Analysis Authorization Using Variable Exits

Applies to:

SAP NetWeaver Business Intelligence, will work on SAP BI 7.0. For more information, visit the EDW homepage.

Summary

This paper is about Analysis authorization concept using variable customer exits in reporting.

Author: Nithesh Prakash

Company: HP Global Soft Pvt Ltd.

Created on: 27 January 2011

Author Bio

Nithesh Prakash is a SAP BI Consultant currently working with HP Global Soft Pvt Ltd (Bangalore/ INDIA). He has about 3 years of full time experience in SAP BI/BW.

© 2011 SAP AG

Table of Contents

© 2011 SAP AG

Introduction:

Dynamic analysis authorization concept is used to maintain Single roles and profiles for different end users. This is mainly used in the reports by using a customer exit variable which works based on the authorization details.

When the number of analysis authorization objects increases their manageability becomes a difficult task. In such cases we go for authorization using variables at runtime. These variables are made to read the authorized values from DSO, info objects, etc. as per the requirement.

Here I have briefly explained about the Dynamic analysis authorization concept using master data.

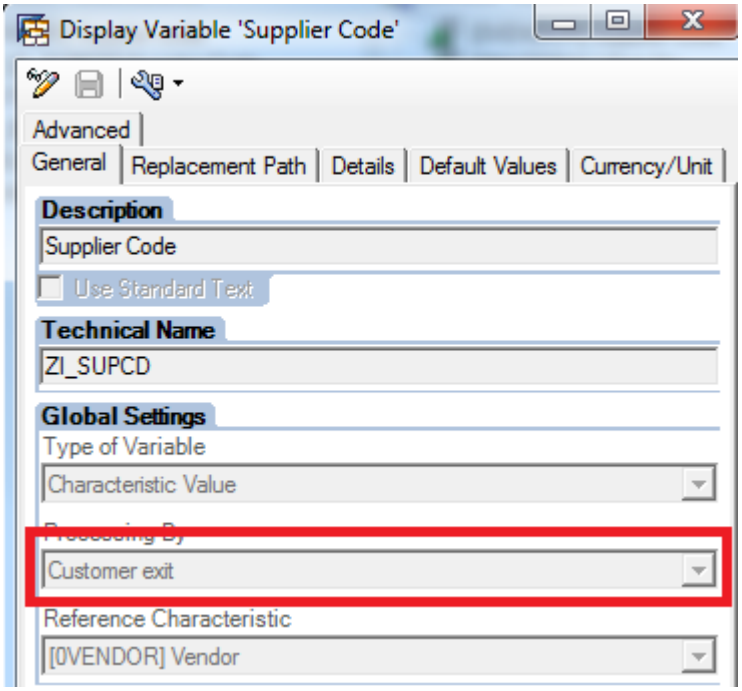
Assumptions & Pre-requisite:

Here we are considering vendor authorization, where the vendor values which start with '7' are the vendors who has the restrictions for viewing the data and all the other vendors can view all the data (i.e. no restriction required)

For all activities in the management of analysis authorizations you need authorization for authorization object S_RSEC, which covers all relevant objects with namespace authorizations for specific activities.

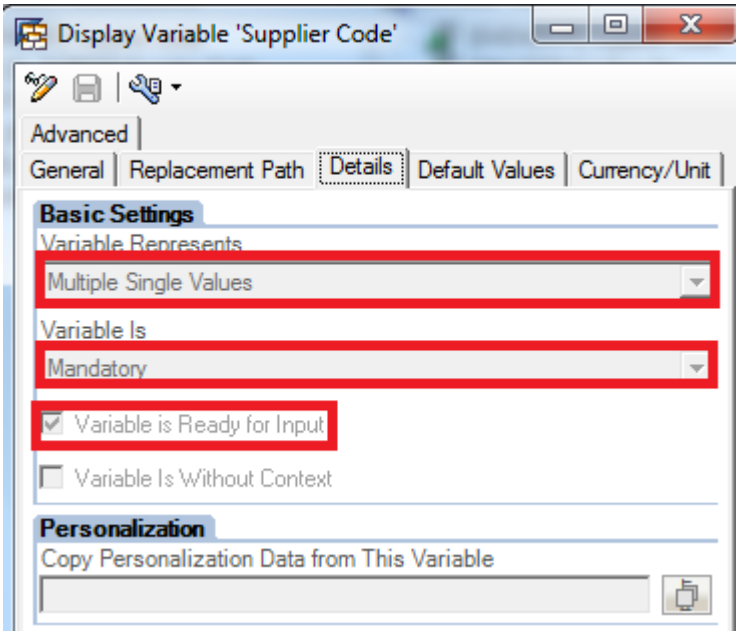
Variable Creation:

Create a Variable 'ZI_SUPCD' for the info object 0VENDOR of type 'Customer Exit'.

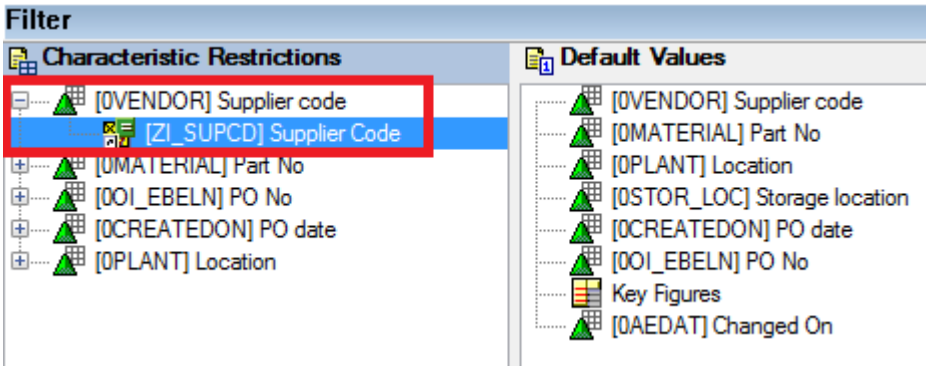


© 2011 SAP AG

Make the variable as ready for input and a Mandatory one. Incase if we are passing multiple values to the authorization variable, then use “Multiple Single Values”.

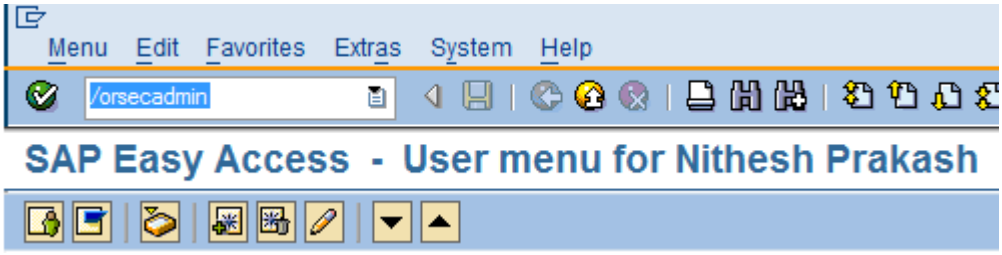


Add the created variable to the query which needs to display the restricted data set depending upon the authorizations for the particular user.



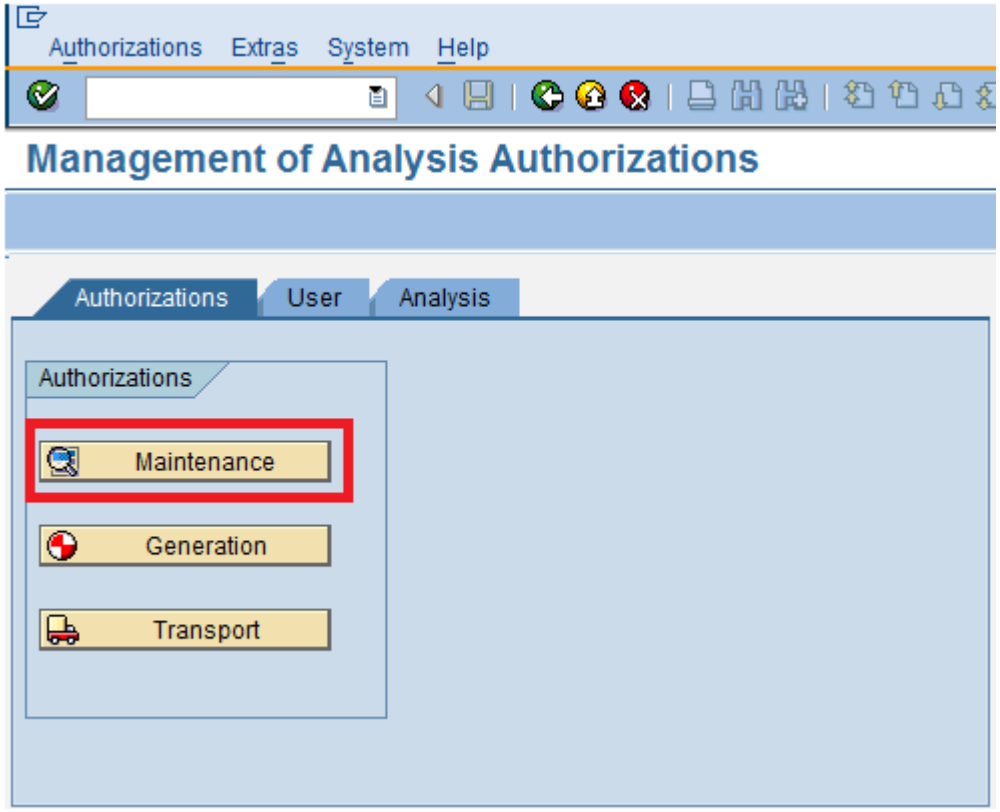
Analysis Authorization Object Creation

Go to T code RSECADMIN.

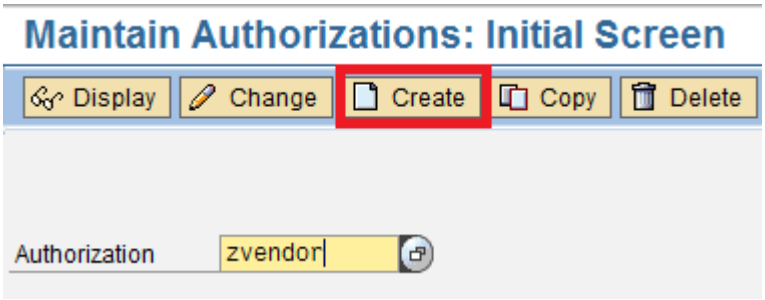


In the Authorization tab, click maintenance button

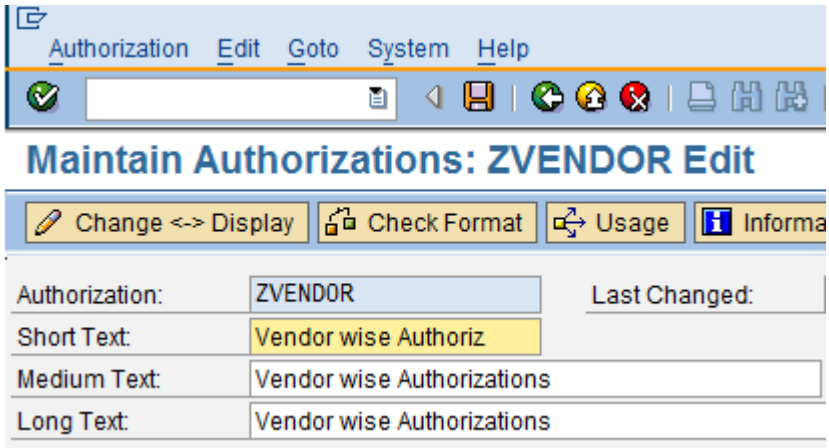
© 2011 SAP AG



Give the name for the authorization object say “ZVENDOR” and click Create.

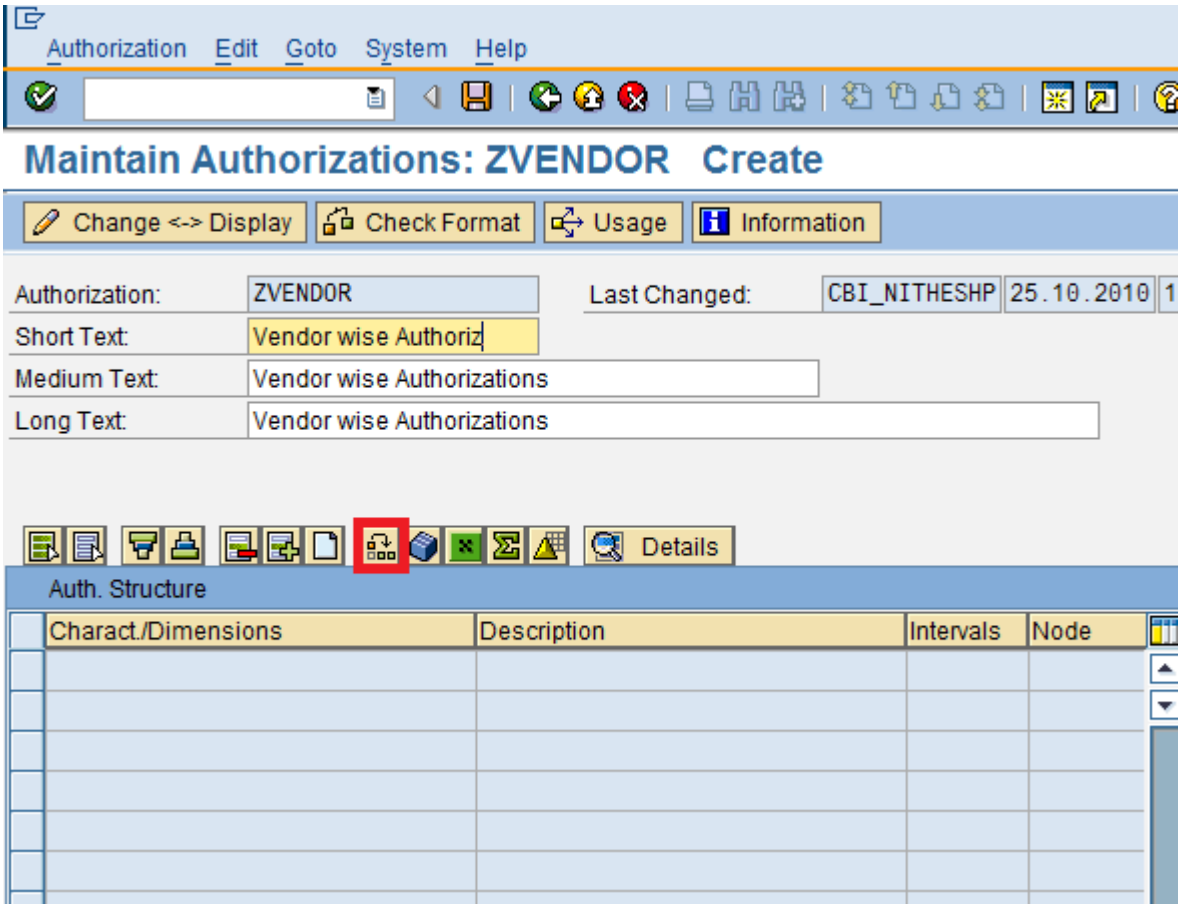


Give the short, medium and long text.

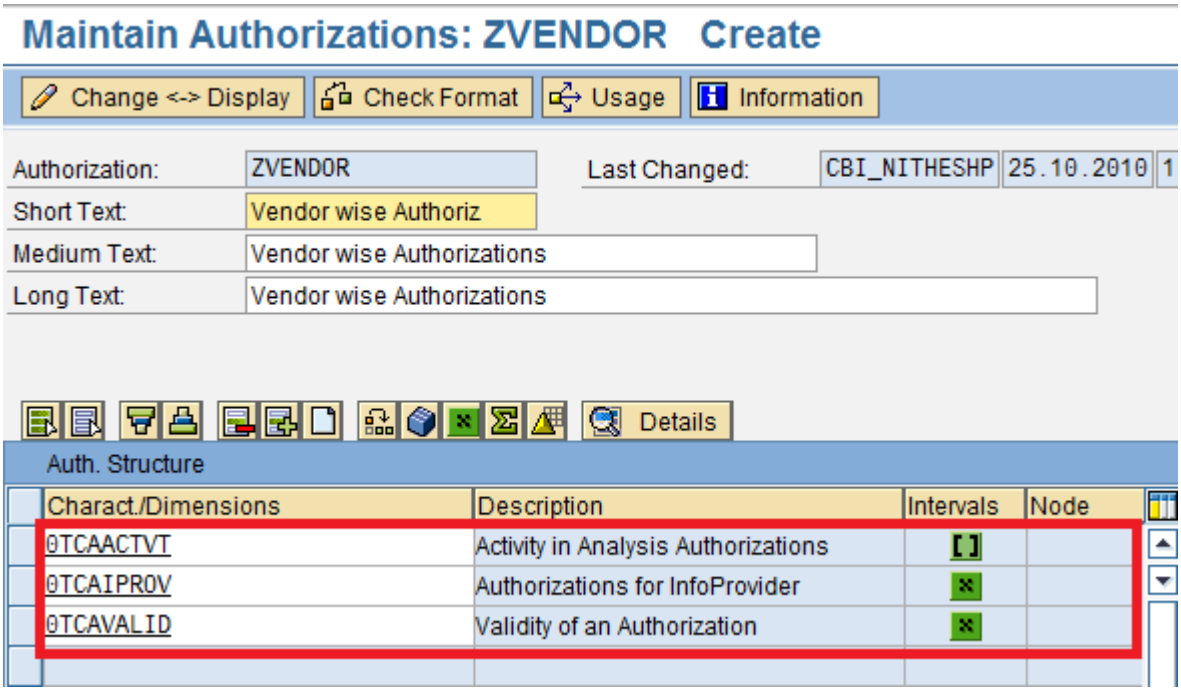


© 2011 SAP AG

Click the “Insert Special Charact.” Button

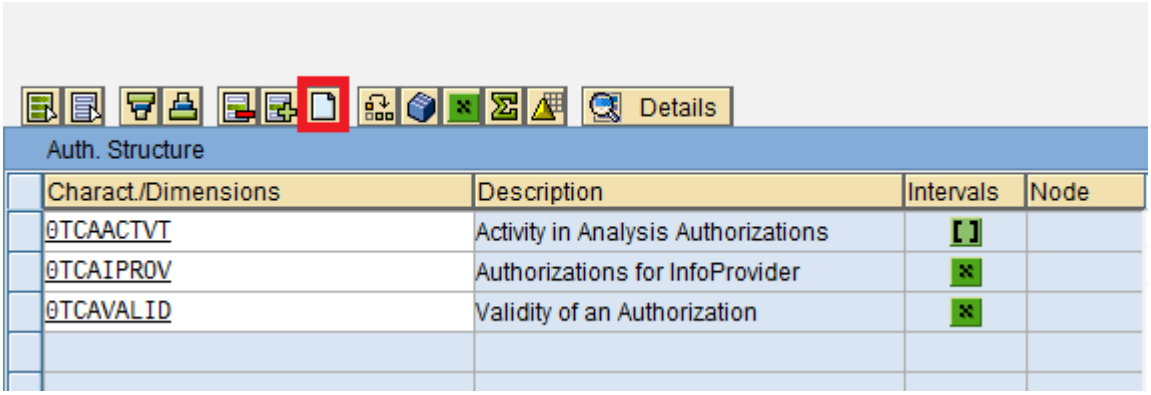


This will insert the mandatory authorizations such as Activity, Info provider authorization and Validity of the authorization.

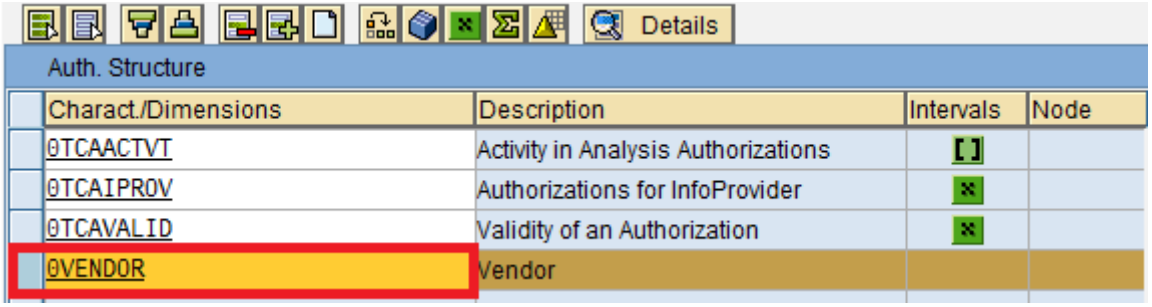


© 2011 SAP AG

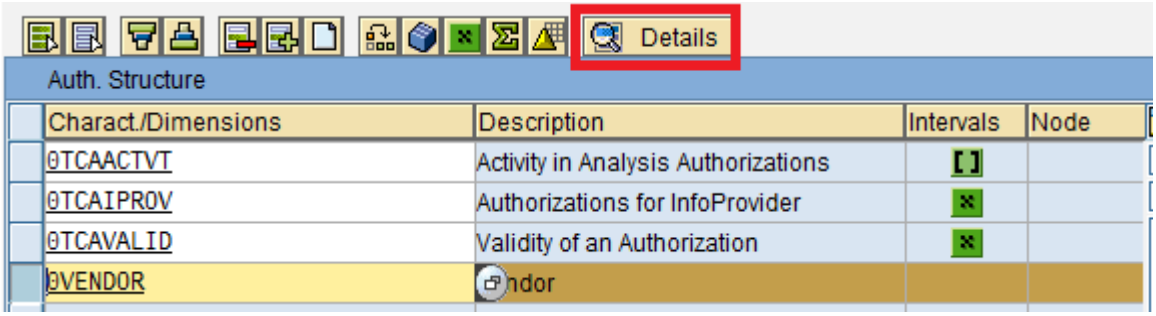
Click “Create Row” button to add the info object which needs authorization.



For our scenario we need authorization for 0VENDOR and hence we have to add the same in the rows.

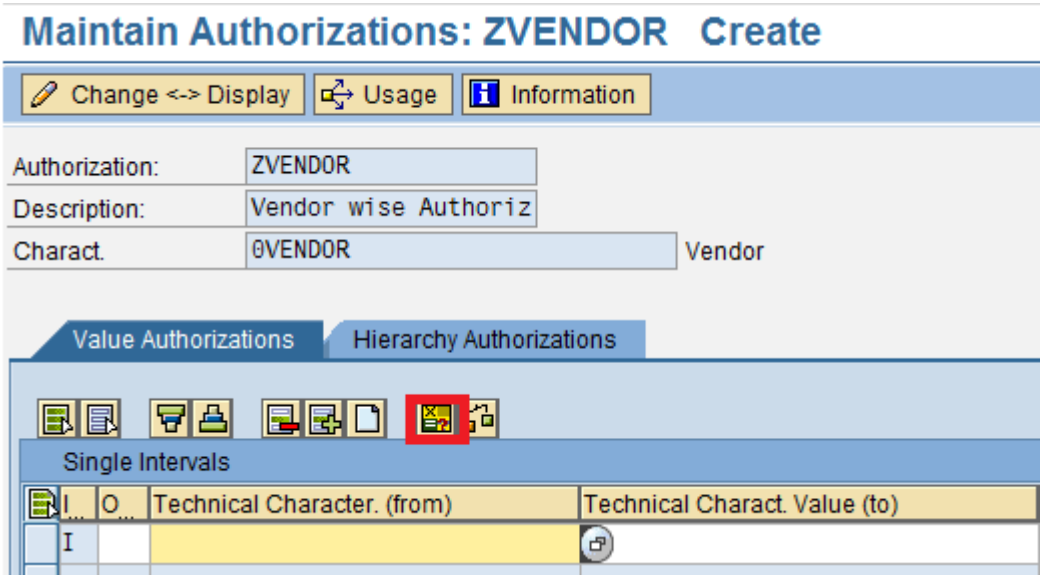


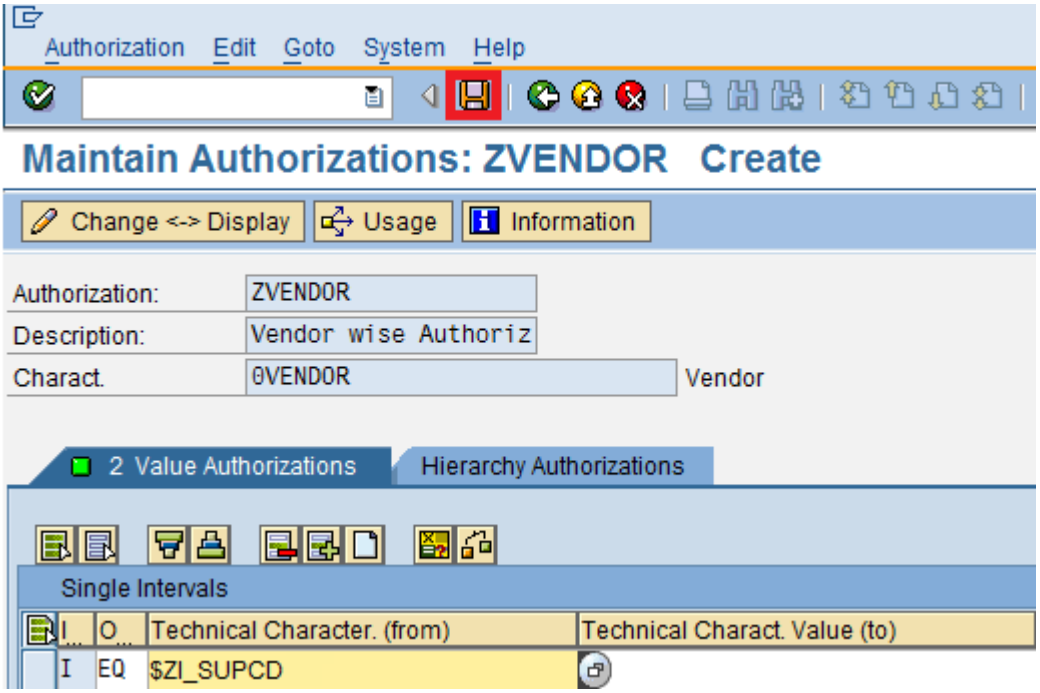
Now click the “Details” button to provide authorization.



Click the “Insert Exit Variable” button and add specify the variable “ZI_SUPCD” which we created initially, in case of Dynamic authorization. For static authorization scenario we can specify the values directly by clicking “Create Row”.

© 2011 SAP AG



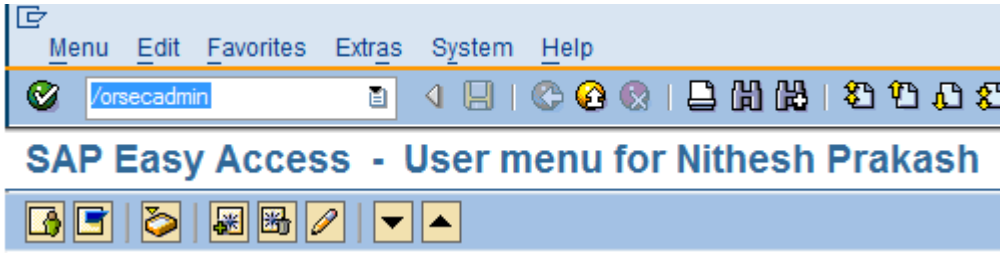


Save and activate the Object.

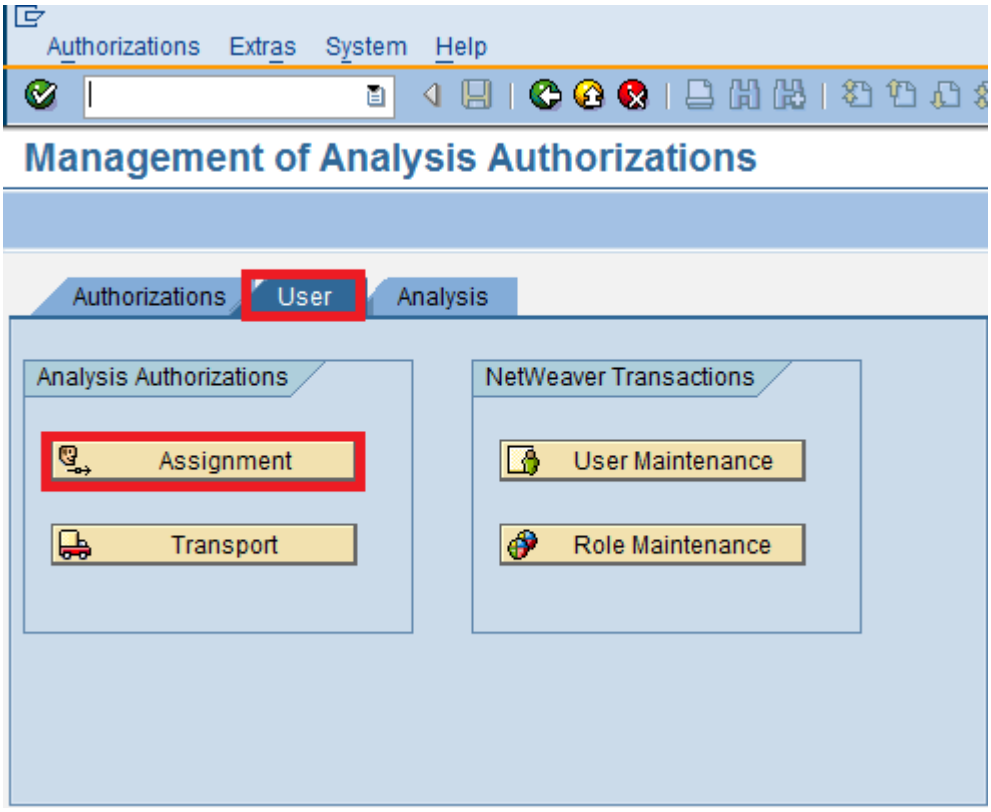
© 2011 SAP AG

User Assignment

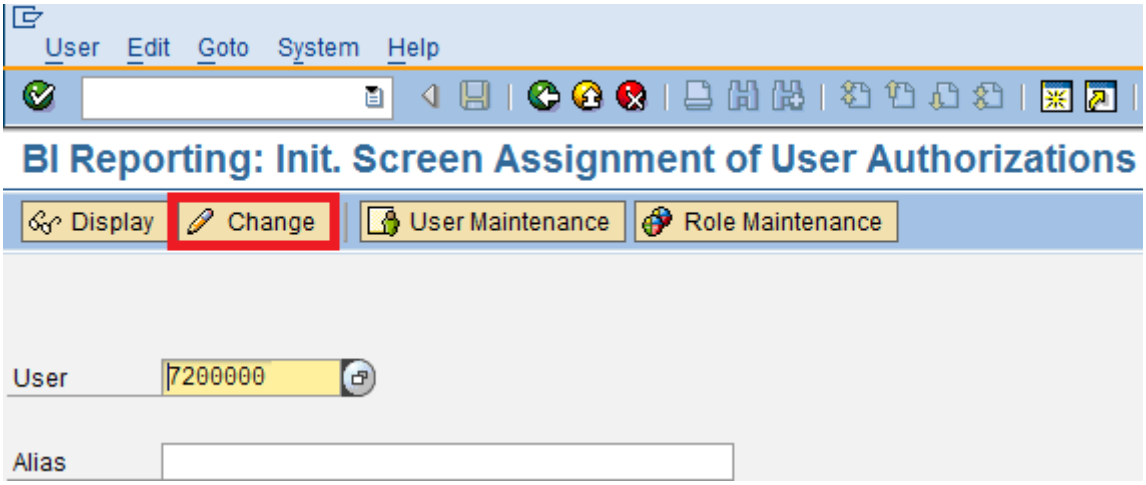
Go to T code RSECADMIN



In the User tab, click Assignment button

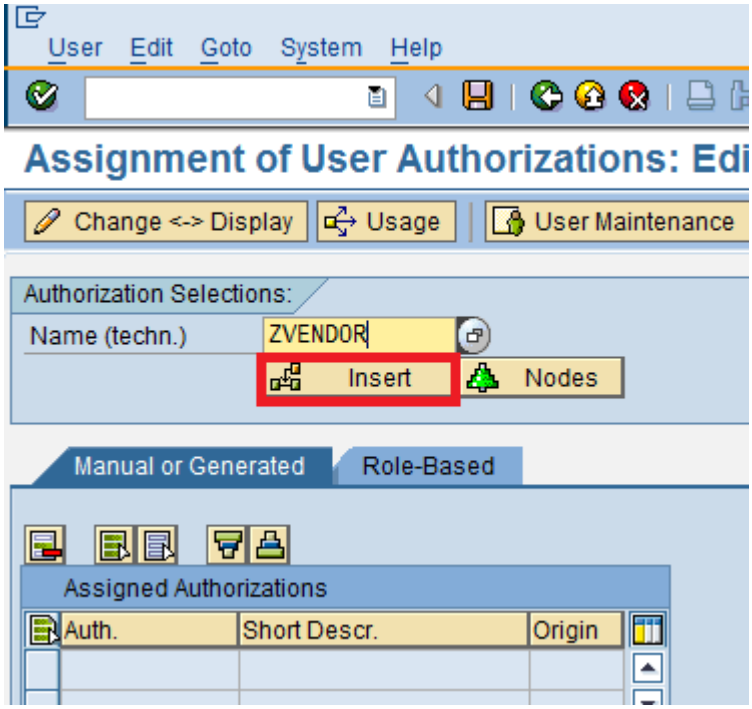


Specify the user for whom the restriction needs to be applied and click “Change” button.



Specify the authorization object created for this purpose and click insert.

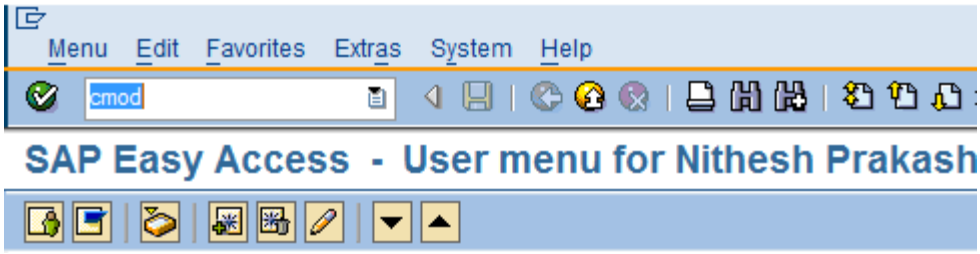
© 2011 SAP AG



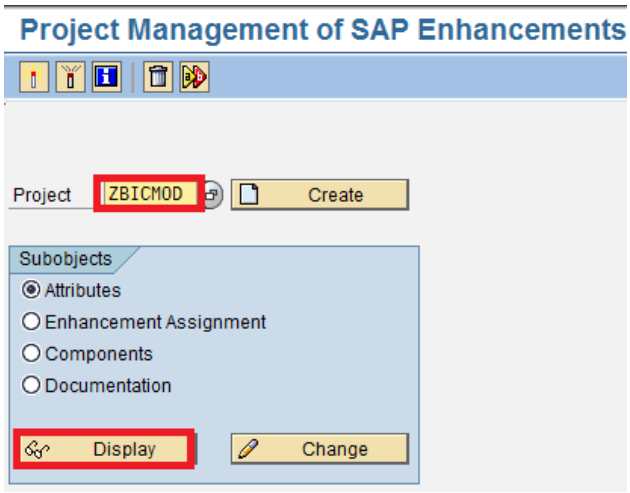
Note: This dynamic authorization concept will work even without the User assignment, since this is based on the variable exit.

CMOD code logic

Go to transaction CMOD

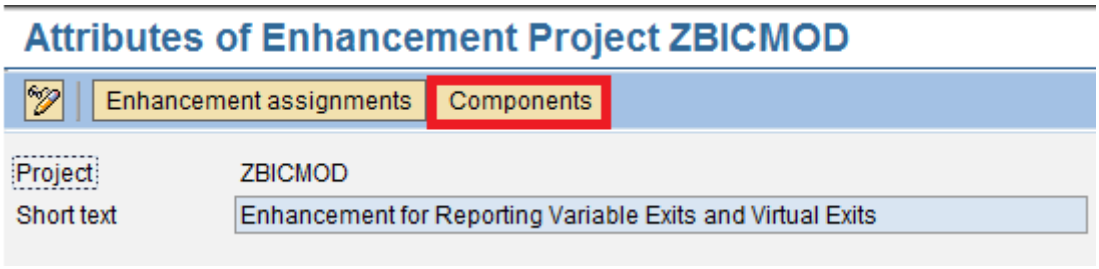


Select the project created, else create one.

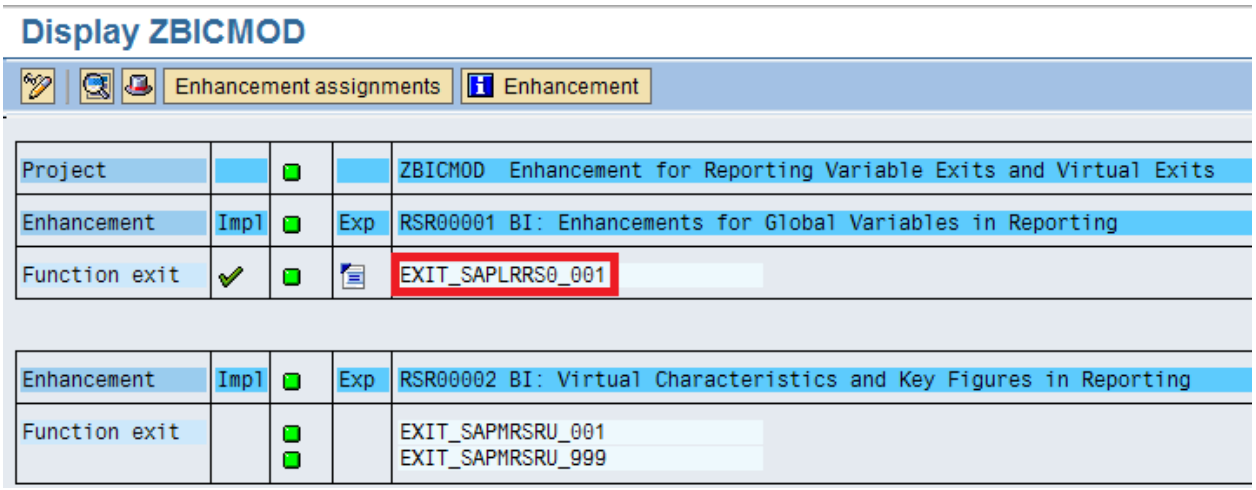


© 2011 SAP AG

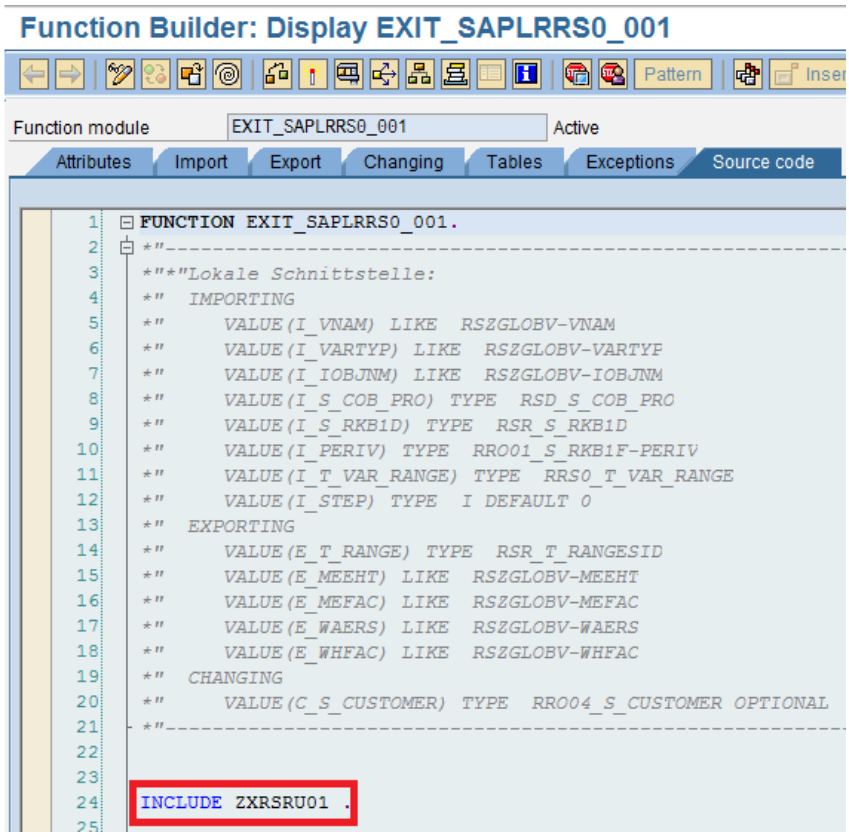
Click the components button.



Select the Function module “EXIT_SAPLRRS0_001” for writing exit for the variable created.



Click the include program `ZXRSRU01`.



© 2011 SAP AG

Declaration part for the Variable exit.

```
**********Start of Declaration for ZI_SUPCD**********

**** Declaration for ODS Scenario****

**** Declaration for Master Data Scenario****
    DATA: it_vendor TYPE STANDARD TABLE OF /bi0/pvendor,
          wa_vendor LIKE LINE OF it_vendor.
    DATA: lv_user LIKE sy-uname,
          lv_user1 LIKE /bi0/pvendor-vendor.
**********End of Declaration for ZI_SUPCD**********
```

Default value population should be written within the CASE and ENDCASE statement.

```
CASE i_vnam.
**********Start of Code for ZI_SUPCD**********
  WHEN 'ZI_SUPCD'.

    lv_user = sy-uname.

    IF lv_user CP '7*'.

      CALL FUNCTION 'CONVERSION_EXIT_ALPHA_INPUT'
        EXPORTING
          input  = lv_user
        IMPORTING
          output = lv_user1.

      CLEAR wa_vendor.

      SELECT * FROM /bi0/pvendor INTO TABLE it_vendor WHERE vendor = lv_user1.

      READ TABLE it_vendor INTO wa_vendor WITH KEY vendor = lv_user1.

      IF sy-subrc = 0.

        l_s_range-low = wa_vendor-vendor.
        l_s_range-sign = 'I'.
        l_s_range-opt = 'EQ'.

        APPEND l_s_range TO e_t_range.


      ENDIF.

    ENDIF.
**********End of Code for ZSUPPVAR**********
```


© 2011 SAP AG

User input value has to be validated after the ENDCASE statement with I_STEP value 3.

```
ENDCASE.

IF I_STEP = 3.
LOOP AT i_t_var_range INTO loc_var_range WHERE vnam = 'ZI_SUPCD'.

   CLEAR: l_s_range.
   zlow = loc_var_range-low.
   lv_user = sy-uname.

   CALL FUNCTION 'CONVERSION_EXIT_ALPHA_OUTPUT'
     EXPORTING
       input         = loc_var_range-low
    IMPORTING
      OUTPUT        = loc_var_range-low.

  IF lv_user NE loc_var_range-low.
   IF lv_user CP '7*'.
     CALL FUNCTION 'RRMS_MESSAGE_HANDLING'
      EXPORTING
       I_CLASS                    = 'RSBBS'
       I_TYPE                     = 'E'
       I_NUMBER                   = '000'
       I_MSGV1                    = 'You are not authorized for the Supplier code'
       I_MSGV2                    = loc_var_range-low
       I_MSGV3                    = 'Enter your valid supplier code'
       I_MSGV4                    = lv_user
     EXCEPTIONS
       OTHERS                      = 2.
 RAISE Again.
ELSE.
 l_s_range-low = loc_var_range-low.
 l_s_range-sign = loc_var_range-sign.
 l_s_range-opt = loc_var_range-opt.
 APPEND l_s_range TO e_t_range.
ENDIF.
ENDIF.
ENDLOOP.
ENDIF.
```

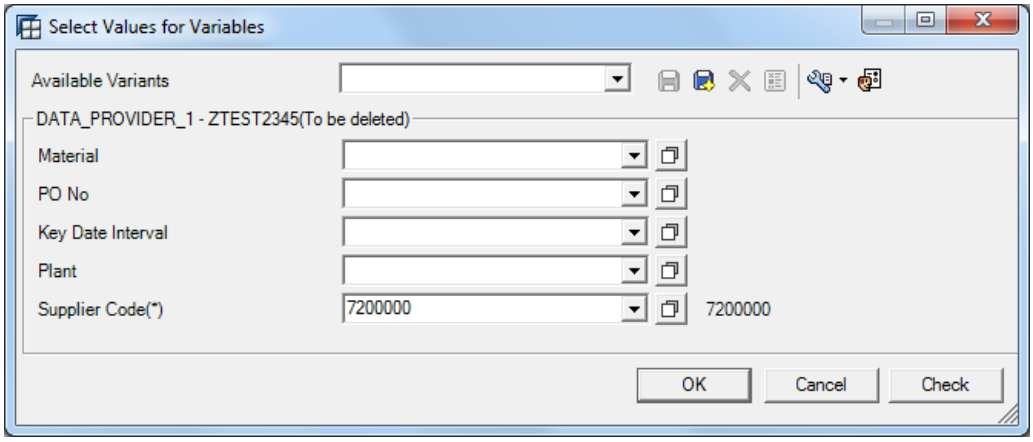
Now the entire development is done.

© 2011 SAP AG

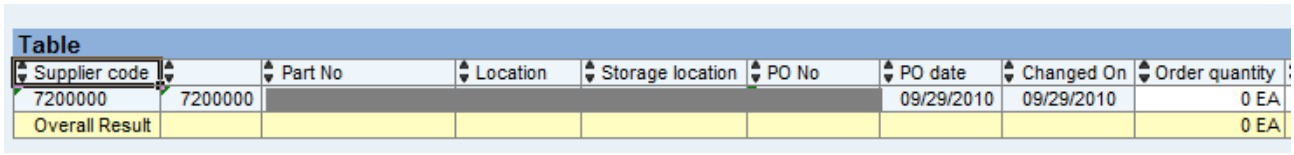
Query Execution (to Test the Authorization)

While Executing with Vendor “7200000”

The variable screen will be populated as below



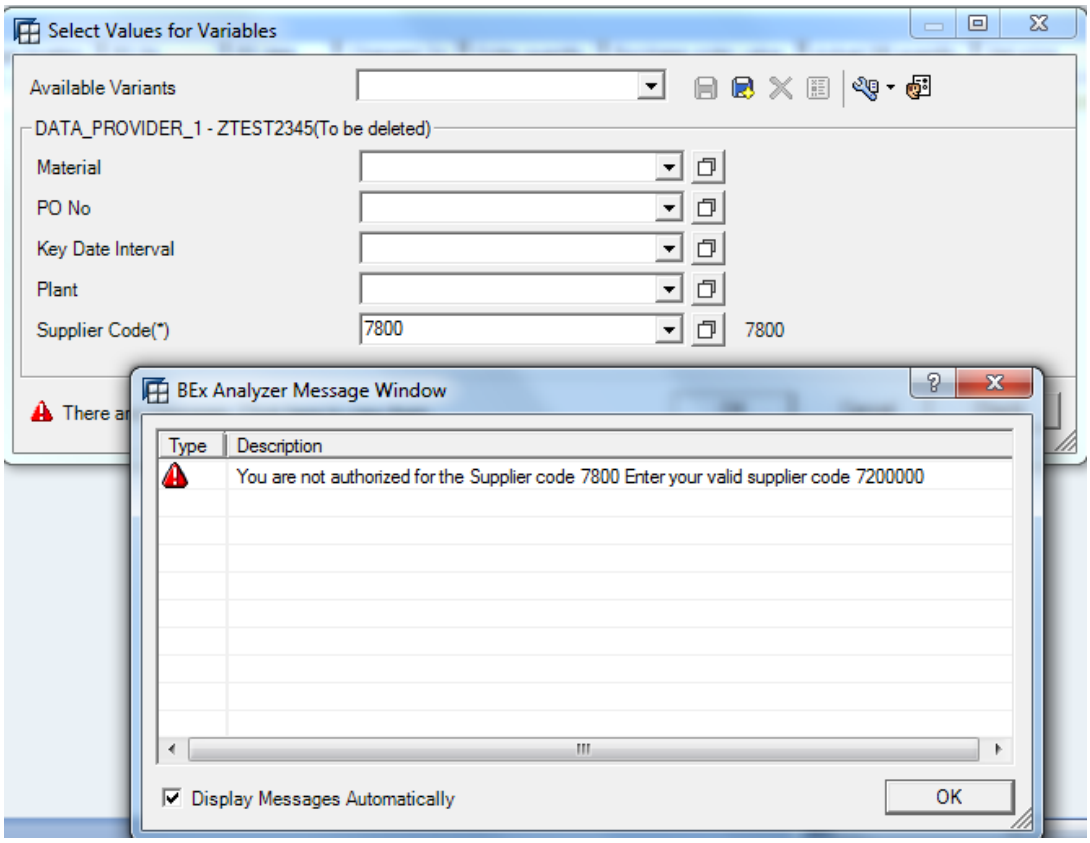
Query Output:



Table

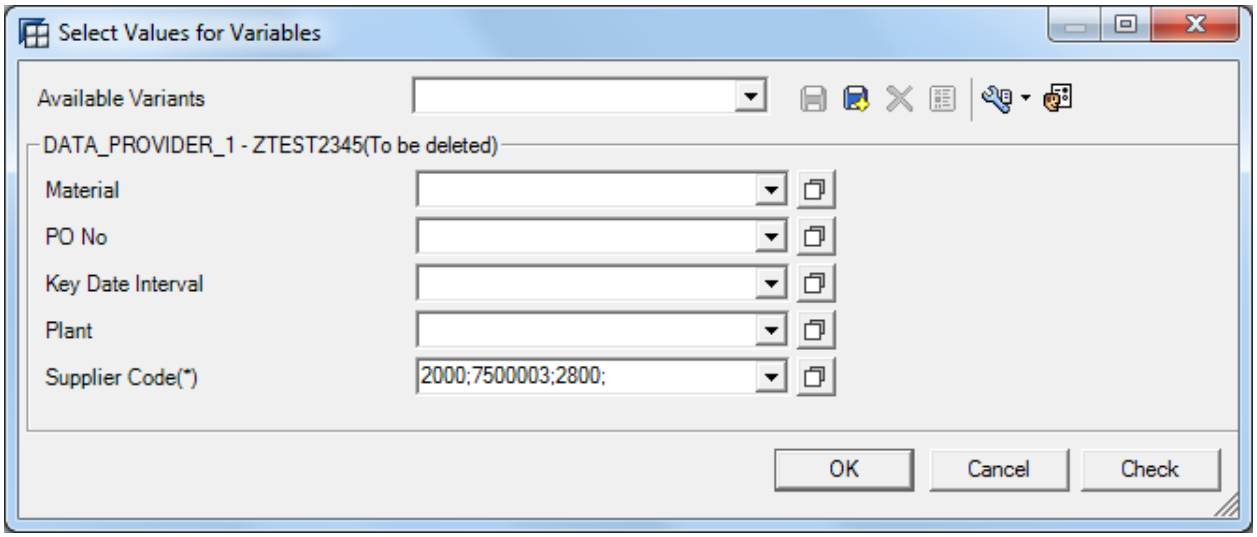
Supplier code		Part No	Location	Storage location	PO No	PO date	Changed On	Order quantity
7200000	7200000					09/29/2010	09/29/2010	0 EA
Overall Result								0 EA

The vendor “7200000” is authorized to view only his data. When he tries to check value for other vendor he will get an authorization error.

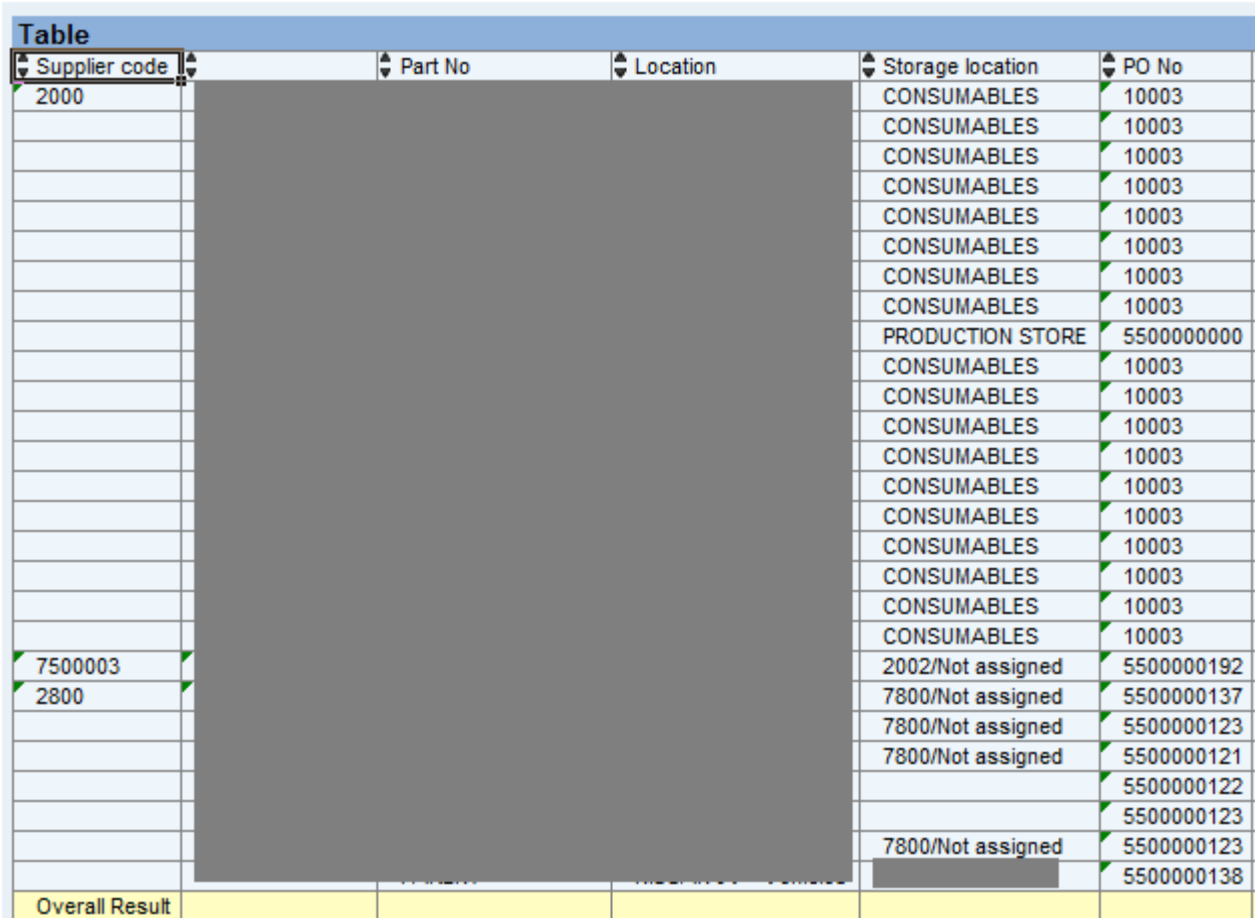


© 2011 SAP AG

While Executing with other than 7* series vendors, there won't be any restriction as he is authorized to see the value for all the vendors



The user has selected the vendor codes "2000", "7500003", "2800", he will be able to see all the specified vendor values.



Table

Supplier code	Part No	Location	Storage location	PO No
2000	[redacted]	[redacted]	CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
			PRODUCTION STORE	5500000000
			CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
			CONSUMABLES	10003
7500003			2002/Not assigned	5500000192
2800			7800/Not assigned	5500000137
			7800/Not assigned	5500000123
			7800/Not assigned	5500000121
				5500000122
				5500000123
			7800/Not assigned	5500000123
			[redacted]	5500000138
Overall Result				

© 2011 SAP AG

Related Content

www.sdn.sap.com

Customer Exits

Analysis Authorizations

For more information, visit the EDW homepage.

© 2011 SAP AG

Copyright

© Copyright 2011 SAP AG. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP AG. The information contained herein may be changed without prior notice.

Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors.

Microsoft, Windows, Excel, Outlook, and PowerPoint are registered trademarks of Microsoft Corporation.

IBM, DB2, DB2 Universal Database, System i, System i5, System p, System p5, System x, System z, System z10, System z9, z10, z9, iSeries, pSeries, xSeries, zSeries, eServer, z/VM, z/OS, i5/OS, S/390, OS/390, OS/400, AS/400, S/390 Parallel Enterprise Server, PowerVM, Power Architecture, POWER6+, POWER6, POWER5+, POWER5, POWER, OpenPower, PowerPC, BatchPipes, BladeCenter, System Storage, GPFS, HACMP, RETAIN, DB2 Connect, RACF, Redbooks, OS/2, Parallel Sysplex, MVS/ESA, AIX, Intelligent Miner, WebSphere, Netfinity, Tivoli and Informix are trademarks or registered trademarks of IBM Corporation.

Linux is the registered trademark of Linus Torvalds in the U.S. and other countries.

Adobe, the Adobe logo, Acrobat, PostScript, and Reader are either trademarks or registered trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Oracle is a registered trademark of Oracle Corporation.

UNIX, X/Open, OSF/1, and Motif are registered trademarks of the Open Group.

Citrix, ICA, Program Neighborhood, MetaFrame, WinFrame, VideoFrame, and MultiWin are trademarks or registered trademarks of Citrix Systems, Inc.

HTML, XML, XHTML and W3C are trademarks or registered trademarks of W3C®, World Wide Web Consortium, Massachusetts Institute of Technology.

Java is a registered trademark of Sun Microsystems, Inc.

JavaScript is a registered trademark of Sun Microsystems, Inc., used under license for technology invented and implemented by Netscape.

SAP, R/3, SAP NetWeaver, Duet, PartnerEdge, ByDesign, SAP Business ByDesign, and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and other countries.

Business Objects and the Business Objects logo, BusinessObjects, Crystal Reports, Crystal Decisions, Web Intelligence, Xcelsius, and other Business Objects products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Business Objects S.A. in the United States and in other countries. Business Objects is an SAP company.

All other product and service names mentioned are the trademarks of their respective companies. Data contained in this document serves informational purposes only. National product specifications may vary.

These materials are subject to change without notice. These materials are provided by SAP AG and its affiliated companies ("SAP Group") for informational purposes only, without representation or warranty of any kind, and SAP Group shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP Group products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.