

ABAP QUERY – AN EXAMPLE

Applies To :

ECC 5.0

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Summary :

This article will introduce you about ABAP Query and explain how to create an ABAP Query based on a case scenario.

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What Is ABAP Query

- A tool to generate report without ABAP coding.
All you need is to join the table and drag and drop field that you wish to occur in the report.
- Type of reports provided by ABAP Query :
 1. Basic List
Simple Report.
 2. Statistics
Report containing statistical functions like Average & Percentage.
 3. Ranked List
Report written for analytical purpose.

A Case Scenario

There is a request to generate a report display who should release a PO and message status of the PO.

The selections are based on :

- Date on which the record was created
- Purchasing Organization
- Purchasing Group
- Release Code
- Vendor's Account Number
- Purchasing Document Type

For example :

We would like to display all PO which was created on a certain date. With information about who should release the PO or who is the latest releaser (for PO that has been full release) and the message type of the PO (has been print, mail, fax).

Creating ABAP Query

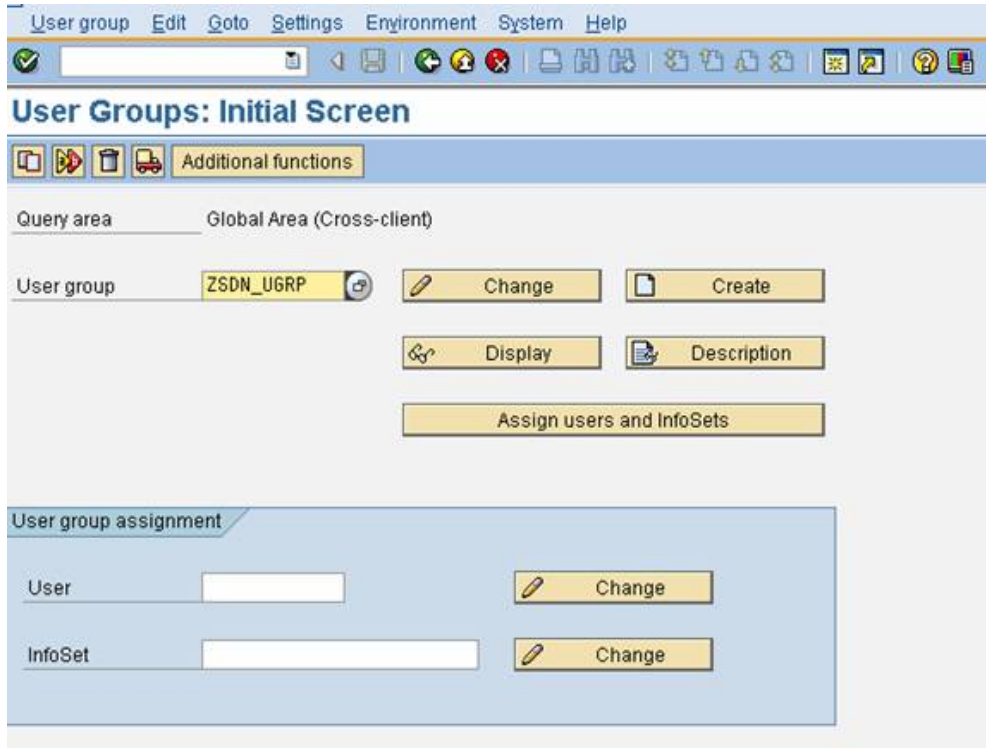
Now, we come to step in creating ABAP Query. There are 3 steps :

1. Create User Group (SQ03)
Specify the users who should be authorized to run the query.
2. Create InfoSet (SQ02)
Indicates from which part of the SAP database the data is going to be retrieved and how the data is to be retrieved by the query.
3. Create Queries (SQ01)
Create the query and arrange the layout.

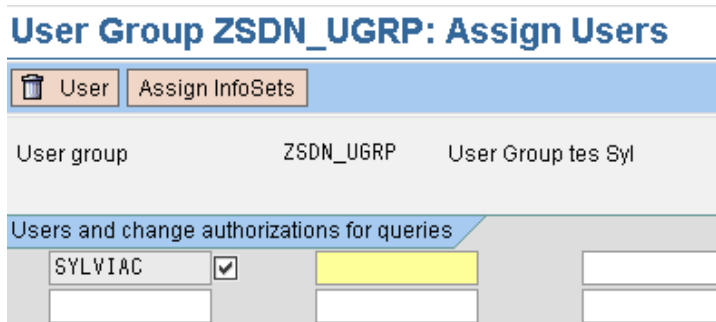
Here are the detail explanation of each step :

- Create User Group (SQ03)

- ❖ Go to SQ03 to create User Group

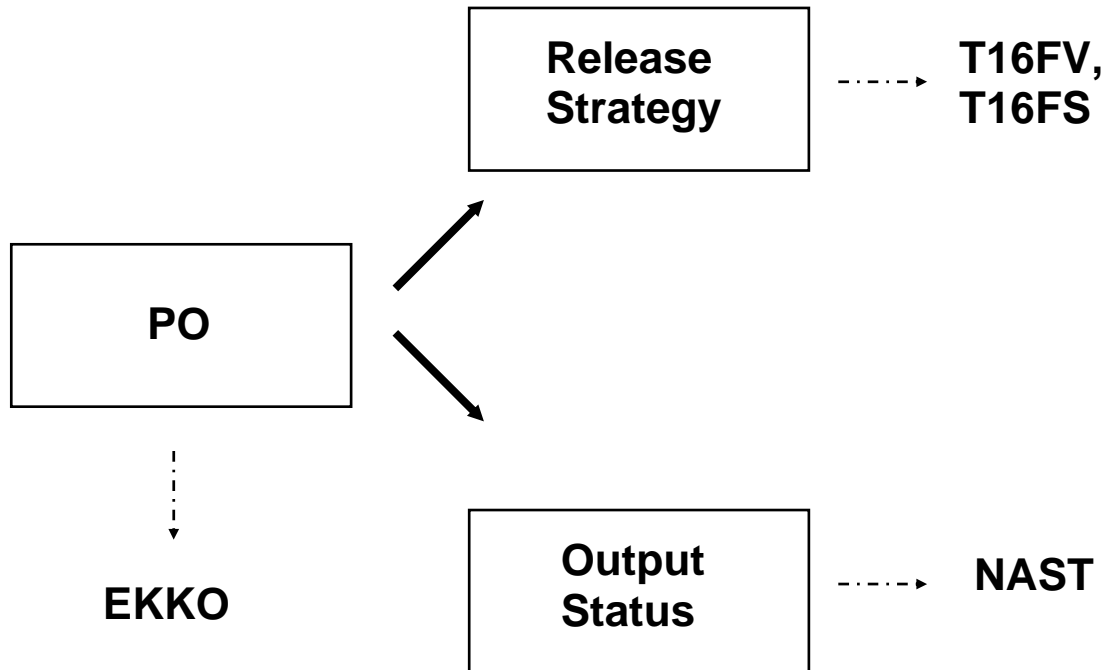


- ❖ Klik Assign users and Infosets
Assign user to this user group.



● Create InfoSet

This report need information about PO, PO releaser and PO Message Status. So that the table relation could be describe as below :



- ❖ Go To SQ02 to create Infoset
Give the title of the Infoset.
On Table join using basis table enter the basic table that u want to join (for this case example we want to join several table with basic table is T16FV, because the selection based on release code and T16FV is a Release Prerequisites table).

Display InfoSet : Title and Database

Name: tes syl

Authorization group: []

Data Source

- Table join using basis table: T16FV
- Direct read of table: []
- Logical database: []
- Selection screen version: []
- Data retrieval by program
- Data structure: []
- Integrated program
- External program: []

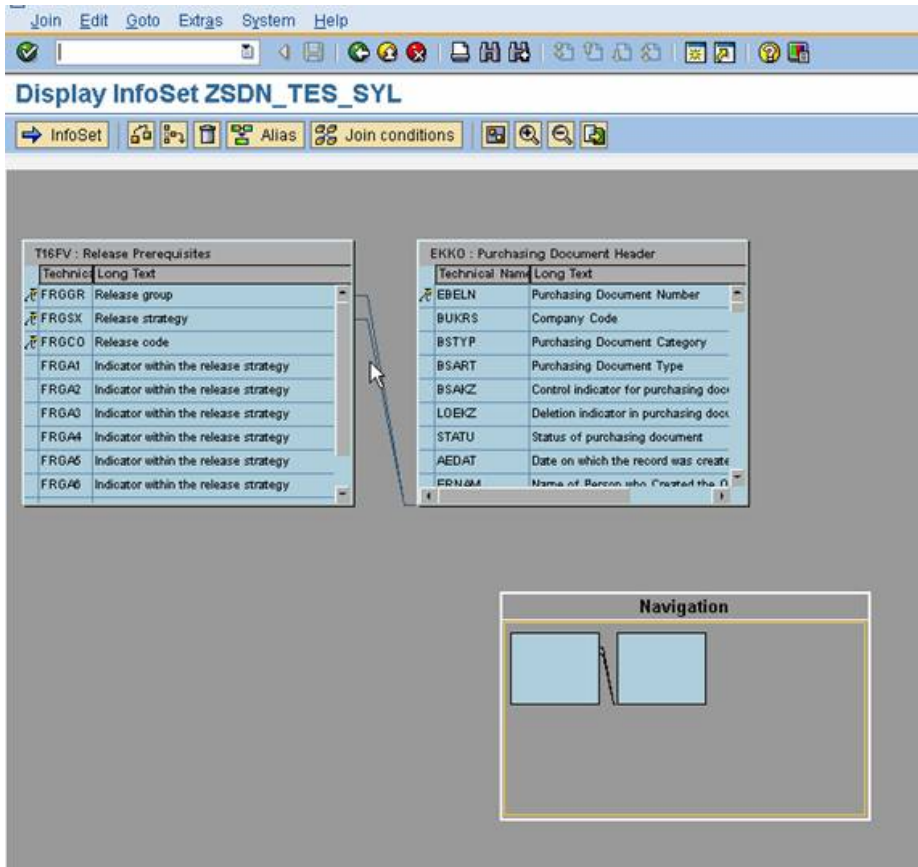
Options

- no automatic text recognition
- Fixed point arithmetic

Class for Authorization Check: CL_QUERY_TAB_ACCESS_AUTHORITY

Further options [X]

- ❖ Join The Table
Give a relation between the tables that you are going to join.



- ❖ Choose The Field For Display
Choose field (from tables you have joined before) that you would like to display.

The screenshot shows the SAP InfoSet ZSDN_TES_SYL interface. The main window is titled "Display InfoSet ZSDN_TES_SYL" and contains two panes for field selection.

Left Pane: Data fields

Data fields	Technical name
Join	
Release Prerequisites	T16FV
Purchasing Document Header	EKKO
Additional fields	
Print	NEU
Send By Fax	NEU1
Send By Email	NEU2

Right Pane: Field Group/data fields

Field Group/data fields	Technical name
01 Release Prerequisites	
Purchasing Document Number	EKKO-EBELN
Vendor's account number	EKKO-LIFNR
Release code	T16FV-FRGCO
Date on which the record was created	EKKO-AEDAT
Purchasing Document Type	EKKO-BSART
Release status	EKKO-FRGZU
Release Indicator: Purchasing Document	EKKO-FRGKE
Purchasing Organization	EKKO-EKORG
Purchasing group	EKKO-EKGRP
Release group	EKKO-FRGGR
Release strategy	EKKO-FRGSR

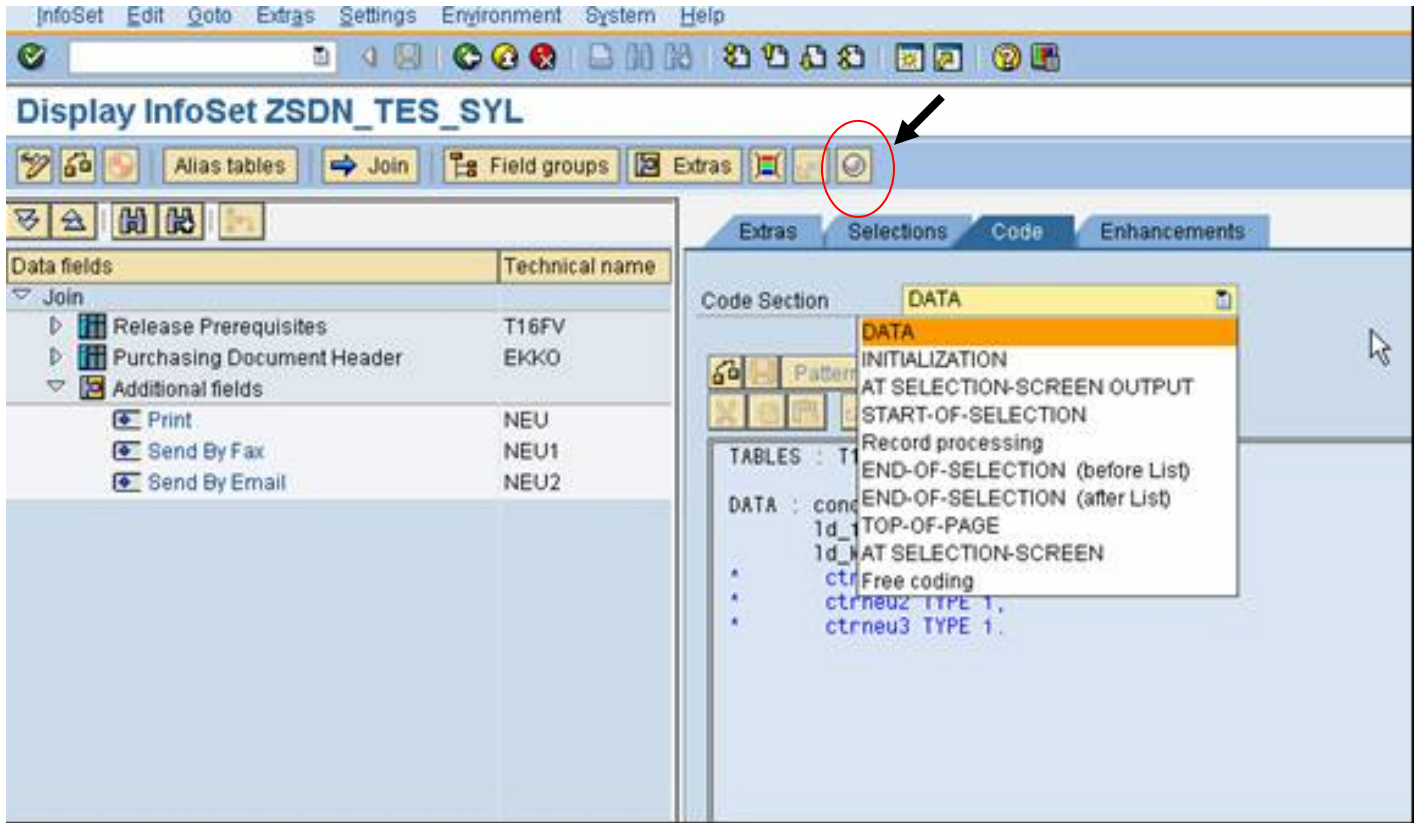
At the bottom of the right pane, a message box states: "No field selected. Select a field by double-clicking".

- ❖ Create Additional Fields
Create additional fields if you need them.

The screenshot shows the SAP InfoSet configuration tool interface. The main window title is "Display InfoSet ZSDN_TES_SYL". The "Extras" tab is selected, showing a table of additional fields. The table has columns for "Name", "Type", and "Description". The fields listed are:

Name	Type	Description
0 NEU	Addnl Field	Print
0 NEU1	Addnl Field	Send By Fax
0 NEU2	Addnl Field	Send By Email
1 <Code>	Code	

- ❖ Create Coding
You can add some coding in some section. Click the button inside the red circle.



On this case I add coding at code section:

- DATA
TABLES : T16FS, NAST.
DATA : condition(5) TYPE c,
Id_frgc1 LIKE t16fs-frgc1,
Id_kschl LIKE nast-kschl.
* ctrneu TYPE i,
* ctrneu2 TYPE i,
* ctrneu3 TYPE i.
- Record Processing
CLEAR : NEU, NEU1, NEU2.

SELECT kschl INTO Id_kschl FROM nast
WHERE kappl = 'EF' AND objky = ekko-ebeln
AND (kschl = 'NEU' OR kschl = 'NEU1' OR kschl = 'NEU2')
AND spras = 'E' AND vstat = '1'.
IF sy-subrc = 0.
IF Id_kschl = 'NEU'.
NEU = 'X'.
ENDIF.

```
ELSEIF Id_kschl = 'NEU1'.
  NEU1 = 'X'.
ELSEIF Id_kschl = 'NEU2'.
  NEU2 = 'X'.
ENDIF.
ENDIF.
ENDSELECT.
```

- * ctrneu = ctrneu2 = ctrneu3 = 0.
- * CLEAR : NEU, NEU2, NEU3.

IF T16FV-frggr IS NOT INITIAL AND T16FV-frgsx IS NOT INITIAL.

```
CASE EKKO-frgz.
  WHEN ' '.
    condition = 'frgc1'.
  WHEN 'X'.
    condition = 'frgc2'.
  WHEN 'XX'.
    condition = 'frgc3'.
  WHEN 'XXX'.
    condition = 'frgc4'.
  WHEN 'XXXX'.
    condition = 'frgc5'.
  WHEN 'XXXXX'.
    condition = 'frgc6'.
  WHEN 'XXXXXX'.
    condition = 'frgc7'.
  WHEN 'XXXXXXXX'.
    condition = 'frgc8'.
  WHEN 'XXXXXXXXX'.
    condition = 'frgc8'.
ENDCASE.
```

```
SELECT SINGLE (condition) INTO Id_frgc1
FROM t16fs
WHERE frggr = T16FV-frggr AND frgsx = T16FV-frgsx.
```

```
IF Id_frgc1 IS INITIAL.
CASE EKKO-frgz.
  WHEN 'X'.
    condition = 'frgc1'.
  WHEN 'XX'.
    condition = 'frgc2'.
  WHEN 'XXX'.
    condition = 'frgc3'.
  WHEN 'XXXX'.
    condition = 'frgc4'.
  WHEN 'XXXXX'.
    condition = 'frgc5'.
  WHEN 'XXXXXX'.
    condition = 'frgc6'.
  WHEN 'XXXXXXX'.
    condition = 'frgc7'.
```

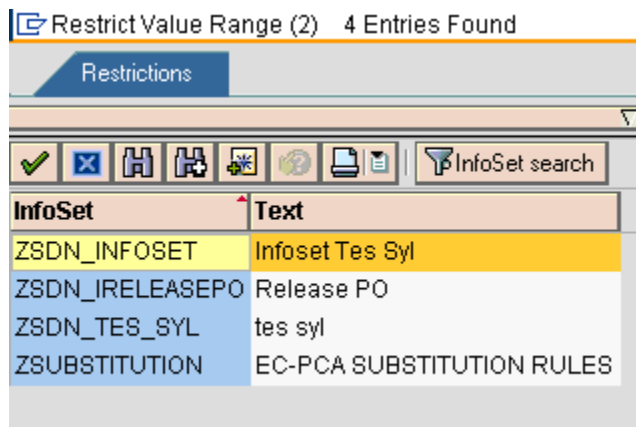
```
WHEN 'XXXXXXXX'.  
    condition = 'frgc8'.  
ENDCASE.
```

```
SELECT SINGLE (condition) INTO Id_frgc1  
FROM t16fs  
WHERE frggr = T16FV-frggr AND frgsx = T16FV-frgsx.  
ENDIF.
```

```
IF T16FV-frgco <> Id_frgc1.  
*   CLEAR : EKKO, T16FV.  
   DELETE : EKKO, T16FV.  
ELSE.  
   MODIFY EKKO.  
ENDIF.  
ENDIF.
```

● Create Queries

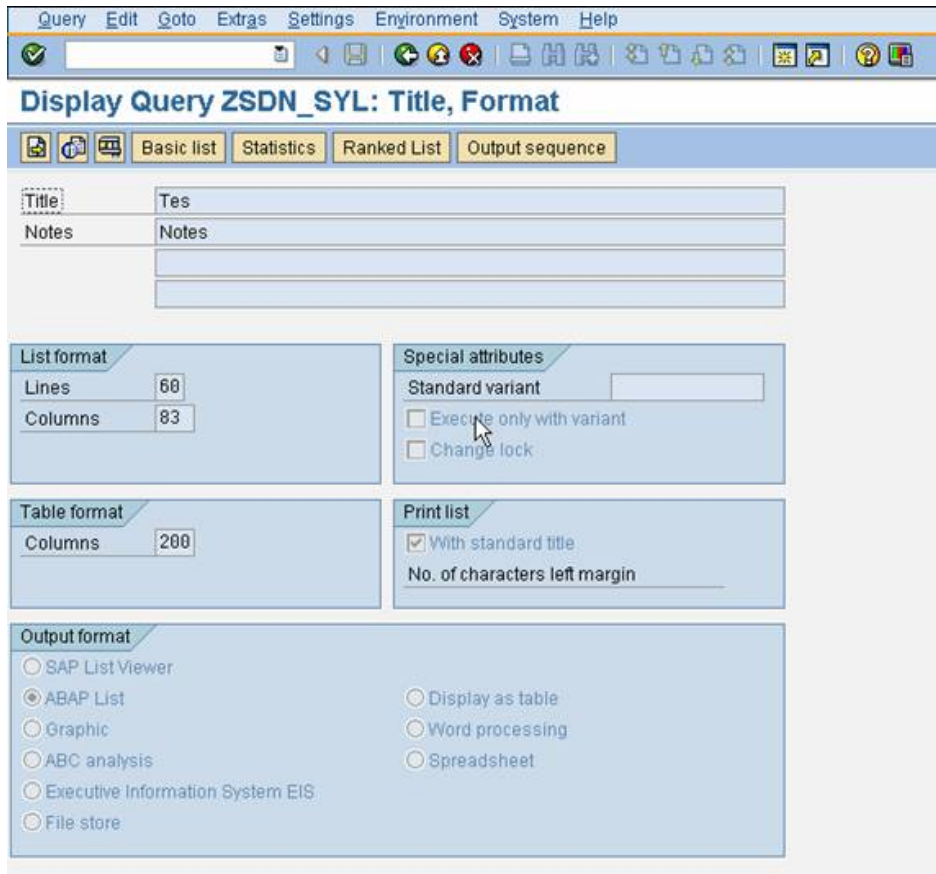
- ❖ Go to SQ01 to create Queries
Firstly, choose the Infoset that you are going to use for this query.



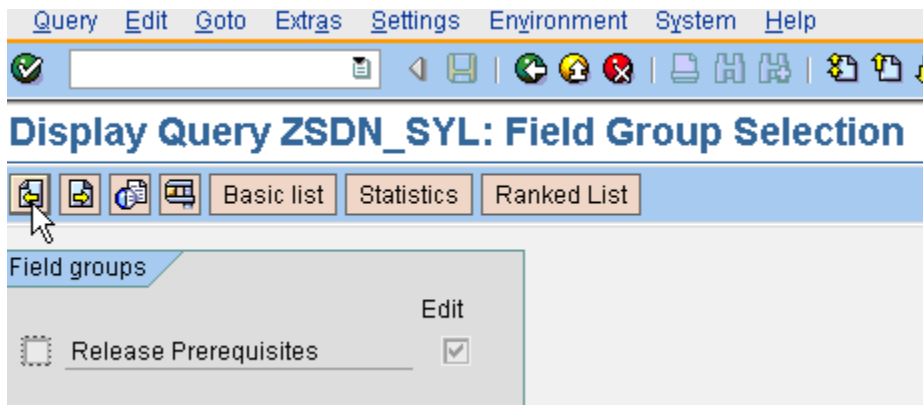
The screenshot shows the 'Restrict Value Range' dialog box in SAP SQ01. The title bar indicates 'Restrict Value Range (2) 4 Entries Found'. The dialog has a 'Restrictions' tab and a toolbar with icons for OK, Cancel, Help, and InfoSet search. Below the toolbar is a table with two columns: 'InfoSet' and 'Text'.

InfoSet	Text
ZSDN_INFOSET	Infoset Tes Syl
ZSDN_IRELEASEPO	Release PO
ZSDN_TES_SYL	tes syl
ZSUBSTITUTION	EC-PCA SUBSTITUTION RULES

Then give a title to this Query.



- ❖ Select Field that would be display by this Query. Started by choosing the Field Group.



Thus select The field.

The screenshot shows a software interface with a menu bar at the top containing 'Query', 'Edit', 'Goto', 'Extras', 'Settings', 'Environment', and 'Syst'. Below the menu bar is a toolbar with various icons. The main title is 'Display Query ZSDN_SYL: Field Select'. Below the title is a toolbar with icons for 'Basic list', 'Statistics', and 'Ranked List'. The 'Fields' section is active, showing a list of fields with checkboxes. The field 'Release Prerequisites' is highlighted with a dashed border. The list of fields includes:

- Purchasing Document Number
- Text:Purchasing Document Number
- Vendor's account number
- Text:Vendor's account number
- Release code
- Text:Release code
- Date on which the record was created
- Purchasing Document Type
- Text:Purchasing Document Type
- Release status
- Release Indicator: Purchasing Document
- Text:Release Indicator: Purchasing Document
- Purchasing Organization
- Text:Purchasing Organization

- ❖ Field For Selection
 - Select field that will be used for the selection screen.
 - Furthermore, you can define the sequence of these fields.

The screenshot shows the SAP Query configuration interface for 'ZSDN_SYL: Selections'. The 'Selection fields' table is as follows:

<input type="checkbox"/>		No:	Selection text	SV	12
<input type="checkbox"/>	Purchasing Document Number		Purchasing Document Numbe	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Vendor's account number	6	Vendor's account number	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Text:Vendor's account number		Text:Vendor's account num	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Release code	5	Release code	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Text:Release code		Text:Release code	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Release group		Release group	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Release strategy		Release strategy	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Release Indicator: Purchasing Document		Release Indicator: Purcha	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Text:Release Indicator: Purchasing Docum...		Text:Release Indicator: P	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Release status		Release status	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Print		Print	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Send By Fax		Send By Fax	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Send By Email		Send By Fax	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Purchasing group	4	Purchasing group	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Purchasing Organization	3	Purchasing Organization	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Purchasing Document Type		Purchasing Document Type	<input type="checkbox"/>	<input type="checkbox"/>

- ❖ Basic List Display
Arrange how you wish you report to be displayed.

Query Edit Goto Extras Settings Environment System Help

Display Query ZSDN_SYL: Basic List Line Structure

Basic list Statistics Ranked List

Basic list with box
 Columns separated by | Compressed display
 Permit row count in SAP List Viewer

Define basic list

Field	Line	Sequence	Sort	Total	Counter
Purchasing Document Number	1	1	1		<input type="checkbox"/>
Vendor's account number	1	2	2		<input type="checkbox"/>
Text:Vendor's account number	1	3	3		<input type="checkbox"/>
Release code	1	4	4		<input type="checkbox"/>
Text:Release code	1	5	5		<input type="checkbox"/>
Release Indicator: Purchasing Document	2	1			<input type="checkbox"/>
Text:Release Indicator: Purchasing Document	2	2			<input type="checkbox"/>
Release status	2	3			<input type="checkbox"/>
Print	2	4			<input type="checkbox"/>
Send By Fax	2	5			<input type="checkbox"/>
Send By Email	3	1			<input type="checkbox"/>
Release group					<input type="checkbox"/>
Release strategy					<input type="checkbox"/>
Purchasing group					<input type="checkbox"/>
Purchasing Organization					<input type="checkbox"/>
Purchasing Document Type					<input type="checkbox"/>
Date on which the record was created					<input type="checkbox"/>

Result Of ABAP Query

● Selection Screen

The screenshot shows the SAP Selection Screen for an ABAP Query. The window title is "Tes". The menu bar includes "Program", "Edit", "Goto", "System", and "Help". The toolbar contains various icons for navigation and execution. The main area is divided into two sections: "Program selections" and "Output format".

Program selections

Date on which the record	<input type="text"/>	to	<input type="text"/>	<input type="button" value="↕"/>
Purchasing Organization	<input type="text"/>	to	<input type="text"/>	<input type="button" value="↕"/>
Purchasing group	<input type="text"/>	to	<input type="text"/>	<input type="button" value="↕"/>
Release code	<input type="text"/>	to	<input type="text"/>	<input type="button" value="↕"/>
Vendor's account number	<input type="text"/>	to	<input type="text"/>	<input type="button" value="↕"/>
Purchasing Document Type	<input type="text"/>	to	<input type="text"/>	<input type="button" value="↕"/>

Output format

SAP List Viewer

ABAP List Display as table

Graphic Word processing

ABC analysis Spreadsheet

Executive Info System (EIS)

File store

Save with ID

Report Layout

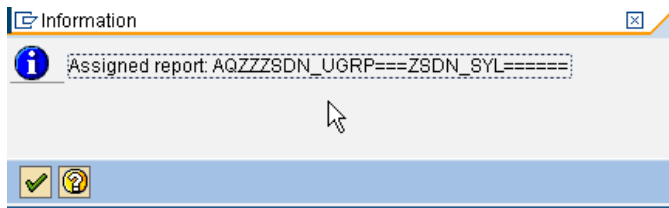
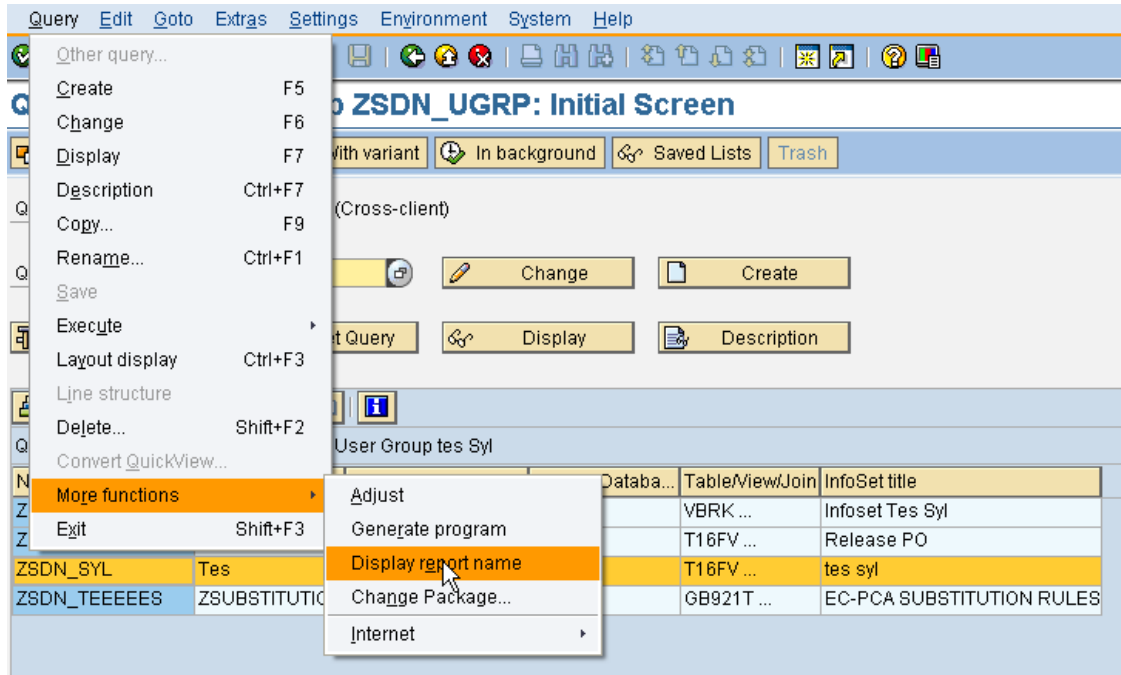
Tes

Purch.Doc.	Vendor	Vendor's account number	Code	Release code	Rel	Release Indicator	Purchasing	Rel stat	Print Out	Send By Fax	Send By Email
4500070041	10347	name1	LN	Lila Nirmandani	1	Blocked for release					
4500070040					1	Blocked for release					
4500070039					1	Blocked for release					
4500070038					1	Blocked for release					
4500070037					1	Blocked for release					
4500070036					1	Blocked for release					
4500070035					1	Blocked for release					
4500070034					1	Blocked for release					
4500070033					1	Blocked for release					
4500070032					1	Blocked for release					

Tips And Tricks

● Complex Report

Every Query actually make a program. Find the program name then copy it to new program then modify it as you wish.



● Infoset cannot be found

If you find difficulty in finding an Infoset for a query :
Just go to SQ03, enter the user group for the query then click Assign Users And Infoset Buttons.

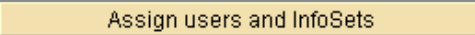

User Groups: Initial Screen

Additional functions

Query area Global Area (Cross-client)

User group ZSDN_UGRP   Change  Create

 Display  Description

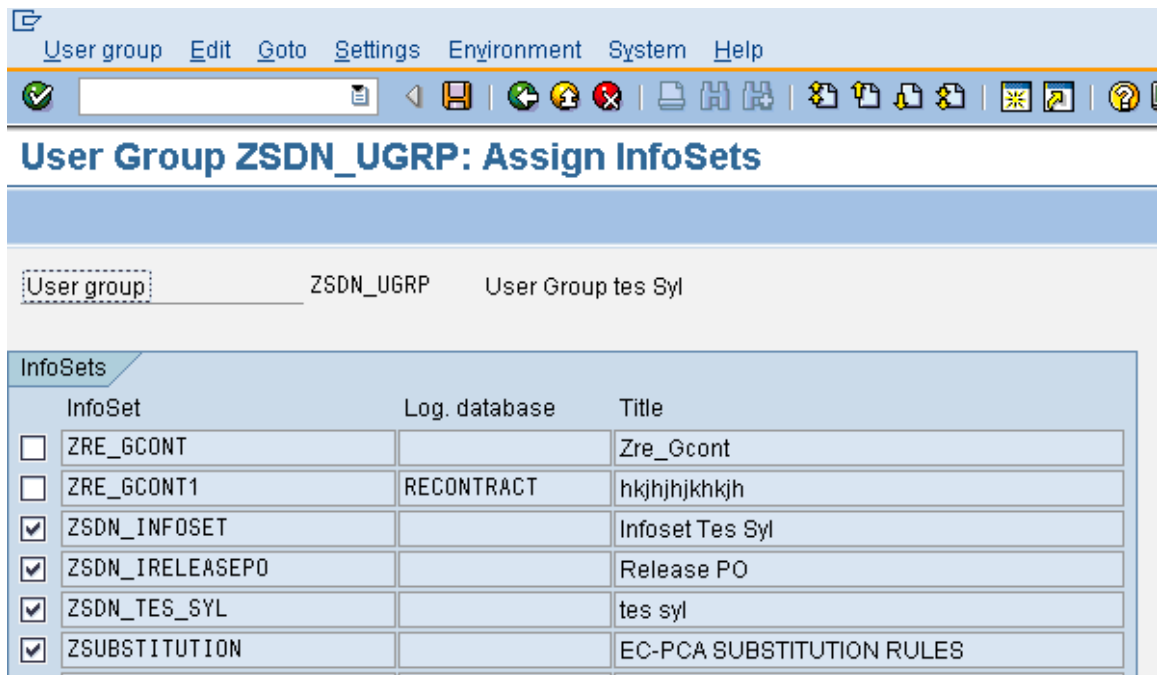
 

User group assignment

User  Change

InfoSet ZSDN_TES_SYL  Change

At InfoSet you would like to use in SQ01, untick and tick again the InfoSet. Then click save button.



The screenshot shows the SAP configuration screen for the user group ZSDN_UGRP. The title bar indicates the user group is ZSDN_UGRP and the user is 'User Group tes Syl'. The main content area is titled 'InfoSets' and contains a table with the following data:

InfoSet	Log. database	Title
<input type="checkbox"/> ZRE_GCONT		Zre_Gcont
<input type="checkbox"/> ZRE_GCONT1	RECONTRACT	hkjhjhkhkhkh
<input checked="" type="checkbox"/> ZSDN_INFOSET		InfoSet Tes Syl
<input checked="" type="checkbox"/> ZSDN_IRELEASEPO		Release PO
<input checked="" type="checkbox"/> ZSDN_TES_SYL		tes syl
<input checked="" type="checkbox"/> ZSUBSTITUTION		EC-PCA SUBSTITUTION RULES

Now, all step has been describe. It's time for you to try.
Good Luck.