Development of Maintenance Form Oracle FLEXCUBE Universal Banking Release 14.4.0.3.0 Part No. F38223-01 [February] [2021]



Contents

1. Prefa	ıce	3
1.1	Audience	3
1.2	Related Documents	3
2. Intro	duction	4
2.1	How to use this Guide	
3. Over	view of Maintenance Screen	4
4. Scree	en Development	4
4.1	Header Information	4
4.2	Preferences	6
4.3	Data Sources	7
4.4	Data Blocks	12
4.5	Screens	14
4.6	Field Sets	16
4.7	LOV	20
4.8	Attaching Call forms	23
4.9	Adding Summary	
4.10	Amendable fields Maintenance	29
	eration and Deployment of files	
6. Gene	erated Units	
6.1	Front End Units	
6.1.1	Language xml	
6.1.2	SYS JavaScript File	
6.1.3	Release Type Specific JavaScript File	
6.2	Data Base Units	
6.2.1	Static Scripts	
6.2.2	-	
6.2.3	Hook Packages	
6.3	Other Units	24
6.3.1		
	nsible Development	
7.1	Extensibility in JavaScript Coding	
7.1	Extensibility in Backend Coding	
7.2		
7.2.1		
7.2.2	0 1 0	
7.2.3	By passing Base Release Functionality	

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

04-Development_WorkBench_Screen_Development-I.docx 05-Development_WorkBench_Screen_Development-II.docx

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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Browser .		Windows Options Sign C
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Function Id	Parent Function	Header Template None +
Save XML Path	Parent Xml	Footer Template None -
ListOfvalues ListOfvalues ListOfvalues Screens FieldSets Cations Califorms LaunchForms Summary		

- 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

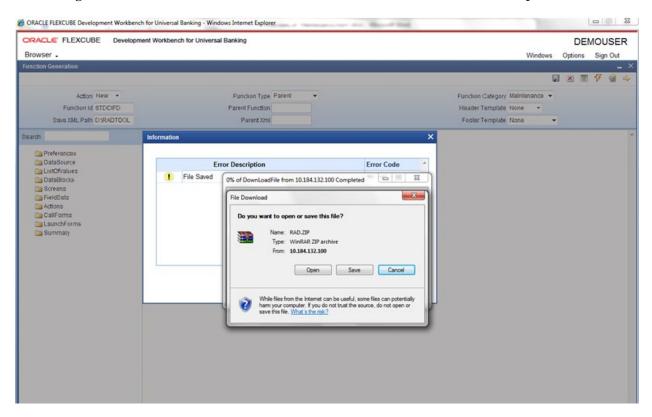


Fig 12.3: Saved File Information page

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.

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.*

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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>.

dd Block		×
Block Name	BLK_CUSTOMER	
	Ok Cancel	

- 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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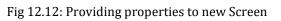
Fig 12.11: Adding Block Fields to Data Block

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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Califorms LaunchForms Summary						
	Fig 12.12. Creating new section in TAD MAIN in th					

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

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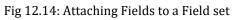
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FOOTER TAB_FOOTER FieldSets CallForms CallForms Summary		.*
	Fig 12.14: Defining partitions for the Section	on

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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• 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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Preferences Fieldset Name FST_CUST1 Screen Name CVS_MAIN Horizontal Fieldset ListOValues Data Block ELK_CUSTOMER Screen Portion Body ReadOnly B DataBlocks Multi Record No Screen Screen Portion Screen Portion Navigation Button FieldSets View Type Single Partition Name PART1 Visible FST_CUST2 Actions CallForms Data Block Fields Subpartition Name View Type Summary Data Block Fields View Type CuSTNO View Type View Type Mutt Record No View Type CuSTNO Visible Visible	Save XML Path D:\RADTOOL			· · · ·	•
B DataSource Schein Name Color Color Body C	Search	Fieldset Properties	~		- 🛛 🗐 🤺
	DataSource ListOValues DataBlocks Screens FieldSets FFICUST1 FST_CUST1 FST_CUST2 Actions CallForms LaunchForms	Fieldset Label Data Block Multi Record View Type Fieldset Height Data Block Fields CNTY NLTY	Screen Portion Tab Name Section Name Partition Name Number Of Rows	Subpartition Name	ReadOnly

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		N 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997
🗗 New 🖾 Enter Query		
Customer No		
Name		
Туре		
Address		
Maker	Date Time:	
Checker		
	Date Time:	Exit
Mod No	Record Status	
MOGINO	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			
I	Go to Page		+ - ==
Group Id	Customer No	Relation	
•			
Maker Checker		Date Time:	
		Date Time:	Exit
Mod No		ord Status iion Status	

Below image shows a multiple view multi record field set



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

	mont Morthborgh for I	niversal Banking					DEMOUR
	ment Workbench for U	niversai Bañking					DEMOUS
rowser -						Windo	ws Options Sign O
nction Generation							
							🔚 🗶 🗏 7 🔮
Action Load -		Function Type Parent			Fur	ction Category Maintenance	-
Function Id STDCIFD		Parent Function			He	ader Template None 👻	
Save XML Path STDCIFD_RAI	BROWSE	Parent Xml			F	ooter Template Maint Audit	•
arch	Fieldset Proper	ties					- AI C
늘 Preferences	Fieldset Nar	ne FST_CUST2	S	creen	Name CVS_MAIN	•	🔲 Horizontal Fieldse
DataSource	Fieldset La	el 🔀	Sc	reen F	Portion Body	•	ReadOnly
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		
COUNTRY							
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							
🖃 🧰 CVS_MAIN							
🗉 🚞 HEADER							
BODY							
EC_CUST							
B DOTER							
i DieldSets							
FST_CUST1							
EST_CUST2							
🗁 Astiana							

Fig 12.18: Properties for Single View Multi Record Field set

🔶 Main		X X X X X X X X X X X X X X X X X X X
🗗 New 🤄 Enter Query		
Customer No Name Type Address		
Group Id Customer No Relation		4 1 of 1
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

action Generation				
			🔚 🗶] 🗏 7 🧃
Action Load -	Function Type Parent	Function Catr	egory Maintenance 👻	
Function Id STDCIFD	Parent Function	Header Tem	plate None 🔻	
Save XML Path STDCIFD_RAI	BROWSE Parent Xml	Footer Tem	plate Maint Audit 👻	
irch	List Of Values Details			- 🔍 🕻
 DataSource TTM_CUSTOMER TTM_CUST_GROUP ListOfValues 	LOV Name * LOV_OCUNTRY LOV Query select country_code, description from stm			-
DataBlocks				Populate
Creens	Query Columns Data Type Visible	Reduction Field Reduction Field Type	Reduction/Column Lal	bel ^
i 🛅 FieldSets				$\overline{\mathbf{v}}$
CallForms				

Fig 12.19: Defining new LOV

LOV Query	>	<
select country_code,description from sttm_country where auth_stat = 'A' and record_stat = 'O'	*	
Ok Can	cel	

Fig 12.20: Providing LOV query

Function Generation												_ ×
									×	= 1	3	⇔
Function Id STDCIFD Parent Function HH Save XML Path STDCIFD_RAI BROWSE Parent Xml F Search List Of Values Details LOV_OCUNTRY LOV_OCUNTRY B STTM_CUSTOMER LOV Query select country_code.description from stm_country where auth_stat = 'A' and record_stat = 'O' B STTM_CUSTOMER LOV Query select country_code.description from stm_country where auth_stat = 'A' and record_stat = 'O'	Head	er Template None 👻	▼									
Search	Load Function Type Parent Function Category Maintenance Function Category Maintenance TDCIFD Parent Function Header Template None Footer Template Maint Audit Footer Template Maint Audit Image: Cover Template Maint Audit Image: Cover Template Maint Audit Image: Cover Template Image: Coverte Image: Cover Template											
DataSource DataSource D STTM_CUSTOMER D STTM_CUST_GROUP DistofValues	Action Load Function Type Parent Function Type Parent Function Id STDCIFD Parent Function Save XML Path STDCIFD_RAI FROWSE Parent Xml Footer Template Maint Audit Ferences LOV Name LOV_OCUNTRY LOV_OCUNTRY Select country_code,description from stm_country where auth_stat = ¼ and record_stat = '0' LOV Name LOV Name LOV_OCUNTRY LOV_OCUNTRY CODE VARCHAR2 Yes Yes TEXT LBL_CNTRY BL_COUNTRYCD Ference											
	Query Columns	Data Type	Visible	Reduction Field	Reduction	n Field Type	Reduction/Colu	Maintenance - None - Maint Audit - Populate Reduction/Column Label TRY PE				
Greens FieldSets	COUNTRY_CODE	VARCHAR2 -	Yes 🔻	Yes 👻	TEXT	- /	LBL_CNTRY		× E			
CallForms CallForms LaunchForms Summary	DESCRIPTION	VARCHAR2 -	Yes 🔻	Yes 🔻	TEXT	• (LBL_COUNTRYCD		*=		Ŧ	

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 Category Maintenance
Function Id STDCIFD	Parent Function	Header Template None -
Save XML Path STDCIFD_RAL	BROWSE Parent Xml	Footer Template Maint Audit 👻
Search	Block Field Properties	- A 📮 🖗
Preferences DataSource DataSource LISTM_CUSTOMER LISTM_CUSTGROUP LISTOValues LISTOValues LISTOVALUES LISTOVALUES LISTOVALUES LISTOVE CUSTTYPE COMME ADDR1 CONTY LANG LANG LANG LANG LANG LANG LANG LANG	Field Name CNTY Field Label LBL_CNTY Field Label DataSource STTM_CUSTOMER Column Name COUNTRY Data Type Varchar2 V Display Type Lov V Item Type Database Item V Parent Field Related Field V LOV Name V Fieldset Name	XSD Tag CNTY Required XSD Annotation Visible Field Size Read Only Maximum Length Calender Text Minimum Value Popup Edit Required Maximum Decimals Uppercase Only Maximum Decimals Visible TextArea Rows Required TextArea Columns Input by LOV Only Default Value Not Required in Xsd Preview Value Report Parameter
Screens FieldSets Actions CallForms	Custom Attributes Events Bind Variables Return Fields R Return Fields Mapping Ouery Column	elated Field
aunchForms	COUNTRY_CODE BLK_CUSTOME	
🚞 Summary	DESCRIPTION BLK_CUSTOME	
	Fig 12.22: Attaching	

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 Load w	Function Type Farent		Function Category Use	denance (w)			
Function Id STDCINF	Parent Function		Header Template Non				
Save XIIL Path DIRADTOOLI	Parent Xml		Footer Template Main				
arch	Block Field Properties					- al	9
Preferences DataSource ListOfalues LOV_COURTRY DASEdots BLOV_COURTRY DASEdots BLOV_COUSTONER CUSTNO CTYPE NAME ADDRI/M COURTRY NAME ADDRI/M COURTRY NAME NAME BLATON BLACOUSTORP CUSTNO CUSTNO CUSTNO RELATION Sorens	Field Name CUSTNO Field Label LBL_CUSTNO XSD Tag CUSTNO Display Type Text Ret Type Database frem Parent Field Related Block Related Field Related Field Max.Decimals LOV Name LOV_ACCOUNT Fieldset Name FST_GROUP		Data Tije Varchar2 DataSource STTMS_CUST_ Max.Lengtb Field Size Column Name CUSTOMER_N/ Default Value Preview Value Accessivey Code TertArea Cols Max.Val Mask.Id Off.Line.LOV Name Image Source		Popup Edit Reg3 Required Visible Input by LOV Only Calender Text Select NutSple Uppercase Only LOV Validation Reg3 Not Reg in Xsd Report Parameter Read Only		
FristSets Actions Calif erms LaunchForms Summary	Custom Attributes Events Bind Variables Bind Variables Mapping Biock Name Biock Name BLK_CUSTONER	Ratum Fields ♥	Bind Variable	afau <u>ti from Lo</u> V definitio Datatype STRatuS			

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	UI Fields						×
Γ	DataS	ource fields	UI Fields						
		1							
				Field Name		Dat	а Туре	_ ^	
	1	BTM_MIS					-		
								_	
								*	
							Ok	Ci	ancel
					_				

Fig 12.24: Defining Button field

• Add Call form details to Call form node

						E 7 🧐
Action Load -		Function Type Parent	F	Function Category Main	tenance 🔻	
Function Id STDCIFD		Parent Function		Header Template None		
Save XML Path STDCIFD_RAI	BROWSE	Parent Xml		Footer Template Main	t Audit 👻	
arch	Call Form Details					9
📴 Preferences 3 📴 DataSource						
B D STTM_CUSTOMER				Screen Arguments	Dependent	Fields+-
TTM_CUST_GROUP ListOfValues	Function ID	Parent Data Block Parent DataSo	Irce Relation	Relation Type	Callform Screen	Display 1 ^
LISTONATES	MICCUSTM	BLK_CUSTOMER - STTM_CUSTO	IER - TTM_CUSTOMER.COSTOMER_NO	= 🔁 🛛 One To One 🔻	-	Button
CNTY ANG LANG ETM_MIS ETM_MIS Screens FieldSets Adions CallForms CallForms Summary						
	٠		"			

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					-
					🖫 🙁 🗏 🚱 🛛
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 🛛 👻
Search	Block Field Properties				- 🛛 🟹 🗐
Preferences DataSource CUSTOMER STTM_CUSTOMER ListOfValues	Field Name * BTM_ Field Label LBL_ DataSource Column Name *		XSD Tag XSD Annotation Field Size * Maximum Length	MIS MIS	☐ Required IVisible ☐ Read Only ☐ Calender Text
LOV_COUNRTY DataBlocks BLK_CUSTOMER CUSTNO	Data Type * Display Type Item Type		Minimum Value Maximum Value Maximum Decimals TextArea Rows		Popup Edit Required Uppercase Only LOV Validation Required
CUSTTYPE CNAME ADDR1 CONTY NLTY LANG	Parent Field Paletel Block Related Block LOV Name Off Line LOV Name		TextArea Columns Default Value Preview Value Mask Id		☐ Input by LOV Only ☐ Not Required In Xsd ☐ Report Parameter
☐ BTM_MIS BLK_GROUP G ☐ Screens CVS_MAIN	Fieldset Name Custom Attributes Events	Related Field			+ -
	Event Name	Function Name	Event Type But	ton Screen CallForm Nar	me Screen Name ^
GODY GODY GODY GODY GODE GODER GODER	V onunioad V		Caliform CVS_	MAIN - MICCUSTM	CVS_CUSTOI
Fig 1	2.26: Defining ev	vent to the butto	n such that call fo	orm is linked to t	he button

• Check the preview.

🔶 Main				×
🖹 New 🦻 <u>Enter Query</u>				
Customer No Name Type Address				
New Enter Query Customer No Name Type Address I of 1 I I Go to Page Group Id Customer No Relation Image: Ima				
Name Type Address I of 1 I Go to Page Group Id Customer No Relation Image: Customer No Image: Customer No <th></th>				
•		III	4	
MIS Change Log				
	I	Date Time:		
Checker		E	kit	
Mod No				
	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

				1 🗏 7 🧃
	Function Ty Parent Funct BROWSE Parent X Preferences	ion	Function Category Maintenance Header Template None Footer Template Maint Audit	
Search Preferences DataSource STM_CUSTOMER STM_CUSTGROUP ListONalues DataBlocks BLK_CUSTOMER CUSTNO CUSTTVPE CNAME CNAME ADDR1 CNTY	 ✓ Head Office Fu ✓ Logging Requi ✓ Auto Authorizat ✓ Tank Modificati ✓ Field Log Requi Multi Branch Act ✓ Excel Export Ref 	red Module Description ion Branch Program Ir ons Process Cod uired SVN Repository URI ccess Transaction Block	Static Maintenance	
🚞 NLTY 🛅 LANG			Control	String + -
BTM_MIS	Function Id	Module *	Module Description	^
BLK_GROUP Screens	STDCIFD		Static Maintenance	
CVS_MAIN CVS_MAIN FeldSets Actions CalForms LaunchForms Summary	STSCIFD	ST A	Static Maintenance	Ţ

- 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 .

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	•			
arch	Summary	Details									Q 4	1
Preferences		Title				Default Where Clause			2			
	Da		BLK_CUSTOMER	•	_	Default Order By			2	2		
			STTM CUSTOMER	-		Multi Branch Where						
			_	•		Clause						
				•		Main Summary Screen						
	Summary Su	I EELL SIZE	in o di di fi				U WebSer					
CUSTNO							Require	d				
CUSTTYPE	Data Block	Fields Cu	stom Buttons Fields Ordering	1								
CNAME			0		_							
			Data Block Fields			Fields Selected	Query	LOV Name				
Canal Lang								Lov Hume				
						CUSTNO						
						CNAME			~			
		Parent Function BROWSE Parent Xml Summary Details Title Data Blocks BLK_CUSTOMER			ÞÞ	CUSTTYPE			-			
					99	ADDR1			Ŧ			
Search Summary Details Preferences DataSource STTM_CUSTOMER STTM_CUST_GROUP ListOValues DataSource Summary Type Summary Screen Size Medium CUSTTVPE CUSTTVPE CUSTTVPE CNAME ADDR1 CNTY NLTY Data Block Fields Custom Buttons Fields Ordening				44	CNTY			-				
						NLTY			Ŧ			
						LANG			-			

Summary Preview

Right click on summary node and click on preview.

◆ ₿ Exe	◆ 🛛 🔀 Execute Query 😋 Advanced Search 🏟 Reset 🖓 Clear All										
	Authorization Status Customer No	•	×		Rec	ord Status	•]			
Reco	rds per page 15 👻 📊	🛯 1 of 1 🕨 🔰		9							
	Authorization Status	Record Status	Customer No	Name	Туре	Address	Country	Nationality	Language		
										Ξ	
										-	
									ŀ		
									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		Error Code RD-SAVE-007	Henu Details Dalasource Details Double Details Bick Details Screen Details 4.132.100 Completed	Label Details Block PK Columns Function Call Forms Gateway Details Notification Details Actification Parameters	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 save this file?		ile Type	Status Generated • Generaled •	
					Generaled *	
5 STDCIFDCVS_MAINTAB_F0OTER html 5 stpks_stdolid_main spc 7 stpks_sldclfd_kernel.spc		While files from the In ham your computer. save this file. What's	ternet can be useful, some files can potent f you do not trust the source, do not open of	ially or	Generaled *	
					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

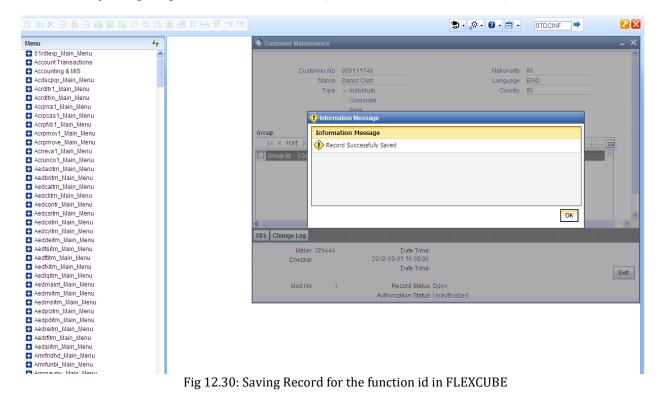
• Click on deploy button select the required files to deployed to server and click on deploy. On successful deployment status will be displayed as Deployed.

Front-End Files	System Packages	Hook Packages		Meta Data	Others	^
RadXML V Screen Xml V System JS	Main Package Spec Main Package Body Notification Triggers Upload Package Spec Upload Package Body	Kernel Package Spec Kernel Package Body Uluster Package Body Uluster Package Body Uluster Package Body Ulustom Package Body	Menu Details Datasource Details UOV Details Block Details Srcren Details Amendable Details Call form Details Summary Details	Label Details Block PK Columns Function Call Forms Gateway Details Notification Details Function Parameters Purge Details	Xsds Xsd With Annotations Screen Hmi Upload Table Trigger Upload Tables Definition Archive Table Definition	-
3	CSTB_FIELD_LABELSSTDCIFD.INC		INC	2	Deployed -	•
ł	CSTB_OTHER_LABELSSTDCIFD.INC		INC	2	Deployed 👻	
5	CSTB_SUMMARY_INFOSTDCIFD.INC		INC	2	Deployed -	
6	STTB_AUDIT_PK_COLSSTDCIFD.INC		INC	2	Deployed 👻	
7	CSTB_FID_DATA_BLOCKSSTDCIFD.INC		INC	2	Deployed 👻	
В	CSTB_FID_DATA_SOURCESSTDCIFD.INC		INC	2	Deployed 👻	
9	CSTB_FID_SCR_TABSSTDCIFD.INC		INC	2	Deployed 👻	
10	CSTB_FID_SCREENSSTDCIFD.INC		INC	2	Deployed -	
11	SMTB_MENUSTDCIFD.INC		INC	2	Deployed 👻	
12	SMTB_ROLE_DETAILSTDCIFD.INC		INC	2	Deployed -	
13	SMTB_FUNCTION_DESCRIPTIONSTDCIFD.II	VC	INC	0	Deployed 👻	
14	SMTB_FCC_FCJ_MAPPINGSTDCIFD.INC		INC	2	Deployed -	
15	STDCIFD RAD.xml		RA	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
- 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

from fn query of the main package

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

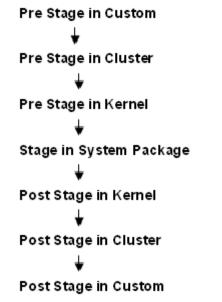
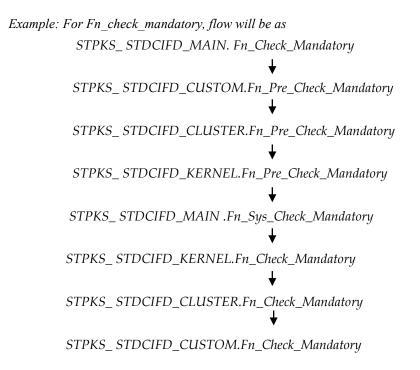


Fig 12.31: Flow of control through Hook Packages



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:

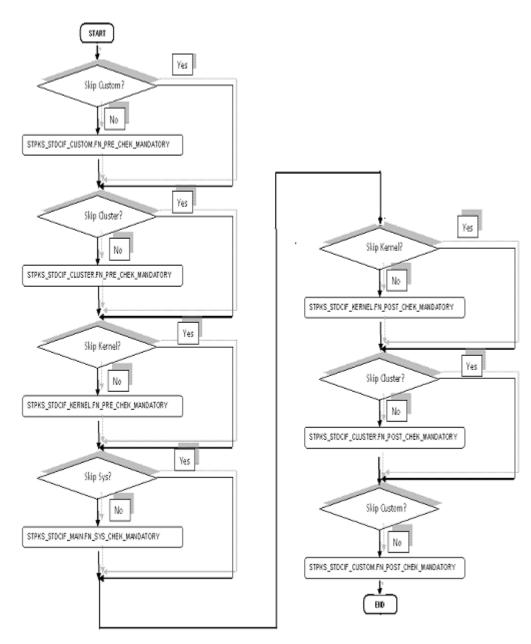


Fig 12.31: Flow of control explaining skip logic in pacakges



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Oracle Financial Services Software Limited Oracle Park Off Western Express Highway Goregaon (East) Mumbai, Maharashtra 400 063 India

Worldwide Inquiries: Phone: +91 22 6718 3000 Fax:+91 22 6718 3001 www.oracle.com/financialservices/

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