Cash (prompt payment) discount days

In the Currency / Quantity fields tab, Add reference field and Table for the Quantity/Currency fields.

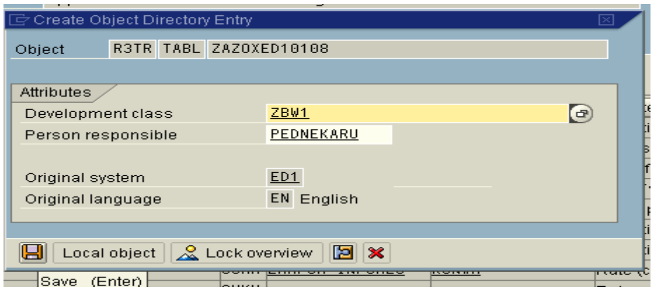
What have we done?

We added the Currency field i.e. KBETR as well as the Currency key field KONWA as component types to ZZKBETR and ZZKONWA. As a reference to the currency field i.e. ZZKBETR I have added the ZZKONWA field from the current structure i.e. ZOXED10108. (Pl remembers we are not using the Original table name here as it does not contain the field KONWA or ZZKONWA).

Save the structure and add it in the relevant development class and transport request.



ZZKPEIN	KPEIN	DEC			Condition pricing unit
ZZKMEIN	KMEIN	UNIT			Condition unit
ZZKBETR	KBETR	CURR	ZOXED10108	ZZKONWA	Rate (condition amount or percentage)
ZZKONWA	KONWA	CUKY			Rate unit (currency or percentage)



Create Object Directory Entry

Object R3TR TABL ZAZOXED10108

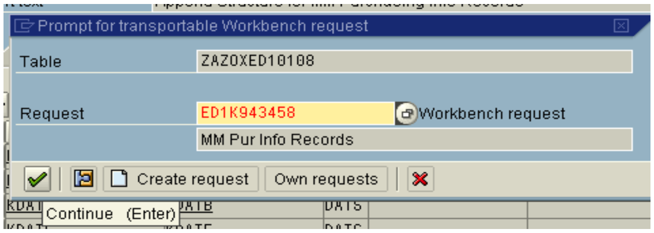
Attributes

Development class ZBW1

Person responsible PEDNEKARU

Original system ED1

Original language EN English



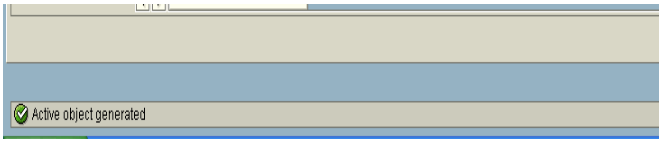
Prompt for transportable Workbench request

Table ZAZOXED10108

Request ED1K943458 Workbench request

MM Pur Info Records

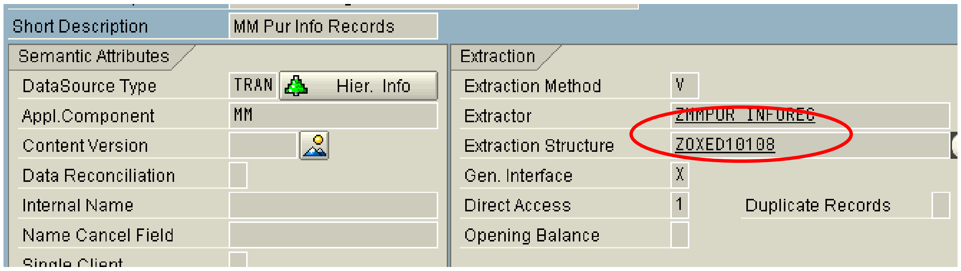
Activate the datasource.



Active object generated

Check the structure for inconsistencies.

Go back to the initial screen and click on the Extract structure name i.e. ZOXED10108 in this case.



Short Description MM Pur Info Records

Semantic Attributes

DataSource Type TRAN Hier. Info

Appl.Component MM

Content Version

Data Reconciliation

Internal Name

Name Cancel Field

Single Client

Extraction

Extraction Method V

Extractor ZMMPUR_INFOREC

Extraction Structure ZOXED10108

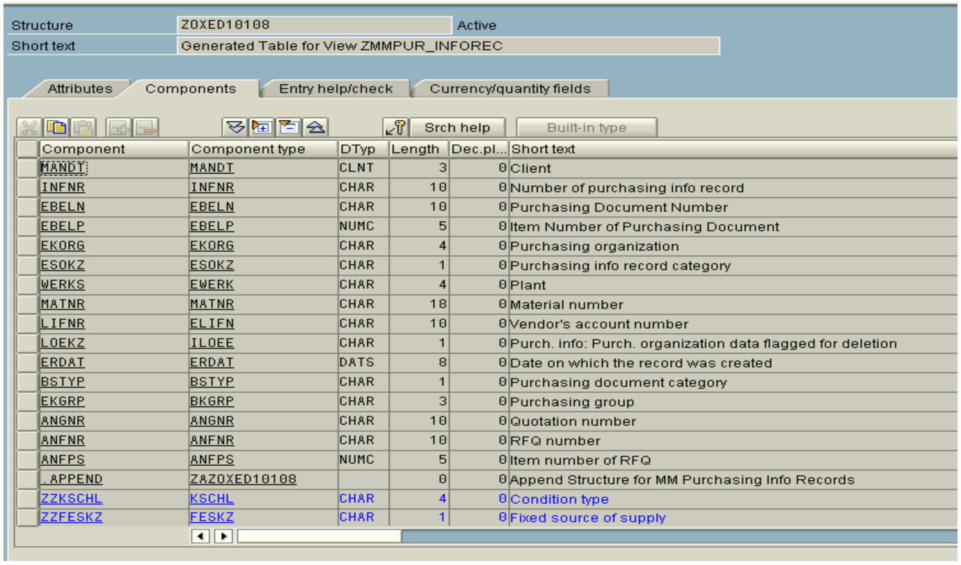
Gen. Interface X

Direct Access 1

Duplicate Records

Opening Balance

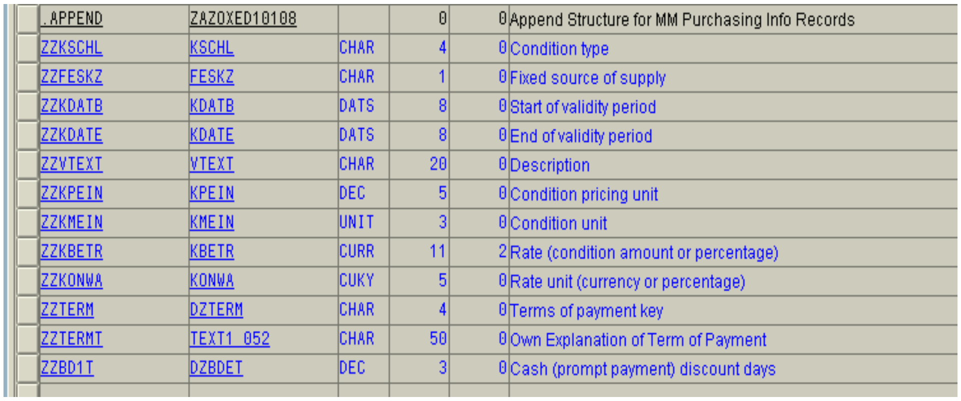
The extract structure of the data source is displayed. The view now includes the appended structure.



Structure ZOXED10108 Active
Short text Generated Table for View ZMMPUR_INFOREC

Component	Component type	DTyp	Length	Dec.pl...	Short text
MANDT	MANDT	CLNT	3	0	Client
INFNR	INFNR	CHAR	10	0	Number of purchasing info record
EBELN	EBELN	CHAR	10	0	Purchasing Document Number
EBELP	EBELP	NUMC	5	0	Item Number of Purchasing Document
EKORG	EKORG	CHAR	4	0	Purchasing organization
ESOKZ	ESOKZ	CHAR	1	0	Purchasing info record category
WERKS	EWERK	CHAR	4	0	Plant
MATNR	MATNR	CHAR	18	0	Material number
LIFNR	ELIFN	CHAR	10	0	Vendor's account number
LOEKZ	ILOEE	CHAR	1	0	Purch. info: Purch. organization data flagged for deletion
ERDAT	ERDAT	DATS	8	0	Date on which the record was created
BSTYP	BSTYP	CHAR	1	0	Purchasing document category
EKGRP	BKGRP	CHAR	3	0	Purchasing group
ANGNR	ANGNR	CHAR	10	0	Quotation number
ANFNR	ANFNR	CHAR	10	0	RFQ number
ANFPS	ANFPS	NUMC	5	0	Item number of RFQ
.APPEND	ZAZOXED10108		0	0	Append Structure for MM Purchasing Info Records
ZZKSCHL	KSCHL	CHAR	4	0	Condition type
ZZFESKZ	FESKZ	CHAR	1	0	Fixed source of supply

Appended structure



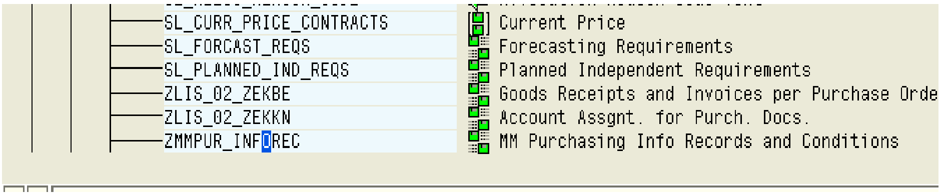
.APPEND	ZAZOXED10108		0	0	Append Structure for MM Purchasing Info Records
ZZKSCHL	KSCHL	CHAR	4	0	Condition type
ZZFESKZ	FESKZ	CHAR	1	0	Fixed source of supply
ZZKDATB	KDATB	DATS	8	0	Start of validity period
ZZKDATE	KDATE	DATS	8	0	End of validity period
ZZVTEXT	VTEXT	CHAR	20	0	Description
ZZKPEIN	KPEIN	DEC	5	0	Condition pricing unit
ZZKMEIN	KMEIN	UNIT	3	0	Condition unit
ZZKBETR	KBETR	CURR	11	2	Rate (condition amount or percentage)
ZZKONWA	KONWA	CUKY	5	0	Rate unit (currency or percentage)
ZZTERM	DZTERM	CHAR	4	0	Terms of payment key
ZZTERMT	TEXT1_052	CHAR	50	0	Own Explanation of Term of Payment
ZZBD1T	DZBDET	DEC	3	0	Cash (prompt payment) discount days

You can access the data source through the extractor checker – Tcode RSA3 – and check for the data. You will find that the appended fields are not displayed. Why? The appended fields are still 'hidden' and unless we 'unhide' them the fields will not appear in the extractor checker.

Un-hiding the fields in the appended structure of a data source

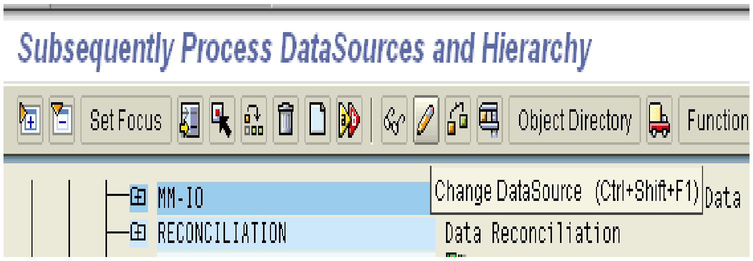
To unhide fields from the data source structure go to transaction **RSA6**.

Select the data source we created from the application component hierarchy. (We selected MM as the application component for the data source).



SL_CURR_PRICE_CONTRACTS	Current Price
SL_FORCAST_REQS	Forecasting Requirements
SL_PLANNED_IND_REQS	Planned Independent Requirements
ZLIS_02_ZEKBE	Goods Receipts and Invoices per Purchase Orde
ZLIS_02_ZEKKN	Account Assgnt. for Purch. Docs.
ZMMPUR_INFOREC	MM Purchasing Info Records and Conditions

Click on ‘Change data source’ icon from the top menu



Subsequently Process DataSources and Hierarchy

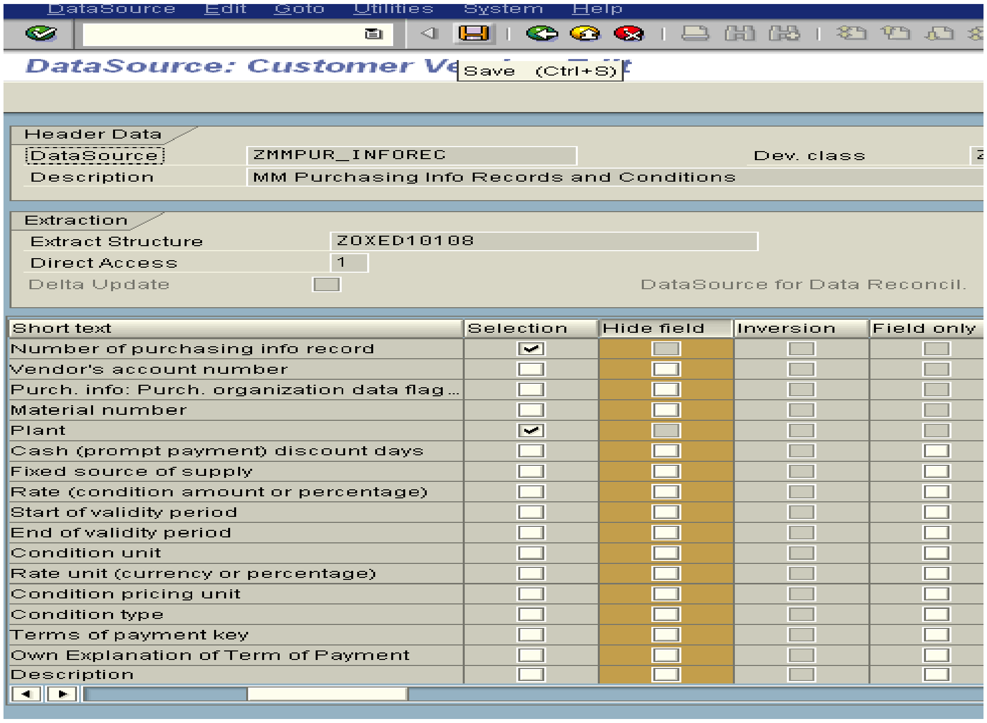
MM-IO	Data
RECONCILIATION	Data Reconciliation

The data source fields are displayed. The newly appended fields are displayed with a tick-mark in the ‘Hide field’ column. Fields if hidden in the extraction structure are excluded from the data transfer, set this flag. The field is then no longer available in BW for determining transfer rules and therefore cannot be used for generating transfer structures.

Unhide the fields.

The indicator *Field known only in Exit* is set for the fields in an append structure, meaning that by default, these fields are not passed to the extractor in the field list and the selection table. Remove the *Field known only in Exit* indicator, to get the Service API to pass the field in the append structure to the extractor.

Save the data source.



DataSource: Customer Ve

Header Data

DataSource ZMMPUR_INFOREC Dev. class Z

Description MM Purchasing Info Records and Conditions

Extraction

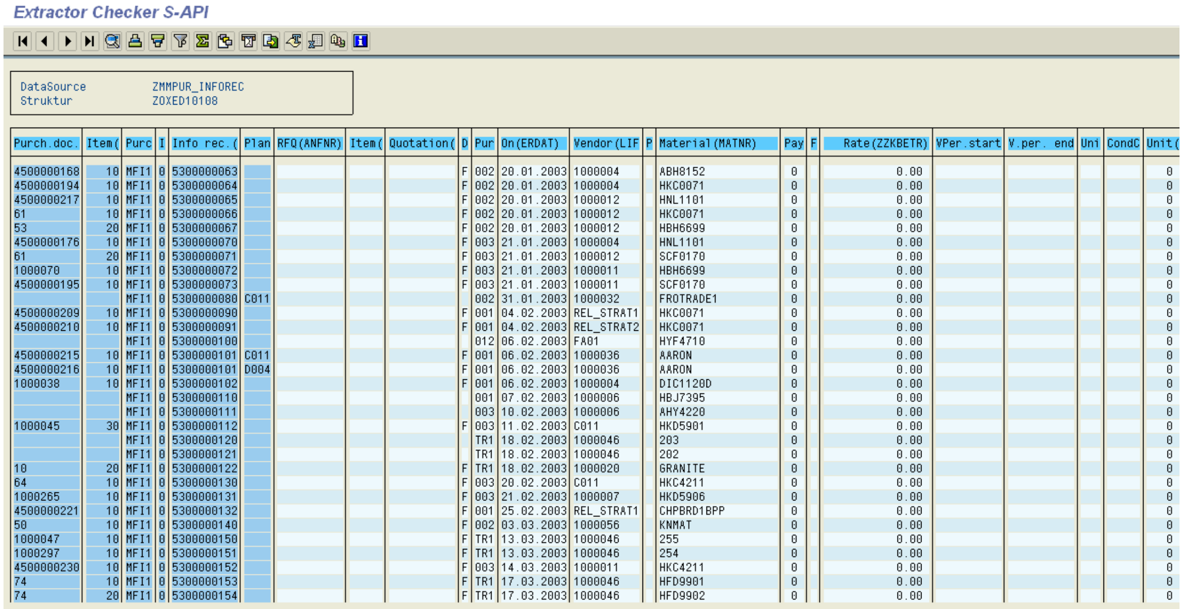
Extract Structure ZOXED10108

Direct Access 1

Delta Update □ DataSource for Data Reconcil.

Short text	Selection	Hide field	Inversion	Field only
Number of purchasing info record	☑	□	□	□
Vendor's account number	□	□	□	□
Purch. info: Purch. organization data flag…	□	□	□	□
Material number	□	□	□	□
Plant	☑	□	□	□
Cash (prompt payment) discount days	□	□	□	□
Fixed source of supply	□	□	□	□
Rate (condition amount or percentage)	□	□	□	□
Start of validity period	□	□	□	□
End of validity period	□	□	□	□
Condition unit	□	□	□	□
Rate unit (currency or percentage)	□	□	□	□
Condition pricing unit	□	□	□	□
Condition type	□	□	□	□
Terms of payment key	□	□	□	□
Own Explanation of Term of Payment	□	□	□	□
Description	□	□	□	□

If you now check the Extractor checker (RSA3) you will find the appended fields, however, without any values.



Extractor Checker S-API

DataSource ZMMPUR_INFOREC
Struktur ZOXED10108

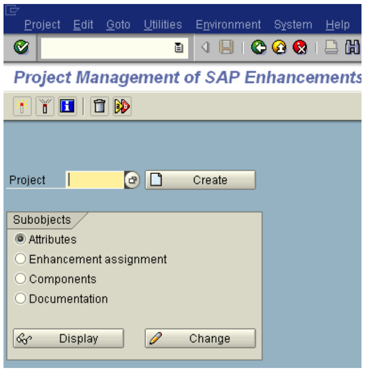
Purch.doc.	Item(	Purc	I	Info rec.(	Plan	RFQ(ANFNR)	Item(	Quotation(	D	Pur	On(ERDAT)	Vendor(LIF	P	Material(MATNR)	Pay	F	Rate(ZZKBETR)	VPer.start	V.per. end	Uni	CondC	Unit(
4500000168	10	MFI1	0	5300000063					F	002	20.01.2003	1000004		ABH8152	0		0.00					0
4500000194	10	MFI1	0	5300000064					F	002	20.01.2003	1000004		HKC0071	0		0.00					0
4500000217	10	MFI1	0	5300000065					F	002	20.01.2003	1000012		HNL1101	0		0.00					0
61	10	MFI1	0	5300000066					F	002	20.01.2003	1000012		HKC0071	0		0.00					0
53	20	MFI1	0	5300000067					F	002	20.01.2003	1000012		HBH6699	0		0.00					0
4500000176	10	MFI1	0	5300000070					F	003	21.01.2003	1000004		HNL1101	0		0.00					0
61	20	MFI1	0	5300000071					F	003	21.01.2003	1000012		SCF0170	0		0.00					0
1000070	10	MFI1	0	5300000072					F	003	21.01.2003	1000011		HBH6699	0		0.00					0
4500000195	10	MFI1	0	5300000073					F	003	21.01.2003	1000011		SCF0170	0		0.00					0
		MFI1	0	5300000080	C011					002	31.01.2003	1000032		FROTRADE1	0		0.00					0
4500000209	10	MFI1	0	5300000090					F	001	04.02.2003	REL_STRAT1		HKC0071	0		0.00					0
4500000210	10	MFI1	0	5300000091					F	001	04.02.2003	REL_STRAT2		HKC0071	0		0.00					0
		MFI1	0	5300000100						012	06.02.2003	FA01		HYF4710	0		0.00					0
4500000215	10	MFI1	0	5300000101	C011				F	001	06.02.2003	1000036		AARON	0		0.00					0
4500000216	10	MFI1	0	5300000101	D004				F	001	06.02.2003	1000036		AARON	0		0.00					0
1000038	10	MFI1	0	5300000102					F	001	06.02.2003	1000004		DIC1120D	0		0.00					0
		MFI1	0	5300000110						001	07.02.2003	1000006		HBJ7395	0		0.00					0
		MFI1	0	5300000111						003	10.02.2003	1000006		AHY4220	0		0.00					0
1000045	30	MFI1	0	5300000112					F	003	11.02.2003	C011		HKD5901	0		0.00					0
		MFI1	0	5300000120						TR1	18.02.2003	1000046		203	0		0.00					0
		MFI1	0	5300000121						TR1	18.02.2003	1000046		202	0		0.00					0
10	20	MFI1	0	5300000122					F	TR1	18.02.2003	1000020		GRANITE	0		0.00					0
64	10	MFI1	0	5300000130					F	003	20.02.2003	C011		HKC4211	0		0.00					0
1000265	10	MFI1	0	5300000131					F	003	21.02.2003	1000007		HKD5906	0		0.00					0
4500000221	10	MFI1	0	5300000132					F	001	25.02.2003	REL_STRAT1		CHPBRD1BPP	0		0.00					0
50	10	MFI1	0	5300000140					F	002	03.03.2003	1000056		KNMAT	0		0.00					0
1000047	10	MFI1	0	5300000150					F	TR1	13.03.2003	1000046		255	0		0.00					0
1000297	10	MFI1	0	5300000151					F	TR1	13.03.2003	1000046		254	0		0.00					0
4500000230	10	MFI1	0	5300000152					F	003	14.03.2003	1000011		HKC4211	0		0.00					0
74	10	MFI1	0	5300000153					F	TR1	17.03.2003	1000046		HFD9901	0		0.00					0
74	20	MFI1	0	5300000154					F	TR1	17.03.2003	1000046		HFD9902	0		0.00					0

The appended fields which do not pull any value need to be populated through a Customer Exit. The customer exit will integrate the data source / extract structure with other relevant tables and populate these fields.

Populating Appended fields in the extract structure of a Data source (through Customer Exit)

The next step is to populate the custom fields that we have included in the Generic data source. These custom fields could be Z-fields or standard fields from SAP. You will need to write a ABAP customer exit to populate these fields.

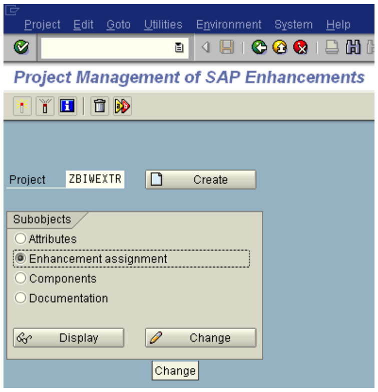
Use T-code CMOD to access the Management screen for custom enhancements.


Project Edit Goto Utilities Environment System Help
Project Management of SAP Enhancements
Create
Display
Change

Project

Subobjects
- ● Attributes
- ○ Enhancement assignment
- ○ Components
- ○ Documentation

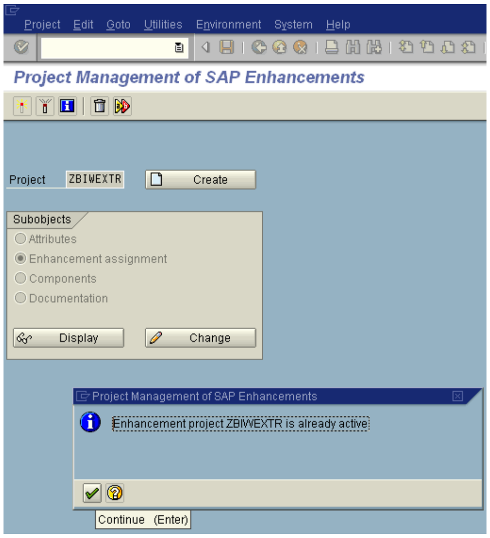
Enter the relevant Project name and click on change.


Project Edit Goto Utilities Environment System Help
Project Management of SAP Enhancements
Create
Display
Change
Change

Project ZBIWEXTR

Subobjects
- ○ Attributes
- ● Enhancement assignment
- ○ Components
- ○ Documentation

At the next prompt, select ‘Continue’

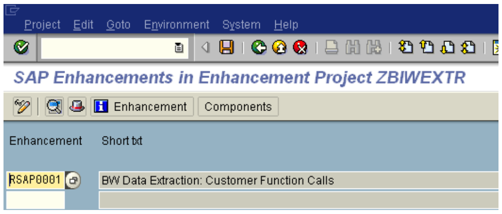

Project Edit Goto Utilities Environment System Help
Project Management of SAP Enhancements
Create
Display
Change
Project Management of SAP Enhancements
Continue (Enter)

Project ZBIWEXTR

Subobjects
- ○ Attributes
- ● Enhancement assignment
- ○ Components
- ○ Documentation

Enhancement project ZBIWEXTR is already active

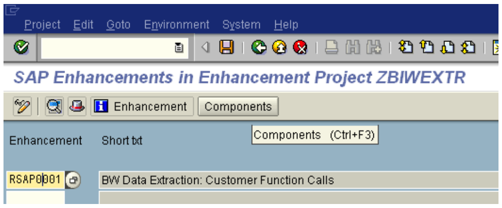
The standard SAP enhancements provided by SAP for BW extraction enhancements are displayed



SAP Enhancements in Enhancement Project ZBIWEXTR

Enhancement	Short txt
RSAP0001	BW Data Extraction: Customer Function Calls

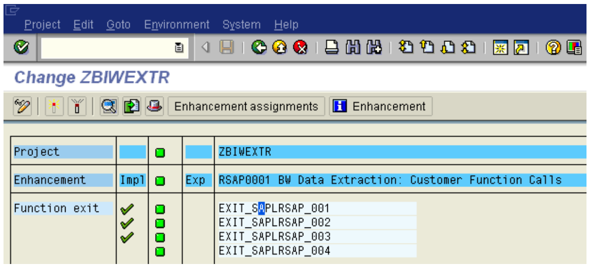
Select the enhancement RSAP00001 and component



SAP Enhancements in Enhancement Project ZBIWEXTR

Enhancement	Short txt
RSAP0001	BW Data Extraction: Customer Function Calls

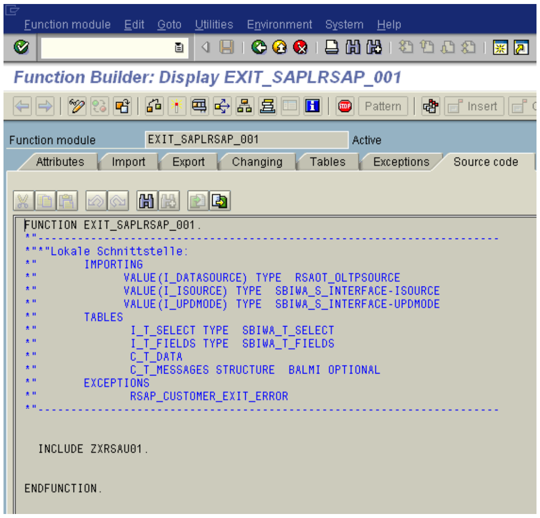
The system now prompts you to select the relevant customer exit.



Change ZBIWEXTR

Project		🟩		ZBIWEXTR
Enhancement	Impl	🟩	Exp	RSAP0001 BW Data Extraction: Customer Function Calls
Function exit	✓	🟩		EXIT_SAPLRSAP_001
	✓	🟩		EXIT_SAPLRSAP_002
	✓	🟩		EXIT_SAPLRSAP_003
		🟩		EXIT_SAPLRSAP_004

As we are enhancing a transaction data source we will be selecting the relevant customer exit that is meant for populating the transaction data sources. This customer exit is EXIT_SAPLRSAP_001. Take the cursor on the exit and double-click.



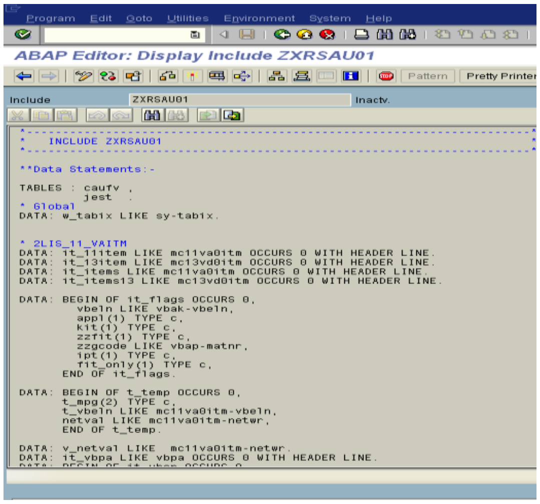
Function Builder: Display EXIT_SAPLRSAP_001

Function module EXIT_SAPLRSAP_001 Active

```
FUNCTION EXIT_SAPLRSAP_001.
*"----------------------------------------------------------------------
*"*"Lokale Schnittstelle:
*"       IMPORTING
*"             VALUE(I_DATASOURCE) TYPE  RSAOT_OLTPSOURCE
*"             VALUE(I_ISOURCE) TYPE  SBIWA_S_INTERFACE-ISOURCE
*"             VALUE(I_UPDMODE) TYPE  SBIWA_S_INTERFACE-UPDMODE
*"       TABLES
*"              I_T_SELECT TYPE  SBIWA_T_SELECT
*"              I_T_FIELDS TYPE  SBIWA_T_FIELDS
*"              C_T_DATA
*"              C_T_MESSAGES STRUCTURE  BALMI OPTIONAL
*"       EXCEPTIONS
*"              RSAP_CUSTOMER_EXIT_ERROR
*"----------------------------------------------------------------------


  INCLUDE ZXRSAU01.


ENDFUNCTION.
```

Select the Include (ZXRSAU01).

The ABAP Editor is displayed. You can now develop a custom routine to integrate the generic data source/extractor with other tables and fill the custom fields in the generic data source with values from other tables (pl refer the table list above).


Program Edit Goto Utilities Environment System Help
ABAP Editor: Display Include ZXRSAU01
Pattern
Pretty Printer

Include ZXRSAU01 Inactv.

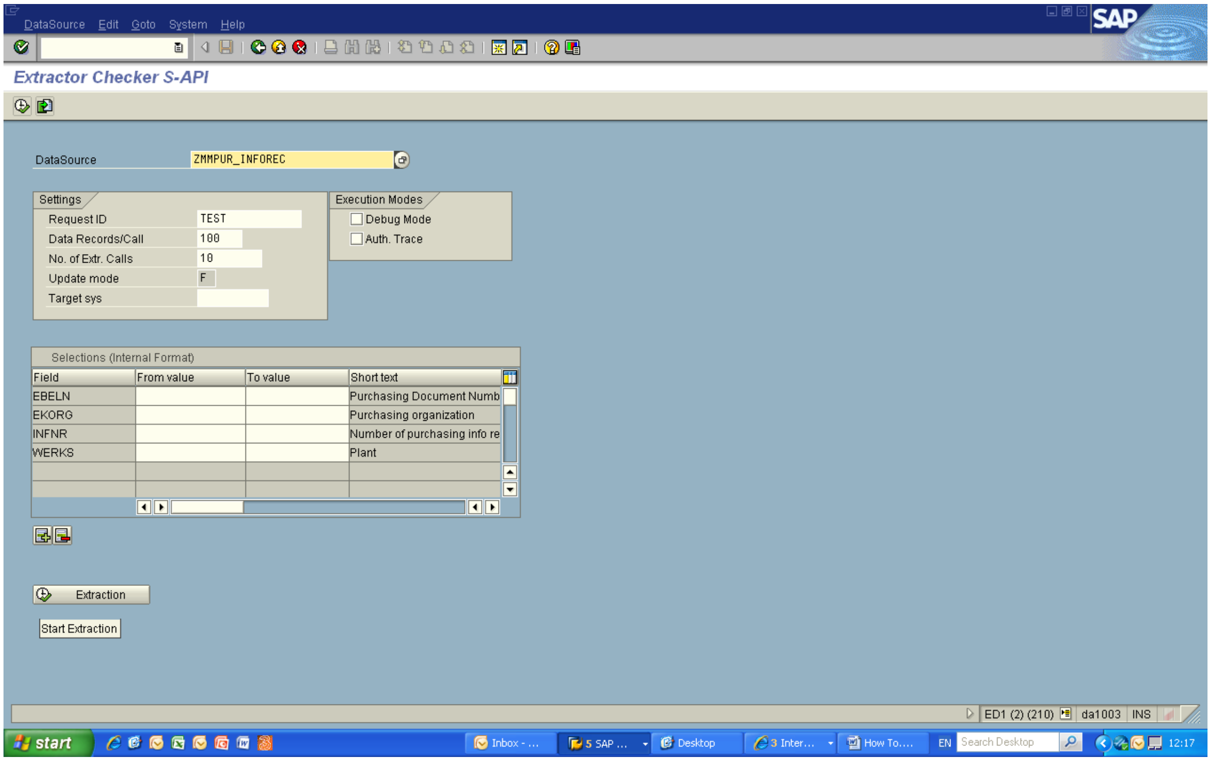
```
*---------------------------------------------------------------------*
*   INCLUDE ZXRSAU01                                                  *
*---------------------------------------------------------------------*

**Data Statements:-

TABLES : caufv ,
         jest  .
* Global
DATA: w_tabix LIKE sy-tabix.


* 2LIS_11_VAITM
DATA: it_11item LIKE mc11va0itm OCCURS 0 WITH HEADER LINE.
DATA: it_13item LIKE mc13vd0itm OCCURS 0 WITH HEADER LINE.
DATA: it_items LIKE mc11va0itm OCCURS 0 WITH HEADER LINE.
DATA: it_items13 LIKE mc13vd0itm OCCURS 0 WITH HEADER LINE.

DATA: BEGIN OF it_flags OCCURS 0,
        vbeln LIKE vbak-vbeln,
        appl(1) TYPE c,
        kit(1) TYPE c,
        zzfit(1) TYPE c,
        zzgcode LIKE vbap-matnr,
        ipt(1) TYPE c,
        fit_only(1) TYPE c,
      END OF it_flags.

DATA: BEGIN OF t_temp OCCURS 0,
      t_mpg(2) TYPE c,
      t_vbeln LIKE mc11va0itm-vbeln,
      netval LIKE mc11va0itm-netwr,
      END OF t_temp.

DATA: v_netval LIKE  mc11va0itm-netwr.
DATA: it_vbpa LIKE vbpa OCCURS 0 WITH HEADER LINE.
DATA: BEGIN OF it_vbap OCCURS 0,
```

A sample code is attached in Appendix A which populates a few fields that we have added in our generic data source.

Save the exit and activate it.

Checking the data in the Custom fields of the Generic Data source using the Extractor Checker

You can check the data in the custom fields of the data source by using the Extractor checked – Tcode **RSA3**.



Extractor Checker S-API

DataSource ZMMPUR_INFOREC

Settings

Request ID TEST
Data Records/Call 100
No. of Extr. Calls 10
Update mode F
Target sys

Execution Modes

□ Debug Mode
□ Auth. Trace

Selections (Internal Format)

Field	From value	To value	Short text
EBELN			Purchasing Document Numb
EKORG			Purchasing organization
INFNR			Number of purchasing info re
WERKS			Plant

ED1 (2) (210) da1003 INS

Appendix

This is an example of a code sample: The code populates a few of the custom fields that we have added in the generic extractor.

```
    //This is a code sample block

    CASE i_datasource.
    WHEN 'ZMM_BWDS_CONTRACTS'.
        it_contr[] =  c_t_data[].

        PERFORM extract_conditions CHANGING it_contr[].

        REFRESH c_t_data.
        c_t_data[] = it_contr[].
    ENDCase.

*&---------------------------------------------------------------------*
*&      Form  extract_conditions
*&---------------------------------------------------------------------*
*       Condition header KONH
*       condition details KONP
*       Conditions Transaction KONV
*       EORD Purchasing Source List
*----------------------------------------------------------------------*
*  -->  p_t_data - Data from view without condition data
*  <--  p_t_data - Data with condition data sent back to program
    *----------------------------------------------------------------------*
FORM extract_conditions CHANGING p_t_contr TYPE it_contr.
* Constants
  CONSTANTS:
   lc_% TYPE c VALUE '%',
   lc_a TYPE c VALUE 'A',
   lc_m TYPE c VALUE 'M',
   lc_x TYPE c VALUE 'X'.
* Local types
  TYPES:
* For contract header list
    BEGIN OF ty_konh_vak,
      vakey TYPE vakey,
    END OF ty_konh_vak,
* For EORD records
    BEGIN OF ty_eord        ,
      matnr TYPE eord-matnr ,
      werks TYPE eord-werks ,
      ebeln TYPE eord-ebeln ,
      ebelp TYPE eord-ebelp ,
      flifn TYPE eord-flifn , "(Fixed Vendor)
      fresw TYPE eord-fresw , "(Fixed Issuing plant)
      febel TYPE eord-febel , "(Fixed Purchasing Agreement)
    END   OF ty_eord        ,
* For condition header details
    BEGIN OF ty_konh,
      knumh TYPE knumh,
      vakey TYPE vakey,
      datab TYPE datab,
      datbi TYPE datbi,
    END OF ty_konh,
* For condition item details
    BEGIN OF ty_konp,
      knumh     TYPE knumh,
      kschl     TYPE kschl,
      kbetr     TYPE kbetr,
      konwa     TYPE konwa,
      kpein     TYPE kpein,
      kmein     TYPE kmein,
    END OF ty_konp        .
* local data
  DATA:
   lv_flag      TYPE c                                 ,
   lw_contr     TYPE zoxed10108                       ,
   lt_contr     TYPE TABLE OF zoxed10108  WITH HEADER LINE ,
   lt_konh      TYPE TABLE OF ty_konh     WITH HEADER LINE ,
   lt_konh_vak  TYPE TABLE OF ty_konh_vak WITH HEADER LINE ,
   lw_konp      TYPE ty_konp                           ,
   lt_konp      TYPE TABLE OF ty_konp     WITH HEADER LINE ,
   lt_eord      TYPE TABLE OF ty_eord     WITH HEADER LINE ,
  lt_final     TYPE TABLE OF zoxed10108  WITH HEADER LINE .
* loop at the view data and build the range (like cursor)
  LOOP AT p_t_contr INTO lw_contr.
* Build the range values
    CONCATENATE lw_contr-ebeln
                lw_contr-ebelp
           INTO lt_konh_vak-vakey.
* add to the varkey table
    APPEND lt_konh_vak.
  ENDLOOP.
* Select EORD records
  SELECT matnr  werks  ebeln
         ebelp  flifn  febel  fresw
    FROM eord
    INTO CORRESPONDING FIELDS OF TABLE lt_eord
     FOR ALL ENTRIES IN p_t_contr
   WHERE matnr EQ p_t_contr-matnr
     AND ebeln EQ p_t_contr-ebeln.
  break yesudasf.
* Now for every entry in the P_T_CONTR table check if there is entry in
* EORD table and if it has more than one entry present for different
* plants then repeat the record for the plant details.
  LOOP AT p_t_contr INTO lw_contr.
    CLEAR lt_contr.
    MOVE-CORRESPONDING lw_contr TO lt_contr.
    CLEAR lv_flag.
    LOOP AT lt_eord WHERE matnr EQ lt_contr-matnr
                      AND ebeln EQ lt_contr-ebeln
                      AND ebelp EQ lt_contr-ebelp.
      lt_contr-werks = lt_eord-werks.
* determine if Fixed vendor of supply
      IF lt_eord-flifn EQ lc_x  "(Fixed Vendor)
      OR lt_eord-fresw EQ lc_x  "(Fixed Issuing plant)
      OR lt_eord-febel EQ lc_x ."(Fixed Purchasing Agreement)
        lt_contr-feskz = lc_x. " mark as Fixed vendor is present
      ENDIF.
      APPEND lt_contr.
      CLEAR lt_contr-feskz.
      lv_flag = lc_x.
    ENDLOOP.
    IF lv_flag IS INITIAL.
      APPEND lt_contr.
    ENDIF.
  ENDLOOP.
* Now Get condition header records for the LT_KONH_VAK entry
  SELECT knumh vakey datab datbi
    FROM konh
    INTO TABLE lt_konh
    FOR ALL ENTRIES IN lt_konh_vak
    WHERE vakey = lt_konh_vak-vakey.
  IF sy-subrc EQ 0.
* As there could be many conditions with different validity dates hence
* get the most latest record by sorting it based on the date.
    SORT lt_konh DESCENDING BY knumh datab ASCENDING vakey .
* For each entry in the condition header get the condition details from
* the KONP table where the condition is active
    SELECT knumh kschl kbetr konwa kpein kmein
      FROM konp
      INTO TABLE lt_konp
       FOR ALL ENTRIES IN lt_konh
     WHERE knumh    EQ lt_konh-knumh
       AND loevm_ko NE lc_x.
  ENDIF.
  LOOP AT lt_contr INTO lw_contr.
* Go find the condition header record for the contract from the
* KONH table
    CLEAR lv_flag.
    READ TABLE lt_konh WITH KEY vakey+0(10) = lw_contr-ebeln
                                vakey+10(5) = lw_contr-ebelp.
    IF sy-subrc EQ 0.
      lw_contr-kdatb = lt_konh-datab.
      lw_contr-kdate = lt_konh-datbi.
* Get the condition GROSS amount first as this is used to calculate the
* amount for percentage based condition entries
      CLEAR lw_konp.
      READ TABLE lt_konp INTO lw_konp
                         WITH KEY knumh = lt_konh-knumh
                                  kschl = 'YB00'.
* Now get all other condition details
      LOOP AT lt_konp WHERE knumh EQ lt_konh-knumh.
* Get the condition text
        CLEAR lw_contr-vtext.
        SELECT SINGLE vtext
        FROM t685t
        INTO lw_contr-vtext
        WHERE spras EQ sy-langu
          AND kvewe EQ lc_a
          AND kappl EQ lc_m
          AND kschl EQ lt_konp-kschl.
* Assign all other values
        lw_contr-kschl = lt_konp-kschl.
        lw_contr-konwa = lt_konp-konwa.
* Calculate the actual amount value for any percentage figure
        IF lt_konp-konwa EQ lc_%.
          lw_contr-kbetr = ( lw_konp-kbetr * lt_konp-kbetr ) / 1000.
        ELSE.
          lw_contr-kbetr = lt_konp-kbetr.
        ENDIF.
        lw_contr-kpein = lt_konp-kpein.
        lw_contr-kmein = lt_konp-kmein.
        lt_final = lw_contr.
        APPEND lt_final.
        lv_flag = lc_x.
        CLEAR :lw_contr-kschl, lw_contr-konwa, lw_contr-kbetr,
               lw_contr-kpein, lw_contr-kmein.
      ENDLOOP.
    ENDIF.
    IF lv_flag IS INITIAL.
      lt_final = lw_contr.
      APPEND lt_final.
    ENDIF.
  ENDLOOP.
  SORT lt_contr.
  DELETE ADJACENT DUPLICATES FROM lt_contr.
  REFRESH p_t_contr.
  p_t_contr[] = lt_final[].
ENDFORM.
```

Related Content

SAP Network Blog: Extract Checker
SAP Network Blog : Generic extraction using a function module

SAP Wiki : Frequently Used Tables

SAP Network Blog: Generic Data extraction in SAP BW decoded – Part 1

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