



# FLM Installation Guide

Release 274

## Version History

Version	Date	Reason for update
1	01/10/2007	Initial version
2		Update for CMS / User group / FLM Portal
3		Screenshots added
4	02/06/2008	271 Updates

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## Introduction

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This document describes the installation process for Forms Lifecycle Manager release 260.

### 1.1 Prerequisites for installing FLM

- Current versions of kernel, tp and R3trans

Make sure that your system contains the current versions of kernel, tp and R3trans.

- Current SPAM / SAINT Update

Make sure that you have imported the most recent SPAM / SAINT Update into your system. Compare the short text of the last SPAM / SAINT Update you imported with that of the SPAM / SAINT Update in the SAP Service Marketplace. If the version of the SPAM / SAINT Update in the SAP Service Marketplace is more recent, import it.

- Before starting the installation, read the following SAP Notes and documentation:

Description	Note
Problems w/add-on inst/upgrade to SAP NW 7.0s ABAP	822380
Known Problems with Support Packages in SAP NW 2004s AS ABAP	822379

- The following software components are required in your system:

SAP_ABA	700
SAP_BASIS	700

### 1.2 Java Prerequisites

For the on-line scenario you also require a Java Component, the "FLM Portal", which resides on the SAP WebAS Java stack 700.

### 1.3 Preparation for installing FLM

- Mount the Add-On Installation CD.
- Unpack the archive FLM\_INST\_<VER>.SAR in the subdirectory DATA using the command:

```
sapcar -xvf FLM_INST_<VER>.SAR
```

- From the resulting EPS/IN directory, copy the E5Q0020246584\_\*.PAT file into your development system EPS inbox directory:

```
//sapmnt/trans/EPS/in
```

- Ensure that the permissions of the file are set for read/write access for the SAP O/S users.

For more information about this, see the online documentation for Add-On Installation Tool. To do this, choose the help function in the application toolbar and navigate to *Online Docu* → *Loading Installation Packages*.

## 2 Performing the installation of FLM

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This section describes the installation procedure for the software.

### 2.1 *SAINT*

1. Log on to your SAP system as client 000 and as a user that has SAP\_ALL authorization. Do not use the user SAP\* or DDIC.
2. Start the installation or upgrade using Add-On Installation Tool (transaction SAINT):

For more information about this, see the online documentation for Add-On Installation Tool. To do this, choose the help function on the toolbar.

### 2.2 *SGEN*

At this point you should compile FLM using the SGEN transaction.

1. Transaction SGE N.
2. Select the first option: Generate All Objects of Selected .... - Continue
3. Select for Parallel Generation: Leave default. - Continue
4. Start Job Directly.
5. Generation speed depends on your system but should take under 10 minutes.

**You can stop here if you are updating an existing installation of FLM.**

## 3 Post Installation of FLM

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Installation should be done on the Client that will be using FLM so the objects created below transport properly to QA and Customer Systems. We suggest creating a new transport when prompted named "FLM <VER> Installation <CLNT>".

### *3.1 Adobe ReaderRights Credential*

In order for ADS to be able to render pdf forms which are interactive, it is required to install into each Java stack an 'Adobe Credential for ReaderRights'. This is a piece of Adobe intellectual property delivered via the SAP OSS system in the form a small file. It is installed into the WebAS java stack and then configured using the 'Visual Administrator'. Only one Credential is required per customer.

The process is described in SAP Note 736902.

### *3.2 Namespace /FLM/ and Software Component FLM*

During the process of forms creation the FLM framework generates Data dictionary objects in the namespace /FLM/. Therefore this namespace must be set to 'modifiable'. Process:

1. Transaction SE03 [ess-ee-zero-three].
2. Choose 'Set System Change Option'.
3. Navigate in the 'Software Component' Table to FLM.
4. Choose 'Modifiable'.
5. Navigate in the 'Namespace/Name range' Table to /FLM/.
6. Choose 'Modifiable'.
7. Save the settings.

### *3.3 Packages /FLM/CUST and ZFLM*

Two packages are important for the maintenance of the FLM system, /FLM/CUST and ZFLM.

#### **3.3.1 /FLM/CUST**

This package is used to hold and transport the business logic associated with customer forms and is delivered empty. Certain aspects of form business logic has to be generated by the FLM framework in the /FLM/ namespace, and hence an /FLM/ package can only be used to hold these objects.

After the initial installation, this package should be repaired in transaction SE21 to change the transport layer to the customer's standard transport layer, such that objects in this package can be successfully migrated through the customer landscape.

### 3.3.2 ZFLM

This package is used to hold objects that cannot be maintained in the /FLM/ namespace, eg authorisation objects, such that they can be migrated through the customer's landscape. The package is created in transaction SE21.

6. Transaction SE21.
7. Package will be ZFLM and select Create.
8. Short Description: FLM: Authorization Objects
9. Application Component: CA
10. Software Component: HOME
11. Transport Layer: Customer Specific, Default SAP.
12. Save

## 3.4 *Content Management Physical Tables*

FLM uses the 'Content Management System' [CMS] or 'Content Server' to store form and form templates. The setup of CMS is SAP standard and described fully in the IMG documentation accordingly.

The standard FLM installation scenario makes use of SAP DDIC physical tables as the final repository for CMS data, and under those circumstances it is necessary to create physical table for that purpose as follows:

13. Transaction SE11.
14. Select the radiobutton 'Tables' and enter table SDOKCONT1.
15. Copy this table to /FLM/SDOKCONT1, assigning package /FLM/CUST and workbench request as required.
16. Activate this table.

Ensure that the technical settings of the table match the expected size of the table, and adjust accordingly.

FLM supports any CMS repository types, consult the SAP documentation for a discussion of the advantages and disadvantages of the different repository types that can be utilized with this system.

The remaining FLM table configuration behind the CMS is described in the Implementation guide.

### ***3.5 Number Range /FLM/TID***

The FLM Transport ID (/FLM/TID) Number Range Object is delivered with FLM and a new interval range must be setup in it.

1. Transaction SNRO [es-en-ar-oh].
2. Enter number range object name (/FLM/TID).
3. Press Number Range button.
4. Press change Intervals.
5. Create an Interval. E.g 01 100000000 - 1999999999 - 1000000000
6. Press save.

### ***3.6 SICF Settings***

FLM makes use of a business server pages transaction in order to allow FLM form URLs to be sent as part of the reminder functionality in form routing. The BSP application must be activated in transaction SICF. Proceed as follows:

1. Transaction SICF.
2. Enter \*FLM\* into Service Name field
3. Press Execute
4. Right-click and select Activate all FLM nodes
5. Choose to Activate this node and all child nodes

Please note that there are certain standard BSP service nodes that must be activated as a prerequisite for using any BSP application; please consult the SAP documentation for details.

### ***3.7 Define Content Repositories***

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

In Knowledge Warehouse three different types of content repositories can be used, we suggest using the SAP System Database and we will highlight the steps for it. Possibilities include:

#### **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.

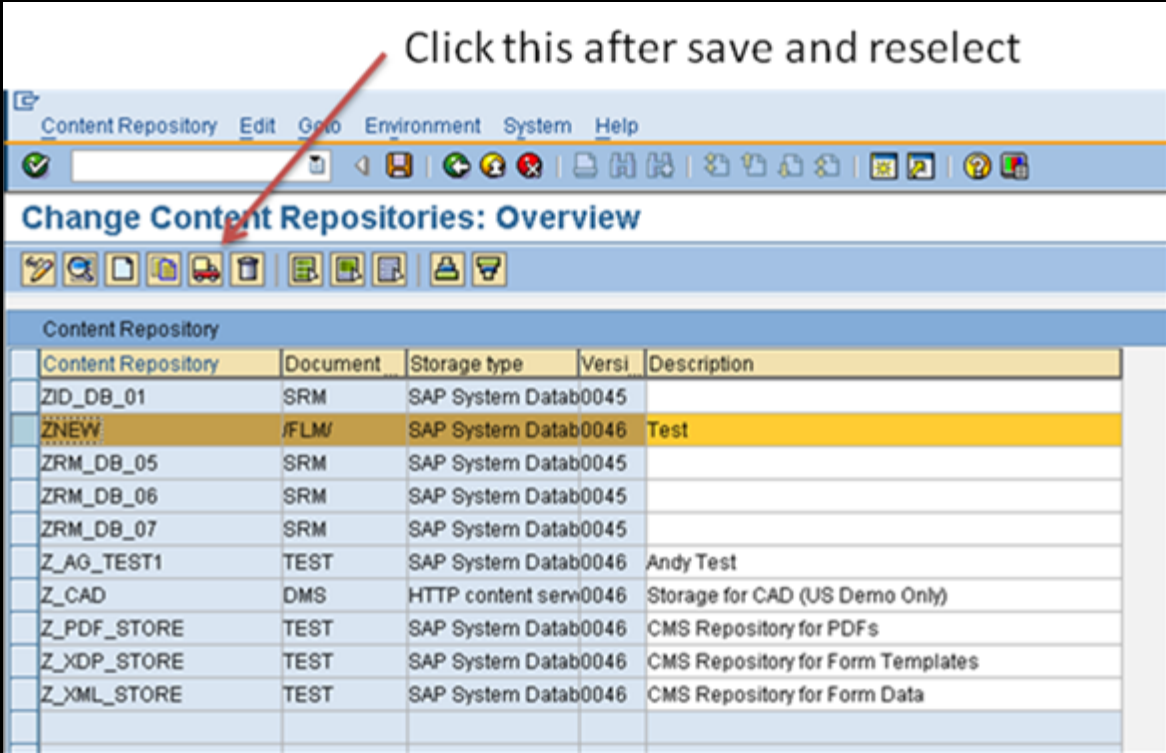
You can find further information on content repositories in the SAP Knowledge Warehouse Installation Guide and in the SAP Library under Basis - Basis Services - SAP Knowledge Provider - Content Management Service - Concepts.

Setup the Content Repository to use the SAP System Database.

1. Transaction OAC0 (OH-A-C-Zero).
2. Change - Create
3. Content Rep. : We suggest "ZFLM0001"
4. Description: FLM: Content Repository
5. Document Area: We suggest /FLM/ or Forms Lifecycle Manager
6. Storage type: SAP System Database
7. Version No.: 0046
8. Contents Table: /FLM/SDOKCONT1
9. Save

If you encounter problems with entering data at this step please see SAP NOTE: 1163925

**Click this after save and reselect**



The screenshot shows the SAP OAC0 transaction interface. The title bar reads 'Change Content Repositories: Overview'. Below the title bar is a toolbar with various icons. The main area contains a table with the following data:

Content Repository	Document	Storage type	Versi	Description
ZID_DB_01	SRM	SAP System Datab0045		
<b>ZNEW</b>	<b>/FLM/</b>	<b>SAP System Datab0046</b>		<b>Test</b>
ZRM_DB_05	SRM	SAP System Datab0045		
ZRM_DB_06	SRM	SAP System Datab0045		
ZRM_DB_07	SRM	SAP System Datab0045		
Z_AG_TEST1	TEST	SAP System Datab0046		Andy Test
Z_CAD	DMS	HTTP content servi0046		Storage for CAD (US Demo Only)
Z_PDF_STORE	TEST	SAP System Datab0046		CMS Repository for PDFs
Z_XDP_STORE	TEST	SAP System Datab0046		CMS Repository for Form Templates
Z_XML_STORE	TEST	SAP System Datab0046		CMS Repository for Form Data

### *3.8 Define and Assign Content Categories*

In this 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).

Follow the steps below to create a new storage category and assign it to the content repository.

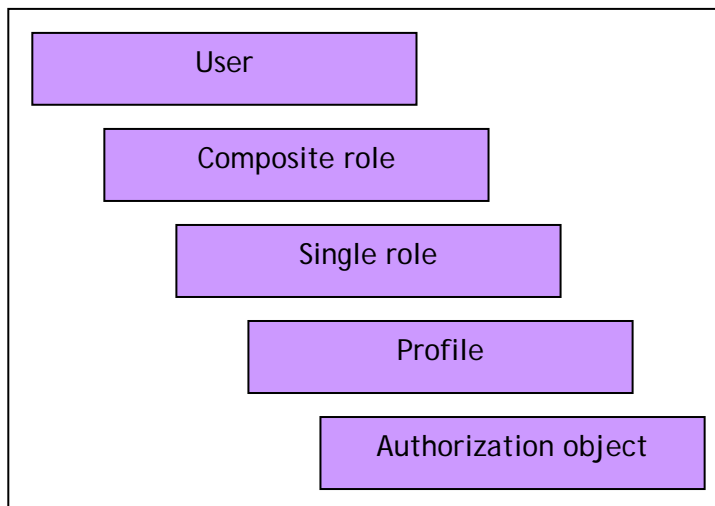
1. Transaction OACT (OH-A-C-T).
2. New Entries
3. Category: We suggest "ZFLM0001"
4. Description: FLM: Content Categories
5. Document Area: /FLM/
6. Content Repo: This is the repository created in the previous step, ZFLM0001
7. Save

## 4 Setting Up Authorisation Checks For FLM Forms

Unlike in previous releases of the software, FLM relies entirely on the user master record as defined in the ABAP stack. The UME of the java stack must have the ABAP stack set as it's data source in order to take advantage of this standard installation configuration.

Firstly, in order to control which users have access to which form categories and form types, an authorisation object must be created in the customer system and transported through the system landscape. Typically this would be in the customer namespace, we recommend for example, Z/FLM/0001.

### 4.1 Overview



In SAP, each user's authorization can be defined with reference to a composite role, single roles, and profiles. The object to be checked is an 'authorization object', and is made up of authorization fields that the system will need to use in the check. FLM is delivered with authorization checking code and the authorization fields, but the set-up of the users, roles, profiles and objects will be different in each implementation.

### 4.2 Authorization Fields

Three authorization fields are delivered as part of FLM:

- /FLM/CUST *Customer*
- /FLM/FTYPE *Form type*
- /FLM/FCAT *Form category*

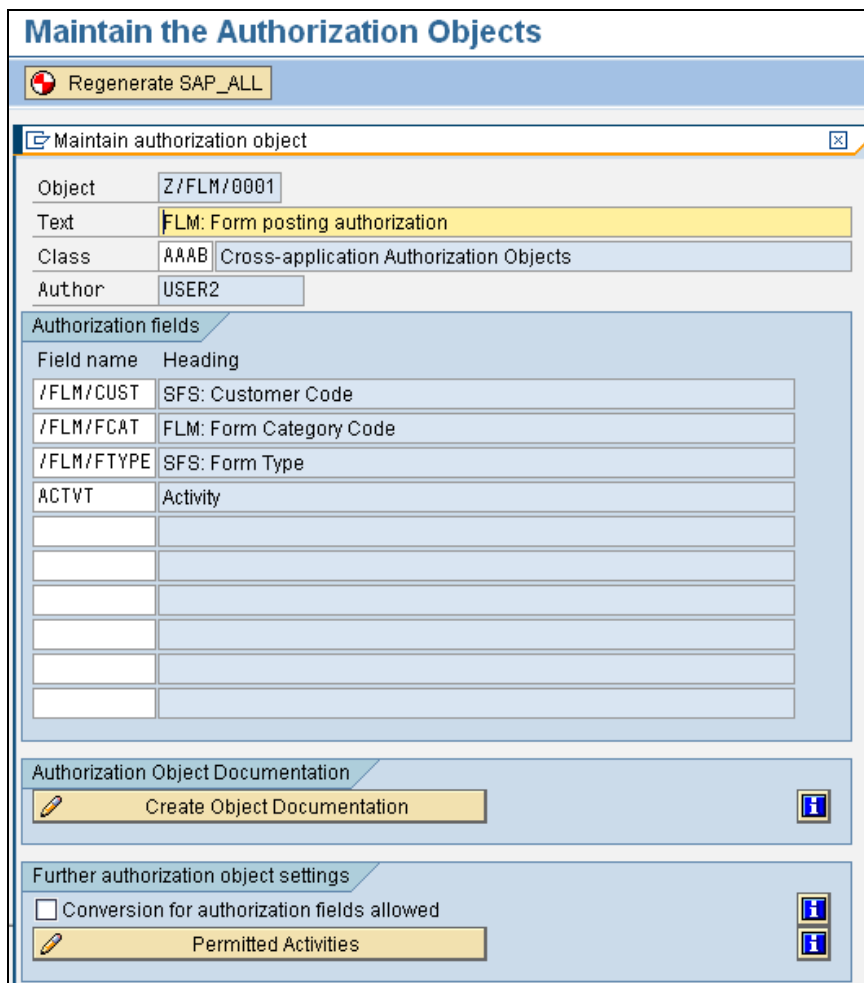
These three authorization fields, along with the standard field ACTVT, must be included in the authorization object.

### 4.3 Authorization Object

FLM is not shipped with an authorization object. Part of the installation process involves the creation of authorization object 'z/flm/0001'.

#### Creating an Authorization Object

- o Transaction SU21 or menu path 'Tools->ABAP Workbench->Development->Other tools->Authorization objects->Objects'
- o Choose the pushbutton for create authorization object.
- o Enter the following:
  - Object: 'z/flm/0001'
  - Text: 'FLM: Form posting authorization'
  - Class: 'AAAB'
  - Field name: /FLM/CUST
  - Field name: /FLM/FCAT
  - Field name: /FLM/FTYPE
  - Field name: ACTVT



**Maintain the Authorization Objects**

Regenerate SAP\_ALL

Maintain authorization object

Object: Z/FLM/0001

Text: FLM: Form posting authorization

Class: AAAB Cross-application Authorization Objects

Author: USER2

Field name	Heading
/FLM/CUST	SFS: Customer Code
/FLM/FCAT	FLM: Form Category Code
/FLM/FTYPE	SFS: Form Type
ACTVT	Activity

Authorization Object Documentation

Create Object Documentation

Further authorization object settings

Conversion for authorization fields allowed

Permitted Activities

- o Select pushbutton to maintain the permitted activities.

- Select options '01', '02', '03' and '10' only. Save,
- Select pushbutton to create documentation, then save
- Save the authorization object. You may get a message indicating it has already been saved, if so just cancel out of the maintenance window.
- Finally we need to regenerate the SAP\_ALL profile in order to include the new object. Use the pushbutton 'Re-generate SAP\_ALL' on the top of the front screen for transaction RSU21\_NEW.

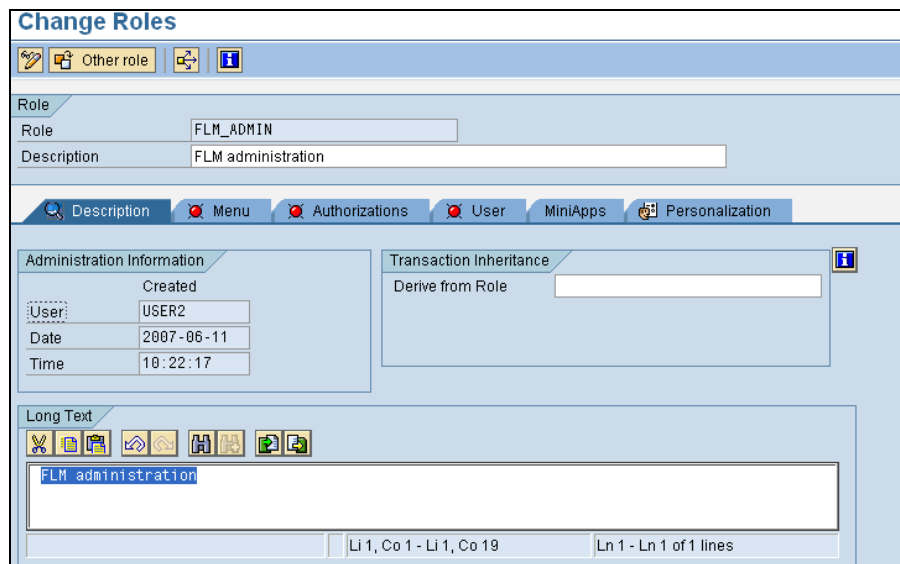
## 4.4 Roles

There are various ways of linking the authorization object to user ids using roles and profiles. In this section we describe one method, using a 'single role' and a 'generated profile'.

### 4.4.1 Creating an FLM Admin Role

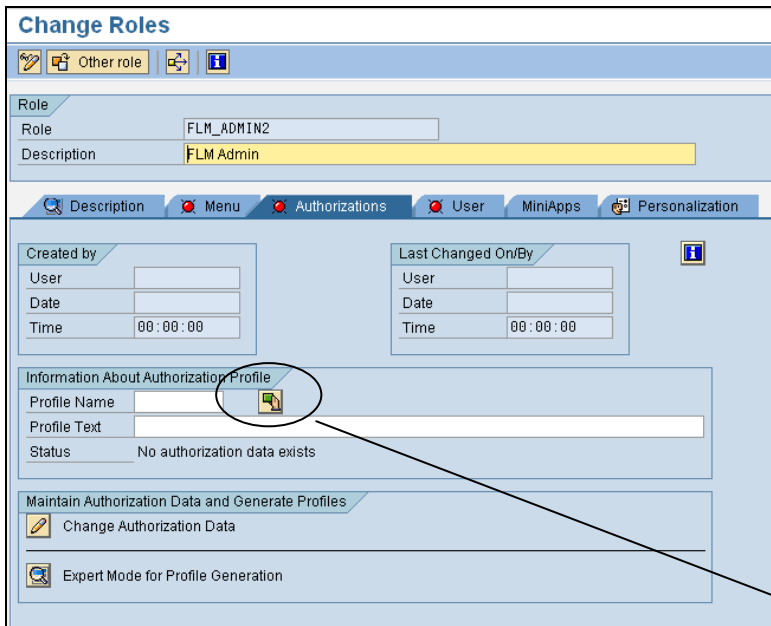
We need one role for FLM administration

- Or transaction code PFCG or select the menu path 'Tools->Administration->User Maintenance->Role Administration->Roles.'
- Enter role name 'FLM\_ADMIN' and choose the 'Single Role' pushbutton.
- Enter the role description then Save

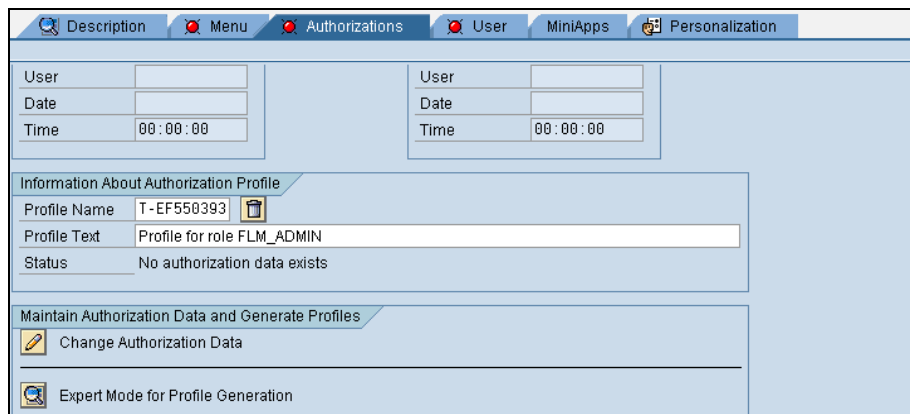


The screenshot shows the 'Change Roles' SAP transaction interface. At the top, there are navigation icons and a title bar. Below that, the 'Role' section contains a text field for 'Role' with the value 'FLM\_ADMIN' and a text field for 'Description' with the value 'FLM administration'. A tabbed interface below shows several tabs: 'Description', 'Menu', 'Authorizations', 'User', 'MiniApps', and 'Personalization'. The 'Description' tab is active, showing 'Administration Information' with fields for 'Created' (USER2, 2007-06-11, 10:22:17) and 'Transaction Inheritance' (Derive from Role). At the bottom, there is a 'Long Text' area containing the text 'FLM administration'.

- Select the Authorizations tab

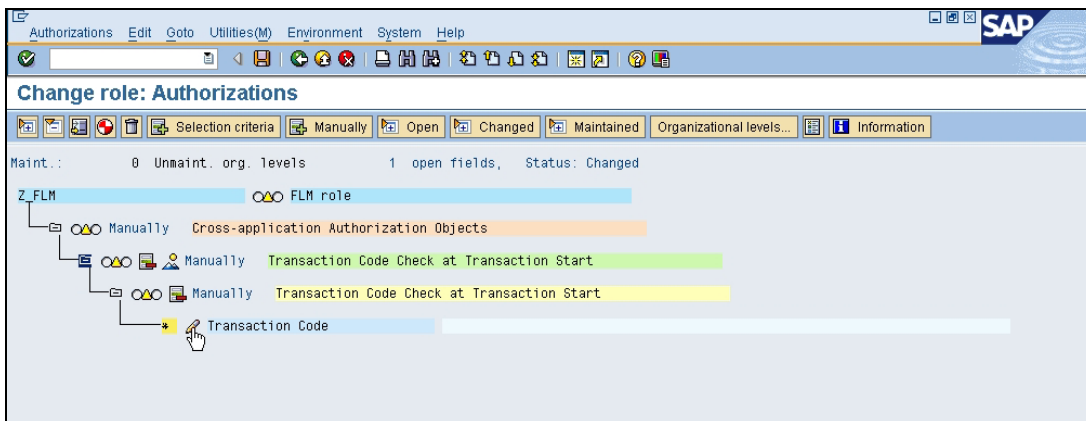


- In the 'Information About Authorisation Profile' box, select the 'Propose Profile Names' pushbutton, and a profile name is generated automatically. Save.

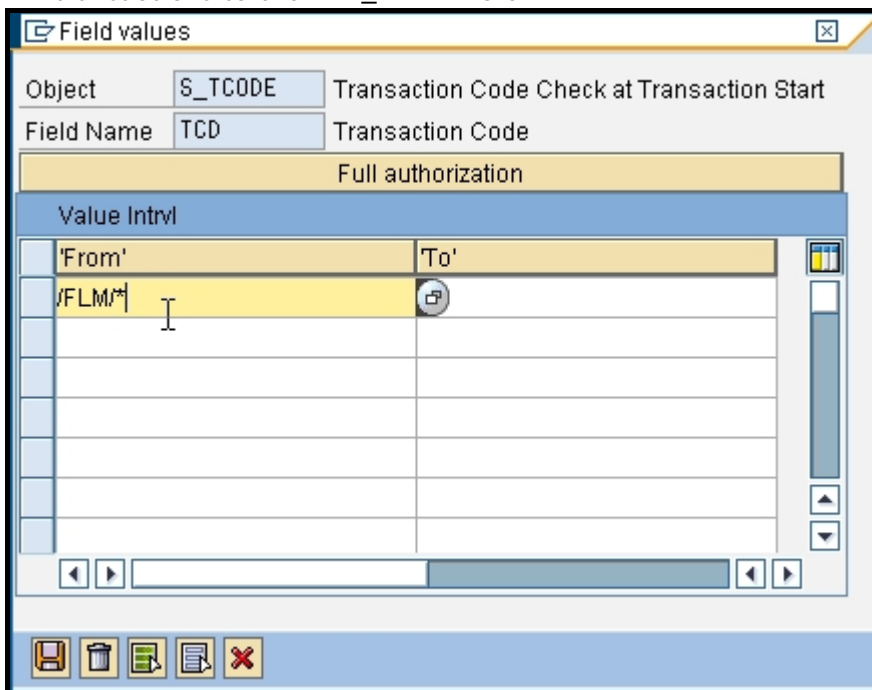


- Select the Change Authorization Data pushbutton. A pop-up window is displayed. Select the 'Do not select templates' pushbutton.
- Now select the 'Manually' pushbutton, and enter the authorization object 'Z/FLM/0001'.





- o Enter '/FLM/\*' into the 'Form' field as shown. This is granting authority for ALL /FLM transactions to the FLM\_ADMIN role.



- o Generate. (Save)
- o Role FLM\_ADMIN is now ready to be linked to user records.

#### 4.4.2 Creating Form User Roles

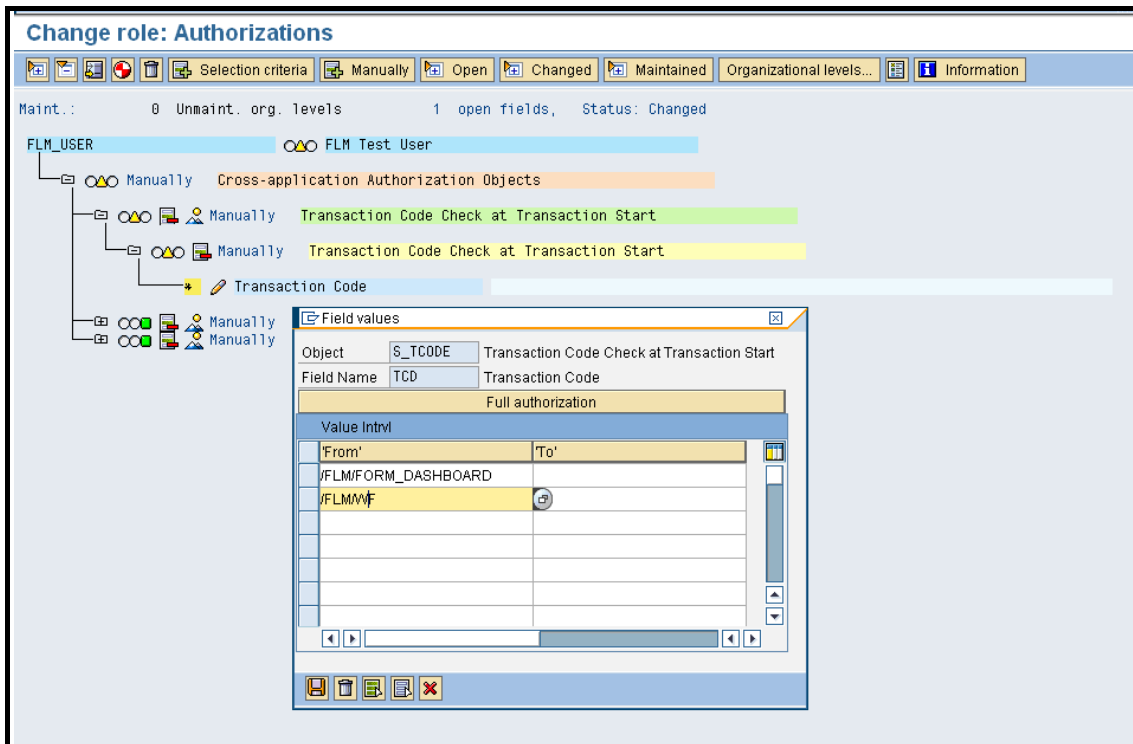
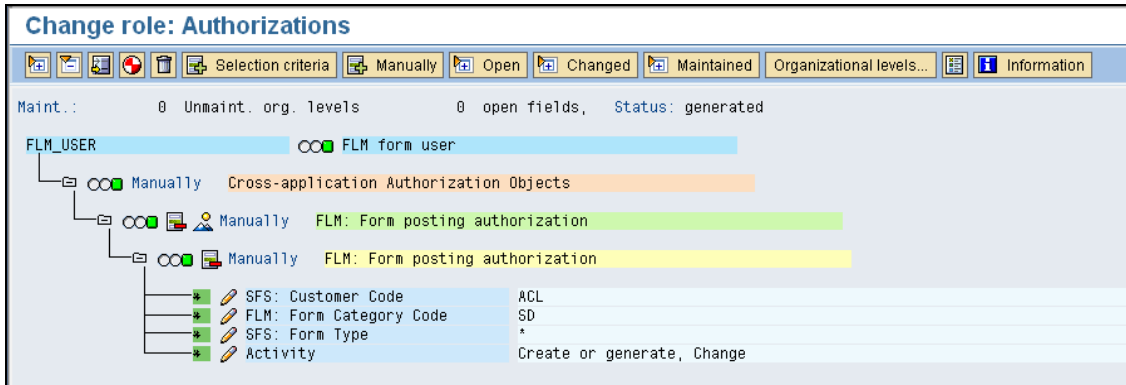
Follow the same steps as for setting up the FLM\_ADMIN role, but in the final step, limit the role by form category, form type and /or /FLM transaction code.

For example:

If the user only submits forms but cannot change submitted forms, then select activity 01 but not 02 for authorisation object Z/FLM/0001.

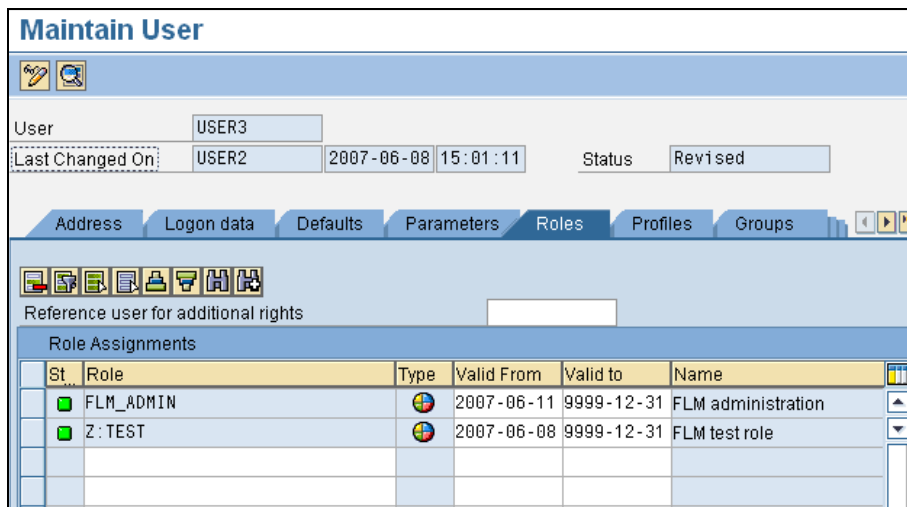


If the user can display forms in the Dashboard (transaction code /FLM/FORM\_DASHBOARD), but not post forms in FPE (transaction /FLM/FPE) or trigger form routing escalations (transaction /FLM/WF) for example, select only the relevant transaction code(s) in place of the /FLM/\* assigned to the admin role against authorisation object S\_TCODE

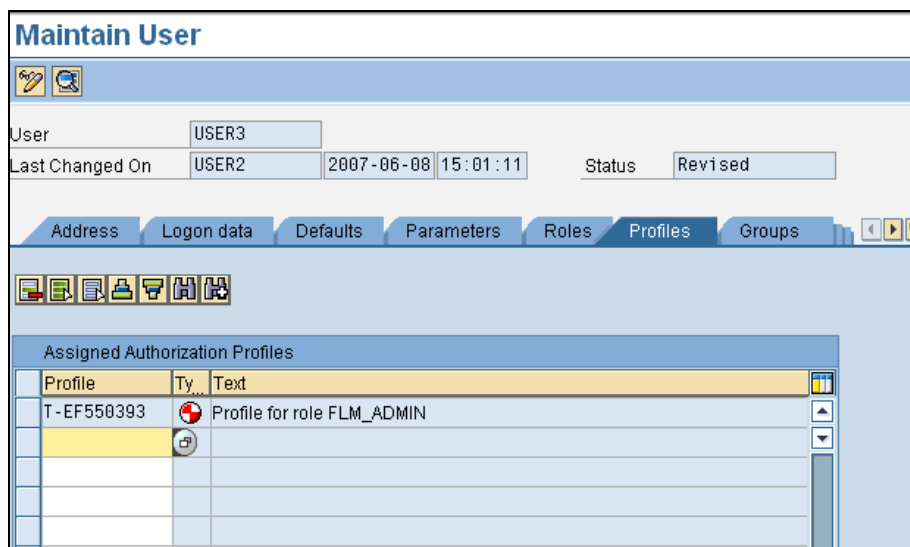


#### 4.5 User Masters Roles

Once the roles and profiles have been created, it is necessary to link the roles to the user master records as normal. This can be achieved on a user-by-user basis, or by adding the FLM roles to existing composite roles. Users are maintained in transaction SU01. The role is added as shown in the 'Roles' tab.



When the role is added to the user, the profile appears in the 'Profiles' tab.



#### 4.6 Offline User

The FLM system requires one SAP user as the so-called 'Offline User'. The FLM framework uses this user for processing offline forms [ie form sent to user not via the FLM Portal], since at this time no SAP dialog user is available for authorisation checking.

It is recommended that an SAP user is given the auth object Z\_FLM... with open authorisations to the whole FLM system as follows:

/FLM/CUST	*
/FLM/FCAT	*
/FLM/FTYPE	*
ACTVT	*

This user master record is entered into the FLM configuration under the 'Set Customer Code' IMG activity against the 'Offline User' field. = user name attributed to offline email user activity

#### 4.7 FLM Developer User Role and Authorisations

1. [SE16] Insert entry in table TBRG as below to define a class for FLM customising tables.

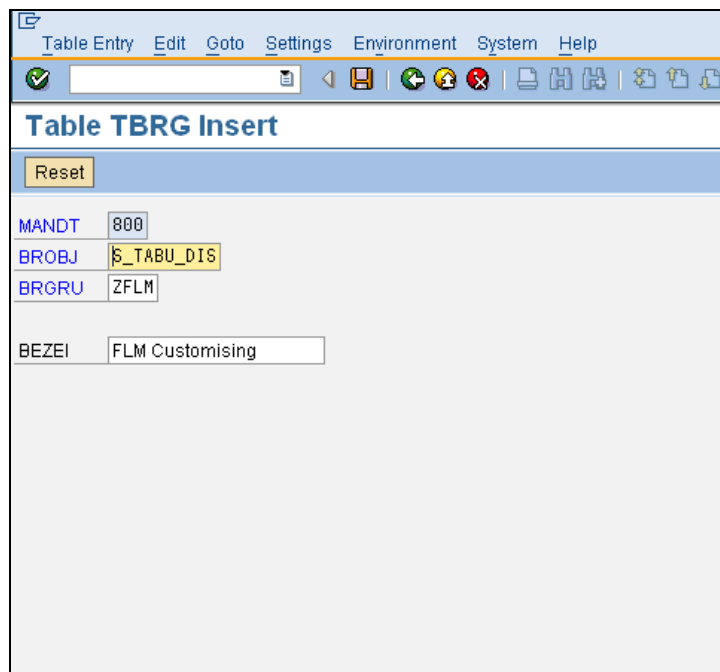


Table TBRG Insert	
MANDT	800
BROBJ	&_TABU_DIS
BRGRU	ZFLM
BEZEI	FLM Customising

2. [SE16] Change entries in table TDDAT for each /FLM/\* table - change the authorisation group from &NC& to ZFLM

Before	After

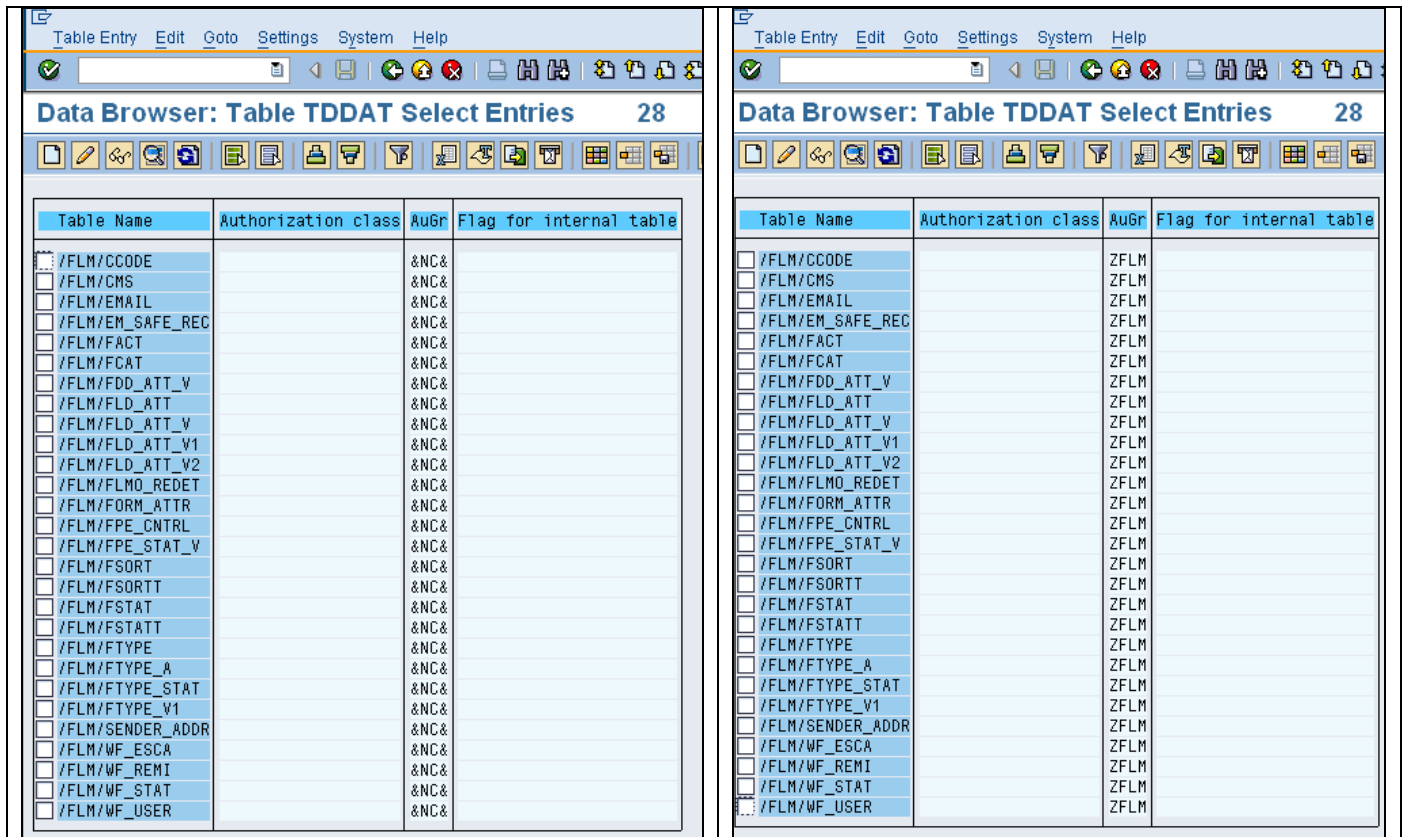
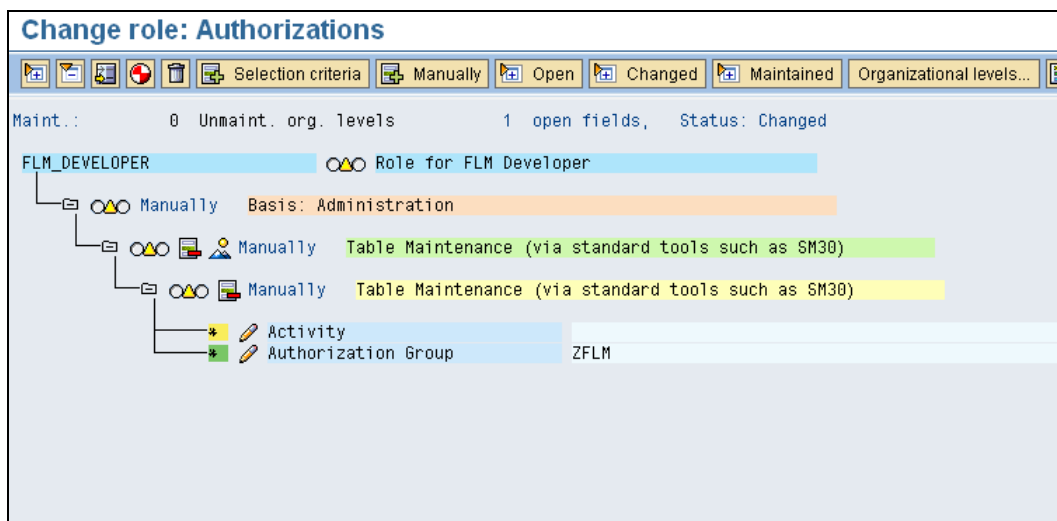


Table Name	Authorization class	AuGr	Flag for internal table
/FLM/CCODE	&NC&		
/FLM/CMS	&NC&		
/FLM/EMAIL	&NC&		
/FLM/EM_SAFE_REC	&NC&		
/FLM/FACT	&NC&		
/FLM/FCAT	&NC&		
/FLM/FDD_ATT_V	&NC&		
/FLM/FLD_ATT	&NC&		
/FLM/FLD_ATT_V	&NC&		
/FLM/FLD_ATT_V1	&NC&		
/FLM/FLD_ATT_V2	&NC&		
/FLM/FLMO_REDET	&NC&		
/FLM/FORM_ATTR	&NC&		
/FLM/FPE_CNTRL	&NC&		
/FLM/FPE_STAT_V	&NC&		
/FLM/FSORT	&NC&		
/FLM/FSORTT	&NC&		
/FLM/FSTAT	&NC&		
/FLM/FSTATT	&NC&		
/FLM/FTYPE	&NC&		
/FLM/FTYPE_A	&NC&		
/FLM/FTYPE_STAT	&NC&		
/FLM/FTYPE_V1	&NC&		
/FLM/SENDER_ADDR	&NC&		
/FLM/WF_ESCA	&NC&		
/FLM/WF_REMI	&NC&		
/FLM/WF_STAT	&NC&		
/FLM/WF_USER	&NC&		

Table Name	Authorization class	AuGr	Flag for internal table
/FLM/CCODE	ZFLM		
/FLM/CMS	ZFLM		
/FLM/EMAIL	ZFLM		
/FLM/EM_SAFE_REC	ZFLM		
/FLM/FACT	ZFLM		
/FLM/FCAT	ZFLM		
/FLM/FDD_ATT_V	ZFLM		
/FLM/FLD_ATT	ZFLM		
/FLM/FLD_ATT_V	ZFLM		
/FLM/FLD_ATT_V1	ZFLM		
/FLM/FLD_ATT_V2	ZFLM		
/FLM/FLMO_REDET	ZFLM		
/FLM/FORM_ATTR	ZFLM		
/FLM/FPE_CNTRL	ZFLM		
/FLM/FPE_STAT_V	ZFLM		
/FLM/FSORT	ZFLM		
/FLM/FSORTT	ZFLM		
/FLM/FSTAT	ZFLM		
/FLM/FSTATT	ZFLM		
/FLM/FTYPE	ZFLM		
/FLM/FTYPE_A	ZFLM		
/FLM/FTYPE_STAT	ZFLM		
/FLM/FTYPE_V1	ZFLM		
/FLM/SENDER_ADDR	ZFLM		
/FLM/WF_ESCA	ZFLM		
/FLM/WF_REMI	ZFLM		
/FLM/WF_STAT	ZFLM		
/FLM/WF_USER	ZFLM		

- [PFCG] Add the authorisation object S\_TABU\_DIS with activity '\*' and Authorisation Group 'ZFLM' to an FLM\_DEVELOPER role as normal



**Change role: Authorizations**

Maint.: 0 Unmaint. org. levels 1 open fields, Status: Changed

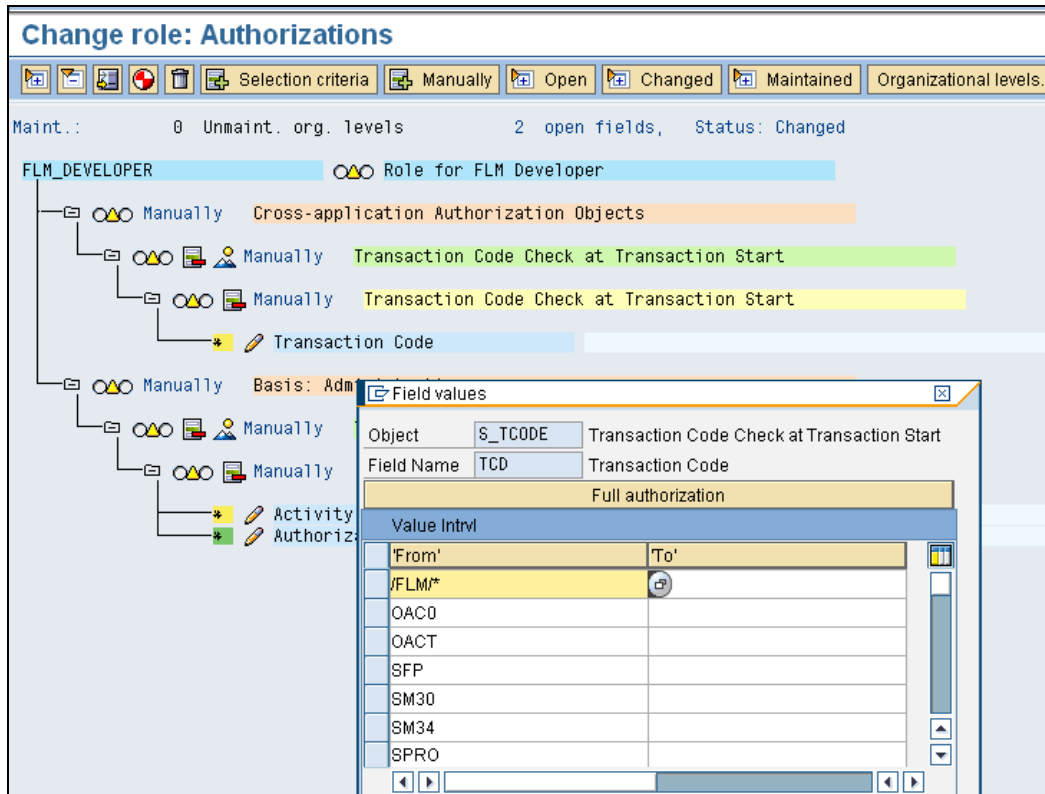
FLM\_DEVELOPER Role for FLM Developer

- Manually Basis: Administration
  - Manually Table Maintenance (via standard tools such as SM30)
    - Manually Table Maintenance (via standard tools such as SM30)
      - Activity
      - Authorization Group ZFLM

- Also add the authorisation object S\_TCODE with the following transactions:

- /FLM/\*
- OAC0

- OACT
- SFP
- SM30
- SM34
- SPRO
- SOST
- SCOT



5. Add authorisation objects S\_CTS\_ADMI and S\_TRANSPRT to enable the role to create and administer transport requests.
6. Add role FLM\_DEVELOPER to the developer user, along with a normal ABAP developer role such as SAP\_BC\_DWB\_ABAPDEVELOPER

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## 5 Deploying the FLM Portal

### 5.1 Introduction

In order to make use of the FLM Portal for on-line forms, the FLM Portal must be deployed to the Java Server using the Software Deployment Manager [SDM].

### 5.2 Enterprise Archive

The FLM portal is shipped as an Enterprise Archive on the installation disks. This file is called "flm.com~flmgui.ear" and is located in the DATA directory.

#### 5.2.1 SDM Procedure

The high-level procedure for deploying this archive is as follows. For step-by-step guidance on any particular step, please consult the appropriate SAP documentation:

1. Copy the archive from the installation media to a local file available to the Java application server.
2. Start the SDM and login to the Java server.
3. Select 'Deploy New Archive' and navigate to the file from step 1)
4. Follow the on-screen instructions to deploy the file

#### 5.2.2 Java Connectors

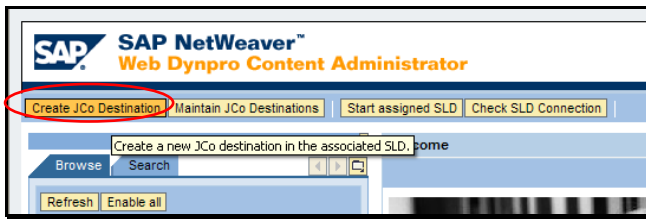
Once the archive has been successfully deployed, the new java application must be connected to the ABAP backend system by configuring necessary "Java Connectors" [JCo's].

There are two java connectors that must be configured:

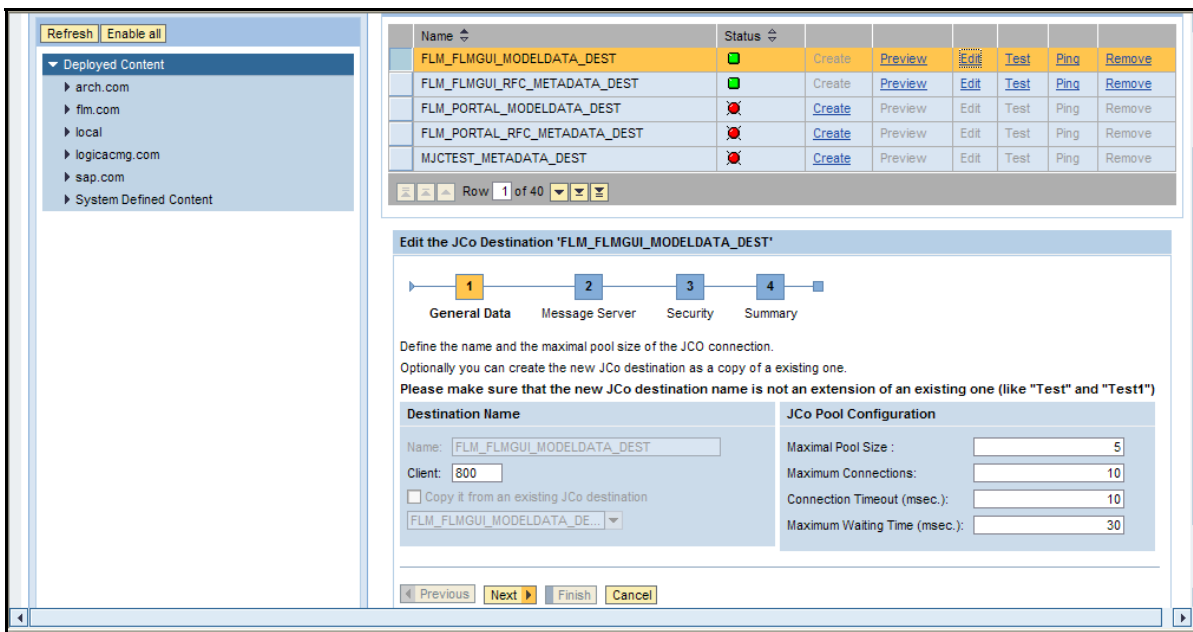
- FLM\_FLMGUI\_RFC\_METADATA\_DEST
- FLM\_FLMGUI\_MODELDATA\_DEST

These two connectors will have been registered in the System Landscape Directory [SLD] during the deployment of the archive in the previous step. Hence each JCo can now be configured using the Content Manager application of the local Java stack.

Login to the User Management portal and click 'create JCo destination'.



Here, create the two Java connectors as detailed above and configure their settings and security using the wizard:



Please consult SAP standard documentation for further guidance on the step-by-step process of configuring Java Connectors.

Note:

It is highly recommended to configure the JCo's to make use of 'Logon Tickets', rather than by hardcoding usernames and passwords, as this ensures that user management is centralised into the ABAP stack and that all SAP-standard authorisation checks are enforced.

For the purposes of prototyping and development, FLM can be used with hardcoded JCO userreferences as the FLM authorisations do not rely on the user maintained in these connections, but rather the user who has logged into the FLM Portal.