Using Intelligence in Process Chains

Applies to:

SAP BW 3.x & SAP BI Net Weaver 2004s. For more information, visit the Business Intelligence homepage.

Summary

The objective of this article is to understand how to introduce intelligence in process chains.

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Created on: 18 April 2010

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Introduction

With the business process getting complicated day by day, decision making and intelligence becomes a need everywhere.

Then why not include intelligence in our process chains as well.

Business Scenario

In scenarios where we want the process chains to switch to different process chain with the year change or if we want the process chain to run differently in a weekend.

Brief Overview

Decision Type process type helps in determining conditions which form the basis for a decision.

IF CONDITION = 'X'.

RESULT = 'A'.

ELSEIF CONDITION = 'Y'.

RESULT = 'B'.

ELSE.

RESULT = 'C'.

ENDIF.

These conditions can be formulated based on the any of the functions provided below:

Basic Functions:

This helps us in making use of basic Boolean functions.

Show me: Basic Functions

Function	Name
&	Concatenate
(	(
)	)
*	Multiplication
+	Addition
,	,
-	Subtraction
/	Division
<	Less than
<=	Less than or equal to
<>	Not equal to
=	Equals
>	Greater
>=	Greater than or equal to
AND	And
IF	Test
NOT	Not
OR	Or
^	Raise to a power

CCMS Functions:

Show me: CCMS-Funktionen

Function	Name
C_CCMSBI_AGG	CCMS-BI: Store aggregates
C_CCMSBI_DSO	CCMS-BI: Store DSO
C_CCMSBI_DSRAGG	CCMS-BI: Store DSR aggregates
C_CCMSBI_DSRDSO	CCMS-BI: Store DSR DSO
C_CCMSBI_DSRPSADELETE	CCMS-BI: Delete DSR PSA
C_CCMSBI_PSADELETE	CCMS-BI: Delete WebAS PSA

Date Functions:

These are very useful and handy functions which can be used to convert date to multiple time elements.

Show me: Date Functions

Function	Name
ADD_TO_DATE	Add Day to a Date
CALMONTH_FISCPER	Calculate Fiscal Period from Calend
DATECONV	Date Conversion
DATE_DIFF	Date Difference
DATE_FISCPER	Calculate Posting Period from Date(
DATE_FISCPER3	Calculate Posting Period from Date(
DATE_FISCYEAR	Calculate Fiscal Year from Date
DATE_HALFYEAR	Calculate Half Year from Date (YYYY
DATE_MONTH	Calculate Month from Date (YYYYMM
DATE_MONTH2	Calculate Month from Date (YYYYMM
DATE_QUARTER	Calculate Quarter from Date (YYYYM
DATE_QUARTER1	Calculate Quarter from Date (YYYYM
DATE_TO_WEEK	Date->Week
DATE_WEEKDAY	Calculate Weekday Description from
DATE_WEEKDAY1	Calculate Weekday Number from Da
DATE_YEAR	Calculate Year from Date (YYYYMMD
FISCPER_CALMONTH	Calculate Calendar Month from Fisc
FISCPER_FISCYEAR	Calculate Fiscal Year from Booking
LAST_WORKINGDAY_MONTH	Calculate Last Work Day for Month
LAST_WORKINGDAY_YEAR	Calculate Last Work Day for Year
MONTH2_HALFYEAR	Calculate Half Year from Month (M o
MONTH2_QUARTER1	Calculate Quarter from Month (M or M
MONTH_HALFYEAR	Calculate Half Year from Month (YYY
MONTH_QUARTER	Calculate Quarter from Month (YYYY
MONTH_QUARTER1	Calculate Quarter from Month (YYYY
MONTH_YEAR	Calculate Year from Month (YYYYMM

Functions for Character String:

These can be used to compare character strings.

Show me: Functions for Charact...

Function	Name
CONCATENATE	Concatenate
CONDENSE	Summarize
CONDENSE_NO_GAPS	Summarize without Spaces
LEFT	First N Chars
L_TRIM	Delete Leading Spaces
REPLACE_ALL	Replace All
REPLACE_FIRST	Replace First
RIGHT	Last N Chars
R_TRIM	Delete End Spaces
SHIFT_LEFT	Move Left
SHIFT_RIGHT	Move Right
STR_LEN	Character String Length
SUBSTRING	Part of Character String
TOUPPER	Uppercase Letters

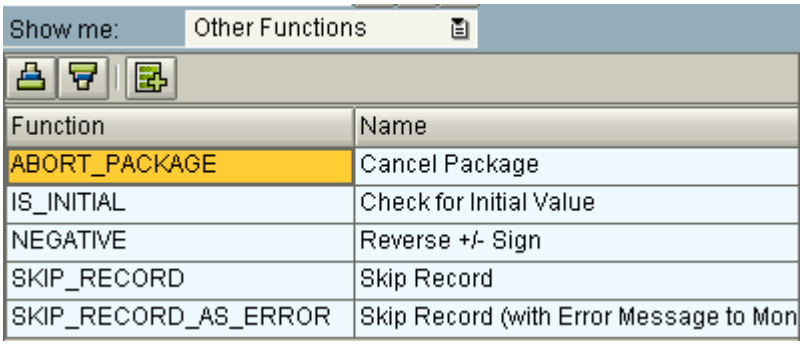
Mathematical Functions:

Various mathematical functions like sin, tan, cos etc can be explored here.

Show me: Mathematical Functio...

Function	Name
ABS	Amount
ARCCOS	Arc Cosinus
ARCSIN	Arc Sinus
ARCTAN	Arc Tangent
COS	Cosine
COSH	Hyperbola Cosinus
DIV	Quotient
EXP	Exponential Function
FRAC	Decimal Part
LOG	Natural Logarithm
LOG10	Logarithm for Basis 10
MOD	Remaining
SIGN	Sign
SIN	Sine
SINH	Hyperbola Sinus
SQRT	Root
TAN	Tan
TANH	Hyperbola Tan
TRUNC	Integer Part

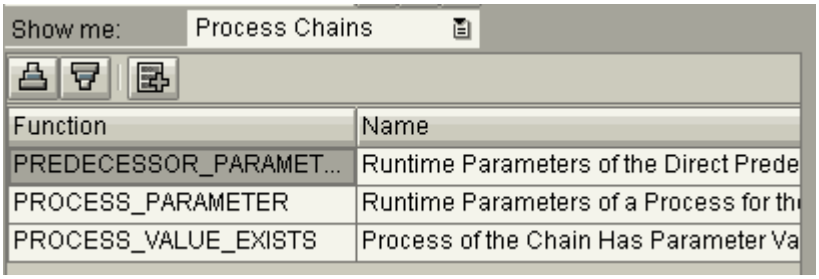
Other Functions:



Function	Name
ABORT_PACKAGE	Cancel Package
IS_INITIAL	Check for Initial Value
NEGATIVE	Reverse +/- Sign
SKIP_RECORD	Skip Record
SKIP_RECORD_AS_ERROR	Skip Record (with Error Message to Mon

Some more enhancements to this category 'Process Chains'.

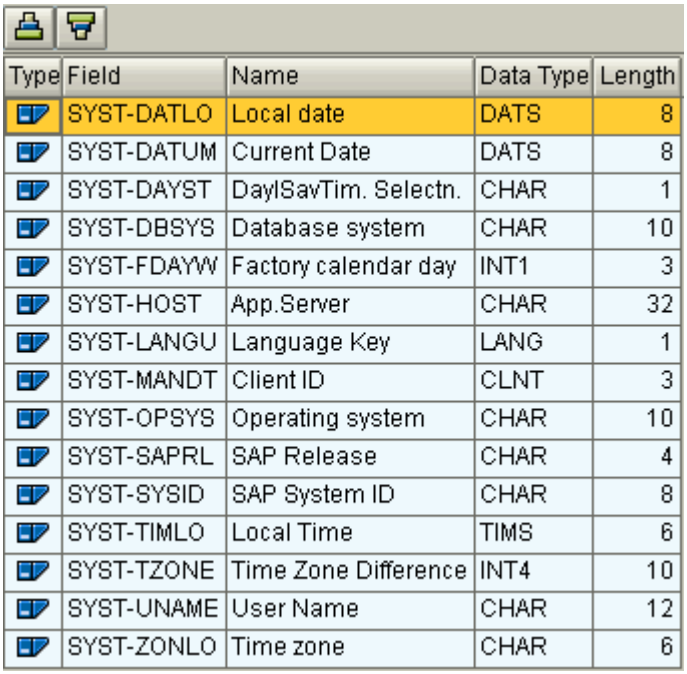
- PREDECESSOR_PARAMETER: Runtime parameter of direct predecessor
- PROCESS_PARAMETER: Runtime parameter of a process in the current chain
- PROCESS_VALUE_EXISTS: Process in chain has parameter value



Function	Name
PREDECESSOR_PARAMET...	Runtime Parameters of the Direct Prede
PROCESS_PARAMETER	Runtime Parameters of a Process for th
PROCESS_VALUE_EXISTS	Process of the Chain Has Parameter Va

These help is accessing the runtimes of any predecessor in the process chain.

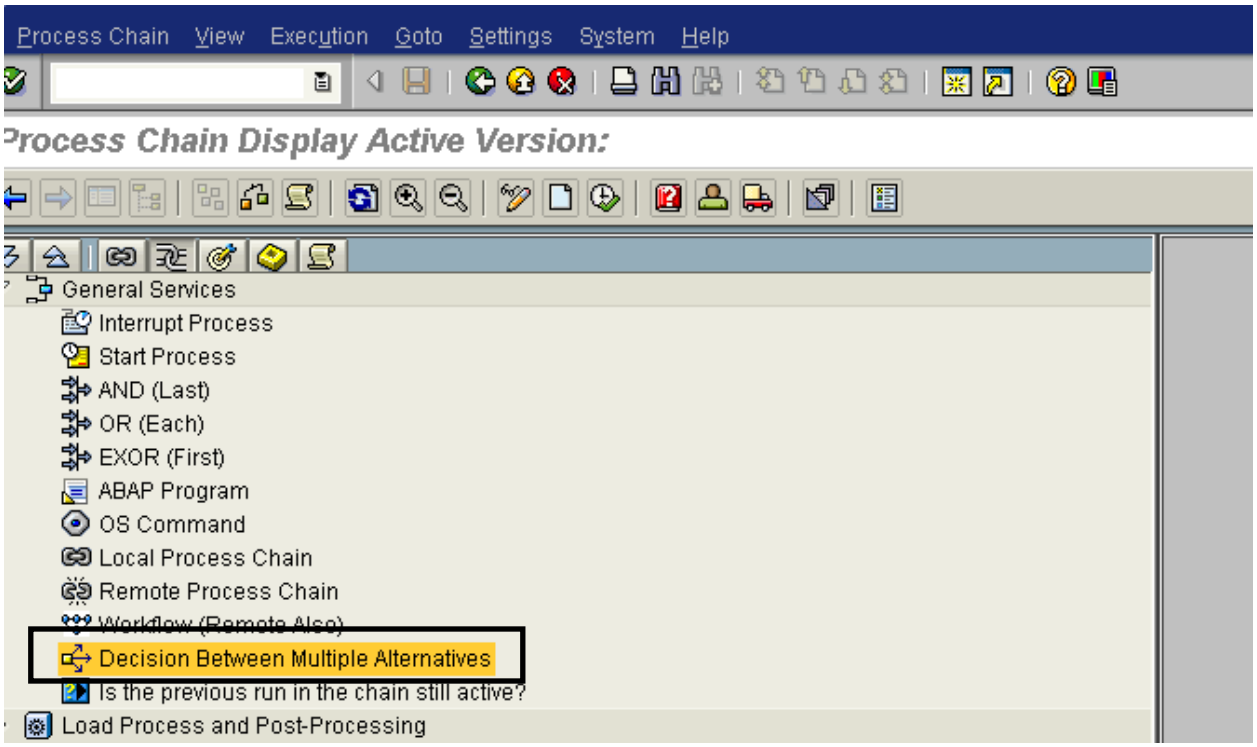
In addition to above we have the below provided values which can be used while creating these formulae.



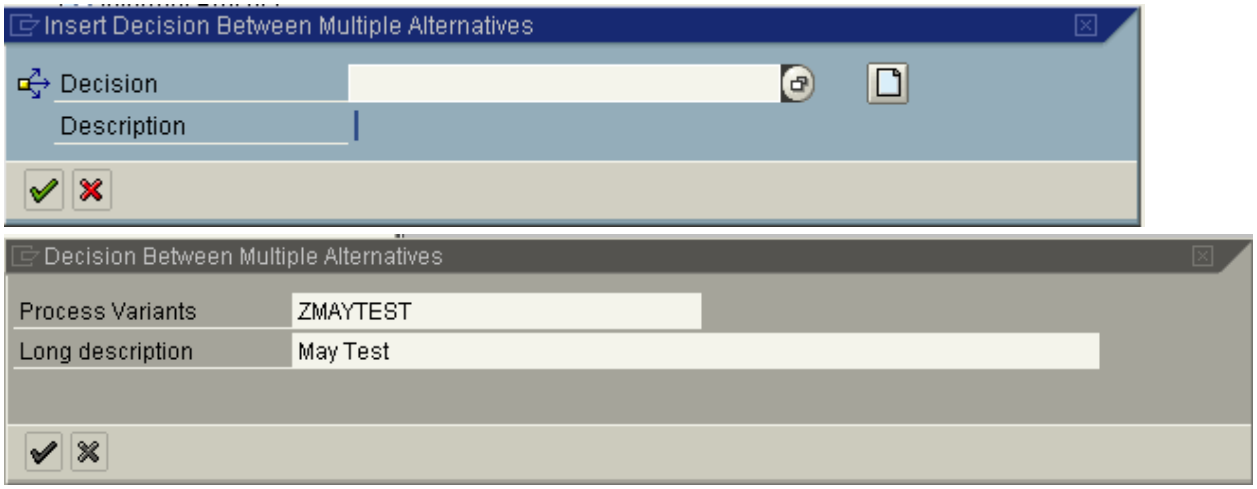
Type	Field	Name	Data Type	Length
	SYST-DATLO	Local date	DATS	8
	SYST-DATUM	Current Date	DATS	8
	SYST-DAYST	DaylSavTim. Selectn.	CHAR	1
	SYST-DBSYS	Database system	CHAR	10
	SYST-FDAYW	Factory calendar day	INT1	3
	SYST-HOST	App.Server	CHAR	32
	SYST-LANGU	Language Key	LANG	1
	SYST-MANDT	Client ID	CLNT	3
	SYST-OPSYS	Operating system	CHAR	10
	SYST-SAPRL	SAP Release	CHAR	4
	SYST-SYSID	SAP System ID	CHAR	8
	SYST-TIMLO	Local Time	TIMS	6
	SYST-TZONE	Time Zone Difference	INT4	10
	SYST-UNAME	User Name	CHAR	12
	SYST-ZONLO	Time zone	CHAR	6

Decision between Multiple Alternatives

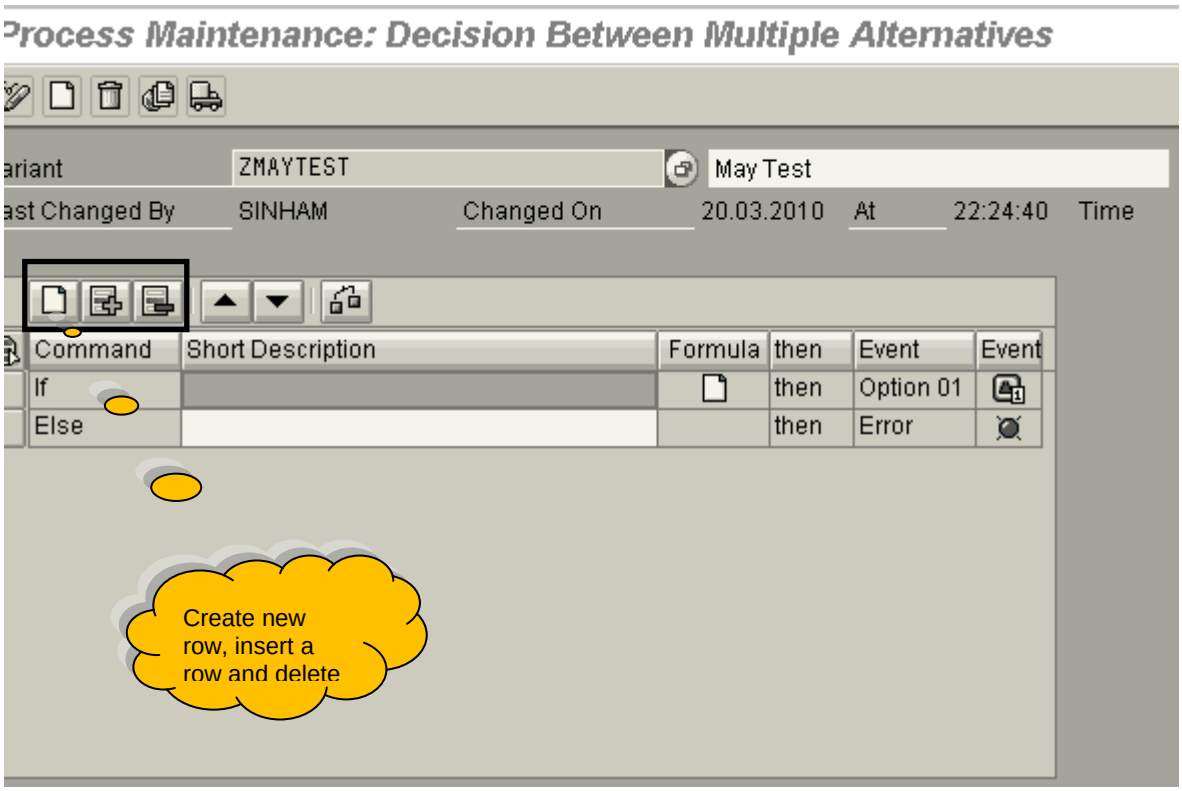
The decision making process type is a part of the general services section.



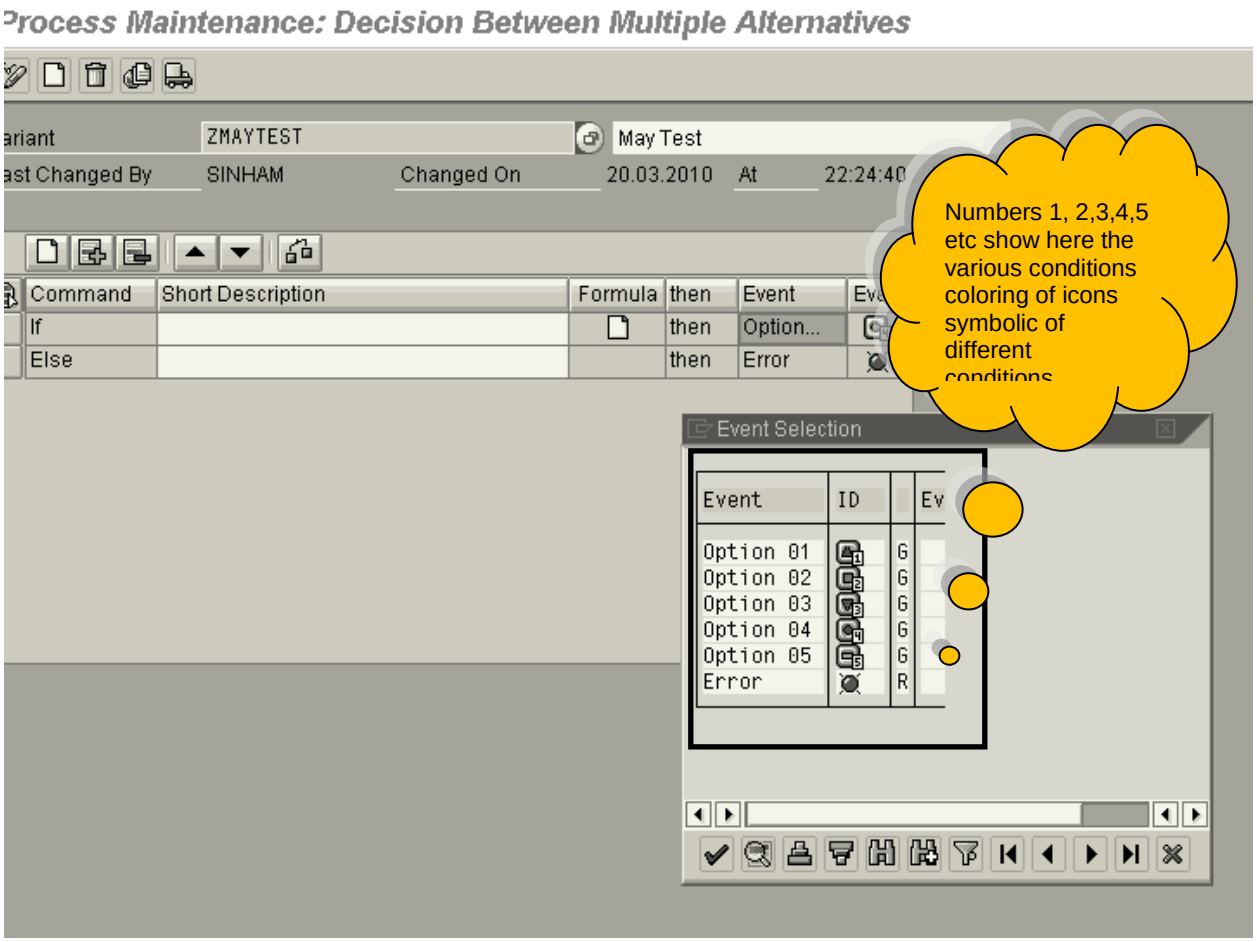
Double click on this on enter the name of the variant and create.



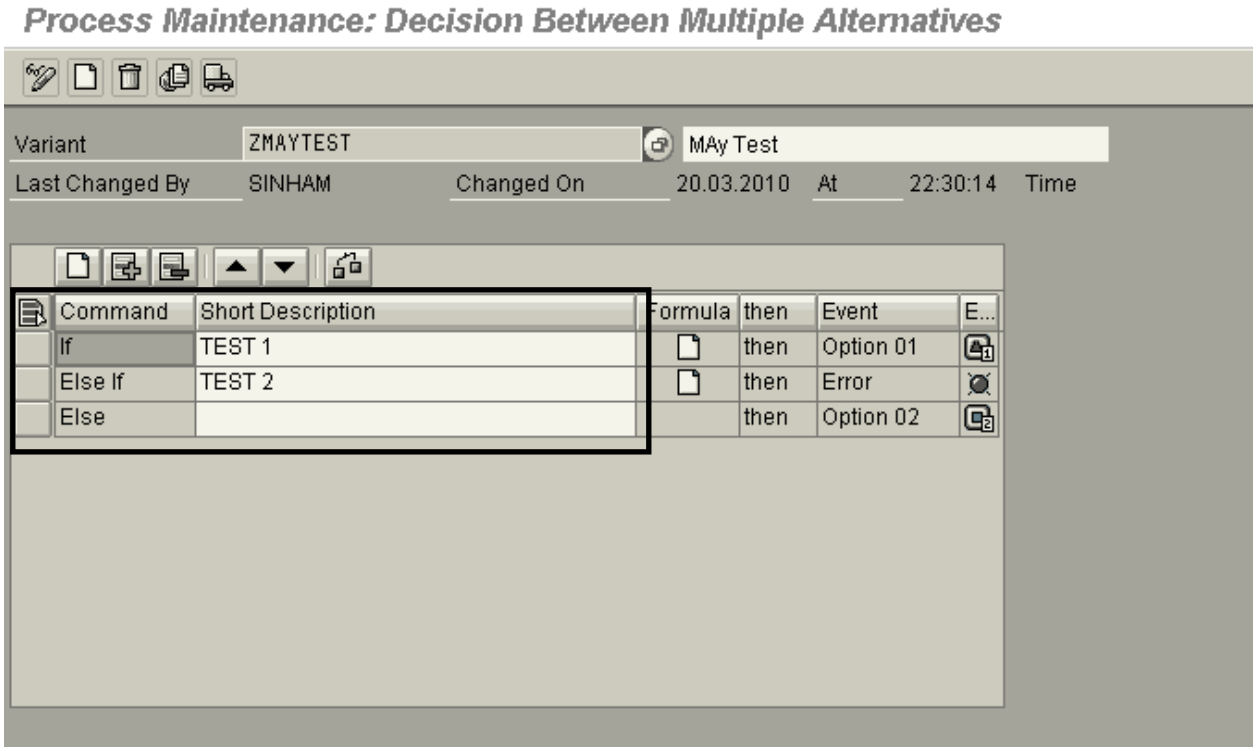
Nested If and else conditions can be created using Create New Row , add or delete a row options shown below.



For each of these nested IF statements, a different condition for success can be created.



Below we can see how varios nested IF statements are created.



Scenarios where it can be used:

Scenario 1 #:

If we want the process chain to behave differently over the weekends, which is a quite common scenario, we can use the DATE_WEEKDAY1 function with system date (SY-DATUM).

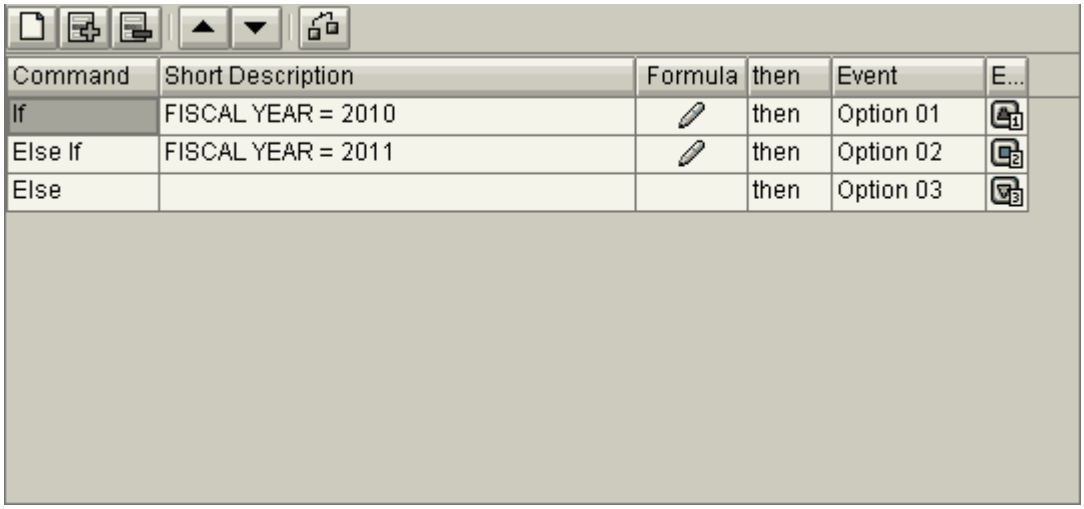
This function calculates the day of the week with the input of a date. The output set of this being 1…7.

For example, if DATE_WEEKDAY1 (date of the weekday) = '6' OR DATE_WEEKDAY1 (date of the weekday) = '7', we can implement different logic.

Scenario 2 #:

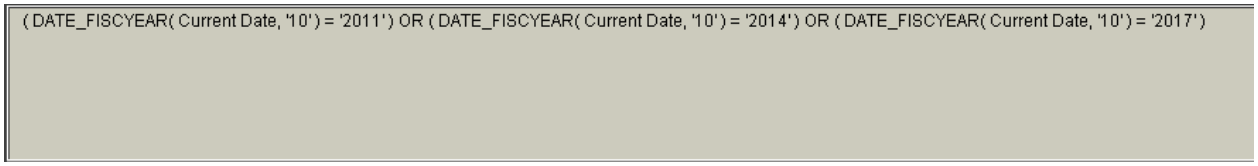
If we want the process chains to switch to different process chain with the year change, we can use the function DATE_FISCYEAR with system date (SY-DATUM) as shown below.

We can create If and else conditions for various years.

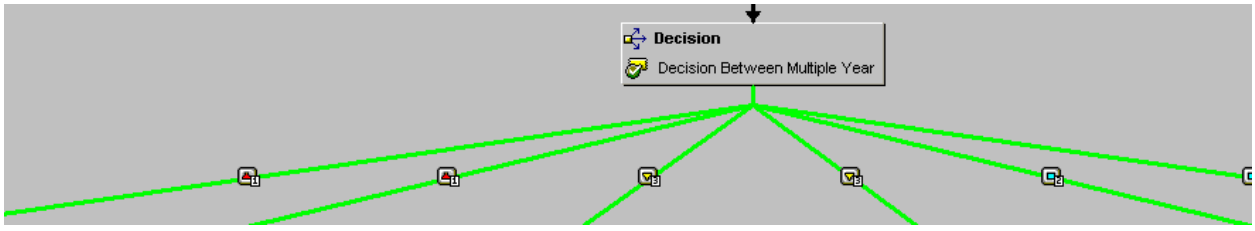


Command	Short Description	Formula	then	Event	E...
If	FISCAL YEAR = 2010		then	Option 01	
Else If	FISCAL YEAR = 2011		then	Option 02	
Else			then	Option 03	

Enter the formula as shown below for If and else. Here the two parameters of the function are ‘Date’ and ‘Fiscal Variant’.



Then this can be used is process chain to run different steps for different years, thus fulfilling the need of creating multiple process chains.



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