# Development of Maintenance Form Oracle FLEXCUBE Investor Servicing Release 14.5.1.0.0 [September] [2021]

FINANCIAL SERVICES



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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.

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

Proficiency	Resources
FLEXCUBE Functional Architecture	Training programs from Oracle
	Financial Software Services.
FLEXCUBE Technical Architecture	Training programs from Oracle
	Financial Software Services.
FLEXCUBE 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

## 1.2 Related Documents

<u>04-Development\_WorkBench\_Screen\_Development-I.pdf</u> <u>05-Development\_WorkBench\_Screen\_Development-II.pdf</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>
- <u>Chapter 5 , "Generated Units"</u>
- <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:

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

## 4.1 Header Information

Provide the header information as shown in the figure.

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Function Id	Parent Function	Header Template None -	
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ch			
Preferences DataSource ListOf/alues 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 → 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

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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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sarch	Preferences							4	5
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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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	STIM_CUSTONER_PRE_IMAGE STIM_CUSTOMER_PRE_IMAGE STIM_CUSTOMER_SRC_DETAILS STIM_CUSTOMER_SRNO STIM_CUSTOMER_UNUSED	
	STTM_CUSTOMER_VW	

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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Search	Data Source Details					- 🦃	*
<ul> <li>Preferences</li> <li>DataSource</li> <li>STTM_CUSTOMER</li> <li>ListOVAlues</li> <li>DataBlocks</li> <li>Screens</li> <li>FieldSets</li> <li>Actions</li> <li>CallForms</li> <li>LaunchForms</li> <li>Summary</li> </ul>	Data Source STTM_CUSTOMER Master Yes • Relation Type One To One • Multi Record No • PK Cols • CUSTOMER_NO PK Types • Upload Table		Normal  Mandatory	000			

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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	<ul> <li>Preferences</li> <li>DataSource</li> <li>STTM_CUSTOMER</li> <li>TTM_CUSTOMER</li> <li>STTM_CUST_CROUP</li> <li>ListOrValues</li> <li>DataBlocks</li> <li>BLK_CUSTOMER</li> <li>Screens</li> <li>FieldSets</li> <li>Actions</li> <li>CallForms</li> <li>LaunchForms</li> </ul>	Block Name BLK_CL Block Title Parent Relation Type One To	One  Datasource Available	XSD Node Annotation Master Block Mutil Record Block Type Datasour	Yes V No V Normal V		

• 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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				Ok C	ancel		

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

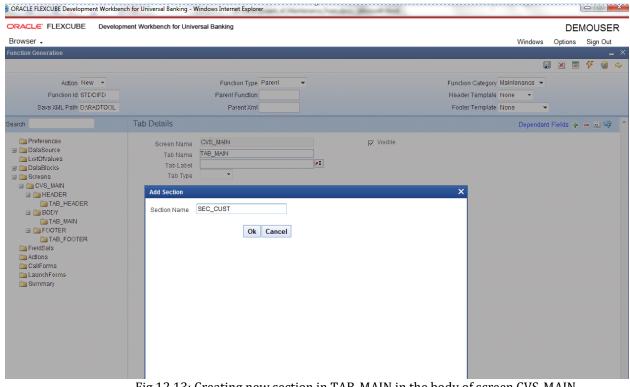


Fig 12.13: Creating new section in TAB\_MAIN in the body of screen CVS\_MAIN

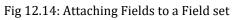
Ø ORACLE FLEXCUBE Development Workben	ch for Universal Banking - Windows Internet Explorer	Ŀ	
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TAB_HEADER	Partition SI No Partition Name	e Width Sub-partitions	
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TAB_FOOTER			
	Fig 12.14: Defining partitions fo	or 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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<ul> <li>Preferences</li> <li>DataSource</li> <li>ListOVAlues</li> <li>Screens</li> <li>Screens</li> <li>FreidSets</li> <li>FST_CUST1</li> <li>FST_CUST2</li> <li>Actions</li> <li>Califorms</li> <li>LaunchForms</li> <li>Summary</li> </ul>	Fieldset Name Fieldset Label Data Block Multi Record View Type Fieldset Height CUSTNOP	Screen Portion Tab Name Section Name Partition Name Number Of Rows	MAIN	☐ Horizontal Fieldset ☐ ReadOnly ☐ Navigation Button ✔ Visible



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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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🚞 Summary	CNTY NLTY		CUSTNO		
	LANG		CNAME	· · · ·	
		DD .	ADDR1		
		44			

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	
	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≪ 1 of 1 🕨 🕨	Go to Page		+ - ==	
Group Id	Customer No	Relation	٠         ·	
Maker Checker Mod No	Red	Date Time: Date Time: cord Status tion Status	Exit	

Below image shows a multiple view multi record field set



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

ORACLE FLEXCUBE Development Workben	ch for Universal Banking - W	indows Internet Explorer	A Martineers, 1484		and the state				
ORACLE FLEXCUBE Developm	nent Workbench for Unive	rsal Banking						C	DEMOUSE
Browser -							Wind	ows Option	ns Sign Out
Function Generation									
									🗏 7 🧐
Action Load -		Function Type Parent				Functio	n Category Maintenance	-	
Function Id STDCIFD		Parent Function				Heade	r Template None 👻		
Save XML Path STDCIFD_RAI	BROWSE	Parent Xml				Foote	r Template Maint Audit	•	
Search	Fieldset Properties								- 🗉 🌍
🚞 Preferences	Fieldset Name	FST_CUST2		Sc	reen Name	CVS_MAIN	-	Horiz	zontal Fieldset
🖃 🚞 DataSource	Fieldset Label				een Portion	Body	•	Read	dOnly
STTM_CUSTOMER CUSTOMER NO	Data Block	BLK_GROUP	•		Tab Name	TAB_MAIN	•	Navir	gation Button
	Multi Record	Yes 🔻			ction Name	SEC_GROUP	-	Visib	
CUSTOMER_NAME1		Single -			tition Name	PART1	•		
address_line1	Fieldset Height				er Of Rows				
COUNTRY									
DATIONALITY									
		Data Block Fi	elds			FieldSet Fields	Subpartition Name		
CROUP_ID				_	GROU	P ID	•		
CUSTOMER_NO						-			
RELATIONSHIP     ListOfValues					_	-			
DataBlocks				ÞÞ	RELAT	ION	•		
BLK_CUSTOMER				_					
BLK_GROUP				44					
🖃 🚞 Screens									
HEADER BODY									
TAB_MAIN				L					
SEC_CUST									
SEC_GROUP									
FOOTER     FieldSets									
FST_CUST1									
FST_CUST2									
astions.	<b>D:</b> 40.40					1			
	Fig 12.18:	Properties for	Single View	/ Mul	ti Rec	ord Field se	t		

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

🔶 Main		×
🗗 New 🔄 Enter Query		
Customer No Name Type Address Group Id		1 of 1
Customer No Relation Maker	Date Time:	
Checker	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.
- LOV Type This field can be Null or Internal.
- Enter valid query and click on populate button.

Function Generation													- ×
										×	L	3	1
Action Load		Function	on Type Pa	rent 🗸			Function Cate	gory Maintenance 🗸					
Function Id STDCIFD		Parent F					Header Tem	late None V					
Save XML Path STDCIFD_RAL	BROWSE	Par	ent Xml				Footer Temp	Nate Maint Audit 🗸	J.				
Search	List Of Values Deta	ails											<u>د</u>
Preferences	LOV Name	LOV_OCUN	TRY										
DataSource	LOV Query			cription from sttm	_country where auth_stat	='A' and record_stat='0'		2					
<ul> <li>ListOfValues</li> <li>LOV_OCUNTRY</li> </ul>	LOV Type	Internal	~					- Cares					
DataBlocks													
▶ Screens													
▶ FieldSets									opula				
Actions	Query Columns	Data Type	Visible	Reduction Field	Reduction Field Type	Reduction/Column Label	Is Mandatory	Min No. of Search C	harac	ters			
CallForms													
LaunchForms													
Summary													
										~			
	<								)	>			

Fig 12.19: Defining new LOV

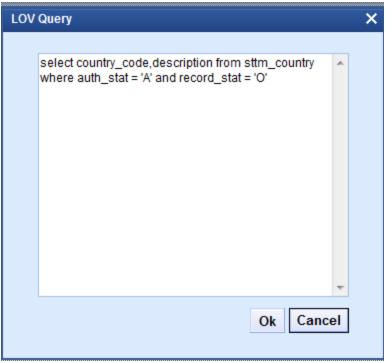


Fig 12.20: Providing LOV query

Function Generation												-
										×L	С	V
Action Load		Function Type	arent	V			Function Cate	gory Maintenance 🔽	1			
Function Id STDCIFD		Parent Function					Header Temp	late None 🗸				
Save XML Path STDCIFD_RAL	BROWSE	Parent Xml					Footer Temp	alate Maint Audit	-			
Search	List Of Values Deta	ls									= 🛽	
Preferences DataSource LISIOY/alues LOV_OCUNTRY DataBlocks Screens FieldSets	LOV Query	LOV_OCUNTRY select country_code, de internal	scription fi	rom sttm_country wh	here auth_stat='A' and i	record_stat='0'			Populate	$\supset$		
Actions	Query Column	s Data Type	Visible	Reduction Field	Reduction Field Ty	pe Reduction/C	olumn Label	Is Mandatory	Min No			
CallForms	COUNTRY_CODE	VARCHAR2 V	Yes 🗸	Yes 🗸	TEXT 🗸	LBL_CNTRY	~	🔎 No 🗸				
LaunchForms Summary	DESCRIPTION	VARCHAR2 V	Yes 🗸	Yes 🗸	TEXT V	LBL_COUNTRYC		No V				
										~		

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				_ 3
			8	🗙 🗏 🎸 🧃 🔿
Action Load -	Function Type P Parent Function	arent v	Function Category Maintenance	
Save XML Path STDCIFD_RAL	BROWSE Parent Xml		Footer Template Maint Audit 👻	
Search	Block Field Properties			- 🛛 🗖 🌍
Preferences DataSource DataSource ListOValues ListOva	Field Name	XSD Tag XSD Anotation Field Size • Maximum Length Minimum Value Maximum Value Maximum Pacimals TextArea Rows TextArea Rows TextArea Columns Default Value Preview Value Mask Id		Required Visible Read Only Calender Text Popup Edit Required Uppercase Only LOV Validation Required Input by LOV Only Not Required In Xsd Report Parameter
Screens     FieldSets     Actions	Custom Attributes Events Bind Variables	Return Fields Related Field	Default From L	.ov Definition
CallForms	Query Column	Block Name	Return Field Name	~
in LaunchForms in Summary	COUNTRY_CODE DESCRIPTION	BLK_CUSTOMER   BLK_CUSTOMER	CNTY •	
	Fig 12.22: At	taching LOV to a block Fi	eld	

### 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	antanunce -		
Function Id STDCMF	Parent Function		Header Template 14	cne 💌		
Save XML Path DIRADTOOLS	Parent Xml		Footer Template	aint Audit 👒		
arch	Block Field Properties					- 1.1
Preferences DataSource ListOfnalues ListOfnalues ListOfnalues Lov_COURTRY DataBods ULOV_ACCOURT OutsBods ULOVACCOURTNO CUSTNO CU	Field Name CUSTNO     Field Name CUSTNO     NSO Tag CUSTNO     NSO Tag CUSTNO     Display Type Tert     Mem Type Database flem      Parent Field     Related Field     Related Field     Tethrea Rows     May Decimate		Data Type Vanchar2 M     DataSource STTME_CUST     MaxLength 9     Feld Size     Column Name CUSTOMER_     Default Value     Preview Value     Accessivey Code     TextArea Cols     Max Val     Mask Id	r_GROUP	Popup Edit Regit  Reguined  Visible Input by LOV Only Calender Text Sered Multiple Uppercase Only  LOV Validation Regit Not Reg in Xad  Report Parameter Regit Only	
BELK, CLUSTGRP     GRPNO     CUSTNO     RELATION     FhidSets     Addos     CuliForms     LaunchForms     Summary	LOV Name LOV_ACCOUNT Fieldset Name FST_GROUP Custom Attributes Events Bind Variables Napping Biock Name	Return Fields	Off Line LOV Name Image Source	Gatadi tom LoV definit Detatype	500 Sec. 201	
		×	CUSTNO	STRING	$\geq$	

## 4.8 Attaching Call forms

Maintenance Call forms can be attached to a maintenance screen. Refer the document <u>15-</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	ields & Add	Ul Fields					×
1	DataS	ource fields	UI Fields					
							+-	
				Field Name		Data Type	^	
	1	BTM_MIS				-		
					 		~	
							Ok C	ancel

Fig 12.24: Defining Button field

• Add Call form details to Call form node

							<b>I</b> 7	9
Action Load -		Function Type Parent	-	Functi	ion Category Main	ntenance 🔻		
Function Id STDCIFD		Parent Function		Head	ler Template Non	e 👻		
Save XML Path STDCIFD_RAI	BROWSE	Parent Xml		Foot	ter Template Main	nt Audit 👻		
rch	Call Form Details							9
Preferences     DataSource								
TTM_CUSTOMER					creen Arguments		Fields <mark>+ -</mark>	1
	Function ID	Parent Data Block	Parent DataSource	Relation	Relation Type	Callform Screen	Display 1 ^	
LOV_COUNRTY	MICCUSTM	BLK_CUSTOMER -	STTM_CUSTOMER -	TTM_CUSTOMER.COSTOMER_NO =	One To One 🔻	• ] •	Button	
INLTY     ANG     BTM_MIS     BTM_MIS     BTM_MIS     BTM_SIS     Screens     FieldSets     Actions     CallForms     CallForms     Summary								

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 Categor	y Maintenance 🔻	
Function Id STDCIFD	Parent Function			Header Templat	e None 🔻	
Save XML Path STDCIFD_RAI	BROWSE Parent Xml			Footer Templat	e Maint Audit 👻	
Search	Block Field Properties				- 1	<b>J</b> 19
Preferences  DataSource  STM_CUSTOMER  Lov_COUNER  Lov_COUNERY  CustoMalues  CustoMalues  CustoMalues  CustoMalue  CustoMalue	Field Name + BTM_MIS Field Label DataSource Column Name + Data Type * Text • Parent Field LoV Name Off Line LOV Name Fieldset Name		XSD Tag XSD Annotation Field Size * Maximum Length Minimum Value Maximum Value Maximum Decimals TextArea Rows TextArea Columns Default Value Preview Value Mask Id	MIS // // // // // // // // // // // // //	Read Only Calender Text Popup Edit Re Uppercase O Culvalidation Required Input by LOVC Not Required Report Param	ly nly n Xsd
	Custom Attributes Events Related Field  Event Name Fund  onunload	ction Name		Iton Screen CallForm N MAIN	ame Screen Name	
Get C_SROUP Get FieldSets Actions CallForms Summary	2.26: Defining event to t				•	

• Check the preview.

🔶 Main				×
🖹 New 🔄 <u>Enter Query</u>				
Customer No Name				
Туре				
Address				
l≪ 1 of 1 ▶ ▶	Go to Page		+ - =	
Group Id	Customer No	Relation	·	
			-	
•			•	
MIS)  Change Log				<b></b>
Maker	1	Date Time:		
Checker		Date Time:	_	
			E	xit
Mod No		cord 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

					E.	× =		<b>9</b>
Action Load 👻		Function Typ	e Parent 👻		Function Category Maintenance 💌			
Function Id STDCIFD		Parent Function	n		Header Template None 👻			
Save XML Path STDCIFD_RAI	ROWSE	Parent Xr	1		Footer Template Maint Audit 👻			
earch	Preference	es						9
i Preferences		🔽 Head Office Fun	ction	Module	ST			
DataSource     DataSource     DataSource		Logging Require	d	Module Description	Static Maintenance			
STIM_COSTOMER      STIM_CUST_GROUP		Auto Authorization	n	Branch Program Id				
ListOfValues		🔽 Tank Modificatio	ns	Process Code				
DataBlocks		🔽 Field Log Requi	ed	SVN Repository URL				
BLK_CUSTOMER CUSTNO		Multi Branch Acc	ess	Transaction Block Name	Choose Block •			
		Excel Export Red	uired	Transaction Field	Choose Field -			
				Name				
ADDR1								
DITY								-
🚞 LANG					Co	ontrol String	) <del> </del>     -	4
BTM_MIS		Function Id		Module *	Module Description		^	*
BLK_GROUP     Screens	STDC	IFD	ST	21	Static Maintenance			
CVS_MAIN	V STSC	IFD	ST	*=	Static Maintenance			
🗉 🚞 FieldSets							-	r -
CallForms								-
a Californis								
in Summary								

- 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     STDC/FD     Parent     Header Template     None       Save XML Path     STDC/FD_RAI     BROWSE     Parent Xml     Footer Template     Maint Audit	on Generation											
Function Id STDCIFD Parent Function Header Template None   Save XML Path STDCIFD_RA BROWSE Parent Xml Footer Template Maint Audit   arch   Summary Details     Preferences   DataSource   STTM_CUSTOMER   STTM_CUSTOMER   STTM_CUSTOMER   STTM_CUSTOMER   STTM_CUSTOMER   STTM_CUSTOMER   STTM_CUSTOMER   Strmacoust   Title   Data Block   Summary Type   Summary Screen   Summary Screen   Summary Screen   CUSTOMER   Summary Screen   CUSTOMER   Summary Screen   Data Block Fields   Custom Buttons   Fields Selected   Query   Launchforms										× =	V	Ś
Save XML Path STDCIFD_RAI       BROWSE       Parent Xml       Footer Template Maint Audit       Image: Constraint of the state of the	Action Load 🔻		Function Type Parent	-			Function (	Category Maintenance	-			
arch Summary Details C Preferences Data Blocks Data Blocks Data Block Fields Data Block Fields Ordering Data Block Fields Data Block Field	Function Id STDCIFD		Parent Function				Header T	emplate None 🔻				
Preferences   DataSource   B STTM_CUSTONER   B STTM_CUSTONER   B STTM_CUSTONER   B STTM_CUSTONER   B STM_CUSTONER   Custones   Summary Type   Summary Type   Summary Screen Size   Medium   ADDR1   CNTY   NLTY   B BLK_CROUP   Screens   B CVS_MAIN   B Fieldses   CVS_MAIN   B Fieldses   Califorms	Save XML Path STDCIFD_RAI	BROWSE	Parent Xml				Footer T	emplate Maint Audit	•			
Data Block Fields     Custom Buttons     Fields Order By     Custom Buttons     Fields Order Ing     Custom Buttons     Custom Buttons     Fields Order Ing     Custom Ing		Summary Details									Ū	0
Data Blocks     Data Blocks     Data Blocks     Data Blocks     Summary Type     Data Source     Data Source     Summary Type     Summary Type     Summary Screen Size     CUSTNO	Preferences	Title				Default Where Clause	,		2	2		
B = STIM_CUSTOMER     Data Source     Summary Type     Summary Type     Summary Screen Size     CUSTNPE     CUSTNPE     CUSTNPE     CUSTNPE     CUSTNPE     CUSTNPE     CUSTNPE     Data Block Fields     Custom Buttons     Fields Ordering     CUSTNO     CUSTTYPE     CUSTNO     CUSTYPE     CUSTNO     CUSTYPE     CUSTNO     CUSTYPE     CUSTNO     CUSTYPE     C			BLK CUSTOMER	•								
Summary Type Summary Screen Size Medium      Summary Type Summary Type Summary Screen Size Medium     Summary Type Summary Type Summary Screen Size Medium     Summary Screen Size Medium     Data Block Fields     Custrone     Custrone     Screens     Scrett     Screens     Screens     Screens     Screens     Screens			STTM CUSTOMER	•								
BLK_COSTONER     Summary Screen Size Medium     Main Summary Screen     Main Summary Screen     WebServices     Required     WebServices     Required     Data Block Fields     Custom Buttons     Fields Ordering     CUSTNO				•						-		
BLK_CUSTOMER     WebServices     Required      CUSTNO     CUSTNPE     CNAME     ADDR1     CNTY     Data Block Fields     Custom Buttons     Fields Ordering      CUSTNO				-		Main Summary Screer	1					
CUSTNO CUSTYPE CANE ADDR1 CNTY BTM_MIS BUL_GROUP GOVERNANE CUSTYPE CONMAE CUSTYPE CONMAE CUSTYPE CONTY CONTYPE CUSTYPE CONTYPE CUSTYPE		Summary Screen Size	weddin	•				ces				
CVSTTYPE CNAME CANAE							Required					
C CNAME ADDR1 ADDR1 CNTY ALANG BTM_MIS B BLK_GROUP S Screens B C VS_MAIN B Fields Selected C USTNO C USTNO C USTNO C USTNO C USTTYPE C U		Data Block Fields	ustom Buttons Fields Ordering									
CNTY NLTY Data Block Fields U GUSTNO CUSTNO CUSTNO CUSTNO CUSTNO CUSTNO CUSTTYPE CUS	CNAME											_
NLTY       Data Block Fields       Fields Selected       Query       LOV Name         LANG       CUSTNO       V       CUSTNO       V          B BLK_GROUP       CNAME       C            B BLK_GROUP       CNAME       C             B BLK_GROUP       CNAME       C              B GUSS       CNAME       C       C   <	addr1											
LANG     Control     Control     Control     Control       BTM_MIS     ETM_SOL     Control     Control     Control       B BLK_GROUP     Control     Control     Control     Control       Control     Control     Control     Control     Control					_							
BTM_MIS     CUSTNO     CUSTNO     CUSTNO       B BLK_GROUP     CONAME     CONAME     CONAME       B CVS_MAIN     CUSTTYPE     CUSTTYPE     CUSTTYPE       Califorms     CNTY     CUSTYPE     CUSTYPE       Califorms     NLTY     CUSTYPE     CUSTYPE			Data Block Fields		0	Fields Selected	Query	LOV Name				
BLL (RSOUP       CNAME       Image: Construction of the second of					ſ	CUSTNO	<b>v</b>		•			
Gustrype     Custrype					-		· (		_			
a) CVS_MAIN         a) FieldSets         a) Actions         a) Califorms         a) LaunchForms					-							
a FieldSets     ADDR1        a Address     ONTY        a Califorms     NLTY						CUSTTYPE			~			
CaliForms Califorms					- FF	ADDR1			~			
CallForms I NLTY I C	Actions				44 1	CNTY			<b>–</b>			
							L					
Summary					-							
	Summary				ſ	LANG			~			
	LaunchForms				1	NLTY			•			

#### **Summary Preview**

Right click on summary node and click on preview.

	auto Quesu C <b>t</b> Advence	d Search O Dec	et D Clear All							×
E Exe	Advance Authorization Status Customer No	ed Search  +-j Res			Reco	ord Status	•			
Reco	rds per page 15 👻 📊	🛯 1 of 1 🕨 🔰		3						
	Authorization Status	Record Status	Customer No	Name	Туре	Address	Country	Nationality	Language	
										E
										-
									Þ	
									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	<b>v</b>	
	ADDR1		
	CNTY		
	NLTY		
	LANG		
	BTM_MIS		
		Ok Cancel	
	L		

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		×	4	lela Data	Others	
Error Description Request successfully Processed		Error Code RD-SAVE-007	Menu Details  Datasource Details  LOV Details  Menu Details  Menu Details  Screen Details	Label Cretails     Lock PK Columns     Function Call Forms     Gateway Details     Notification Details	<ul> <li>✓ Xsds</li> <li>✓ Xsd With Annotations</li> <li>✓ Screen Html</li> <li>✓ Upload Table Trigger</li> <li>✓ Upload Tables Definition</li> </ul>	on
		0% of DownLoadFile from 10.184	.132.100 Completed	nction Parameters	Archive Table Definition	
		File Download		X Hyb Levens		
Do you want to ope		Do you want to open or sa	ve this file?			
		Name: RAD.ZIP	RAR ZIP archive	ые Туре	Status	
		Type: WinRAR			Generated 👻	
		From: 10.184.1	32.100		Generaled *	
		Оре	Open Save Cancel		Generated 👻	
					Generaled *	
	STOCIFDCVS_MAINTAB_FOOTER.html	While files from the Inte	ernet can be useful, some files can potenti	ally	Generated 👻	
	slpks_stdcild_main.spc	ham your computer. If you save this file, What's the	u do not trust the source, do not open or isk2	x'	Generaled *	
	stpks_sldclfd_kernel.spc				Generated 👻	
	slpks_stdcifd_main.sql		SQL	-	Generaled *	
	stpks_sldclfd_kernel.sql		SOL		Generated 👻	
	CSTB_FIELD_LABELSSTDCIFD.INC		INC		Generaled +	
	CSTB_OTHER_LABELSSTDCIFD INC		INC		Generated 👻	
	CSTB_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.

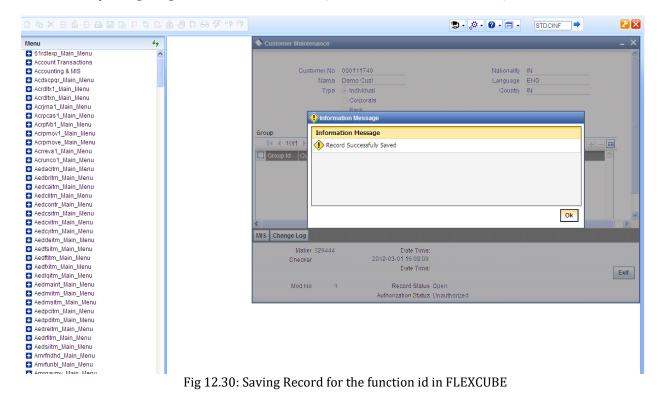
Front-End Files	System Packages	Hook Packages	M	leta Data	Others	^
Rad/ML Ø Screen Xml Ø System JS	Main Package Spec     Main Package Body     Notification Triggers     Upload Package Spec     Upload Package Body	Kernel Package Spec Kernel Package Body Cluster Package Spec Cluster Package Body Custom Package Spec Custom Package Body	Menu Details     Datasource Details     Ot Details     Block Details     Screen Details     Amendable Details     Call form Details     Summary Details	Label Details     Jelock PK Columns     Function Call Forms     Gateway Details     Notification Details     Function Parameter     Purge Details	Upload Table Trigger	Ţ
	CSTB_FIELD_LABELSSTDCIFD.INC		INC		Deployed -	*
	CSTB_OTHER_LABELSSTDCIFD.INC		INC		Deployed -	
	CSTB_SUMMARY_INFOSTDCIFD.INC		INC		Deployed -	
;	STTB_AUDIT_PK_COLSSTDCIFD.INC		INC		Deployed -	
	CSTB_FID_DATA_BLOCKSSTDCIFD.INC		INC		Deployed -	
	CSTB_FID_DATA_SOURCESSTDCIFD.INC		INC		Deployed -	
	CSTB_FID_SCR_TABSSTDCIFD.INC		INC		Deployed -	=
0	CSTB_FID_SCREENSSTDCIFD.INC		INC		Deployed -	
1	SMTB_MENUSTDCIFD.INC		INC		Deployed -	
2	SMTB_ROLE_DETAILSTDCIFD.INC		INC		Deployed -	
3	SMTB_FUNCTION_DESCRIPTIONSTDCIFD.INC	;	INC		Deployed -	
4	SMTB_FCC_FCJ_MAPPINGSTDCIFD.INC		INC		Deployed -	
5 5	STDCIFD RAD.xml		RAD	DXMI	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

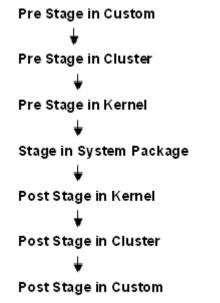
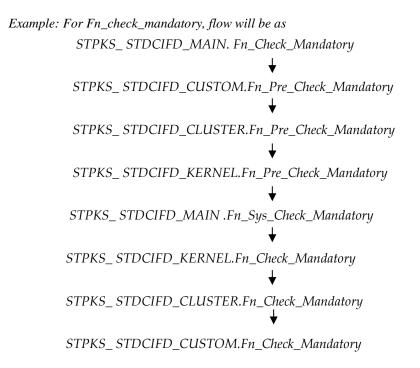


Fig 12.31: Flow of control through Hook Packages



## 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:

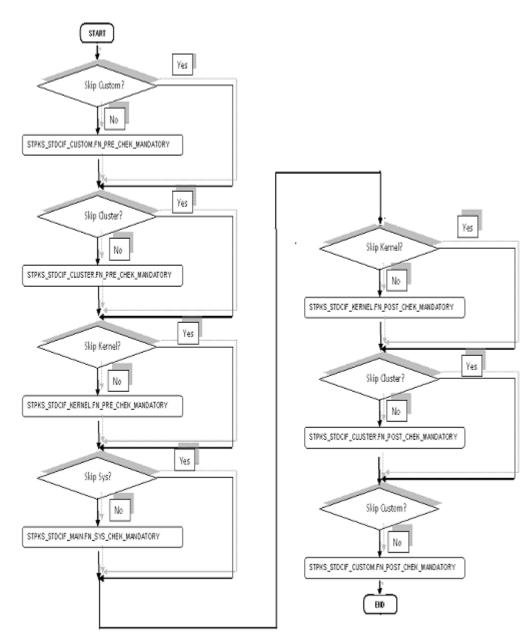


Fig 12.31: Flow of control explaining skip logic in pacakges



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