Oracle FLEXCUBE Universal Banking ® 12.87.03.0.0 Development of Maintenance Form

June 2017



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1. Preface

This document describes Maintenance Screens in FLEXCUBE and the process of designing a simple Maintenance form using Oracle FLEXCUBE Development Workbench for Universal Banking

1.1 Audience

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

Proficiency Resources **FLEXCUBE** Functional Architecture Training programs from Oracle Financial Software Services. **FLEXCUBE** Technical Architecture Training programs from Oracle Financial Software Services. FLEXCUBE Screen Development 04-Development_WorkBench _Screen_Development-I.docx Working knowledge of Web based Self Acquired applications Working knowledge of Oracle Database Oracle Documentations Working knowledge of PLSQL & SQL Self Acquired Language Working knowledge of XML files Self Acquired

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

1.2 Related Documents

<u>04-Development_WorkBench_Screen_Development-I.docx</u> <u>05-Development_WorkBench_Screen_Development-II.docx</u>

2. Introduction

2.1 How to use this Guide

The information in this document includes:

- <u>Chapter 2 , "Introduction"</u>
- Chapter 3 , "Overview of Call Form"
- <u>Chapter 4 , "Screen Development"</u>
- Chapter 5 , "Generated Units"
- <u>Chapter 5 , "Extensible Development"</u>

3. Overview of Maintenance Screen

Maintenance Function Id's are used for storing maintenance data which are required for processing of any contracts, batches or for any other maintenance which are dependent on this

Example: Customer maintenance screen

If any customer wants to use the service of a bank, details about the customer will have to be maintained in the system .This will be maintenance data which will be required for other maintenances (creating account for the customer) as well as for transaction processing (debiting of customer account)

Business logic for a maintenance function id would be provided by the Development Workbench generated files .Most of the cases, system provided logic would be sufficient .Extra validations can be coded in the hook packages by the developer.

4. Screen Development

Design and development of a Maintenance function id is similar to any other function Ids. This section briefs the steps in designing a Maintenance screen. STDCINF is sample function id used for demonstration in this document

For detailed explanation, refer the document: <u>4-Development_WorkBench</u>

<u>_Screen_Development-I.docx</u>

4.1 Header Information

Provide the header information as shown in the figure.

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Action None -	Function Type Parent +	Function Category Maintenance +	
Function Id	Parent Function	Header Template None -	
Save XML Path	Parent Xml	Footer Template None -	
ħ			
DataBlocks DataBlocks Screens FieldSets Actions CallForms LaunchForms Summary			

Fig 12.1: Providing Header Information for Maintenance Screen

- For new screen select action As New.
- Enter Function ID \rightarrow STDCIFD
- Function Type \rightarrow Parent
- Function Category \rightarrow Maintenance
- Parent Function Id \rightarrow None
- Parent Xml \rightarrow None
- Header Template \rightarrow None (Only for Process flow screens)
- Footer Template \rightarrow Maint Audit

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Fig 12.2: Save icon used for saving the radxml

User can save work at any point in time. Click the save icon on top right for the same .In order to work again with it select action as Load and load radxml from the hard disk path

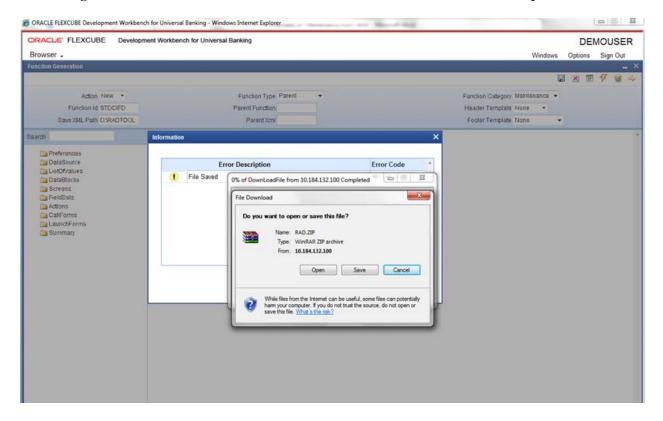


Fig 12.3: Saved File Information page

Note the following while providing header information for Maintenance screen

- i) **Naming Convention**: The third letter of the function id has to be D. Ideally the function id name should have 8 characters.
- ii) Footer Template Make sure that the master data source has the audit columns if footer template is provided as Maint log.

Refer <u>04-Development_WorkBench _Screen_Development-I.docx</u> for detailed explanation

4.2 Preferences

- Details entered in Preferences are used in generating INCS for SMTB_MENU, SMTB_FUNCTION_DESCRIPTION and SMTB_ROLE_DETAILS.
- **Control String** → Developer needs to select the actions which should be available for this screen in FLEXCUBE.

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Note the following points while providing details in Preferences screen

i) Control String REVERSE, ROLLOVER, CONFIRM, LIQUIDATE, HOLD operations are not applicable for maintenance screens.

Defining Browser Menu Tree Browser menu tree will be defined in the script generated for smtb_function_description. The following labels has to be maintained for generation of proper script Main Menu: LBL_{function id}_MAIN_MENU Sub Menu 1: LBL_{function id}_SUB_MENU_1 Sub Menu 2: LBL_{function id}_SUB_MENU_2 Description: LBL_{function id}_DESC Example: For STDCIFD, following labels has to be maintained LBL_STDCIFD_MAIN_MENU, LBL_STDCIFD_SUB_MENU_1, LBL_STDCIFD_SUB_MENU_2, LBL_STDCIFD_SUB_MENU_2, LBL_STDCIFD_SUB_MENU_2, LBL_STDCIFD_SUB_MENU_2, LBL_STDCIFD_DESC

Refer <u>Development_WorkBench _Screen_Development-I.docx</u> for detailed explanation on preferences

4.3 Data Sources

- Right Click on Data Sources; click on Add. Add table window gets opened.
- If user knows the exact table name, he can enter name directly; else go to List Of values to get the list of tables available. Select the required table from the list.

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Fig 12.5: Adding Data Sources for the Function id

- Select Master as Yes if added data source is Master Data Source for the screen. Every function id should have one master data source..
- **Primary Key columns** (i.e. Pk Cols) and **Primary Types** (i.e. Pk Types) are mandatory. If it is already maintained in user schema in STTB_PK_COLS it will populated automatically otherwise user needs to enter values without fail. If user misses Pk cols and Pk Types package generation will fail. *Note: Master Data Source cannot have any parent.*

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Fig 12.6: Providing master Data Source Properties

• Right Click on Added Table (STTM_CUSTOMER) to add fields to the table. Popup window gets opened with available columns in data source. Select the required fields and click ok. Selected will get added to the Data Source Tree.

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Fig 12.7: Including Data Source Fields for the Data Source

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Fig 12.7: Selecting Data Source Fields for the Data Source

Data Source Field Properties:

Only max length can be modified by the developer in data source field properties. Rest will be defaulted from table definition

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Data model of a single function id would include multiple tables .All the tables needs to added in the function id. Note the following while adding child data sources

Adding Child Data Source:

- Select Multi Record value as Yes if child data source is Multi record table.
- Child Data Source should always be associated with a parent.
- Relation is mandatory between parent and child. While giving relation, parent data source should come in left side of the relation.

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Fig 12.7: Providing properties for Child Data Source

Note: A data source cannot be parent to itself.

Note the following while adding data sources:

- i) If the data source is designed with relation type as 1: N with its parent, then it should have at least one more Pk col than its parent (assuming relationship is based on Pk cols).
- ii) Master data source needs to have the audit columns if footer template is Maint audit; but those should not be added to data source fields as system will handle it

Refer <u>Development_WorkBench_Screen_Development-I.docx</u> for detailed explanation on data sources

4.4 Data Blocks

• Block Name should start with BLK_<short Name equivalent to data source but not exactly same as Data Source name>.

ld Block		>
Block Name	BLK_CUSTOMER	
	Ok Cancel	
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Fig 12.8: Creating a new Data Block

- Select Parent block if added block is not Master Block.
- Select Multi Record (Yes/No) based on this value, available data sources will displayed in data source available text area.

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• Select the required data source and click move button to attach Data Source to the block

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Fig 12.10: Attaching Data Sources to Data Block

Adding multi record data source to data block:

User on selecting Multi record Yes in data block properties all the data sources with multi record Yes will be populated. *Multi Data Source once used to one block won't available for reuse where as single record data source can be used in multiple blocks*

Select Block Fields:

- Right click on added block. Select Fields window will get opened. Developer needs to check the right side check box to add the required fields.
- **Field Name**: It should not be the same as column name .Special characters are also not allowed in the field name (including underscore and space)
- Label Code: It will be automatically populated based on field name.

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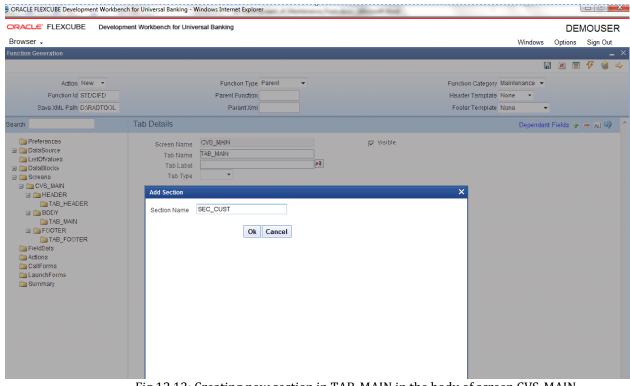
Fig 12.11: Adding Block Fields to Data Block

Refer <u>Development_WorkBench_Screen_Development-I.docx</u> for detailed explanation on data blocks and block field properties

4.5 Screens

- Right click on Screens node to add a new screen
- Screen Name should start with CVS_<Name>...
- By default screen are divided into 3 parts.
- One Main Screen is Mandatory.
- Tabs can be defined on any of the screen portions as required
- User can add sections to tabs.
- Each section can be divided into partitions.

Fig 12.12: Providing properties to new Screen



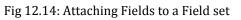
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TAB_FOOTER FieldSets CallForms LaunchForms Summary		
	Fig 12.14: Defining partitions for the Sectio	n

4.6 Field Sets

A group of fields can be grouped together in a Field set which can be placed together in the screen

- Field Set Name should start with FST_<>.
- Select the Block adding to field set.
- All fields available to the block will be displayed in to the data block fields text area. Move fields from data block fields to Field set fields.
- The order of fields in *field set fields* will reflect in the screen as well

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arch	Fieldset Properties	4
Preferences DataSource ListOV/Values DataBlocks Screens FildSets FST_CUST1 FST_CUST2 Actions	Fieldset Name FST_CUST1 Fieldset Label PE Data Block BLK_CUSTOMER • Multi Record No • View Type Single • Fieldset Height	Screen Name CVS_MAIN Horizontal Fieldset Screen Portion ReadOnly Tab Name Navigation Button Section Name Visible Partition Name Visible Number Of Rows Image: Comparison of
in CallForms in LaunchForms	Data Block Fields	Pield Set Fields Subpartition Name
Summary	CNTY NLTY LANG	CUSTNO CNAME CUSTTYPE ADDR1 CUSTYPE

• Select the screen portion (Header/Body/Footer) where this field set has to be placed. Select remaining details like tab, section and partition.

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CaliForms	Data Block Fields CNTY NLTY LANG		FieldSet Fields CUSTNO CNAME CUSTTYPE ADDR1	Subpartition Name	

Fig 12.15: Providing details where Field Set has to be placed

Once fields are added to field set, developer can check the preview of the designed screen. Right click on Screen Name and click on Preview.

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🖹 New 🦻 Enter Query		
Customer No		
Name		
Туре		
Address		
Maker	Date Time:	
Checker		
	Date Time:	Exit
Mod No	Record Status	
	Authorization Status	

Fig 12.16: Preview of the designed Screen

Adding Multi entry block to field set.

- On selecting a multiple block, Multi Record Property will be defaulted to Yes..
- In case of Multi record, View type can be either Single or Multiple (By Default).

Main			
New 🔄 Enter Query			
Customer No Name Type Address			
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Group Id	Customer No	Relation	*
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Maker	Da	ite Time:	
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Below image shows a multiple view multi record field set



• For multi record single view navigation button should be checked.

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FieldSets											
Difference For Contract Contra											

Below figure shows the preview of a single view multi record field set

🔶 Main		X
🗗 New 🔄 Enter Query		
Customer No Name Type Address Group Id Customer No Relation		1 of 1
Maker Checker	Date Time: Date Time:	Exit
Mod No	Record Status Authorization Status	

Fig 12.18: Preview for Single View Multi Record Field set

4.7 LOV

List Of values can be defined for the function id using LOV node

- To add LOV right click on List of Values Node. LOV Name should start with LOV_<name>. *Example: LOV_COUNTRY.*
- Enter valid query and click on populate button

Function Generation					_ ×
			🗄 🗶 🗏	17	🧐 🔿
Action Load - Function Id STDCIFD Save XML Path STDCIFD_RAI	Function Type Parent Parent Function BROWSE Parent Xml	Header Templ	ory Maintenance v ate None v ate Maint Audit v		
Search	List Of Values Details			— A(1 9
Preferences CataSource CataSourc	LOV Name + LOV_OCUNTRY LOV Query select country_code,description from stir	m_country where auth_stat = 'A' and record_stat = 'O'	9	Populate	Ð
	Query Columns Data Type Visible	Reduction Field Reduction Field Type	Reduction/Column Label	-	1
Josef States Actions CallForms CallForms Summary				Ŧ]

Fig 12.19: Defining new LOV

LOV	Query	×
	select country_code,description from sttm_country where auth_stat = 'A' and record_stat = 'O'	
	Ok Cancel	

Fig 12.20: Providing LOV query

Function Generation									_ ×
						🔚 🔰	(🔳	8	🧐 🔶
Action Load Function Id STDCIFD Save XML Path STDCIFD_RAI		Function Type Parent arent Function Parent Xml			Hea	tion Category Maintenance v der Template None v oter Template Maint Audit v			
Search	List Of Values Details							— Aï	ن ې ^
Preferences ⇒ DataSource ⇒ STTM_CUSTOMER ⇒ STTM_CUST_GROUP ⇒ LStOfValues ⇒ LOV_OCUNTRY	LOV Name * LOV_O LOV Query select o		from sttm_cc	ountry where auth_stat :	= 'A' and record_stat = 'O'	Q	P	opulate	D
DataBlocks	Query Columns	Data Type	Visible	Reduction Field	Reduction Field Type	Reduction/Column Labe		^	
	COUNTRY_CODE	VARCHAR2 -	Yes 🔻	Yes 👻	TEXT -	LBL_CNTRY	×E		
 Actions CallForms LaunchForms Summary 	DESCRIPTION	VARCHAR2 -	Yes 🔻	Yes •	TEXT •		×		

Fig 12.21: Providing LOV details

- Redn/Col Labels are mandatory. If user won't provide will get error on click of LOV button after deployment in FLEXCUBE
- After defining LOV go to block and corresponding field where the LOV has to be attached.

Block Field Properties to attach LOV to the field

- **Display Type:** Select display type as Lov.
- Lov Name: Select the required Lov name from the list of all defined LOV's.
- Click on return fields tab. The result fields maintained in the LOV query will be populated on click of *Default from Lov Definition* button
- Select the desired field (and its block)to which the result of the LOV query should be defaulted

• If return field is not required to be defaulted to any field in the screen, return field value can be left blank

Function Generation			-
			🖫 🗵 🗏 🖗 🤘 🖷
Action Load -	Function Type Parent	Function C	Category Maintenance -
Function Id STDCIFD	Parent Function	Header T	emplate None -
Save XML Path STDCIFD_RAI	BROWSE Parent Xml	Footer T	emplate Maint Audit 👻
Search	Block Field Properties		- 🗷 📮 🗐
Preferences DataSource CUSTOMER CUSTOMER CUST_GROUP	Field Name • CNTY Field Label EL_CNTY • DataSource STTM_CUSTOMER	XSD Tag CNTY XSD Annotation Field Size *	Required Visible Read Only
ListOfValues LoV_COUNRTY LoV_COUNRTY LoV_COUNRTY LoV_COUNCTY LoV_COUNCTY Lov_DataBlocks Lov_DAtaBlocks	Column Name • COUNTRY Data Type • Varchar2 • Display Type • Lov • Item Type Database Item •	Maximum Length 3 Minimum Value Maximum Value Maximum Decimals	Calender Text
☐ CUSTNO ☐ CUSTTYPE ☐ CNAME ☐ ADDR1	Parent Field	TextArea Rows TextArea Columns Default Value	LOV Validation Required Input by LOV Only Not Required In Xsd
☐ CNTY ☐ NLTY ☐ LANG ☞ ☐ BLK_GROUP	LOV Name LOV_COUNRTY Off Line LOV Name Fieldset Name	Preview Value Mask Id	Report Parameter
	Custom Attributes Events Bind Variable Return Fields Re	ated Field	
a Actions	Return Fields Mapping		Default From Lov Definition
CallForms	Query Column	Block Name	Return Field Name
CaunchForms	COUNTRY_CODE BLK_CUSTOMER	-	CNTY -
	DESCRIPTION BLK_CUSTOMER	▼	•
	Fig 12.22: Attaching L	OV to a block Field	

Use of Bind Variable

If the list of values should be based on any other field value from the screen, bind variables can be used.

Example:

Define lov as shown in below query; where clause should contain condition with '?'.

SELECT cust_ac_no, branch_code, ccy from sttms_cust_account where cust_no = ? and record_stat = 'O' and once_auth = 'Y' and ac_stat_de_post = 'Y'

In the block field, after selecting return fields, click on bind variables tab. Click on **Default from Lov Definition** button. New rows will be created depending on the number of bind variable provided in the LOV query. Select the bind filed in the screen (and its block) for the LOV. Data type of the field has also to be selected.

Action Loos w	Function Type Parent	10	Function Category Userte	nance w		
Function Id STDCHIP	Parent Function		Header Template None	*		
Save XXR, Path D'RADTOOLV	Parent Xml		Footer Template Maint 4	udt 🖌		
arch	Block Field Properties					- 19
Preferences DataSource ListOf/alues LOV_ACCOUNT DataBooks CUSTNO CUSTNO CUSTNO CUTYPE NAME ADDRLN1 COUNTRY NRLTY NRLTY CRSTT RELATION COUSTNO CUSTNO	Field Name CUSTNO Field Label LBL_CUSTNO XSD Tag CUSTNO Display Type Text Mem Type Database frem Parent Field Related Field Related Field Textirea Rows Lin Var Max.Decimals LO/ Name LO/_ACCOUNT Fieldset Name FST_GROUP Custom Attributes Events Bind Variable	≠2	DataSource Trats_CUST_GR Max_Length Peid Size Column Name CUSTOMER_NO Default Value Preview Value Accessivey Code TertArea Cols Max Val Max Id Off Line LOV Name Image Source		Popup Edit Regd Required Valuate Calender Text Calender Text Sered Multiple Uppercase Only C.OV Validation Regd Not Reg in Xad Report Parameter Read Only	
LaundhForms ⊒ Surrenary	Bind Variables Mapping Block Name BLK_CUSTOMER	×	Bind Variable	uli <u>toon LoV definitio</u> Detatype STRIteG		

4.8 Attaching Call forms

Maintenance Call forms can be attached to a maintenance screen. Refer the document <u>14-</u> <u>Development of Call Form.docx</u> for developing call forms

Attaching Call forms

- Add button to block to launch call form on button click.
 - Right click on Block
 - Select Add fields. Select fields and Add UI field's window will be launched
 - Select UI Fields tab. Click add row button. Enter button name and click ok.
 - Select display type as button and enter field label.

Se	elect F	Fields & Add UI Fields		×
ī	DataS	Source fields UI Fields		
			+ -]
		Field Name Data Typ	pe f	^
	V	BTM_MIS	•	
				*
			Ok	Cancel

Fig 12.24: Defining Button field

• Add Call form details to Call form node

						🔚 🗶	🗏 7 🧃
Action Load Function Id STDCIFD Save XML Path STDCIFD RAI	BROWSE	Function Type Parent Parent Function Parent Xml	_	Hea	tion Category Mai der Template Nor oter Template Mai	ne 🔻	
arch	Call Form Details						ý
Preferences CataSource CUSTOMER CUSTOMER CUST_GROUP	Function ID	Parent Data Block	Parent Data Source	Relation	Screen Arguments Relation Type	Dependent Callform Screen	Fields + - Display 1 ^
ListOfValues Lov_COUNRTY DataBlocks BLK_CUSTOMER CUSTYPE COUSTYPE COUSTYPE COUSTYPE COUSTYPE COUSTYPE COUSTYPE COUSTYPE LANG BTM_MIS BLK_GROUP Screens SUBMARS Califorms Califorms Launchforms Summary	MICCUSTM	BLK_CUSTOMER -	STTM_CUSTOMER •	TTM_CUSTOMER.COSTOMER_NO] One To One		Button

Fig 12.25: Defining details of the Call form to be attached in call form node

- Add event to button.
 - On selecting event type as call form or launch form or sub screen button will be displayed on bottom of the screen.
 - If user needs to place button position in desired place on the screen, event type should be Normal .User has to write code in release specific JavaScript file to launch the screen

Function Generation						_ ×
					X	🗏 7 🧃 🔿
Action Load 👻	Function Ty	pe Parent -		Function Categor	v Maintenance 👻	
Function Id STDCIFD	Parent Funct			Header Templat		
Save XML Path STDCIFD_RAI	BROWSE Parent X	tml		Footer Templat	e Maint Audit 👻	
Search	Block Field Properties				-	- 🗷 🗔 🗐 🔺
Search Preferences DataSource STIM_CUSTOMER STIM_CUST_GROUP LUST_GROUP DataBlocks DataBlocks DataBlocks CUSTNO CUSTNO CUSTNYPE CUSTNYPE CUSTNYPE CUSTNYPE CUSTNYPE CUSTNG BTM_MIS BLK_GROUP Screens CUSY HEADER BODY TAB_MAIN SEC_CUST SEC_COUP CUST	Field Name • BTM_MIS Field Label DataSource Column Name • Data Type • Display Type • Text Control • Related Block Related Block Related Field • LOV Name Fieldset Name Custom Attributes Events Related Fiel			MIS MIS P P P P P P P P P P P P P	Calenci Visible Calenci Popup Uppen LOV V Requir Not Re Report	ed Dnly der Text Edit Required case Only alidation
FieldSets Actions CallForms LaunchForms Summary						
						Ŧ
Fig 1	2.26: Defining event to	o the butto	n such that call fo	orm is linked to	the button	

• Check the preview.

🔶 Main			>
New 🤤 Enter Query			
Customer No Name Type Address			
📢 🖣 1 of 1 🕨 🕨	Go to Page		+ - =
Group Id	Customer No	Relation	*
			~
•		III	•
_			
MIS Change Log			
Maker		Date Time:	
Checker		Date Time:	Exit
Mod No		cord Status tion Status	

Fig 12.27: Preview of the screen with the Call Form button

4.9 Adding Summary

1) Add entry in Preferences node for Summary screen

						×	V	ø
Function	Type Parent 👻		Function Catego	ry Maintenance	-			
Parent Fun	iction		Header Templa	te None 🔻				
BROWSE Paren	t Xml		Footer Templa	te Maint Audit	•			
Preferences								Ľ
🔽 Head Office F	Function	Module		> =				
🔽 Logging Req	luired	Module Description	Static Maintenance					
Auto Authoriz	ation	Branch Program Id						
Tank Modifica	ations							
🔽 Field Log Re	quired		Chasse Black					
🗖 Multi Branch	Access			Ŧ				
Excel Export	Required	Transaction Field	Choose Field	•				
		Name						
					Cont	rol Strin	g 🕂 🗕	٦
Function Id		Module *	Me	dule Description	1		-	-
STDCIFD	ST	×=	Static Maintenance					
STSCIFD	ST	1	Static Maintenance			1		
						- C	-	-
		reen details in Prefere						
	Parent Fun BROWSE Paren Preferences Feda Office F Function Id STDCIFD	Preferences Image: Construction Image: Constret Image: Construction	Parent Function	Parent Function Header Templal BROWSE Parent Xml Footer Templal Preferences Module ST Image: Comparison of the state of th	Parent Function Heade Template None BROWSE Parent Xmt Footer Template Maint Audit Preferences Image: Construction Module ST Static Maintenance Image: Construction Module ST Static Maintenance Static Maintenance Image: Construction Branch Program Id Static Maintenance Choose Block Image: Construction Image: Construction Multi Branch Access Transaction Field Choose Block Image: Construction Image: Excel Export Required Transaction Field Choose Field Image: Construction Image: Function Id Module * Module Description Image: Static Maintenance Static Maintenance Image: Construction	Function Type Parent Function Category Maintenance Parent Function Header Template None Preferences Footer Template Maint Audit Image: Comparing the state of the sta	Function Type Parent Parent Header Template None Parent Xml Footer Template Monte Image: Control String Preferences Image: Control String Static Maintenance Image: Control String Image: Control String Function Module Image: Control String Image: Control String Static Maintenance Image: Control String Image: Static Maintenance Image: Control String Image: Control String Image: Static Maintenance Image: Control String Image: Control String Image: Static Maintenance Image: Control String Image: Control String Image: Static Maintenance Image: Control String Image: Control String Image: Static Maintenance Image: Control String Image: Control String Image: Static Maintenance Image: Control String Image: Control String Image: Static Maintenance Image: Control String Image: Control String Image: Static	Function Type Parent Function Category Maintenance Parent Function Header Template None Preferences Footer Template Maint Audit Image: Comparing Required Module Static Maintenance Image: Comparing Required Static Maintenance Image: Comparing Required Image: Comparing Required Static Maintenance Image: Comparing Required Image: Comparing Required Static Maintenance Image: Comparing Required Image: Comparing Required Transaction Block Image: Comparing Required Image: Multi Branch Access Name Choose Block Image: Comparing Required Image: Excel Export Required Transaction Flied Image: Comparing Required Image: Comparing Required Image: Static Maintenance Static Maintenance <

- 2) Click on Summary Node.
 - Enter Summary title .Select label code from lov.
 - Select Data Block master block and summary blocks will be displayed. Select required block from drop down list.
 - Select Data Source for summary.
 - Select Summary Type.
 - Select Summary Screen size.
 - Enter if any where clause is required.
 - Enter Default order by if required.
 - Enter Multi Branch where clause if required.
 - Attach the fields required in the summary result grid
 - If the field is required as part of filtering, query has to be checked for the particular field
 - Provide the position of fields in Result grid and Summary Query set .

									<	V
Action Load -		Function Type Parent				Function Ca	ategory Maintenance	-		
Function Id STDCIFD		Parent Function				Header Te	mplate None 👻			
Save XML Path STDCIFD_RAI	BROWSE	Parent Xml				Footer Te	mplate Maint Audit	•		
ch	Summary Details									Q
Preferences	Title		1	1	Default Where Clause			2		
DataSource	Data Blocks	BLK_CUSTOMER	•					2		
STTM_CUSTOMER		-			Default Order By			2		
STTM_CUST_GROUP	Data Source	STTM_CUSTOMER			Multi Branch Where Clause					
🚞 ListOfValues	Summary Type	Summary	•							
🚞 DataBlocks	Summary Screen Size	Medium	-		Main Summary Screen	WebService				
BLK_CUSTOMER						Required	15			
CUSTNO			-							
CUSTTYPE	Data Block Fields C	ustom Buttons Fields Orderin	g							
CNAME										
DDR1										
CIVITY										
D NI TY				_		-				
		Data Block Fields			Fields Selected	Query	LOV Name			
🚞 LANG		Data Block Fields				Query	LOV Name	•		
🗀 LANG 🎦 BTM_MIS		Data Block Fields			CUSTNO		LOV Name	•		
□ LANG □ BTM_MIS ■ □ BLK_GROUP □ Screens		Data Block Fields			CUSTNO CNAME		LOV Name	•		
LANG BTM_MIS BLK_GROUP Screens CVS_MAIN		Data Block Fields			CUSTNO CNAME CUSTTYPE		LOV Name	•		
□ LANG □ BTM_MIS ■ □ BLK_GROUP □ Screens ■ □ CVS_MAIN □ FieldSets		Data Block Fields			CUSTNO CNAME CUSTTYPE ADDR1		LOV Name			
LANG BTM_MIS BTM_MIS BBLK_GROUP Screens CVS_MAIN FieldSets Actions CallForms		Data Block Fields			CUSTNO CNAME CUSTTYPE ADDR1 CNTY		LOV Name			
LANG BTM_MIS BTM_MIS BTM_MIS DLK_GROUP CVS_MAIN FieldSets Actions CaliForms LaunchForms		Data Block Fields			CUSTNO CNAME CUSTTYPE ADDR1 CNTY NLTY		LOV Name			
LANG BTM_MIS BTM_MIS BBLK_GROUP Screens CVS_MAIN FieldSets Actions CallForms		Data Block Fields			CUSTNO CNAME CUSTTYPE ADDR1 CNTY NLTY		LOV Name			

Summary Preview

Right click on summary node and click on preview.

◆ ₽ Exe	cute Query 👉 Advance Authorization Status Customer No	ed Search 🥱 Resi	et 🕞 Clear All		Reco	ord Status	•]		
Recor	rds per page 15 💌 📢 Authorization Status	I of 1 Record Status	Go to Page Customer No	Name	Туре	Address	Country	Nationality	Language	•
										Ŧ
•									Exit	

Fig 12.29: Summary Screen Preview

4.10 Amendable fields Maintenance

Amendable Fields

If user needs to modify data of a particular field on unlock, in Workbench developer has to maintain fields as amendable.

- Click ACTIONS node.
- Click on Amendables button next to the action for which the field has to be made amendable
- Select the fields in each block which user can modify for the selected action.

Amendable DetailsQUERY		×
Data Blocks	DataBlock Fields	
BLK_CUSTOMER BLK_GROUP	New Allowed Delete Allowed All Records	Mandatory
	Field Name	Amendable
	CUSTNO	
	CUSTTYPE	
	CNAME	V
	ADDR1	v
	CNTY	
	NLTY	
	LANG	
	BTM_MIS	
		Ok Cancel

Fig 12.30: Maintaining amendable fields

5. Generation and Deployment of files

Generate Files

• Click on generate button select the required files to generate and click on Generate button.

ation		>		Mela Data	Others			
Error Description Image: Request successfully Processed		Error Code Image: Control of Control		Label Details Block PK Columns Function Call Forms Gateway Details Notification Details	Xsds Xsds Xsd With Annotations Screen Html Upload Table Trigger Upload Tables Delimition			
		0% of DownLoadFile from 10.18	4.132.100 Completed	x Inclion Parameters	Archive Table Definition			
		Do you want to open or save this file?			Status			
		Name: RAD.ZIP Type: WinRAR ZIP archive			Generated +			
		From: 10.184.132.100 Open Save Cancel			Generalød *			
					Generated *			
					Generaled *			
STDCIFD_CVS_HAINTAB_FOOTER html slpks_stddid_main.spc stpks_slddid_kernel.spc		While files from the internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. <u>What's the risk?</u>			Generated *			
					Generated *			
					Generated *			
	slpks_stdcifd_main.sql	-	sc	<u>μ.</u>	Generalød *			
	stpks_sidcifd_kernel.sql		SC	2L.	Generated *			
	CST8_FIELD_LABELSSTDCIFD.INC		IN	c	Generaled *			
	CSTB_OTHER_LABELSSTDCIFD INC		IN	C	Generated *			
	CSTB_FID_CALLFORMSSTOCIFD.INC		IN	â	Generaled *			

Fig 12.30: Generation of Files

Deploy files

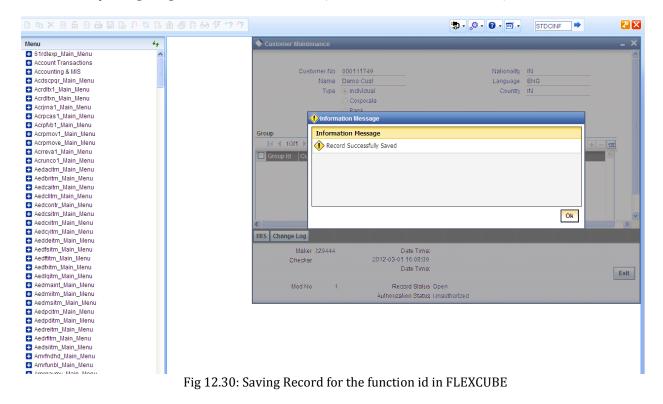
• Click on deploy button select the required files to deployed to server and click on deploy. On successful deployment status will be displayed as Deployed.

Front-End Files	System Packages	Hook Packages		Meta Data			Others	
RadXML	Main Package Spec Main Package Body Notification Triggers Upload Package Spec Upload Package Body	Kernel Package Spec Kernel Package Body Custer Package Spec Custer Package Body Custom Package Spec Custom Package Body	Menu Details Datasource Details LOV Details Block Details Srcen Details Amendable Details Call form Details Summary Details	Label Deta Block PK C Function C Gateway D Notification Function P Purge Deta	columns all Forms etails Details arameters	Xsds Xsd With Ar Screen Htm Upload Tab Upload Tab Archive Tab	nl Ne Trigger Nes Definition	
3	CSTB_FIELD_LABELSSTDCIFD.INC		INC	;		Deployed	~	_
4	CSTB_OTHER_LABELSSTDCIFD.INC		INC	;		Deployed	-	
5	CSTB_SUMMARY_INFOSTDCIFD.INC		INC	;		Deployed	Y	
в	STTB_AUDIT_PK_COLSSTDCIFD.INC		INC	;		Deployed	Ŧ	
7	CSTB_FID_DATA_BLOCKSSTDCIFD.INC		INC	;		Deployed	Ŧ	
3	CSTB_FID_DATA_SOURCESSTDCIFD.INC		INC	;		Deployed	Y	
9	CSTB_FID_SCR_TABSSTDCIFD.INC		INC	;		Deployed	Ŧ	
10	CSTB_FID_SCREENSSTDCIFD.INC		INC	;		Deployed	Ŧ	
11	SMTB_MENUSTDCIFD.INC		INC	;		Deployed	Ŧ	
12	SMTB_ROLE_DETAILSTDCIFD.INC		INC	;		Deployed	Ŧ	
13	SMTB_FUNCTION_DESCRIPTION_STDCIFD.INC		INC	;		Deployed	-	
14	SMTB_FCC_FCJ_MAPPINGSTDCIFD.INC		INC	;		Deployed	Ŧ	
15	STDCIFD RAD.xml		RAD	DXML		Generated	-	

Fig 12.30: Deployment of Files

Testing

- Launch the screen from FLEXCUBE
- Try sample operations on the screen (NEW, MODIFY, QUERY etc)



6. Generated Units

The following units will be generated for a Maintenance screen.

Refer document <u>Development_WorkBench_Screen_Development-II.docx</u> for detailed explanation on the same

6.1 Front End Units

6.1.1 Language xml

This file is an XML markup of presentation details, for the designed Call Form specific to a language.

6.1.2 SYS JavaScript File

This JavaScript file mainly contains a list of declared variables required for the functioning of the screen

6.1.3 Release Type Specific JavaScript File

This file won't be generated by the Tool. It has to be manually written by the developer if he has to write any code specific in that release

6.2 Data Base Units

6.2.1 Static Scripts

The following static scripts generated are required for the proper functioning of a Call Form screen. Refer document on generated units for detailed explanation

i) Menu Details

Scripts for SMTB_MENU and SMTB_FCC_FCJ_MAPPING, SMTB_ROLE_DETAIL, SMTB_FCC_GCJ_MAPPING are required for the functioning of Maintenance screen

- ii) Lov Details
- iii) Amendable Details
- iv) Label details
- v) Screen Details
- vi) Block details
- vii) Data Source Details
- viii) Call form details
- ix) Summary Details

6.2.2 System Packages

The Main Package contains the basic validations and backend logic for the Maintenance function id. The Main package contains the mandatory checks required. It will also contain function calls to the other packages generated by Workbench.

The main package has the below stages for a maintenance form:

- Converting Ts to PL/SQL Composite Type
- Checking for mandatory fields
- Defaulting and validating the data
- Writing into Database
- Querying the Data from database

• Converting the Modified Composite Type again to TS

Each of these stages has a 'Pre' and 'Post' hooks in the Kernel, Cluster and Custom Packages. And these Hooks are called from the Main Package itself

Main Package has the system-generated code and should not be modified by the developer Kernel, Cluster and Custom Packages are the packages where the respective team can add business logic in appropriate functions using the Pre and Post hooks available

6.2.3 Hook Packages

Release specific packages will be generated based on the release type (KERNEL.CLUSTER or CUSTOM). Developer can add his code in the release specific hook package.

The Main Package has designated calls to these Hook Packages for executing any functional checks and Business validations added by the user. The structure for all the Hook Packages are the same, like:

Fn_Post_Build_Type_Structure Fn_Pre_Check_Mandatory Fn_Post_Check_Mandatory Fn_Pre_Default_and_Validate Fn_Post_Default_and_Validate Fn_Pre_Upload_Db Fn_Post_Upload_Db Fn_Pre_Query Fn_Post_Query

These Functions are called from the Main package using the Pre and Post Hooks available in the Main Package. The 3 Hook Packages namely Kernel, Cluster and Custom Packages have similar structure and are for the respective teams to work on.

6.3 Other Units

6.3.1 Xsd

Xsd 's will be generated if gateway operations are required for the particular function id. Maintenance for the same has to be done in *Actions* node

7. Extensible Development

Developer can add his code in hook packages and release specific JavaScript file.

7.1 Extensibility in JavaScript Coding

For release specific JavaScript coding, code has to be written in release specific JavaScript

file.

It follows the naming convention as : (Function Id)_(Release Type).js *Example: Code in STDCIFD_CLUSTER.js is exclusive to cluster release*

This JavaScript file allows developer to add functional code and is specific to release.

The functions in this file are generally triggered by screen events. A developer working in cluster release would add functions based on two categories:

- Functions triggered by screen loading events *Example: fnPreLoad_CLUSTER(), fnPostLoad_CLUSTER()*
- Functions triggered by screen action events *Example: fnPreNew_ CLUSTER (), fnPostNew_ CLUSTER ()*

7.2 Extensibility in Backend Coding

Release specific code has to be written in the Hook Packages generated.

7.2.1 Functions in Hook Packages

Different functions available in the Hook Package of a Maintenance Form are:

- 1) Skip Handler : Pr_Skip_Handler This can be used to skip the logic written in another release. *Example: logic written in KERNEL release can be skipped in CLUSTER release*
- **2) Fn_post_bulid_type_structure** If any change has to be made in the field values obtained from the form befor start of processing, code can be written here
- 3) Fn_pre_check_mandatory
- 4) Fn_post_check_mandatory

Any extra mandatory checks on the field values from the screen can be written here.

- 5) Fn_pre_query
- 6) **Fn_post_query** Any specific logic while querying can be written in these functions. It is called from fn_query of the main package
- 7) Fn_pre_upload_db
- 8) Fn_post_upload_dbAny logic while uploading data to tables can be written here .

9) Fn_pre_default_and_validate

10) Fn_post_default_and_validate

Any release specific logic for defaulting and validation can be written here . It is called from the fn_default_and_validate in the main package

7.2.2 Flow of control through Hook packages

The flow of control through the Hook Packages for a particular stage is as explained in the figure below

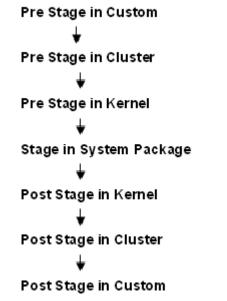
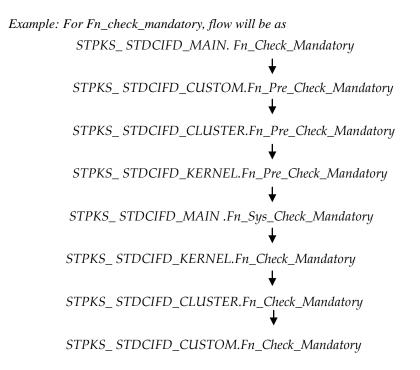


Fig 12.31: Flow of control through Hook Packages



7.2.3 By passing Base Release Functionality

There are auto generated functions like FN_SKIP_<RELEAE_TYPE> which would determine whether or not a particular hooks needs to be called.

Developer also has an option to bypass the base release hook if need be. For example if the validations written in *STPKS_STDCINF_KERNEL.FN_PRE_CHECK_MANDATORY* are not required or not suitable for the Cluster release, system provides an option to bypass the code written by Kernel team. Similarly a Custom release can also bypass the code written by Kernel and Custom Releases. This can be achieved by calling procedures

PR_SET_SKIP_<RELEASE_TYPE> and *PR_SET_ACTIVATE_<RELEASETYPE>*. These procedures will be made available in the main package and the development teams of Customization teams can use these procedures to skip and re-activate the hooks of parent release.

The Developer should avoid adding validations or Checks in the Pre Stage of any function, like Fn_Pre_Check_Mandatory, etc and should aim to add all the validations in the Fn_Post_Default_and_Validate.

For Example let us see the flow for the Mandatory Stage for STDCIFD:

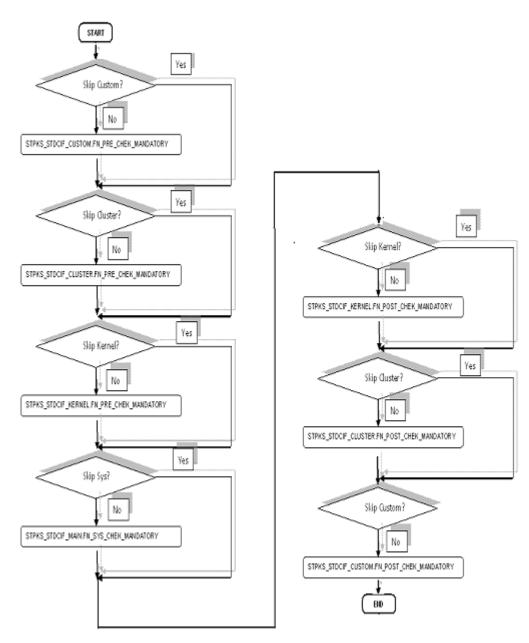


Fig 12.31: Flow of control explaining skip logic in pacakges



Development of Maintenance Form June 2017

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