

How to Integrate & Use Process Route from SAP Records Management in Your Application



Applies to:

SAP Records Management 2.4 & 3.0.

For more information, visit the [Content Management homepage](#).

Summary

This document explains the way of integrating process route of Records Management into your application. For more detailed information on RM, please refer to the training BIT640 (generic RM), IP650 (Public Sector RM) or get in touch with SAP consultants.

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Author Bio



Pragya Pande has been with SAP Labs India for 4 years & has been associated with Records Management product for the same time as a developer first & now as a business expert. She has been involved in presenting the Records Management to the developer's community in India at TechEd2006 & TechEd2007.

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Introduction

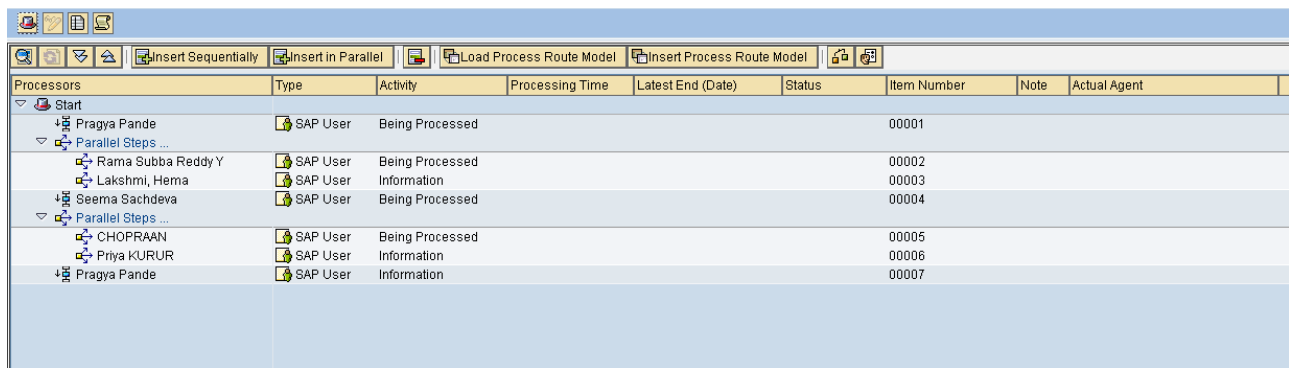
This document explains the process of integrating & using process route in your application.

The document assumes rudimentary knowledge about Business workflow (workflow templates & tasks creation & modification), knowledge about SAP Records Management & process route in Records Management. The document assumes understanding of SAP systems in general & familiarity with SPRO. It is aimed at users of SAP systems with some understanding of navigation on SAPGUI screens.

Brief Overview of the Process Route Entities Relevant for Integration

The workflow path (process route) is an application independent workflow tool that supports ad hoc definition and changes of processes by end users (dynamically insert, change and delete process steps with activities and agents). It also provides deadline monitoring and logging. The workflow path has an easy-to-use user interface, because it uses only sequential and parallel steps and customized application-specific single step tasks, but no loops, conditions etc. It can be integrated with your application to provide you with the ability to provide ad-hoc workflow functionalities for working with your application objects.

This is what a process route looks like:

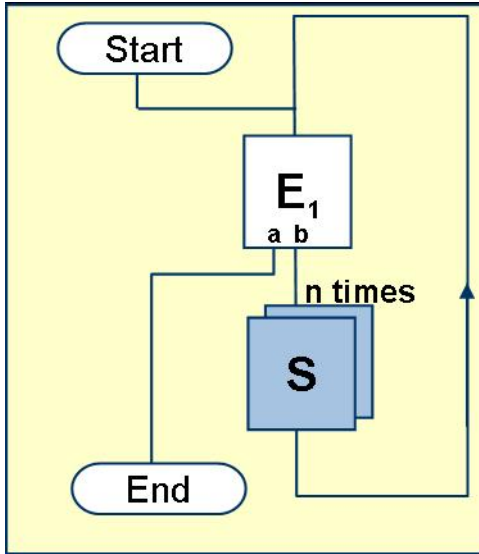


Processors	Type	Activity	Processing Time	Latest End (Date)	Status	Item Number	Note	Actual Agent
Start								
Pragya Pande	SAP User	Being Processed				00001		
Parallel Steps ...								
Rama Subba Reddy Y	SAP User	Being Processed				00002		
Lakshmi, Hema	SAP User	Information				00003		
Seema Sachdeva	SAP User	Being Processed				00004		
Parallel Steps ...								
CHOPRAAN	SAP User	Being Processed				00005		
Priya KURUR	SAP User	Information				00006		
Pragya Pande	SAP User	Information				00007		

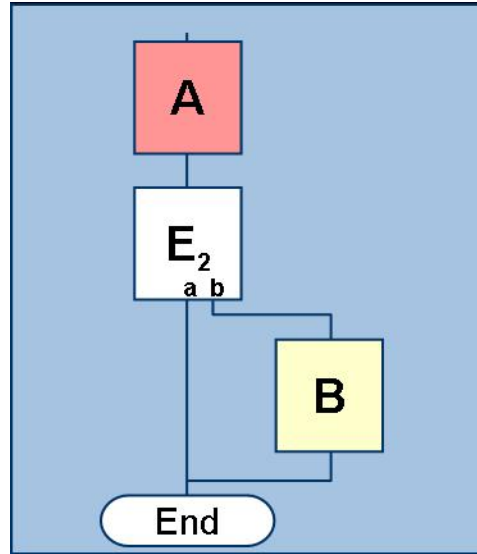
The process route has three workflow templates:

- 75500108:** This is the main workflow for process route. It gets triggered from the application & thus the process route starts. It is triggered by event TOBESTARTED. It waits for event TOBEFINISHED of Business Object (BO) SPATH to end. Till it is ended, it is possible to add new steps, delete & modify unexecuted steps of the process route. This will need to be copied to create your own version of main workflow.
- 75500105:** This is a sub-workflow which is started by 75500108. This workflow evaluates next steps to be executed in a branch & calls 75500106 for processing the next step. After execution of all steps in a branch, the workflow 75500106 calls 75500105 & starts evaluation of the next branch in the process route.
- 75500106:** This sub-workflow is called from 75500105 & executes a step in the process route then it calls 75500105 again to evaluate if there are further steps to be executed in that branch. If there are any further steps in that branch then 75500105 calls 75500106 again (both call each other recursively). This will need to be copied to create your own version of step workflow to execute logic for processing your application object.

- Diagrammatical Representation:



Workflow Template 75500105



Workflow Template 75500106

- **Business Object SPATH:** This is the main BO for process route. One instance of this BO represents one process route. The PATHID is the unique identifier of the process route.
- **Business Object SPATHPOS:** One instance of this BO represents one step which is currently processed. It is uniquely identified by PATHID & POSID (number of the step which is being executed).

The field indicated by RED rectangle is PATHID & the field indicated by GREEN rectangle is POSID.

Processors	Type	Activity	P...	La...	St...	Item Number
Start						
Pragya Pande	SAP User	Being Processed				00001
Parallel Steps ...						
Seema Sachdeva	SAP User	Being Processed				00004
Parallel Steps ...						
Pragya Pande	SAP User	Information				00007

Detail Data for Process Route	
Activity Area	SCM6
Case Management	Case Management
Route ID	7245
Description	
Factory Calendar ID	01
Process Route Status	Process Route Model
Authorization	
Change	All
Add	All
Display	All
Deadline Monitoring	
Initiator	<input type="checkbox"/>
Current Proc.	<input type="checkbox"/>
Subsequent Proc	<input type="checkbox"/>
Other...	No more appointment recipients main
Creation Data of Process Route	
Created By	PANDEP Pragya Pande
Created On	09.09.2009 at 17:21:47
Workflow ID	0

Integration Scenario

The application wants to use the functionality of process route to create ad-hoc processes to send across their own object to different processors for processing.

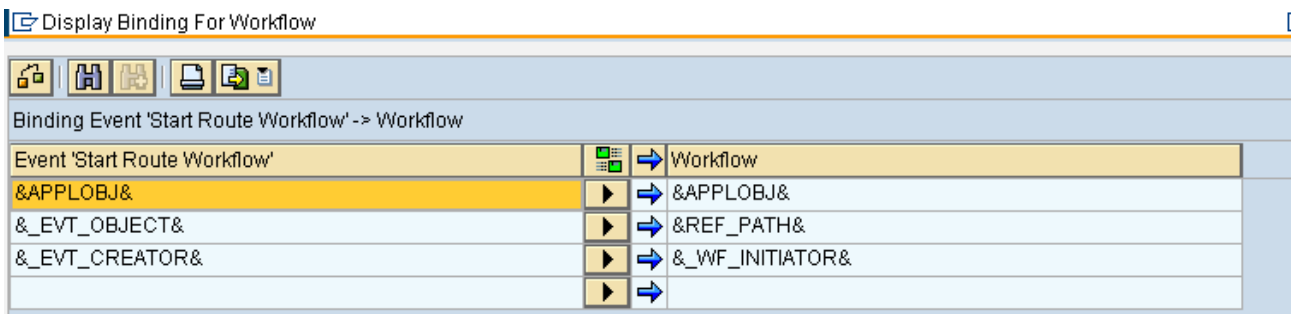
It should be possible to create different process routes depending on the business need. The application will use RM own process route maintenance screens or APIs for creating & working with process route & the steps. The process route needs to be triggered & ended based on the application's defined events. The application needs to have certain activities of its own which should be executed by the processors for the application object. For e.g.:

- **DISPLAY** – for a process step assigned this activity, the processor should be able to display the object
- **EDIT** – for a process step assigned this activity, the processor should be able to open the object in edit mode
- **SIGN-OFF** – for a process step assigned this activity, the processor should be able to sign off the object

What You Need to Do to Integrate

1. Define a separate Activity area for your application's process routes. This can be done in the maintenance view *Business Segment* for table SRMACTAREA.
2. Define the number range '01' for the area you have created in "Create Number Range Interval 01 for Process Route" :
 - a. Do this in IMG->Application Server -> Basis Services ->Case Management->Customizing for Process Route in you are working in Case Management area(i.e. S_AREA_CMG)
 - b. Do this in IMG->Application Server -> Basis Services ->Records Management->Customizing for Process Route in you are working in Records Management area(i.e. S_AREA_RMS)
3. Define two events(say E1 & E2) : E1 to trigger the process route & E2 to end the process route
 - a. E1 should have these three exporting parameters:
 - i. Handle to the Business Object (BO) for application object (say APPLBOJ)
 - ii. Handle to the BO for SPATH (say EVT_OBJECT)
 - iii. User who created the event (say EVT_CREATOR)
 - b. E2 event should be defined with an exporting parameter which exports the user who created this event to trigger the end of the workflow (say EVT_CREATOR).
4. You can define the events either in a BO for the object or in a class (Workflow supports both).
5. Each of the activities is to be performed has to be coded:
 - a. You need to create logic units which are executed when steps are executed. You can create them as methods of application BO or class for your application object.
 - b. For e.g., for EDIT activity create a method & implement the functionality (which should include UI programming too if it is required by your application object) in your application BO (say method EDIT); same for DISPLAY & SIGN-OFF activities.
6. Copy 75500108 & create your own copy of the main workflow template (say T1).
7. Bind the event for triggering the workflow :
 - i. Handle to the Business Object (APPLOBJ) for application object should be mapped to *APPLOBJ* container element
 - ii. Handle to the BO for SPATH(EVT_OBJECT) should be mapped to *REF_PATH* container element
 - iii. User who created the event(EVT_CREATOR) should be mapped to *WF_INITIATOR* container element

Display Binding For Workflow



Binding Event 'Start Route Workflow' -> Workflow	
Event 'Start Route Workflow'	Workflow
&APPLOBJ&	&APPLOBJ&
&_EVT_OBJECT&	&REF_PATH&
&_EVT_CREATOR&	&_WF_INITIATOR&

8. Then activate the event as depicted below. For e.g., in snapshot below, the workflow is currently bound & activated for triggering off by event *TOBESTARTED* of BO *SPATH*.

Workflow Template: Display

Binding	Object Category	Object Type	Event	Name	
<input checked="" type="checkbox"/>	BOR	Object Type	SPATH	TOBESTARTED	Workflow Process Rte Star
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>					

9. Bind the event for ending the workflow to step 000023(*End Process Route Workflow*):
 - a. User who created this event to trigger the end of the workflow (EVT_CREATOR) should be bound to *TERMINATOR* container element.

Display Binding From Event

Workflow	Event
&TERMINATOR&	Event 'Processing Is to Be Finished'
	&_EVT_CREATOR&

Workflow Builder - Display 'SRM_PATH'

Information Area: Workflow: WS75500108, Version: 0000 (0000) Definition, Status: Active, Saved

Navigation Area: 000014 Fork, 000023 Waiting for "End Process Route Workflow", 000027 Set Process Route Status and T

Step Types That Can Be Inserted: Activity, Web activity, Send Mail, Form, User Decision

Step Configuration (000023):

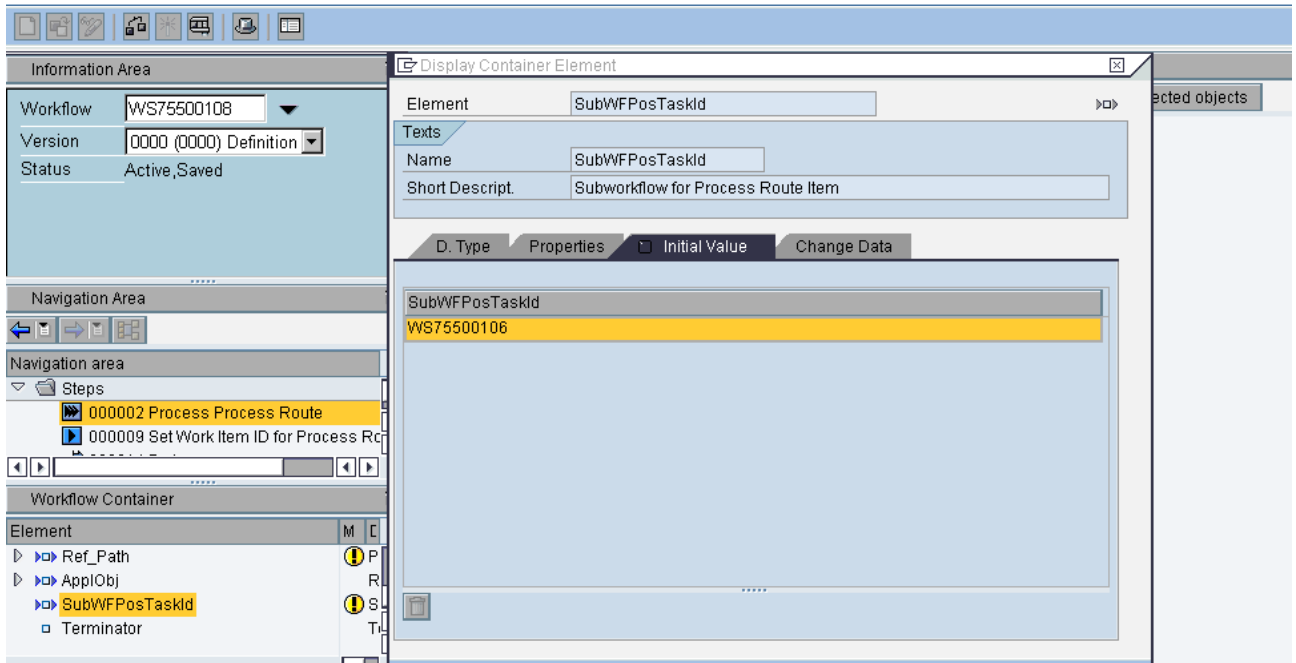
- Step name: Waiting for "End Process Route Workflow"
- Outcome name: End Process Route Workflow
- Wait: Wait for Event
- Wait for Event: Container Element: Ref_Path, BOR Object Type: SPATH, Event: TOBEFINISHED
- Number of events: 0001

How Does Waiting for Events Work?
With this step, you stop the execution of this branch of your workflow until a defined event for a particular object occurs.

10. Copy 75500106 & create your own copy of step workflow template (say T2).

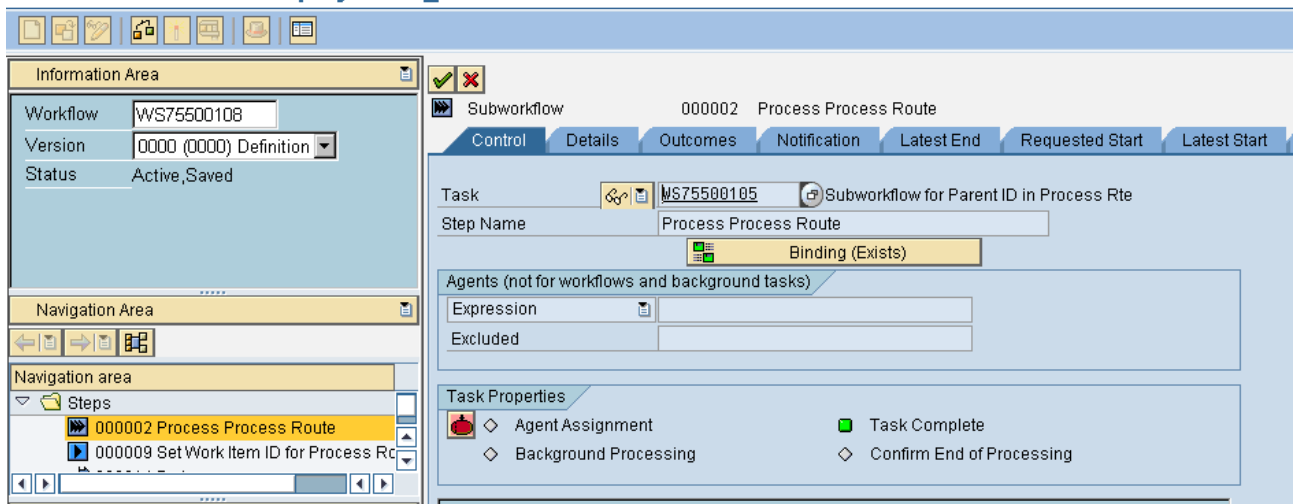
11. You need to ensure that your step workflow gets called for execution of a step. Hence assign T2 to container element *SubWFPosTaskId*. For e.g. in snapshot below WS75500106 is assigned so that it gets called for step execution.

Workflow Builder - Display 'SRM_PATH'



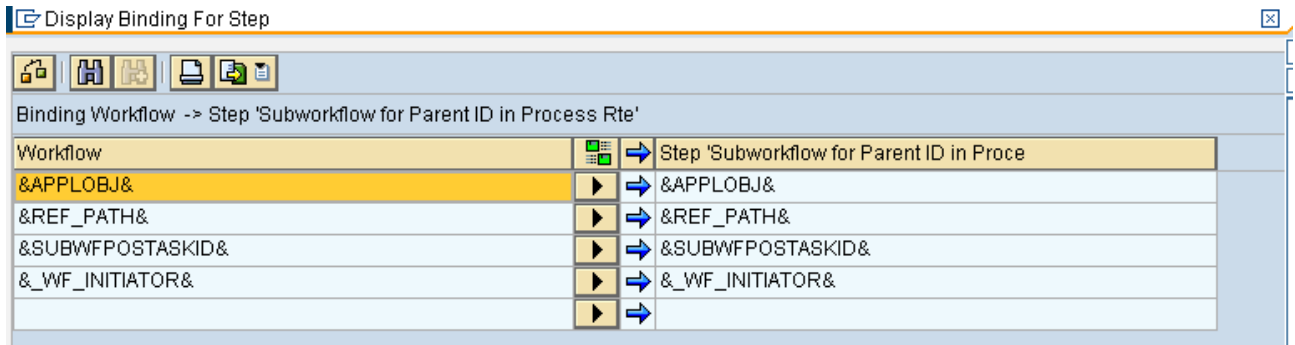
12. You need to call the branch workflow WS75500105 from your T1 workflow. For this,
 - a. You need to ensure that step 000002(*Process Process Route*) has the workflow template WS75500105 in the task field.

Workflow Builder - Display 'SRM_PATH'

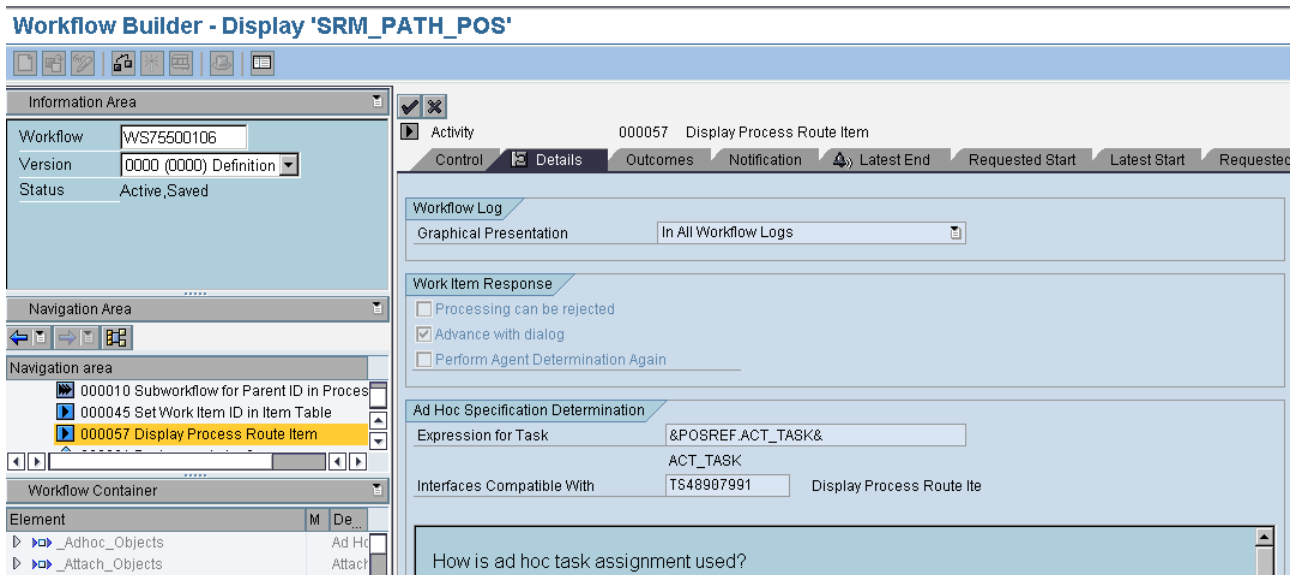


- b. The workflow WS75500105 should have elements bound to provide it with information about the SPATH BO, your application object, step workflow id & the creator of workflow trigger event. As you remember, these have been assigned to some container elements from the triggering event in step 6:
 - i. Application object(*APPLOBJ*) from T1 container should be mapped to *APPLOBJ* of WS75500105

- ii. Path object handle(*REF_PATH*) from T1 container should be mapped to *REF_PATH* of WS75500105
- iii. *SubWFPosTaskId* from T1 container should be mapped to *REF_PATH* of WS75500105
- iv. Workflow creator(*WF_INITIATOR*) from T1 container should be mapped to *WF_INITIATOR* of WS75500105



13. You need to create tasks for the activities you need. These tasks can be assigned for processors who would execute the different steps of the process route. You need to ensure that your logic for processing your application object gets executed when a step gets executed. For this
- a. You need to create a task (say TS1) & assign the logic unit (say EDIT method of application BO created in step 4) to it. Use the *Work item text & Description* in the task to provide texts relevant to your business. These texts will be visible for the workitem in the inbox:
 - i. If you need to process the application object in dialog (please note: method EDIT should have logic to support dialog usage) then please create a dialog Task whose interface is compatible to standard task TS48907991 (OR you can create your own standard task. Then your standard task should be assigned to field "*Interfaces Compatible With*" in step 0057(*Display Process Route Item*).



- ii. If you need to process the application object in background (please note called method EDIT should have logic to support background usage) then please create a background Task whose interface is compatible to standard task TS77000358 (or you can change this & have a standard task of your own. Then your standard task needs to be assigned to field "Interfaces Compatible With" in step 0068(Background Processing for Process Route Item).

Workflow Builder - Display 'SRM_PATH_POS'

- b. You need to create an activity in customizing (say EDIT_ACT) for your application object & assign TS1 task to it in customizing. Please note that you need to specify the "Task Type" for your activity here. Please assign the task type of the task T1 you have created. The text of activity should be provided here to *Activity Description*. The text is displayed to the user when he selects an activity while creating a step. The activities will be for a certain Activity Area. The "Activity Area" is the area you have created in the 1st step:
 - i. If you are working in S_AREA_RMS then do the customizing in IMG->Application Server -> Basis Services -> Records Management -> Customizing for process route -> Create or Change Activities and Activities Functions.

Change View "Maintain Activities": Overview

Activity Area	Activity	Activity Description	Class for Activity	Task number	Task Type
Case Management	DISPLAY	Information		TS78907915	Dialog
Case Management	EDIT	Being Processed		TS78907914	Dialog
Circular	DISP01	Signature	CL_SRM_DIS_WFPATH_ACTIVITY	TS75507961	Dialog
Circular	DISP02	Final Signature	CL_SRM_DIS_WFPATH_ACTIVITY	TS75507961	Dialog
Circular	DISP03	For Processing	CL_SRM_DIS_WFPATH_ACTIVITY	TS75507961	Dialog

- ii. If you are working in S_AREA_CMG then the customizing should be in IMG->Application Server -> Basis Services -> Case Management -> Customizing for process route -> Define activities for process route.

Change View "Maintain Activities": Overview

Activity Area	Activity	Activity Description	Class for Activity	Task number	Task Type
Case Management	DISPLAY	Information		TS78907915	Dialog
Case Management	EDIT	Being Processed		TS78907914	Dialog

- iii. All the activities that you need should be created in the customizing.
- c. These activities will be displayed in the drop down list when you create a step in the process route.

Add Process Route Item

Create for Process Route/Item

Item: 7

Agent Type: SAP User

Processor ID: PANDEP Pragya Pande

Activity: Information

Sequential Assignment

Properties of New Item

Agent Type: SAP User

Processor ID: pandep

Activity: Being Processed, Information

Latest End

Latest End: Time 00:00:00

Processing Time: Days

Additional Data

Authorization Pos.

Step priority: 5 Medium

OK Cancel

What You Need to Do to Use Process Route from Application Productively

1. In your application logic, you need to create a process route & add steps to it.
 - a. You can do this with provided UI by using function module SRM_WF_PATH_MAINTAIN or via program (in background) using methods of CL_SRM_WF_PATH.
2. Raise the event for triggering the process route in your application logic & provide the handle to the BO SPATH (you will need to create it) for the ID of the process route created by you, handle to your application object & the event creator (*sy-user*).
3. You can trigger the event for ending the process route in your application logic when you need to end the process route for the object. Please note that the process routes are not ended unless they are explicit ended by raising the event for ending them.

You May Want to Look at These Customizing Options Too...

1. You can create functions for activities too. For e.g., for SIGN OFF activity, you can think of several variants like APPROVED, APPROVED WITH RESERVATIONS, REJECTED etc. These can be created as functions
 - a. This is available in S_AREA_RMS .Do the customizing in *IMG->Application Server -> Basis Services -> Records Management -> Customizing for process route -> Create or Change Activities and Activities Functions*. Create an activity & then define functions for it selecting the activity & then double-click on the *Maintain Activity Functions* option in the left hand side.

By

Dialog Structure		Maintain Activity Functions				
Act. Area	Activity	Act. Func.	Function	Outcome	Icon	
SRMDP	DISP01	FKT01	Sign	Signed	@50@	
SRMDP	DISP01	FKT02	Sign Under Condition	Signed Under Conditio	@50@	
SRMDP	DISP01	FKT03	Do Not Sign	Not Signed	@5C@	
SRMDP	DISP01	FKT04	Not Responsible	Not Responsible	@03@	

2. You can customize so that you can use more types of users for processing a step in process route. This needs to be done in *Specify Object Types & Assign Activity Types* customizing option in *IMG->Application Server -> Basis Services -> Records Management -> Customizing for process route -> Specify Object Types & Assign Activity Types*. Once done you will find these user types in the drop down for *Agent Type* when.

Add Process Route Item

Create for Process Route/Item

Item: 5

Agent Type: SAP User

Processor ID: KURUR (Priya KURUR)

Activity: Being Processed

Sequential Assignment

Properties of New Item

Agent Type: SAP User

Processor ID: []

Activity: []

Latest End: []

Latest End: [] Time: 00:00:00

Processing Time: [] Days

Additional Data

Authorization Pos.: []

Step priority: 5 Medium

3. There are two BADIs available for use:
 - a. BADI *Adjust Processor Determination and Search to Individual* to adapt processor determination and processor searches to your individual requirements.
 - b. BADI *Control Process Route Processing and Display* is especially for tasks of the type Media Discontinuity. You can adapt the display of the process route to your requirements, and specify how the data is processed after a media discontinuity.

Related Content

SAP BIT 640 training – Generic Records Management

SAP IPS650 training – Public Sector Management

RM on SAP Help:

http://help.sap.com/saphelp_nw04/helpdata/en/87/55bf4fde523c4399a7064c8be899e6/frameset.htm

http://help.sap.com/saphelp_nw04/helpdata/en/2b/f18ad44a77eb4faf67d1ae5aeaff2a/frameset.htm

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