## Development Workbench Gateway and LOV Enhancer Oracle FLEXCUBE Universal Banking

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## 1 Preface

This document describes the process of FLEXCUBE Screen Development using Enterprise Limits and Collateral Management Development Workbench.

### 1.1 Audience

This document is intended for FLEXCUBE Application developers/users that use ODT to develop various FLEXCUBE components.

To Use this manual, you need conceptual and working knowledge of the below:

Proficiency	Resources
FLEXCUBE Functional Architecture	Training programs from Oracle Financial Software Services.
FLEXCUBE Technical Architecture	Training programs from Oracle Financial Software Services.
FLEXCUBE Object Naming conventions	Development Overview Guide
Working knowledge of Web based applications	Self Acquired
Working knowledge of Oracle Database	Oracle Documentations
Working knowledge of PLSQL & SQL Language	Self Acquired

Working knowledge of XML files	Self Acquired
Essential knowledge on FLEXCUBE ODT	02-ODT Administration.docx
	03-ODT Getting Started.docx

#### 1.2 Related Documents

04-Development\_WorkBench\_Screen\_Development-I.docx

## 2 Overview of Gateway Screen Development for Oracle FLEXCUBE

Oracle FLEXCUBE ODT provides the developer with a user friendly console for designing and developing screens for Oracle FLEXCUBE.

ODT assist developers in designing screens with the capability of generating front end scripting files, PL/SQL Packages, Static data scripts, XSDs, Excel templates and html files. This generated code performs validations and does some processing which is common across screens in FLEXCUBE; only the Business logic specific to the screen has to be added by the Developer in back end and front end units.

#### Example

Release Name: FC 12.1

Release Type: KERNEL, CLUSTER, CUSTOM

ODT will generate all files and developers are supposed to add the business logic in designated units depending on the Release Type.

#### 2.1 Radxml

ODT saves all the activities carried out by the developer in an xml file hereby referred to as **radxml**. Persistence of the screens is achieved through radxml. All the units required for the working of a screen can be generated from its radxml.

If some changes are required on the screen in a future release, the same radxml can be loaded and changes can be done on this radxml. ODT can segregate the changes done on different releases and saves the radxml accordingly.

Radxml will adhere to following naming convention

Function Id name + \_RAD.xml

Example: STDCULND\_RAD

#### 2.2 Design Steps

Sequence of Steps to be followed while developing a screen in ODT is:

1. Identifying the data sources and their relations

- 2. Logically grouping the data sources into Data Blocks
- 3. Designing Screen Layout
- 4. Logically grouping the Block Fields into Field sets
- 5. Attaching Call forms and launch forms if any
- 6. Defining Actions

Refer respective sections for detailed explanation of each step

#### Saving Radxml

While Development, save radxml at constant intervals. Click on save icon in the top right for having the work. Radxml would be saved in the user directory maintained

#### 2.2.1 Design Process:

Click on Function Generation node in the browser tree found in the Landing page of ODT. Function Generation Page window gets launched.

While creating a new function in Function Generation page in ODT, below information needs to be provided in the Header section

The Header portion of the Function Generation Page screens consists of the following fields:

#### 2.2.2 Action

New and Load options are provided for this field.

For a new screen development, select the action as New; if an existing screen radxml has to be loaded for customization select Load option

If the action is load then corresponding radxml has to be loaded using browser option in Save Xml Path; all the header information will get populated.

#### 2.2.3 Function Id

If the Action is selected as New, the function Id name needs to be specified. Function Id is the unique name with which a screen is identified.

Function Id name should follow the FLEXCUBE standard naming convention.

- Function Id name to have maximum length of 8 characters
- For detail screens the third character should be 'D'
- For report screens the third character should be 'R'
- For call form function ids the third character should be 'C'
- First 2 characters should specify the module name for which the particular function id is used (recommended).

#### 2.2.4 Save Xml Path

The label description of the field will change depending on the action .If the action is load, ODT attaches a Browse button to it so that user can browse the radxml and load it.

#### 2.2.5 Gateway Specific changes

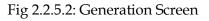
Design of screen will be as any other normal maintenance screen, only change with in preference user has to select the screen as gateway. Below mentioned screen will help in better understanding.

on Gameration				
				. × L C 7
Action New Y	Function Type Parent		Function Category Maintenance V	
Function Id STDC001	Parent Function		Header Template None V	
Save XML Path	Parent Xmi		Footer Template None	
	Preferences			
xes	Head Office Function	Module	A	
itte	Logging Required		122	
lues	Auto Authorization	Module Description Module Group	P	
:ka	Module Auto		169	
	Authorization	Branch Program Id		
	Field Log Required	Process Code		
	Multi Branch Access	SVN Repository URL		
ns	Excel Export Required			
orms	Java Functions			
	Gale/Way Screen			
	Menu Details Parameter Value Maccings			
	Noni Lean Parameter value Maccings			
				Control String 🛨 🔚
	Function Id	Module *	Module Description	
	STDC001			A

Fig 2.2.5.1: Preferences Screen

Once gateway screen checkbox is selected then in generation screen only front-end units, xsd's and INC's will only be generated. Below screen shows generation screen.





User has to generate the above selected units and has to deploy in FCUBS. Code has to be written in gateway flow to make this screen work. For generation and design please use 04-Development\_WorkBench\_Screen\_Development-I.docx.

## 3 Overview of LOV Enhancer

Lov Enhancer is used to map Lov's of Screens to External or Combined Lovs.

#### 3.1 External Lov

Lov of a screen is mapped to External Lov. Where all the data populated and data fetched in the lov will be from external system. User has to simply select the lov as External in the screen. Below screen will help in better understanding.

_				Populate	Combined Details
]		Lov Id		Internal/External/Combined	~
	LOV_ACCOUNT		External V		
	LOV_ACCOUNT_OFF		External 🗸		
	LOV_ADDRESS_CODE				
	LOV_AML_CUST_GRP		Internal 🗸		
]	LOV_AMTCCY1		Internal 🗸		
]	LOV_BUSINESS_ACT		Internal V		
]	LOV_CHG_GRP		Internal V		
]	LOV_CHKLST		Internal 🗸		
	LOV_CLG_GRP		Internal 🗸		
]	LOV_CLSCCY		Internal 🗸		
]	LOV_ALG_ID		Internal V		
]	LOV_BIC		Internal 🗸		
]	LOV_COLLATERAL_TYPE		Internal V		
]	LOV_COUNTRY		Internal 🗸		
]	LOV_CREDIT_RATING		Internal 🗸		
]	LOV_CURRENT_EMPLOYER		Internal 🗸		
]	LOV_CUSTPREFIX1		Internal 🗸		
]	LOV_CUSTPREFIX2		Internal 🗸		
]	LOV_CUST_CAT		Internal 🗸		~
					Generate Close

Fig 3.1.1: Lov Enhancer Screen External

## 3.2 Combined Lov

User can use combination of lovs from external and internal. Where we will provide details of external Lov's bind variable and reduction field details. Please check the below screen.

v Details				Populate	Combined De	tails
LOV Name LOV_AML_CUST_GRP Function ID Name STDCIF		xlemal 🗸	Internal/External/Combined	· · L		1
External LOV Name LOV_EXT_AML_CUST		oxternal V				
LOV Function Name fn_function()						
ducton Fields End Variables Bind Variables Mapping Bind Variables Available BiND1 BiND1 Bind Variables Mapped BinD1 Bind Variables Mapped Bind Variables M						
Bind variables						
Bind Variables Mapping						
LOV Function Name LOV_EXT_AML_CUST LOV Function Name (n_function()) uction Fields Bind Variables Bind Variables Mapping Bind Variables Available Bind V BIND1						
ND1 BINI	D1					
44						
		nternal V				
	Ok Cance					
					Generate	Clos

Fig 3.2.1: Lov Enhancer Screen Combined

Here user will provide details for external LOV.

When generated after the modifications, INC will be generated with below kind of data

```
UPDATE CSTB_LOV_INFO SET LOV_TYPE = 'E' WHERE FUNCTION_ID='STDCIF' AND LOV_ID IN ('LOV_ACCOUNT','LOV_ACCOUNT_OFF')
```

/

```
UPDATE CSTB_LOV_INFO SET LOV_TYPE = 'C' WHERE FUNCTION_ID='STDCIF' AND LOV_ID IN ('LOV_AML_CUST_GRP')
```

/

DELETE CSTB\_CMB\_LOV\_INFO A WHERE A.FUNCTION\_ID IN ('STDCIF');

# INSERT INTO CSTB\_CMB\_LOV\_INFO (FUNCTION\_ID, LOV\_ID, EXTERNAL\_LOV\_ID, LOV\_FUNCTION, REDUCTION\_LIST, BIND\_LIST) VALUES ('STDCIF','LOV\_AML\_CUST\_GRP','LOV\_EXT\_AML\_CUST','fn\_function()','','1~')

/

COMMIT;

Fie Saved       Internal/External/Combined         External ~	Ekternal ×   Ekternal ×   Ekternal ×   Ekternal ×   External ×   CologarP   External ×   Cololateral_TYPE   External ×   Collateral_TYPE   External ×   Collateral	formati	on Description		nformation ode						Pe	opulate	Combined D	etails
Edemal         External         External         External         Internal	External ×   Internal ×   Combined ×   Combined ×   EXC   Internal ×   BUSINESS_ACT   Internal ×   CHG_GRP   Internal ×   CLG_ORP   CLSCCY   COLLATERAL_TYPE   COLLATERAL_TYPE   COLLATERAL_TYPE   CURRENT_EMPLOYER   CUSTPREFIX1   CUSTPREFIX2	File S	Saved						Inter	nal/External/	Combined			•
Internal v	Internal <   Internal < <th></th> <th></th> <th></th> <th></th> <th></th> <th>Externa</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>						Externa							
Internal V   Conbined V   Conbined V   Internal V	Internal   Combined   Combined   Combined   Internal   Internal   Internal   CHG_GRP   Internal   CHG_GRP   Internal   CLQ_ORP   Internal   CLQ_ORP   Internal   CLQ_ORP   Internal   CCOLLATERAL_TYPE   COLLATERAL_TYPE   COLLATERAL_TYPE   CILREENT_EMPLOYER   CUSTPREFIX1   CUSTPREFIX2						Externa	i 🗸						
Contined V   Image: Contined V	Conbined   BU   BUSINESS_ACT   CHG_GRP   CLG_ORP   CLG_ORP   CLG_ORP   CLATERAL_TYPE   COULATERAL_TYPE   COULATERAL_TYPE   CURRENT_EMPLOYER   CUSTPREFIX1   CUSTPREFIX2						Internal	~						
INTERNAL         ILOV_BIIC         ILOV_BUSINESS_ACT         ILOV_CHIS_GRP         ILOV_CHIS_GRP         ILOV_CHIST         INTERNAL         ILOV_CLG_GRP         ILOV_CLG_GRP         ILOV_CLG_GRP         INTERNAL	Internal    BUSINESS_ACT   BUSINESS_ACT   CHG_GRP   CHG_GRP   CLG_ORP   CLG_ORP   CLATERAL_TYPE   COULATERAL_TYPE   COUNTRY   CREDIT_RATING   CURRENT_EMPLOYER   CUSTPREFIX1   CUSTPREFIX2						Internat	$\sim$						
LOV_BUC         ILOV_BUSINESS_ACT         ILOV_CHG_GGRP         ILOV_CHG_GGRP         ILOV_CLG_GRP         ILOV_CLG_GRP         ILOV_CLG_CY         Infernal V         ILOV_COLLATERAL_TYPE         ILOV_COUNTRY         ILOV_CURENT_EMPLOYER         ILOV_CUSTREFIX1         ILOV_CUSTREFIX1	BLC   BLSINESS_AOT   Internal <						Combin	ied 🗸						
LOV_BUSINESS_ACT       Internal v         LOV_CHG_GGP       Internal v         LOV_CHKLST       Internal v         LOV_CLG_GRP       Internal v         LOV_CLG_GRP       Internal v         LOV_CLG_CY       Internal v         LOV_COLLATERAL_TYPE       Internal v         LOV_COUNTRY       Internal v         LOV_COUNTRY       Internal v         LOV_COUNTRY       Internal v         LOV_CURRENT_EMPLOYER       Internal v         LOV_CUSTPREFIX1       Internal v         LOV_CUSTPREFIX1       Internal v	BUSINESS_ACT   CHG_GRP   CHG_GRP   CHKLST   ChC_GORP   Internal <				Ok	1	Internal	~						
LOV_BUSINESS_ACT       Internal v         LOV_CHG_GRP       Internal v         LOV_CHG_GRP       Internal v         LOV_CLG_GRP       Internal v         LOV_CLG_GRP       Internal v         LOV_CLG_GRP       Internal v         LOV_CLG_CRP       Internal v         LOV_CLATERAL_TYPE       Internal v         LOV_COUNTRY       Internal v         LOV_COUNTRY       Internal v         LOV_COURTENT_EMPLOYER       Internal v         LOV_CUSTREFIX1       Internal v         LOV_CUSTREFIX1       Internal v	BUSINESS_ACT Internal    CHG_GRP Internal    CHKLST Internal    CLG_GRP Internal    CLG_GRP Internal    CLSCCY Internal    COULATERAL_TYPE Internal    COUNTRY Internal    COUNTRY Internal    CURRENT_EMPLOYER Internal    CUSTPREFIX1 Internal    CUSTPREFIX2 Internal		ITOA BIC			-	Internal	~						
LOV_CHG_GGPP       Internal V         LOV_CHKLST       Internal V         LOV_CLG_GRP       Internal V         LOV_CLG_CGP       Internal V         LOV_CLGECY       Internal V         LOV_COLLATERAL_TYPE       Internal V         LOV_COUNTRY       Internal V         LOV_COUNTRY       Internal V         LOV_COUNTRY       Internal V         LOV_COUNTRY       Internal V         LOV_CURRENT_EMPLOYER       Internal V         LOV_CUSTPREFIX1       Internal V         LOV_CUSTPREFIX1       Internal V	CHG_GRP   CHG_GRP   CHKLST   CLG_GRP   CLG_GRP   CLG_GRP   CLG_CRP   Internal ×   COLLATERAL_TYPE   COUNTRY   COUNTRY   CREDIT_RATING   CURRENT_EMPLOYER   CUSTPREFIX1   CUSTPREFIX2		LOV_BUSINESS_ACT				Internal	~						
LOV_CHKLST       Internal v         LOV_CLG_GRP       Internal v         LOV_CLSCCY       Internal v         LOV_COLLATERAL_TYPE       Internal v         LOV_COUNTRY       Internal v         LOV_CURENT_EMPLOYER       Internal v         LOV_CURENT_EMPLOYER       Internal v         LOV_CURTENT_EMPLOYER       Internal v         LOV_CUSTREFIX1       Internal v         LOV_CUSTREFIX1       Internal v	CHKLST   CLG_ORP   CLG_ORP   CLSCCY   CNUTERAL_TYPE   COUNTRY   COUNTRY   CREDIT_RATING   CURRENT_EMPLOYER   CUSTPREFIX1   CUSTPREFIX2	Π	LOV CHG GRP				Internal	~						
LOV_CLG_GRP       LOV_CLSCCY       LOV_COLLATERAL_TYPE       LOV_COULATERAL_TYPE       LOV_COUNTRY       Internal V       LOV_CURRENT_EMPLOYER       Internal V       LOV_CUSTPREFIX1       Internal V	CL0_ORP     Iniemal v       CLSCCY     Internal v       COLLATERAL_TYPE     Internal v       COUNTRY     Iniemal v       COUNTRY     Iniemal v       CREDIT_RATING     Internal v       CUBTPREFIX     Internal v       CUSTPREFIX1     Internal v       CUSTPREFIX2     Internal v	Π					Internal	~						
LOV_CLSCCY     internal v       LOV_COLLATERAL_TYPE     internal v       LOV_COUNTRY     internal v       LOV_CREDIT_RATING     internal v       LOV_CURRENT_EMPLOYER     internal v       LOV_CUSTPREFIX1     internal v       LOV_CUSTPREFIX2     internal v	LISCCY     Internal        COLLATERAL_TYPE     Internal        COUNTRY     Internal        CREDIT_RATING     Internal        CURRENT_EMPLOYER     Internal        CUSTPREFIX1     Internal        CUSTPREFIX2     Internal		LOV CLG GRP											
LOV_COLLATERAL_TYPE     Internal v       LOV_COUNTRY     Internal v       LOV_COREDIT_RATING     Internal v       LOV_CURRENT_EMPLOYER     Internal v       LOV_CUSTPREFIX1     Internal v       LOV_CUSTPREFIX2     Internal v	COLLATERAL_TYPE     Internal        COUNTRY     Internal        CREDIT_RATING     internal        CURRENT_EMPLOYER     Internal        CUSTPREFIX1     internal        CUSTPREFIX2     Internal							J						
LOV_COUNTRY     Inlemal v       LOV_CREDIT_RATING     Internal v       LOV_CURRENT_EMPLOYER     Internal v       LOV_CUSTPREFIX1     Internal v       LOV_CUSTPREFIX2     Internal v	COUNTRY     Internal        CREDIT_RATING     Internal        CURRENT_EMPLOYER     Internal        CUSTPREFIX1     Internal        CUSTPREFIX2     Internal						· · · · · · · · · · · · · · · · · · ·							
LOV_OREDIT_RATING     Internal v       LOV_CURRENT_EMPLOYER     Internal v       LOV_CUSTPREFIX1     Internal v       LOV_CUSTPREFIX2     Internal v	CREDIT_RATING     Internal        CURRENT_EMPLOYER     Internal        CUSTPREFIX1     Internal        CUSTPREFIX2     Internal													
IOV_CURRENT_EMPLOYER     Internal v       IOV_CUSTPREFIX1     Internal v       IOV_CUSTPREFIX2     Internal v	CURRENT_EMPLOYER CUSTPREFIX1 CUSTPREFIX2 Internal Interna		·											
LOV_CUSTPREFIX1     Internal v       LOV_CUSTPREFIX2     Internal v	CUSTPREFIX1 Internal V CUSTPREFIX2 Internal V						·							
LOV_CUSTPREFIX2 Internal V	CUSTPREFIX2							J						
	CUST_CAT Internal V		LOV_CUST_CAT											~
	Generate Close		[cov_ouvou											

Fig 3.2.3: Generation Screen



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