Forms Lifecycle Manager [FLM] Configuration Guide

Release 270

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1 Introduction

This document explains the functions of the 'interactive forms' menu in the FLM section of the SAP IMG, as shown below. To access this menu go through Cross-Application Components> General Application Functions> Forms Lifecycle Manager.
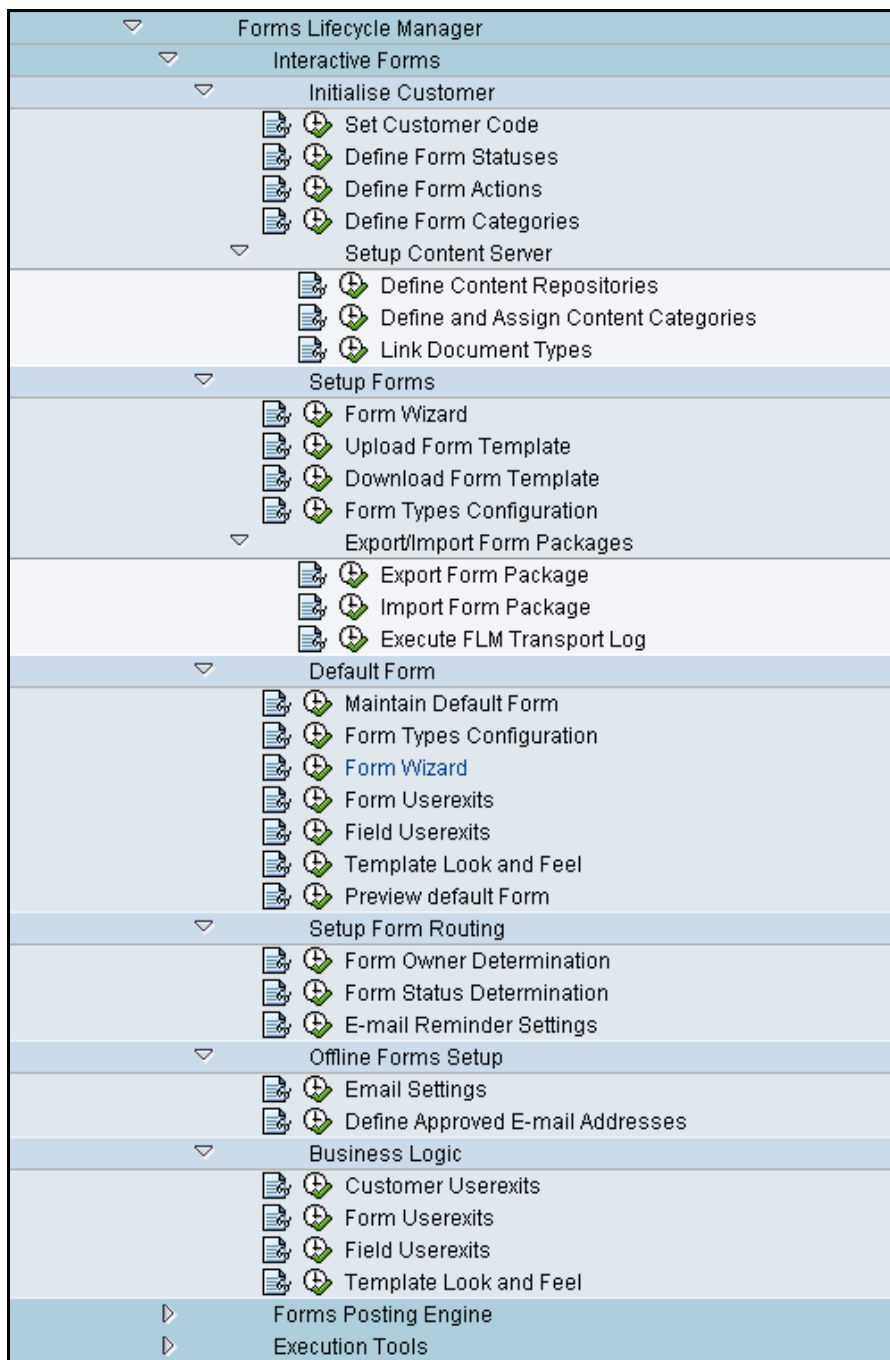
This section explains how to customize the actions associated with the form routing according to the desired workflow and customer

2.1 Set Customer Code
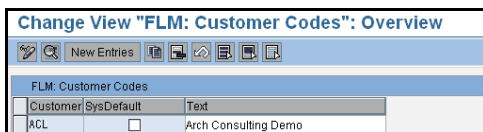
Each implementation of FLM is defined by at 3-digit customer code. You will need to use this activity to setup a default customer code by clicking on 'new entries' at the top of the window and defining a new 3-letter customer code. Also enter a text description.
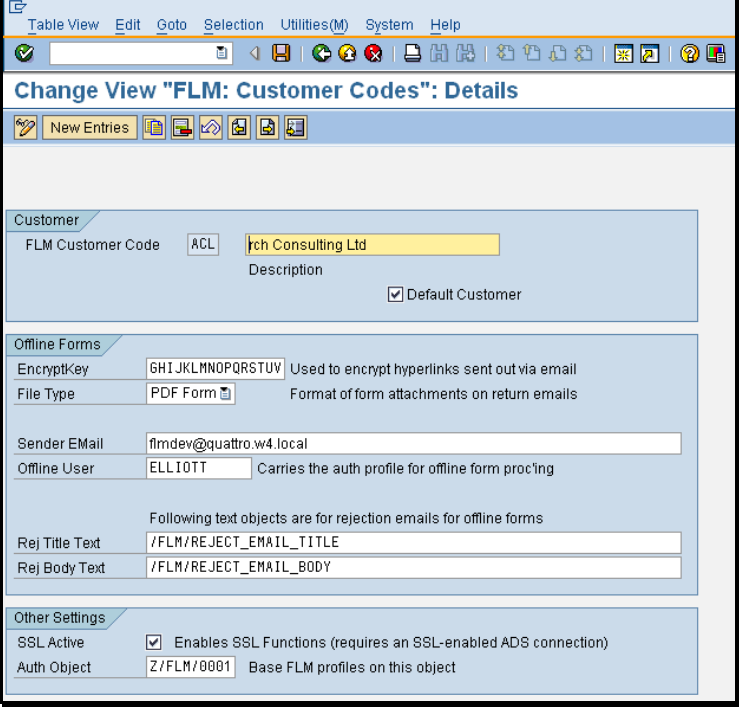
On the main screen is a list of setup customer codes. The tick box shows which customer code is currently set as default

System Default

Shows which of the available customer codes is currently set as default

Creating a new customer code

You can create a new customer code by clicking 'new entries' at the top of the screen. This must be a unique 3-letter code approved by Arch.

Customer

Enter the 3-letter code you want to define your new FLM implementation

Text

Enter text that describes the customer code.

Encryption/Key

The encryption key is used in the case of reminder emails. If, in an online scenario, a user for example, fails to approve a form within a given time frame, a reminder email will be sent out containing a URL link to the form. In order to provide security, this URL is encrypted according to the encryption key entered with each customer code. The encryption key can be any 14-letter combination that does not include the same letter twice.

File Type

Forms can be sent as PDF format (entire form) or Data Only Format. PDF format contains both the form and the data held within it so the file attachment size can be very large.

Data only format sends only the information contained within the form, which means that the size of the attachment can be minimized. However, if this option is preferred, it is worth checking that this kind of data transmission would be supported by your firewall settings.

Default Customer

Checking this box renders this customer the default in the system. Each FLM system can have multiple FLM Customer Codes maintained. However, only one FLM Customer Code can be 'default' in each system. Only the default customer can be actively processing forms at runtime - other FLM Customer Codes are for development purposes only.

Sender Email

This field holds the name of the email address from which reminders will be sent, and to which any incoming mail will be directed.

Enter the email address from which any prompts should be sent, and from which replies can be retrieved

Object

In this context the object is an element of the authorization system.

An authorization object combines up to 10 authorization fields, which are checked using the AND connective.

Authorizations are checked against objects in the system. Authorization objects enable complex checks (linked to several conditions) of an authorization. For the authorization check to be successful, the user must pass the check for each field contained in the object.

Offline User

The username assigned to the customer code

Rej Title Text

Text Object for Body of e-mail Rejection
When an off-line e-mail is received back into the FLM system it may have certain fields validated before it is received fully into the system. If the form fails validation, an e-mail may also be sent back to the sender to explain why it could not be received.
This field holds the name of the text object that is used to store the title of that e-mail.

Rej Body Text

FLM: Text Object for Body of e-mail Rejection
When an off-line e-mail is received back into the FLM system it may have certain fields validated before it is received fully into the system. If the form fails validation, an e-mail may also be sent back to the sender to explain why it could not be received.
This field holds the name of the text object that is used to store the body of that e-mail.

2.2 Define Form Statuses

This section displays all the available statuses that can be assigned to each form. A separate status is available according to customer code, description and category.

Form statuses refer to the stage of the workflow, or **routing,** that the form is in at any one time.

An **initial** status defines a form at the first stage of a routing, i.e. **initial.**

An **intermediate** status defines a form in the middle stages of a routing, e.g. **approved,** **rejected, submitted,** or **approved**

A **final** status defines the form at the end of a routing, e.g. **End Of Routing**

All statuses displays all available statuses

You can create a new form status tag by going to the 'new entries' menu and entering new criteria for customer code, status code, description, and category. Once this new status has been created in this activity, it will then become available to select in the routing configuration table (see 1.3.2)

2.3 Define Form Actions

Form Actions list the options available to select the next position in the form routing, e.g. submit, approve, post etc. You can enter a new action by going to 'new entries' and entering a customer code, action code and description for each new action. Actions Y and Z are reserved and cannot be reassigned. All other letters of the alphabet are available to assign to different stages of a workflow as you wish. The stage names themselves are only suggestions and are completely customisable.
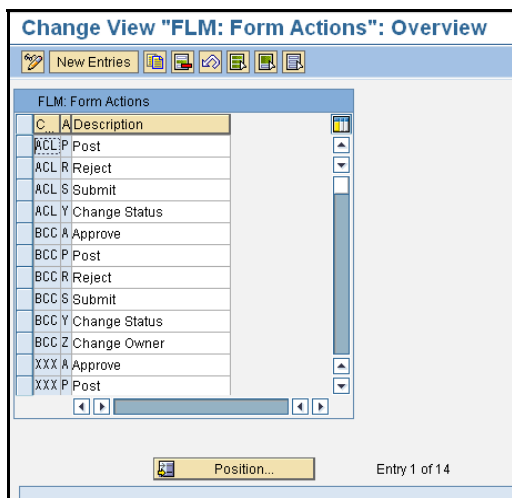
2.4 Define Form Categories

In this activity you define the set of available Form Categories in your system. A Form Category is a logical grouping of Form Types that is used as a part of the user authorisation concept in FLM. You must define your form categories before you can begin creating logical forms via the FLM Form Wizard, as each form must be assigned to a 2-character category.

The groupings shown in the demo below are examples of typical form categories: 'Purchasing' 'Human Resources' and 'Accounting'.
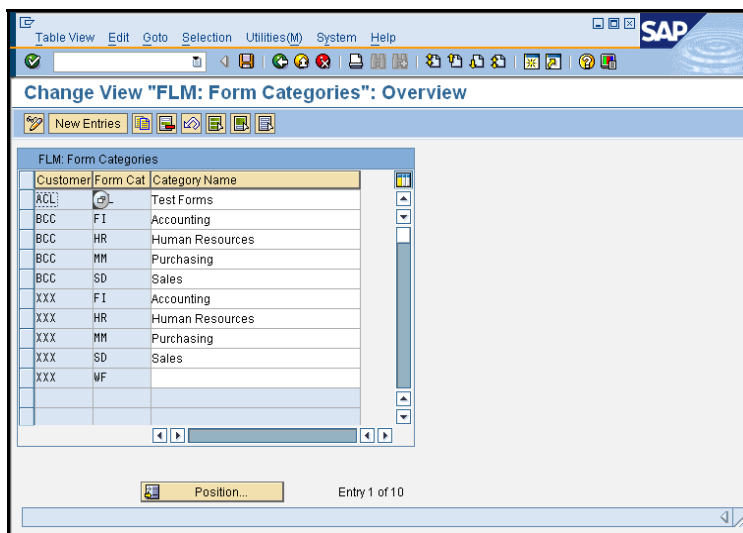
To create a new form category, go to 'New Entries' and define a two-character form category code with an associated description for each form category required. Form Category codes are only applicable for the customer code within which they were set up.

2.5 Setup Content Server

2.5.1 Define Content Repositories

In this IMG Activity you can define content repositories to which contents can be moved.

You must only carry out this activity if problems have occurred in automatic configuration with the SAP Kpro Web Configuration Tool (see below), if you want to change the settings created by this tool, or if you want to insert more content repositories.

In Knowledge Warehouse three different types of content repositories are used:

HTTP Content Server

Documents of different types are generally stored in an external Content Server with SAP HTTP Interface (SAP Content Server).

Structure Storage System

Structures are stored in the Structure Storage System of the SAP System.

Database

Document administration data, macro files and other utilities needed to use the Knowledge Warehouse are stored in the SAP System Database.

You can find further information on content repositories in the SAP Knowledge Warehouse Installation Guide and in the SAP Library under Basis - Basis Services - SAP Knowledge Provider - Content Management Service - Concepts.

Requirements

In order to define an HTTP content repository in the external SAP Content Server as well as in the SAP System, the repository must be installed and an RFC connection to it must exist.

Standard settings

If you have used the SAP Kpro Web Configuration Tool when installing the Knowledge Warehouse and have selected automatic configuration of the content server, HTTP content repositories have already been created for the document ranges delivered with Knowledge Warehouse, in the SAP System as well as in the SAP content server. The names of these repositories follow the convention <SYSID>_<DOCUMENT AREA>. In addition an HTTP content repository <SYSID<_CUSTCONT will have been created. You can use this to store documents you may wish to create within the document ranges you have created.

Repositories in the SAP System (repositories of the Structure Storage and SAP database types) are delivered with the system and therefore do not need to be created.

Activities

In order to create a content repository, go to the Change Mode in the Overview Screen of the available content repositories and select *Create*.

In the field *Content Rep.* enter the name of the content repository and in the field *Description* enter an explanation.

In the field *DocRange* select the document range whose content you wish to store in the content repository. However,as content from several document ranges can be stored in one content repository, you do not need to assign a specific document range.

In the field *Storage Type* select one of the three above mentioned storage types and make the required additional entries in the fields which appear.

HTTP-Content Server

- o   In the field *Version Nr* enter value 0046 in order to select version 4.6 of the HTTP interface.
- o   In the field *HTTP Server* enter the host name (including domain) and in the field *Portnumber enter the port on which the SAP Content Server is installed. The standard value for the Content Server Port is 1090.*
- o   In the field *HTTP Script* enter the path and program names of the HTTPContent Server Interface: **ContentServer/ContentServer.dll**.
- o   By clicking on ***Send Certificate*** you can send the SAP System certificate to the HTTP Content Server. You need to send this certificate in order to work with signed URLs.After the certificate has been sent to the Content Server you need to activate it in the content server before you can work with the content server and store documents.

Structure Storage

If you need a repository of this type for one of your document ranges in which you also produce structures, use the repository CUSTSTRUCT in which all the documents of the storage category (content category) of the same name are stored.

Database

If you need a repository of this type for one of your document ranges use the repository CUSTCONTDB in which all documents of the storage category (content category) of the same name are stored.

Save your entries. The system will not prompt you for a transport request, so to ensure that this is transported thorough systems you should add this to a transport using the lorry icon:
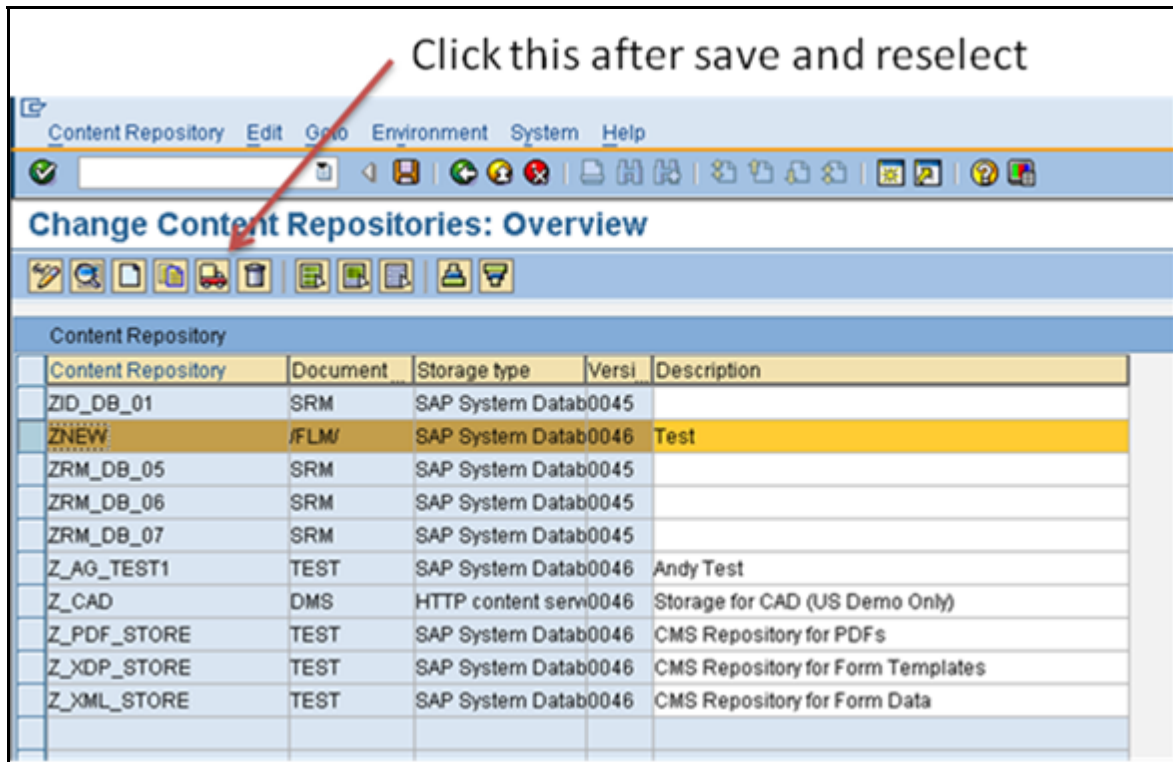
2.5.2 Define and Assign Content Categories

Use

In this IMG activity you assign the storage categories of documents managed in the Knowledge Warehouse to content repositories (in the Knowledge Provider these are also called content categories).

You must only carry out these activities if problems have arisen during the automatic configuration of the content repository by the SAP KPro Web configuration tool (see below), or if you want to change the settings made by the tool or create further storage categories.

Storage categories are logical storage areas. In the Knowledge Warehouse, a storage category is preset for each document class. When a document is created, the corresponding category is assigned to it. This assignment of storage category to content repository defines where the document should be physically stored.

You can also use this activity to define new storage categories that you will need for a location-specific override of the preset storage categories (see <u>Distributed Storage</u>).

Standard settings

If when installing the Knowledge Warehouse you used the SAP KPro Web configuration tool and chose automatic content server configuration, not only will HTTP content repositories have been created for Knowledge Warehouse document spaces, but storage categories will also have been assigned to these repositories.

Activities

In order to assign an existing storage category to another content repository, select the storage category on the overview screen and choose Go To -> Detail. In the field *Content Rep.* choose the content repository in which documents of this storage category should be stored from now on.
Please note that after this change has been made, you will no longer be able to access documents from this storage category that had already been stored.

In order to create a new storage category and assign it to a content repository, choose New Entries. Enter the name of the storage category and give a description. If necessary, choose the document space whose content this storage category is to be used for. In the field *Content Rep.* choose the content repository in which documents from this storage category should be stored.

2.5.3 Link Document Types

In this activity, you link your document types to the content categories as defined in the CMS in the previous step. The only meaningful entries here are:

XDP Form Templates

XML Form Data

PDF Documents

3 Setup Forms

3.1 New Form Wizard

Create the logical definition of a new interactive form, including field names, field types and form templates. This section will take you through an example form creation to explain all the processes involved.
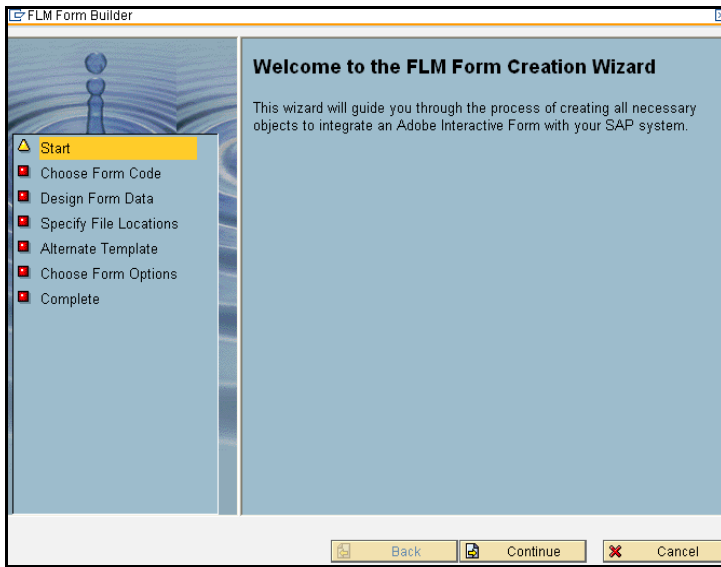
On the welcome page, click 'Continue' to begin creating your form.

Specify Form Type Details
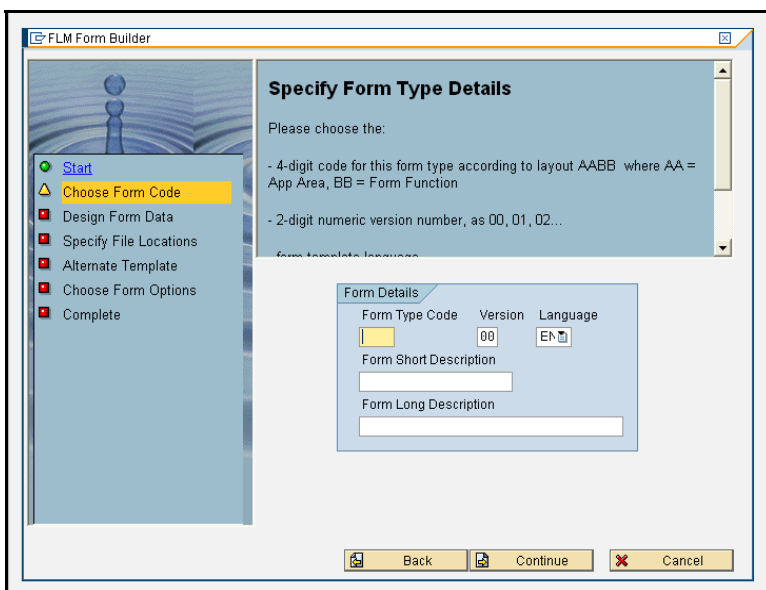
This section of the form wizard defines how the form will be identified within SAP. Each form is defined by a four-character code, version number and language. You can enter a short description and long description of the form here.

1. Form type code.

Invent a form type code here: the first two letters define the application area while the second two denote the form's function. For example, a sales order form may have the code SAOR. It is a good idea to decide and agree on a universal form naming system so that each form code accurately describes the form's application area and function. This will be helpful, for example when managing form routings.

2. Version.

One of the features of FLM is the support of concurrent form versions. So it is possible to create a form with the same function and 4-character code, but with a different version number. This facilitates forms management, because the 4-digit character code can be fixed for a specified form type and application, and does not need to be altered with successive versions of the form.

Use this field to enter the version number of the form.

3. Language.

Each form must be generated in English before a copy can be made in another language. Once a form has been designed in English though, any language can be selected for a successive version of the form.

4. Form Description

Enter a short and long description of the form to easily identify it in the forms list.
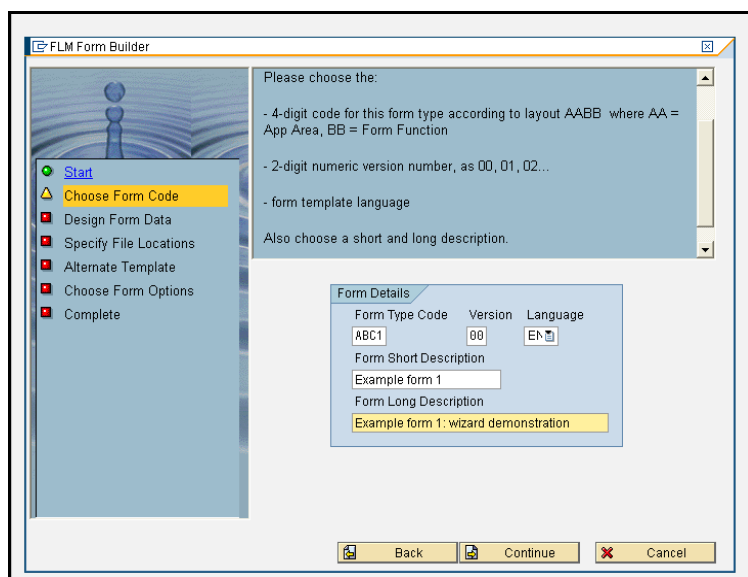
Form Data Structure

Launch form data designer at this stage of the wizard to input the required fields and subforms. (See the Form Design Manual and Getting Started Guide for further details)
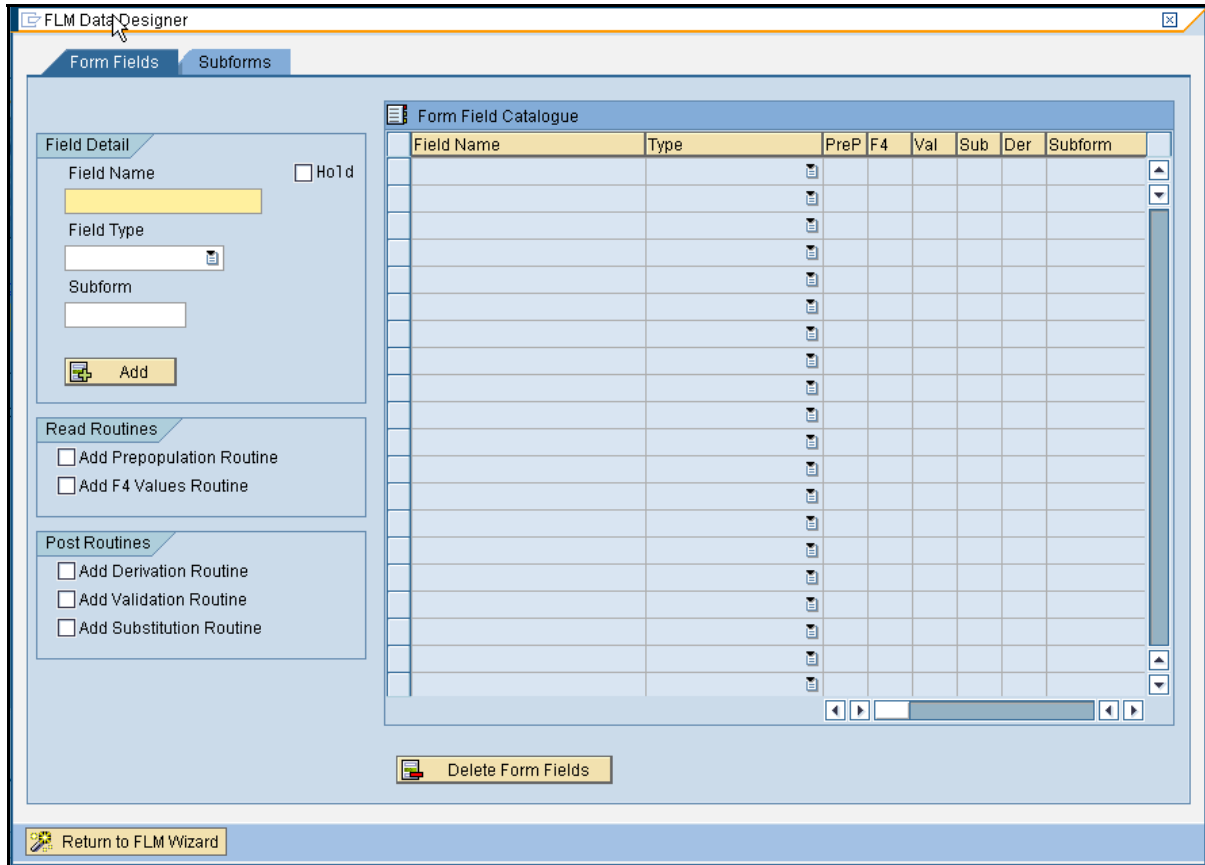
Subforms

Begin the new form creation by creating a Subform. This is a logical or physical grouping of fields that defines their characteristics on the form. It is a feature of Adobe interactive forms that some fields may be copied according to how many times it is required. For example, on a sales order form, an item description/quantity field may be copied according to the number of discrete items to be ordered.

However it would be undesirable for some fields, for example 'name' and 'address' to be allowed to appear more than once on the form. MaxOccurs allows you to set the maximum number of times a subform field may occur on the form. Following the same example, it would be advisable to set Header fields as MaxOccurs: 1, and Item fields as Maxoccurs: 10. When these fields are eventually created, they can then be assigned to the relevant subform group to maximize the functionality of the fields according to requirements.

Fields

To create a field, begin by entering the field name in the 'Field' section of the page. The Field Type can be assigned as character, numeric, date etc. The field can then be assigned to one of the subforms you have created under 'Parent'. Please note that the field name must consist of alphanumeric characters only; underscores are allowed but spaces are not. Though the field names should resemble their content, they need not be the label of the field as it will appear on the form. This is done via form design at a later stage.

Field Types

CHAR – Character field; will allow free text to be input to the field

NUMC – Numeric field; only numeric characters are allowed.

DATE – Date field

TIME – Only allows times to be input

BOOL – Checkbox; will produce a labelled checkbox which can either be ticked or unticked.

Read and Post Routines

Read and Post routines can be assigned to each field:

Read Routines

Read Routines will apply to the field in any reading instance of the form.

A Prepopulation Routine will cause the field to be prepopulated and will not be amendable by the form user. This could be used, for example, for the Form ID field.

An F4 Values Routine limits the field input to options selected from a drop-down menu. This could be used in the case of there being a limited number of field options to select from, such as Country of Residence.

Post Routines

Post routines apply to the transfer of data back into SAP via the Posting Engine.

- A Derivation Routine allows the data on the form to be used create a new field before the data is input to SAP.
- A Validation Routine checks the data in the field for validity before the form can be submitted. For example, a postcode and address may be checked against a data bank of addresses and postcodes to confirm that the submitted data is valid.
- A Substitution Routine substitutes the data input to the field for another value. For example, an item option featured as full text in the form might be substituted for an item code as the data is input to SAP.

Further details of the above processes are available in the Development Guide and Starter Guide.

Field Editing

To edit or cut a field after it has been entered, first select the action you wish to perform (e.g. update field), then select its row in the Field Name table by clicking on the blue square to the left of it. The re-click on the desired action to make changes.

Once all the fields have been entered, click on 'Return to FLM Form Wizard' and proceed to the next step.

Specify Location for XML Data Definition File

The form data definitions you have just created will be stored as an XML file during the generation of the FLM interface. Here you can specify the location in which to store that XML file. You must store it to an accessible location such that it can be imported into the Adobe Livecycle Designer Tool. Click 'Set Directory' and select a new location if the one displayed is not suitable.

Alternate Adobe Designer Templates

FLM uses a standard template on which to base its forms. To use this standard template, simply click 'continue' at the bottom of the page.

To choose an alternative Adobe Designer template (an .xdp or .pdf file only), click 'Select Alternate Template' and import a previously designed form template.
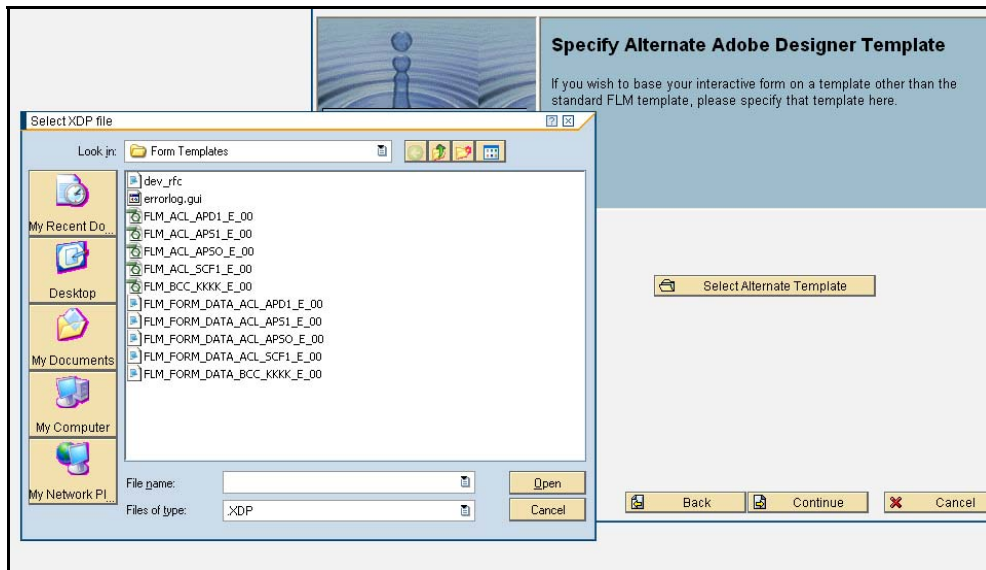
Form Options

Under Form Options, you can specify the required form category, transport options, and whether an audit trail should be created.

With Offline Transport the form is sent via email as an attachment.

With Online Transport the form is only available via the online form portal.

Selecting 'Both' will allow both online and offline scenarios.

An Audit Trail (Variant Trail) can be created as the form is modified through its routing. Before selecting this option however, it is worth noting that an audit trail generates a significantly larger file size attached to each form, which may not be desirable if the form is to be transported offline.
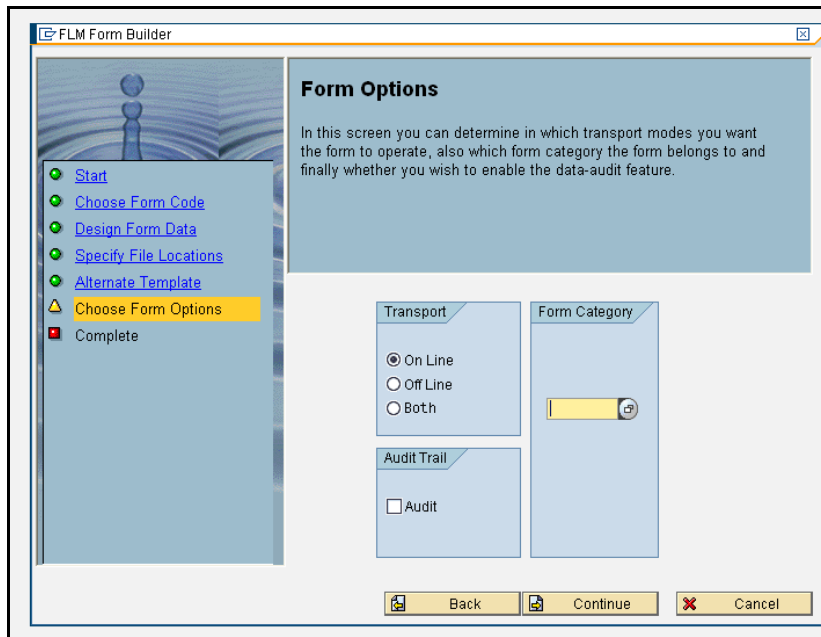
Summary

You can now click on 'complete' to generate your form, or 'back' to make any amendments. On clicking 'complete' the components of the form will automatically be saved in the system.

Once the wizard has been closed, you can still make amendments by initiating the form wizard for a form of the same code, and if necessary updating the version number of the form.
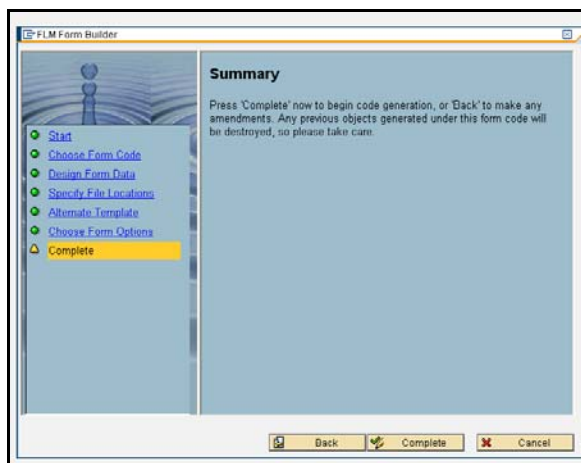
3.2 Upload Form Template

In this activity you can upload an .xdp file from your local machine into FLM. The system will ask you to confirm the form details and also if you wish to overwrite any existing form templates. The .xdp files can be used to create 'families' of forms with the same look-and-feel.
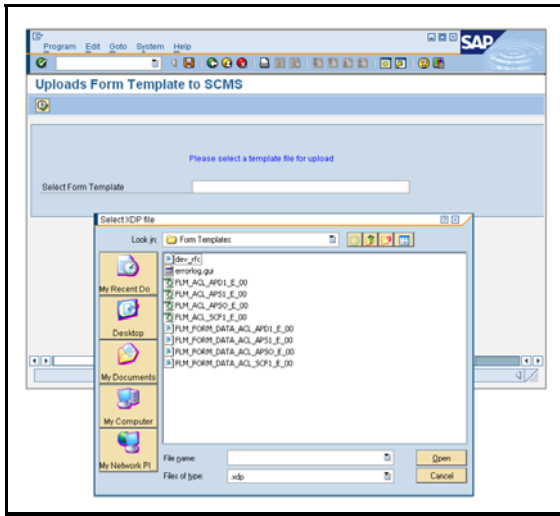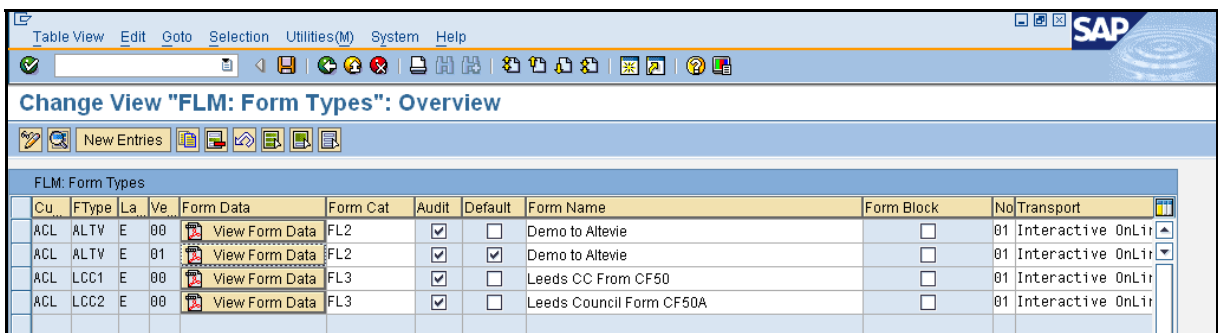
3.3 Download Form Template

In this activity you can download an .xdp file from FLM onto your local machine. This is useful if you want to make amendments to an existing template in Adobe Designer and save it as a separate file.

3.4 Form Types Configuration

In this activity you can set up the various configurations for your form templates such as their number ranges. You can also set the default form, view the form data definition and block/unblock forms.

3.5 Export/Import Form Package

3.5.1 Export Form Package

In this activity you can export form definitions to an external file. You can subsequently import these definitions into any FLM system which is of equal or later version.
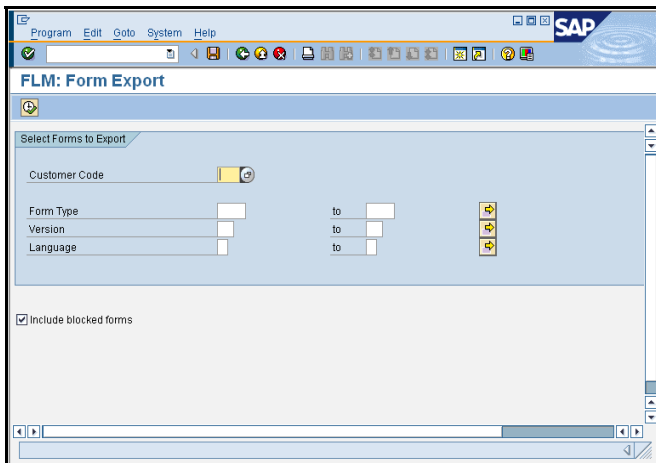
3.5.2 Import Form Package

In this activity you can import a form package into your system. A form package consists of one or more forms in a bundle. During the import you will be given chance to select which forms you wish to import, and also you are given the opportunity to allocate new form types, versions and languages as required.

3.5.3 Execute FLM transport log

This report lists FLM form import or export events that have occurred in this client.

This menu compiles a number of functions that allow easy manipulation of the form which is currently set as default.

4.1 Maintain Default Form

This contains a list of all forms stored in the system, from which you can set one as default using the tickbox next to its name.

4.2 Form Types Configuration

See section 3.4

4.3 Form Wizard

See section 3.1

4.4 Form UserExits

See section 7.2

4.5 Field UserExits

See section 7.3

4.6 Template Look and Feel

See section 7.4

4.7 Preview Default Form

In the activity 'Form Types Configuration', one of the options allows you to set a form as default.

In 'preview default form', that form will be displayed as a pdf as it currently appears in the system. You cannot enter any data into this preview form, nor open it for editing.

This section allows you to define all aspects of the form workflow, or routing. e.g:
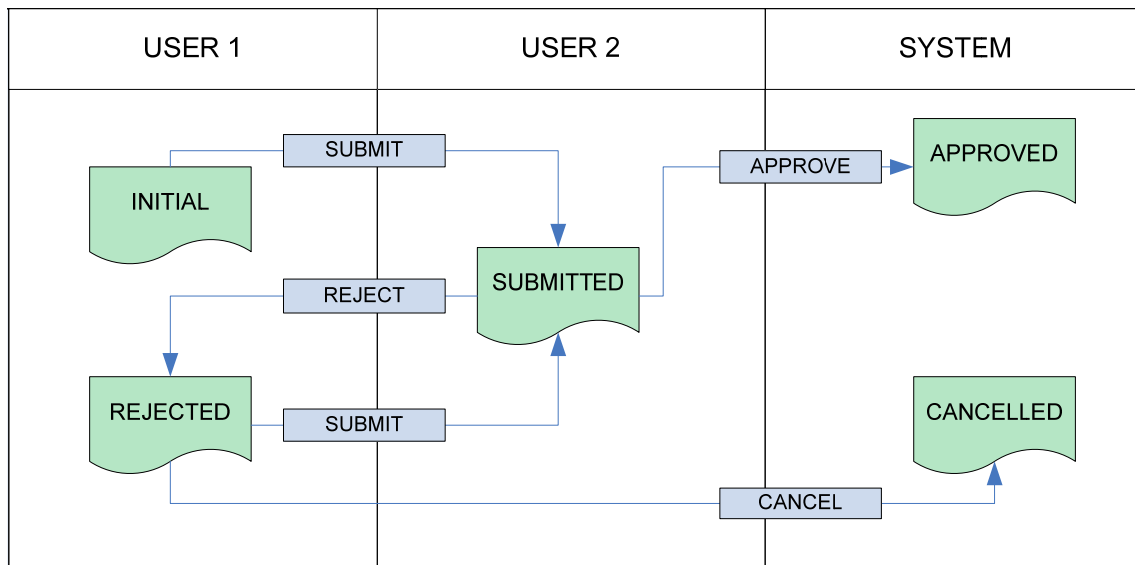
5.1 Form Owner Determination

In this activity you determine which user will become the new form owner after an action by a specified user on a form of a specified status.

This activity is typically only relevant for workshops and rapid forms prototyping.
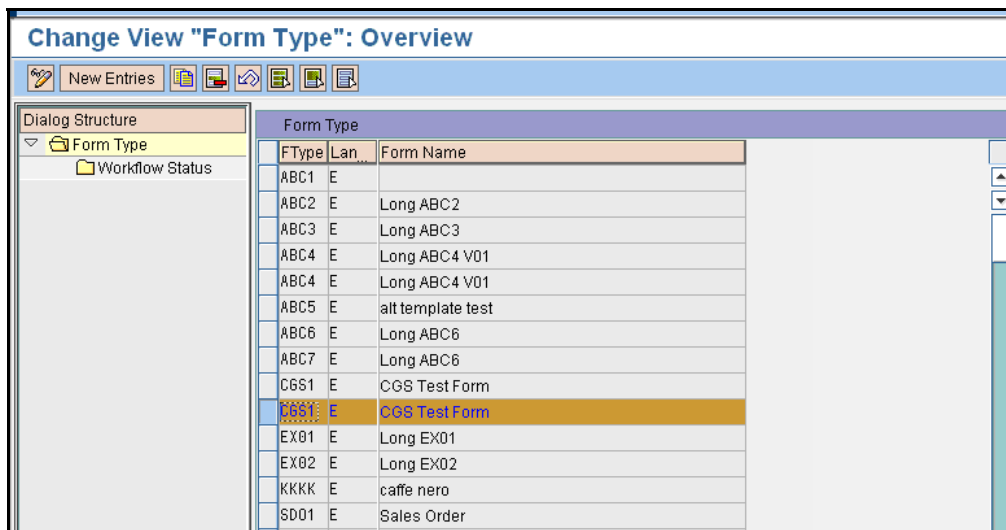
Stages in the form routing are listed as a function of customer code, form type, form status, action and user.

To add a stage in the form routing, go to 'new entries' and enter a new sequence of form ownership transfer.

1. Enter the customer code
2. Enter the form type code
3. Enter the first form owner
4. Enter the form status code to which the action will be applied
5. Enter the desired action code
6. Enter the name of the user that will become the owner of the form once steps 1-5 have been applied.
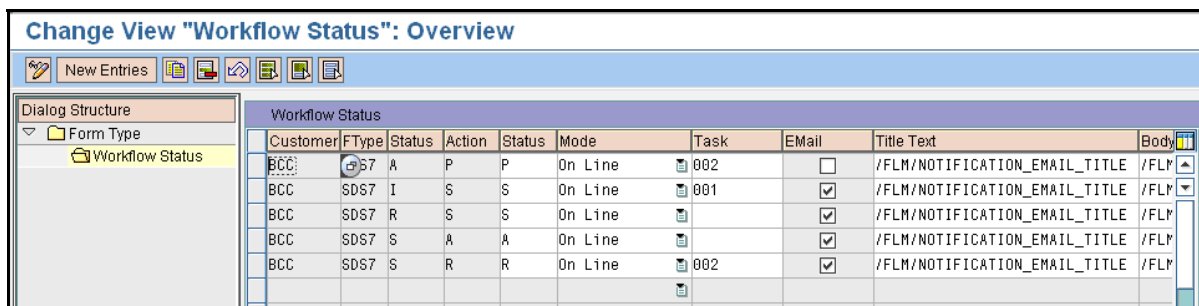
5.2 Form Status Determination

This menu allows you to view Form Statuses and Actions for Form Routing.

To view the workflow status of a form, select its name from the list by clicking on the blue bar to the left of the relevant row, then double-click on 'Workflow Status' under Dialog Structure. This will bring up a screen detailing the workflow of that form, including whether that stage of the routing is to be conducted online or offline, email settings and links to any email title and body text.

A new status routing can be created by selecting 'New Entries' and entering the Customer Code, Form Code, Version, Status, Action on Status, Status After Action and Online/Offline settings.
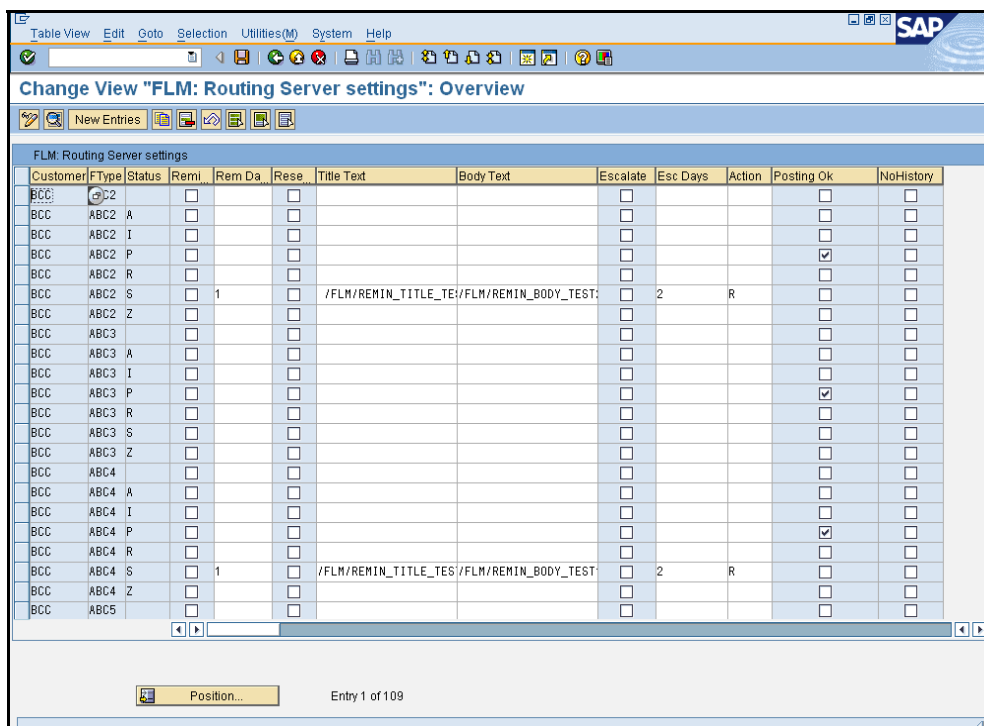
To insert a newly created status into a routing, you can click on a status field and the new status will automatically appear in the selection table. The new status configuration will the have to be saved using the floppy disc icon.

ABAP code can be entered to define the form owner in the next stage of the routing by accessing data from the SAP database. Please see the Developer Guide for further details.

5.3 E-mail Reminder Settings

Email reminders can be automatically sent to the relevant user if the form spends too long at their stage in the form routing. You can set which form statuses have automatic reminders associated with them, the number of days that are allowed to pass before a reminder is sent and whether a reminder will be resent if no action is taken.

This option allows you to create and modify email reminder settings for every individual form in the system, identified by its customer code and form type. Reminders can be configured according to form status; e.g. different reminder settings can be made depending on whether the form is in initial or rejected status. Links can be made to the desired email title text and body text, and an automatic action should reminders be ignored (e.g. rejection) can be set up.

To make a new email reminder entry, go to 'new entry' at the top of the screen. Here you can enter the 3-letter customer code, four-digit form type, and form status at the time the reminder should be sent.

Under 'FLM routing server settings' you can check options to:

Send reminder email. The 'reminder window' is the number of days allowed after the recipient has received the form for their completion or authorization before a reminder is sent.

Resend reminder: here enter the name of the text object used to store the title of the reminder e-mail, and the name of the text object used to store the email body text.
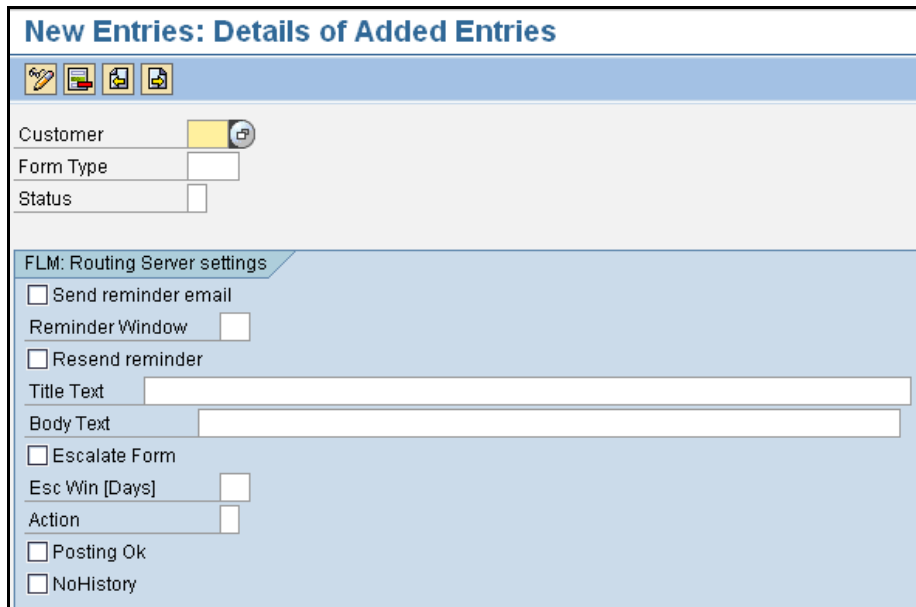
Escalate form. If the user has still not passed the form on after all reminders have been sent, the system can automatically take action on the form. You can enter the number of days that make the escalation window, and the required action code, e.g. R.

Posting OK

Tick this box if posting is required at the given status/stage in the workflow. The actual posting configuration takes place in the Forms Posting Engine, under 'Define valid FPE statuses', but this box must also be checked to allow posting to take place.

No History

Allows you to select whether the form history is viewable by the owner in that status/stage of the workflow. For example, it may be desirable to hide the form history from a user.

6.1 E-mail Settings

This facility allows you to view and create email sender and receiver settings. This defines the email addresses assigned to particular stages in an offline form routing. For example, a form with status I (initial) may be submitted to an approver at the first stage of the form routing. In the example below, an Initial form ABC3 will be routed to rg@arch.co.uk once submitted by the initiator.

6.2 Define Approved Email Addresses

This facility allows you to create a list of Safe Email Recipients recognized by the system to be used in form routings.
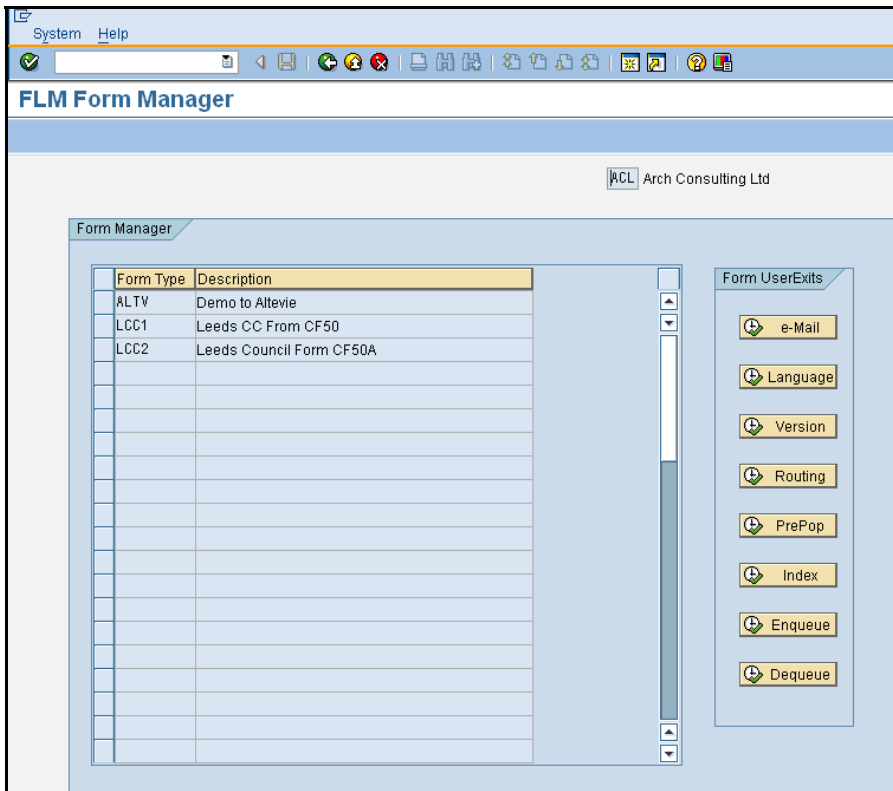
7.1 Customer UserExits

Configure UserExits at a customer level. In this activity you can override the default content of the user's In-Box.

7.2 Form UserExits

The form manager tool allows you to create and adjust any form level business service routines using the ABAP editor.

To view or change the settings for an individual form, select the required row and click on one of the Userexits displayed in the Userexit selection screen on the right: Email, Language, Version, Routing, PrePop, Index, Enqueue or Dequeue
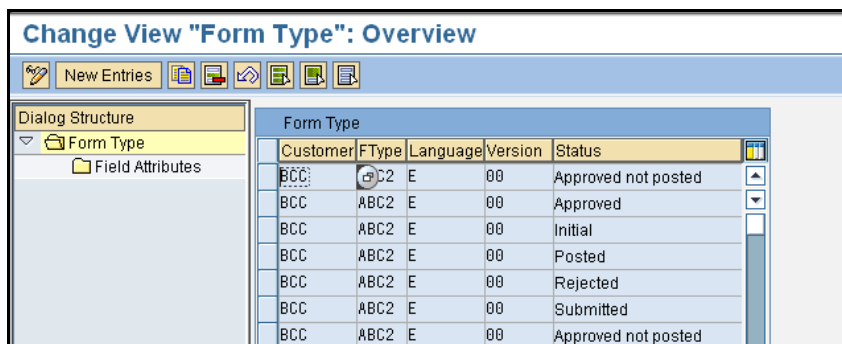
7.3 Field Userexits

In this activity you define UserExits for any field Derivation, Substitution, Prepopulation, F4 (Dropdown) or Validation. This function contains a compiled list of all the fields currently being implemented within each category, according mainly to what has been assigned to them in the Form Wizard. Selecting a row and clicking on the icon available in the Userexit selection screen gives more details of these settings.
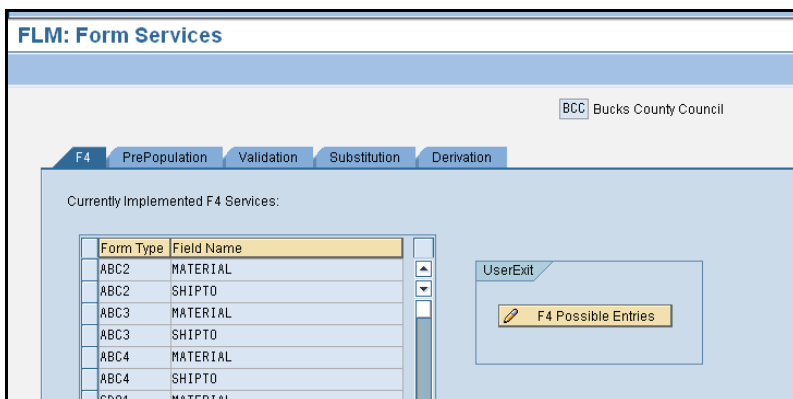
You can select which routine you wish to view/change (e.g. PrePopulation, Derivation) by selecting the required option from the blue tabs. Enter the your in the ABAP editor and click 'activate' to enable it.
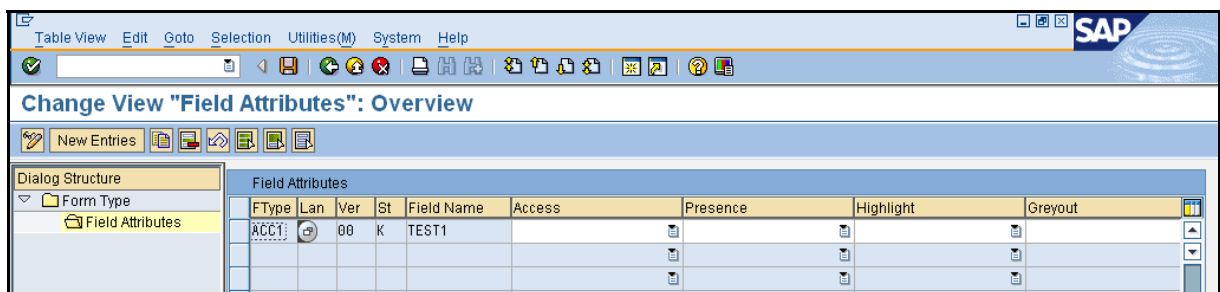
7.4 Template Look and Feel

Here you can set the look and feel of each field and subform on the template depending on the workflow status of the form. For example, for forms that have been approved, you can determine that certain fields are no longer available for input for the subsequent users, and select these fields to appear greyed-out on the form.

To change field attributes, select the desired form code and status from the list (one at a time) and double-click on Field Attributes in the Dialog Structure menu. This will bring up a screen showing field properties for that form/status:

where you can define the field's settings for Access, visibility, colour and greyout options, specific to that particular routing status. This allows you to, for example, grey out fields that are not editable by an approver or hide fields that contain potentially sensitive information from one user to the next.