SAP Business Workflow Demo Examples (BC-BMT-WFM)

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SAP

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Contents

SAP Business Workflow Demo Examples (BC-BMT-WFM)

These workflow templates are for demonstration purposes and are particularly suitable for training. They are not intended for use in production operation.

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Compare them with the workflow templates that can be used in production operation:

SAP Business Workflow - Application Scenarios [Ext.]

The following demo examples are available:

- Processing a Notification of Absence [Page 6]
- Processing a Notification of Absence as a Form [Page 29]

Demo Example: Processing a Notification of Absence (BC-BMT-WFM)

Purpose

This workflow template demonstrates how to process a notification of absence.

It can be used as an **example for demonstrating SAP Business Workflow functions**, and is particularly suitable for training courses.

Process Flow

An employee **enters** a **notification of absence** (leave request) in the R/3 System by filling out the relevant input template.

The **direct superior of the employee** is responsible for approving or rejecting the notification of absence. The R/3 System determines the direct superior *automatically* on the basis of the organizational plan maintained.

If the **request** is **approved** the creator is notified by mail:

If the **request** is **not approved**, the creator is informed and can decide whether to withdraw the notification of absence or revise it. If the superior has given reasons for the rejection in an *attachment,* the creator can take these into consideration.

Processing a Notification of Absence

Purchasing employee — Head of Purchasing dept.

- Enters notification of absence
- Does not approve notification of absence
- User decision
- Revises notification of absence
- Approves notification of absence
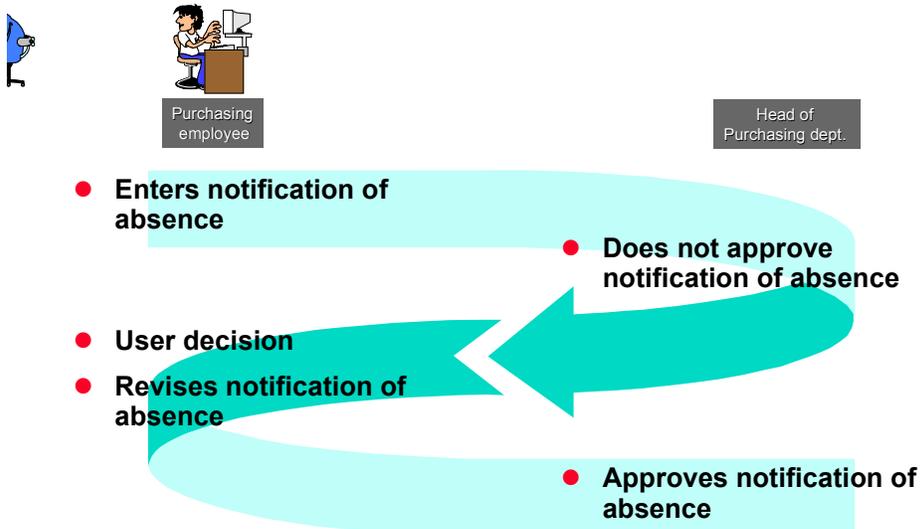
If the **creator revises** the request, it is submitted to the superior for approval again. The applicant can also add an attachment, which can then be accessed by the superior.

This cycle is repeated until either the superior approves the leave request or the creator withdraws it.

The applicant can find out the current processing status at any time by looking in their *workflow outbox.*

Technical Implementation (BC-BMT-WFM)

Object types

Object technology is used to implement the interface between the R/3 functions and the workflow system.

The following information is of a technical nature. You require this information if you are interested in the details of implementation or want to make your own enhancements.

Object Type FORMABSENC (Form: Notification of Absence) [Page 33]

Object Type SELFITEM (Work Item for Dialog Steps On Itself) [Page 32]

Standard tasks

The standard tasks used here are available as "modules" and can also be used in other workflow scenarios without any modifications.

Standard Task AF_approve (Approve Notification of Absence) [Page 11]

Standard Task AF_update (Revise Notification of Absence) [Page 12]

Standard Task AF_delete (Delete Notification of Absence) [Page 13]

Standard Task AF_Txt_Send (Send Long Text After Approval) [Page 14]

Roles

Roles are usually defined very specifically for an application scenario.

An exception to this is the role for determining an employee's superior. This role is also used in the example for processing a notification of absence and is available for general use.

Role Manager (Superior of...) [Page 41]

Workflow template

The business process flow is implemented as a workflow definition within a workflow template.

You can find this workflow template in your R/3 System.

Workflow Template AF_process (Process Notification of Absence) [Page 18]

Workflow Definition Details [Page 20]

Object Type FORMABSENC (*Form: Notification of Absence*)

Definition

A notification of absence is a business application object of the type FORMABSENC (*form: notification of absence*). An object of this type is identified by its number as key field [Ext.]. This is defined in the Business Object Repository.

Use

In the scenario, a notification of absence is created, processed, released and possibly deleted, as an object of this type.

Structure

You can also find the attributes [Ext.], methods [Ext.] and events [Ext.] in the object type definition in the Business Object Repository. In particular, note:

- The object method Approve, which is defined as a method with a result [Ext.].

- The attributes Creator and Approver, which are defined as database field attributes [Ext.] with a data type reference to the object type USR01.

Object Type SELFITEM (Work Item for Dialog Steps on Itself)

Definition

Technical object type that provides methods to operate "on itself".

Objects of this type are work items that represent single-step tasks that were defined with reference to the object type `SELFITEM` and one of its methods.

Use

This object type is used in conjunction with the sending of a mail.

Structure

The object type `SELFITEM` provides the send method `SendTaskDescription`. This method is used to send the long text of the task that was defined with reference to the object type `SELFITEM` and its method `SendTaskDescription` as a mail.

Standard Task AF_approve (*Approve Notification of Absence*)

Definition

Standard task for approving or rejecting notifications of absence.

Standard task: 30000016

Abbreviation: AF_approve

Description: *Approve notification of absence*

Structure

Referenced object method, properties

Object type: FORMABSENC (*notification of absence*)

Method: Approve

Properties: *Confirm end of processing*

Agent assignment

At runtime, this standard task is addressed to the superior of the creator of the notification of absence using *role resolution.*

When customizing this task, you must therefore keep the agent assignment so general that all superiors of all employees are possible agents [Ext.] of the single-step task. Therefore, link the standard task *Approve notification of absence* with a job "head of department" (or similar), and also maintain the organizational plan in a such a manner that the relevant chief positions of every single organizational unit are described with this job.

Standard Task AF_update (*Revise Notification of Absence*)

Definition

Standard task for revising a notification of absence.

Standard task: 30000017

Abbreviation: AF_update

Description: *Revise notification of absence*

Structure

Referenced object method, properties

Object type: FORMABSENC (*notification of absence*)

Method: Update

Agent assignment

At runtime, this standard task is executed by the creator of the notification of absence. Since this could be any employee, the single-step task must be classified as a general task [Ext.] in Customizing.

Standard Task AF_delete (*Delete Notification of Absence*)

Definition

Standard task for deleting a notification of absence.

Standard task: 30000018

Abbreviation: AF_delete

Description: *Delete notification of absence*

Structure

Referenced object method, properties

Object type: FORMABSENC (notification of absence)

Method: Delete

Properties: *Background processing*

Terminating event: deleted

The underlying object method is an asynchronous method [Ext.]. A terminating event is therefore declared for this standard task.

Agent assignment

Agent assignment does not apply because the standard task runs in the background

Standard Task AF_Txt_Send (*Send Long Text After Approval*)

Definition

Standard task for sending the long text.

This standard task always runs in the background. A multiline element is provided in the task container for the recipient name(s) and needs to be filled via a binding and passed on to the method.

Standard task: 30000102

Abbreviation: AF_Txt_Send

Description: *Send long text after approval*

Structure

Referenced object method, properties

Object type: SELFITEM (*WI for method on itself*)

Method: SendTaskDescription (*send description*)

Properties: *Background processing*

Agent assignment

Agent assignment does not apply because the standard task runs in the background

Other information about the standard task

The object method operates on the work item from which it is called. The object processed is therefore the work item itself and does not exist until execution time. The element _WI_Object_Id of the task container must not be assigned a value.

The referenced method has four parameters:

Receivers	Recipient address as object reference, multiline
Express	Express flag
AddressStrings	Recipient name, multiline
TypeId	Recipient type

For each method parameter, there is a corresponding element in the task container and a binding definition [Ext.] from the task container to the method container. How the task container is "supplied" with the information required is described in the binding definition from the workflow container to the task container.

Each single-step task can only be used for the one text defined for it. If you want to send the long text in another context, you need to create a new single-step task with its own long text.

The descriptive long text contains expressions in the form &AbsenceForm.xxx& as variables. The object reference to the processed notification of absence is located in the element AbsenceForm in the task container. This element has been added to the standard elements in

the task container. The expression above refers to the attribute xxx of this object. At runtime, the variables are replaced by the current attribute values.

Role Manager (*Superior of...*)

Definition

Role with which the superior of an agent, a position, or an organizational unit can be determined.

Role: `00000168`

Abbreviation: `Manager`

Description: *Superior of...*

Structure

Role parameters

The following can be passed as role parameters:

- `ORG_OBEJCT` (reference field `RHOBJECTS-OBJECT`)

    or

- `OType` (reference field `OBJEC-OTYPE`) and `ObjId` (reference field `OBJEC-REALO`)

All three role parameters are elements in the role container. The contents of `ORG_OBJECT` are evaluated with priority. If `ORG_OBJECT` is not passed, the role parameters `OType` and `ObjId` are evaluated.

- `ORG_OBJECT` contains either the specification of a person, a position or an organizational unit in the composite form `P <8-digit number>`, `S <8-digit number>` or `O <8-digit number>`, or the specification of a user in the composite form `US<12-character user name>`.

- `OType` (reference field `OBJEC-OTYPE`) contains the ID of the object in a 2-character field. The following are allowed:

    `O`　　organizational unit

    `S`　　position

    `US`　　user name

    `P`　　person

- `ObjId` contains either the number of the person, position or organizational unit, or the user name in a 12-character field.

Binding definition

In the demo example, the role is used to find the superior of the initiator of the workflow starting from *the initiator.* The user name of the initiator is stored in a 14-character field with reference to `RHOBJECTS-OBJECT` in the element `_WF_Initiator` of the workflow container. The binding is therefore defined to the element `ORG_OBJECT` of the role container for the relevant step.

Integration

Preparation in the organizational plan

The company's organizational plan is evaluated during role resolution. This takes into account either direct reporting structures between positions (position "reports to" position, relationship `A/B002`) or the designation of chief positions (position "manages" organizational unit, relationship `A/B012`) in the organizational units.

The relevant relationships must have been created at the appropriate points when the organizational plan was set up.

Workflow Template AF_process (*Process Notification of Absence*)

Definition

Workflow template used to process a notification of absence once it has been created.

Note that the notification of absence is not created in the workflow, but is "application functionality". A triggering event makes the link to the workflow.

One of the main functions of workflow control is determining the correct agents.

Workflow template: 30000015

Abbreviation: AF_process

Description: *Process notification of absence*

Structure

Workflow container

The main two items of information that must be available during the workflow are:

- The *(object) reference to the notification of absence to be processed*

- The *name of the creator of the notification of absence*

    (required to find the superior in role resolution)

The relevant elements must be available in the workflow container to take this information:

- The element _WF_Initiator for the creator is in the workflow container as standard.

- The element AbsenceForm for the object reference was created in addition to the standard elements.

Both items of information are initially available as event parameters in the container of the triggering event and must be passed from there "via binding" to the workflow container.

Triggering event of workflow template

The event created for the object type FORMABSENC (*notification of absence*) is entered as the triggering event of the workflow template. This "linkage" between the event and the workflow template to be started is deactivated as standard and must first be activated for this workflow template in Customizing if the workflow template is to be started.

Binding from the event parameter container to the workflow container

The following binding is defined between the triggering event (or event container) and the workflow container:

Workflow container		Event container
_WF_Initiator	<-	_Evt_Creator
AbsenceForm	<-	_Evt_Object

Details of Workflow Definition

The following information is of interest in connection with the workflow definition for the workflow template `AF_process`. Look at the definition in the system.
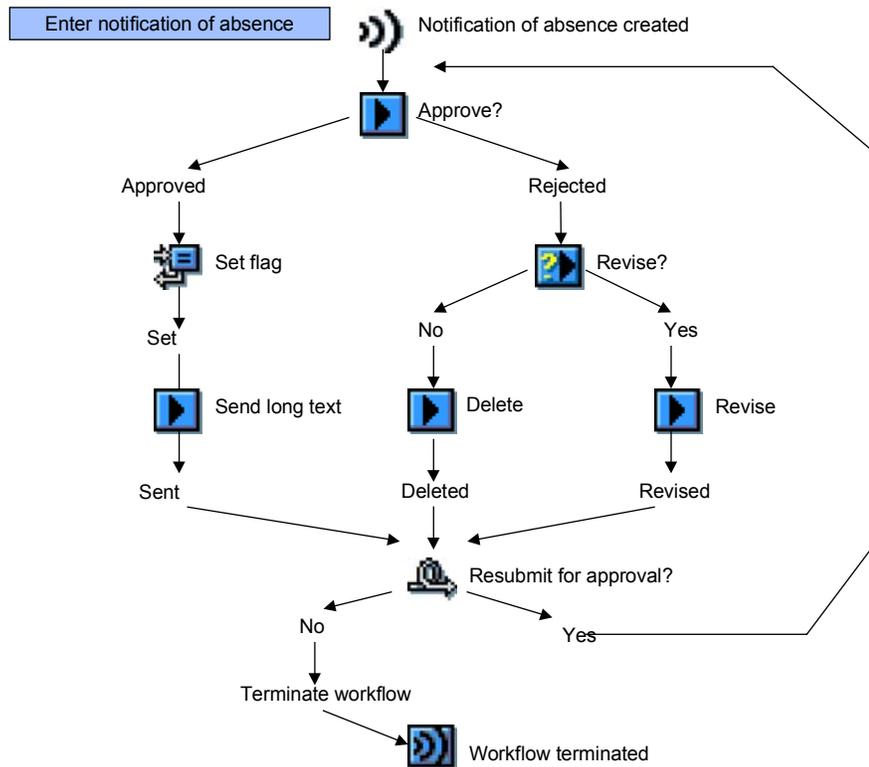
Binding for the workflow definition steps

Element _WI_Object_Id of task container

In each of the steps of the workflow definition in which the notification of absence can be *approved*, *revised* and *deleted*, a binding is defined from the element `AbsenceForm` of the workflow container to the element `_WI_Object_ID` of the relevant task container.

In addition to the standard elements in the workflow container, the element `AbsenceForm` was created to contain the object reference. It was provided with the reference to the created object from the triggering event.

Element AbsenceForm of task container

In the step of the workflow definition in which the descriptive long text is sent, a binding is defined from the element `AbsenceForm` of the workflow container to the element `AbsenceForm` of the task container. This binding ensures correct text substitution in the long text of the single-step task.

The element `_WI_Object_ID` of the task container must not be filled in this step.

Agent determination

Steps for the creator

If the creator of the notification of absence is to process a step, the element `_WF_Initiator` of the workflow container is entered as the agent. This element is in the workflow container as standard and was provided with the name of the creator from the triggering event.

Steps for the superior

If the creator's superior is to process a step, they must be determined via role resolution. The role requires the name of the creator as "input". The role `00000168` (*Superior of...*) is therefore entered as the agent, and a binding is defined from the element `_WI_Initiator` of the workflow container to the element `Org_Object` of the role container.

Address determination and sending the text

In the step in which the standard task `AF_Txt_Send` is called to send the mail to the creator of the notification of absence, the creator (element `_WF_Initiator` of the workflow container) is passed to the element `AddressStrings` in the task container. The element `_WI_Object_Id` of the container of this single-step task remains empty.

Result of the user decision

The result of the user decision in which the creator must decide whether to delete or revise the notification of absence is required again for the loop check to determine whether the notification of absence should be resubmitted.

The result of the user decision, which is returned in the element `_WI_Result` of the task container, is therefore transferred to the element `Flag` of the workflow container via a binding. 76This element `Flag` was created for this in the workflow container with a data type reference to the DDIC table field `SWD_LINES-Returncode`.

Preparation and Customizing (BC-BMT-WFM)

Purpose

In addition to general Customizing, which ensures that the workflow system functions properly, special Customizing is required for this workflow template.

If you want to execute this workflow scenario in an IDES system, you do **not** need to make the following settings.

Prerequisites

You have carried out general Customizing for SAP Business Workflow.

Process Flow

The following steps are required:

- Setting up the Organizational Plan [Page 48]

- Performing Task-Specific Customizing [Page 24]

- Administration for Shared Office Settings [Page 50]

Setting up the Organizational Plan

The notification of absence is created by an employee and then approved or rejected by their superior.

Procedure

To set up a suitable organizational plan for this scenario, carry out the following steps in SAP Business Workflow **Customizing**:

1. Execute the activity *Edit organizational plan* in SAP Business Workflow Customizing.

2. Create an organizational unit [Ext.] or change an existing organizational unit.

3. Create two positions [Ext.] in this organizational unit:

4. Designate the position you have set up for the superior as a *chief position*.

Performing Task-Specific Customizing

Procedure

The following must be carried out in SAP Business Workflow **Customizing**:

- The standard task 30000016 (*Approve notification of absence*) must be assigned to its possible agents.

- The standard task 30000017 (*Revise notification of absence*) must be classified as a general task.

1. Execute the Customizing activity *Perform task-specific Customizing*.

2. In the application component *SAP Business Workflow*, you will find the option *Assign tasks to agents*.

   Carry out the two assignments described above:

   − Link the standard task 30000016 (*Approve notification of absence*) to the **job** from which you derived the position for the superior in the department.

   Specify the *job* of head of department as the possible agent of the standard task 30000016 (*Approve notification of absence*).

   − Classify the standard task 30000017 as a general task.

Maintaining an Event Receiver Linkage

The event `created` of the object type `FORMABSENC` is a triggering event of the workflow template `30000015` and, as such, is entered in the type linkage table as standard.

Procedure

In order for the workflow template to actually be started, the linkage between the triggering event and the workflow template as the receiver of the event must be **activated** in SAP Business Workflow **Customizing**.

1. Execute the Customizing activity *Perform task-specific Customizing*.

2. In the application component *SAP Business Workflow*, activate the event linkage for the workflow template *Process notification of absence.*

(Alternatively, you can activate the event receiver linkage by processing the workflow template `AF_process` directly.)

Administration Required for *Shared Office Settings*

After approval, a mail is sent to a recipient specified by the container element `_WF_Initiator`. This container element contains the agent in the HR-specific form with the prefix `US`.

Procedure

So that a mail can be sent correctly to the various recipient types, the relevant recipient types must be declared in *shared office settings*:

1. Choose *Tools → Business Communication → Office → Shared office settings.*

2. Choose the tab page *Addressing*.

3. Select *Organizational units*.

Operation and Connection to Application Functionality (BC-BMT-WFM)

Purpose

You use this process if you want to test or demonstrate workflow functions.

Demo example for notification of absence in IDES

In IDES, the scenario described can switch between the users **WF-MM-3** (creator of notification of absence) and **WF-MM-4** (superior).

Both users hold positions that are assigned to the organizational unit **US Purchasing**. The position of the user **WF-MM-4** is the chief position of this organizational unit. It is described by the job **head of department**, the activity profile of which includes releasing notifications of absence.

> IDES may contain other workflow templates and workflow tasks (from the workflow tutorials), which are used to process the same notification of absence.
>
> When you "run through" the scenario, you must be sure only to execute the work items for the workflow template `WS30000015`.

Prerequisites

You have made the settings described in the section <u>Preparation and Customizing (BC-BMT-WFM) [Page 22]</u> .

Process Flow

A user enters a notification of absence. This is carried out from the transaction accessed by following the path *Tools → Business Workflow → Development → Environment → Demo: Fill out form.*

Entering a notification of absence and creating an event

The action of entering (and saving) a notification of absence creates a new object of the object type *notification of absence* and automatically generates the event `created` for this object type. The event container of this event contains:

- The reference to the notification of absence in the element `_Evt_Object`

  - The user name of the creator of the notification of absence in the form `US<UserName>` in the element `_Evt_Creator`

This event is the *triggering event* of the workflow template for processing a notification of absence.

Approving a notification of absence

The user you entered as the holder of the *position* designated as *chief position* finds a work item in their workflow inbox, which represents the standard task *Approve notification of absence*. They approve or reject the notification of absence by executing this work item. Attachments can be appended to the work item explaining any reasons.

Operation and Connection to Application Functionality (BC-BMT-WFM)

Important: The processing of this work item must completed in the end using the function *Set to 'Done'.* (This procedure is defined as a *property* of the underlying standard task.)

The decision made by the superior determines how the workflow progresses. If the request is rejected, the creator of the notification of absence must make the next move.

Additional information on this step

- Deadline monitoring

  This step is subject to deadline monitoring. If the superior has not started processing the request within 5 minutes, the creator of the notification of absence is notified as the *notification agent for deadline*.

  This procedure is defined in the description of the step within the workflow definition.

- Selected and possible agents

  According to the settings you made in Customizing, all employees (= possible agents) whose activity profile is described by the job *head of department* (or another job you chose) can **in principle** approve the notification of absence. At runtime, however, this decision is only to be made by the head of department (= selected agent) "playing" the role of this employee's superior. The relevant person is determined from the organizational plan of the company via role resolution.

Employee's decision on how to continue

If the superior rejects the notification of absence, the creator of the notification of absence is asked to decide whether they want to revise or withdraw it.

Additional information on this step

- Withdraw notification of absence

  If the creator decides not to revise the notification of absence, the rejected notification of absence is deleted in a background step.

  This terminates the workflow.

- Revise notification of absence

  If the creator decides to revise the notification of absence, they are immediately asked to change it. Advancing with immediate dialog makes it possible for this functionality to be offered without the employee having to choose a work item from their workflow inbox.

What next?

If the creator has decided to revise their notification of absence, it is resubmitted to the superior for approval.

Demo Example: Processing a Notification of Absence as a Form (BC-BMT-WFM Form)

Definition

The workflow template for *processing a notification of absence as a form* described here can be used as an example to demonstrate SAP Business Workflow functions. It is particularly useful for training courses. This workflow template cannot be used in productive operation.

This scenario is simpler than the Demo Example: Processing a Notification of Absence (BC-BMT-WFM) [Page 6] which is similar in content. This scenario is more about demonstrating the functionality of form processing than describing a practical business process.

⚠️

To be able to perform this scenario you must install SAPforms [Ext.] on your PC.

Process Flow

Entering a Notification of Absence as a Form

An employee enters a notification of absence by making the appropriate entries in a **form** installed locally on their PC. In this demo example, the data entered can be transmitted to the R/3 System in two ways (form settings):

- The employee transmits the data entered to the R/3 System via an Internet-enabled mail system as an attachment to an Internet mail.

- The employee transmits the data via an RFC call to the R/3 System.

The user is not however concerned with technical details of the data transfer.

The R/3 System uses the data from the form to start a workflow template that controls and co-ordinates further processing of the notification of absence.

Approving a Notification of Absence as a Form

The direct superior of the employee approves or rejects the notification of absence. The R/3 System determines the superior *automatically* using the maintained organizational plan. The superior is notified by mail. The superior fills in a form, approving or rejecting the notification.

The employee is then informed by mail of the approval or rejection.

Advantages of Using a Form

Filling in a form is generally an intuitive process. It is particularly worth using forms if simple functions are to be made available to a large number of employees who do not otherwise work much in the R/3 System, if at all.

Furthermore, integration of a mail system enables the workflow to be started asynchronously. If the R/3 System is not available or the user is working offline, the mail system ensures that the workflow is started later. The mail system must be suitable for offline use.

Technical Implementation (BC-BMT-WFM)

Object types

Object technology is used to implement the interface between the R/3 functions and the workflow system.

The following information is of a technical nature. You require this information if you are interested in the details of implementation or want to make your own enhancements.

Object Type FORM (Desktop Form) [Page 31]

Object Type FORMABSENC (Form: Notification of Absence) [Page 33]

Object Type SELFITEM (Work Item for Dialog Steps On Itself) [Page 32]

Standard tasks

The standard tasks provided by SAP as single steps describe the basic business activities from an organizational point of view.

The standard tasks used here are available as "modules" and can also be used in other workflow scenarios without any modifications.

Standard Task WF_AbsFormCr (Create Notification of Absence without Dialog) [Page 34]

Standard Task WF_AbsCheck (Check Vacation with Form) [Page 35]

Standard Task AF_Txt_Send2 (Send Long Text after Approval) [Page 37]

Standard Task WF_AbsNRep2 (Notify Rejection of Notification of Absence [Page 39]

Roles

Roles are usually defined very specifically for an application scenario.

An exception to this is the role for determining an employee's superior. This role is also used in the example for processing a notification of absence and is available for general use.

Role Manager (Superior of...) [Page 41]

Workflow template

The business process flow is implemented as a workflow definition within a workflow template.

You can find this workflow template in your R/3 System.

Workflow Template WF_SAPFORMS1 (Process Notification of Absence) [Page 43]

Workflow Definition Details [Page 45]

Object Type FORM (*Desktop Form*)

Definition

The object type `FORM` serves as a "hanger" for the methods `Process` and `HTMLProcess.` It is a technical object type without key fields. There are therefore no objects of this type in the R/3 System.

Use

The object type `FORM` with its methods `Process` and `HTMLProcess` is used in defining form tasks and/or HTML form tasks.

Method: Process

The method `Process` enables you to process the container of the work item, via which the method is executed, using an electronic form. This method has the following import parameters:

- `R3FForm`

    Form name of a PC form.

- `R3FFormType`

    Form type of a PC form.

- `Workitem`

    Object reference to the work item, in which the method is executed. (The method can access the container of the referenced work item via this object reference.)

The functionality is technically implemented in such a way, that the values are exported from the work item container to the PC in a structured manner (as "R3F attachment"), and the form specified by form name and form type is started there.

Method: HTMLprocess

The method `HTMLprocess` calls the Web transaction defined for the HTML form task.

Object Type SELFITEM (Work Item for Dialog Steps on Itself)

Definition

Technical object type that provides methods to operate "on itself".

Objects of this type are work items that represent single-step tasks that were defined with reference to the object type SELFITEM and one of its methods.

Use

This object type is used in conjunction with the sending of a mail.

Structure

The object type SELFITEM provides the send method SendTaskDescription. This method is used to send the long text of the task that was defined with reference to the object type SELFITEM and its method SendTaskDescription as a mail.

Object Type FORMABSENC (*Form: Notification of Absence*)

Definition

A notification of absence is a business application object of the type FORMABSENC (*form: notification of absence*). An object of this type is identified by its number as key field [Ext.]. This is defined in the Business Object Repository.

Use

In the scenario, a notification of absence is created, processed, released and possibly deleted, as an object of this type.

Structure

You can also find the attributes [Ext.], methods [Ext.] and events [Ext.] in the object type definition in the Business Object Repository. In particular, note:

- The object method Approve, which is defined as a method with a result [Ext.].

- The attributes Creator and Approver, which are defined as database field attributes [Ext.] with a data type reference to the object type USR01.

Standard Task WF_AbsFormCr (*Create Notification of Absence without Dialog*)

Definition

Standard task for creating a notification of absence with the data from the task container. As the data must be available in full, no more dialog is carried out.

Standard task: 30000365

Abbreviation: WF_AbsFormCr

Name: *Create notification of absence without dialog*

Structure

Referenced object method, properties

Object type: FORMABSENC (*notification of absence*)

Method: CreateWithoutDialog (*create form without dialog*)

Properties: *Background processing*

Task container, binding definition

The task container contains, amongst other things, all method parameters of the method CreateWithoutDialog. These method parameters are required for creating a notification of absence without dialog.

The binding between the corresponding elements from the task container and the method container is defined.

The method creates a notification of absence with the data from the task container/method container. After execution of the method, the reference to the notification of absence created is in the element _WI_Object_Id of the task container.

Agent assignment

Agent assignment does not apply because the standard task runs in the background

Standard Task WF_AbsCheck (*Check Vacation (with Form)*)

Definition

Standard task used to transfer all the data of a notification of absence located in the task container to a form for execution.

Standard task: `30000366`

Abbreviation: `WF_AbsCheck`

Name : *Check vacation (with form)*

Structure

Referenced object method, properties

Object type: `FORM` (*desktop form*)

Method: `Process` (*process*)

Task container, binding definition

As the method `Process` is a generic method which can operate on the data of any form, the method container *cannot* be a 1:1 mapping of the task container.

The method `Process` has three method parameters which each have correspondence in the task container. The task container contains additional elements which describe the fields of a notification of absence. The last-named container elements do not have correspondence in the method container.

The binding from the task container to the method container is defined as follows:


```
R3FForm <== &R3FForm&

R3FFormType <== &R3FFormType&

Workitem <== &_Workitem&
```

The method container contains the element `Workitem` which is filled with the reference to the work item in which the method is executed. The method can access the container of the referenced work item via this object reference. (In contrast, the method container of the method described above `CreateWithoutDialog` contains *all* elements of the task container.)

Initial Value Assignment

As the single-step task was defined specifically for a particular form, form name and type are assigned to the relevant elements of the task container in an initial value assignment:


```
R3FForm <== APPROVE;IPM.Note.SAP.Demo.Absence.Approval

R3FFormType <== EXE;Outlook
```

Standard Task WF_AbsCheck (Check Vacation (with Form))

When executing the methods, the values are exported from the work item container to the PC in a structured manner (as "R3F attachment"), and the form specified by form name and form type is started there.

➡️

File `APPROVE.EXE` is installed on your PC together with SAPforms [Ext.].

Agent assignment

At runtime, this standard task is addressed to the superior of the creator of the notification of absence using *role resolution.*

When customizing this task, you must therefore keep the agent assignment so general that all superiors of all employees are possible agents [Ext.] of the single-step task. Therefore, link the standard task *Approve notification of absence* with a job "head of department" (or similar), and also maintain the organizational plan in a such a manner that the relevant chief positions of every single organizational unit are described with this job.

Standard Task AF_Txt_Send2 (*Send Long Text after Approval*)

Definition

Standard task for sending the long text.

This standard task always runs in the background. A multiline element is provided in the task container for the recipient name(s) and needs to be filled via a binding and passed to the method.

Standard task: 30000382

Abbreviation: WF_Txt_Send2

Name: *Send long text after approval*

Use

This standard task is used as a step in the workflow when a mail is sent in the case of approval.

Structure

Referenced object method, properties

Object type: SELFITEM (*WI for method on itself*)

Method: SendTaskDescription (*send description*)

Properties: *Background processing*

Agent assignment

Agent assignment does not apply because the standard task runs in the background

Other information about the standard task

The object method operates on the work item from which it is called. The object processed is therefore the work item itself and does not exist until execution time. The element _WI_Object_Id of the task container must not be assigned a value.

The referenced method has four parameters:

Receivers	Recipient address as object reference, multiline
Express	Express flag
AddressStrings	Recipient name, multiline
TypeId	Recipient type

For each method parameter, there is a corresponding element in the task container and a binding definition [Ext.] from the task container to the method container. How the task container is "supplied" with the information required is described in the binding definition from the workflow container to the task container.

Each single-step task can only be used for the one text defined for it. If you want to send the long text in another context, you need to create a new single-step task with its own long text.

Standard Task AF_Txt_Send2 (Send Long Text after Approval)

The descriptive long text contains expressions in the form `&AbsenceForm.xxx&` as variables. The object reference to the processed notification of absence is located in the element `AbsenceForm` in the task container. This element has been added to the standard elements in the task container. The expression above refers to the attribute `xxx` of this object. At runtime, the variables are replaced by the current attribute values.

Standard Task WF_AbsNRep2 (*Notify Rejection of Notification of Absence*)

Definition

Standard task for sending the long text.

This standard task always runs in the background. A multiline element is provided in the task container for the recipient name(s) and needs to be filled via a binding and passed to the method.

Standard task: 30000381

Abbreviation: WF_AbsNRep2

Name: *Notify rejection of notification of absence*

Use

This standard task is used as a step in the workflow when a mail is sent in the case of rejection.

Structure

Referenced object method, properties

Object type: SELFITEM (*WI for method on itself*)

Method: SendTaskDescription (*send description*)

Properties: *Background processing*

Agent assignment

Agent assignment does not apply because the standard task runs in the background

Other information about the standard task

The object method operates on the work item from which it is called. The object processed is therefore the work item itself and does not exist until execution time. The element _WI_Object_Id of the task container must not be assigned a value.

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Standard Task WF_AbsNRep2 (Notify Rejection of Notification of Absence)

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Role Manager (*Superior of...*)

Definition

Role with which the superior of an agent, a position, or an organizational unit can be determined.

Role: `00000168`

Abbreviation: `Manager`

Description: *Superior of...*

Structure

Role parameters

The following can be passed as role parameters:

- `ORG_OBEJCT` (reference field `RHOBJECTS-OBJECT`)

    or

- `OType` (reference field `OBJEC-OTYPE`) and `ObjId` (reference field `OBJEC-REALO`)

All three role parameters are elements in the role container. The contents of `ORG_OBJECT` are evaluated with priority. If `ORG_OBJECT` is not passed, the role parameters `OType` and `ObjId` are evaluated.

- `ORG_OBJECT` contains either the specification of a person, a position or an organizational unit in the composite form `P <8-digit number>`, `S <8-digit number>` or `O <8-digit number>`, or the specification of a user in the composite form `US<12-character user name>`.

- `OType` (reference field `OBJEC-OTYPE`) contains the ID of the object in a 2-character field. The following are allowed:

    `O`   organizational unit

    `S`   position

    `US`   user name

    `P`   person

- `ObjId` contains either the number of the person, position or organizational unit, or the user name in a 12-character field.

Binding definition

In the demo example, the role is used to find the superior of the initiator of the workflow starting from *the initiator.* The user name of the initiator is stored in a 14-character field with reference to `RHOBJECTS-OBJECT` in the element `_WF_Initiator` of the workflow container. The binding is therefore defined to the element `ORG_OBJECT` of the role container for the relevant step.

Integration

Preparation in the organizational plan

The company's organizational plan is evaluated during role resolution. This takes into account either direct reporting structures between positions (position "reports to" position, relationship `A/B002`) or the designation of chief positions (position "manages" organizational unit, relationship `A/B012`) in the organizational units.

The relevant relationships must have been created at the appropriate points when the organizational plan was set up.

Workflow Template WF_SAPFORMS1 (*Process Notification of Absence*)

Use

This workflow template is used to process a notification of absence *including* its creation.

Actual data entry for the notification of absence occurs in an external form. The data entered there is then put into the workflow container when the workflow template is started. A notification of absence is created with this data in the first step of the workflow.

Workflow template: `30000161`

Abbreviation: `WF_SAPFORMS1`

Description: *Process notification of absence*

Structure

Workflow container

The following information must be in the workflow container:

- The fields of a notification of absence.

  These fields are filled with the data from the form as mandatory import elements when the workflow template is started.

- The (object) reference to the notification of absence to be processed.

  This object reference comes into existence after the notification of absence was created in the R/3 System in the first step of the workflow.

- The name of the person who created the notification of absence

  This applicant is required in order to find the superior in role resolution.

The relevant elements for this information are in the workflow container:

- The elements `PersonnelNumber, Department,...` for the notification of absence fields were created in addition to the standard elements.

  - The element `AbsenceForm` for the object reference was created in addition to the standard elements.

- The element `_WF_Initiator` for the creator is in the workflow container as standard.

Start of workflow

The workflow is started after execution of form `APPROVE.EXE.`

⚠️

> For the scenario to work, SAPforms [Ext.] must be installed on your PC.

In the R/3 System, the data entered in the form is transferred to the workflow container of the workflow template started. The task is to be started and which form fields are mapped on which container elements were established in the definition of the form.

Details of Workflow Definition

The following details are of interest in connection with the workflow definition for the workflow template `WF_SAPFORMS1`. Look at the definition in the system.

Binding for the workflow definition steps

Element _WI_Object_Id of task container /

Element AbsenceForm of the workflow container

This element of the task container contains the reference to the notification of absence that is to be processed.

In the first step of the workflow definition, in which the notification of absence is created in the R/3 System, the binding is defined from the `_WI_Object_ID` of the task container to the element `AbsenceForm` of the workflow container. The element `AbsenceForm` for the object reference was created in addition to the standard elements in the workflow container.

In the following step of the workflow definition, in which the notification of absence can be *approved*, a binding is defined from the element `AbsenceForm` of the workflow container to the element `_WI_Object_Id` of the task container.

Element AbsenceForm of task container /

Element AbsenceForm of the workflow container

In the steps of the workflow definition in which the descriptive long text is sent, a binding is defined from the element `AbsenceForm` of the workflow container to the element `AbsenceForm` of the task container. This binding ensures correct text substitution in the long text of the single-step task.

The element `_WI_Object_Id` of the task container must not be filled in this step.

Agent determination

Steps for the creator

If the creator of the notification of absence is to process a step, the element `_WF_Initiator` of the workflow container is entered as the agent. This element is in the workflow container as standard and was supplied from the form.

Steps for the superior

If the creator's superior is to process a step, they must be determined via role resolution. The role requires the name of the creator as "input". The role `00000168` (*Superior of...*) is therefore entered as the agent, and a binding is defined from the element `_WI_Initiator` of the workflow container to the element `Org_Object` of the role container.

Address determination and sending the text

In the step in which the standard task `AF_Txt_Send` is called to send the mail to the creator of the notification of absence, the creator (element `_WF_Initiator` of the workflow container) is passed to the element `AddressStrings` in the task container. The element `_WI_Object_Id` of the container of this single-step task remains empty.

Details of Workflow Definition

Preparation and Customizing (BC-BMT-WFM)

Purpose

In addition to general Customizing, which ensures that the workflow system functions properly, special Customizing is required for this workflow template.

If you want to execute this workflow scenario in an IDES system, you do **not** need to make the following settings.

Prerequisites

You have carried out general Customizing for SAP Business Workflow.

Process Flow

The following steps are required:

- Setting up the Organizational Plan [Page 48]

- Performing Task-Specific Customizing [Page 49]

- Administration for Shared Office Settings [Page 50]

- SAPforms Administration [Ext.]

Setting up the Organizational Plan

The notification of absence is created by an employee and then approved or rejected by their superior.

Procedure

To set up a suitable organizational plan for this scenario, carry out the following steps in SAP Business Workflow **Customizing**:

5. Execute the activity *Edit organizational plan* in SAP Business Workflow Customizing.

6. Create an organizational unit [Ext.] or change an existing organizational unit.

7. Create two positions [Ext.] in this organizational unit:

8. Designate the position you have set up for the superior as a *chief position*.

Performing Task-Specific Customizing

Procedure

In SAP Business Workflow **Customizing**, the standard task `30000366` (*Check vacation (with form)*) must be assigned to its possible agents.

1. Execute the Customizing activity *Perform task-specific Customizing*.

2. In the application component *SAP Business Workflow*, you will find the option *Assign tasks to agents*.

   Link the standard task `30000366` (*Check vacation (with forms)*) to the **job** from which you have derived the position for the departmental superior.

   Enter the *job* of head of department as the possible agent of the standard task `30000366` (*Check vacation (with forms)*).

Administration Required for *Shared Office Settings*

After approval, a mail is sent to a recipient specified by the container element `_WF_Initiator`. This container element contains the agent in the HR-specific form with the prefix `US`.

Procedure

So that a mail can be sent correctly to the various recipient types, the relevant recipient types must be declared in *shared office settings*:

4. Choose *Tools → Business Communication → Office → Shared office settings.*

5. Choose the tab page *Addressing.*

6. Select *Organizational units*.

Operation and Connection to Application Functionality (BC-BMT-WFM)

Purpose

You use this process if you want to test or demonstrate workflow functions.

Process Flow

Entering a notification of absence using a form

A user enters a notification of absence. This is carried out using a form which must be available locally on the user's PC together with the relevant form application.

The following are established in form definition:

- Which task is started in the R/3 System.

- How the communication to the R/3 System is structured.

- Which form fields are mapped on which container elements of the task to be started.

The form is not defined by the administrator but by a central group and made available across the enterprise.

The form used for this example (`APPROVE.EXE`) is part of the [SAPforms Installation [Ext.]](#).

Creating a notification of absence

A notification of absence (that is, a new object for the object type *notification of absence*) is created in the R/3 System from the values in the container elements of the workflow container.

⚠️

> Creating a notification of absence always generates the event `created` for this object type automatically.

> If, for demonstration purposes, you have already established the "other" scenario for processing a notification of absence (workflow template `AF_process`, `WS30000015`), this workflow template is also started as a reaction to the event.

> You should cancel the event receiver linkage for the workflow template `WS30000015`, in order to avoid double work items with similar functionality.

Approving a notification of absence

The user you have entered as the holder of the *position* designated as a *chief position* finds a work item in his workflow inbox which represents the standard task *Check vacation (with form)*.

Executing this work item exports the form data to the superior's PC and starts the form application for "approving" or "not approving" the notification of absence there.

Executing work items via the Internet

If automatic forwarding is activated for the superior, and the report for periodic transmission is scheduled, an Internet mail is generated for every work item which refers to the method `Process`

Operation and Connection to Application Functionality (BC-BMT-WFM)

for the object type FORM. This Internet mail contains the data of the work item container as an "R3F attachment".

This attachment can be executed in the external mail system with the form there. Returning the form to the R/3 System terminates the work item there and continues the workflow.