Development of Maintenance Form Oracle Banking Enterprise Limits and Collateral Management Release 14.7.3.0.0 Part No. F99336-01 [March] [2024]



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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 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

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:

- Chapter 2, "Introduction"
- 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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Browser .		Windows Options Sign Out
Function Generation		
		[] 2 2 2 2 2 2 2 2 2 2
Action None -	Function Type Parent -	Function Category Maintenance -
Function Id	Parent Function	Header Template None -
Save XML Path	Parent Xml	Footer Template None ~
DataSource DataSource DataSlocks Screens FieldSets Califorms Califorms Summary	12.1: Providing Header Information	

- 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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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

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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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	Function Id STDCIFD	βī	Module *	[48]	Static Maintenance	le Description			
	Fig 12.4: Provid								

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.

ii) 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_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.*

Development of Maintenance Form

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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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		Ok Cancel					

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>.

Add Block		×
Block Name	BLK_CUSTOMER	
	Ok Cancel	
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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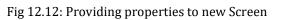
Fig 12.11: Adding Block Fields to Data Block

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.

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TAB_HEADER TAB_HEADER TAB_MANN FOOTER TAB_FOOTER FieldSels Actions	Section Name SEC_CUST Ok Cancel					
Califorms LaunchForms Summary						

Fig 12.13: Creating new section in TAB_MAIN in the body of screen CVS_MAIN

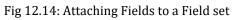
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Function Id STDCIFD Parent Function	Header Template None 💌
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Search Section Details	- R 🦃
Preferences Section Name Sec_CUST ✓ Visible DataSource ListOfValues DataBlocks Screens	
CVS_MAIN Partition Details HEADER	+ -
TAB_HEADER Partition SI No Partition Name DOY PART1	Width Sub-partitions 50 •
BODY 1 PART1 PART2	50 -
	50 •
Fig 12.14: Defining partitions for the Section	

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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 DataBlocks Screens FFI_CUST1 FST_CUST2 Actions CallForms LaunchForms Summary 	Data Block BLK_CUSTOMER Multi Record View Type Single Fieldset Height CNTY LANG Data Block Fields	Tab Name Section Name Partition Name Number Of Rows

• 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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FieldSets FST_CUST1 FST_CUST2 Actions CallForms LaunchForms Summary	View Type Single + Fieldset Height	Partition Name Number Of Rows Field Set Fields CUSTNO CUSTNO CUSTYPE ADDR1 44	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.

🔶 Main		
🗗 New 🖾 Enter Query		
Customer No		
Name		
Туре		
Address		
Maker	Date Time:	
Checker		
	Date Time:	Exit
Mod No	Record Status	
mourto	Authorization Status	
l		

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		
I≪ 1 of 1 ▶ ▶I	Go to Page	+-
Group Id	Customer No Relation	
•		4
Maker Checker	Date Time: Date Time:	Exit
Mod No	Record Status Authorization Status	

Below image shows a multiple view multi record field set



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

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STTM_CUSTOMER CUSTOMER NO	Data Blo			Tab	Name TAB_MAIN	•	Navigation Button
CUSTOMER_TYPE	Multi Reco	rd Yes 👻	Se	ection	Name SEC_GROUP	•	Visible
CUSTOMER_NAME1	View Tv	Single 🔹			Name PART1	•	1.
DDRESS_LINE1	Fieldset Hei				Rows		
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LANGUAGE		Data Block Fields			Field Set Fields	Subpartition Name	
GROUP_ID						Casparation name	
CUSTOMER_NO					GROUP_ID		
Carl RELATIONSHIP					CUST_NO	•	
ListOfValues					RELATION	-	
DataBlocks			44				
BLK_CUSTOMER DELK_GROUP			44				
Screens							
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🗉 🚞 HEADER							
BODY							
EC_CUST							
B DOTER							
i DieldSets							
EST_CUST1							
EST_CUST2							
🗁 Astiana							

Fig 12.18: Properties for Single View Multi Record Field set

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

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

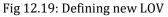
Fig 12.18: Preview for Single View Multi Record Field set

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

						× = 1	چ
Action Load 👻	Function Ty	pe Parent 👻		Function Cate	gory Maintenance 👻		
Function Id STDCIFD	Parent Functi	on		Header Temp	late None 👻		
Save XML Path STDCIFD_RAI	BROWSE Parent X	ml		Footer Temp	late Maint Audit 👻		
irch	List Of Values Details					-	· 🔊 🗳
DataSource STTM_CUSTOMER STTM_CUST_GROUP ListOfValues	LOV Name * LOV_OCUNTRY LOV Query select country_cod	e,description from sttm_	country where auth_stat = 'A	A' and record_stat = 'O'			
						Pop	ulate
🧰 DataBlocks 🛅 Screens	Query Columns Data	Type Visible	Reduction Field	Reduction Field Type	Reduction/Column	Label	^
FieldSets							-
CallForms							



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											-	. ×
									×	I 7	 § 	4
Action Load Function Id STDCIFD Save XML Path STDCIFD_RAI	Pare	nction Type Parent nt Function Parent Xml	•			Head	tion Category Maintenance der Template None - ter Template Maint Audit	▼ ▼				
Search	List Of Values Details									-	ai 🌍	*
 Preferences DataSource Titt_cUSTOMER STTM_CUST_GROUP LIStONalues LIStONalues 	LOV Name * LOV_OCU LOV Query select cou		from sttm_co	untry where auth_stat :	= 'A' and recor	'd_stat = 'O'			(Рори	late	
DataBlocks	Query Columns	Data Type	Visible	Reduction Field	Reducti	on Field Type	Reduction/Colu	mn La	bel		^	
Greens FieldSets	COUNTRY_CODE	VARCHAR2 -	Yes 🔻	Yes 👻	TEXT	-	LBL_CNTRY		×E			
CallForms CallForms CallForms CallForms CallSummary	DESCRIPTION	VARCHAR2 -	Yes 🕶	Yes -	TEXT	-	LBL_COUNTRYCD		M		- - -	

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					_ ×
					🖫 🗵 🗏 7 🧐 🔿
Action Load - Function Id STDCIFD Save XML Path STDCIFD_RAI	Function Type Parent Function BROWSE Parent Xm	n		Function Category Maintenance - Header Template None - Footer Template Maint Audit] •
Search	Block Field Properties				- 🛛 🗔 🧐 🤺
Preferences DataSource ListOWalues ListOWalues ListOWalues ListOWalues ListOWalues Custower Custow	Field Name * CNTY Field Label LBL_CNTY DataSource STIM_CUSTOMER Column Name * COUNTRY Data Type * Varchar? ~ Display Type * Lov • Tem Type Database Item • Parent Field Related Field LOV Name COUNTY Off Line LOV Name	Ma M Maxin Text	XSD Tag CNTY SD Annotation Field Size * minum Length aximum Value aximum Value cationum Pocinais catArea Rows Area Columns Default Value Preview Value Mask Id		Required Visible Read Only Calender Text Oppercase Only LOV Validation Required Input by LOV Only Not Required In Xsd Report Parameter
	Custom Attributes Events Bind Variables	Return Fields Related Field			L D.C.W.
CallForms	Query Column	Block	Namo	Return Field Nan	m Lov Definition
Summary		BLK_CUSTOMER BLK_CUSTOMER			
I	Fig 12.22: A	Attaching LOV to a l	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 Land	Function Type Parent	14	Function Category II	antanance -			
Function Id STOCHE	Parent Function		Header Template 14	cne 💌			
Save XML Path D1R4DTOOL1	Parent Xml		Footer Template	aint Audit 💌			
learch	Block Field Properties					- A) 9	
Preferences Ustofrailues Lustofrailues LUS(_COUNTRY LUS(_COUNTRY CUSTONER CUSTNO CUTPE FIAME ADDRLN1 COUNTRY FILTY FIATS FIATS CUSTNG CUSTNG CUSTNO	Field Name CUSTNO Field Label (LBL_CUSTNO XSD Tag CUSTNO Display Type Text Mem Type Database frem Parent Field Related Field Related Field Max Decimals LOV Name LOV_ACCOUNT Fieldset Name FST_GROUP		Data Type Vanchar2 M DataSource STTME_CUST Max Length B Field Size Column Name CUSTOMER_ Default Value Preven Value Accessive Cols Max Val Mass Id Off Line LOV Name Image Source	r_GROUP	Popup Edit Regit Reguired Valible Input by LOY Only Calender Text Select Multiple Uppercase Only LOY Validation Regit Report Parameter Read Only		
a FieldSets Actions a Califorms a Califorms a Califorms a Califorms a Summary	Custom Attributes Events Bind Variables Bind Variables Mapping Biock Name Biock Name BLK_CUSTONER	Katurn Fields	Bind Vanabie	Catault toon LoV definitio Detatype STRING			

Fig 12.23: Defining bind variable for the LOV

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.

S	elect F	ields & Add	Ul Fields						×
ſ	DataS	ource fields	UI Fields						
							 	+-	
				Field Name	;	-	 Data Type		^
	1	BTM_MIS					•		
									*
							Γ	Ok	Cancel
							L		

Fig 12.24: Defining Button field

• Add Call form details to Call form node

							E 7	9
Action Load 👻		Function Type Parent	*	Funct	ion Category Mair	ntenance 👻		
Function Id STDCIFD		Parent Function		Head	ler Template Non	e 🔻		
Save XML Path STDCIFD_RAI	BROWSE	Parent Xml		Foo	ter Template Mair	nt Audit 👻		
rch	Call Form Details							9
DataSource								
STTM_CUSTOMER Description			1	1	creen Arguments	-	Fields <mark>+</mark> -]
ListOfValues	Function ID	Parent Data Block	Parent Data Source	Relation	Relation Type	Callform Screen	Display 1 4	÷
LOV_COUNRTY DataBlocks	MICCUSTM	BLK_CUSTOMER -	STTM_CUSTOMER -	TTM_CUSTOMER.COSTOMER_NO =	One To One 🔻	•	Button	
ADDR1 ADDR1 CNTY ADNLTY ANK BTM_MIS BTM_MIS BLK_GROUP Screens FieldSets Actions CallForms LaunchForms Summary								
	٠		III				- F	r.

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									-
							ŀ	× =	V 🧐
Action Load 👻		Function Type	Parent	•		Function Category	Maintenance 👻		
Function Id STDCIFD		Parent Function				Header Template	None 👻		
Save XML Path STDCIFD_RAI	BROWSE	Parent XmI				Footer Template	Maint Audit 🛛 🔫		
Search	Block Field Prope	ties						- 2	. 🗖 🦻
 Preferences DataSource STM_CUSTOMER STTM_CUST_GROUP ListOfValues 	Field Name Field Label DataSource Column Name	LBL_MIS	×E	XSD Anr	eld Size *			 Required Visible Read Only Calender 1 	
LOV_COUNRTY DataBlocks BLK_CUSTOMER CUSTNO CUSTNO CUSTYPE	Data Type Display Type Item Type Parent Field	Text Control		Minimur Maximur Maximum De Textee	n Value cimals a Rows			 Popup Edit Uppercase LOV Valida Required 	only tion
CNAME ADDR1 CNTY NLTY LANG BTM_MIS	Related Block Related Field LOV Name Off Line LOV Name Fieldset Name		-	Preview	v Value) 		Input by LC Not Requir Report Par	ed In Xsd
BLK_GROUP Screens	Custom Attributes	vents Related Field							-1
CVS_MAIN HEADER	Event Nam	e Fun	ction Name	Event Type	Button Screen	CallForm Nam	ne Scree	+ - n Name	-
🖃 🧰 BODY	onunload	• Tui		Callform -	CVS_MAIN -				
TAB_MAIN TAB_MAIN TAB_MAIN SEC_CROUP TSC_GROUP TS									Ŧ

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🖹 New 🦻 <u>Enter Query</u>				
Customer No Name Type Address				
I≪ 1 of 1 ▶ ▶	Go to Page		+-==	
Group Id	Customer No	Relation	×	
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Maker	I	Date Time:		
Checker		Date Time:	Exi	it
Mod No	Rec	ord Status		
	Authoriza	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

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	Function Ty Parent Functi BROWSE Parent X Preferences	ion	Function Category Maintenance 👻 Header Template None 👻 Footer Template Maint Audit 👻	ý
Search Preferences DataSource STM_CUSTOMER STM_CUSTGROUP ListONalues DataBlocks BLK_CUSTOMER CUSTNO CUSTTVPE CNAME CNAME ADDR1 CNTY		red Module Descripti ion Branch Program ons Process Cou irred SVN Repository UF ccess Transaction Bloc Nam	Distatic Maintenance	~
🚞 NLTY 🛅 LANG			Control String +	Ξ
BTM_MIS BLK_GROUP	Function Id	Module *	Module Description	^
Screens	STDCIFD		Static Maintenance	
a) CVS_MAIN b) TeldSets c) Actions c) CallForms c) LaunchForms Summary	STSCIFD	mmary screen details in Prefer	E Static Maintenance	Ŧ

- 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 .

										×	I 1	9	
Action Load 🔻			Function Type Parent	-			Function	Category Maintenance	-				
Function Id STDCIFD			Parent Function				Header	Template None 🔻					
Save XML Path STDCIFD_RAI	BROWSE		Parent Xml				Footer	Template Maint Audit	•				
h	Summary De	etails										0)
Preferences		Title		×E		Default Where Clause			-				
DataSource Data Blocks BLK_CUSTOMER						Default Order By			1				
Action Load Function Type Parent Function Id STDC/FD Function Id STDC/FD Parent Function Save XML Path STDC/FD_RAI BROWSE Parent Xml Footer Template Maint Audit Search Summary Details File Default Where Clause File Default Where Clause File File File File File File File Fil				•									
				•		Clause							
				•		Main Summary Screen							
	-	1					require						
	Data Block Fiel	Ids Custo	m Buttons Fields Ordering										
			Data Block Fields			Fields Selected	Query	LOV Name					
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						CUSTTYPE			Ŧ				
						ADDR1			Ŧ				
a STTM_CUSTOMER Data Block Fields Data Block Fields a STTM_CUSTOMER Data Source Multi Branch Where b ListOvAues Summary v Multi Branch Where a DataBlocks Summary Screen Size Medium a Data Block Fields Custom Buttons Fields Ordering	Ŧ												
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					Г	LANG			Ŧ				

Summary Preview

Right click on summary node and click on preview.

🔷 😂 Exe	ecute Query 👔 Advance	ed Search 🏼 🏟 Res	et 🖓 Clear All							×
	Authorization Status Customer No	•	2		Rec	ord Status	-			
Reco	rds per page 15 👻 🚺	🚽 1 of 1 🕨 🔰		9						
	Authorization Status	Record Status	Customer No	Name	Туре	Address	Country	Nationality	Language	
										E
										-
									1	F
									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.

ndable DetailsQUERY		
Data Blocks	DataBlock Fields	;
JSTOMER ROUP	New Allowed Delete Allowed All I	Records 🔲 Mandatory
	Field Name	Amendable
	CUSTNO	
	CUSTTYPE	
	CNAME	
	ADDR1	
	CNTY	
	NLTY	
	LANG	
	BTM_MIS	
		Ok Cance

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		×		Vela Data	Others
Error Description Request successfully Processed		Image: Second		Xsds Xsd With Annotations Screen Html Upload Table Trigger Upload Tables Definition Archive Table Definition	
		File Download		rge Details	
		Do you want to open or sa		ile Type	Status
		Type: WinRAR ZIP archive From: 10.184.132.100			Generated * Generaled *
			Open Save Cancel		Generaled *
STDCIFDCVS_MANTAB_F0OTER html Sipks_stdcild_main spc While files from the inte sipks_stdcild_main spc		ternet can be useful, some files can potent f you do not trust the source, do not open of	ially or	Generaled *	
	stpks_sldcifd_kernel.spc		une hisk <u>y</u>		Generated 👻
	stplos_stdold_main.sql		SQI		Generaled *
	stpks_sldclfd_kernel.sql		SO		Generated 👻
	CST0_FIELD_LABELSSTOCIFD.INC		INC		Generaled *
	CSTB_OTHER_LABELSSTDCIFD INC		INC		Generated 👻
	OSTB_FID_CALLFORMSSTOCIFD.INC		INC		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.

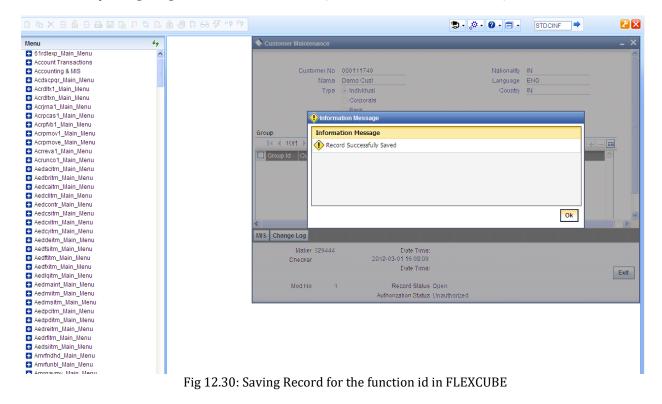
Front-End Files	System Packages	Hook Packages	м	eta Data	Others	*
RadXML ℤ Screen Xml ℤ System JS	Main Package Spec Main Package Body Notification Triggers Upload Package Spec Upload Package Body	Kernel Package Spec Kernel Package Body Cluster Package Spec Cluster Package Body Custom Package Spec Custom Package Body	Menu Details Datasource Details LOV Details Slock Details Sreen Details Amendable Details Call form Details Summary Details	Label Details Diock PK Columns Function Call Forms Gateway Details Notification Details Prunction Parameters Purge Details	Xsds Xsd With Annotations Screen Html Upload Table Trigger Upload Tables Definition Archive Table Definition	
C	STB_FIELD_LABELSSTDCIFD.INC		INC		Deployed -	*
	STB_OTHER_LABELSSTDCIFD.INC		INC		Deployed -	
C	STB_SUMMARY_INFOSTDCIFD.INC		INC		Deployed -	
i s	TTB_AUDIT_PK_COLSSTDCIFD.INC		INC		Deployed -	
C	STB_FID_DATA_BLOCKSSTDCIFD.INC		INC		Deployed -	
C	STB_FID_DATA_SOURCESSTDCIFD.INC		INC		Deployed -	
C	STB_FID_SCR_TABSSTDCIFD.INC		INC		Deployed -	=
0 0	STB_FID_SCREENSSTDCIFD.INC		INC		Deployed -	
1 5	MTB_MENUSTDCIFD.INC		INC		Deployed -	
2 5	MTB_ROLE_DETAILSTDCIFD.INC		INC		Deployed v	
3 5	MTB_FUNCTION_DESCRIPTION_STDCIFD.INC	;	INC		Deployed -	
4 S	MTB_FCC_FCJ_MAPPINGSTDCIFD.INC		INC		Deployed -	
5 5	TDCIFD RAD.xml		RAD	XMI	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

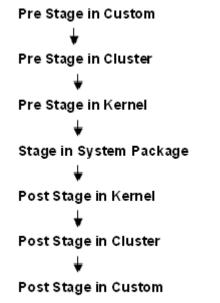
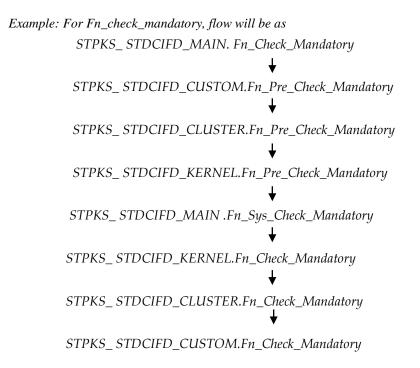


Fig 12.31: Flow of control through Hook Packages



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:

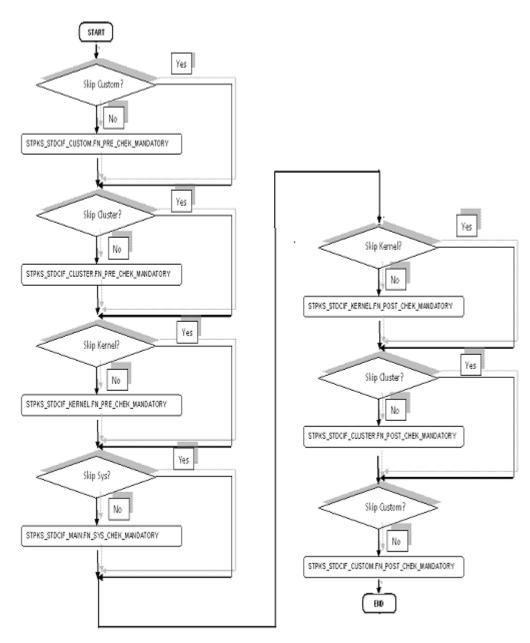


Fig 12.31: Flow of control explaining skip logic in pacakges



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