

## Summary

This article explains how to create a simple workflow using Object Definition and Implementation, Standard Tasks (Pftc), Event Definition And Implementation, Rule Definition and Implementation, Triggering an Event Explicitly by programming, process a work item in exceptional cases and starting a workflow via the work item manager API .

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**Date:** 15 Mar 2005

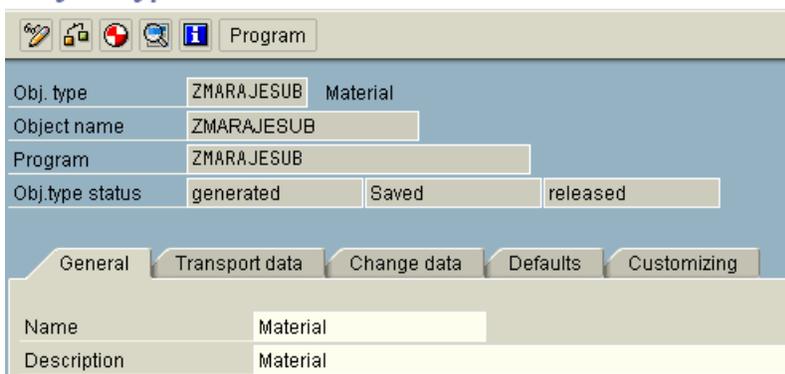
## Object Definition and Implementation

When implementing a workflow you will often notice that the object types supplied by SAP do not meet your requirements fully.

In these cases, you must extend an existing object type by creating a customer specific subtype for it.

In Transaction SWO1 , create a subtype 'ZMARAJESUB' for object type BUS1001.

### Object Type ZMARAJESUB: Edit Basic Data



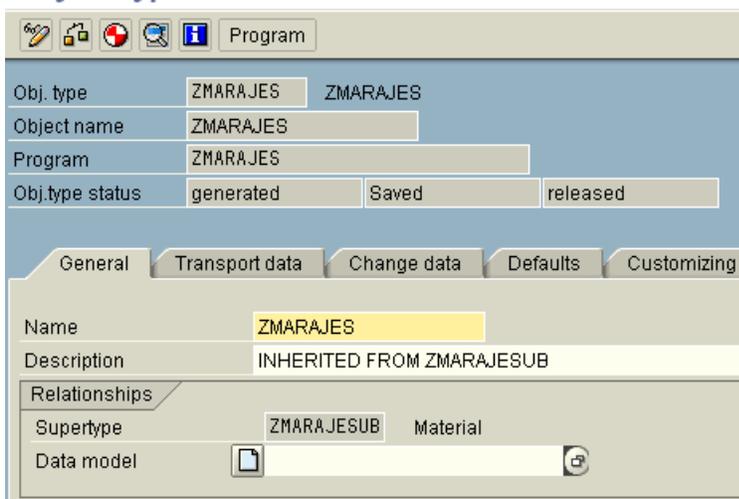
Obj. type	ZMARAJESUB	Material	
Object name	ZMARAJESUB		
Program	ZMARAJESUB		
Obj.type status	generated	Saved	released

General | Transport data | Change data | Defaults | Customizing

Name	Material
Description	Material

Create a subtype 'ZMARAJES' of your material object type by entering your parent object 'ZMARAJESUB'.

### Object Type ZMARAJES: Edit Basic Data



Obj. type	ZMARAJES	ZMARAJES	
Object name	ZMARAJES		
Program	ZMARAJES		
Obj.type status	generated	Saved	released

General | Transport data | Change data | Defaults | Customizing

Name	ZMARAJES
Description	INHERITED FROM ZMARAJESUB

Relationships

Supertype	ZMARAJESUB	Material
Data model		

Extend your new object type so that it meets additional requirements.

For the workflow development , you require events as triggering or terminating events of your tasks. Create two new events BasicMaterialChanged and OldMaterialChanged for your object type.

Object type ZMARAJES ✓ INHERITED FROM ZMARAJESUB

- Interfaces
- Key fields
- Attributes
- Methods
- Events
  - ZMARAJES.assigned WF\_COMMIT called
  - ZMARAJES.Created Material created
  - ZMARAJES.StartPlantMatnrDel ✓ Material discontinuation: 8
  - ZMARAJES.StartMatnrDel ✓ Material discontinuation: 8
  - ZMARAJES.ViewCreated New view for material was c
  - ZMARAJES.EventReactivateMaterial Cancel the deletion flag fc
  - ZMARAJES.EventReactivatePlantMaterial Cancel the deletion flags 1
  - ZMARAJES.BasicMaterialChanged BasicMaterialChanged
  - ZMARAJES.OldMaterialChanged OldMaterialChanged

**Event BasicMaterialChanged**

Event	BasicMaterialChanged
Object type	ZMARAJES
Release	620
Status	implemented

Texts

Name	BasicMaterialChanged
Description	BasicMaterialChanged

Triggering object does not exist

Object type ZMARAJES ✓ INHERITED FROM ZMARAJESUB

- Interfaces
- Key fields
- Attributes
- Methods
- Events
  - ZMARAJES.assigned WF\_COMMIT called
  - ZMARAJES.Created Material created
  - ZMARAJES.StartPlantMatnrDel Material discontinuation
  - ZMARAJES.StartMatnrDel Material discontinuation
  - ZMARAJES.ViewCreated New view for material wa
  - ZMARAJES.EventReactivateMaterial Cancel the deletion flag
  - ZMARAJES.EventReactivatePlantMaterial Cancel the deletion flag
  - ZMARAJES.BasicMaterialChanged BasicMaterialChanged
  - ZMARAJES.OldMaterialChanged OldMaterialChanged

Event OldMaterialChanged

Event: OldMaterialChanged

Object type: ZMARAJES

Release: 620

Status: implemented

---

Texts

Name: OldMaterialChanged

Description: OldMaterialChanged

Triggering object does not exist

Implement the two events using event creation from change documents. The Change document required is MATERIAL.

Restrict the triggering of the event for BasicMaterialChanged to the mara-wrkst field and for OldMaterialChanged to mara-bismt.

For the Old MaterialChanged, add a field restriction so that the event is only triggered when mara-bismt changes from anything to NEW.

Type transaction SWEC for the change document event creation.

**Change View "Events for Change Document": Details**

New Entries

Dialog Structure

- Events for Change Docu
  - Field Restrictions

Change doc. object	MATERIAL
Object Category	BOR Object Type
Object Type	ZMARAJES
Event	BASICMATERIALCHANGED
Trigger Event	
<input type="radio"/> On Create	Function Module
<input checked="" type="radio"/> On Change	Object Type
	Event ID

### Change View "Field Restrictions": Overview

Change doc. object: MATERIAL

Condition Editor

Table	Field Name	Old Value	New Value
MARA	WRKST	*	*

### Change View "Events for Change Document": Details

Change doc. object: MATERIAL

Object Category: BOR Object Type

Object Type: ZMARAJES

Event: OLDMATERIALCHANGED

Trigger Event:  On Change

Function Module: Object Type, Event ID, Event Container

### Change View "Field Restrictions": Overview

Change doc. object: MATERIAL

Condition Editor

Table	Field Name	Old Value	New Value
MARA	BISMT	*	NEW

Define another DeadlineTest event for you object type with a LatestEndDate parameter Referring to the syst-datum field. This parameter will be used to transfer an end deadline for a step within a workflow.

Event: DeadlineTest

Object type: ZMARAJES

Release: 620

Status: implemented

Texts

Name: DeadlineTest

Description: DeadlineTest

## Object Type ZMARAJES: Edit Parameters for Event DEADLINETEST

Parameter	Obj. Type	First Release
LatestEndDate	ZMARAJES	620

Parameter LatestEndDate	
Parameter	LatestEndDate
Object type	ZMARAJES
Release	620
Texts	
Name	LatestEndDate
Description	LatestEndDate
Parameter attributes	
<input type="checkbox"/> Multiline	
Data type reference	
<input checked="" type="radio"/> ABAP Dictionary	
Reference table	SYST
Reference field	DATUM

Create a new ChangedBy attribute based on the mara-aenam field. This attribute specifies the user who last changed the underlying material.

You will use this attribute later to filter out your material.

## Change Object Type ZMARAJES

The screenshot shows the SAP 'Change Object Type ZMARAJES' dialog box. The left pane displays a tree view of object types under 'ZMARAJES', with 'Attributes' expanded to show 'ZMARAJES.ChangedBy' selected. The right pane shows the configuration for this attribute:

Attribute	Value
Attribute	ChangedBy
Object type	ZMARAJES
Release	620
Status	released

Texts:

Name	Value
Name	Changed by
Description	Name of person who changed object

Source:

Virtual  
 Database field

Attribute properties:

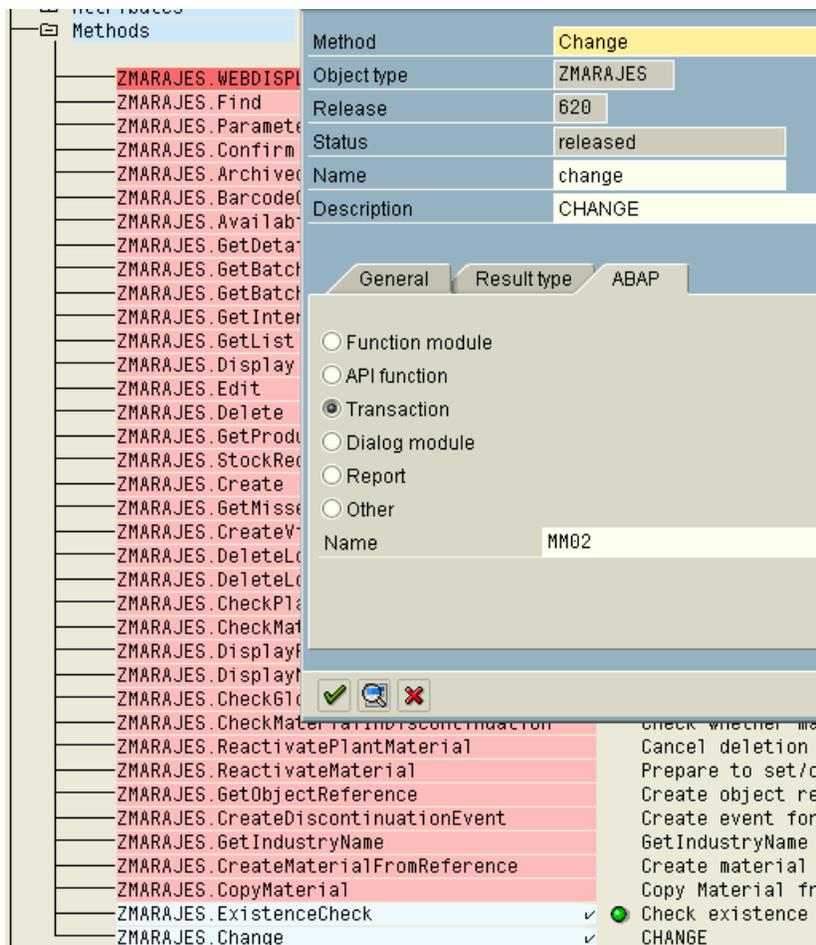
Multiline  
 Mandatory  
 Instance-independent

Data type reference:

ABAP Dictionary

Reference table	Value
Reference table	MARA
Reference field	AENAM

Create a new Change method on the basis of transaction MM02. This transaction writes your changes to the database using an update task.  
deselect the synchronous flag in General tab.



Now select the method and then choose the program icon to generate the code.  
 BEGIN\_METHOD CHANGE CHANGING CONTAINER.

DATA:

MATERIALVIEW TYPE T132T-STATM.

SWC\_GET\_ELEMENT CONTAINER 'MaterialView' MATERIALVIEW.

IF MATERIALVIEW IS INITIAL.

MATERIALVIEW = 'K'.

ENDIF.

SET PARAMETER ID 'MAT' FIELD OBJECT-KEY-MATERIAL.

SET PARAMETER ID 'MXX' FIELD MATERIALVIEW.

CALL TRANSACTION 'MM02' AND SKIP FIRST SCREEN.

END\_METHOD.

Create a new DisplayView method. The purpose of this method is to display a material from a particular view.

The Desired view is to be transferred using the MaterialView input parameter.

Select the flag dialog and synchronous in General tab.

## Change Object Type ZMARAJE

Method DisplayView

Method: DisplayView  
 Object type: ZMARAJES  
 Release: 620  
 Status: released  
 Name: DisplayView  
 Description: Display View

General | Result type | ABAP

Function module  
 API function  
 Transaction  
 Dialog module  
 Report  
 Other

Name: MM03

## Object Type ZMARAJES: Edit Parameters for Method DISPLAYVIEW

Overview

Parameter	Obj. Type	First Release	Imp.	Man.	Exp.
MaterialView	ZMARAJES	620	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Parameter MaterialView

Parameter: MaterialView  
 Object type: ZMARAJES  
 Release: 620

Texts

Name: MaterialView  
 Description: MaterialView

Parameter attributes

Import       Mandatory  
 Export  
 Multiline

Data type reference

ABAP Dictionary  
 Reference table: T132T  
 Reference field: STATM

Select the program icon to generate the code. You need to add code to set the view to K that is 'Basis Data 1' as a default (This default the view to the basis view if no view is received). You can display the actual view using transaction MM03. transaction MM03 recognizes a SET/GET parameter MXX Which you can use to control the view where the transaction is started. Supply this SET/GET parameter with your input parameter value.

```

BEGIN_METHOD DISPLAYVIEW CHANGING CONTAINER.
DATA:
  MATERIALVIEW TYPE T132T-STATM.
  SWC_GET_ELEMENT CONTAINER 'MaterialView' MATERIALVIEW.
  IF MATERIALVIEW IS INITIAL.
    MATERIALVIEW = 'K'.
  ENDIF.

  SET PARAMETER ID 'MAT' FIELD OBJECT-KEY-MATERIAL.
  SET PARAMETER ID 'MXX' FIELD MATERIALVIEW.
  CALL TRANSACTION 'MM03' AND SKIP FIRST SCREEN.
  SWC_set_ELEMENT CONTAINER 'MaterialView' MATERIALVIEW.
END_METHOD.

```

A Material master can be assigned to several different plants. Create a plant virtual attribute that refers to your object type zplantje. ZPLANTJE object type is following.

### Change Object Type ZPLANTJE

The screenshot displays the SAP 'Change Object Type ZPLANTJE' dialog box. The interface is divided into two main sections: a tree view on the left and a detail pane on the right.

**Tree View (Left):**

- Object type:** ZPLANTJE (checked)
- Interfaces:** IFSAP (SAP standard interface)
- Key fields:** ZPLANTJE.Plant (checked) - Plant
- Attributes:** ZPLANTJE.ObjectType (Object type), ZPLANTJE.Name1 (Name)
- Methods:** ZPLANTJE.ExistenceCheck (Check existence), ZPLANTJE.Display (Display object)
- Events:** (empty)

**Detail Pane (Right):**

**Key field Plant**

Key field	Plant
Object type	ZPLANTJE
Release	620
Status	released

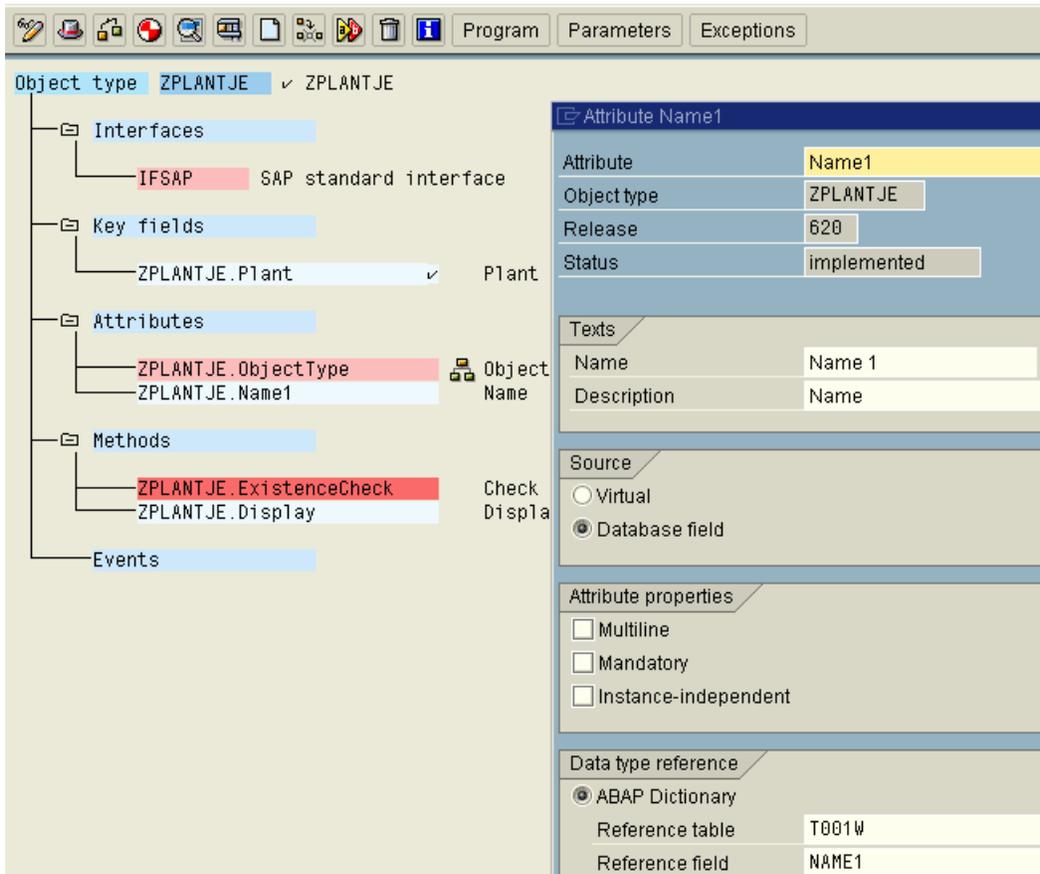
**Texts**

Name	Plant
Description	Plant

**Data type reference**

Reference table	T001W
Reference field	WERKS
Search help	
Search help param.	

## Change Object Type ZPLANTJE



Object type ZPLANTJE ✓ ZPLANTJE

- Interfaces
  - IFSAP SAP standard interface
- Key fields
  - ZPLANTJE.Plant ✓ Plant
- Attributes
  - ZPLANTJE.ObjectType Object Name
  - ZPLANTJE.Name1 Name
- Methods
  - ZPLANTJE.ExistenceCheck Check Displa
  - ZPLANTJE.Display
- Events

Attribute Name1

Attribute	Name1
Object type	ZPLANTJE
Release	620
Status	implemented

Texts

Name	Name 1
Description	Name

Source

Virtual

Database field

Attribute properties

Multiline

Mandatory

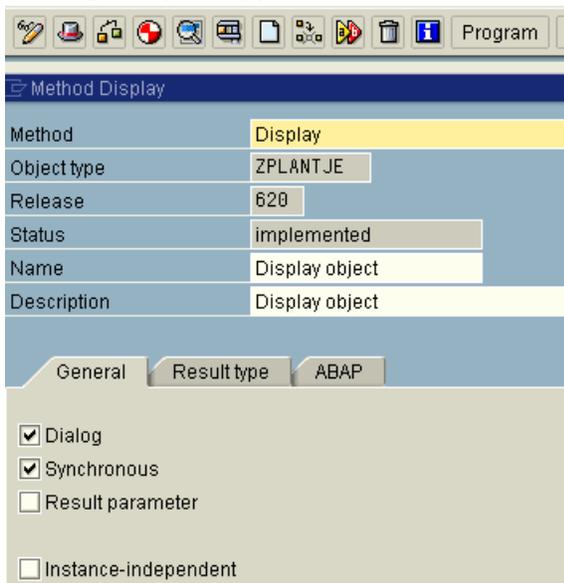
Instance-independent

Data type reference

ABAP Dictionary

Reference table	T001W
Reference field	NAME1

## Change Object Type ZPLANTJE



Method Display

Method	Display
Object type	ZPLANTJE
Release	620
Status	implemented
Name	Display object
Description	Display object

General Result type ABAP

Dialog

Synchronous

Result parameter

Instance-independent

```

*****      Implementation of object type ZPLANTJE      **
INCLUDE <OBJECT>.
BEGIN_DATA OBJECT. " Do not change.. DATA is generated
* only private members may be inserted into structure private
    
```

```

DATA:
" begin of private,
" to declare private attributes remove comments and
" insert private attributes here ...
" end of private,
BEGIN OF KEY,
    PLANT LIKE T001W-WERKS,
END OF KEY,
    _T001W LIKE T001W.
END_DATA OBJECT. " Do not change.. DATA is generated

```

```

TABLES: T001W,V_T001W.
GET_TABLE_PROPERTY T001W.
DATA SUBRC LIKE SY-SUBRC.
* Fill TABLES T001W to enable Object Manager Access to Table Property
PERFORM SELECT_TABLE_T001W USING SUBRC.
IF SUBRC NE 0.
    EXIT_OBJECT_NOT_FOUND.
ENDIF.
END_PROPERTY.
*
* Use Form also for other(virtual) Properties to fill TABLES T001W
FORM SELECT_TABLE_T001W USING SUBRC LIKE SY-SUBRC.
* Select single * from T001W, if OBJECT-_T001W is initial
IF OBJECT-_T001W-MANDT IS INITIAL
IF OBJECT-_T001W-MANDT IS INITIAL
AND OBJECT-_T001W-WERKS IS INITIAL.
    SELECT SINGLE * FROM T001W CLIENT SPECIFIED
        WHERE MANDT = SY-MANDT
        AND WERKS = OBJECT-KEY-PLANT.
    SUBRC = SY-SUBRC.
    IF SUBRC NE 0. EXIT. ENDIF.
    OBJECT-_T001W = T001W.
ELSE.
    SUBRC = 0.
    T001W = OBJECT-_T001W.
ENDIF.
ENDFORM.
BEGIN_METHOD DISPLAY CHANGING CONTAINER.
select single * from t001w where werks = object-key-plant.
check sy-subrc eq 0.
if t001w-vlfkz is initial.
CLEAR V_T001W.
V_T001W-MANDT = SY-MANDT.
V_T001W-WERKS = OBJECT-KEY-PLANT.
CALL FUNCTION 'VIEW_MAINTENANCE_SINGLE_ENTRY'
EXPORTING
ACTION           = 'SHOW'
VIEW_NAME        = 'V_T001W'
CHANGING
ENTRY            = V_T001W.
else.
    SET PARAMETER ID 'WRK' FIELD OBJECT-KEY-PLANT.

```

CALL TRANSACTION 'WB03' AND SKIP FIRST SCREEN.  
endif.

END\_METHOD.

A Material master can be assigned to several different plants. Create a plant virtual attribute that refers to your object type ZPLANTJE.  
In this attribute, display one of the plants to which the material is assigned. create the MARC table to find the particular plants that a material is assigned to. The key is the WERKS field. After the first record is found, cancel the action and generate an object reference of the type ZPLANTJE for this plant. This object reference is returned in the plant attribute.

### Change Object Type ZMARAJES

\*\*\*\*\* Implementation of object type ZMARAJES \*\*\*\*\*

```

INCLUDE <OBJECT>.
BEGIN_DATA OBJECT. " Do not change.. DATA is generated
* only private members may be inserted into structure private
DATA:
" begin of private,
" to declare private attributes remove comments and
" insert private attributes here ...
" end of private,
BEGIN OF KEY,

```

```

MATERIAL LIKE MARA-MATNR,
END OF KEY,
PLANT TYPE SWC_OBJECT.
END_DATA OBJECT. " Do not change.. DATA is generated
GET_PROPERTY PLANT CHANGING CONTAINER.
data: werks like marc-werks.
if object-plant is initial.
select werks from marc into werks up to 1 rows
where matnr = object-key-material.
endselect.
swc_create_object object-plant 'ZPLANTJE' werks.
endif.
SWC_SET_ELEMENT CONTAINER 'Plant' OBJECT-PLANT.
END_PROPERTY.

```

Create a virtual database field attribute IndustryName for the long text for the value of the existing Industry attribute. The industry name can be read from the MBBEZ field of the T137T table on a language-specific basis.

### Change Object Type ZMARAJESUB

The screenshot shows the SAP ABAP Object Designer interface. On the left, a tree view displays the object type 'ZMARAJESUB' with its various attributes. The attribute 'ZMARAJESUB.IndustryName' is selected. On the right, the configuration panel for this attribute is shown, with the following details:

Attribute IndustryName	
Attribute	IndustryName
Object type	ZMARAJESUB
Release	620
Status	released
Texts	
Name	IndustryName
Description	IndustryName
Source	
<input checked="" type="radio"/> Virtual	
<input type="radio"/> Database field	
Attribute properties	
<input type="checkbox"/> Multiline	
<input type="checkbox"/> Mandatory	
<input type="checkbox"/> Instance-independent	
Data type reference	
<input checked="" type="radio"/> ABAP Dictionary	
Reference table	T137T
Reference field	MBBEZ

\*\*\*\*\* Implementation of object type ZMARAJESUB \*\*\*\*\*

```

INCLUDE <OBJECT>.
BEGIN_DATA OBJECT. " Do not change.. DATA is generated
* only private members may be inserted into structure private
DATA:
" begin of private,
" to declare private attributes remove comments and
" insert private attributes here ...

```

```

" end of private,
BEGIN OF KEY,
  MATERIAL LIKE MARA-MATNR,
END OF KEY,

  QMESSAGE TYPE SWC_OBJECT OCCURS 0,
  INDUSTRYNAME TYPE T137T-MBBEZ,

END_DATA OBJECT. " Do not change.. DATA is generated

TABLES: MARA, t137t, qmel, t006.
GET_PROPERTY INDUSTRYNAME CHANGING CONTAINER.

##this is implemented as a virtual attribute
data: getindustryname like t137t-mbbez,
      industry_key like mara-mbrsh.

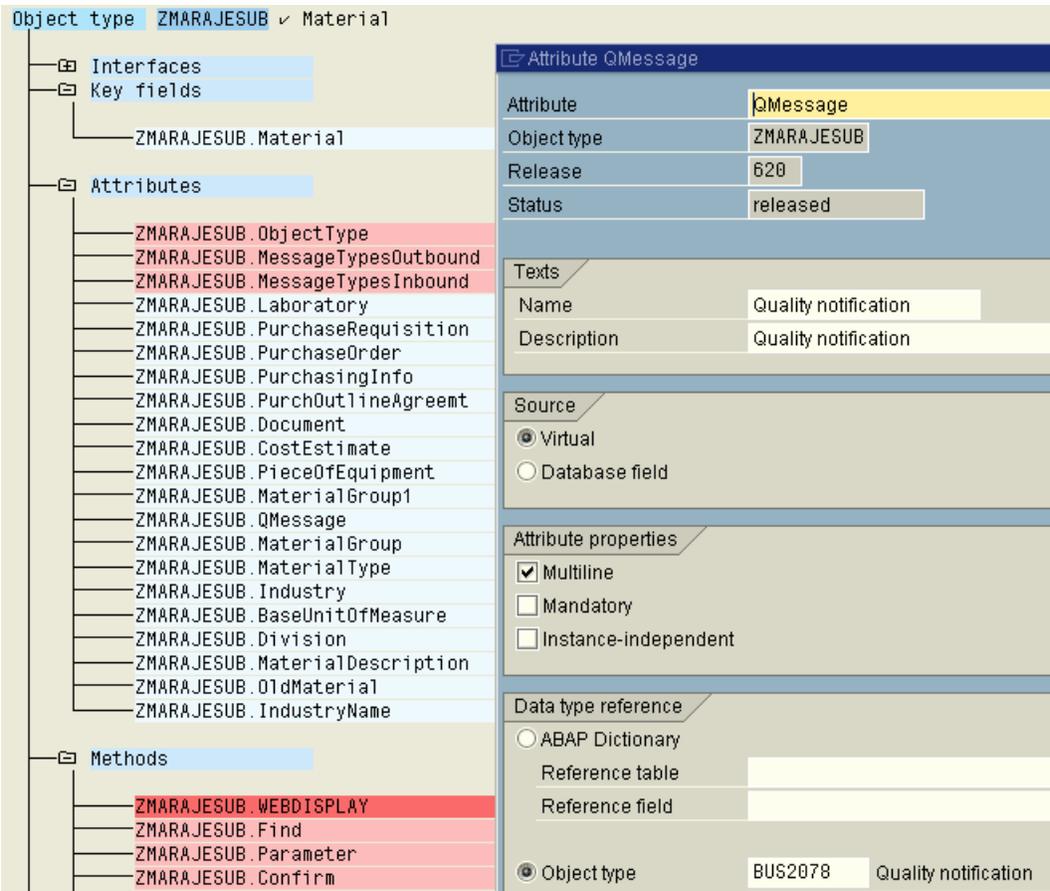
if object-industryname eq space.
  swc_get_property self 'Industry' industry_key.

select single * from t137t where spras eq sy-langu and
              mbrsh eq industry_key.
if sy-subrc eq 0.
  object-industryname = t137t-mbbez.
else.
  object-industryname = space.
endif.
endif.
  SWC_SET_ELEMENT CONTAINER 'IndustryName' OBJECT-INDUSTRYNAME.
END_PROPERTY.
BEGIN_METHOD GETINDUSTRYNAME CHANGING CONTAINER.

data: getindustryname like t137t-mbbez.
data: industry_key like mara-mbrsh.
swc_get_property self 'industry' industry_key.
select single * from t137t where spras = sy-langu
              and mbrsh = industry_key.
if sy-subrc eq 0.
  getindustryname = t137t-mbbez.
else.
  getindustryname = space.
endif.
swc_set_element container result getindustryname.
END_METHOD.

```

Create a virtual, multiline and object-value Qmessage attribute that lists all quality notifications where the current material is used. The delivered bus2078 object type represents quality notifications. The quality notifications are contained in the QMEL table, while the notifications that refer to a particular material are located on the material number field in QMEL.



### GET\_PROPERTY QMESSAGE CHANGING CONTAINER.

data: local\_qmel like qmel occurs 0 with header line.

data: this\_qmel type swc\_object.

data: lineno like sy-tfill.

describe table object-QMessage lines lineno.

if lineno eq 0.

```
select * from qmel into table local_qmel
      where matnr eq object-key-material.
```

loop at local\_qmel.

```
swc_create_object this_qmel 'BUS2078' local_qmel-qmnum.
```

if sy-subrc eq 0.

```
append this_qmel to object-qmessage.
```

endif.

endloop.

endif.

```
SWC_SET_TABLE CONTAINER 'QMessage' OBJECT-QMESSAGE.
```

```
END_PROPERTY.
```

Create a new method CreateMaterialFromReference.Using a material number transferred via the input parameter

ReferencematerialNumber, this instance – independent asynchronous method is intended to generate a new material for which

```

the material type and the industry from the reference material are transferred.
BEGIN_METHOD CREATMATERIALFROMREFERENCE CHANGING CONTAINER.
data: referencematerialno like mara-matnr,
      industry like mara-mbrsh,
      mat_type like mara-mtart.
data: ref_mat type swc_object.
swc_get_element container 'ReferenceMaterialNo' referencematerialno.
swc_create_object ref_mat 'ZMARAJES' referencematerialno.
if sy-subrc ne 0.
  exit_return 1000 referencematerialno space space space.
endif.

```

```

swc_get_property ref_mat 'Industry' Industry.
swc_get_property ref_mat 'MaterialType' mat_type.
set parameter id 'RMA' field referencematerialno.
set parameter id 'MTA' field mat_type.
set parameter id 'MTP' field Industry.
call transaction 'MM01'.
END_METHOD.

```

If no material exist for the transferred reference material number, an exception is to be triggered with reference to T100 message M3 305.

**Object Type ZMARAJES: Display Exceptions for Method CREATMATERIALFROM**

The screenshot shows the SAP 'Display Exceptions' dialog for object type ZMARAJES. The main table lists one exception with ID 1000, object type ZMARAJESUB, and message M3 305. The message text is 'The material & does not exist or is not activated'. A secondary dialog box titled 'Exception 1000' provides more details: Exception ID 1000, Object Type ZMARAJESUB, Release 620, and Message M3 305 with the same text. The 'Error type' section has 'Temporary error' selected.

No.	Obj. Type	Temp.	App1.	Syst.	AppAr	Message	Message text
1000	ZMARAJESUB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	M3	305	The material & does not exist or is not activated

```

BEGIN_METHOD COPYMATERIAL CHANGING CONTAINER.
data: industry like mara-mbrsh,
      mat_type like mara-mtart.
swc_get_property self 'Industry' industry.
swc_get_property self 'MaterialType' Mat_type.

set parameter id 'RMA' field object-key-material.
set parameter id 'MTA' field mat_type.
set parameter id 'MTP' field Industry.

```

call transaction 'MM01'.  
END\_METHOD.

### Standard Tasks (Pftc)

Create A New Standard Task For Displaying A Material Master.  
Create The Task Zjematdisp Ts99904994 With The Method Display.Define The Task As A General Task.Specify Both A Workitem Text And A Task Description.Output The Material Number In Both Texts.

Standard task	99904994	ZJEMATDISP
Name	Please Review the Material by John & Mar	
Package	ZPACK	Appl. component MM-PUR

Basic data	Description	Container	Triggering events	Terminati
------------	-------------	-----------	-------------------	-----------

Name		
Abbr.	ZJEMATDISP	
Name	Please Review the Material by John & Mar	
Work item text	Please review Material & _WI_OBJECT_ID.MATERIAL& BY John and Maran	
Release status	Not defined	

Object method		
Object Category	BOR Object Type	
Object Type	ZMARAJES	ZMARAJES
Method	DISPLAY	Display
	<input checked="" type="checkbox"/> Synchronous object method	
	<input checked="" type="checkbox"/> Object method with dialog	

Create A New Standard Task Zjematedit Ts 99904995 For Changing The Material Master.Define The Task As A General Task.Specify A Text For Latest End And Completion And A Task Description. In Addition To The Material Number, Also Issue The Number And Name Of A Plant For This Material In All Texts..As This Task Is Asynchronous, You Must Atleast Define One Terminating Event.Use The Basicmaterialchanged Event For This.Add A Notification Agent.Select The Notification Tab In The Workflow.This Step Is To Have Deadline Monitoring, Activate Deadline Monitoring For The Latest End. Select Latest End Tab In The Workflow Defenition Of The Task.When Testing You Workflow Look For The Following Things: The Notification Of Completion On The Change Step, The Deadline Text On The Change Step.

Standard task	99904995	ZJEMATEDIT
Name	Please change material	
Package	ZPACK	Appl. component MM-PUR

Basic data	Description	Container	Triggering events	Terminating events
------------	-------------	-----------	-------------------	--------------------

Name	
Abbr.	ZJEMATEDIT
Name	Please change material
Work item text	Please change material &_WI_OBJECT_ID.MATERIAL& from plant &_WI...
Release status	Not defined

Object method	
Object Category	BOR Object Type
Object Type	ZMARAJES ZMARAJES
Method	CHANGE change
<input type="checkbox"/> Synchronous object method <input checked="" type="checkbox"/> Object method with dialog	

Execution	
<input type="checkbox"/> Background processing	<input type="checkbox"/> Executable with SAPforms
<input type="checkbox"/> Confirm end of processing	

Create A Standard Task Zjematdispy Ts99904997 With The Dispalyview Method For Displaying A Material Master From A Particular View. Define The Task As General Task. Display View K Corresponds To The Basis Data 1 View As The Default Value For The Parameter For Controlling The View Called From The Material.

Standard task	99904999	ZJEMATDISV
Name	Dispaly view of the material	
Package	ZPACK	Appl. component MM-PUR

Basic data	Description	Container	Triggering events	Terminating events
------------	-------------	-----------	-------------------	--------------------

<b>Name</b>	
Abbr.	ZJEMATDISV
Name	Dispaly view of the material
Work item text	Dispaly view of the material &MATERIALVIEW&
Release status	Not defined

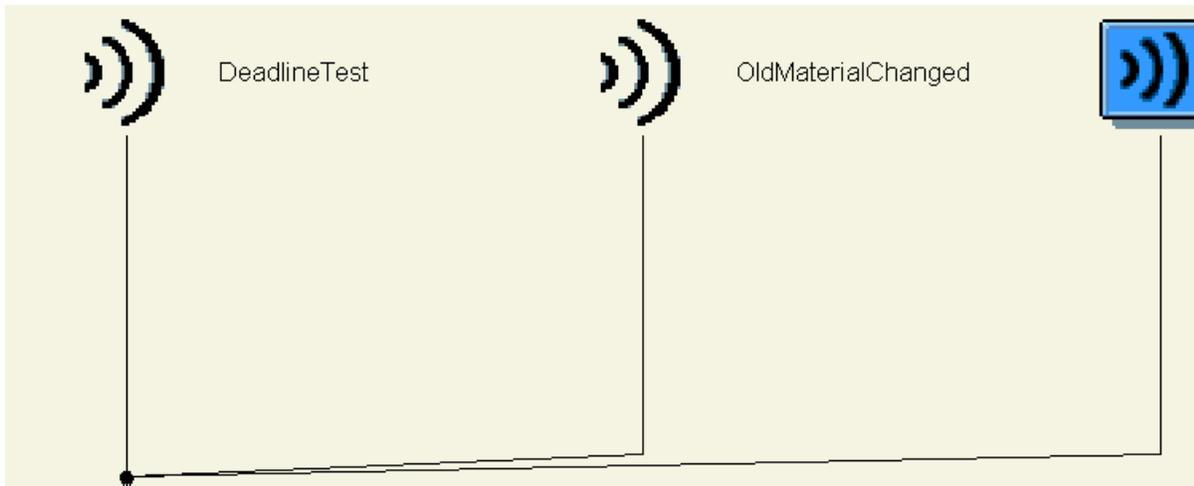
  

<b>Object method</b>	
Object Category	BOR Object Type
Object Type	ZMARAJES ZMARAJES
Method	DISPLAYVIEW DisplayView
	<input checked="" type="checkbox"/> Synchronous object method
	<input checked="" type="checkbox"/> Object method with dialog

<b>Execution</b>	
<input type="checkbox"/> Background processing	<input type="checkbox"/> Executable with SAPforms
<input type="checkbox"/> Confirm end of processing	

Create New **Workflow Template** zjchgm Ws99902876 For Changing A Material Master . Define Oldmaterialchanged As A Triggering Event For Your Workflow.Implement The Binding Between The Triggering Event And The Workflow, Activate The Binding.Incorporate Zjematedit Ts 99904995 And Zjematdisp Ts99904994 Single-Step Tasks In To Your Worflow Definition. Define Terminating Event Basicmaterialchanged For The Step Zjematedit Ts 99904995.This Step Should Have Deadline Monitoring . Activate Dead Line Monitoring For The Latest End. This Is To Be Triggered If The Step Has Not Been Fully Processed After 2 Minutes.Define The Workflow Initiator As The Message Recipient It The Latest End Is Missed. Define Deadline Test As Another Triggering Event For Your Workflow.Define The Binding Between The Event Parameters And The Input Parameters Of The Workflow.Activate The Event Linkage.



Version-Independent (Task) | Version-Dependent (Current Workflow Version)

Basic Data | Description | Start Events | Start Forms | Version Overview | Function Group

Abbreviation: ZJECHGMMCC

Description: Workflow to review material by John

Release status: Not defined

SAPphone: Not suitable for SAPphone

Work Item Text

Workflow to review material &MATERIAL.MATERIAL& and &MATERIAL.MATERIALDESCRIPTION& by John and Maran

Version-Independent (Task) | Version-Dependent (Current Workflow Version)

Basic Data | Description | Start Events | Start Forms | Version Overview | Function Group

Workflow start using triggering events

A...	B...	C...	Obj...	Object Type	Event of the object
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	BO	ZMARAJES	DEADLINETEST
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	BO	ZMARAJES	OLDMATERIALCHANGED
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

Standard task: 99904995 ZJEMATEDIT

Name: Please change material

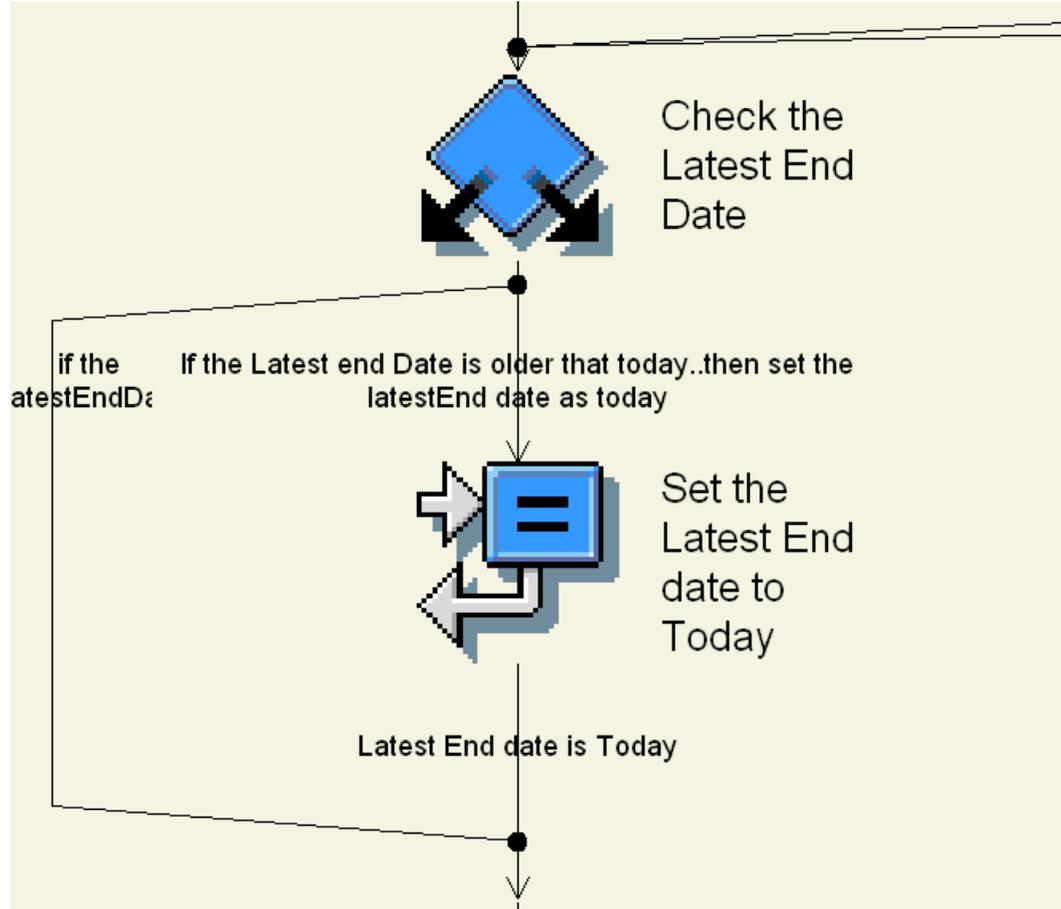
Package: ZPACK | Appl. component: MM-PUR

Basic data | Description | Container | Triggers events | Terminating events | Default rules | SAPphone

Standard events

Bindin...	Element	Object Category	Object Type	Event	Name
<input checked="" type="checkbox"/>	_WI_OBJECT_ID	BOR Object Type	ZMARAJES	BASICMATERIALCHANGED	ZMARAJES BasicMateria...

The Latest End For The Edit Step Should Be On The Date Determined Via Latestenddate. If The Latestenddate Is Older Than Today, Use A Container Operation To Set The Latest End Date To Today.Ensure In Your Workflow That This Parameter Cannot Contain A Deadline In The Past.






 Condition 000018 Check the Latest End Date

Condition Properties Change Data

Step Name

Step not in workflow log

Condition

&LATESTENDDATE < %DATUM%

Outcomes

O.	Outbox	Name
	True	If the Latest end Date is older that today..then set the latestEnd date as today
	False	if the LatestEndDate is EQ or > than today.worflow process continues with latest

**Change Condition**

Operators	Logic	Expression 1	Description
EX	And	System Fields	
NX	Or	Container	
CE	Not	_Adhoc_Objects	Ad Hoc Objects of Workflow Instance
NE		_Attach_Objects	Attachments of Workflow Instance
		_Wf_Initiator	Initiator of Workflow Instance
		_Wf_Priority	Priority of Workflow Instance
		_Wi_Group_ID	Grouping Characteristic for Workflow Instances
		_Workitem	Workflow Instance
		Material	Material
		LatestEndDate	LatestEndDate
		MaterialView	MaterialView
		Return	Return

Condition

Not	Express. 1	Operator	Express. 2	And/Or
<input checked="" type="checkbox"/>	&LATESTENDDATE&	<	%DATUM%	

Condition 000022 if the LatestEndDate is EQ or > than today.workflow proces...

Bezeichnung: **if the LatestEndDate is EQ or > than to**

Nicht im Workflow-Protokoll

Condition 000021 If the Latest end Date is older that today..then set the lates...

Bezeichnung: **If the Latest end Date is older that tod:**

Nicht im Workflow-Protokoll

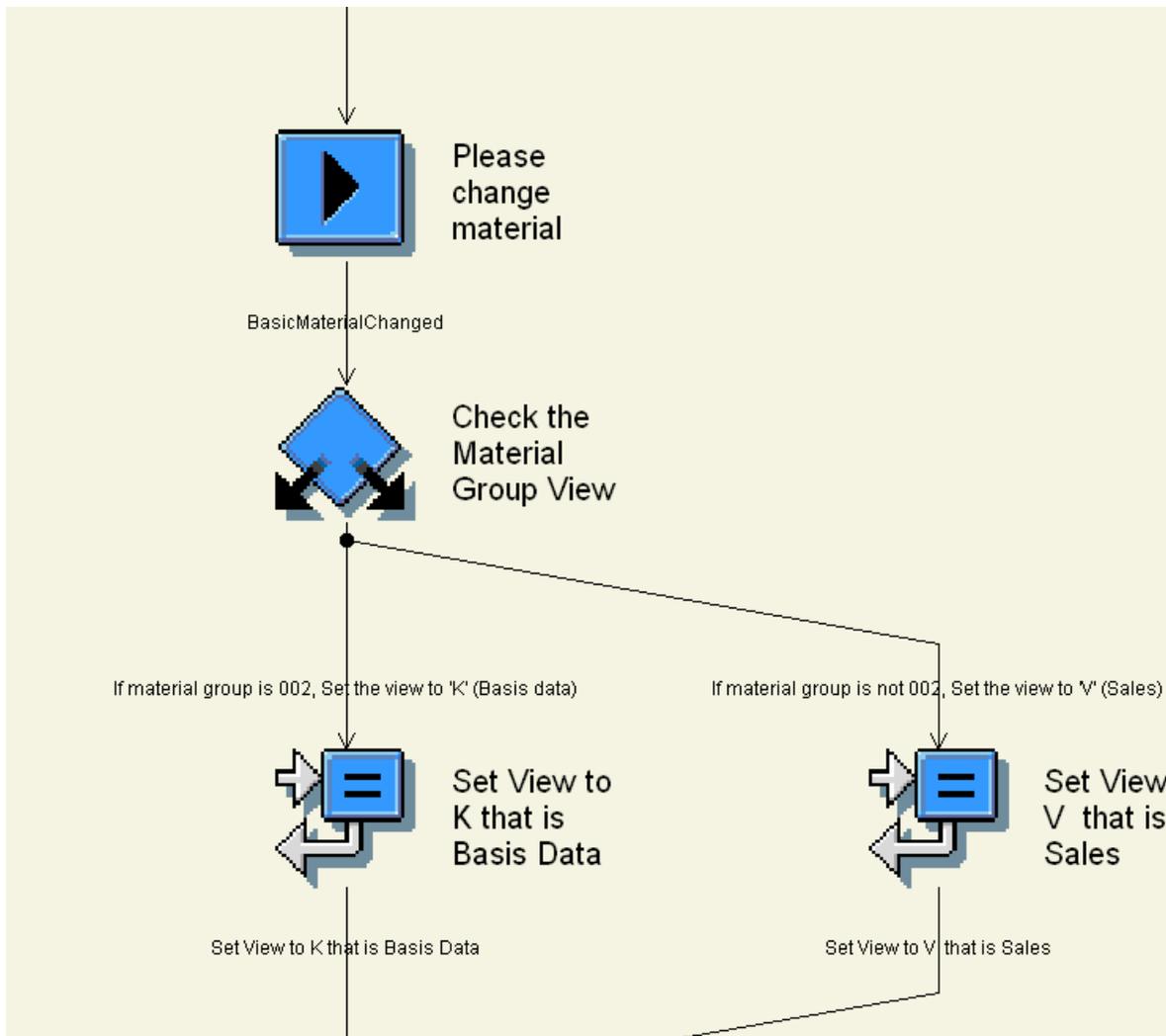
Container operation 000024 Set the Latest End date to Today

Step Name: **Set the Latest End date to Today**

Outcome name: **Latest End date is Today**

Step not in workflow log

Operation	
Result Element	LatestEndDate LatestEndDate
Assignment	= Assign (contents of table are deleted first)
Expression	%DATUM% %DATUM%
Operator	Assignment
Expression	



Activity: 000012 Please change material

Control | Outcomes | Notification | Latest end | Requested start | Latest start | Re

Task: TS99904995 Please change material

Step name: Please change material

Binding (Exists)

Agents

Organizational Unit: 50004354 | Organizational Unit For Nort...

Excluded:

Task Properties

- Agent Assignment
- Background Processing
- Task Complete
- Confirm End of Processing

Step Properties

- Task determined by expression
- Processing Can Be Rejected
- Advance with dialog
- Perform Agent Determination Again
- In Workflow Log

Standard task	99904995	ZJEMATEDIT
Name	Please change material	
Package	ZPACK	Appl. component MM-PUR

Basic data |
 Description |
 Container |
 Triggering events |
 Terminating events

Name	
Abbr.	ZJEMATEDIT
Name	Please change material
Work item text	Please change material &_WI_OBJECT_ID.MATERIAL& from plant &_WI...
Release status	Not defined

Object method	
Object Category	BOR Object Type
Object Type	ZMARAJES ZMARAJES
Method	CHANGE change
<input type="checkbox"/> Synchronous object method <input checked="" type="checkbox"/> Object method with dialog	

Execution	
<input type="checkbox"/> Background processing	<input type="checkbox"/> Executable with SAPforms
<input type="checkbox"/> Confirm end of processing	

Standard task	99904995	ZJEMATEDIT
Name	Please change material	
Package	ZPACK	Appl. component MM-PUR

Basic data |
 Description |
 Container |
 Triggering events |
 Terminating ev

Text type: Task description Language: English

You are responsible for the material &\_WI\_OBJECT\_ID.MATERIAL& in plant &\_WI\_OBJECT\_ID.PLANT.PLANT& - &\_WI\_OBJECT\_ID.PLANT.NAME1& . Please change field Basic material to complete this task.

Standard task	99904995	ZJEMATEDIT
Name	Please change material	
Package	ZPACK	Appl. component MM-PUR

Basic data |
 Description |
 Container |
 Triggering events |
 Terminating ev

Text type: Completion text Language: English

Material &\_WI\_OBJECT\_ID.MATERIAL& from plant &\_WI\_OBJECT\_ID.PLANT.PLANT& was updated by user &\_WI\_OBJECT\_ID.CHANGEDBY&...The material can be produced again

Standard task 99904995 ZJEMATEDIT  
 Name Please change material  
 Package ZPACK Appl. component MM-PUR

Basic data Description Container Triggering events Terminating events

Text type: Latest end text Language: English

You have missed the latest end date to change material &\_WI\_OBJECT\_ID.MATERIAL&  
 from plant &\_WI\_OBJECT\_ID.PLANT.PLANT& - &\_WI\_OBJECT\_ID.PLANT.NAME1&

Standard task 99904995 ZJEMATEDIT  
 Name Please change material  
 Package ZPACK Appl. component MM-PUR

Basic data Description Container Triggering events Terminating events Default rules SAPphone

Standard events

Bindin...	Element	Object Category	Object Type	Event	Name
<input checked="" type="checkbox"/>	_WI_OBJECT_ID	BOR Object Type	ZMARAJES	BASICMATERIALCHANGED	ZMARAJES BasicMateria...

Activity 000012 Please change material

Control Outcomes Notification Latest end Requested start Latest start R

Refer.date/time Work Item Creation

Date  
 Time  
 + 2 Minute(s)

Possible Actions Upon Missed Deadline

Display text Modeled

Recipient of message when latest end missed  
 Organizational Unit 50004354 Organizational Unit For Northern Area

[Text sent when latest end reached - click here to go to task...](#)

You have missed the latest end date to change material &\_WI\_OBJECT\_ID.MATERIAL&  
 from plant -

Activity: 000012 Please change material

Control Outcomes Notification Latest end Requested start Latest start Requested

Message recipient for completion

Organizational Unit: 50004352 Organizational Unit For Book

[Text of notification \(send by mail\) - click here to got to the task...](#)

Material from plant was updated by user ...The material can be produced again

Change Binding For Step

Workflow	Description	Step	Description
Workflow 'Workflow to review ...'		Step 'Please change material'	
System Fields		System Fields	
Container		Container	
_Adhoc_Objects	Ad Hoc Objects of Workflow Instance	_Adhoc_Objects	Ad Hoc Objects of Workflow Instance
_Attach_Objects	Attachments of Workflow Instance	_Attach_Objects	Attachments of Workflow Instance
_Wf_Initiator	Initiator of Workflow Instance	_Wi_Actual_Agent	Actual Agent of Workflow Instance
_Wf_Priority	Priority of Workflow Instance	_Wi_Group_ID	Grouping Characteristic for Workflow Instance
_Wi_Group_ID	Grouping Characteristic for Workflow Instance	_Workitem	Step Instance
_Workitem	Workflow Instance	_Wi_Object_ID	INHERITED FROM ZMAR
Material	Material		

Binding Workflow 'Workflow to review material by John' -> Step 'Please change material'

Workflow	Step	Description
Workflow 'Workflow to review material by John'	Step 'Please change material'	
&MATERIAL&	&_WI_OBJECT_ID&	

Binding Workflow 'Workflow to review material by John' <- Step 'Please change material'

Workflow	Step	Description
Workflow 'Workflow to review material by John'	Step 'Please change material'	

Condition 000026 Check the Material Group View

Condition Properties Change Data

Step Name

Step not in workflow log

Condition

&MATERIAL.MATERIALGROUP& = 002

Outcomes

	Name
<input type="radio"/> True	If material group is 002, Set the view to 'K' (Basis data)
<input type="radio"/> False	If material group is not 002, Set the view to 'V' (Sales)

Change Condition

Operators	Logic	Expression 1	Description
	And	<input checked="" type="checkbox"/> MaterialGroup	Material group
	Or	<input type="checkbox"/> MaterialType	Material type
	Not	<input type="checkbox"/> Industry	Industry sector
		<input type="checkbox"/> BaseUnitOfMeasure	Base unit of measure
		<input type="checkbox"/> Division	Division
		<input type="checkbox"/> MaterialDescription	Material description
		<input type="checkbox"/> OldMaterial	Old material number
		<input type="checkbox"/> IndustryName	IndustryName
		<input checked="" type="checkbox"/> Plant	PLANT
		<input type="checkbox"/> ChangedBy	Name of person who changed o
		<input type="checkbox"/> ObjectType	Object type
		<input type="checkbox"/> LatestEndDate	LatestEndDate

Condition

Not	Express. 1	Operator	Express. 2	And/Or
<input checked="" type="checkbox"/>	&MATERIAL.MATERIALGROUP&	=	002	

Condition 000029 If material group is 002, Set the view to 'K' (Basis data)

Control Properties Change Data

Bezeichnung

Nicht im Workflow-Protokoll

Condition 000030 If material group is not 002, Set the view to 'V' (Sales)

Control Properties Change Data

Bezeichnung

Nicht im Workflow-Protokoll

Container operation 000032 Set View to K that is Basis Data

Control Properties Change Data

Step Name

Outcome name

Step not in workflow log

Operation	
Result Element	<input type="text" value="MaterialView"/> MaterialView
Assignment	= Assign (contents of table are deleted first)
Expression	<input type="text" value="K"/>
Operator	Assignment
Expression	<input type="text"/>

Container operation 000035 Set View to V that is Sales

Control Properties Change Data

Step Name Set View to V that is Sales

Outcome name  Set View to V that is Sales

Step not in workflow log

Operation

Result Element	MaterialView	MaterialView
Assignment	=	Assign (contents of table are deleted first)
Expression	V	
Operator	Assignment	
Expression		

Event Process Control 000033 Set View to K that is Basis Data

Control Properties Change Data

Bezeichnung Set View to K that is Basis Data

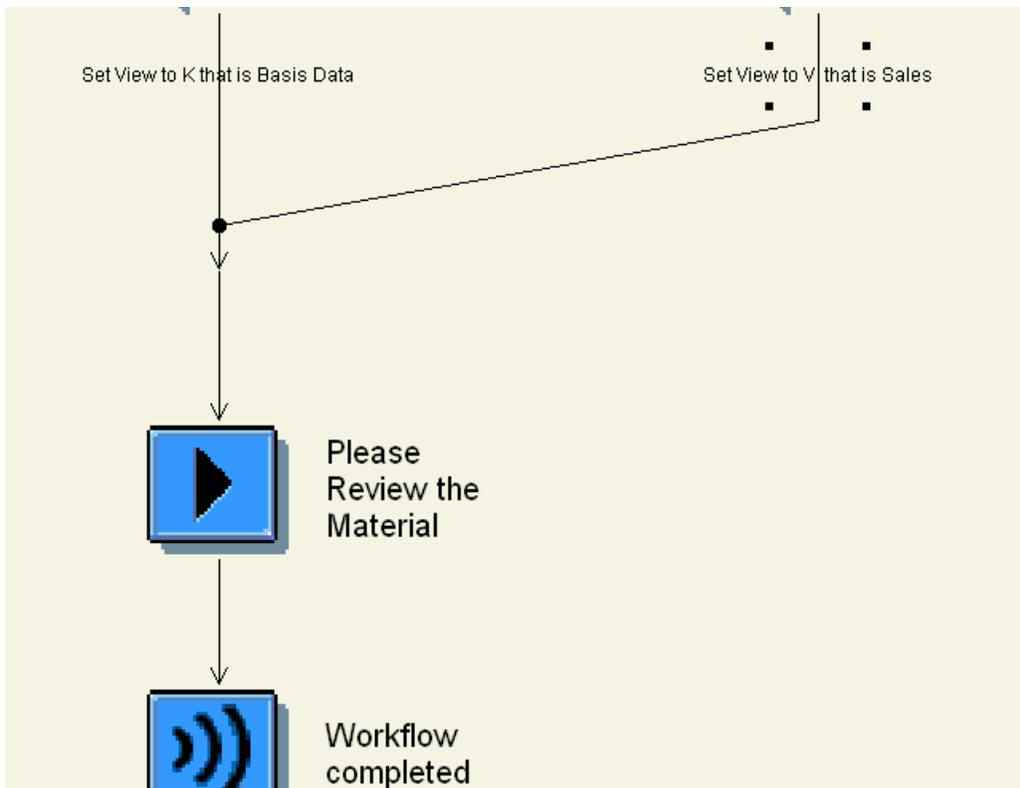
Nicht im Workflow-Protokoll

Event Process Control 000036 Set View to V that is Sales

Control Properties Change Data

Bezeichnung Set View to V that is Sales

Nicht im Workflow-Protokoll



Activity 000004 Please Review the Material

Control Outcomes Notification Latest end Requested start Latest start Requested end

Task TS99904999 Display view of the material

Step name Please Review the Material

Binding (Exists)

Agents

Organizational Unit 50004352 Organizational Unit For Book

Excluded

Task Properties

- Agent Assignment
- Background Processing
- Task Complete
- Confirm End of Processing

Step Properties

- Task determined by expression
  - Processing Can Be Rejected
  - Advance with dialog
  - Perform Agent Determination Again
- In Workflow Log

[Task description - click here to go to task...](#)

Display View of material

Standard task: 99904999 ZJEMATDISV

Name: Display view of the material

Package: ZPACK Appl. component: MM-PUR

Basic data | Description | Container | Triggering events | Terminating events

Name

Abbr.: ZJEMATDISV

Name: Display view of the material

Work item text: Display view of the material &MATERIALVIEW&

Release status: Not defined

Object method

Object Category: BOR Object Type

Object Type: ZMARAJES ZMARAJES

Method: DISPLAYVIEW DisplayView

Synchronous object method

Object method with dialog

Execution

Background processing  Executable with SAPforms

Confirm end of processing

Standard task: 99904999 ZJEMATDISV

Name: Display Binding For Method

Package: ZPACK

Basic data | Name | Abbr. | Name | Work item text | Release status | Object method | Execution

Task 'ZJEMATDISV'	Description	Method	P..	Description
System Fields		System Fields		
Container		Container		
_Adhoc_Objects	Ad Hoc Objects of Workflow Instan			
_Attach_Objects	Attachments of Workflow Instance			
_WI_Actual_Agent	Actual Agent of Workflow Activity			
_WI_Group_ID	Grouping Characteristic for Workfl			
_Workitem	Step Instance			
_WI_Object_ID	INHERITED FROM ZMARAJESUB			
MaterialView	MaterialView	MaterialView		MaterialView

Binding Task 'ZJEMATDISV' -> Method

Task 'ZJEMATDISV'	Method
&MATERIALVIEW&	&MATERIALVIEW&

Task 'ZJEMATDISV'

Task 'ZJEMATDISV'	Method
&MATERIALVIEW&	&MATERIALVIEW&

Activity: 000004 Please Review the Material

Control Outcomes Notification Latest end Requested start Latest start Requested end Methods Conditions Program

Task: T699904999 Display view of the material

Step name: Please Review the Material

Binding (Exists)

Agents: Organizational Unit: 50004352

Task Properties:
 

- Agent Assignment
- Background Processing
- Task Complete
- Confirm End of Processing

[Task description - click here](#)

Display View of material

Change Binding For Step

Workflow	Description	Step	Description
Container		System	
_Adhoc_Objects	Ad Hoc Objects of Workflow Instance	_Adhoc_Objects	Ad Hoc Object
_Attach_Objects	Attachments of Workflow Instance	_Attach_Objects	Attachments
_Wf_Initiator	Initiator of Workflow Instance	_Wf_Actual_Agent	Actual Agent
_Wf_Priority	Priority of Workflow Instance	_Wf_Group_ID	Grouping Characteristic for Workflow Instance
_Wf_Group_ID	Grouping Characteristic for Workflow Instance	_Workitem	Step Instance
_Workitem	Workflow Instance	_Wf_Object_ID	INHERITED
_Material	Material	_MaterialView	MaterialView
LatestEndDate	LatestEndDate		

Binding Workflow 'Workflow to review material by John' -> Step 'Display view of the material'

Workflow	Step	Description
Workflow 'Workflow to review material by John'	Step 'Display view of the material'	
&MATERIAL&	&_WI_OBJECT_ID&	
&MATERIALVIEW&	&MATERIALVIEW&	

Binding Workflow 'Workflow to review material by John' <- Step 'Display view of the material'

Workflow	Step	Description
Workflow 'Workflow to review material by John'	Step 'Display view of the material'	
&MATERIAL&	&_WI_OBJECT_ID&	
&MATERIALVIEW&	&MATERIALVIEW&	

Workflow:  ▼

Version:  ⓘ

Status: Revised Not saved



Navigation area

- Steps
  - ▶ 000004 Please Review the Material
  - ▶ 000012 Please change material
  - ▶ 000018 Check the Latest End Date
  - ▶ 000024 Set the Latest End date to Today
  - ▶ 000026 Check the Material Group View
  - ▶ 000032 Set View to K that is Basis Data
  - ▶ 000035 Set View to V that is Sales

Insertable Step Types

Workflow Container

Element	M.. Description	Initial value
<Double-Click to Create>		
▶  _Adhoc_Objects	Ad Hoc Objects of Workflow Instance	< Not Set >
▶  _Attach_Objects	Attachments of Workflow Instance	< Not Set >
▶  _Wf_Initiator	Initiator of Workflow Instance	< Not Set >
▶  _Wf_Priority	Priority of Workflow Instance	5
▶  _Wf_Group_ID	Grouping Characteristic for Workflow Instance	< No Instance >
▶  _Workitem	Workflow Instance	< No Instance >
▶  Material	Material	ZMARAJES:100-100
▶  LatestEndDate	LatestEndDate	04/12/2006
▶  MaterialView	MaterialView	
▶  Return	Return	< Not Set >

Change Container Element

Element:  ⓘ

Texts

Name:

Short Descript.:

DataType | Properties | **Initial Value** | Change Data

SelectionOfPredefinedTypes

Object Type: BOR Object Type ⓘ  
 INHERITED FROM ZMARAJESUB

ABAP Dictionary Reference  
 Structure:   
 Field:

ABAP Dictionary Data Type  
 Type Name:

Change Container Element

Element: Material

Texts

Name: Material

Short Descript.: Material

Data Type Properties Initial Value Change Data

Parameter Settings

Import  Mandatory

Export

Element Is

Multiline

Element: LatestEndDate

Texts

Name: LatestEndDate

Short Descript.: LatestEndDate

Data Type Properties Initial Value Change Data

SelectionOfPredefinedTypes

Object Type

ABAP Dictionary Reference

Structure: SYST ABAP System Fields

Field: DATUM Date and Time, Current (Applicati...

ABAP Dictionary Data Type

Type Name:

Change Container Element

Element: LatestEndDate

Texts

Name: LatestEndDate

Short Descript.: LatestEndDate

DataType | Properties | **Initial Value** | Change Data

Parameter Settings

Import  Mandatory

Export

Element Is

Multiline

Change Container Element

Element: MaterialView

Texts

Name: MaterialView

Short Descript.: MaterialView

DataType | Properties | **Initial Value** | Change Data

SelectionOfPredefinedTypes

Object Type

ABAP Dictionary Reference

Structure: T132I Definition of Valid Statuses

Field: STATM Maintenance status of material m...

ABAP Dictionary Data Type

Type Name

Change Container Element

Element: MaterialView

Texts

Name: MaterialView

Short Descript.: MaterialView

DataType Properties Initial Value Change Data

Parameter Settings

Import  Mandatory

Export

Element Is

Multiline

Execute The Workflow And Check.

In Swue Create Event To Trigger Your Workflow From The Deadline Test Event. Before Starting The Test, Be Sure To Provide A Date By Selecting Event Parameter From The Menu Bar. Test With A Date Greater Than Today And Test With An Old Date. Use The Workflow Log (Swi2\_Freq) To Verify Your Container Operation Worked Successfully.

**Create Event**

Create Event Event Parameter Event Receiver

Basic data

Object Category: BOR Object Type

Object Type: ZMARAJES INHERITED FROM ZMARAJESUB

Event: DEADLINETEST DeadlineTest

Object key: 100-300

Debugging tools

Trigger receiver FM synchron.  Display Trace for Triggered Event

Active event linkages on type level

Object Type	Event	Receiver type
ZMARAJES	DEADLINETEST	WS80002876

Container Instance Editor

Expression	Values
LatestEndDate	05/25/2006

LatestEndDate  
05/25/2006

Go To Swel And Check Event Is Raised Or Not.

**Display Event Trace**

Object Type	Event	Current Date	Time	Name of Receiver Type	Info...	Handler/Action
ZMARAJES	DEADLINETEST	04/21/2006	17:18:04	WS80002876		SWWW_WI_CREATE_VIA_EVENT

Go To Mm02 For Your Material , Select Basis Data View Of The Material, Change The Old Material Field To The Field Restriction Value Given For You Change Doc Object In Swec And Save The Material.

**Change Material M-12 (Semi-finished product)**

Additional data | Organizational levels | Check screen data

Basic data 1 | Basic data 2 | Classification | Sales: sales org. 1 | Sales: ...

Material: M-12 | MAG DX 15F/FeUU change

**General data**

Base Unit of Measure	PC	piece(s)	Material Group	002
Old material number	NEW		Ext. matl group	
Division	07		Lab/Office	
Product allocation			Prod.hierarchy	001250010000000110
X-plant matl status	01		Valid from	
<input type="checkbox"/> Assign effect. vals			GenItemCatGroup	

**Dimensions/EANs**

Gross weight	14	Weight Unit	K6
Net weight	14		

Use Transaction Swel And Check The Event Trace To Ensure That The Triggering Event Really Was Triggered.

**Display Event Trace**

Object Type	Event	Current Date	Time	Name of Receiver Type	Info...	Handler/Action
ZMARAJES	OLDMATERIALCHANGED	04/23/2006	10:50:55	(WS99902862)		SWWW_WI_CREATE_VIA_EVENT

Go To Your Inbox SbwP And Notice The Workitems In Your Inbox. Execute The Workitem And Update The Basic Material Field In Basis Data. If The Workitem Is Not Executed With 2 Minutes From The Inbox. Then You Can View The Deadline Missed Text In The Deadline Messages Folder.

Ex...	Title	Status	Creation D...	Creation ...	Att...	Co...	W...
	Missed Deadline: Please change material M-12 from plant 1000		04/23/2006	10:54:04	5		
	Missed Deadline:pppname		04/22/2006	11:28:50	5		
	Missed Deadline:pppname		04/22/2006	11:28:50	5		

**Missed Deadline: Please change material M-12 from plant 1000**

Set to 'Done' | Monitored work item

Deadline Type: Latest end  
 Creation: 04/23/2006 10:54:04  
 Status: In Process

Description  
 You have missed the latest end date to change material [REDACTED]  
 from plant 1000 - Werk Hamburg

---

Information on monitored work item

Work Item Type: Dialog Step  
 Status: Ready  
 Actual Agent:

Requested End Date: 00:00:00  
 Latest Start Date: 00:00:00  
 Latest End: 04/23/2006 10:52:56

Execute The Workitem From The Inbox. Change The Basic Material Field And Save It. Once Saved Terminating Event Will Be Raised. Check The Event Trace Swel To Ensure That Terminating Event Really Was Triggered.

Inbox

- Unread Documents 2
- Documents 71
- Workflow 119**
- Guardus entries 24

Ex...	Title	Status	Creation D...	Creation ...	Att...
	Please change material M-12 from plant 1000		04/23/2006	11:12:03	5

**Change Material M-12 (Semi-finished product)**

Additional data | Organizational levels | Check screen data

Basic data 1 | Basic data 2 | Classification | Sales: sales org. 1 | Sales: ...

Material: M-12 | MAG DX 15F/FeUU change

Other data

Prod./Insp. Memo: | Ind. Std Desc.: |  
 Page Format: |  CAD indicator  
 Basic Material: new value

Environment

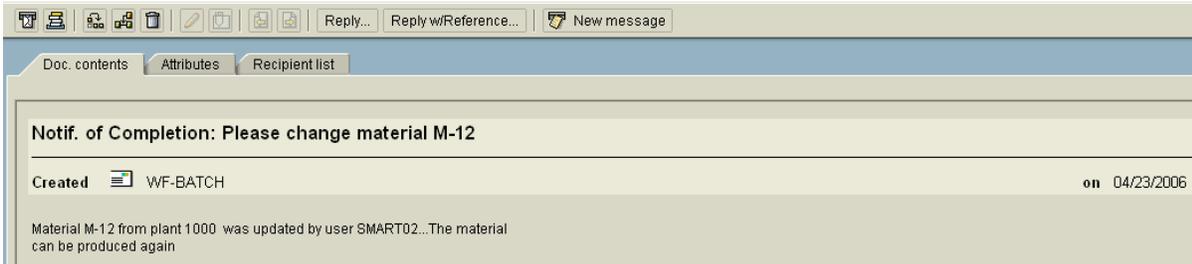
**Display Event Trace**

Delete Event Trace

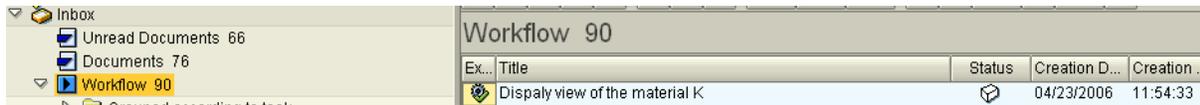
Object Type	Event	Current Date	Time	Name of Receiver Type	Info...	Handler/Action
ZMARAJES	OLDMATERIALCHANGED	04/23/2006	11:53:14	(WS99902862)		SWW_WI_CREATE_VIA_EVENT
ZMARAJES	BASICMATERIALCHANGED	04/23/2006	11:54:26	WORKITEM		SWW_WI_COMP_EVENT_RECEI...
		04/23/2006	11:12:02	WS80002876		SWW_WI_CREATE_VIA_EVENT...

Once The Material Change Is Updated A Completion Text Is Sent To The Corresponding User.

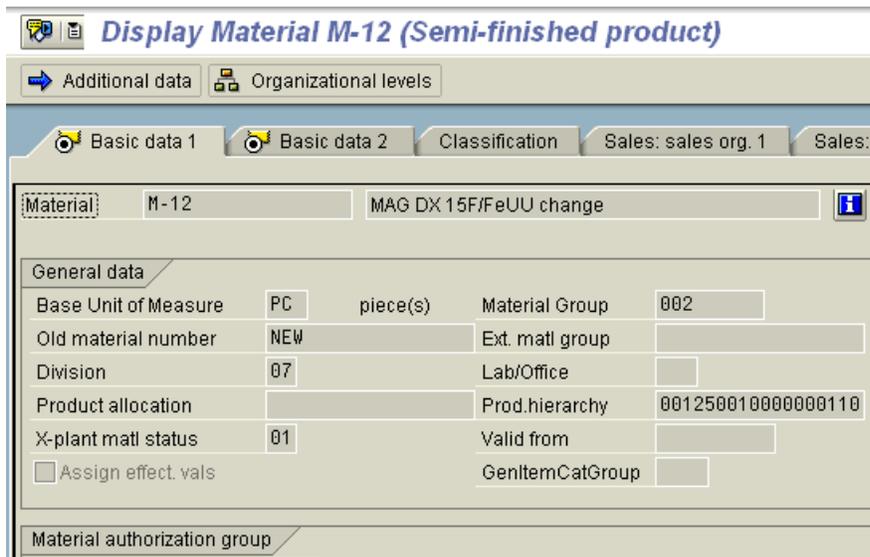
**Display Document: Notif. of Completion: Please change material M-12**



Now The Workflow Checks For The Material Group. If The Material Group In Basis Data 1 Is Set To 002, View Is Set To K, That Is Basis Data1. Else View Is Set To V That Is Sales Data.



Execute The Workitem It Goes To Basis Data 1 In Display Mode.



Once The Basicmaterialchanged Event Event Is Triggerd ..Check The Inbox For The Step Please Review Material. Where You Can See The Changes You Made For The Material Master In Display Mode.



## Display Material M-12 (Semi-finished product)

Additional data Organizational levels

Basic data 1 Basic data 2 Classification Sales: sales org. 1 Sales

Material: M-12 MAG DX 15F/FeUU change

Other data

Prod./Insp. Memo Ind. Std Desc.

Page Format  CAD indicator

Basic Material johncy

Environment

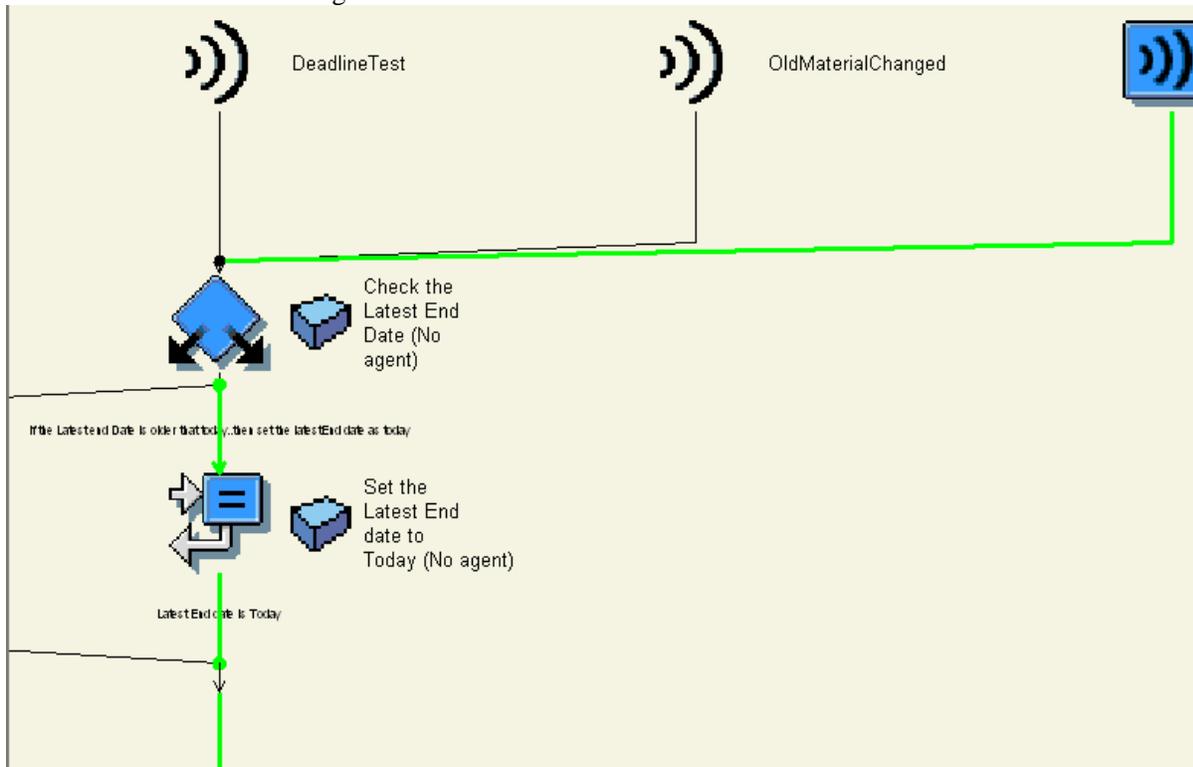
DG indicator profile  Environmentally rlv

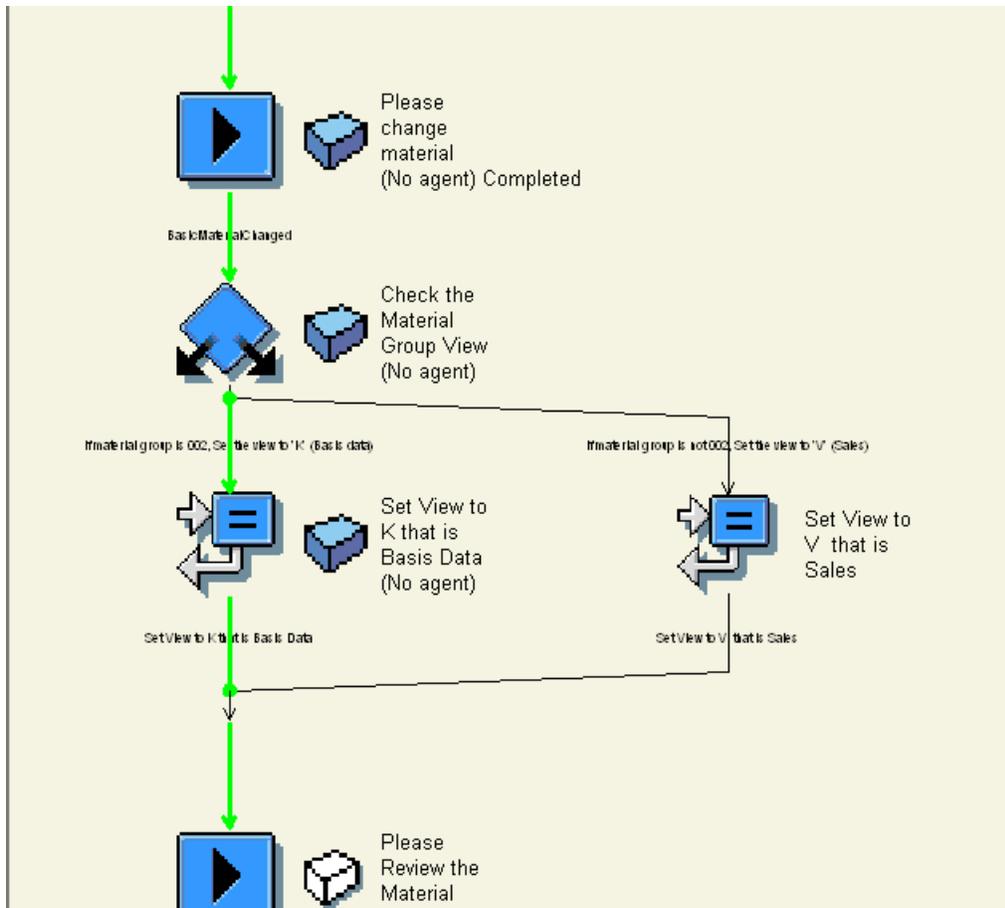
Highly viscous  In bulk/liquid

Design documents assigned

No link

Check For The Workflow Log.





## Event Definition And Implementation

### Triggering an Event Explicitly by programming.

Create a report ZJEMARA\_EVTCREATE that calls the Function Module SWE\_EVENT\_CREATE to trigger the event DeadlineTest for your object type 'ZMARAJES'. Use the function module to raise the event. The variable END\_DATE will be passed to this function module.in an event container.

```

*&-----*
*& REPORT ZJEMARA_EVTCREATE *
*& *
*&-----*
*& *
*& *
*&-----*

```

```

REPORT ZJEMARA_EVTCREATE
INCLUDE <CNTN01>.

```

```

DATA OBJKEY LIKE SWEINSTCOU-OBJKEY.
DATA EVENT_ID LIKE SWEDUMEVID-EVTID.

```

DATA CONTAINER LIKE SWCONT OCCURS 0 WITH HEADER LINE.

PARAMETERS : OBJ\_TYPE LIKE SWETYPESCOU-OBJTYPE DEFAULT 'ZMARAJES',  
MNO LIKE MARA-MATNR,  
EVT LIKE SWETYPESCOU-EVENT DEFAULT 'DEADLINETEST',  
END\_DATE LIKE SYST-DATUM.

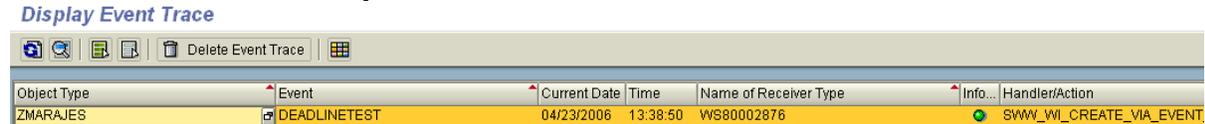
IF EVT EQ 'DEADLINETEST' AND END\_DATE EQ SPACE.  
END\_DATE = SY-DATUM - 1.  
ENDIF.

SWC\_SET\_ELEMENT CONTAINER 'LATESTENDDATE' END\_DATE.  
OBJKEY = MNO.

CALL FUNCTION 'SWE\_EVENT\_CREATE'  
EXPORTING  
OBJTYPE = OBJ\_TYPE  
OBJKEY = OBJKEY  
EVENT = EVT  
IMPORTING  
EVENT\_ID = EVENT\_ID  
TABLES  
EVENT\_CONTAINER = CONTAINER[]  
EXCEPTIONS  
OBJTYPE\_NOT\_FOUND = 1.  
IF SY-SUBRC EQ 0.  
WRITE : EVENT\_ID.  
COMMIT WORK.  
CALL TRANSACTION 'SWEL'.  
ENDIF.



Use Transaction SWEL to verify the event DEADLINETEST were raised.



Create a **Check Function Module ZJE\_CHECK\_MATERIAL\_CHANGEDBY** to ensure that your workflow is started only if you trigger and event for one of your materials and if you are the Last person to change the material.

Check in the function module whether the transferred material number represents one of your materials and whether the object attribute ChangedBy has the login id of your manager user as the value. If this is not the case an exception should be triggered.

Go to

```
FUNCTION zje_check_material_changedby.
*"-----
**"Local interface:
*" IMPORTING
*"   VALUE(OBJTYPE) LIKE SWETYPECOU-OBJTYPE
*"   VALUE(OBJKEY) LIKE SWEINSTCOU-OBJKEY
*"   VALUE(EVENT) LIKE SWETYPECOU-EVENT
*"   VALUE(RECTYPE) LIKE SWETYPECOU-RECTYPE
*" TABLES
*"   EVENT_CONTAINER STRUCTURE SWCONT
*" EXCEPTIONS
*"   OBJECT_NOT_FOUND
*"   INVALID_USER
*"-----
INCLUDE <cntn01>.
DATA: object_ref TYPE swc_object,
changer LIKE mara-aenam,
user LIKE sy-uname.

***CREATE THE MATERIAL OBJECT REFERENCE
swc_create_object object_ref objtype objkey.

IF sy-subrc NE 0.
  RAISE object_not_found.
ENDIF.

***READ THE ATTRIBUTE OF THE CHANGEDBY FROM THE OBJECT TYPE ZMARAJES
swc_get_property object_ref 'CHANGEDBY' changer.

IF sy-subrc NE 0.
  RAISE object_not_found.
ENDIF.

***READ THE CREATOR OF THIS EVENT
swc_get_element event_container '_EVT_CREATOR' user.
IF sy-subrc NE 0.
  user = sy-uname.
ENDIF.

***CHECK IF EVENT CREATOR AND MATERIAL AND CHANGER ARE IDENTICAL

IF changer EQ user. " if smart02 = sy-uname
  RAISE invalid_user.
ENDIF.

ENDFUNCTION.
```

This check Function module checks, if the user who triggered the event (USER) is the same person who changed(CHANGER) the material and if the material changed is really one of your materials.

**The coupling between an event and the receiver can be maintained in Tx SWE2 where you can enter your check function module to your workflow in the check function field.**

### Change View "Event Type Linkages": Details

New Entries

Object Category	BOR Object Type
Object Type	ZMARAJES
Event	OLDMATERIALCHANGED
Receiver Type	WS80002876

Linkage Setting (Event Receiver)

Receiver Call	Function Module
Receiver Function Module	SWW_WI_CREATE_VIA_EVENT_IBF
Check Function Module	ZJE_CHECK_MATERIAL_CHANGEDBY
Receiver Type Function Module	
Destination of Receiver	

Linkage Activated  
 Enable Event Queue

Behavior Upon Error Feedback	System presetting
Receiver Status	No errors

Now check whether your workflow is triggered only when your manager user is the last person to change the material.

Here when manger user is not the last person to change the material. Check function module triggers an exception.

### Display Event Trace

Delete Event Trace

Object Type	Event	Current Date	Time	Name of Receiver Type	Info...	Handler/Action
	Trace deleted	04/23/2006	14:50:45	SMART01		Up to 04/23/2006 14:50:43
ZMARAJES	OLDMATERIALCHANGED	04/23/2006	14:54:03	(WS99902862)		Check FM with exception
		04/23/2006	14:54:03	WS80002876		Check FM with exception

When manager user is the last person to change the material.

### Display Event Trace

Delete Event Trace

Event	Current Date	Time	Receiver Type	Info...	Handler/Action	Check Function Module
Trace deleted	04/23/2006	14:50:45	SMART01		Up to 04/23/2006 14:50:43	
OLDMATERIALCHANGED	04/23/2006	14:51:59	(WS99902862)		SWW_WI_CREATE_VIA_EVENT	ZJE_CHECK_MATERIAL_CHANGEDBY
	04/23/2006	14:51:59	WS80002876		SWW_WI_CREATE_VIA_EVENT_IBF	ZJE_CHECK_MATERIAL_CHANGEDBY

## Display Event Trace

Event Data		
Event Instance ID	1012479	
Object Type	ZMARAJES	
Object Key	M-12	
Event	OLDMATERIALCHANGED	
Event Creator	US SMART01	Smart
Creation Time	04/23/2006 14:51:59	EST
Receiver Data		
Receiver Type	WS80002876	
Object Type	WORKITEM	
Object Key	000001518219	
Receiver FM	SWW_WI_CREATE_VIA_EVENT_IBF	
RFC Destination	WORKFLOW_LOCAL_800	
Check FM	ZJE_CHECK_MATERIAL_CHANGED...	
Receiver Type FM		
Trace Data		
Trace Date/Time	04/23/2006 14:51:59	EST
User Name	SMART01	Smart
Main Program	RSM13000	
Action	Receiver started correctly	

Create a **Receiver type function module** ZJE\_RECTYPE\_DETERMINE\_MATYPE which determines the workflow to be started based on the material type of the triggering object. If the object attribute material type has the value FERT (finished) , the workflow WS80002876 Should be started, otherwise WS99902862.

```
FUNCTION zje_rectype_determine_matype.
```

```
*****  
**"Local interface:  
** IMPORTING  
**   VALUE(OBJTYPE) LIKE SWETYPESCOU-OBJTYPE  
**   VALUE(OBJKEY) LIKE SWEINSTCOU-OBJKEY  
**   VALUE(EVENT) LIKE SWETYPESCOU-EVENT  
**   VALUE(GENERIC_RECTYPE) LIKE SWETYPESCOU-RECTYPE  
** EXPORTING  
**   REFERENCE(RECTYPE) LIKE SWETYPESCOU-RECTYPE  
** TABLES  
**   EVENT_CONTAINER STRUCTURE SWCONT  
** EXCEPTIONS  
**   OBJECT_NOT_FOUND  
*****
```

```
INCLUDE <cntn01>.
```

\* **determine the receiver type(workflow)**

```
DATA: object TYPE swc_object.
```

```
DATA: mtype TYPE mara-mtart.
```

\* **create a reference**

```
swc_create_object object objtype objkey.
```

```
IF sy-subrc NE 0.
```

```
  RAISE object_not_found.
```

```
ENDIF.
```

\* **check material type and determine the receiver type.**

```
swc_get_property object 'MaterialType' mtype.
```

```
IF mtype EQ 'FERT'.
```

```
  rectype = 'WS80002876'.
```

```
ELSE.
```

```
  rectype = 'WS99902862'.
```

```
ENDIF.
```

```
ENDFUNCTION.
```

Change the type linkage table so that the workflow to be started is now determined by the receiver type function module for the event OldMaterialChanged of your object type “ZMARAJES”.

### **Change View "Event Type Linkages": Details**

New Entries	
Object Category	BOR Object Type
Object Type	ZMARAJES
Event	OLDMATERIALCHANGED
Receiver Type	WS80002876
Linkage Setting (Event Receiver)	
Receiver Call	Function Module
Receiver Function Module	SWW_WI_CREATE_VIA_EVENT_IBF
Check Function Module	ZJE_CHECK_MATERIAL_CHANGEDBY
Receiver Type Function Module	ZJE_RECTYPE_DETERMINE_MATYPE

## Change View "Event Type Linkages": Details

New Entries

Object Category: BOR Object Type

Object Type: ZMARAJES

Event: OLDMATERIALCHANGED

Receiver Type: WS99902862

---

Linkage Setting (Event Receiver)

Receiver Call: Function Module

Receiver Function Module: SWW\_WI\_CREATE\_VIA\_EVENT

Check Function Module: ZJE\_CHECK\_MATERIAL\_CHANGEDBY

Receiver Type Function Module: ZJE\_RECTYPE\_DETERMINE\_MATYPE

If the material changed is of type FERT, then workflow WS80002876 is determined.

### Display Event Trace

Delete Event Trace

Object Type	Event	Current Date	Time	Name of Receiver Type	Info...	Receiver Type Function Module
ZMARAJES	OLDMATERIALCHANGED	04/23/2006	15:14:59	(WS80002876)		ZJE_RECTYPE_DETERMINE_MAT
		04/23/2006	15:14:59			ZJE_RECTYPE_DETERMINE_MAT

otherwise workflow WS99902862 is triggered.

### Display Event Trace

Delete Event Trace

Object Type	Event	Current Date	Time	Name of Receiver Type	Info...	Receiver Type Function Module
ZMARAJES	OLDMATERIALCHANGED	04/23/2006	15:19:07	(WS99902862)		ZJE_RECTYPE_DETERMINE_MAT
		04/23/2006	15:19:07			ZJE_RECTYPE_DETERMINE_MAT

## Rule Definition and Implementation

Create Rule definition 80000445.

### Rule: Change

Rule: 80000445 ZJEMMDISPRC

Name: Rule to find manager for the group ROH

Pack.: ZPACK      Appl. component: MM-PUR

Rule Definition    Description    Container

---

Basic data

Abbr.: ZJEMMDISPRC

Name: Rule to find manager for the group ROH

---

Rule definition

Category: Agent Determination: Function to be Executed

Function Module: ZJE\_MM\_USER\_GET

Terminate if rule resolution has no result

Use the flag Terminate if rule resolution has no result, if you want your workflow to stop with an error if the rule cannot find any selected agents. If you do not select this flag and the rule fails, the task will be routed to all possible agents.

## Rule: Change

Rule: 80000445 ZJEMMDISPRC  
Name: Rule to find manager for the group ROH  
Pack: ZPACK Appl. component: MM-PUR

Rule Definition | Description | Container

Expression	M.. Description	Initial value
MATERIALTYPE	MATERIAL TYPE	< Not Set >
WORKFLOWINITIATOR	WORKFLOW INITIATOR	< Not Set >

Element: MATERIALTYPE

Texts

Name: MATERIALTYPE  
Short Descript.: MATERIAL TYPE

DataType | Properties | Initial Value | Char

SelectionOfPredefinedTypes

Object Type

ABAP Dictionary Reference

Structure: MARA  
Field: MTART

Element: WORKFLOWINITIATOR

Texts

Name: WORKFLOWINITIATOR  
Short Descript.: WORKFLOW INITIATOR

DataType | Properties | Initial Value | Char

SelectionOfPredefinedTypes

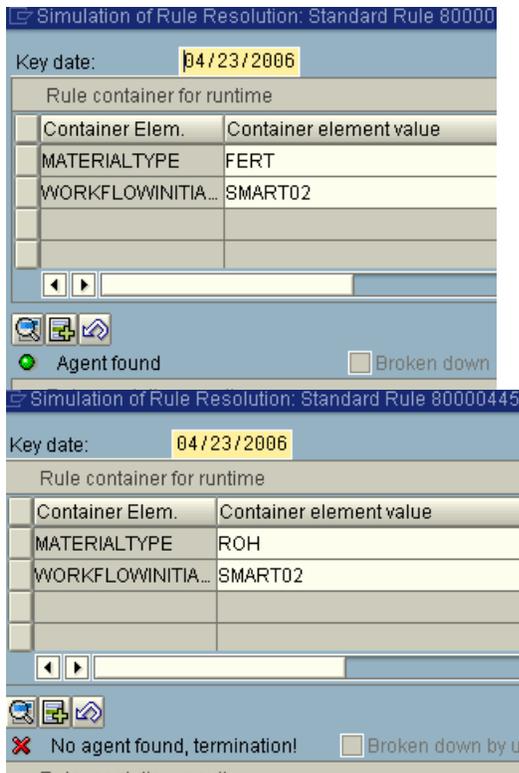
Object Type

ABAP Dictionary Reference

Structure: WFSYST  
Field: INITIATOR

Create Rule Function module ZJE\_MM\_USER\_GET. This function module determines the manager of the workflow initiator as the agent if the material type entered is ROH(raw material). Otherwise , the initiator is returned.

You can call the SWX\_GET\_MANAGER function module to determine the manager of the workflow initiator.This function module is a rule function module itself and expects to find data that it has to check in the AC\_CONTAINER. Simulate your rule in Tx PFAC to see how it works at run time. Simulate is the excellent way to test your rule before adding it to your workflow.



FUNCTION zje\_mm\_user\_get.

```

*-----
**"LOCAL INTERFACE:
** TABLES
**  ACTOR_TAB STRUCTURE SWHACTOR
**  AC_CONTAINER STRUCTURE SWCONT
** EXCEPTIONS
**  NOBODY_FOUND
*-----

```

INCLUDE <cntn01>.

DATA: material\_type LIKE mara-mtart, "TYPE OF MATERIAL CHANGED  
wf\_initiator LIKE swhactor, "WORKFLOW INITIATOR  
counter TYPE i.  
DATA user LIKE wf\_initiator VALUE 'USSMART02'.  
REFRESH actor\_tab.  
CLEAR actor\_tab.

swc\_get\_element ac\_container 'MATERIALTYPE' material\_type.  
swc\_get\_element ac\_container 'WORKFLOWINITIATOR' wf\_initiator.  
CASE material\_type.  
 WHEN 'ROH'. "GET MANAGER OF THE WORKFLOW INITIATOR FROM ROLE  
 swc\_set\_element ac\_container 'ORG\_OBJECT' wf\_initiator.

CALL FUNCTION 'SWX\_GET\_MANAGER'

```

TABLES
  actor_tab      = actor_tab
  ac_container   = ac_container
EXCEPTIONS
  nobody_found   = 1
* OTHERS        = 2
.
IF sy-subrc <> 0.
  RAISE nobody_found.
ENDIF.
WHEN OTHERS.

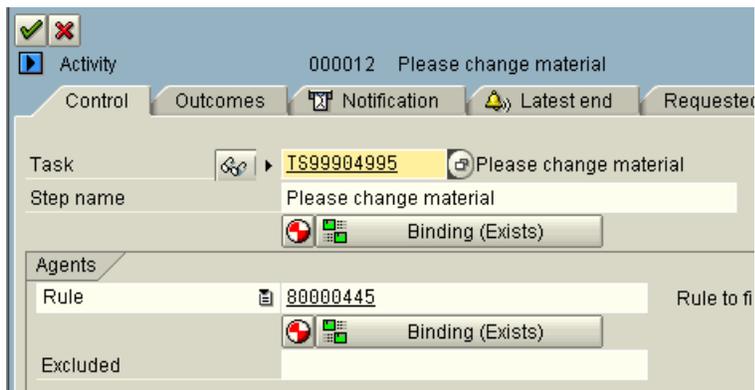
  IF sy-uname = wf_initiator+2(7).
    actor_tab = user.
  ENDIF.
  APPEND actor_tab.
ENDCASE.

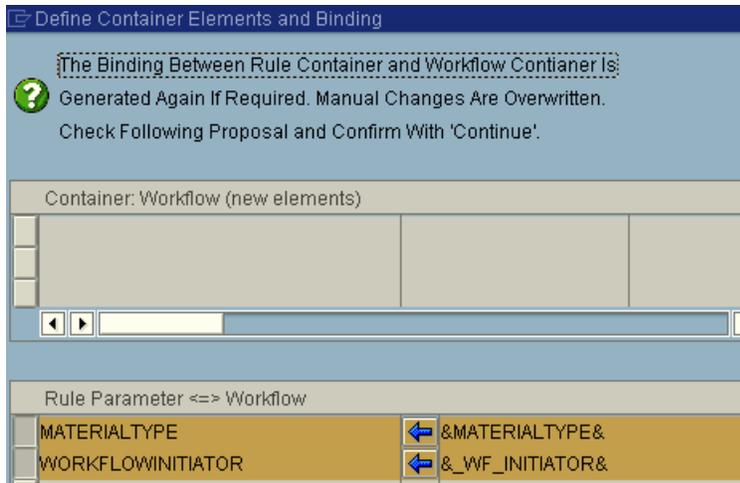
***CHECK IF WE HAVE FOUND ANY AGENTS AT ALL.
DESCRIBE TABLE actor_tab LINES counter.
IF counter = 0.
  RAISE nobody_found.
ENDIF.

ENDFUNCTION.

```

Use the newly created rule for the agent assignment of the change step in your workflow.





## Workflow Runtime System – Administrative Functions

### Work Item Administration

All administrator function modules are checked with regard to authorization. Administrator function modules are used to process a work item in exceptional cases. The necessary authorization are required in the S\_WF\_WF\_ADMIN authorization profile

#### ➤ Ø Initiate waiting work items

When a waiting work item is initiated, its status changes from WAITING to READY. This function can be executed if deadline monitoring is not running due to background queue overloading or an error in the background system.

#### ➤ Ø Release reserved work items

The status of a work item is changed from SELECTED OR STARTED TO READY again. You can use this function to display a work item that is blocked by an agent(absentee) to other recipients.

#### ➤ Ø Restart a work item after errors

When you restart a work item after an error, the status of the work item changes from ERROR to STARTED And this might automatically execute the method.

#### ➤ Ø Logically delete a work item.

Logical deletion changes the status of work item to CANCELLED

#### ➤ Ø Successfully complete a work item explicitly

The workflow system administrator can change the status of a work item explicitly to COMPLETED but is then responsible for filling the work item container with the expected return parameters of the method

### Work Item Statuses

The most significant work Item Statuses are READY, SELECTED, COMMITED, COMPLETED

### Reporting on Workflow Progress

#### Finding Work Items

Selection Report for finding work item Tx SWI1 and processing work item as Administrator Tx SWIA

**Process Work Item As Administrator**

Selection Using Work Item ID

Identification  to

Selection Using Work Item Properties

Type  to

Status  to

Priority  to

Deadline Status  to

Task  to

Task Group  

Selection Using Time Period

Creation Date  to

Creation Time  to

Output Options (+Version, +Administrator)

Switch On

**Process Work Item As Administrator**

    Without Check  Replace Manually  Complete Manually              

ID	Work Item Type	Language	Work item text
768097	(Sub)workflow	English	Workflow to review material and by John and Maran

How to Find the current status of the workflow?

Tx SWI6 report shows all workflow instances linked to a particular object instance

## Display Workflows: Select an Object

Object Type Category:

Object Type:  Super type of ZMARAJE...

Key:

Selection variant:

Task:

Task group:

Component:

Selection Period:

### Data on Linked Workflows

Choose a workflow:

Title	Creation D...	Creation ...	Status	Task
Workflow to review material and by John and Maran	04/27/2006	18:34:47	Completed	Material Master chnage

**Current data for started workflow: Workflow to review material and by John and Maran**

Steps in this process so far

Step name	Status	Result	Time stamp	Agent
<a href="#">Get the changed values for field oldmaterial number</a>	Completed		04/27/2006 - 18:34:48	Smart05
			00/00/0000 - 00:00:00	<a href="#">Work item do</a>
			00/00/0000 - 00:00:00	<a href="#">Work item do</a>
			00/00/0000 - 00:00:00	<a href="#">Work item do</a>
			00/00/0000 - 00:00:00	<a href="#">Work item do</a>

Information objects addressed so far

- [ZMARAJES Casing](#)

**Tx SWI14** report shows all work items and workflow instances for all object instances of a business object type.

Eg: Workflow related to all Material master Changes.

## Display Workflows: Please Select an Object Type

Object Type Category: **BOR Object Type**

Object Type: **ZMARAJES**    INHERITED FROM ZMA...

Selection variant: **Active Instances (Running, Ready, Committed,...)**

Task: **TS99904995**     Please change material

Task group:

Component:

Selection Period: **Last 30 days**

### Choose a workflow:

Title	Creation D...	Creation ...	Status	Task
Workflow to review material 100-100 and Casing11 by John and Maran	04/18/2006	10:54:53	In Process	Workflow to review material by John
Workflow to review material 100-100 and Casing11 by John and Maran	04/18/2006	10:54:54	In Process	Workflow to review material by John
Workflow to review material 100-100 and Casing11 by John and Maran	04/18/2006	11:06:50	In Process	Workflow to review material by John
Workflow to review material 100-100 and Casing11 by John and Maran	04/18/2006	11:38:57	In Process	Workflow to review material by John
Workflow to review material 100-100 and Casing11 by John and Maran	04/18/2006	11:39:38	In Process	Workflow to review material by John
Workflow to review material 100-100 and Casing11 by John and Maran	04/18/2006	11:40:11	In Process	Workflow to review material by John
Workflow to review material 100-100 and Casing11 by John and Maran	04/18/2006	11:48:10	In Process	Workflow to review material by John
Workflow to review material 100-100 and Casing11 by John and Maran	04/18/2006	11:48:31	In Process	Workflow to review material by John
Workflow to review material 100-100 and Casing11 by John and Maran	04/18/2006	11:48:40	In Process	Workflow to review material by John
Workflow to review material 100-100 and Casing11 by John and Maran	04/18/2006	11:49:44	In Process	Workflow to review material by John

### Current data for started workflow: Workflow to review material and by John and Maran

#### Steps in this process so far

Step name	Status	Result	Time stamp	Agent
Get the changed values for field oldmaterial number	Completed		04/28/2006 - 11:43:40	Smart05
Local Workflow 1	In Process		04/28/2006 - 11:43:40	Smart05
Please change 100-100 material from plant 1000	Completed	BasicMaterialChanged	04/28/2006 - 11:43:40	John Varughese
Display view of the material K	Ready		04/28/2006 - 11:48:52	Information...

#### Information objects addressed so far

- Office Document Notif. of Completion:Please change 100-100 materia
- ZMARAJES Casing

## Reporting on Workflow Performance

When you are reporting on workflow performance you need to look at both the frequency of workitems/workflow instances as well as the time taken to realistically assess the behaviour of the workflow over time.

**Tx SWI2\_DURA** is the best standard report to give a consolidated view of 'Work item by processing Duration'.

You can switch mode to show the wait time that is wasted time, processing time or total time.

For Eg if most work items were completed in seconds and but a few work items took several days, you need to look at the work item, find who was the agent and discuss with them why the task took so long.

## Work Items by Processing Duration

**Monitoring period**  
 Today  
 Last 7 days  
 Last 30 days  
 Last 365 days  
 Time on   
 Interval From  To

**Work item type**  
 Dialog  
 (Sub-)Workflow  
 Background

**Task filter**  
 Task   Please change material  
 Task group (T)   
 Task group (TG)   
 Application Component

### 'Please change material' from 04/28/2006 to 05/04/2006

Work item	Wait time	Process time	Total time
000000735036	-5h 55m 02s	14s	-5h 54m 48s
000000735052	-15m 13s	1s	-15m 12s
000000735145	-3h 17m 36s	2h 31m 46s	-45m 50s

If you have Deadlines in your work items, detailed analyses can be made, by using the standard report **Tx SWI2\_DEAD** 'Work items with monitored dead lines'. This report shows work items that are subject to dead line monitoring. This report shows whether deadlines are being met or exceeded, all missed deadlines are shown, whether or not work item has now been completed.

## Work Items with Monitored Deadlines

**Monitoring period**

Today  
 Last 7 days  
 Last 30 days  
 Last 365 days  
 Time on   
 Interval From  To

**Work item type**

Dialog  
 (Sub-)Workflow  
 Background

**Task filter**

Task  Please change material  
 Task group (T)   
 Task group (TG)   
 Application Component

## Work Items with Monitored Deadlines

**Current selection:**

**From** 04/05/2006  
**To** 05/04/2006

Task text/Text	Creation Date	Creation Time	P.	Status
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li style="background-color: #ffffcc;">Please change material 100-100 from plant 0001</li> <li>Please change material 100-100 from plant 0001</li> <li>Please change material 100-1000 from plant</li> <li>Please change material 100-1000 from plant</li> <li>Please change material 100-1000 from plant</li> <li>Please change material 100-300 from plant 1000</li> <li>Please change material 100-300 from plant 1000</li> <li>Please change material 100-300 from plant 1000</li> </ul> </li> </ul> </li> </ul>				
	04/23/2006	12:13:54	5	Ready
	04/23/2006	12:14:02	5	Ready
	04/18/2006	16:26:08	5	Ready
	04/23/2006	16:02:48	5	Ready
	04/23/2006	16:02:49	5	Ready
	04/20/2006	14:37:21	5	Ready
	04/20/2006	14:38:47	5	Ready
	04/20/2006	14:42:07	5	Ready

If you want to know the number of work items processed per period, Use report **Tx SWI2\_FREQ** 'Work item by task'. This report shows the number of work items created in a specified period.



### Completed work items by agent and task

Org. unit	Agent	Task	Date	Work item text	Processing time
	JOHNCV	TS80000286	04/28/2006	Please change 100-100 material from plant 1000	-15m 12s
	JOHNCV	TS80000286	04/28/2006	Please change 100-100 material from plant 1000	-5h 54m 48s
	JOHNCV	TS80000286	04/28/2006	Please change 100-100 material from plant 1000	-45m 50s

To determine the future workload select the option 'to be processed by'. The selection produces a list of work items that must be processed by the members of the organizational object by the date entered.

### Workload for USER JOHN VARUGHESE

Work item	To be processed from	To be processed by	Status
8 Not reserved by an agent			
8 TS80000286 Please change material			
000000735264	04/28/2006 23:36:52	04/28/2006 17:38:52	Ready
000000735272	04/28/2006 23:36:57	04/28/2006 17:38:57	Ready
000000735277	04/28/2006 23:36:58	04/28/2006 17:38:58	Ready
000000735284	04/28/2006 23:37:02	04/28/2006 17:39:02	Ready
000000735289	04/28/2006 23:37:02	04/28/2006 17:39:02	Ready
000000766605	05/03/2006 02:12:03	05/02/2006 20:14:03	Ready
000000766610	05/03/2006 02:12:11	05/02/2006 20:14:11	Ready
000000768100	05/04/2006 15:05:55	05/04/2006 15:07:55	Ready

### Error Resolution

There are three parts for any error resolution process:

1. 1. Diagnosing the problem.
2. 2. Fixing the problem
3. 3. Preventing the problem from happening again.

A Considerable number of tools are provided to help you diagnose errors.

<http://sapgenie.com/workflow/debugging.htm>

#### Transaction SWUD

SWUD is the diagnosis transaction. This will guide you through the fault finding process. The check-list order is determined dynamically according to:

a) your workflow definition and b) the statistics of the most common mistakes made when creating/activating a workflow.

The testbed, provides a launchpad for tests to ensure that your workflow definition is rugged enough for the production environment. It also allows you to access the tasks, subflows, object types, delegated object types and agent assignments directly, without going through the workflow builder first. (Foreground tasks with no agent assignment are marked in red from release 4.5 onwards). This list is also useful as a catalogue of the components of workflow for documentation or transport purposes.

Click on the "info" icon to read a description of the test being performed.

Any workflow accessed through this transaction is added to the last-used list. The workflow can be recalled at a later date by clicking on the reuse icon in the left-hand column of the last-used list.

The next section describes the transactions called from **SWUD**. Experts may find it easier calling them directly.

### Secondary Diagnosis Transactions

- **Transaction SWU3: Verify Workflow Customizing.**

In this transaction the most important basic customizing for workflow is checked. If you find any errors here, read the documentation for the error. If your system is BBP or CRM, see note 60801.

- **Transaction SWEL: Event Log.**

Note: Before you can use the event log, you must make sure it is activated. You check this in transaction SWELS. If you are not sure whether or not it is active, just deactivate and activate the event log once.

WARNING: An activated event log can lead to bad performance, and must not be activated constantly in a productive system.

- **Transaction SWE2: Event type linkage**

A workflow is usually started or triggered by an EVENT so it is important to make sure that an event occurs. In the event log you can see the event and its business object type. If an event has been successfully created, it is important to check if there is a receiver type for this event. The receiver type is the workflow that has been triggered by the event. The coupling between an event and the receiver can be maintained in **trans. SWE2**.

- **Transaction SWU0: Event simulation**

If you have found NO receiver type in the event log, then you should check transaction SWU0, Simulate Events. In this transaction you can simulate an event. The system will check all workflows that could be triggered by the event and tells you whether or not they were triggered. Information is displayed for the workflows that were not triggered successfully.

- **Transaction SWI1: Work item list**

If a workflow was been correctly triggered and started at least one WORK ITEM should be created. You can view the work items in transaction SWI1, Work Item Selection. The easiest way for the selection is just to go into this transaction after you have checked the event log. By default all the work items of the last hour will be displayed. You will find in this transaction the work item number, the status of the work item and the workflow task that has created the work item. Furthermore, (in the technical workitem display) you can have a look at the container by selecting a work item and using the menu GOTO -> CONTAINER. To display the work item details double click on the item. From the details you can see the selected/ possible/excluded agents for this work item by using the menu GOTO -> AGENT -> SELECTED/POSSIBLE/EXCLUDED AGENTS.

When the status of the work item shows an error you should have a look at the workflow log using the menu EDIT -> DISPLAY WORKFLOW LOG. Here you can see errors that have occurred.

- **Transaction PFTC/SWDD: Task editor/Workflow Builder**

If you want to have a look at the definition of the workflow you can use transaction PFTC, Maintain Tasks. The button WORKFLOW BUILDER brings you to a graphical display of the workflow structure which is fairly easy to read and understand. On the tabstrip TRIGGERING EVENTS you can check if the triggering is activated or not and deactivate/activate it by clicking on the icon in front of the event.

- **Transaction OOCU: Customizing overview**

To check if the relevant tasks are activated and users are assigned, you can use transaction OOCU; Task Customizing Overview. In this transaction all the tasks are sorted by the application components and are thus easy to find. Note that if you have almost no entries in this transaction, you should execute the report RS\_APPL\_REFRESH in transaction SE38.

- **Transaction SWUE/SWUS: Event/workflow trigger**

If you have activated a user exit, e.g. for the role determination, and you have problems with that, you most probably have to debug the workflow. This can be done using the transaction SWUS or SWUE.

With SWUE you can create an event. After you entered object type and event you have to fill the event parameters and the key for a specific object. If you want to debug the workflow you have to set

the flag TRIGGER RECIEVER FM SYNCHR. If you have set a break point in your user exit or in any other function module of the workflow the system will stop at this break point and you can start analyzing.

The second possibility to debug a workflow is to use the transaction SWUS, the workflow test environment. In this transaction you have to enter the workflow task and fill the input data. Please use the F4-help to fill the input data. Here again you have to set a break point in your user exit or in any other function module of the workflow and then the system will stop there.

#### **Summary of the manual alternative to SWUD**

Now that you have a better understanding of how to use these transactions, you can follow the steps below to quickly analyze your workflow problems:

1. Go to transaction SWU3 and check if everything is okay. If it is not, please fix it before you proceed.
2. Go to transaction SWEL and check if an event is created. If not, check in transaction SWELS if the event log is activated.
  - If you see an event but no workflow is triggered, proceed with step 3.
  - If you see an event and a workflow is triggered, but the status of the triggering shows an error, proceed with step 3.
  - If you see an event and a workflow is triggered and there is no error, proceed with step 4.
  - If the event log is activated and you do not get any event, open up a message using the component of the application to which the business object type belongs. From release 20C for creation of shopping carts the architecture of workflows changed and no events are visible!
3. Go to transaction SWU0 and simulate the event. Is the workflow that you expect to be triggered visible in the simulation?
  - If it is not, then check the workflow definition in PFTC. The event must be defined as triggering event.
  - If it is, but the event linkage is not activated, go to transaction OOCU and activated it.
  - If it is visible, but it is not activated, go to transaction PFTC and activate it.
4. 4. Go to transaction SWI1. Search for the work item that belongs to the workflow. Check the status of the work item.

#### **General Techniques for Resolving Runtime Errors**

##### **Basic Settings for error Monitoring**

There are few workflow runtime environment settings that are particularly important for runtime error monitoring **Tx SWU3**.

## Automatic Workflow Customizing



Here the most important configuration setting determines who is a workflow administrator so that erroneous work items can be proactively dispatched to the administrator's inbox. If you are a workflow administrator, you must check your inbox regularly.

### Finding and fixing work items

The best report for reviewing the status of workflows is the work item selection report Tx SWI1. It lets you select and display work items of all types according to various criteria. In particular you can use this function for lost work items that do not appear in the expected inbox. This report can be useful if you want to examine background work items (enter work item type B) to check that they all are completing promptly.

## Selection Report for Work Items

ID	WI Type	Language	Title	CreateDate	CreateTime	Task	Task text	Confirm	Rejectable	Status	Done On	ActEndTime
1524626	(Sub)workfl...	English	Workflow to...	05/04/2006	17:51:07	WS800028...	Workflow to...			STARTED	12/31/9999	00:00:00

Once you have found the workitem this report gives you the option for fixing work items in trouble, under **EDIT -> work item**.

**“Restart after Error/Execute without check”**

With these you can execute a work item, if work item is in error use ‘Restart after Error’. If the work item has no valid agent and you still need to execute it, use ‘Execute without check’.

**“Complete Manually”**

With these you can complete a work item with out re-executing it.

**“Replace Manually”**

With these you can unreserve a work item that is reserved by a particular agent. That is you can allow all recipients to see the work item in their inboxes.

### Working with the Workflow Log

At Runtime, a workflow has its own work item (of type F) that represents the workflow instance. The best way to look at the workflow instance is via the workflow log.

The workflow log formats all the information created or collected during the execution of the business process. The Standard View is intended for agents and process owners who wants to get an overview of the steps processed so far.

If you want to see the complete log switch to technical view of the log. The technical view shows technical control information and therefore aimed particularly at workflow administrators.

The workflow log contains the following tab pages.

**Workflow chronicle( What was processed when?)**

This shows a hierarchichal display of all steps in the workflow that have been processed so far or are currently able to be processed.

**Workflow agents( who processed what?)**

This shows the agents involved in the workflow up to now

**Workflow objects( What was processed?)**

This shows objects related to the workflow, what objects were created and processed, and how.

**Resolving Agent Determination errors**

Tx SWI1\_RULE 'execute rules for work items'

Eg Here for the task Rule resolution determines the agent

Task  Please change material

Step name

Binding (Exists)

---

Agents

Rule  Rule to find manager for the

Binding (Exists)

**Execute Agent Rules for Work Item**

Selection Using Work Item ID

Identification

---

Selection Using Work Item Properties

Type

Status

Priority

Deadline Status

Task

Task Group

**Work Items With Agents**

ID	WI Type	Language	Title	CreateDate	CreateTime	Task	Task text	Confirm	Rejectable	Status	Done On
1524770	Dialog Step	English	Please cha...	05/04/2006	19:09:32	TS99904995	Please cha...	<input type="checkbox"/>	<input type="checkbox"/>	COMPLETED	05/04/2006

**Work Item with out Agents**

Tx SWI2\_ADM1 report finds all work items that have no agent at all that is orphaned work item for a particular selection period.

**Work Items Without Agents**

Monitoring period

Today

Last 7 days

Last 30 days

Last 365 days

Time on

Interval From  To

---

Task filter

Task  Please change material

Task group (T)

Task group (TG)

Application Component

**Work Items Without Agents**

Waits for A...	ID	WI Type	Language	Title	CreateDate	CreateTime	Task	Task text	Confirm	Rejectable	Status
<input type="checkbox"/>	1524824	Dialog Step	English	Please cha...	05/04/2006	19:17:02	TS99904995	Please cha...	<input type="checkbox"/>	<input type="checkbox"/>	READY

### Execute work item with out Agent Check

Tx SWIA enables you to execute work items for which you are not a possible agent. This tool is used only by administrators in Production environment.

#### Process Work Item As Administrator

Selection Using Work Item ID

Identification

Selection Using Work Item Properties

Type

Status

Priority

Deadline Status

Task TS99904995

Task Group

Using the work item selection, you can select the necessary work items and then execute them, complete them or make them available again to the recipients( that is replace them)

#### Process Work Item As Administrator

ID	WI Type	Language	Title	CreateDate	CreateTime	Task	Task text	Confirm	Rejectable	Status
1524824	Dialog Step	English	Please cha...	05/04/2006	19:17:02	TS99904995	Please cha...	<input type="checkbox"/>	<input type="checkbox"/>	COMPLETED
1524822	Dialog Step	English	Please cha...		19:17:01	TS99904995	Please cha...	<input type="checkbox"/>	<input type="checkbox"/>	STARTED

### Diagnosis of workflow with errors

Tx SWI2\_DIAG report displays all workflows with errors and group them according to error cause(agent deadlines binding or other)

#### Diagnosis of Work Items Containing Errors

Monitoring period

Today

Last 7 days

Last 30 days

Last 365 days

#### Diagnosis of workflows with errors

Errors overall: 260

Error cause	ID	Type	Work item text	CreateDate	CreateTime
Misc	1515206	F	demo wf item	04/17/2006	02:53:51
	1515218	F	NOTIFICATION OF ABSENCE	04/17/2006	02:54:07
	1515514	F	Workflow to review material 100-100 and...	04/17/2006	18:21:40

Error Diagnosis for Work Item 000001515514

Workflow feedback work item 000001515514: Workflow instance data not in database

Workflow feedback work item 000001515514: Workflow instance data not in database

No successor defined for node 1515515 and result 0000

### Workflow Restart after errors

Tx SWPR can be used to display a list of workflows with errors for a particular selection period and then restart them. This allows you to perform a mass restart of workflow.

## Workflow Restart After Error



Workflow work item

Identification		to	
Creation date	04/03/2006	to	05/04/2006
Creation time	00:00:00	to	23:59:59

## Workflow Restart After Error

 Restart workflow         

ID	Flag	Text	Status	Creation Date	Creation time
1515206	✓	demo wf item	STARTED	04/17/2006	02:53:51
1515218	✓	NOTIFICATION OF ABSENCE	STARTED	04/17/2006	02:54:07
1515514	✗	Workflow to review material 100-100 and C...	ERROR	04/17/2006	18:21:40

 "Restart after error" function has been executed

Deadline monitoring for work items **Tx SWWA**

## Configure and Schedule Work Item Deadline Monitoring

 Save and Schedule

Interval until next deadline check  (in minutes)

Job Attributes

Start Date of Background Job	12/31/2999
Start Time of Background Job	23:59:59
Name of Background Job	SWDHEX
Number of Background Job	03254301
Background Job Report	RSWDHEX

 Work item deadline monitoring scheduled successfully

## Work Item Rule monitoring Report RSWWICOND

If conditions are defined for the work item start or work item end for steps in the work flow, these conditions must be regularly checked.

### Continue workflow after system crash Tx SWPC.

You can use this report to select and continue workflows that have had the status STARTED for longer than a day. This means workflow that have come to the halt after system errors can be continued.

### Day in the life of a Workflow Administrator

1. 1. Who should be the workflow administrator?

Workflow administration usually involves both technical activities and business activities, so it makes sense to have both technical and business personnel as administrators.

2. 2. Who makes the business decisions in the event of failure?

Workflows are business processes in action, how does the business interact with the workflow administrator if the workflow fails.

3. 3. Crisis response

When the workflow fails, the business process fails. What does the workflow administrator do in the event of such a crisis.

4. 4. Day-to-Day monitoring

Even when everything is running smoothly, there are still a few things for the workflow administrator to do. Following 'Healthy checks' should be carried out at least once a day.

Regularly check in your inbox for workflow errors. The error monitoring job (**SWWERRE**) will report severe errors such as event linkage errors, binding errors, and rule resolution errors directly to your inbox. This way you can fix a problem before the agents notice it.

Execute the error overview report (Diagnosis of workflow with errors, **Tx SWI2\_DIAG**) to see what errors, if any, are outstanding

Check that the error monitoring job (**SWWERRE**) is running correctly.

### **Archiving Program for Work Items**

The archiving program **RSWWARCA** reads work items for archiving and writes them into an archive. The deletion program **RSWWARCD** deletes these work items from the database.

You can specify whether or not the deletion program is to be started within Customizing for the archiving object **WORKITEM**.

The archiving program offers various selection parameters with which you can select which work items are to be archived. The selection parameters are:

- Work item ID
- Task ID
- Actual agent of work item
- Creation date of work item
- End date of work item

The archiving program compiles the list of work items defined with the selection criteria, and passes it to the function module **SWW\_WI\_LIST\_ARCHIVE**. The latter then archives the intermediate documents using the function modules and **FORM** routines from the function group **SWWX** in conjunction with the **FORM** routines from the Archive Development Kit (ADK).

Only work items with an end status (**COMPLETED** or **CANCELLED**) can be archived. In addition, archiving can only be initiated for work items that are not dependent on other work items ("top-level work items"). This ensures that work items that are still being processed are not archived.

Work items dependent on the selected work items are also archived automatically (for example work items that are part of a workflow). This recursion is performed internally by the **FORM** routine **READ\_WORKITEM\_DATA\_FROM\_DB**.

If you set the indicator Output work items as list, the selected work items are output in a list.

Otherwise, you are only informed of the number of work items selected.

### **Archiving Work Items**

Archive the workitems using the work item id.

Display the workitem after you archive them.

Call the SAP data archiving using report **RSWWARCA** or using **Tx SWW\_SARA**.

## Archiving Program for Work Items



**Work Item**  
 Work Item ID:  to

**Restrictions**  
 Creation Date:  to   
 End Date:  to   
 Task ID:  to   
 Actual Agent:  to

**Process Control**  
 Test Run:   
 Archive:   
 Archive and Delete:

Output Work Items as List  
 Archiving Run Memo:

## Archiving Program for Work Items



ID	Work item text
1519257	Workflow to review material M-12 and MAG DX 15F/FeUU

You can view in **Tx AL11**, workitem that is archived to the Application server.

Directory: E:\usr\sap\ENT\SYS\global

Usable

	Viewed	Changed	Last change	Creator	Length	Name
X			04/24/2006 15:31:33	Administ	9,212	RBC04240.153133.SMART02
X			04/24/2006 17:17:55	Administ	9,230	RBC04240171755.ARCH

### Deleting Archived Work Items

Call the SAP data deletion using report **RSWWARCD** or using **Tx SWW\_SARA**.

### Delete Program for Work Items (for Archiving)

Process Control

Test Run

Delete

Detail Log

### Select key for Archive File

Archive Administration: Select Files for Delete Program

WORKITEM Work Items from Workflow System

- 000824 04/24/2006 ZJE\_GRP
  - 000824-001WORKITEM Archiving Completed

Continue.

### Delete Program for Work Items (for Archiving)

ID	Text
1519257	Workflow to review material M-12 and MAG DX 15F/FeUU c
1519258	Please change material M-12 from plant 1000
1519266	Dispaly view of the material K

Now check the Header Table for All Work Item Types in the table **SWWWIHEAD** with the workitem id. Entry will not exist.



You can use **RSWIWADO** report to determine the necessity to archive or delete work items.

## Watchdog for runtime tables

Database	No. records	Status
Work item header SWWIHEAD	6,661 6,661	●●●
Work item log SWWLOGHIST SWWLOGPARA SWPSTEPLOG SWPNODELOG	1,207,708 1,207,708 9,692 656,475 253,925	●●●
Container instance SWW CONT SWW CONTOB SWWCNTPO	1,261,731 188,325 129,555 1,261,731	●●●
Event log SWELOG SWFREVTLOG	295,921 295,921 1,146	●●●

You can use **RSWWHIDE** Report if you want to delete only the workflow log..

## Delete Work Item History

Work item
ID <input type="text" value="1517019"/>

You can use **RSWWIDE** Report or **Tx SWWL** to delete the work items from the inbox.

## Delete Work Item

Work item		
ID <input type="text" value="000001515211"/>	to	<input type="text"/>
Type <input type="text" value="F"/>	to	<input type="text"/>
Status <input type="text" value="COMPLETED"/>	to	<input type="text"/>
Creation date <input type="text" value="04/23/2006"/>	to	<input type="text" value="04/24/2006"/>
Creation time <input type="text" value="00:00:00"/>	to	<input type="text" value="23:59:59"/>

For security Reasons , Archived work items can be read but not reloaded  
 You can use **RSWWARCR** report to read the archived work items but not reload.

## Troubleshooting – Starting a workflow

### Workflow does not start

- Check the customizing settings transaction SWU3
- Check the event trace for initiator Tx SWEL
- Check the event linkage Tx SWE2 & SWEC
- Check the trfc log under initiator's login
- Check the workflow definition active version

**Troubleshooting – work item cannot be found**

**Work item is not in business workplace**

- Check whether the work item was created correctly
- Search for the work item using the work item selection Tx SWI1
- Check the agent assignment using the task profile and the step definition Tx OOCU
- Check the rule definition and / or the rule function module Tx PFAC

**Troubleshooting – work item not in End status**

**Work item cannot be completed**

- Check the workflow log (application or temporary error)
- If a background job, check using RSWWERRE report
- Check whether workflow system administrator has received a mail
- If a asynchronous step, check the event instance linkage.
- Initiate the test execution
- Check the container contents

**Work Item manager API**

How to start a workflow via the work item manager API.

Rather than using an event, you want to use the API of the workitem manager to start a workflow directly (For performance reasons)

Create a report program that starts your workflow by calling the API function module SWW\_WI\_CREATE\_SIMPLE.

```
*&-----*
*& Report ZJESTART                               *
*&                                               *
*&-----*
*&                                               *
*&                                               *
*&-----*
```

```
REPORT ZJESTART .
INCLUDE <CNTN01>.
parameter : objkey like mara-matnr default 'M-12'.
data: task like swwvpublic-wi_rh_task value 'WS80002876'.
DATA: WI_ID LIKE swwvpublic-WI_ID,
OBJECT TYPE SWC_OBJECT,
AGENTS LIKE SWHACTOR OCCURS 0 WITH HEADER LINE,
WI_CONTAINER LIKE SWCONT OCCURS 0 WITH HEADER LINE.
```

\*SET THE IMPORT PARAMETER FOR THE WORKFLOW ZJECHGMMCC WS80002876

\*FIRST CREATE OBJECT REFERENCE (RUNTIME HANDLE)  
SWC\_CREATE\_OBJECT OBJECT 'ZMARAJES' OBJKEY.

\*SECOND WRITE REFERENCE TO WORK ITEM CONTAINER USING PARAMETER DEF  
SWC\_SET\_ELEMENT WI\_CONTAINER 'MATERIAL' OBJECT.

\*THIRD CONVERT REFERENCES IN CONTAINER FROM RUNTIME HANDLE TO PERSISTENT  
OBJECT REFERENCE.  
SWC\_CONTAINER\_TO\_PERSISTENT WI\_CONTAINER.

\*START THE WORKFLOW VIA FUNCTION MODULE API

CALL FUNCTION 'SWW\_WI\_START\_SIMPLE'

EXPORTING

\* CREATOR = ''  
\* PRIORITY = NO\_PRIO  
TASK = TASK  
\* CALLED\_IN\_BACKGROUND = ''  
\* DEADLINE\_DATA = ''  
\* NO\_DEADLINE\_PARAMETERS = ''

IMPORTING

WI\_ID = WI\_ID  
\* WI\_HEADER =  
\* RETURN =  
\* WI\_RESULT =  
\* SWF\_RETURN =

TABLES

AGENTS = AGENTS "Not needed here  
\* DEADLINE\_AGENTS =  
\* DESIRED\_END\_AGENTS =  
\* LATEST\_START\_AGENTS =  
\* EXCLUDED\_AGENTS =  
\* NOTIFICATION\_AGENTS =  
\* SECONDARY\_METHODS =  
WI\_CONTAINER = WI\_CONTAINER

\* CHANGING

\* WI\_CONTAINER\_HANDLE =

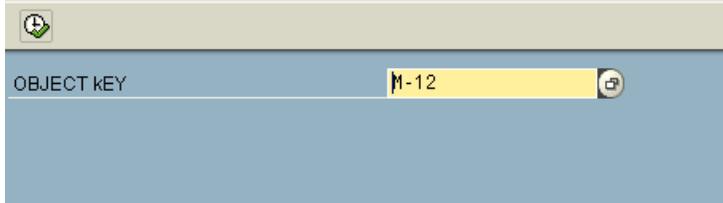
EXCEPTIONS

ID\_NOT\_CREATED = 1  
READ\_FAILED = 2  
IMMEDIATE\_START\_NOT\_POSSIBLE = 3  
EXECUTION\_FAILED = 4  
INVALID\_STATUS = 5  
OTHERS = 6

IF SY-SUBRC <> 0. "Error Message  
MESSAGE ID SY-MSGID TYPE SY-MSGTY NUMBER SY-MSGNO  
WITH SY-MSGV1 SY-MSGV2 SY-MSGV3 SY-MSGV4.  
ELSE. "Success Message  
MESSAGE ID 'WZ' TYPE 'S' NUMBER '703' WITH WI\_ID.  
ENDIF.

Execute the Report program with default material number.

**Start workflow directly using API Function module**



In Status Bar, you can find out workflow is started correctly or not.



Go to **SBWP** to view the workitem.



Create a report program that lists all non-terminated workflow instances started more than a week ago.

```
*&-----*
*& Report ZJEWEEK_LIST *
*& *
*&-----*
*& *
*& *
*&-----*
```

```
REPORT ZJEWEEK_LIST LINE-SIZE 512 .
```

```
INCLUDE RSWWINCL.
```

```
TABLES:Z00VHEACON. "PUBLIC VIEW ON WORK ITEM HEADER DATA
```

```
*PARAMETERS: TASK LIKE SWWWIHEAD-WI_RH_TASK,
```

```
PARAMETERS: TASK LIKE SWWVPUBLIC-WI_RH_TASK,
```

```
DAYS_AGO LIKE SWWWIHEAD-RETRY_CNT DEFAULT '07'.
```

```
DATA: CAND_WIS LIKE Z00VHEACON OCCURS 0 WITH HEADER LINE.
```

```
DATA:START_DATE LIKE SY-DATUM.
```

```
WRITE:/ 'LISTS OF WORKFLOWS STARTED LONGER THAN ', DAYS_AGO, 'DAYS_AGO:'
```

```
.
```

```
*DETERMINE START DATE FOR CANDIDATE WORKFLOWS
```

```
START_DATE = SY-DATUM - DAYS_AGO.
```

```
*SEARCH LIST OF CANDIDATE WORKFLOWS
```

```
IF TASK NE SPACE. "SEARCH FOR A SPECIFIC TASK
```

```
SELECT * FROM Z00VHEACON INTO TABLE CAND_WIS
```

```
WHERE WI_RH_TASK EQ TASK AND
```

```
WI_CD <= START_DATE AND  
WI_CHKWI EQ SPACE AND "TOP LEVEL WORKFLOWS ONLY  
( WI_STAT NE WI_STATUS_COMPLETED AND  
WI_STAT NE WI_STATUS_CANCELLED ).
```

```
ELSE. "SEARCH FOR A SPECIFIC TASK
```

```
SELECT * FROM Z00VHEACON INTO TABLE CAND_WIS  
WHERE WI_RH_TASK EQ TASK AND  
WI_CD <= START_DATE AND WI_CHKWI EQ SPACE AND "TOP LEVEL WORKFLOWS ONLY  
( WI_STAT NE WI_STATUS_COMPLETED AND  
WI_STAT NE WI_STATUS_CANCELLED ).  
ENDIF.
```

```
*DISPLAY RESULT LIST
```

```
LOOP AT CAND_WIS.
```

```
WRITE:/ CAND_WIS-WI_ID, CAND_WIS-WI_RH_TASK, CAND_WIS-WI_STAT,  
CAND_WIS-WI_CD, CAND_WIS-VALUE.  
ENDLOOP.
```