

# Restricting F4 (Input Help) Values While Running a SAP BW Query



## Applies to:

SAP BI 7.01

## Summary

This article briefs out the way to restrict F4 values (Input help values) while running a SAP BW query with the help of BADI RSR\_VARIABLE\_F4\_RESTRICT\_BADI. This feature was not available with previous versions of SAP BW (before SAP BW 7.01, SP 9).

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## Author Bio



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## Introduction

While running a SAP BW query, sometimes F4 help (Variable input help) returns a long list of unwanted values. Users may not be interested to see all the returned values and this may confuse users or waste a lot of time while selecting a right value from the list. There was no way to restrict the input help values before SAP BI 7.01. With Support Package SAPKW70109 SAP has provided BADI RSR\_VARIABLE\_F4\_RESTRICT\_BADI.

BADI RSR\_VARIABLE\_F4\_RESTRICT\_BADI has 3 methods as given in below screen shot.

Method	Short description
IF_RSR_VARIABLE_F4_RESTRICT~GET_RESTRICTION_FLAT	Get F4 Restrictions
IF_RSR_VARIABLE_F4_RESTRICT~GET_RESTRICTION_NODE	Get F4 Restrictions
IF_RSR_VARIABLE_F4_RESTRICT~GET_RESTRICTION_HIER	Get Restrictions for Hierarchy F4

In this document we will explain how to enhance this BADI to restrict F4 values. This document will discuss GET\_RESTRICTION\_FLAT method which can be used to restrict the input help values for simple characteristics variables.

## Business Scenario

Let's take one simple scenario where we can use RSR\_VARIABLE\_F4\_RESTRICT\_BADI BADI to restrict input help values.

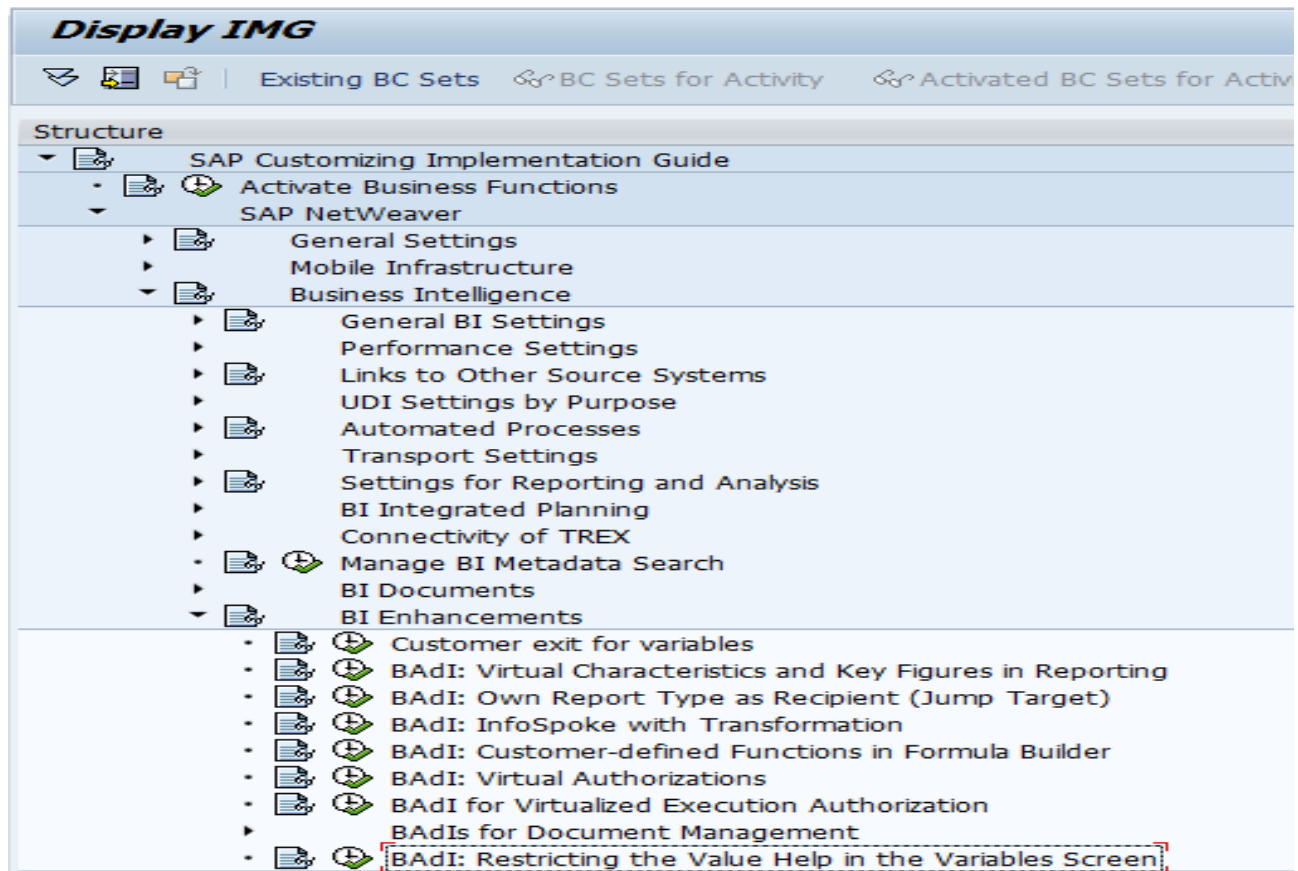
For a simple Fiscal Year Period Variable, it can display a number of fiscal periods when user hits F4 as below:

Fisc...	Fiscal year / period	Fiscal year / period	Postin...	Fiscal year
K4	013.2011	SP1 2011	13	2011
K4	014.2011	SP2 2011	14	2011
K4	015.2011	SP3 2011	15	2011
K4	016.2011	SP4 2011	16	2011
K4	000.2012	Period 00 2012	#	2012
K4	001.2012	JAN 2012	1	2012
K4	002.2012	FEB 2012	2	2012
K4	003.2012	MAR 2012	3	2012
K4	004.2012	APR 2012	4	2012
K4	005.2012	MAY 2012	5	2012
K4	006.2012	JUN 2012	6	2012
K4	007.2012	JUL 2012	7	2012
K4	008.2012	AUG 2012	8	2012
K4	009.2012	SEP 2012	9	2012
K4	010.2012	OCT 2012	10	2012
K4	011.2012	NOV 2012	11	2012
K4	012.2012	DEC 2012	12	2012
K4	013.2012	SP1 2012	13	2012
K4	014.2012	SP2 2012	14	2012
K4	015.2012	SP3 2012	15	2012
K4	016.2012	SP4 2012	16	2012
K4	000.2013	Period 00 2013	#	2013
K4	001.2013	JAN 2013	1	2013
K4	002.2013	FEB 2013	2	2013
K4	003.2013	MAR 2013	3	2013
K4	004.2013	APR 2013	4	2013
K4	005.2013	MAY 2013	5	2013
K4	006.2013	JUN 2013	6	2013
K4	007.2013	JUL 2013	7	2013
K4	008.2013	AUG 2013	8	2013
K4	009.2013	SEP 2013	9	2013

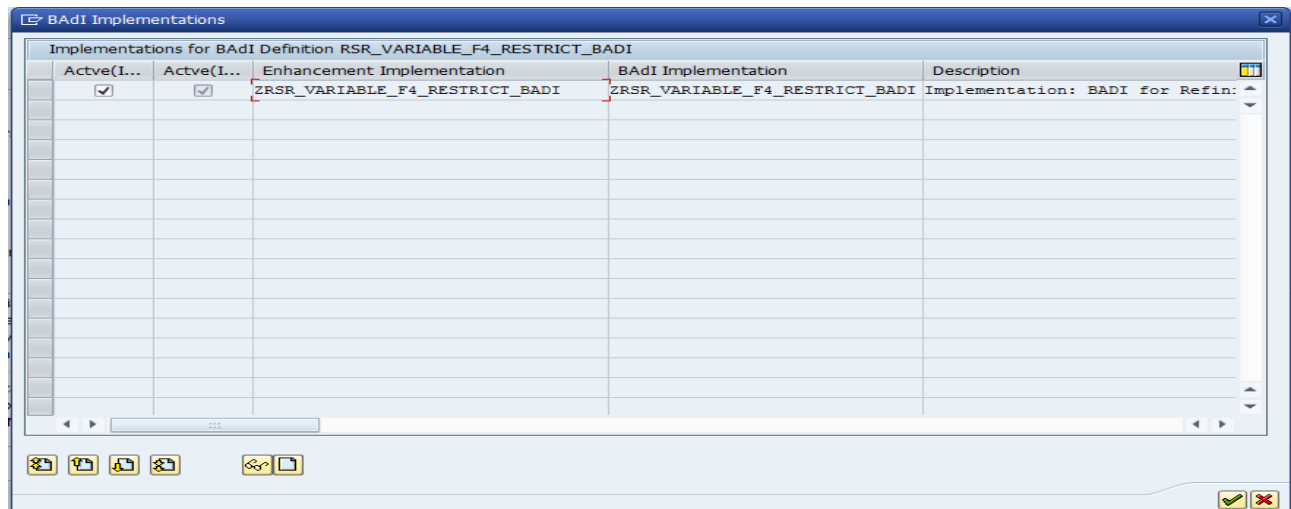
But users only want to see fiscal periods of last year.

## Solution

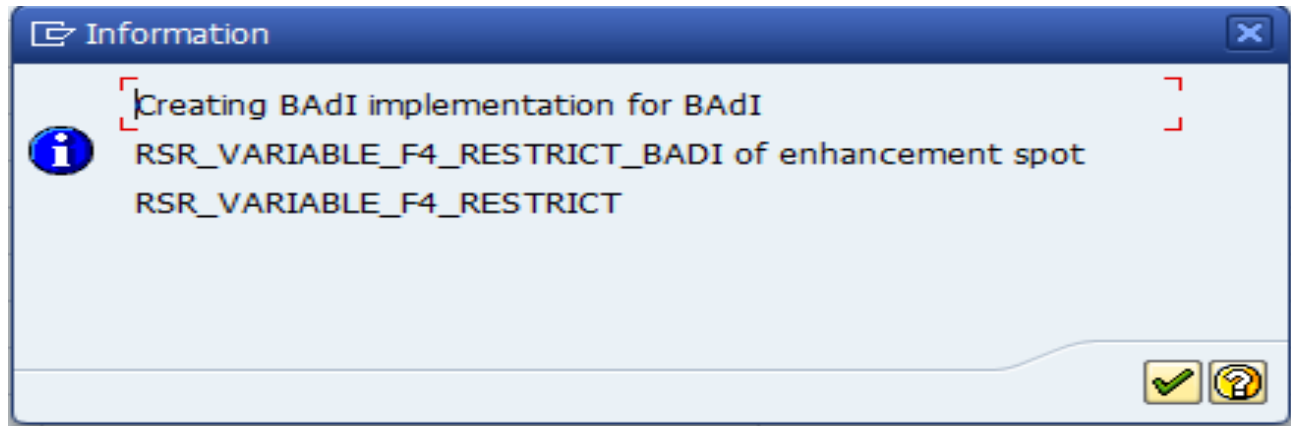
Go to SPRO and execute the IMG activity “BAdI: Restricting the value help in the Variables Screen” as below:




Following screen will display any existing active implementation of BADI RSR\_VARIABLE\_F4\_RESTRICT\_BADI.

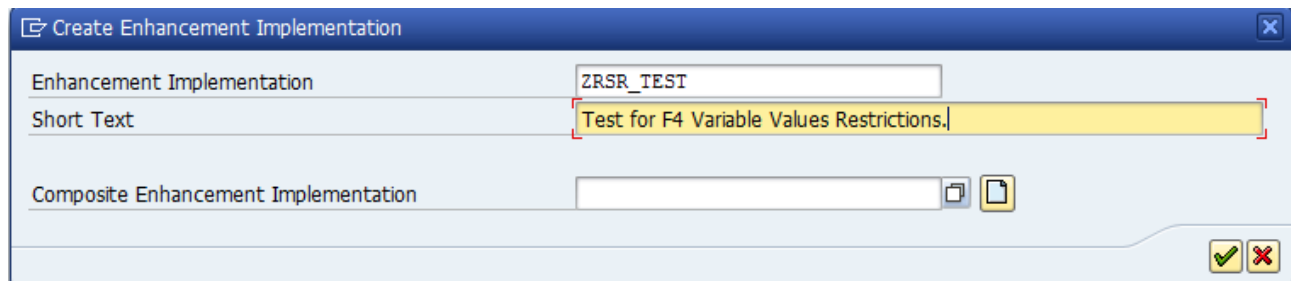


Click on . Below message will appear.

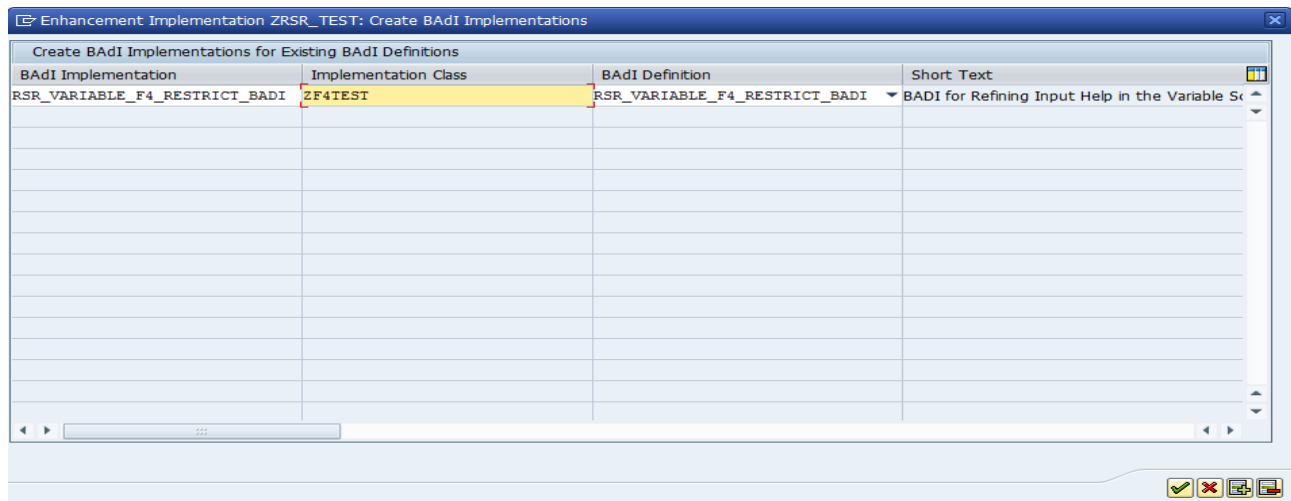


Click on .

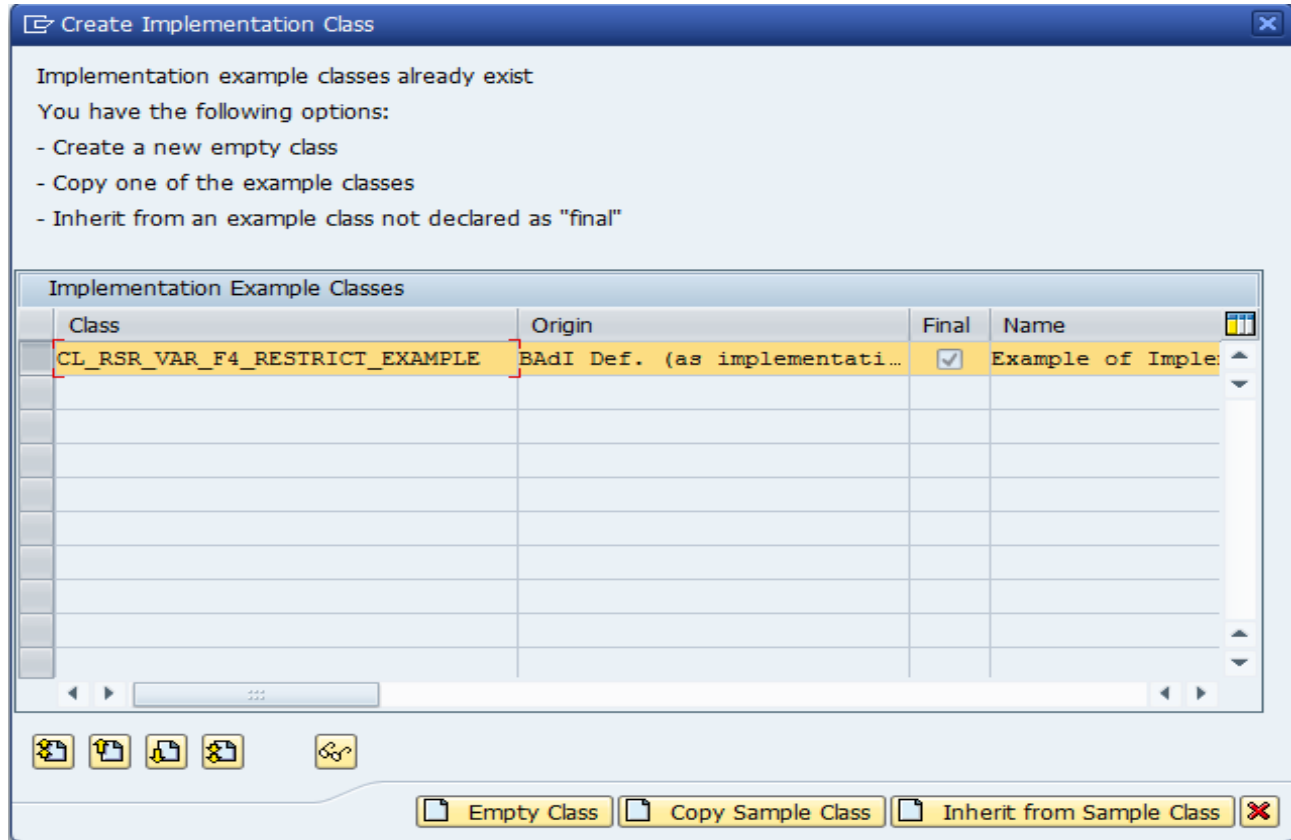
Give implementation name and give description of the implementation for your reference.



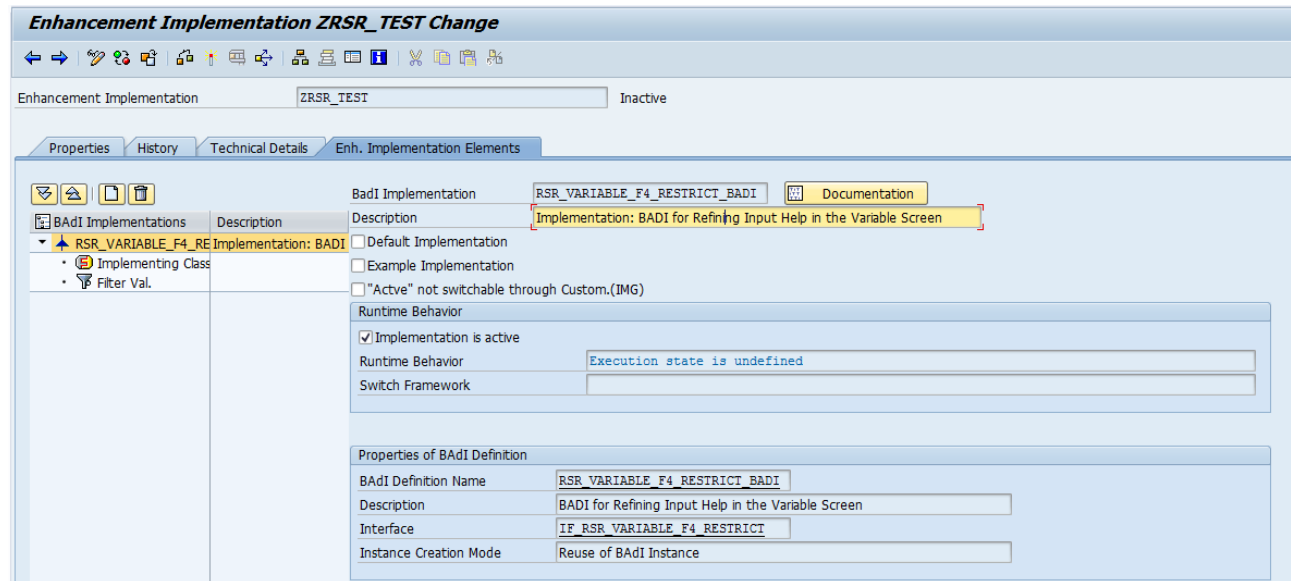
Click ok. In the below screen give RSR\_VARIABLE\_F4\_RESTRICT\_BADI as BAdI implementation name and ZF4TEST as class name and click ok as below:









In the below screen select given row.



Click on Copy Sample Class . Below screen will appear:



Double click on  **Implementing Class**. Below screen will appear:

Implementing Class	
Interface	IF_RSR_VARIABLE_F4_RESTRICT
Implementing Class	ZF4TEST  
Method	Short description
 IF_RSR_VARIABLE_F4_RESTRICT~GET_RESTRICTION_FLAT	Get F4 Restrictions
 IF_RSR_VARIABLE_F4_RESTRICT~GET_RESTRICTION_NODE	Get F4 Restrictions
 IF_RSR_VARIABLE_F4_RESTRICT~GET_RESTRICTION_HIER	Get Restrictions for Hierarchy F4

Now we can see three methods in class ZF4TEST of BADI RSR\_VARIABLE\_F4\_RESTRICT\_BADI.

Double click on method GET\_RESTRICTION\_FLAT. You can see below example code has been given by SAP.

Method	IF_RSR_VARIABLE_F4_RESTRICT~GET_RESTRICTION_FLAT	Inactive
1	<code>METHOD IF_RSR_VARIABLE_F4_RESTRICT~GET_RESTRICTION_FLAT.</code>	
2	<code>DATA: l_s_range LIKE LINE OF c_t_range.</code>	
3		
4	<code>IF i_vnam EQ 'OD_FC_P21'.</code>	
5	<code>  READ TABLE i_t_compid WITH TABLE KEY table_line = 'OD_FC_AE_VAR_Q02' TRANSPORTING NO FIELDS.</code>	
6	<code>  IF sy-subrc = 0.</code>	
7	<code>    l_s_range-iobjnm = i_iobjnm.</code>	
8	<code>    l_s_range-sign = 'I'. "including</code>	
9	<code>    l_s_range-option = 'BT'. "between</code>	
10	<code>    l_s_range-low = 'FC001'. " in internal format</code>	
11	<code>    l_s_range-high = 'FC005'.</code>	
12	<code>    APPEND l_s_range TO c_t_range.</code>	
13	<code>    l_s_range-iobjnm = i_iobjnm.</code>	
14	<code>    l_s_range-sign = 'I'. "including</code>	
15	<code>    l_s_range-option = 'CP'. "between</code>	
16	<code>    l_s_range-low = 'FC01*'. " in internal format</code>	
17	<code>    CLEAR l_s_range-high.</code>	
18	<code>    APPEND l_s_range TO c_t_range.</code>	
19	<code>  ENDIF.</code>	
20	<code>ENDIF.</code>	
21		
22	<code>ENDMETHOD.</code>	

'ZP\_TestFPVar' is the variable for which input help values will be restricted.)

'ZTest\_Query' is the technical name of the query for which you want to restrict the input values.

Comment above code and write your code as below:

```

DATA: lv_year TYPE n LENGTH 4,
      lv_fiscalperiodlow TYPE /bi0/oifiscper,
      lv_fiscalperiodhigh TYPE /bi0/oifiscper.
IF i_vnam EQ 'ZP_TestFPVar'.
READ TABLE i_t_compid WITH TABLE KEY table_line = 'ZTest_Query'
TRANSPORTING NO FIELDS.

      IF sy-subrc = 0.
lv_year1 = sy-datum+0(4) - 1.
CONCATENATE lv_year '001' INTO lv_fiscalperiodlow .
CONCATENATE lv_year '012' INTO lv_fiscalperiodhigh .
l_s_range-iobjnm = i_iobjnm.
l_s_range-sign   = 'I'.
l_s_range-option = 'BT'.
l_s_range-low    = lv_fiscalperiodlow.
l_s_range-high   = lv_fiscalperiodhigh.
APPEND l_s_range TO c_t_range.
ENDIF.

```

After activating the code, go back to enhancement Implementation screen.

The screenshot shows the SAP Enhancement Implementation screen for ZRSR\_TEST. The 'Enh. Implementation Elements' tab is active. On the left, a tree view shows 'BADi Implementations' with a sub-entry 'RSR\_VARIABLE\_F4\_RE Implementation: BADI'. Under this, there are two items: 'Implementing Class' and 'Filter Val.'. A red arrow points to the 'Filter Val.' icon. On the right, the 'Implementing Class' section shows the interface 'IF\_RSR\_VARIABLE\_F4\_RESTRICT' and the implementing class 'ZF4TEST'. Below this, a table lists methods:

Method	Short description
IF_RSR_VARIABLE_F4_RESTRICT~GET_RESTRICTION_FL	Get F4 Restrictions
IF_RSR_VARIABLE_F4_RESTRICT~GET_RESTRICTION_NO	Get F4 Restrictions
IF_RSR_VARIABLE_F4_RESTRICT~GET_RESTRICTION_HIE	Get Restrictions for Hierarchy F4

Click on Filter Val. .

The screenshot shows the 'Filter Values' dialog box. The toolbar includes icons for 'Combination', 'Combination', 'Filt. Val.', 'Filt. Val.', 'AND', and 'OR'. Below the toolbar is a table with columns for 'Filter Combinations', 'Filt...', 'Value 1', 'Com...', 'Filter', 'Com...', and 'Value2'.


Filter Combinations	Filt...	Value 1	Com...	Filter	Com...	Value2

Click on Combination . Below screen will appear.


The screenshot shows the 'Filter Values' dialog box with a 'Combination 1' entry. The entry is highlighted in yellow and contains the text 'IOBJNM' in the 'Filter' column and '????' in the 'Value 1' and 'Value 2' columns.

Filter Combinations	Filt...	Value 1	Com...	Filter	Com...	Value2
▶▶ Combination 1		????	????	IOBJNM	????	????






Click on  and enter IO 0FISCPER as below:

**Change Filter Value**


Filter Type      Character-Type       Filter Attributes

Filter Value

Value 1	0FISCPER	
Comparator 1	=	
Filter	IOBJNM	
Comparator 2		
Value 2		









 


Click ok.

Filter Combinations	Filt...	Value 1	Com...	Filter	Com...	Value2
▼	▶▶	Combination 1				
•		0FISCPER	=	IOBJNM		

Now we have defined the InfoObject for which this BADI will be called.

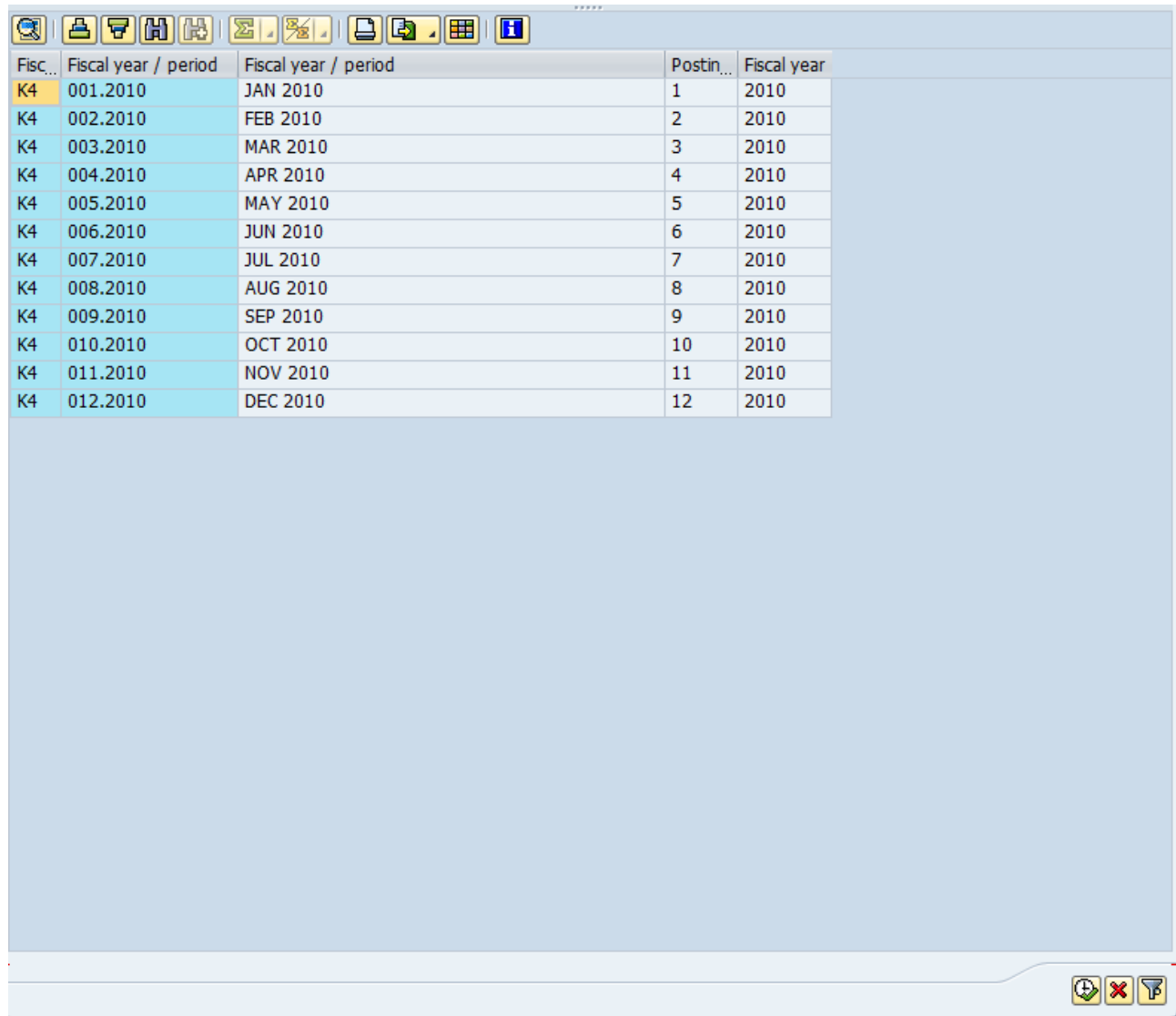
**Filter Values**

   Combination  Combination  Filt. Val.  Filt. Val.  AND  OR

Filter Combinations	Filt...	Value 1	Com...	Filter	Com...	Value2
▼	▶▶	.. Combination				
•		0FISCPER	=	IOBJNM		

## Result

Now run your query 'ZTest\_Query' and you will notice input values have been restricted to only last year fiscal periods as below:



The screenshot displays a table with the following columns: 'Fisc...', 'Fiscal year / period', 'Fiscal year / period', 'Postin...', and 'Fiscal year'. The table lists 12 rows of data for the year 2010, corresponding to each month from January to December. The first row is highlighted in yellow, and the rest are light blue. The table is contained within a window with a toolbar at the top and a status bar at the bottom.

Fisc...	Fiscal year / period	Fiscal year / period	Postin...	Fiscal year
K4	001.2010	JAN 2010	1	2010
K4	002.2010	FEB 2010	2	2010
K4	003.2010	MAR 2010	3	2010
K4	004.2010	APR 2010	4	2010
K4	005.2010	MAY 2010	5	2010
K4	006.2010	JUN 2010	6	2010
K4	007.2010	JUL 2010	7	2010
K4	008.2010	AUG 2010	8	2010
K4	009.2010	SEP 2010	9	2010
K4	010.2010	OCT 2010	10	2010
K4	011.2010	NOV 2010	11	2010
K4	012.2010	DEC 2010	12	2010

## Related Content

For more information please go through these URLs:

<https://service.sap.com/sap/support/notes/1416952>

<https://service.sap.com/sap/support/notes/1461962>

[http://help.sap.com/saphelp\\_nw73/helpdata/en/22/1e9b3c334d8c15e10000000a114084/content.htm](http://help.sap.com/saphelp_nw73/helpdata/en/22/1e9b3c334d8c15e10000000a114084/content.htm)

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