Development Workbench – Screen Development I

Oracle FLEXCUBE Investor Servicing

Release 14.6.0.0.0

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1.1 Preface

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

1.2 Audience

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

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

Proficiency	*Resources*
FLEXCUBE Functional Architecture	Training programs from Oracle Financial Software Services.
FLEXCUBE Technical Architecture	Training programs from Oracle Financial Software Services.
FLEXCUBE Object Naming conventions	*Development Overview Guide*
Working knowledge of Web based applications	Self Acquired
Working knowledge of Oracle Database	Oracle Documentations
Working knowledge of PLSQL & SQL Language	Self Acquired
Working knowledge of XML files	Self Acquired
Essential knowledge on FLEXCUBE ODT	*02-ODT Administration.docx* *03-ODT Getting Started.docx*

1.3 Related Documents

05-ODT Generation, Deployment and Release of files.docx
13-Development of Online Forms.docx
14-Development of Call Form.docx
15-Development of Launch Forms and Others Screens.docx
16-ODT Child and Screen Childs Concept and Design.docx

2 Introduction

2.1 How to use this Guide

The information in this document includes:

- Chapter 2 , “Introduction”
- Chapter 3 , “Overview of Screen Development for Oracle FLEXCUBE”
- Chapter 4 , “Header Information”
- Chapter 5 , " Preferences”
- Chapter 6, " Data Sources”
- Chapter 7 , " Data Blocks”
- Chapter 8 , " Screens”
- Chapter 9 , " Field Sets”
- Chapter 10 , " LOVs”
- Chapter 11 , " Call Forms”
- Chapter 12 , " Launch Forms”
- Chapter 13 , " Actions”
- Chapter 14 , "Summary”
- Chapter 15 , " Generation and Deployment of Files”
- Chapter 16 , " Appendix”

3 Overview of Screen Development for Oracle FLEXCUBE

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

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

Example

Release Name: FC 11.3
Release Type: KERNEL, CLUSTER, CUSTOM

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

3.1 Radxml

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

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

Radxml will adhere to following naming convention

Function Id name + _RAD.xml

Example: FTDTRONL_RAD.xml

3.2 Extensible Development

In extensible framework, any development on FLEXCUBE is classified as on any of the following stage (also referred to as release type)

i) KERNEL

This refers to the core product.

Example: FC 11.3

ii) CLUSTER

This refers to any region specific enhancements /developments done on top of the kernel product. The changes done in a cluster pack will be non invasive to the kernel product.

Example: FC 11.3 India cluster

iii) CUSTOM

Any enhancements required by the customer/bank are done on this level. It will be non invasive of the changes done in kernel and cluster packs

Example: Customizations for MODEL bank on FC 11.3 India cluster

ODT can segregate the changes done on different releases and saves the radxml accordingly. It generates the files depending on the release type and developers can add the business logic to the release type specific files. Thus the code remains non invasive of the existing code.

3.3 Design Steps

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

1. Identifying the data sources and their relations
2. Logically grouping the data sources into Data Blocks
3. Designing Screen Layout
4. Logically grouping the Block Fields into Field sets
5. Attaching Call forms and launch forms if any
6. Defining LOVs
7. Designing Summary

8. Defining Actions

Refer respective sections for detailed explanation of each step

Saving Radxml

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

4 Header Information

Login to the Oracle FLEXCUBE ODT using the credentials maintained (refer *02-ODT Administration.docx* for creating users)

Map the session to the release and environment as required (Refer *03-ODT Getting Started.docx* for detailed explanation)

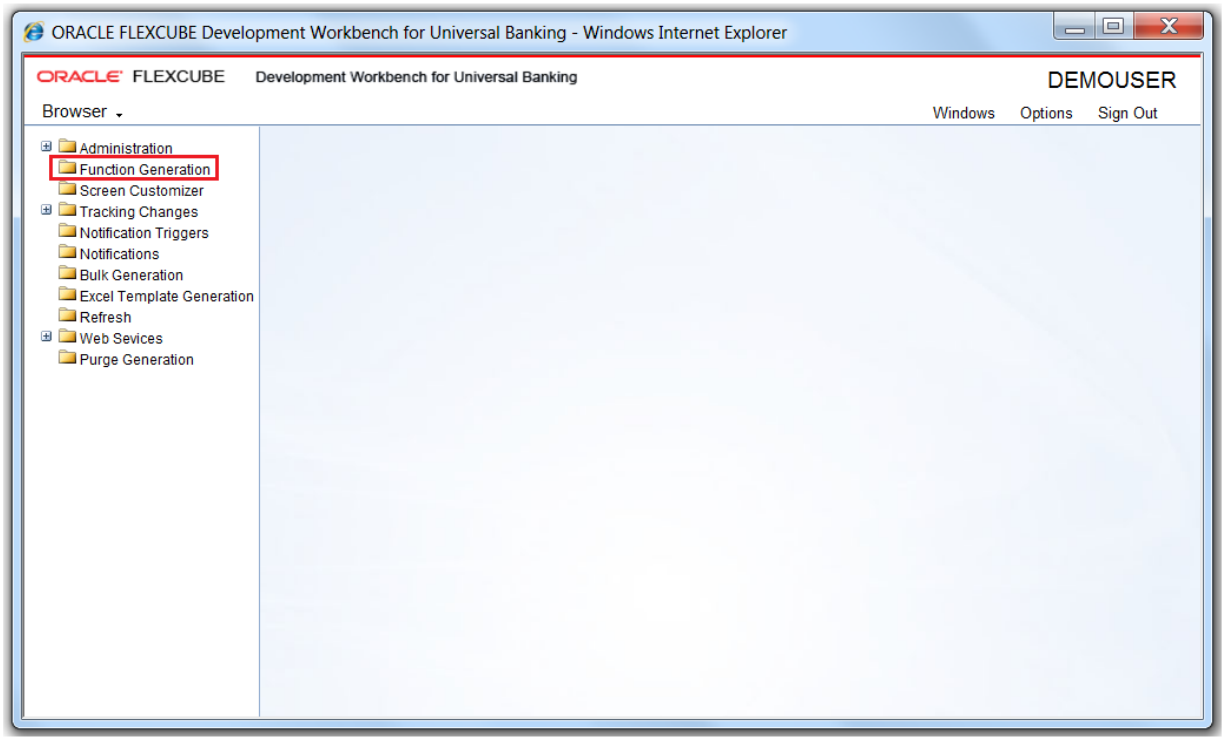

Fig 5.1 Oracle FLEXCUBE ODT Landing Page

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

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

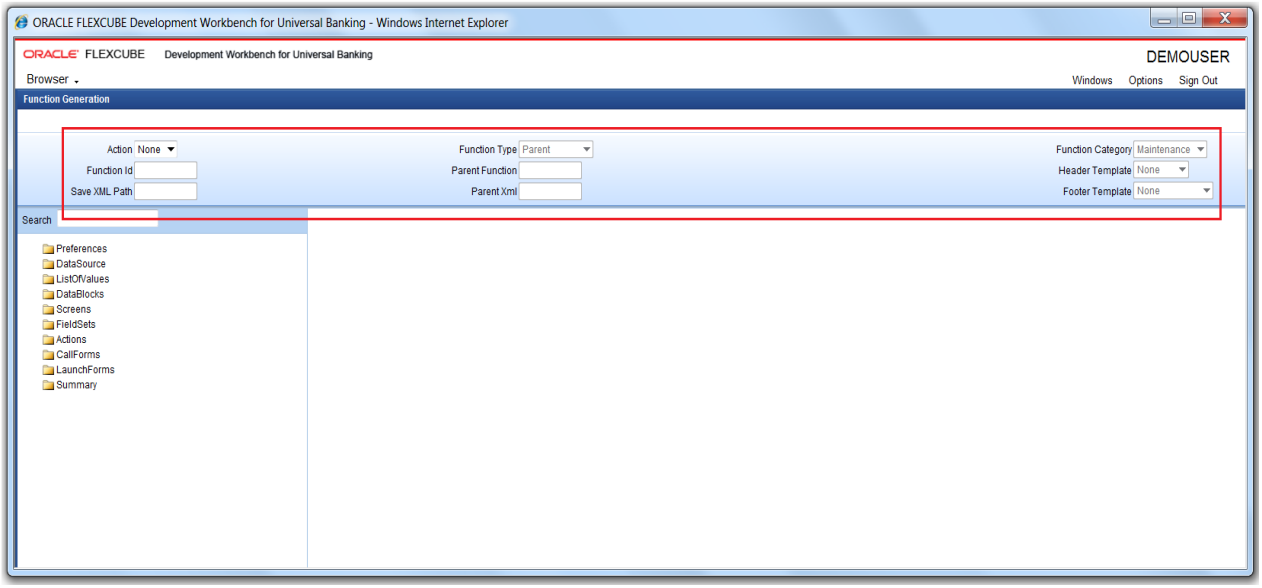

Fig 5.2 ODT Function Generation page highlighting the header section

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

4.1 Action

New and Load options are provided for this field.

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

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

4.2 Function Id

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

Function Id name should follow the FLEXCUBE standard naming convention.

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

  Example:

  For Funds Transfer Contract Input Screen name can be given as FTDTRONL

Here FT is the module (Funds Transfer), third letter D denotes it is a normal detail screen, and Length of the function Id is 8.

If the action selected is Load, function Id field will be disabled. It will be picked up from the radxml which is loaded.

4.3 Save Xml Path

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

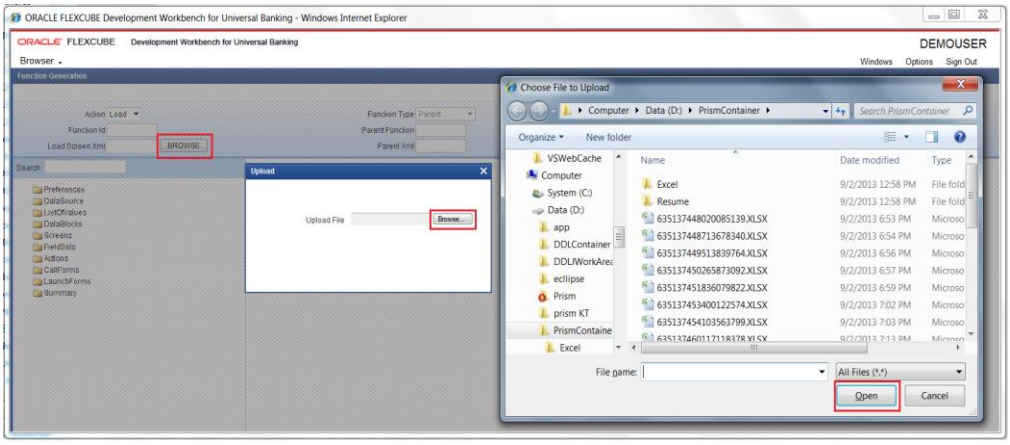

Fig 5.3 Loading of an Existing radxml in ODT in IE

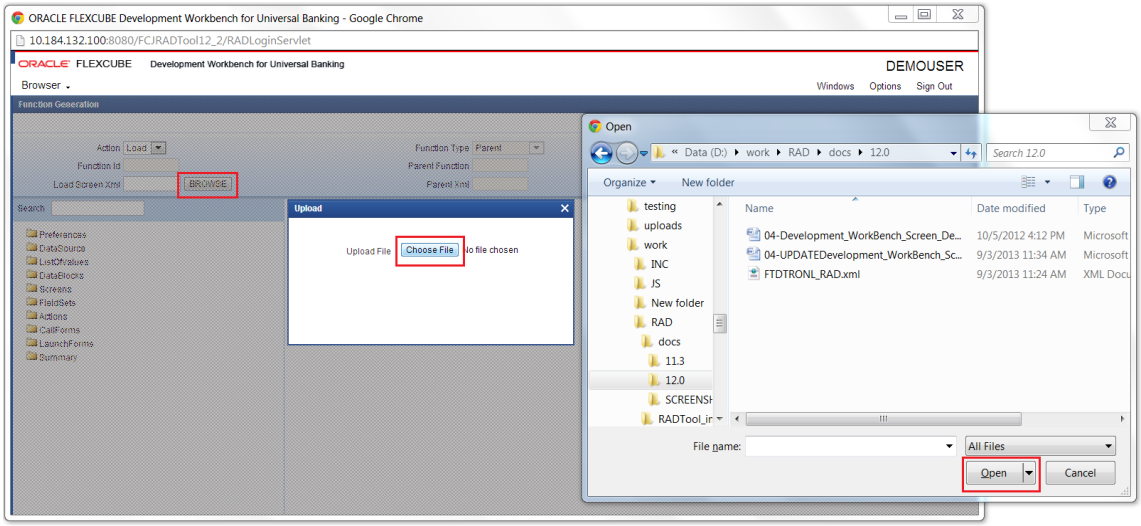

Fig 5.4 Loading of existing radxml in ODT in Google Chrome

If the action is New, save xml path is optional. If provided, then the generated units will be saved in the path mentioned. Note that the value in the Save Xml Path will be used only if the Save Format is Client Path and if the User has given "CURRENT_DIRECTORY" in the User Preferences→Work Directory.

4.4 Function Type

Function Type can be Parent or Child or Screen Child (based on the screen which has to be designed).

Parent: This is the default option and can be used for normal screen development.

Child: This option can be selected if the screen has to be the child of another screen; i.e. inherits all the properties of another screen which will be its parent. Properties can be modified in the child level.

Screen Child: This option can be selected if the screen has to be the screen child of another screen, i.e. it inherits all properties from its parent. Only screen layout changes can be done in the screen child screen.

Refer respective documents for detailed explanation on parent/child/screen child screens.

4.5 Parent Function

This field is applicable only if the function type is child/screen child and this field will be populated when the parent RAD xml is loaded. This is a read only field.

4.6 Parent Xml

This field is also applicable only if the Function type is child/screen child. If the Function Type is child/screen child user has to load the radxml of the Parent Function using browse button provided to this field.

It is non editable field if the action is "Load".

4.7 Function Category

Provide Function category depending on the type of screen being developed. ODT provides the following options:

Maintenance: These screens are typically used to maintain static data used across the system. These screens include product definition function as well.

Example: Branch Parameters Maintenance

Transaction: These screens are typically used to capture contract related data. Any operations related to contracts are performed in these screens

Example: Funds Transfer Contract Input screen

Summary: If only query operation is required for the particular function Id, then function category can be selected as Summary**.**

Others: If developer feels that existing handles provided in maintenance/transaction screens in extensible framework is inadequate (or not necessary) for the screen; screen can be designed as others. Note that all business logic would have to be manually written by the developer for others screen.

4.8 Header Template

A template can be selected for header. The following options are provided.

None: This is the default header and should be used for all screens except workflow screens.

Process: This template can be selected for workflow screens. The following Fields will be added to the header section as part of this template.

1) Workflow Reference
2) Priority

4.9 Footer Template

A template can be selected for footer. The following options are provided.

None: This is the default value

Maint Audit: This template can be used for maintenance screens. Ensure that master data source has the standard audit columns.

Maintenance audit column names and the corresponding block field names created by ODT is provided in the table below:

COLUMN NAME	BLOCK FIELD NAME
MAKER_ID	MAKER
MAKER_DT_STAMP	MAKERSTAMP
CHECKER_ID	CHECKER
CHECKER_DT_STAMP	CHECKERSTAMP
MOD_NO	MODNO
RECORD_STAT	RECSTAT
ONCE_AUTH	ONCEAUTH
AUTH_STAT	AUTHSTAT

Audit block field names are reserved filed names and hence cannot be used as the name of any other block field.

Note that when template is selected, ODT automatically adds the fields to Data Source and Blocks and adding these fields manually to data blocks results in erroneous behavior.

Maint Process: In this template along with maintenance audit fields System would automatically add a control block and Process related fields. This template can be used for workflow maintenance screens.

Process: Only process related Fields will be added to the Footer. This can be used for workflow transaction screens. As part of process template; previous remarks, remarks, outcome and audit block will be created in the footer.

5 Preferences

Function id level preferences like module, logging required, tanking modification Main menu, Sub-Menu1, Sub-Menu2 is maintained through Preferences screen in ODT.

The data maintained in Preferences Screen will be used for generating static data script for tables SMTB_MENU, SMTB_FUNCTION_DESCRIPTION, SMTB_ROLE_DETAIL and SMTB_FCC_FCJ_MAPPING.

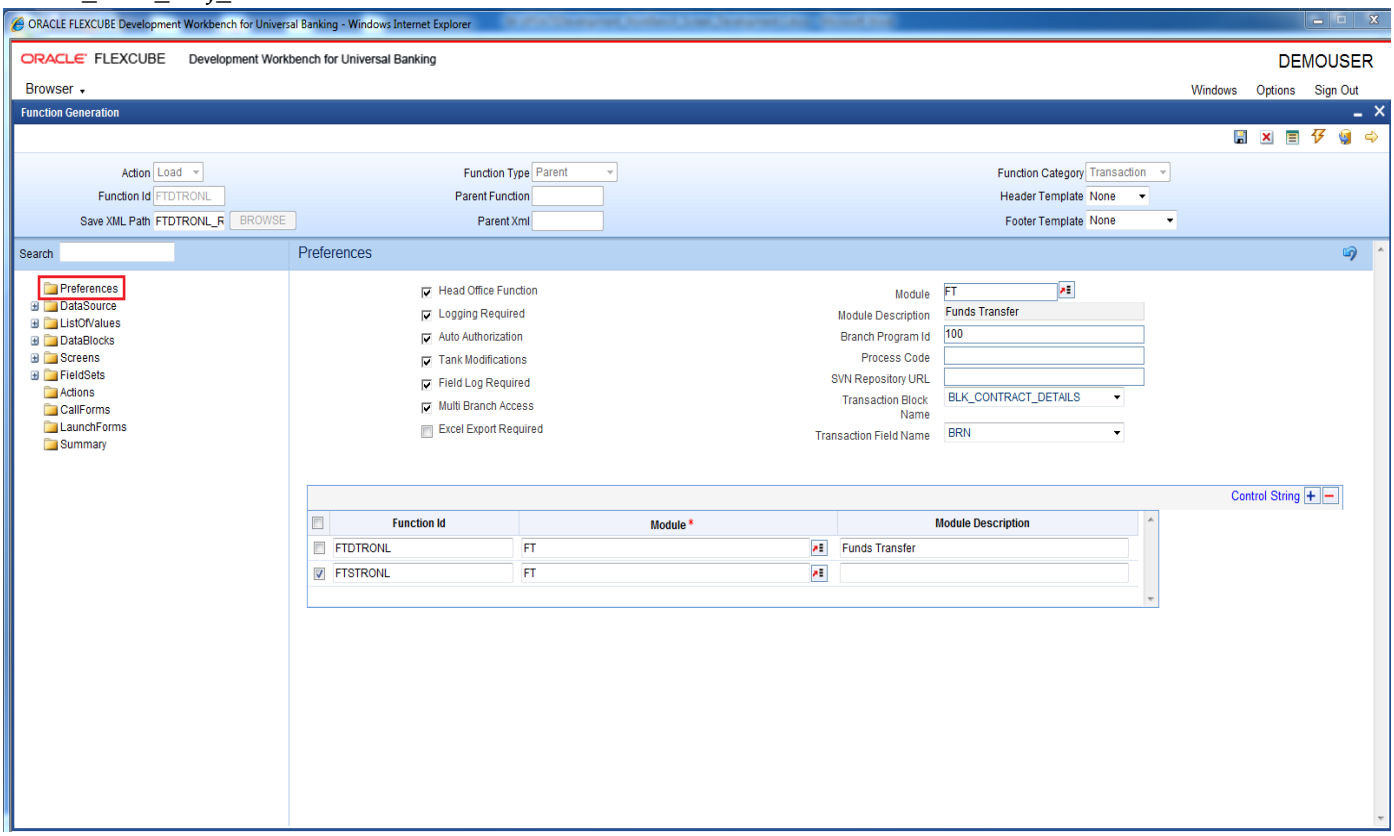

Fig 6.1 Preferences Screen in ODT Function Generation

5.1 Module

It captures the Module of the function id. Developer can choose module name from the list of values provided. List of values is populated based on the modules maintained in SMTB_MODULE table of the business schema (current FLEXCUBE environment to which tool is mapped).

Module Code has to be provided mandatorily. Module name provided would be reflected in the script for SMTB_MENU generated by ODT (in module column).This will also be considered while naming the packages generated by the tool. First two characters of the packages generated will be taken from the module code maintained.

5.2 Module Description

Module description gets defaulted based on the module code selected.

5.3 Head office Function

It captures whether the function is a head office function or not. It will be reflected in the static script for SMTB_MENU in column HO_FUNCTION.

If the function is a head office function, only query operation will be possible at all the other branches for the particular screen.

5.4 Logging Required

It captures whether logging is required for the function or not. This will also be reflected in script generated for SMTB_MENU (column LOGGING_REQD).

If this option is selected, all the request and response for the functionId will be logged in CSTB_MSG_LOG. This is used for View Change option.

5.5 Auto Authorization

It captures whether Auto Authorization is allowed for the function or not. This will also be reflected in script generated for SMTB_MENU (column AUTO_AUTH).

Note that auto authorization is possible only if it is allowed at function id level, user level and the branch level.

5.6 Tank Modification

It captures whether modification to be tanked for the function or not. This will be reflected in TANK_MODIFICATIONS column of SMTB_MENU table script.

If tank modification is enabled, then the record in that screen would be logged to logging tables and taken up for processing (*untanking*) in later stage during EOD operations. Currently this is applicable only for maintenance screens.

5.7 Field Log Required

It captures whether field Logging is required for the function or not. This will be reflected in the FIELD_LOG_REQD column in SMTB_MENU.

If field log required is enabled, then all operations on the screen will be logged to logging tables (STTB_FIELD_LOG.STTB_RECORD_LOG etc). Currently this is applicable only for maintenance screens.

5.8 Excel Export Required

This field captures whether option to export records from summary screen to excel is required

5.9 Multi Branch Access

It captures whether multi branch access is required for the function Id or not. This will be reflected in MULTIBRANCH_ACCESS column of SMTB_MENU table script generated.

If multi branch access is allowed, then records of different branches for the screen can be modified from a single branch.

5.10 Txn Block Name

It captures the transaction Block Name. This is applicable only if multi branch access is allowed for the screen. Select the block from the select list which contains the field for branch code

5.11 Txn Field Name

It captures the transaction Field Name. This is applicable only if multi branch access is allowed for the screen. Select list provides all the block fields for the transaction block selected. Choose the field for branch code from the list.

Txn Block Name and Txn Field Name will be reflected in the system JavaScript file (SYS js) generated by ODT. Developer has to code for querying the records based on the branch code value of this field.

5.12 Branch Program ID

It captures branch program id for the function.

5.13 Process Code

This can be used to map which process needs to be initiated during screen launch. This is used for workflow screens.

5.14 SVN Repository Url

This is applicable only if integration to SVN (version control tool) is required. Path of the SVN repository till the module needs to be provided in this field.

In the multiple entry block , developer needs to maintain all the related function Id names for the screen. ODT will default the name of the function Id to the first row of the multiple entry along with the module maintained earlier.

If any other function id is required for the particular screen, developer has to add the row.

Example: For FTDTRONL screen, developer designs a detail screen. He also wants to add one summary screen to the screen as well as gateway function Id for web services.

For this, he can add two new columns FTSTRONL (for summary) and FTGTRONL (for gateway operations) to the block as shown below.

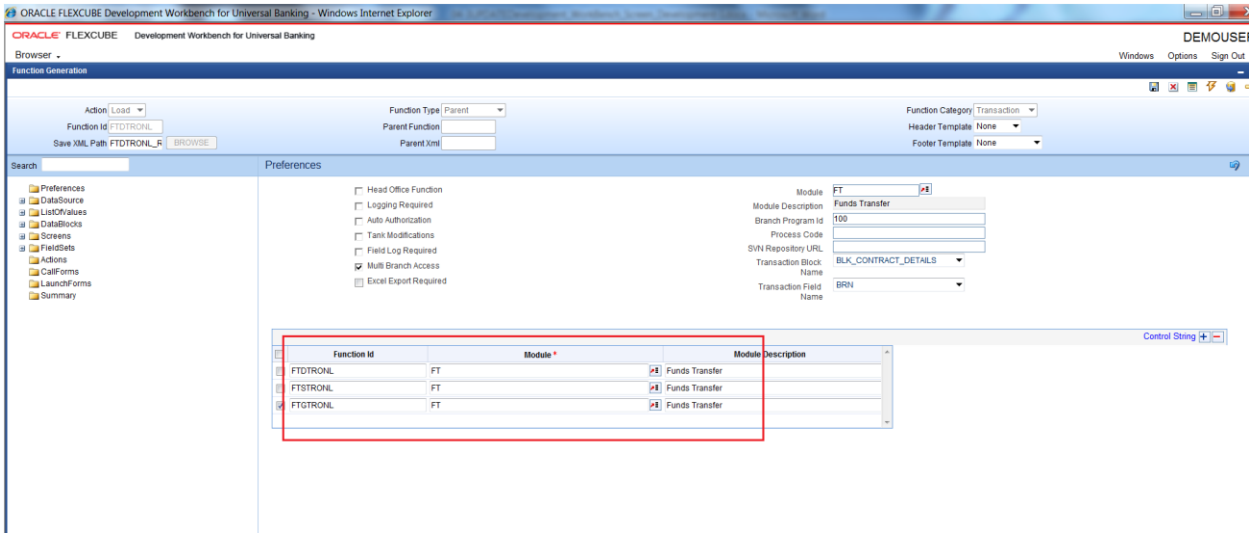

Fig 6.2 Maintaining menu details of a Function Id

Each row in this block will be reflected as one row in SMTB_MENU, SMTB_FUNCTION_DESCRIPTION, SMTB_ROLE_DETAIL and SMTB_FCC_FCJ_MAPPING.

5.15 Control String

Control String defines the operations which can be done on the particular screen.
Control String has to be maintained for function id. Select the function id for which control string has to be modified and click on Control String. All the available operations can be found. Check all the operations which have to be allowed for the particular function id and click OK.

Note that for summary screens, control string will be disabled. Normally control screens need to be provided only for the detailed screen.

REVERSE, ROLLOVER, CONFIRM, LIQUIDATE, HOLD operations are applicable only for transaction screens.

Control String will get reflected in the CONTROL_STRING column in SMTB_MENU for the particular function id. It will also be reflected in script for SMTB_ROLE_DETAIL.

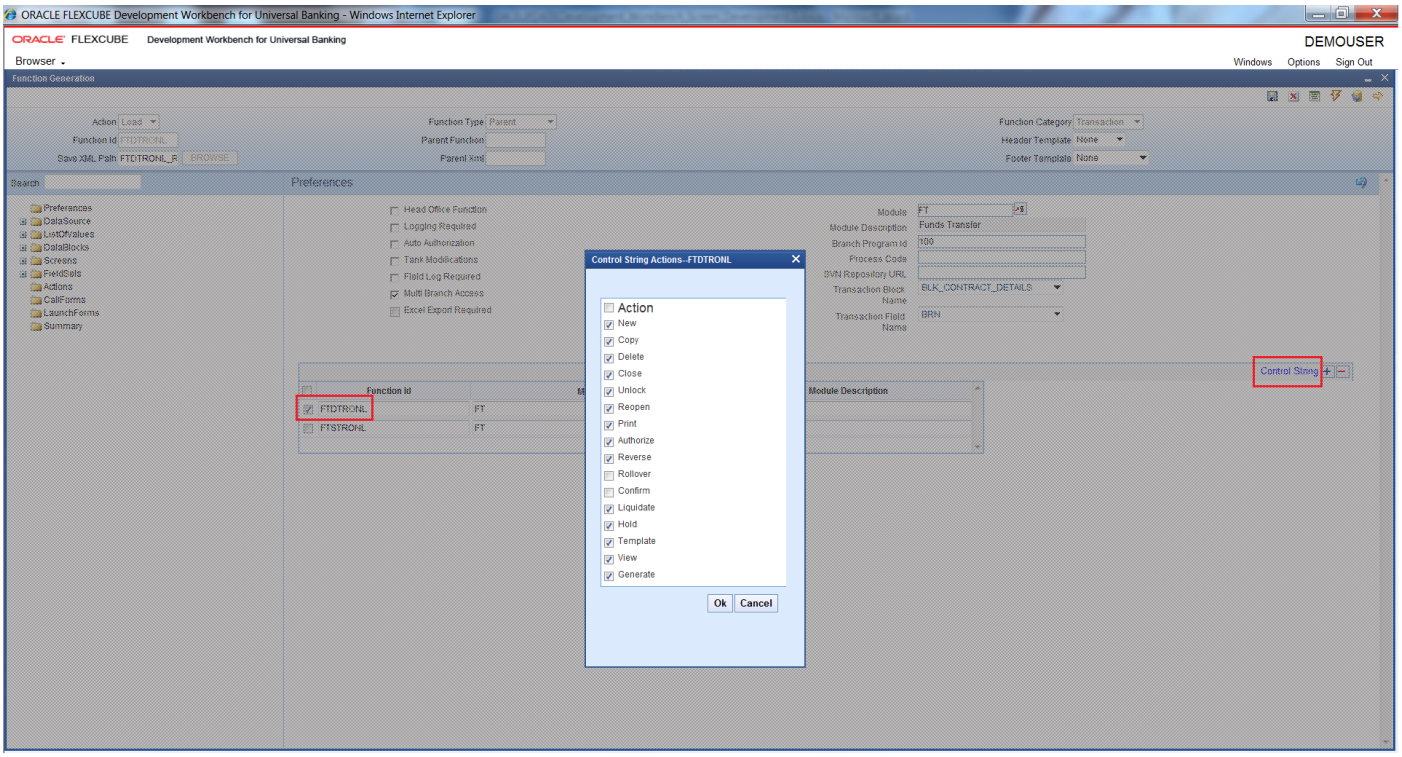

Fig 6.3 Maintaining control String for the function Ids

6 Data Sources

First step in developing Functions is to identify the tables and views involved in the Function being developed. Relations among these data sources and the types of these data sources have to be identified based on the functionality.

6.1 Creating a New Data Source

For creating new data source developer may either

i) Right click on the data source node in the tree and select Add option.

ii) Left click on the data source node in the tree. On the data source screen click Add Data Source icon on the top right of the screen.

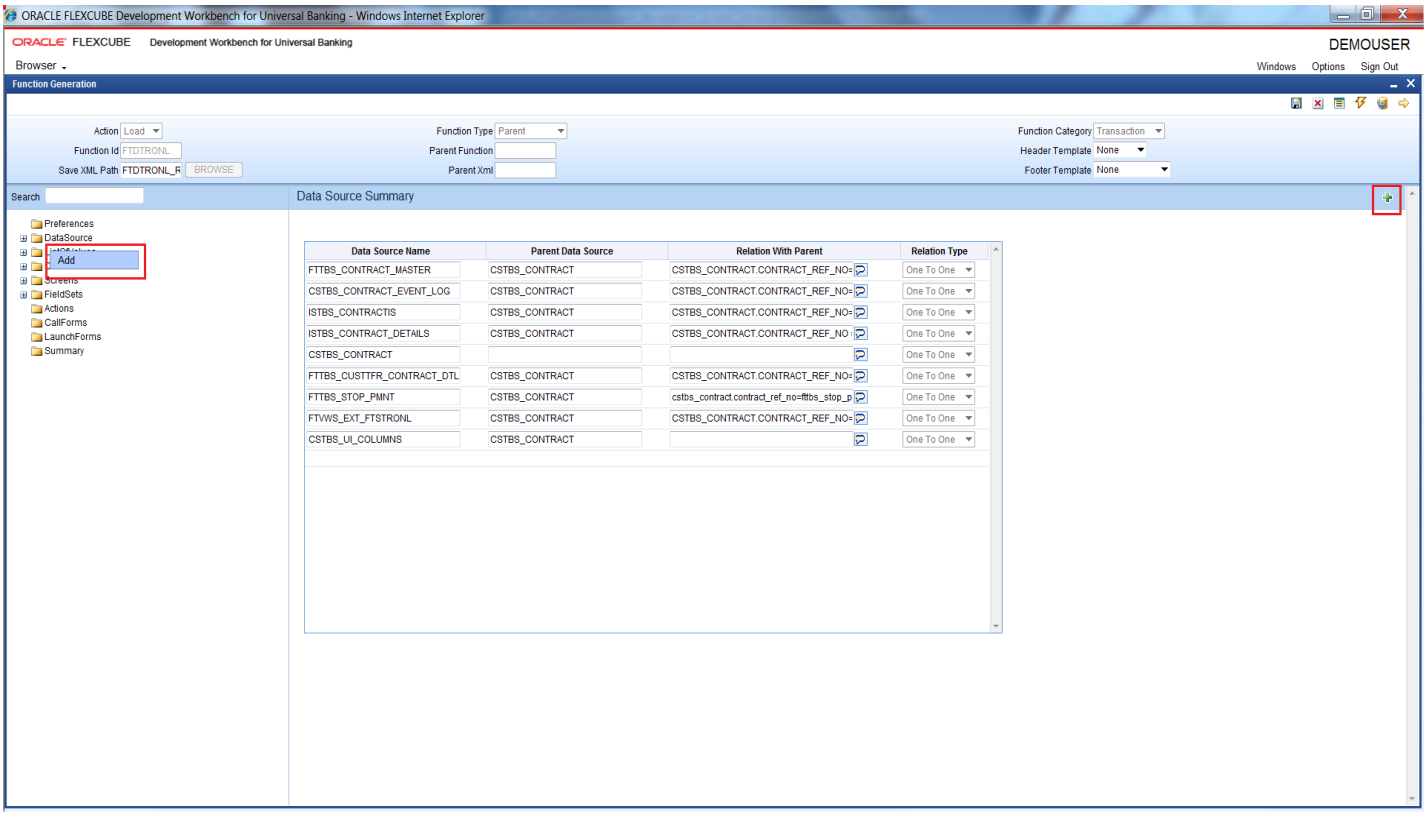

Fig 7.1 Adding a New Data Source

A new screen will prompt you to enter the name of the data source. Data source name can be selected from the list of values provided. List of values will fetch all objects from business

schema.

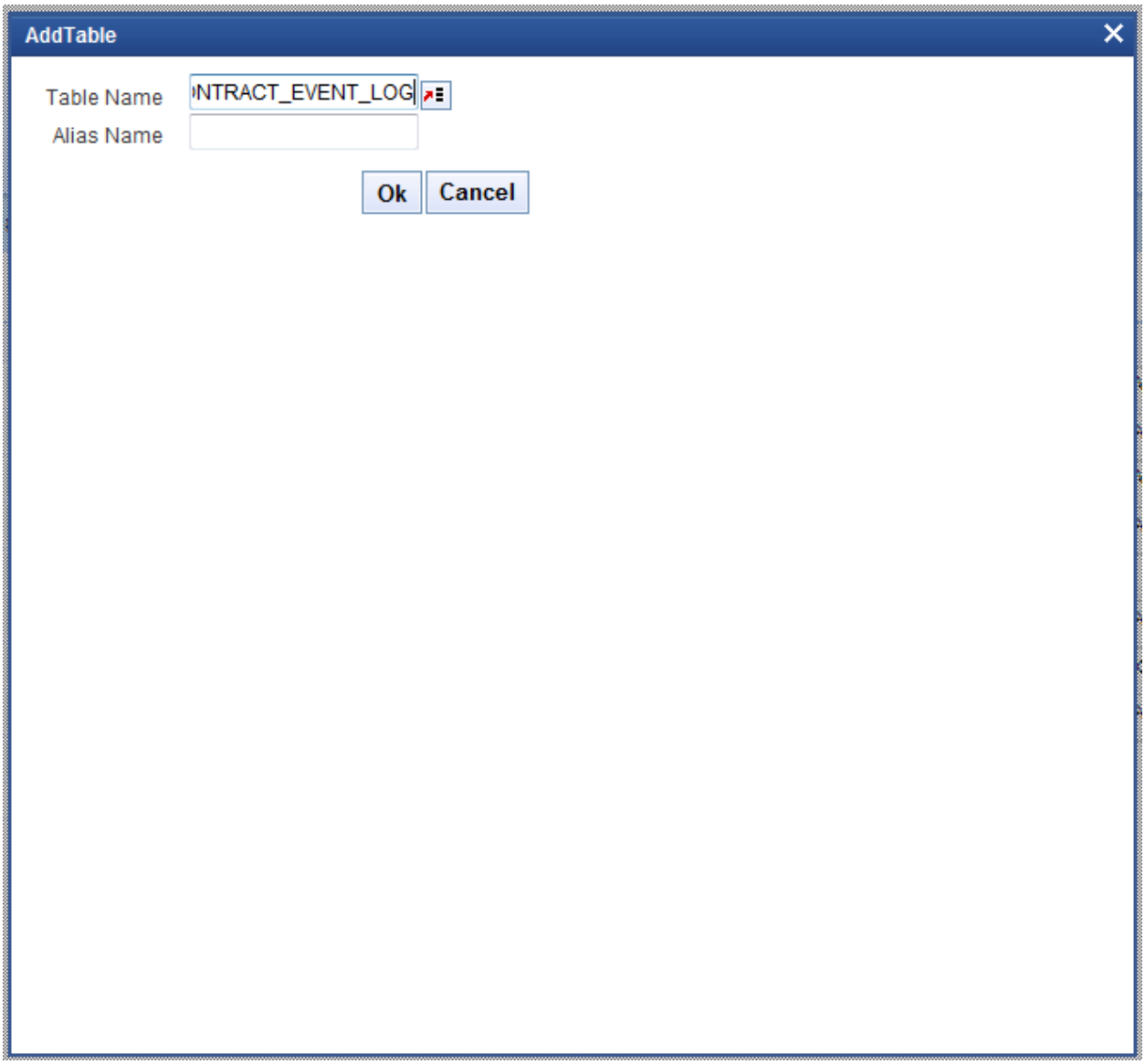

Fig 7.2 Add Table window

Alias Name: If same table is used more than once in the design, developer can differentiate the same using different alias names.

Data source name will have table name appended with the alias name separated by __.

Example : If table name is CSTB_UI_COLUMNS and alias name is A

Data source name will be CSTB_UI_COLUMNS__A

6.1.1 Data Source Properties

Provide properties of the created data source.

6.1.1.1 Data Source

This is a read only field. Data source name will be defaulted to this field.

6.1.1.2 Master

This filed identifies whether this data source is the master data source for the screen. Every screen should have one (and only one) master data source.

6.1.1.3 Relation Type

Relation type can be selected for the selected data source with the parent, "One To One" or "One To Many". The relation should be one-to-many if the parent data source is Single Record entry and child data source is Multi Record.

6.1.1.4 Multi Record

This field tells about the type of data source in the screen, whether it is multiple Entry record or the single Entry Record data source,

Select the field value "Yes" or "No" accordingly. Master Data source cannot be of multi record type.

6.1.1.5 Pk Cols & Pk Type

PK Cols and PK types are mandatory.

Provide the Primary key columns of the data source separated by tilde (~) in PK Col field and its corresponding data types in PK Col field(also separated by tilde)

Example: If Pk Cols are CONTRACT_REF_NO (VARCHAR2) and VERSION_NO(NUMBER),

Pk Col can be provided as CONTRACT_REF_NO~VERSION_NO and

Pk Type can be provided as VARCHAR2~NUMBER

6.1.1.6 Parent

Parent data source has to be mentioned for all data sources except the master data source.

Select List provides all the data sources created till that point .Developer can choose the data source from the list. For master data source, parent should not be provided.

6.1.1.7 Relation

Relation with parent has to be specified for all data sources except master data source. Keep the parent data source in the left side of the relation.

Example:

If parent is STTM_CUSTOMER and child is STTM_CUST_ACCOUNT; and relationship is based on CUSTOMER_NO and BRANCH_CODE, it has to be provided as

STTM_CUSTOMER.CUSTOMER_NO= STTM_CUST_ACCOUNT.CUSTOMER_NO AND STTM_CUSTOMER.BRANCH_CODE= STTM_CUST_ACCOUNT.BRANCH_CODE

Note that relationship can be only with parent maintained and the current data source; a third table cannot be introduced in the relationship. Only simple Relational operators and 'equal to' can be used in the relationship.

6.1.1.8 Where Clause

This is an optional field. If only selected records of a particular data source is required, then where clause can be provided. Keyword WHERE need not be provided.

Example: Where clause can be given as BRANCH_CODE=GLOBAL.CURRENT_BRANCH

The values of where clause field will be used in generating the query statements for current data source.

During query of the record, this clause will be added in *fn_sys_query* of the generated main package

6.1.1.9 Default Order By

This is an optional field. This can be provided for multi record data sources. While querying they would be fetched in the order by clause provided. Keyword ORDER BY is not required.

Example: If we want to order by EVNET_SEQ_NO, default order by can be provided as EVENT_SEQ_NO

6.1.1.10 Type

Data source can be selected depending on the Type requirement of the screen design.

Options provided are:

- **Normal**: Data from the screen will be persisted in the table. Code for persistence would be available in generated package

- **Query:** The data source can be used for only querying the data; ODT will generate packages without insert or update statements on this data source.

- **InOnly :** Tool will generate the packages without insert and update on this data .Request xml will contain the data source while response won't contain it.
- **Summary**: This data source can be used for summary and this data source will not be considered while generating the packages.

6.1.1.11 Mandatory

If at least one record has to be provided for this data source, then the data source can be provided as mandatory.

6.1.1.12 Upload Table

If adapter upload is required for the functionId, then data source should be mapped to its corresponding upload table.

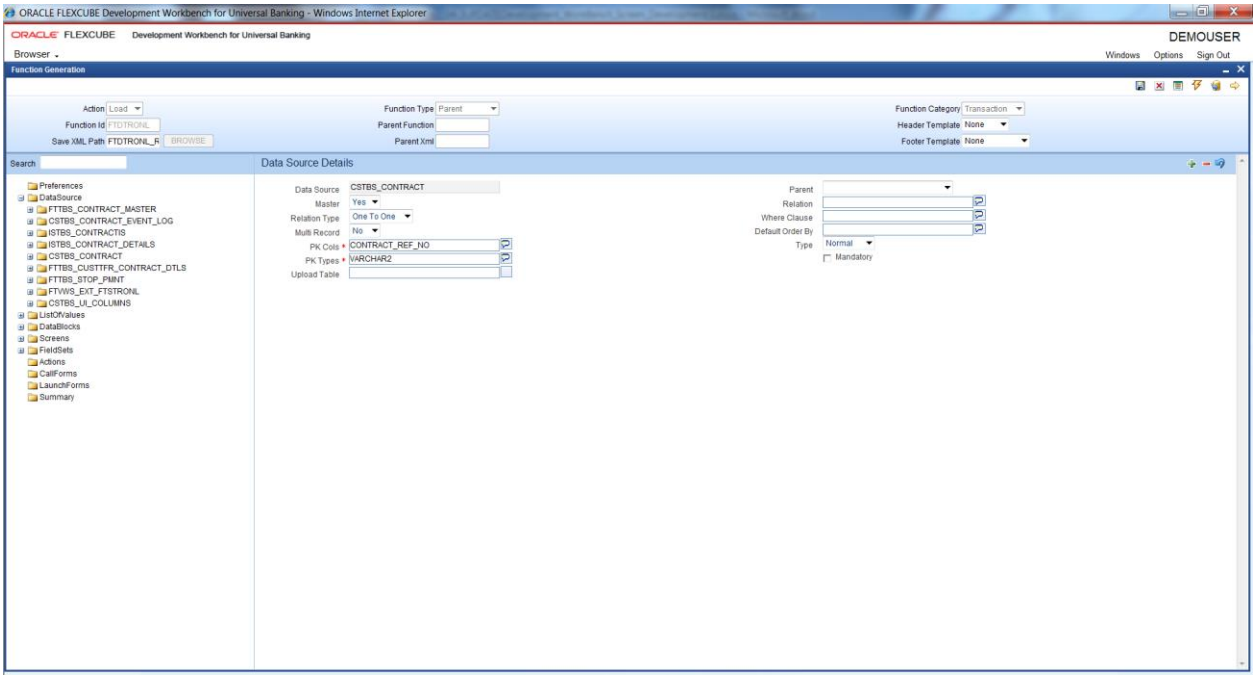

Fig 7.3 Data Source Properties

6.1.2 Data source columns

Data source column can be added by right clicking on the data source.
Select all the columns which have to be included as per the design and click OK.
Note that all the columns mentioned as primary key columns in data source level have to be mandatorily included.
If the footer template is maintenance audit, audit columns should not be selected for master data source. ODT will attach the audit columns automatically while generating units.

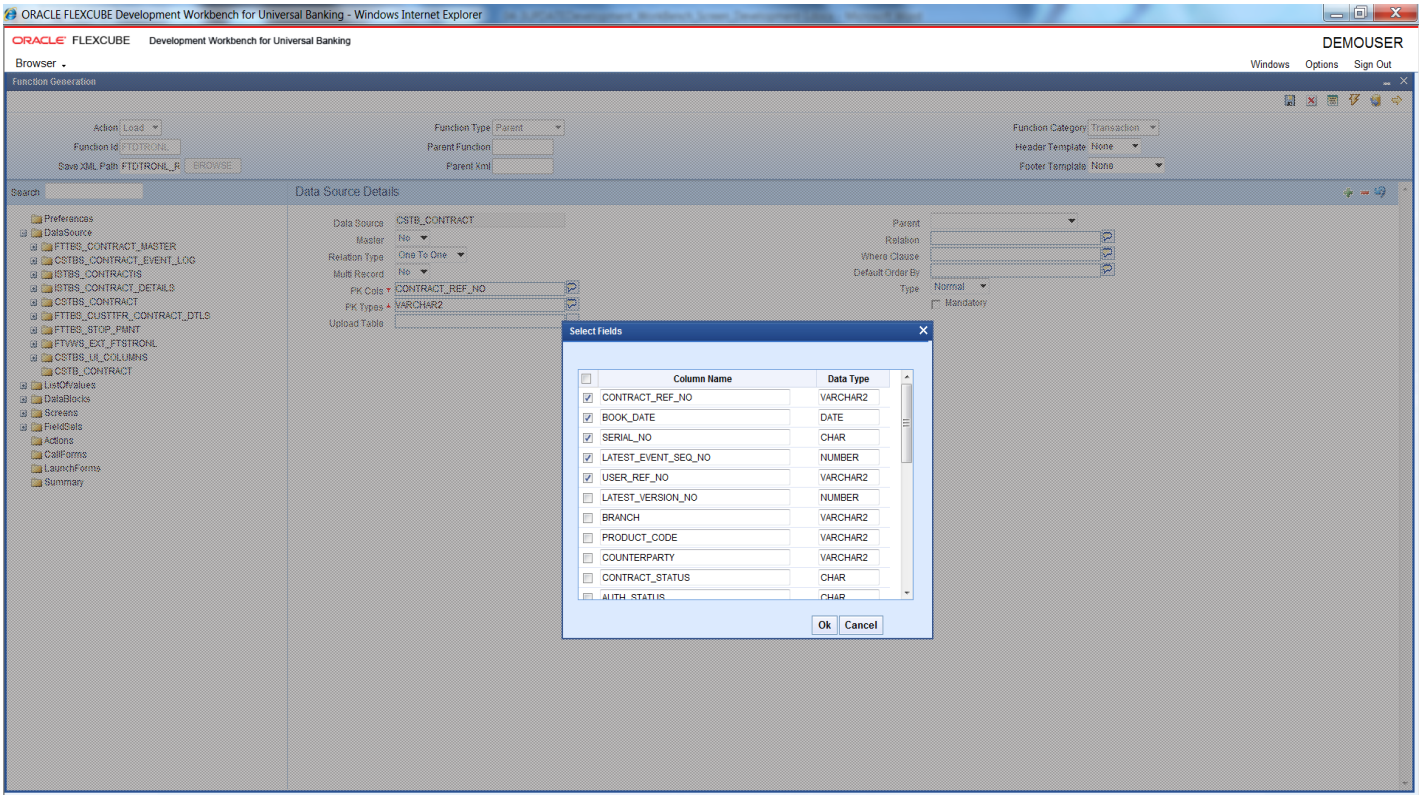

Fig 7.4 Adding Fields to created Data Source

Column Name
This is an information column; tool will not allow the user to change the value.

Max Length

The max length of column will be defaulted while adding a column and it can be overwritten. This value will be considered for the field max length of the designed screen. It means, at the run time system will not allow the user to enter the text more than this length.

Data Type

This shows about data type of the column selected and value will be populated while adding the column, this is a non editable field.

Block Name

It is an information field, if the field is added to a block, that block name will be populated here.

Field Name

It is an information field. This displays the data block field to which the column is mapped

Upload Table Column

If adapter upload package is required, column name in the upload table to which this column is mapped has to be provided. If the field is left blank, then the column name in upload table will be assumed to be same as the data source column name.

Not Required in Upload table

If the particular column is not mapped to any upload table column, then this option has to be checked

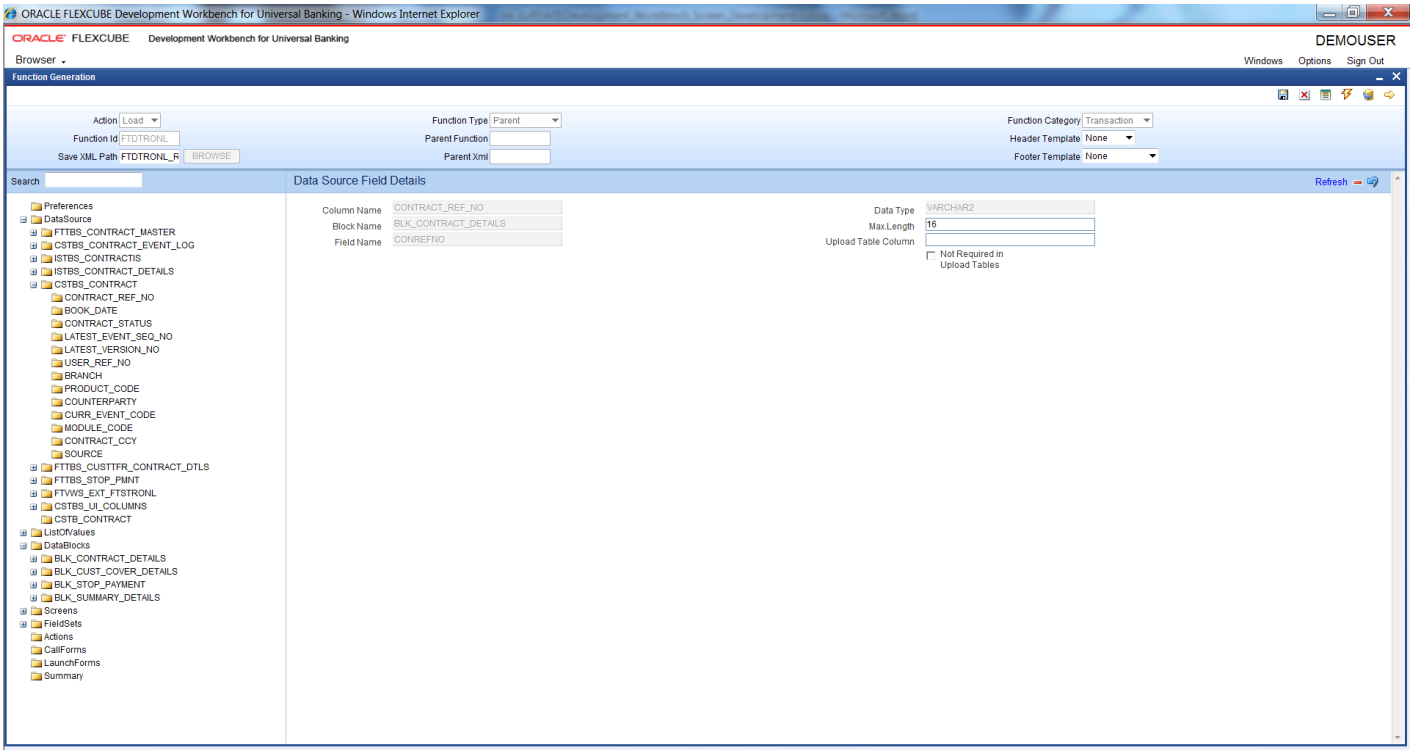

Fig 7.5 Data Source Fields Properties

6.2 Guidelines and Best Practices

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Below are the steps to be followed while creating data sources:

1. Identify the tables and views involved in the Function being developed.
2. Establish the hierarchy, Relation and Relation Types among these Data Sources.
3. Ensure that the correct and full relation is mentioned in the Relation.
4. Identify the type of Data Source. It could be Normal, Summary, In Only or Query Source.

5. Ensure that there is only one master Data source for the Function.
6. Based on the number of records that the data source might have for the functionId, set Multi Record to Y/N.
7. System automatically defaults the PK Column information from STTB_PK_COLS while adding the data source. Based on the specific requirement of the function ID this can be modified.
8. If the data source is mandatory, i.e. if it is a multi record data source and have to have at least one record or if it's a single record data source and is mandatory to have the record, check the mandatory flag.
9. In case there is a need to have a default where clause or order by clause, mention the same in the respective fields.

Follow the below practices while creating data sources for the screen.

- Table/View/Synonym Names should adhere to the standard FLEXCUBE naming conventions.
  Tables or views should have 5th character as _ (underscore). Name should not have underscores together (*example: ACTB_TEST__ODT is wrong*).
  Synonyms should have an 'S' appended before the first underscore of its table/view name.
  Example: Synonym for ACTB_DAILY_LOG should be ACTBS_DAILY_LOG
- Avoid using views as much as possible. Don't create a view data source with type as NORMAL. This will result in insert statements on the view in the packages generated.
- Views can be used for query only purposes, i.e. select the data source type as query for views. These can be used for designing summary data sources or a query block.
- PK Cols and PK types need not be the same as the primary key of the tables. It depends on the design logic.
- 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).
  Example:
  Assume STTM_CUSTOMER is the parent data source (1:1) with Pk col as CUSTOMER_NO; STTM_CUST_ACCOUNT is the child of STTM_CUSTOMER with 1: N relation with parent .Here STTM_CUST_ACCOUNT should have at least 2 Pk Cols so that each record of the multi record can be uniquely distinguished.
  CUSTOMER_NO and ACCOUNT_NO can be provided as Pk col so that each record can be identified with its account no.
  Relationship can be STTM_CUSTOMER.CUSTOMER_NO= STTM_CUST_ACCOUNT.CUSTOMER_NO

- Parent data source has to be above all of its child data sources in the tree.

6.3 Deletion of Data Sources

Data sources can be deleted either

i) by clicking the icon in top left of the data source screen or

ii) by selecting delete option from the right click menu of the data source to be deleted

When a data source is deleted, all the references to that data source or its columns will also be deleted from the radxml, i.e. Data block fields referring to the particular data source column and all the references to those data block fields.

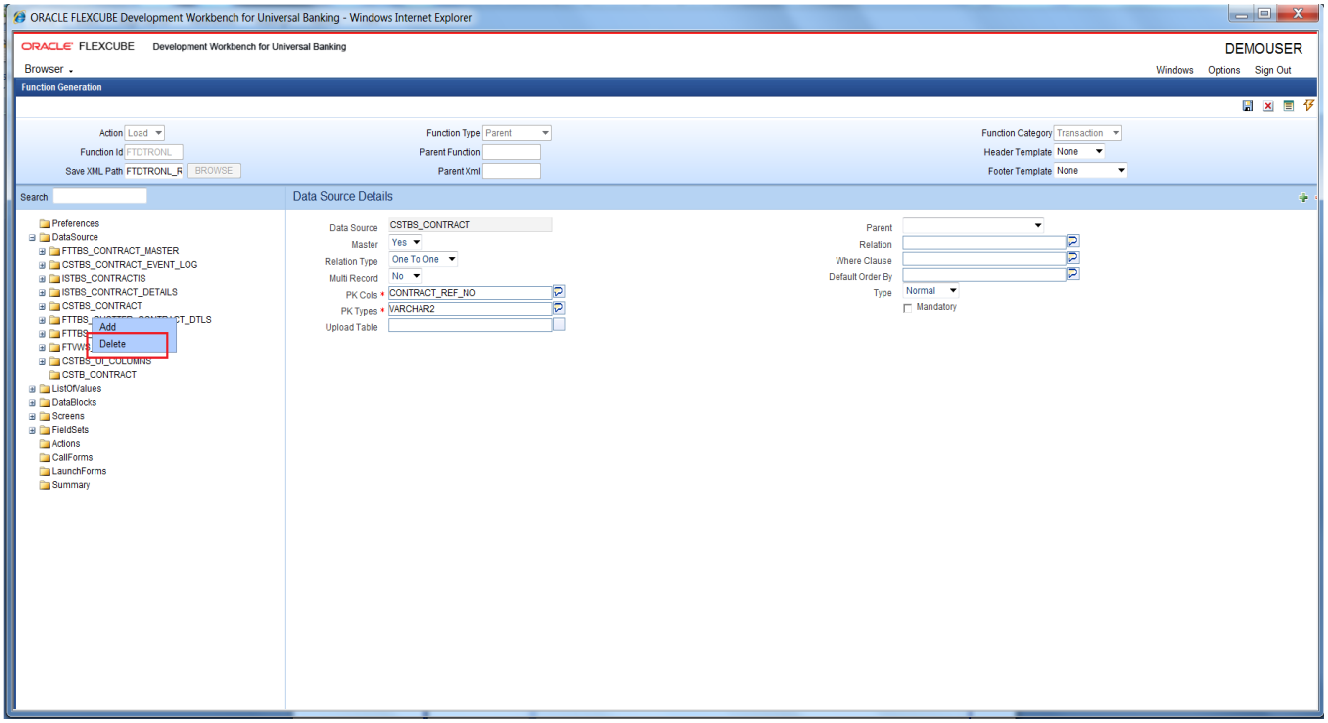


Fig 7.6 Deleting a Data Source

Note that deletion of any element from radxml is allowed only if that element has been created in the current release. If the data source has been created in a previous release, then developer won't be allowed to delete the data source.

Similarly data source column alone can be deleted from the data source subjected to the condition mentioned above.

Proper care has to be done while designing data sources as redesigning would be impossible in a later release.

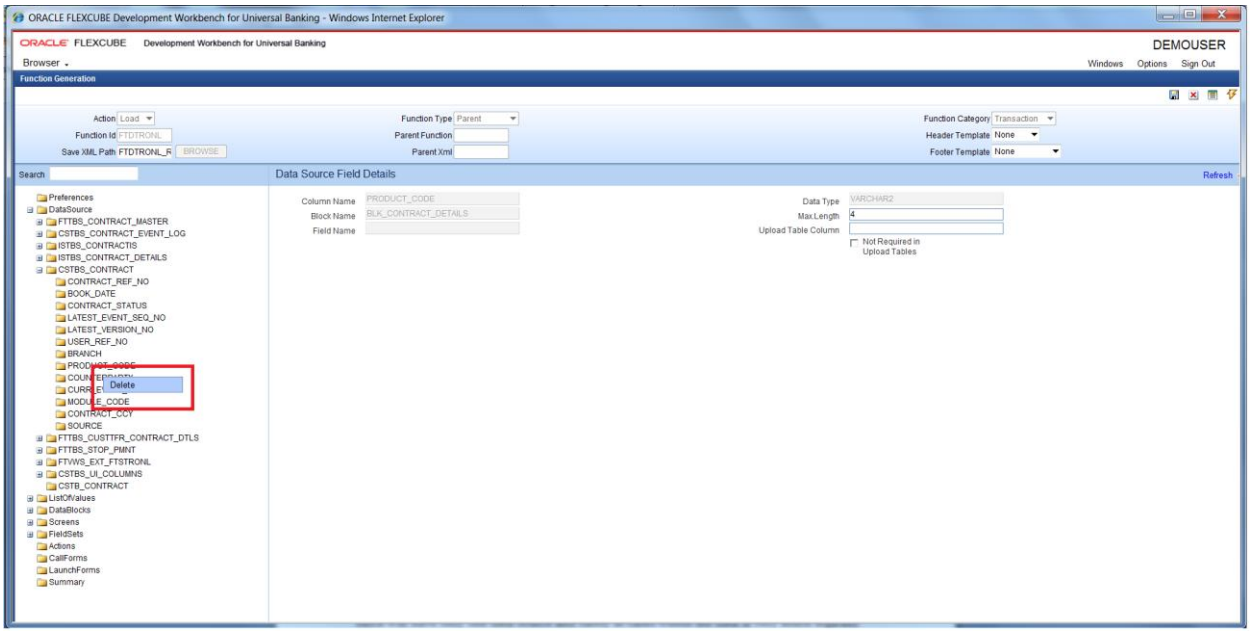


Fig 7.7 Deleting Field from Data Source

7 Data Blocks

Data block is a logical grouping of fields from one or more data sources. In general, one data block will have only one data source; but in cases where the data in tables is logically related multiple data sources can be grouped into a single data block.

Once the Data source definition is complete, Block structure of the function id has to be determined based on the functionality of the screen.

7.1 Creation of a Data block

A new data block can be created either

i) by clicking the icon in top left of the data block screen or

ii) by selecting add option from the right click menu of the data block node

Both options are shown in the figure below:

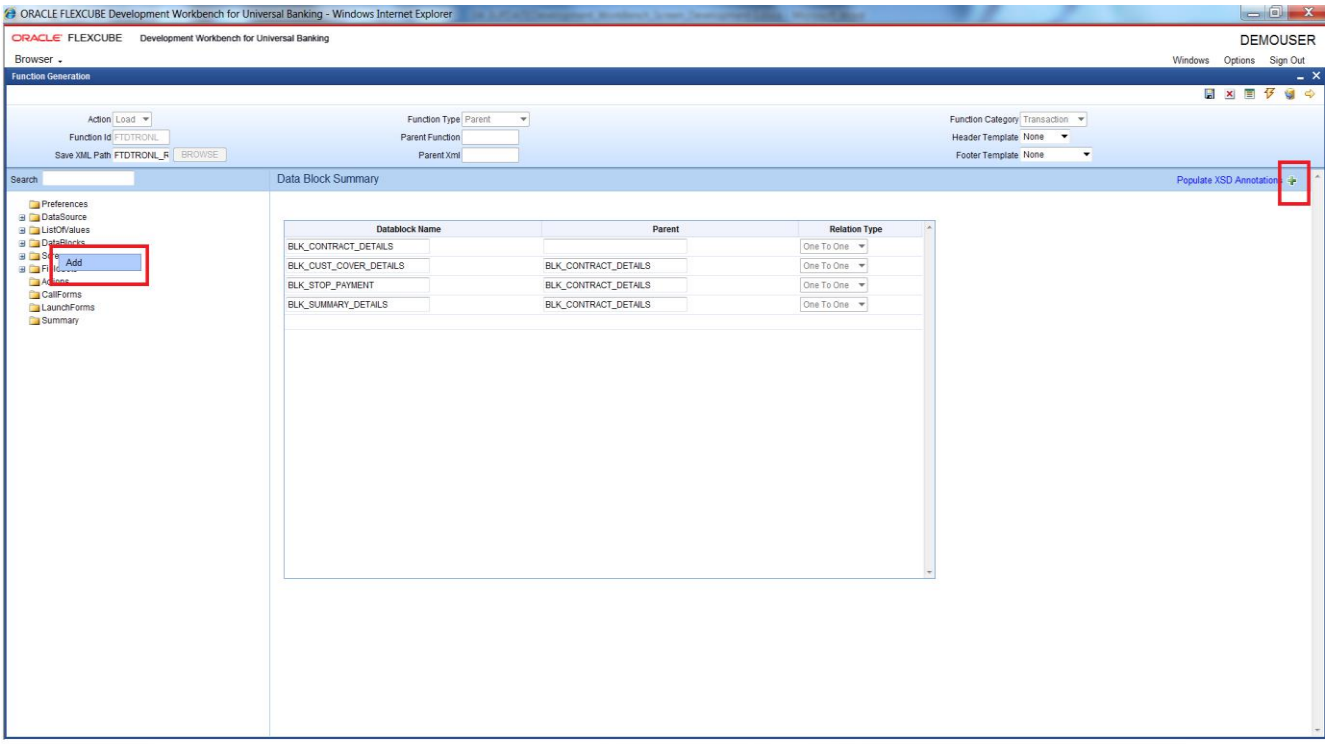


Fig 8.1 Adding a New Data Block

Block Name has to provided in the Add block screen which pops up . Click on Ok after giving the block name..Block Name has to adhere to following conventions.

i) It has to start with BLK_

ii) Block Name should not contain the table names which will be attached to the block .This is of high importance from security point of view as block name will be exposed in request and response xml.

Example: if data source name is FTTB_CONTRACT_MASTER, block name can be BLK_MASTER; but not BLK_FTTB_CONTRACT_MASTER

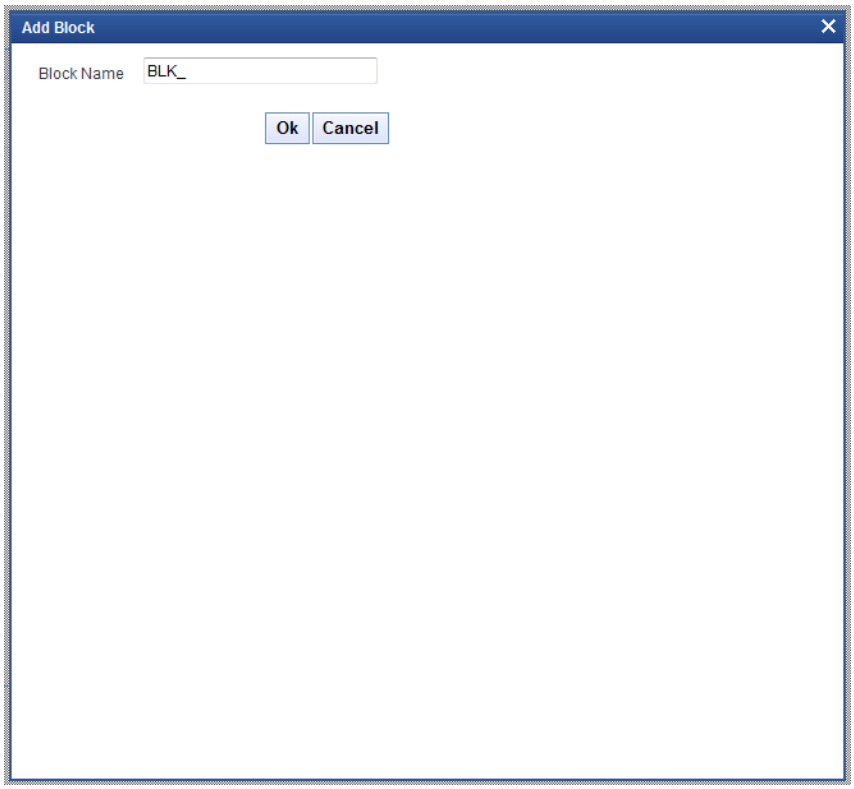


Fig 8.2 Add Block Screen

7.1.1 Data Block Properties

Provide properties for the created data block.

7.1.1.1 **Data Block Name**

This field will be defaulted with block name which is added. It is a non editable field.

7.1.1.2 **Block Title**

Select the Title of the block from list of labels. If new label needs to be created, then create and select from the list. For multi record blocks, block title will be displayed in the screen preview superseding the Field Set title. For single record blocks, block titles are not of any significance and hence need not be provided.

7.1.1.3 **Parent**

Select the parent block from the select list. All the data blocks will be available in the Select list.

All data blocks except master data block needs to have a parent data block.

7.1.1.4 **Xsd Node**

This field captures the xsd node name. ODT will use this name for generation of node in Xsd's. This field will be defaulted based on block Name (by removing BLK_ and replacing _ with -). If developer wishes to modify, he may do so.

7.1.1.5 **Xsd Annotation**

This field captures the annotation for the XSD node specified. Description of Block title label will be defaulted as Annotation which can be modified by the developer

7.1.1.6 **Multi Record**

Using this field developer can decide block type, whether the block is single entry block or multiple entry blocks.
Depending on this value, the field "data sources available" will be populated.
If the value is "Yes" the field "data source available" will be populated with data sources which have flag Multi record "Yes" and vice versa.
If the relation type is provided as one to one, multi record has to be yes and vice versa.

7.1.1.7 **Block Pk fields**

Primary key fields of the block have to be provided here. If more than one field forms the primary key, it has to be separated by ~. This data is used for building change log of a screen

7.1.1.8 **Relation Type**

The relation type with the parent data block has to be mentioned here. It can be One To One or One To Many.

7.1.1.9 **Master Block**

One master block is mandatory while designing the screen and using this flag you can define a block as master.

7.1.1.10 **Block Type**

Type of the block can be selected depends on the requirement, below are the description of the each type.

- **Control**: If the block is used only for UI purpose, and it is not required for processing in the backend, then the block can identified as Control type. Only control fields can be added to the Control block.
- **Normal:** This block will be used for normal processing .Request and response xml will contain this data block information.
- **Summary:** Block which is used for creating the summary screen. For normal request xml, this block won't be present in the request or response xml.

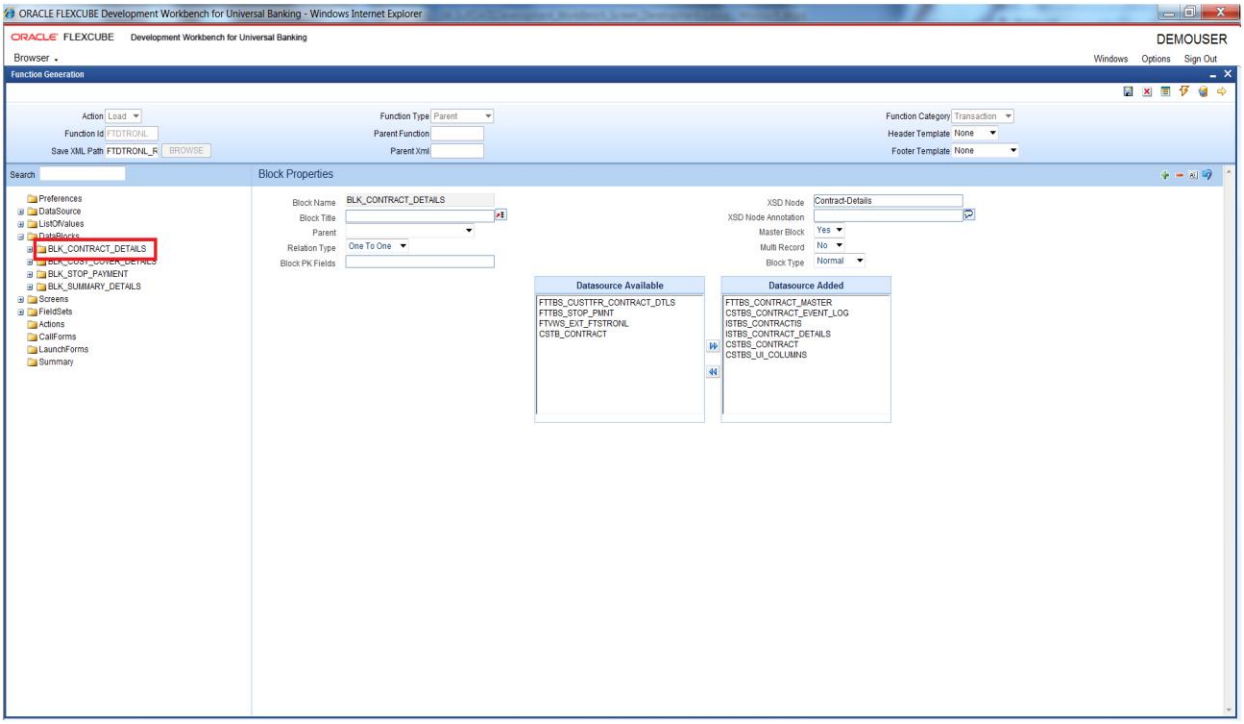


Fig 8.3 Data Block Properties

7.1.1.11 **Data Sources available**

Depending on the "Multi Record" flag, data sources will be populated. Then the required data sources can be attached to the block.

Validations for populating the data source:

Multi Record: Yes. →All the data sources which have "Multi Record" flag "YES" and "Relation Type" One To One

Multi Record: No. →All the Data source which have "Multi Record" No

While attaching Data Sources to Blocks, multiple data sources should be selected only if such data Sources can be functionally clubbed .*Example: CSTM_PRODUCT and LCTM_PRODUCT_DEFINITION. Clubbing should not be arbitrary.*

A single entry data source can be mapped to more than one data block while a multi record data source can be attached to only a single data block.

7.1.1.12 **Data Sources Added**

This list shows the data sources which can be attached to the particular data block. The data source shown depends on the value of multi record field.

From the available data sources, developer can add data sources he want to be part of this data block. Those will come under the list "Data source Added". He can also remove them from the data block. The buttons with arrow symbol are used for this addition and removal.

Note that one data source can be attached to more than one data block; but each data source column can be mapped to single data block field.

Data Sources added in one release would not be allowed to be removed in any future releases.

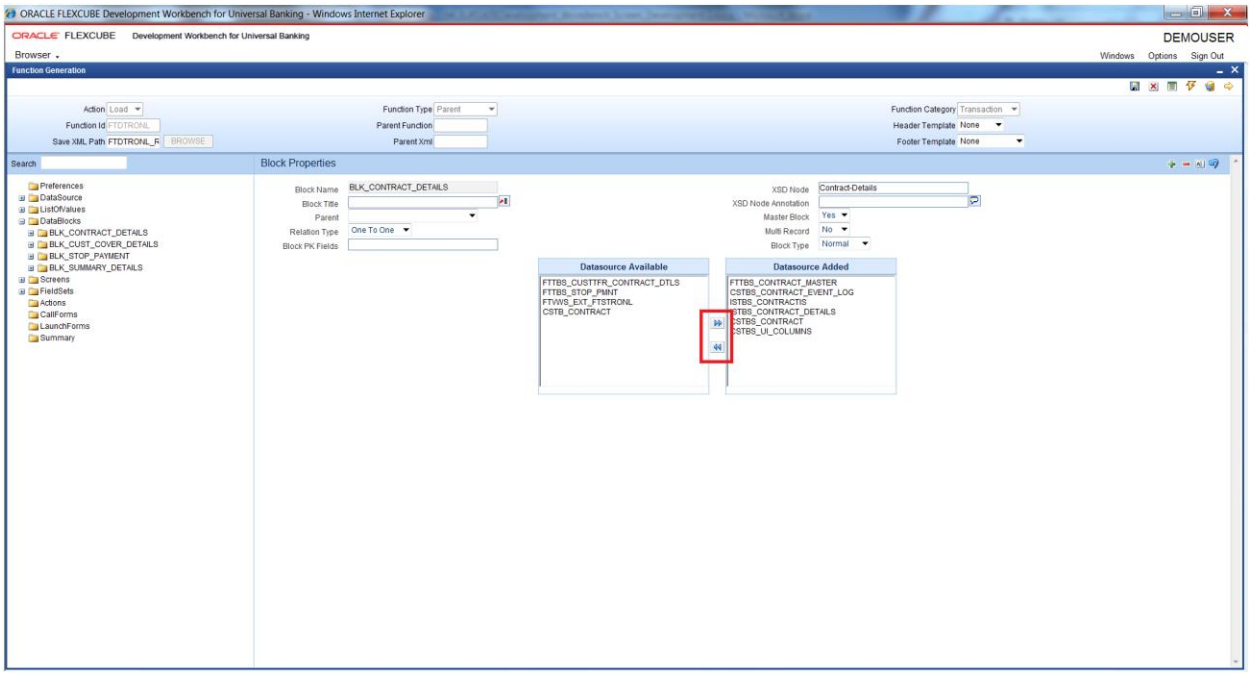


Fig 8.4 Attaching Data Source to a Data Block

7.1.2 Data Block Fields

Data Block Fields are logical representation of the data source columns in the screen.
Block fields can be added to a block either by:

i) By selecting add fields option from the right click menu of the particular data block or

ii) By clicking on add field icon on the top left of data block screen

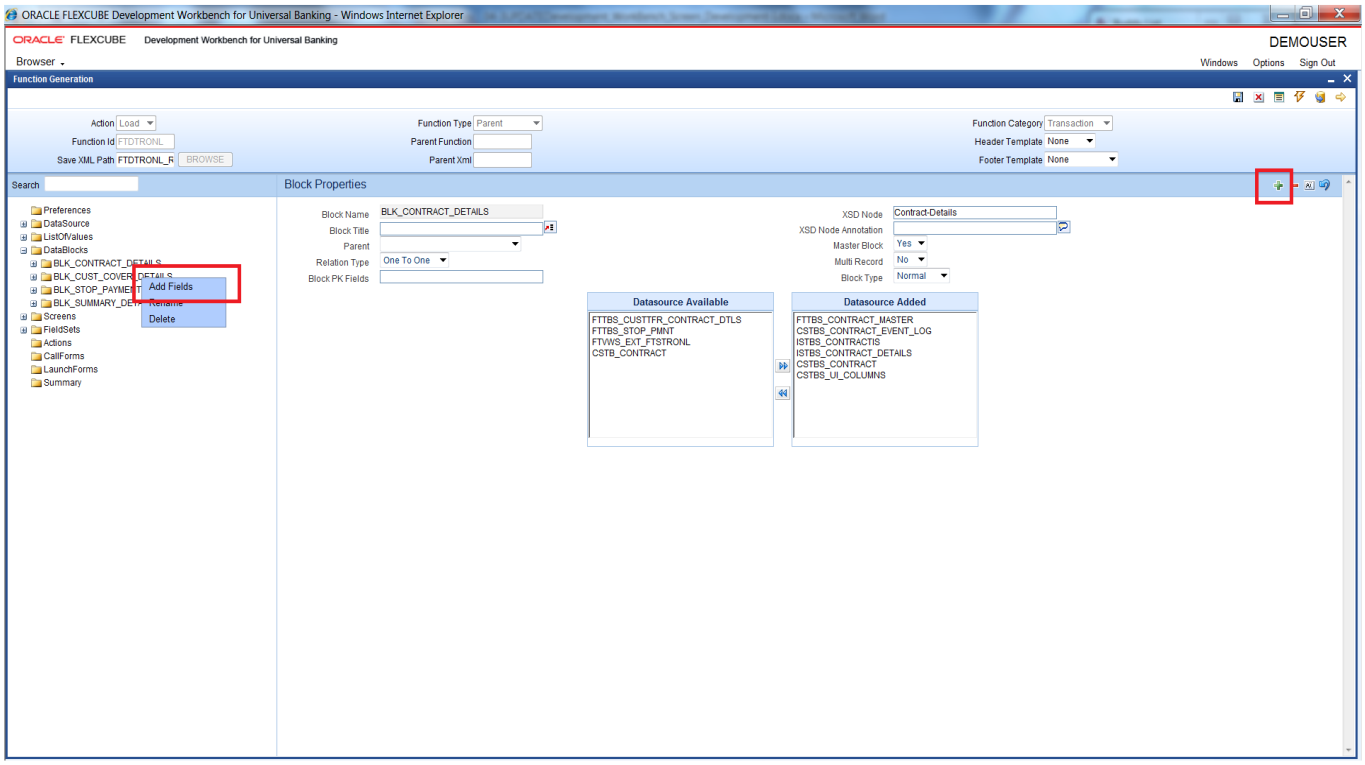


Fig 8.5 Adding Block Field to a Data Block

The screen as shown below is launched.
ODT provides option to add two kinds of fields.

- **Data Source Fields**
  These fields correspond to data source columns created in the radxml.
  The select list provides the list of all data sources attached to the data block. On selecting a particular data source, all the data source columns which are not yet mapped to any block fields.

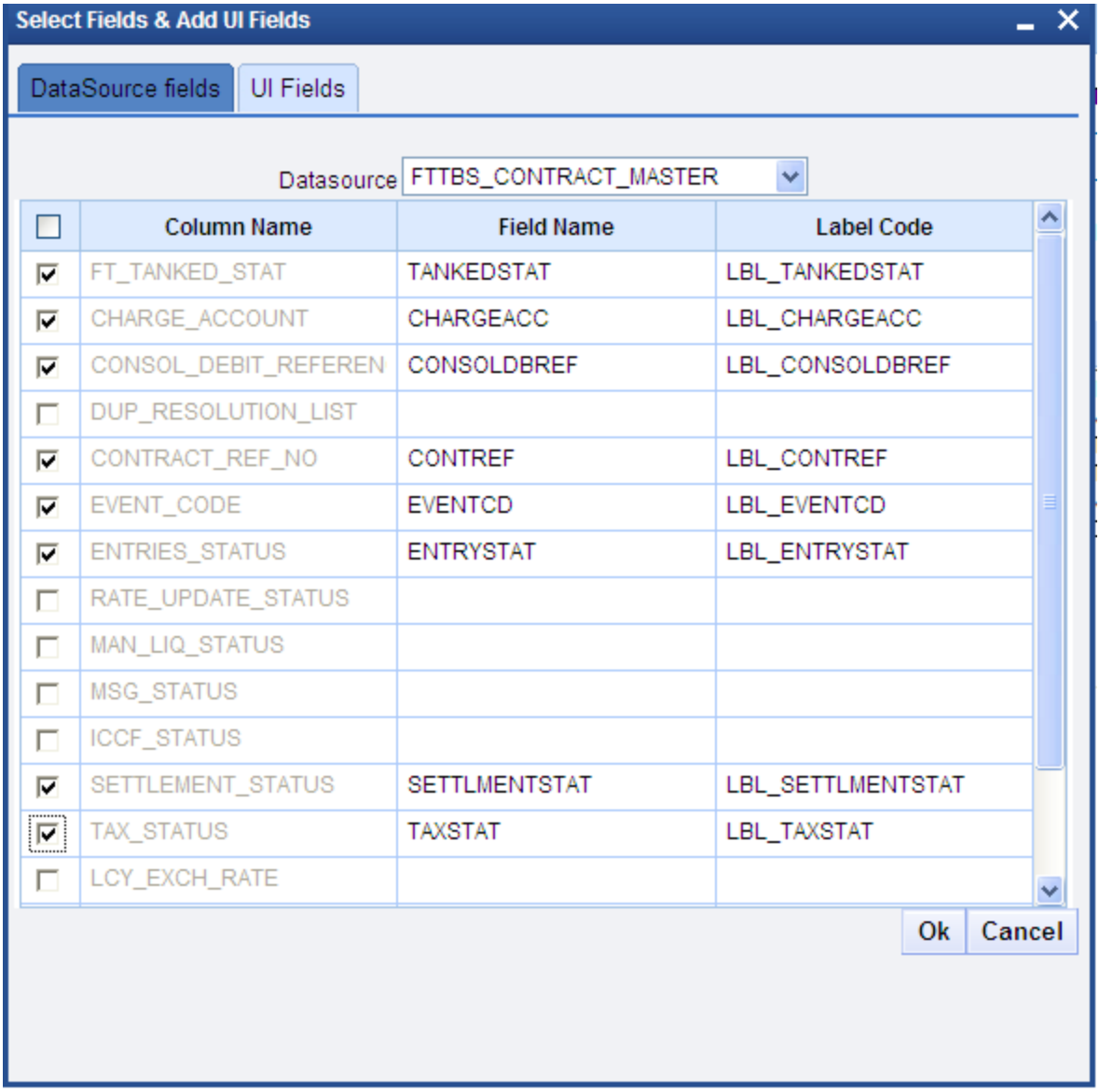


Fig 8.6 Adding Data Source Fields to Data Block

Field Names and Label codes if maintained in CSTB_DATA_DICTIONARY will be defaulted. Otherwise, developer has to provide the field name as desired. Label codes will be defaulted based on the field name provided. Select all the fields which have to be included in the data block and click Ok.

- **UI Fields**

  UI fields are those which don't have a corresponding data source column .These fields won't be required as part of processing and hence won't be part of request or response xml. Usually fields like buttons, images, labels etc are defined as UI fields

  A control data block can have only UI fields.

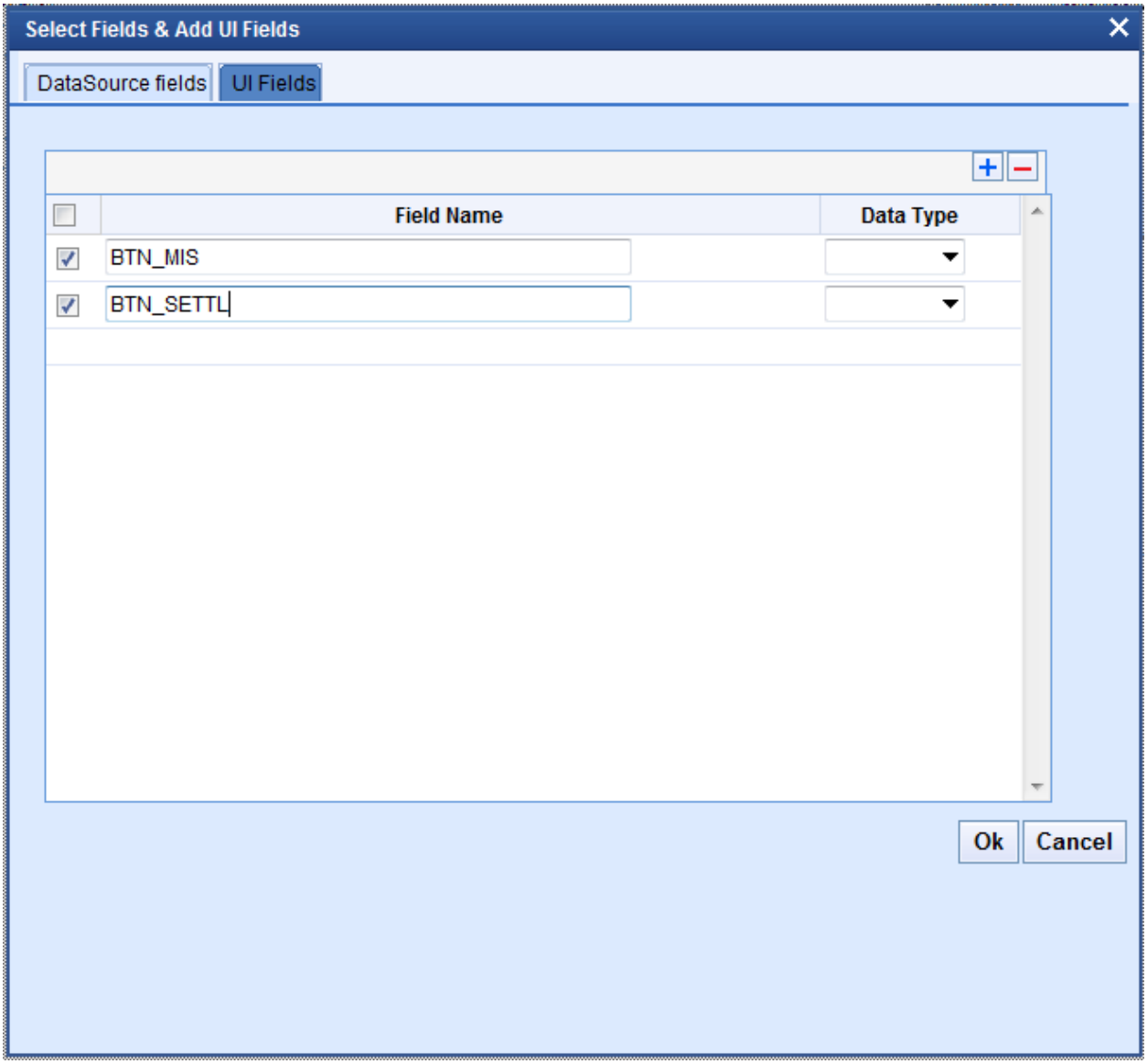


Fig 8.7 Adding UI fields to Data Block

Adhere to the following conventions while defining new block field.

- Field Name should not be the same as the column name. This is important as field name will be visible in request and response xml.
- Avoid special characters in the field name(like underscore).

Example: if data source column name is CONTRACT_REF_NO, block field name can be CONTREFNO

7.1.2.1 Data Block Field Properties

Provide the properties for the block field added.

7.1.2.1.1.1 Field Name

Name of the field will be defaulted from the field name provided during creation of block fields. It is a non editable field.

7.1.2.1.1.2 Field Label

This is also defaulted during block field creation. This represents the label code for the field. Corresponding label description will be displayed for the particular field.

Label code and its description have to be maintained in CSTB_LABELS. This can be achieved through ODT or by directly inserting scripts in the business schema.

This field is editable. If developer wishes to change the default label code, he may do so. LBL code entered manually should be in the below format: **"LBL_ xsd tag Name"**

7.1.2.1.1.3 XSD Tag

It will be defaulted when a field is added and whenever the label code gets modified. This value is used in the xsd's as xsd tag and same will be used for web service.

7.1.2.1.1.4 XSD Annotation

Annotation for the xsd tag can be provided here. Description of the label code would be defaulted which can be modified by developer

7.1.2.1.1.5 Display Type

Pre-defined values are available in the select box for this field. Value can be selected on requirement. This specifies the HTML display pattern for the field .

Available options are:

- **Amount**

  The display type can be defined as Amount if it displays an amount. The field will be formatted based on the currency which it picks from related block and Related Field. ***Related block and Related Field values have to be mandatorily provided for Amount fields***. Related Field should come above the amount field in the screen and it should hold the currency value for the amount.

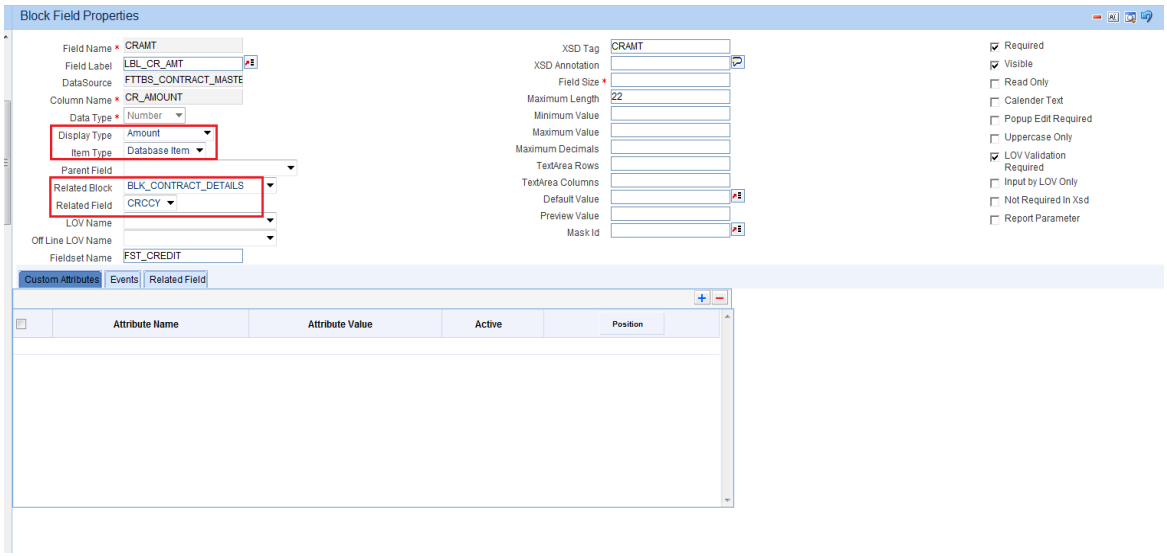


Fig 8.8 Defining an Amount Data Block Field

- **Button**

  If the display type for the field is a button, display type has to be selected as button. Action to be performed on clicking the button should be provided in the events tab Button can launch a sub screen, launch form, call form or invoke a user defined JavaScript function.

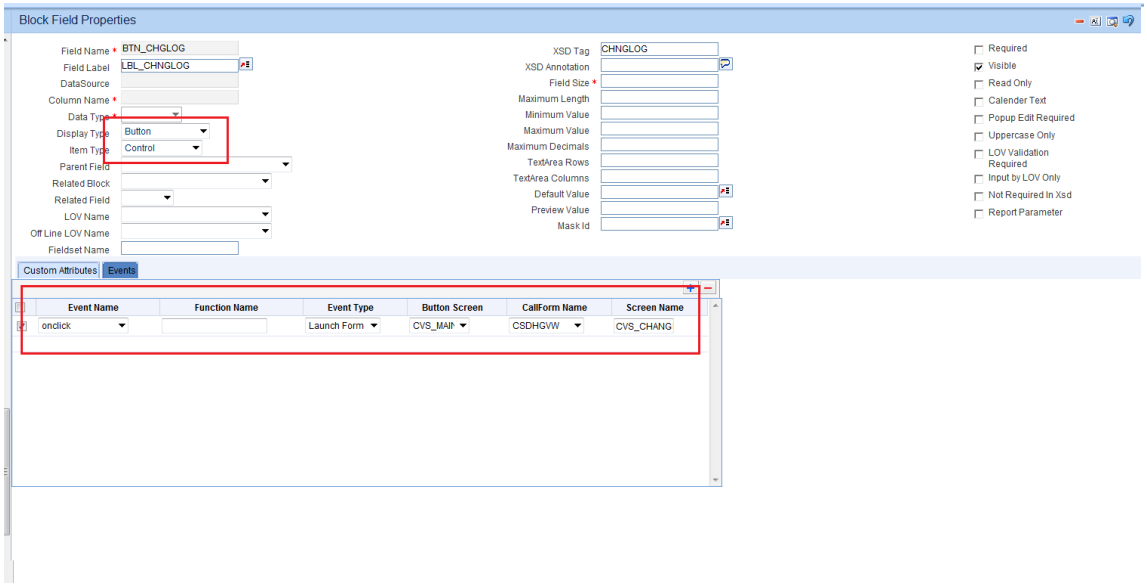


Fig 8.9 Defining Field as button

- **Checkbox**

Checkbox is used for displaying checkboxes. Attribute Name will be ON and OFF. Attribute values can be provided as per design

In the figure shown below:

ON (checked) corresponds to Y in table and OFF to N

Default value is selected as N

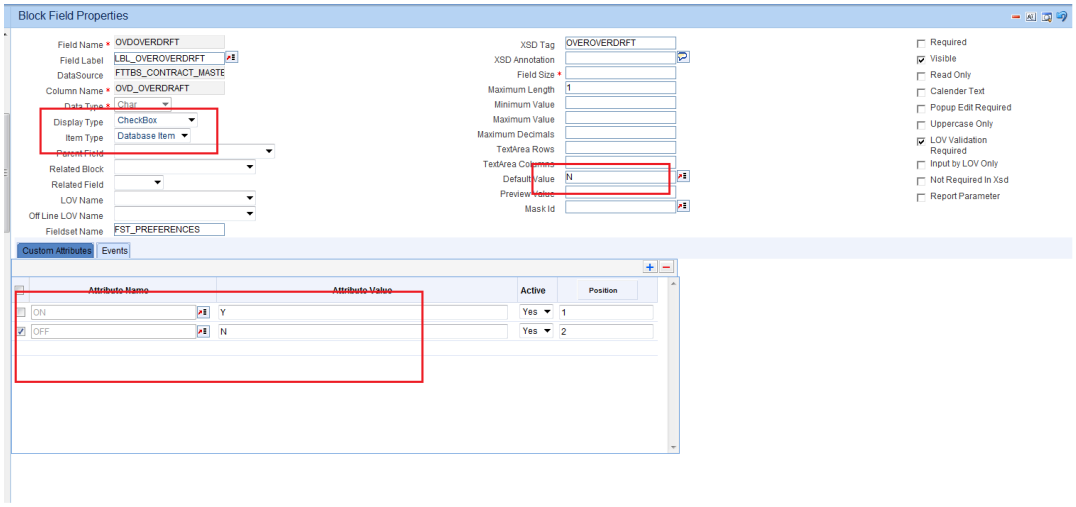


Fig 8.10 Defining Field as Checkbox

- **Date**

If the field is of date type display type can be selected as Date.

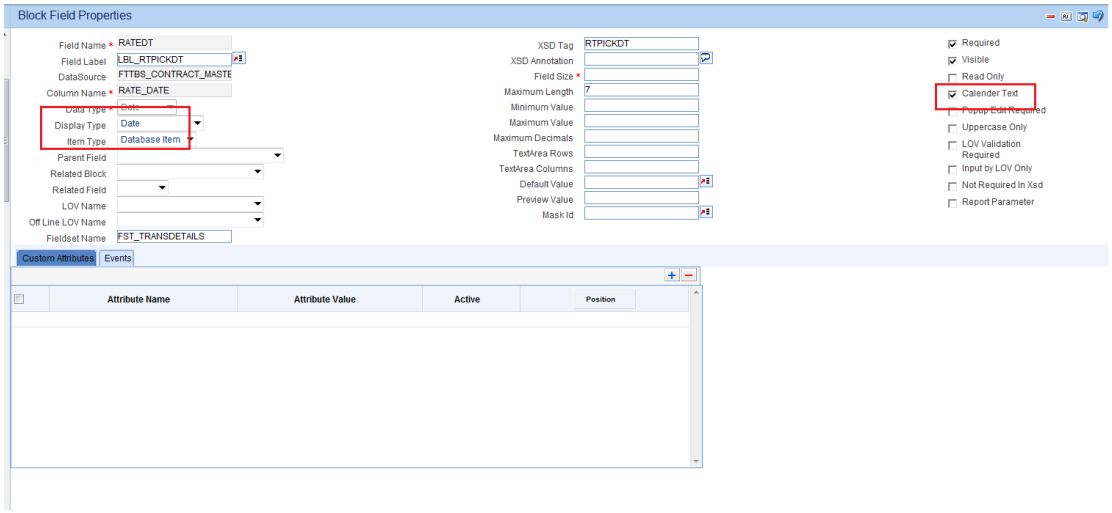


Fig 8.11 Defining Field as Date

- **Date Time**

If the field displays both date and time, it can be selected as Date Time.

- **File**

If browser option is required for the field, then field has to be selected as file type.

Example: If an excel sheet from the local machine needs to be selected, browser button has to be provided, so that user can browse the folders and select the file required.

- **Label**

  If the field is required only for displaying image or Label, it can be selected as Label. Normally UI fields are used for label display purpose.

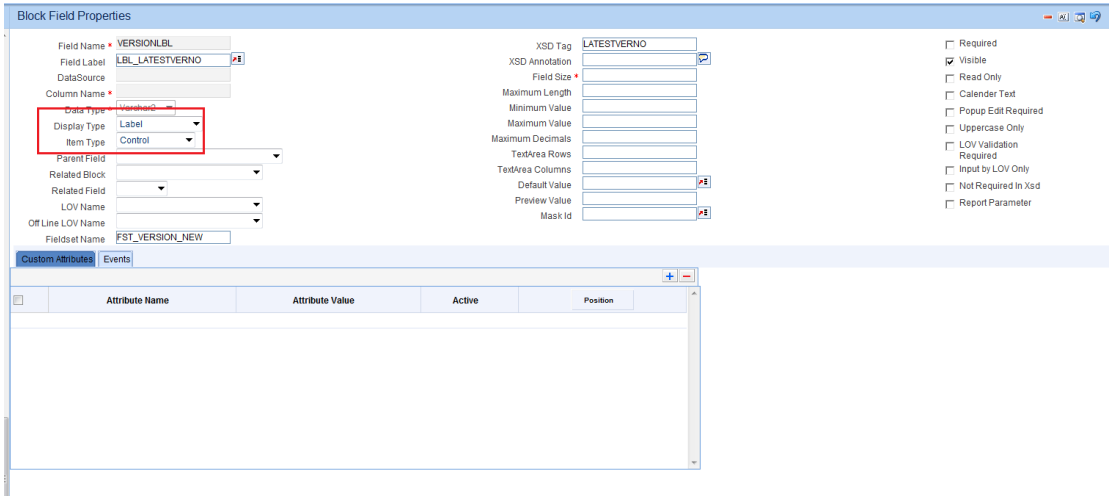


Fig 8.12 Defining Field as Label

- **LOV**

  If field value has to be selected through a LOV, display type has to be selected as LOV. LOV's have to be defined as explained in respective section.

  LOV which has to be linked to the field has to be selected from the **LOV Name** select list.

  Return Fields and **Bind Variables** has to be mapped as shown in the figure below

  If input to field has to be done only through LOV**, Input By LOV Only** fields can be checked.

  If validation for the value entered by the user is required in server, (validating whether the value selected is part of the values fetched by LOV); **LOV validation Reqd** can be checked.

  For branch screens, **Offline LOV Name** can also be attached.

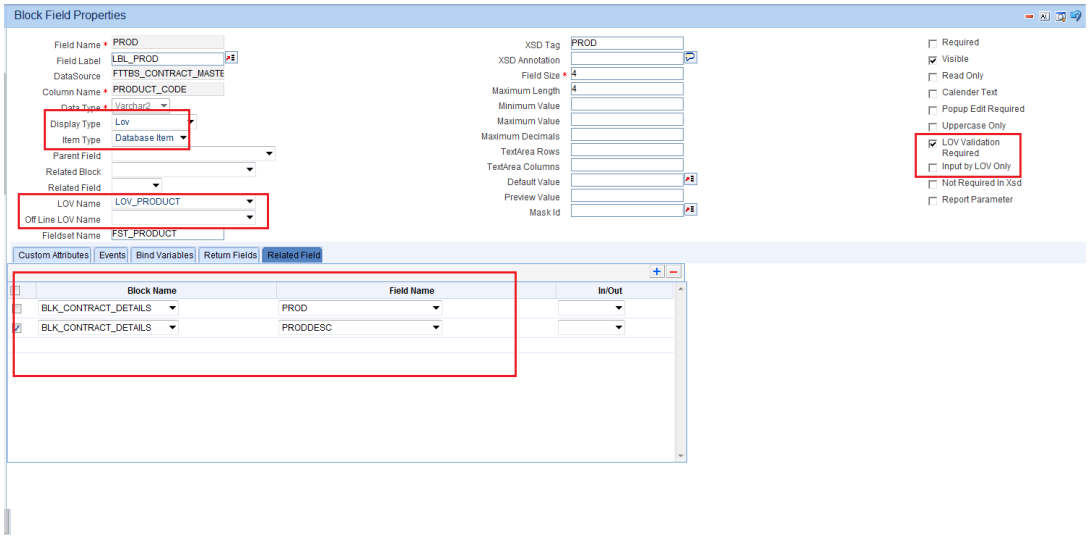


Fig 8.13 Defining Field as LOV

- **Mask**
  If the field has to be masked on tab out, then the display type can be selected as Mask
  Mask ID has to be selected which identifies the pattern of the mask applied

- **Password**
  If the display type has to be in Password form, display type can be selected as Password.

- **Radio**
  If the display type has to be radio button, it can be selected as Radio.
  All the options for the Radio button have to be provided in the **Custom Attributes**.
  Label which should be displayed in the screen should be provided in attribute name and its corresponding storage value to attribute value.
  Default value can also be provided.

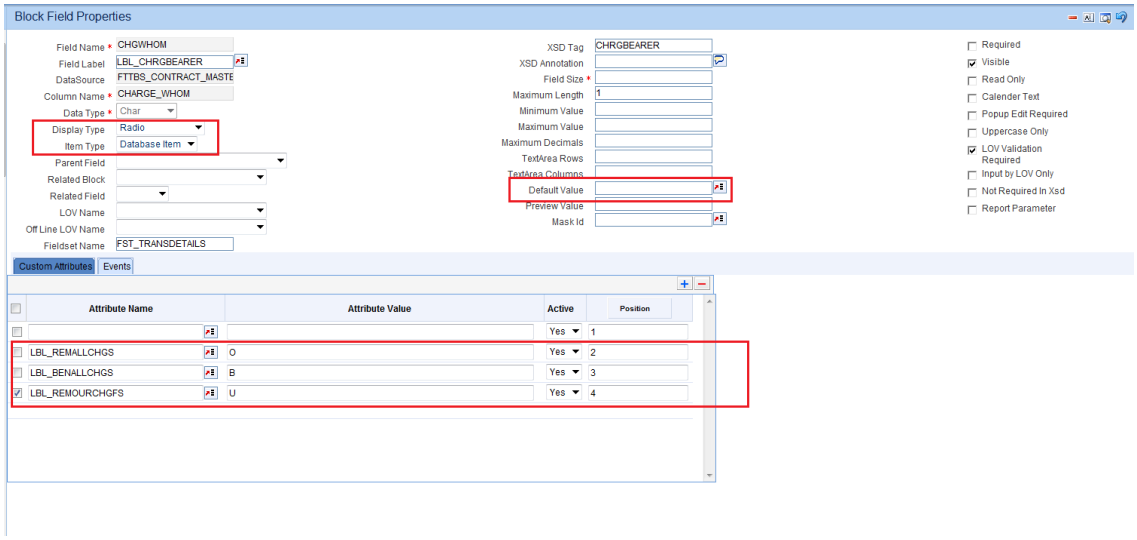


Fig 8.13 Defining Field as Radio button

- **Read Only Select**
  This is similar to Select Field; but the field will be non editable to the user. Select options will be defaulted based on the developer's code.

- **Restricted Text**
  This is similar to normal Text field but special characters(non alpha numeric) won't be allowed to be input in a restricted Text field.

- **Text**
  For a normal text field, display type can be selected as Text .This is the default display type.

- **Text Area**
  If data to be entered for the field is large (>100 characters);it can be defined as Text Area type.
  Number of rows and columns required for the text area can be specified in **Text Area Rows** and **Text Area Cols.**

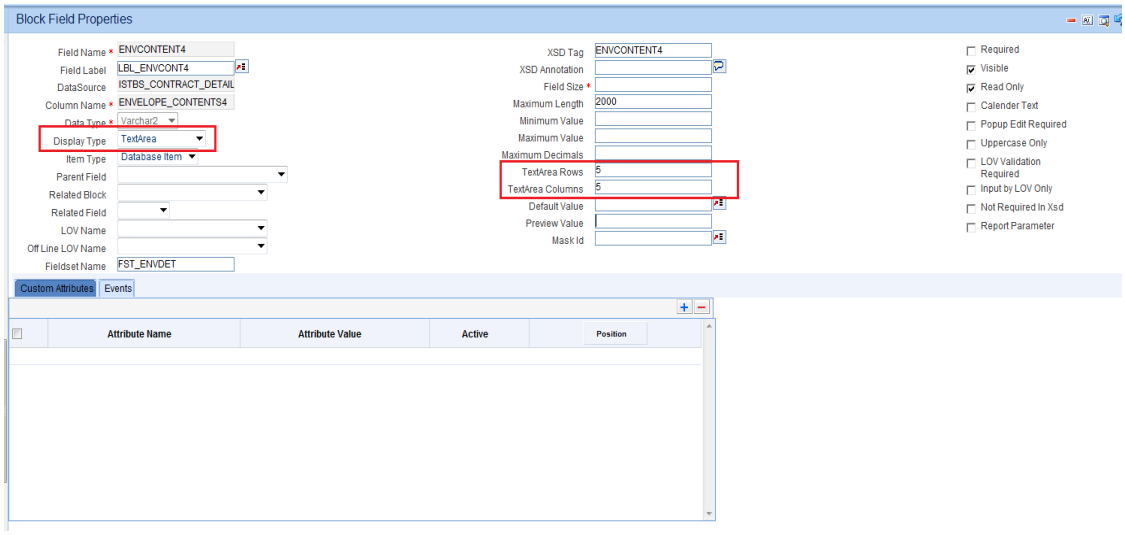


Fig 8.14 Defining Field as Text Area

- **Select**

  If a select list is required for field, display type can be selected as Select**.**

  All the options for the Select List have to be provided in the **Custom Attributes**. Label which should be displayed in the screen should be provided in attribute name and its corresponding storage value to attribute value.

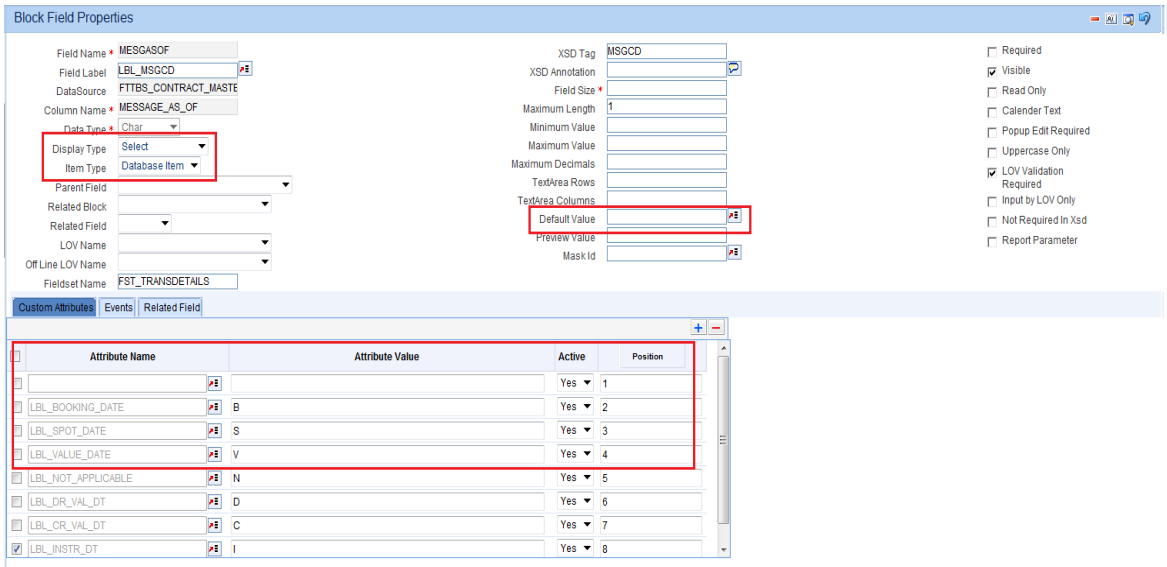


Fig 8.15 Defining Field as Select List

7.1.2.1.1.6 Item type

The value of this field will be defaulted to **DATABASE** item, if the field has taken from the data source.

If the field is a UI field, item type can be either CONTROL or DESC.
Item type can be provided as **CONTROL** for non data fields like buttons, labels etc.

Item Type can be provided as **DESC** for control fields used for display of data.
Example: description of another data source column field
If the type is DESC parent field should be attached and the selected parent field should have a LOV attached to it. And the current field should be one of the return fields of the attached LOV.

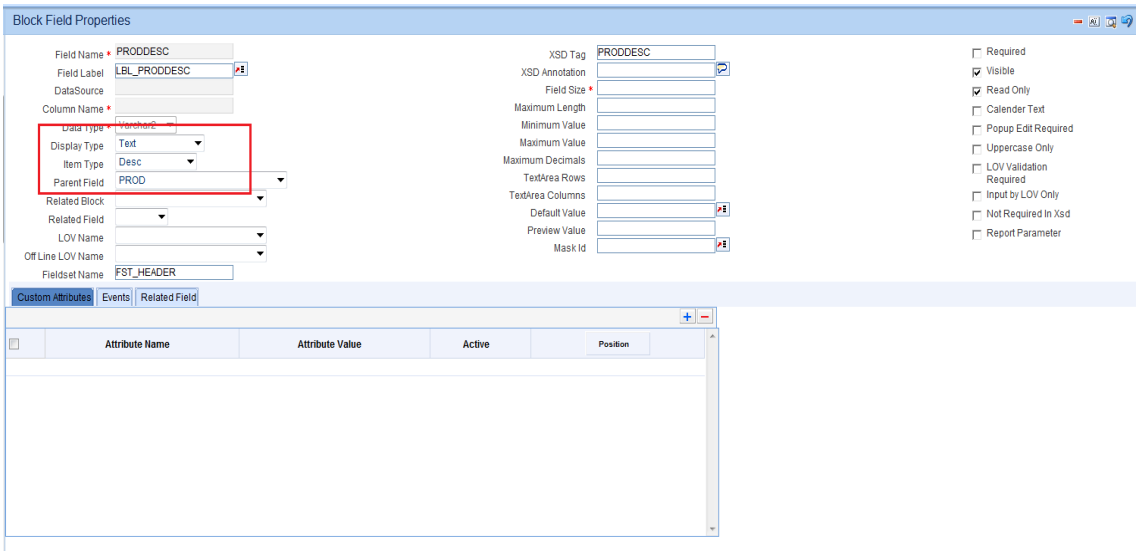


Fig 8.16 Defining Field as Text

The field will be generated in the package and front end (SYS.js) only if the item type is Database item.
CONTROL and DESC types are UI fields; hence won't be present in the generated packages.

7.1.2.1.1.7 Text Area Rows

This field is applicable only if display type is **Text Area**.
Number of rows required in the Text area can be provided here. This field allows the developer to increase the height of the Text Area in the screen.

7.1.2.1.1.8 Text Area Columns

This field is also applicable only for **Text Area** fields. Width of the text area can be provided. This field allows the developer to increase the width of the Text Area in the screen.

7.1.2.1.1.9 Related Block

This field is applicable if display type is **amount**. An amount field can be related to a particular currency field, and this field captures the block name where the currency field is present.

7.1.2.1.1.10 Related Field

This field is also applicable only if display type is **Amount.**

Subsequent to the above field (Related Block), a field can be selected as a related field for an amount field.
Selected Block's (Related Block) fields will be available in the select box.

7.1.2.1.1.11 Parent Field

If the Item Type of the selected field is **Desc**, a parent field should be attached and the selected parent field should have a LOV attached to it. And the current field should be one of the return fields of the attached LOV.

Note: This feature is provided to avoid Query data sources and should be used for all description Fields. If a particular field is selected as "Description Field" in ODT, the LOV for the Parent field should not have any Control Item as a bind variable.

7.1.2.1.1.12 Min Val

Minimum value for a number field can be mentioned .ODT will generate validation for the minimum value of the field in the generated package as well as the frontend units.

7.1.2.1.1.13 Max Val

Maximum value for a number field can be mentioned .ODT will generate validation for the maximum value of the field in the generated package as well as the frontend units.

7.1.2.1.1.14 Max Decimals

Max Decimals for a number or amount field can be provided here.

7.1.2.1.1.15 LOV Name

This is applicable only if the display type is LOV. LOV to be attached has to be selected from the select list.

Select List will contain all the LOVs defined by the developer for the particular screen plus **GLOBAL LOVS.**

Global LOV can be maintained across function id and same can be attached to a field. This will reduce development time. LOV can be selected from list of values attached to the field. These LOV are handled by the FLEXCUBE Infra.

Global LOVs are stored in **CSTB_LOV_INFO** with function id as **COMMON.**

7.1.2.1.1.16 Offline LOV Name

These LOV will be used by the Branch function id if the branch is in offline mode, offline LOV will be used. All the LOV will be populated which are defined in the LOV definition screen.

Both offline and online LOV can be maintained for the same field.

Offline Global LOV
Defining of these LOV remains same as Global LOV, and functionality is same as offline LOV.

7.1.2.1.1.17 Field set Name

This is a non editable field and is defaulted based on the field set to which the particular field is mapped.

7.1.2.1.1.18 Data Type

This is non editable field. This will be defaulted from the data type of the column to which the field is mapped.
This has to be mandatorily provided.

7.1.2.1.1.19 Data Source

This is a non editable field. This will default the table name of whose column is mapped to the particular field.

7.1.2.1.1.20 Column Name

This is a non editable field. This will default the column name to which the particular field is mapped.

7.1.2.1.1.21 Max Length

The max length of column will be defaulted while adding a field and it can't be overwritten. This value will be considered for the field max length of the designed screen. It means, at the run time system will not allow the user to enter the text more than this length.

The value of the field can be changed from data source column properties which will reflect in block field level as well.

7.1.2.1.1.22 Field Size

Value will be defaulted while adding the field and same can be modified. This is the size which will reflect in the screen for the field.

7.1.2.1.1.23 Default Value

A default value can be given to the selected field, system will use the default value at the run time and default value will be stored in the generated front end unit, it will not available in the generated packages.

7.1.2.1.1.24 Preview Value

In the Screen Preview, if developer wishes to see the preview with some data; a preview value can be provided.

7.1.2.1.1.25 Mask Id

This is used for enforcing some restrictions on the values that can be entered in some fields. The ids are present in sttb_field_mask. This is applicable only if the display type is **Mask.**

7.1.2.1.1.26 Popup Edit Reqd

This can be checked for long text entries. A pop up edit screen would come along with the field.

Popup edit will be provided for all fields whose field size is larger than 20 by FLEXCUBE Infra

7.1.2.1.1.27 Required

If the field is mandatory, this checkbox can be checked .This will force the user to enter value in this field. Asterisk (*) character would come along with the field in the screen.

7.1.2.1.1.28 Visible

If the field is required for processing; but not to be shown in the screen .then it can be made invisible.

7.1.2.1.1.29 Input by LOV Only

This is applicable only for LOV fields. This will force the user to use the LOV button to input the value instead of key in the value.

7.1.2.1.1.30 Calendar Text

This is applicable if the fields has to be placed close to each other as in a calendar.

7.1.2.1.1.31 Upper Case Only

If the field value has to be in Uppercase only, this option can be checked. This will convert the field value to Uppercase on tab out of that field in FLEXCUBE.

7.1.2.1.1.32 LOV Validation Reqd

This is applicable only for LOV fields. If validation for the value input in LOV field is required, this option can be checked.

7.1.2.1.1.33 Not Reqd in XSD

If the field is not to be included in XSD, then this option can be checked.

7.1.2.1.1.34 Read Only

This will restrict the user from entering value to the field. Filed can be made non editable by checking this option.

7.1.2.1.1.35 Custom Attributes

Attribute Name and values for SELECT, RADIO, CHECKBOX and READ ONLY SELECT fields has to be provided here.

Attribute name corresponds to the Label Code whose description will appear in the screen.

Attribute Value is the corresponding value which will be stored in the backend for the corresponding attribute.

Active ODT does not allow the deletion of attribute elements if created in an earlier release. Hence if an attribute is no longer required, the attribute can be made inactive

Position: Ordering of the attributes in the list can be manipulated using Position field. Position numbers can be modified. After changing the position values, position button has to be clicked; which will arrange all attributes in the new order

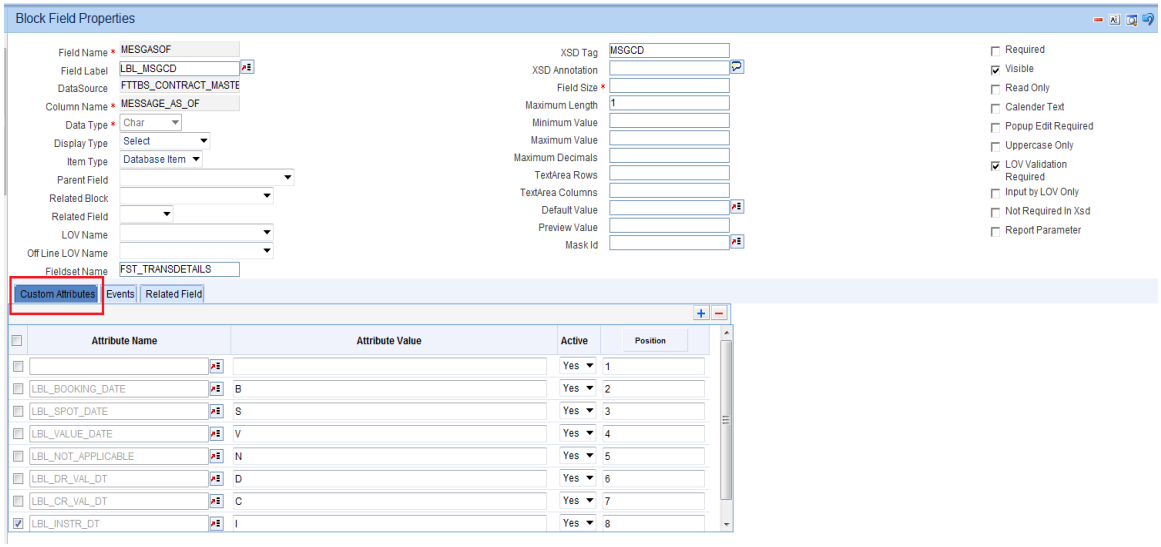
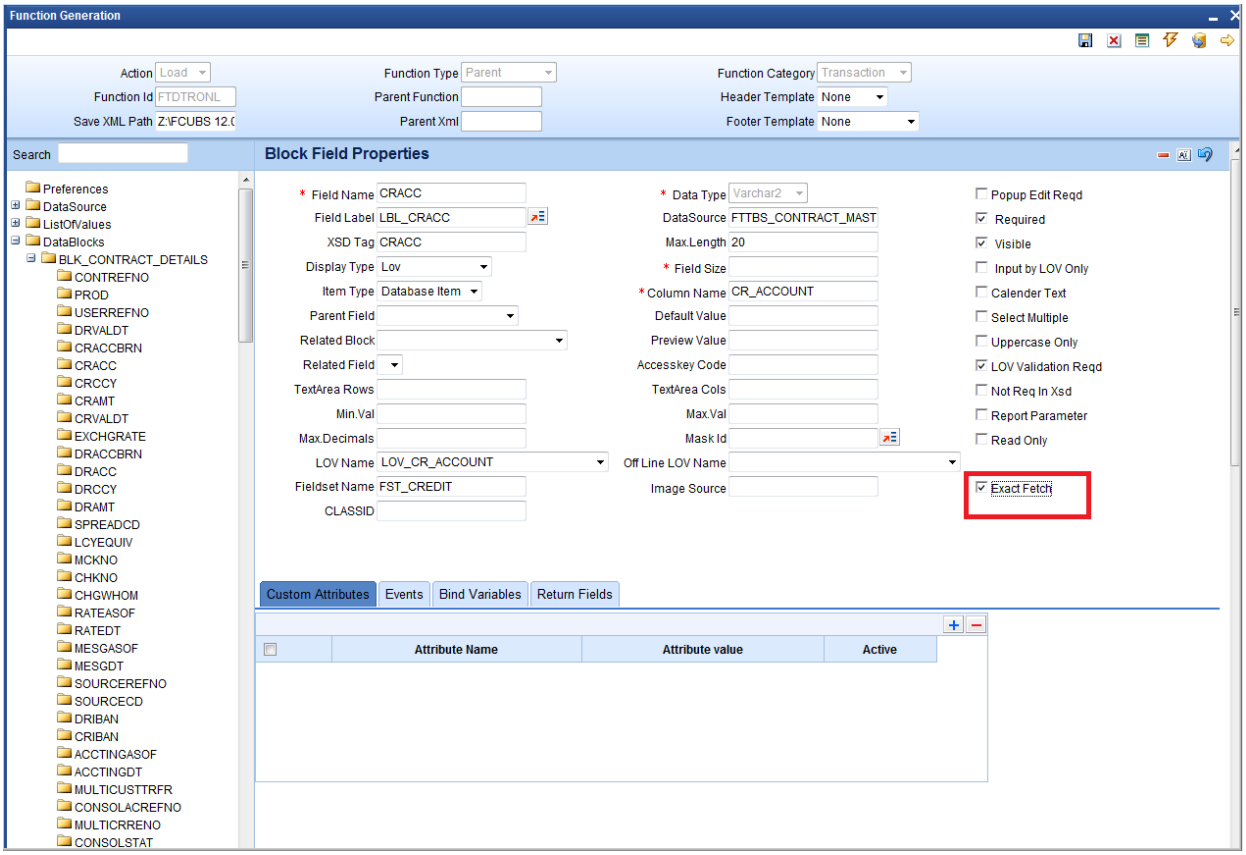


Fig 8.17 Defining Custom Attributes for a Select Field

7.1.2.1.1.36 Exact fetch

If a field is Lov field, we can check the option of exact fetch required as shown below. If a particular field is attached with an enabled exact fetch value, while searching using this field, user has to provide the exact value of that field as it is present in the database otherwise the system will show a message of invalid value.

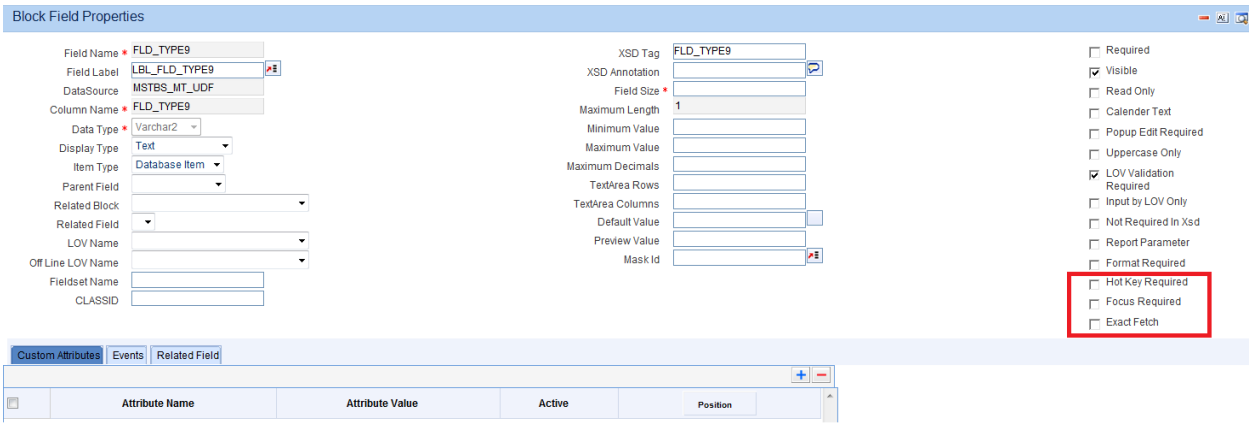


7.1.2.1.1.37 Hot Key Required

If User wants to provide hotkey functionality to a field then Hotkey required checkbox need to be checked corresponding to that field.

7.1.2.1.1.38 Focus Required

If a field is read only field then the focus doesn't come on this field once it is launched in FLEXCUBE. Focus required will bring the focus to the corresponding read only fields. If User wants to provide focus required functionality to a field then focus required checkbox need to be checked corresponding to that field.



7.1.2.1.1.39 Events

Events tab needs to be input if the field type is **BUTTON.**

Event Name: A pre-defined java script event can be attached to the field and same can be selected.

Usually, *onclick* event is selected.

Function Name:

A function name should be mentioned for event, same function should be maintained in the function id java script or in the infra java script files. This function will be invoked on the event mentioned earlier on the field.

Note: Function Name needs to be mentioned only if event type is either NORMAL or SUBFUNCTION.

Event Type:

Event Type can be

i) **Call form:** If on click of the button a call form has to be launched

ii) **Launch form: :** If on click of the button a launch form has to be launched

iii) **Sub screen:** If on click of the button a Sub Screen has to be launched

iv) **Normal:** if on click of the button, a JavaScript function has to be invoked which is mentioned in Function Name field. Normal buttons have to be placed in a field set for them to appear in the screen.

v) **Sub Function**: This is used in Process Flow screens to invoke sub functions.

Button Screen: it specifies in which screen button is to be placed. This is not required for Normal buttons.

Call Form Name: If the button is of Call form/Launch form type, the name of the call form/launch form which has to be launched should be mentioned here.

All the attached call forms .Launch forms which are active will appear in the Select List

Screen Name: For Sub Screen, call form, Launch Form type buttons; this field specified the name of the screen which will be launched.

7.1.2.1.1.40 Bind Variables

7.1.2.1.1.41 Return Fields

Bind Variables and return fields are required for LOV fields. Refer section on LOVS for detailed explanation.

7.2 Guidelines and Best Practices

Below points to be noted while creating data blocks:

1. All Block Names Should start with BLK_ and the remaining portion of the block name should be same as the XSD node of the Block Name in Upper case and '_' replaced with '-'.***Avoid naming the block name same as that of the table name***
2. Blocks also would have hierarchy and has to be chosen correctly.
3. Block Types are similar to data source types with an additional type 'Control'.
4. After adding a block, ODT defaults the XSD node. Node name would be Block name without BLK_ and in Sentence case. Also '_' will be replaced with'-'.
5. Parent block should be chosen from the list based on the hierarchy.
6. Similar to data sources, block also can be either Multi Record or single record type.
7. Block Title has to be selected from the LOV.
8. Relation type has to be mentioned as 'One to One' or 'One to Many'.
9. One and only one block should be selected as Master Block.

Note the following while attaching data sources to a data block

1. The same data source can be selected in multiple blocks. However in case of Multi record data sources, ODT allows the developer to attach the data source to only one block.
2. One Multi Record block can have multiple data sources provided all of these data sources have strict **one to one relation.**
3. In case of multiple data sources in a single data block, it is important to ensure that the data in the attached data sources is functionally related and more importantly, a row in one table would definitely have a row in other attached data sources as well. Otherwise the generated code inserts records in all the tables always and this would result in lot of dummy records in the database.
4. Parent data block has to be above its child data block in the browser tree. Developer has the option to rearrange the order of the blocks in the tree (by drag and drop).

Note that if block or block fields are re arranged, all units will have to be regenerated

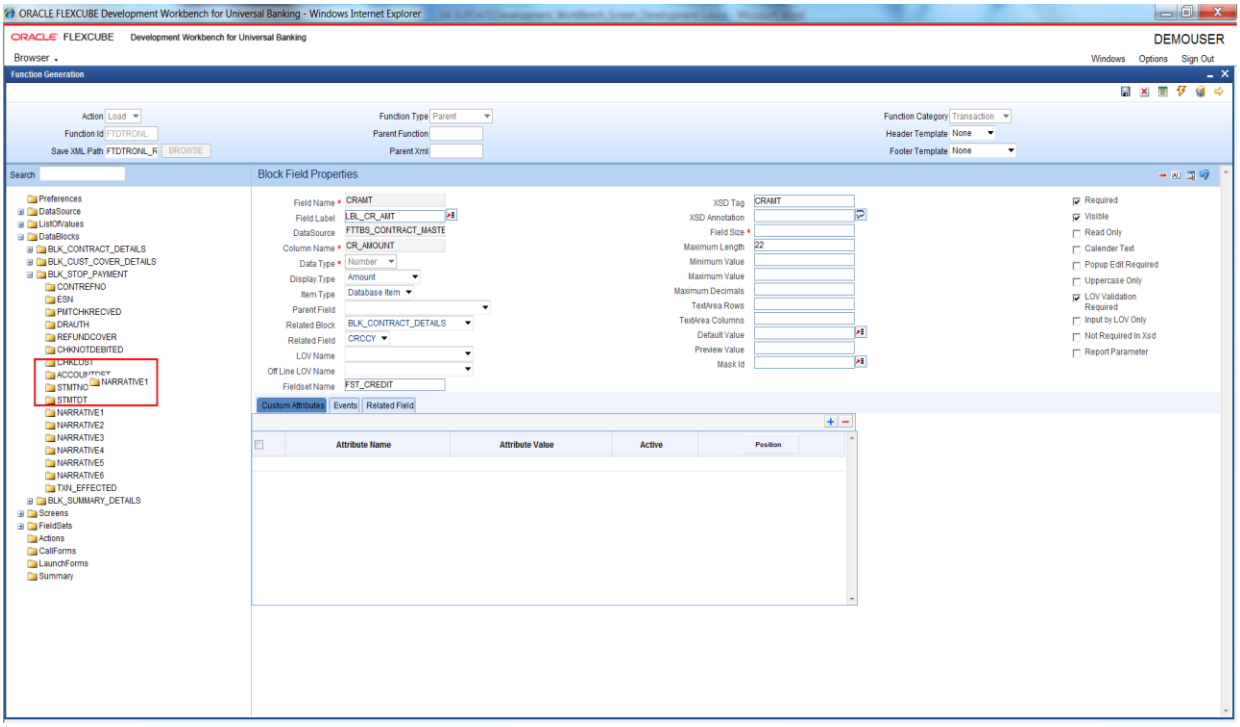


Fig 8.18 Rearranging Block field Order by drag and drop

Below are some of the important points to be noted while giving field properties:

1. Avoid using UI fields as LOV bind variables.
2. Avoid using separate Query data sources for single description fields. Use Description type UI fields for Description fields.
3. Ensure that Related Block and Field are given for Amount Fields. ***Ensure that related currency fields are placed above the amount fields in the browser tree***.
4. In case the field is not required in XSD, check not Required XSD. There are cases where the field is a primary key field in a child block and does not need to be repeated in Child block. For example, the field PRODUCT_CODE in Product forms is not required in any Block other than once in the master block.

7.3 Deletion of a Data Block

Data Block can be deleted either by:

i) Selecting the delete option from the right click menu of the data block or

ii) By clicking on the delete icon in top right of the particular data block screen.

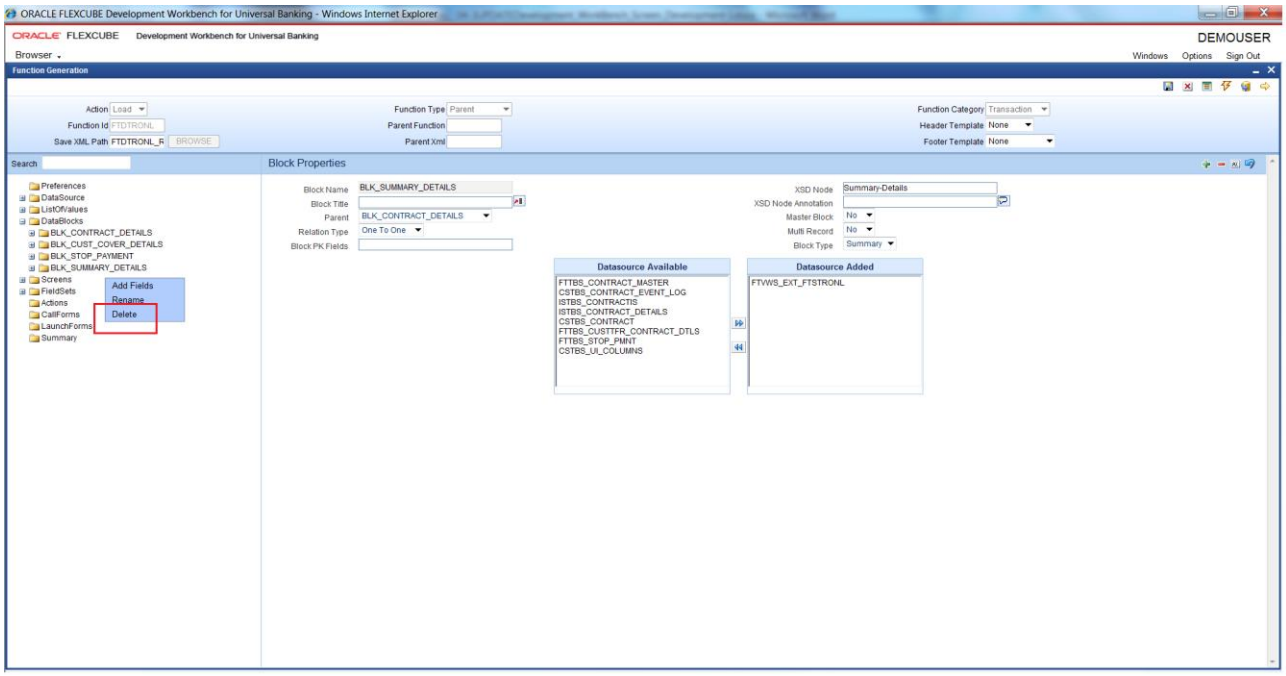


Fig 8.19 Deleting a Data Block

Deletion of data block will also delete all the references to any of its block fields.
I.e. it may remove any of its fields attached to a field set; or the block fields used in the summary screen.

Note that ODT will allow deleting the data block only if it is created in the same release .Data blocks created in any previous release cannot be deleted.

Deletion of Block Field:

Block field can also be deleted provided it satisfied the condition above.
The process is similar to the deletion of data source columns.
All the references to the deleted block field will also be deleted.

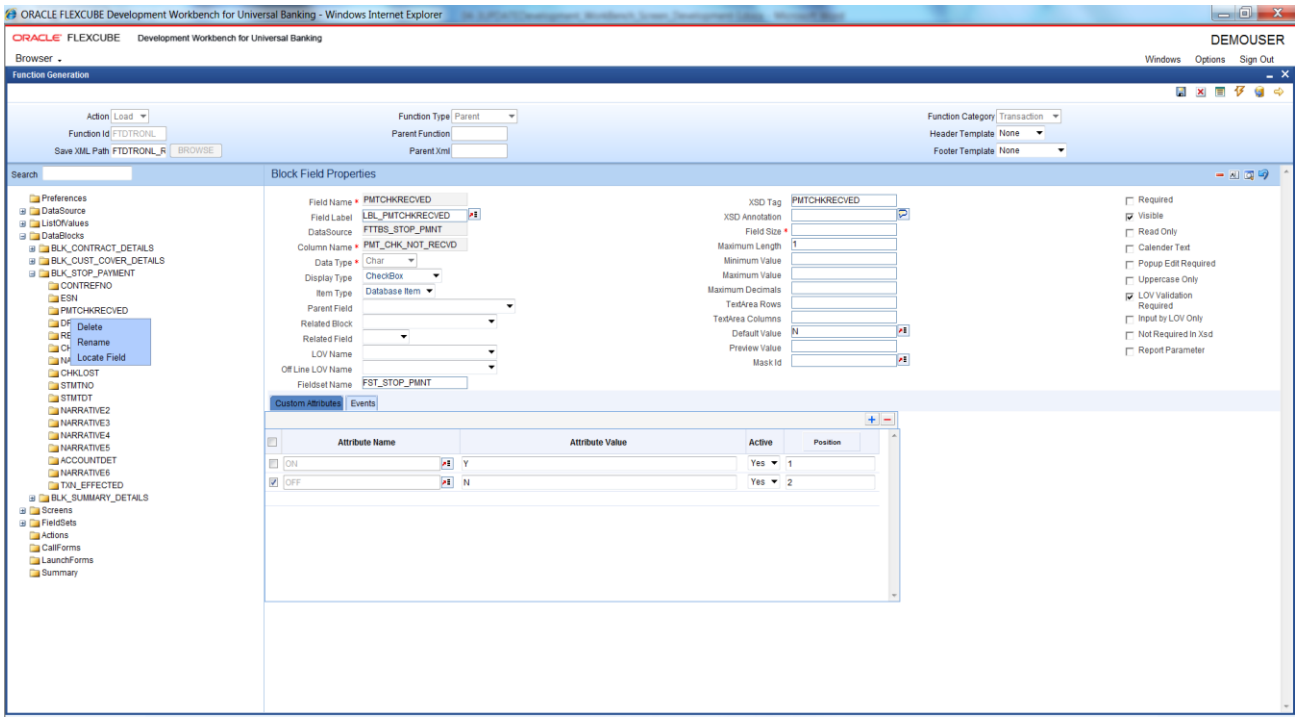


Fig 8.20 Deleting a Data Block Field

Since deletion of data block or block fields is not allowed in later releases, it is advised to take proper care while designing data blocks for the screen

All the units needs to be regenerated after deletion of a data block or a block field

7.4 Renaming of Data Block

Data Block can be renamed either by:

i) By clicking on the rename option from the right click menu of the data block or

ii) By clicking on the rename icon on top right portion of the data block screen.

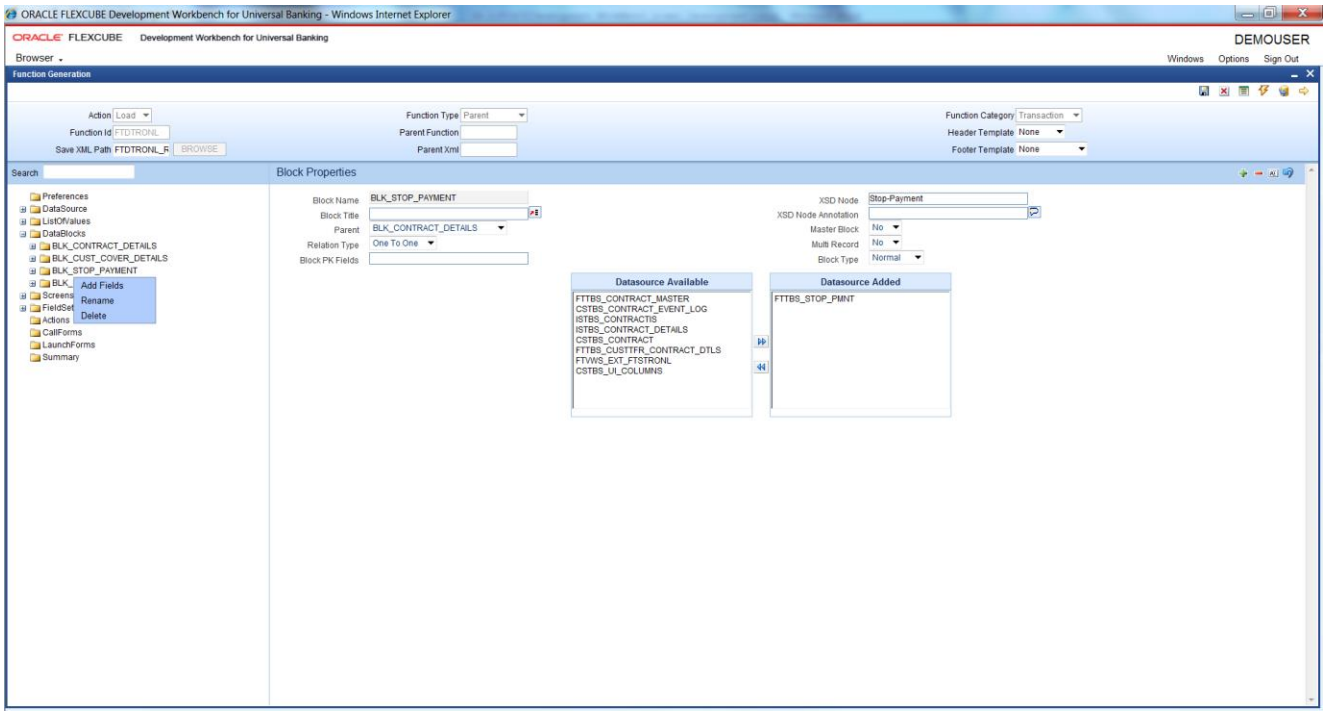


Fig 8.21 Renaming a Data Block

Renaming of data block will also rename all the references to the data block.
Example: Summary data block if renamed will reflect in the summary node also
Note that ODT will allow renaming the data block only if it is created in the same release. Data blocks created in any previous release cannot be renamed.

Renaming Of Block Field:

Block field can also be renamed provided it satisfied the condition above.
The process is similar to the deletion of data source columns.
All the references to the renamed block field will also be renamed.

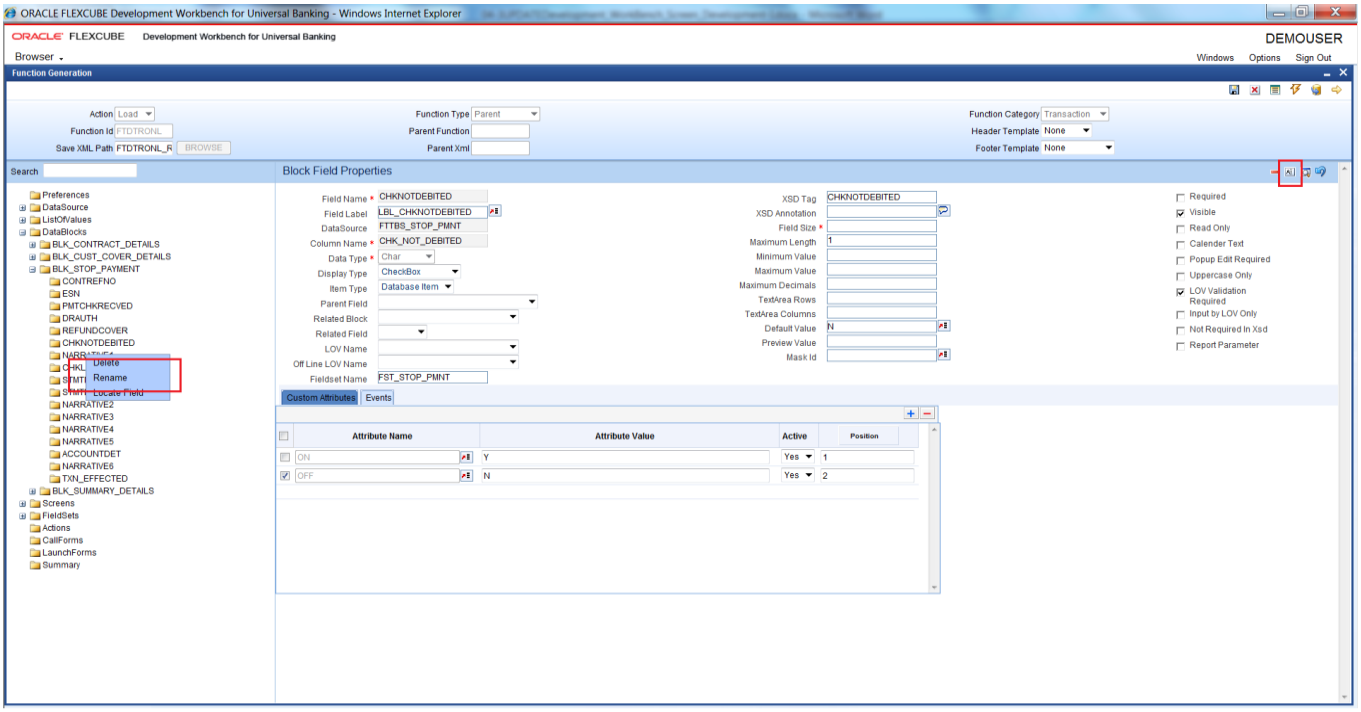


Fig 8.22 Renaming of Block Field

Since renaming of data block or block fields is not allowed in later releases, it is advised to take proper care while designing data blocks for the screen.

All the units need to be regenerated after renaming of a data block or a block field.

8 Screens

After designing Data sources and Blocks, Design the screen layout based on the requirement.

8.1 Creating a New Screen

A new screen can be created either by

i) Selecting add option from the right click menu of the Screen node or

ii) Clicking on Add Screen icon in top right of the Screen Node screen.

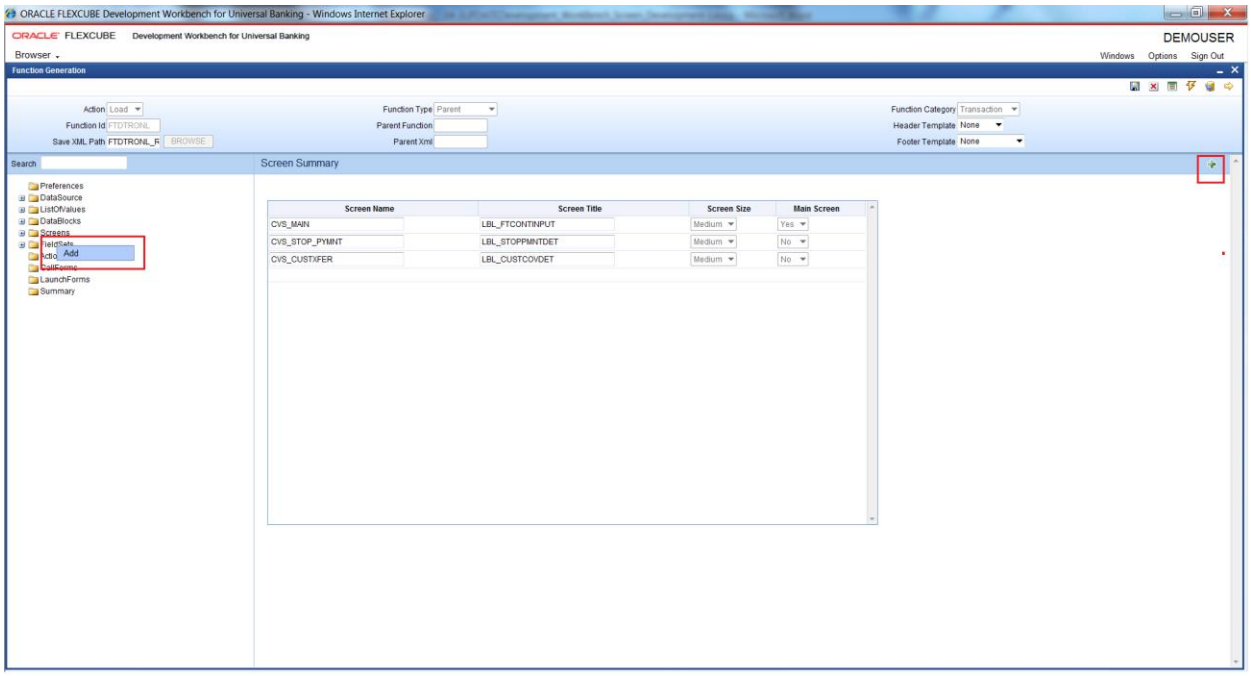


Fig 9.1 Adding a New Screen

Provide the Screen Name in the Add Screen window :

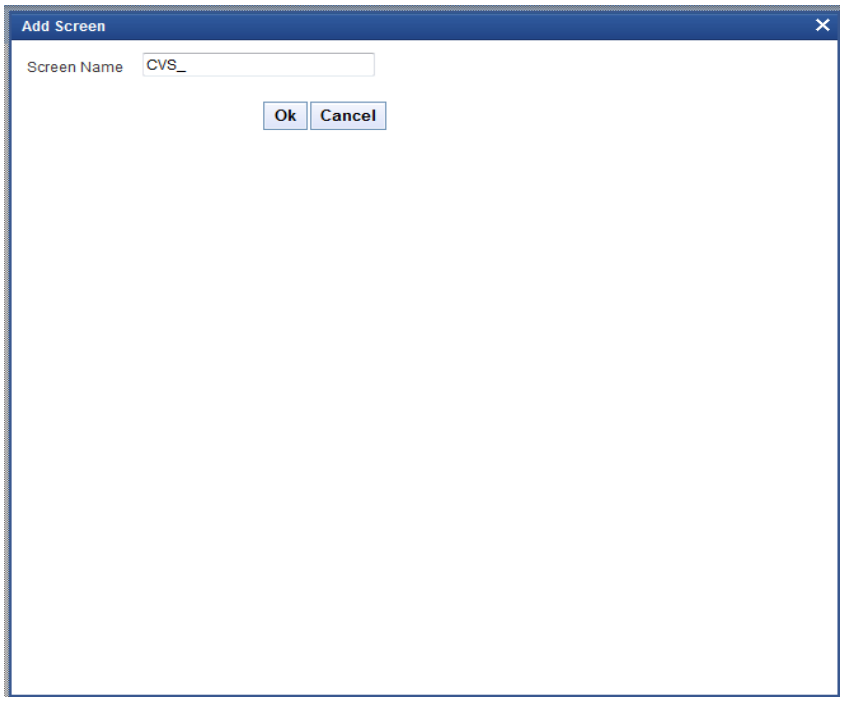


Fig 9.2 Add Screen window

Screen Name has to Screen Name should start with 'CVS_'.
Example: CVS_PREFERENCES

8.1.1 Screen Properties

Provide the properties of the screen as required:

8.1.1.1 Screen Name

This field value will be defaulted when screen is added and it is a non editable field.

8.1.1.2 Screen Title

This field will have a label code for the screen title to be displayed. Label code can be selected from list of values button .The label specified will appear in the Title bar of the Screen.

8.1.1.3 Main Screen

This field identifies whether the screen created is the main screen for the particular function id. FLEXCUBE function id should have one Main Screen. Only the main screen will be launched from the FLEXCUBE when the function id is launched. Other screens have to be launched from the main screen by placing buttons on the main screen.

8.1.1.4 Visible

Screens can be made invisible if it not intended to be used.
The screens created in any previous release cannot be deleted. Hence visible flag has to be unchecked to achieve the same.

8.1.1.5 Screen Size

Depending on the number of fields in the screen, developer can choose the size of the screen. Options provided are small, medium and large.

8.1.1.6 Exit Button Type

This field describes the EXIT and OK buttons for the screen. These buttons are found in the bottom right corner of the screen.
If only CANCEL button is required, select Default Cancel.
If both OK and CANCEL buttons are required, select Default OK Cancel
If OK, REJECT and CANCEL buttons are required, select Default Ok Reject cancel. *Example: contract authorization screens*

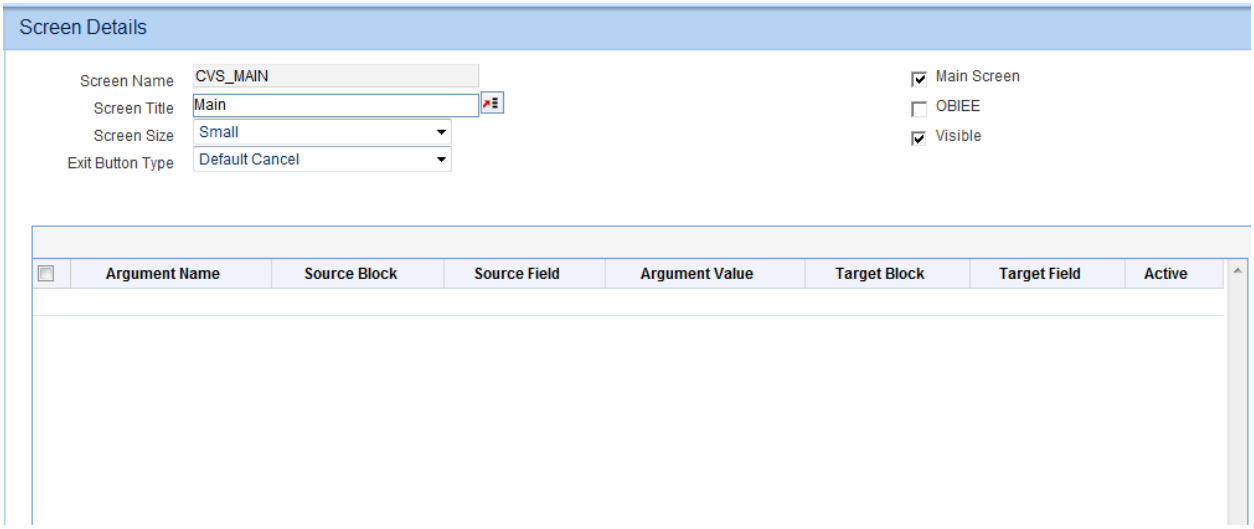


Fig 9.3 Screen Properties

8.1.1.7 Screen Arguments

Screen Arguments are parameters that can be passed to the screen on launching the screen.
If on launch of the screen, some of the fields needs to be populated based on the screen from which it is launched, screen arguments can be used.

8.1.1.8.1 Arg Name

This field identifies the name of the argument. This is mandatory field for a screen argument.

8.1.1.8.2 Source Block

This is optional. This is used if developer wants to pass arguments between two screens in the same function id. The value from one block field (usually present as part of the parent screen) can be passed as screen argument to another block field (usually present as part of the current screen).

Here the parent block field is identified using source block and source field.

Source Block identifies the block name in which the source field is present. Select List provides the list of all data blocks added in the function id.

8.1.1.8.3 Source Field

Source Field identifies the field name whose value will be passed as the screen argument to the screen. Select List provides list of all fields in the source block selected.

8.1.1.8.4 Arg Value

If the argument value is hard coded, then this can be specified in this field. *If argument value is specified, then source block and source field is not required.*

For example: action codes can be passed as screen arguments which will be hardcoded like EXECUTEQUERY.

8.1.1.8.5 Target Block

Target block represents the block containing the field to which argument value is assigned .This block should be part of the screen. Select list provides the list of all data blocks defined in the function Id.

8.1.1.8.6 Target Field

Target Filed identifies the field to which the argument will be passed. Select List provides the list of all fields in the target block.

8.1.1.8.7 Active

Screen Arguments defined in an earlier release cannot be deleted. Instead, developer can make it as inactive which serves the same purpose.

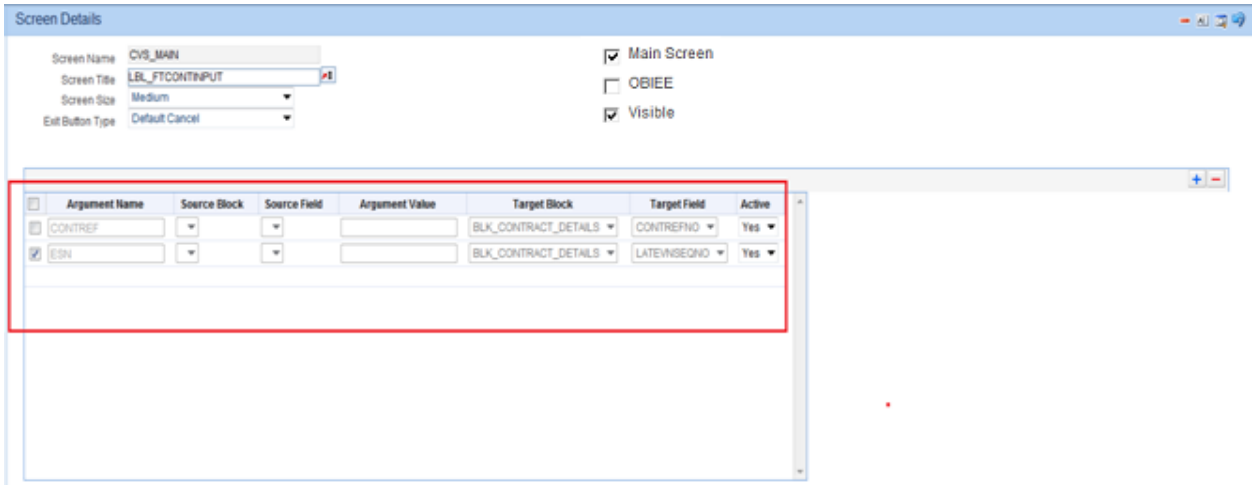


Fig 9.3 Defining Screen arguments for a Screen

8.1.2 Tabs

When a developer creates a screen in the ODT, Tool will create three default portions in the screen:

- **Header**
- **Body**
- **Footer**

FLEXCUBE screens are divided into three portions, Header, Body and Footer and the all portions can have tabs.

Each portion will have default tabs. Along with these default tabs developer can create more tabs as required.

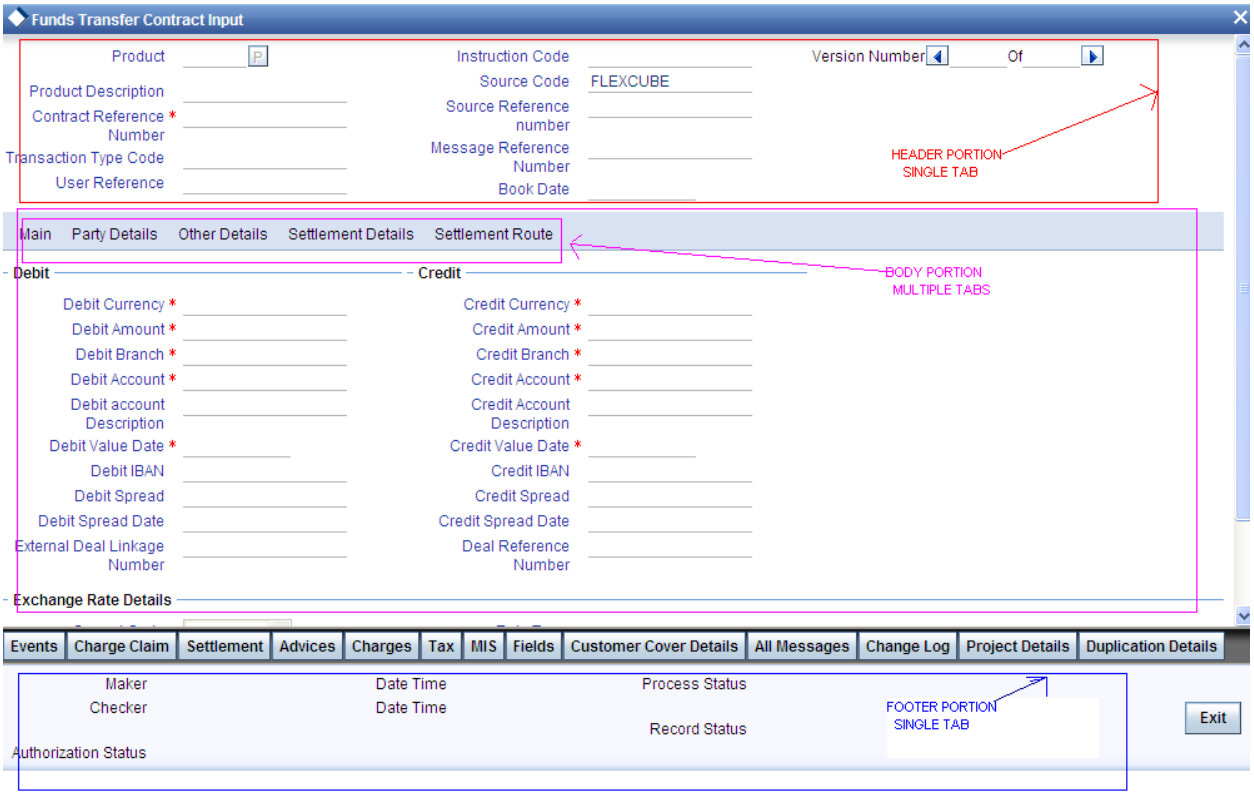


Fig 9.4 Preview of a Sample Screen illustrating different portions of a Screen

Following default tabs are provided:

i) For Header portion : TAB_HEADER
ii) For Body Portion : TAB_MAIN
iii) For Footer Portion :TAB_FOOTER

These tabs should not be deleted by the developer.

For creating new tabs, developer can either

i) Select add tab option from the right click menu of the screen portion (header/body)/footer) node.
ii) Clicking on add tab icon on the top right portion of screen portion screen.

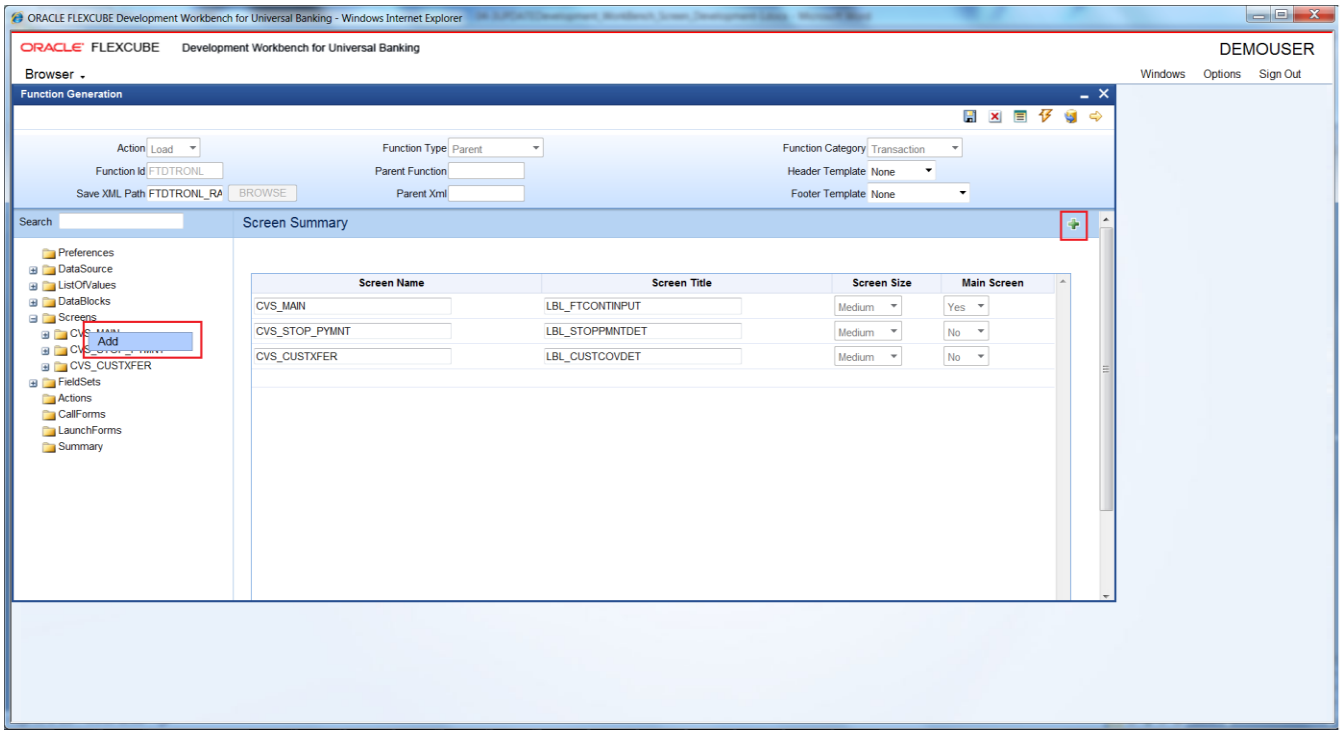


Fig 9.5 Adding Tabs to a Screen

Provide the name of the tab in the add tab screen.
Tab Name should start with TAB_. *Example: TAB_PREFERENCES*

8.1.2.1 Tab Properties

Provide the properties for the tab as required.

8.1.2.1.1 Screen Name

This is a non editable and will be defaulted from the screen name of which the tab is included

8.1.2.1.2 Tab Name

This is non editable and it shows the name of the tab provided during creation of the screen

8.1.2.1.3 Tab Label

Label Code for the tab can be maintained here. Description of the Label will appear as Tab Title in the screen

8.1.2.1.4 Tab Type

Tab type as data or service. Tab Type is Data for Normal case. If any call form has to be embedded in the tab (example : Branch Screens),this can be selected as Service

8.1.2.1.5 Visible

Tabs can be made invisible if it is not intended to be used.

Note: The tabs created in any previous release cannot be deleted, so visible flag has to be unchecked to achieve the same.

8.1.2.1.6 Dependent Fields

If the tab type is service, this comes into picture. This is used to map the fields in the main screen to which this field is dependent.

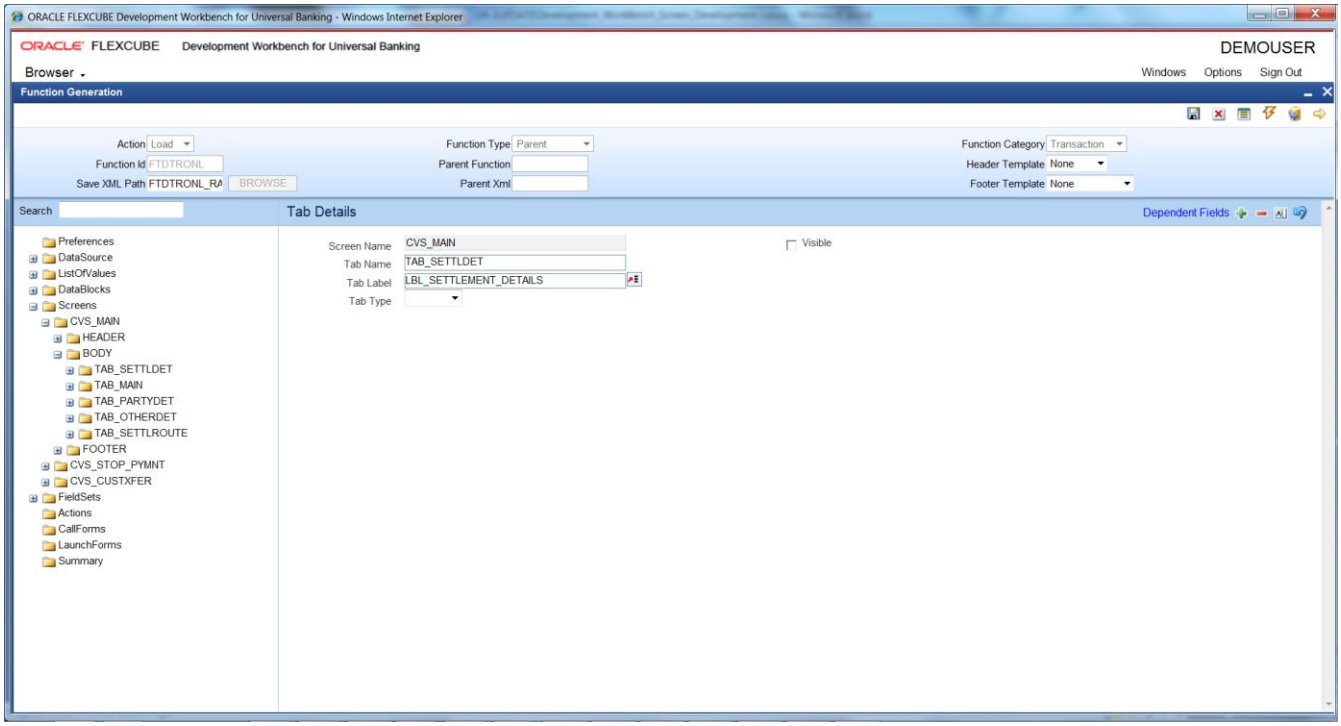


Fig 9.7 Tab Properties

8.1.2.2 Sections and Partitions

Sections has to be created for each tab .Number of sections can vary depending upon the design requirement .All tabs should have at least one section

Partitions should be added to each section. Number of partitions that can be added to a screen depends on the screen size

When partitions are again divided, we get sub partitions

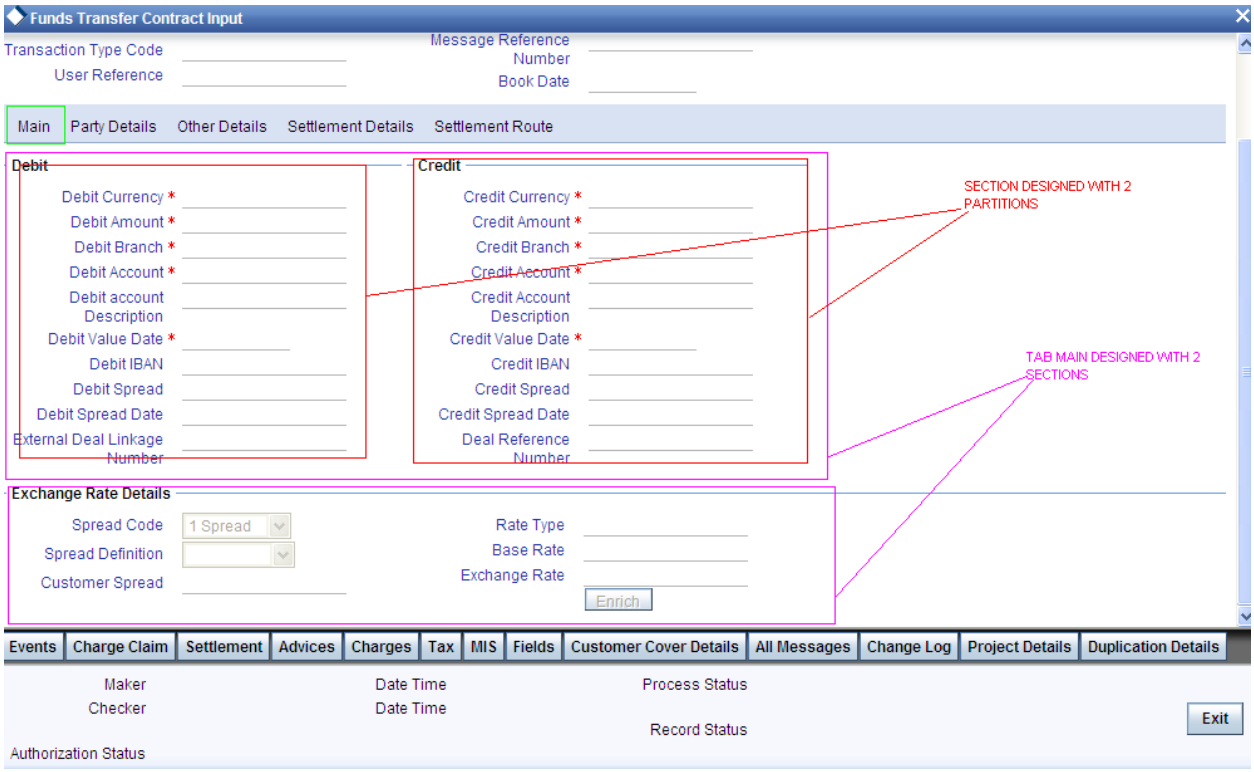


Fig 9.8 Preview of a Sample Screen illustrating Sections and Partitions

Sections can be created either by:

i) Selecting add section option from the right click menu for the Tab or

ii) By clicking on Add Section icon in top right of the Tab screen.

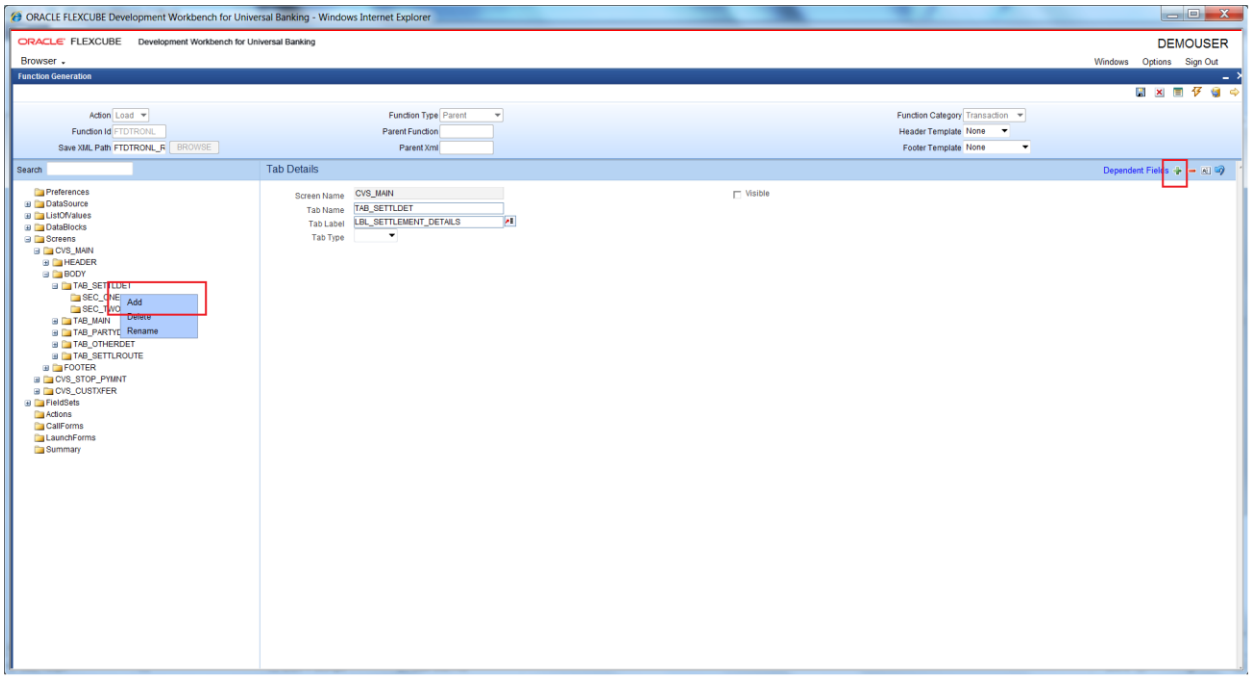


Fig 9.9 Adding a Section to a Tab

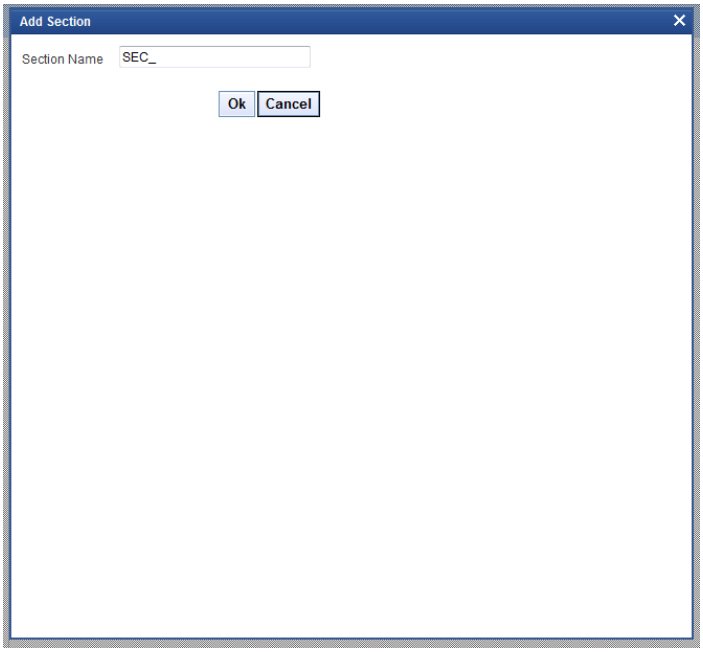


Fig 9.10 Adding Section window

Provide the name of the section in add section window.
Section Name should start with SEC_. *Example: SEC_ONE*

- **Section Name**
  This field will be defaulted based on the section name provided while creation. It is a non editable field.
- **Collapse**
  If the section has to be made collapsible, this option can be checked
- **Visible**
  If the sections are not required in the screen, it can be made invisible.
  Note: sections created in previous releases cannot be deleted. Hence it can be made invisible to achieve the same.
- **Multiple Section**
  Fieldset attached to this section will allow only multi entry block fields to be mapped to this fieldset. Mapping for single entry block will not be allowed if multiple section option is selected. If multiple section features is to be provided for a section then this option can be selected.

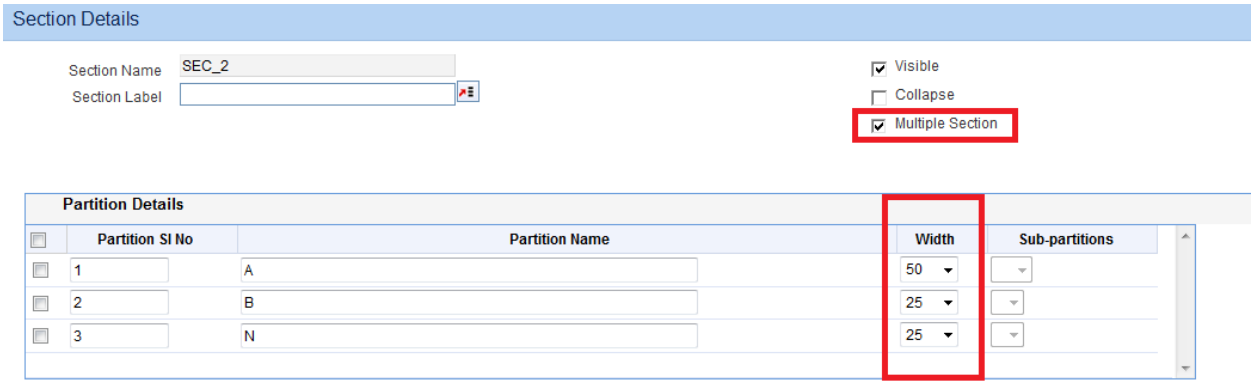


Fig 9.11 Section Properties

8.1.2.2.1 Partitions

Partitions can be added to the section.

The number of partitions allowed on a section depends on screen type and screen portion.

i) For Large screen, a section in the body or header can have a maximum of 3 partitions.

ii) For Large Screens, a section in the footer can have a maximum of 4 partitions.

iii) For all medium and small screens, a maximum of 2 partitions is allowed.

Number of partitions mentioned above is including any sub partitions if defined; i.e. if partition is divided into 2 sub partitions; it will be treated as 2 partitions by the system.

- **Partition Sl No**
  This will used to identify the partition by the system. It will be defaulted by the tool. Numerical value which increments by one.
- **Partition Name**
  This can be provided by the developer.
- **Width**
  Width of the partition will be defaulted by the Tool depending on the number of partitions.
  Example: If 2 partitions, width of each will be defaulted to 50.
- **Sub Partitions**
  Each partition can be subdivided into sub partition provided it does not breach the maximum partitions allowed.

8.2 Multiple Screens in Same Function Id

Multiple Screens can be designed within a single function Id.

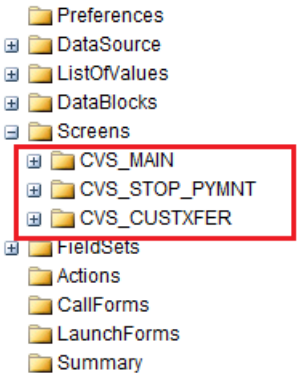


Fig 9.13 Multiple Screens in a Function Id

While launching the function Id from FLEXCUBE; the main screen will be launched.

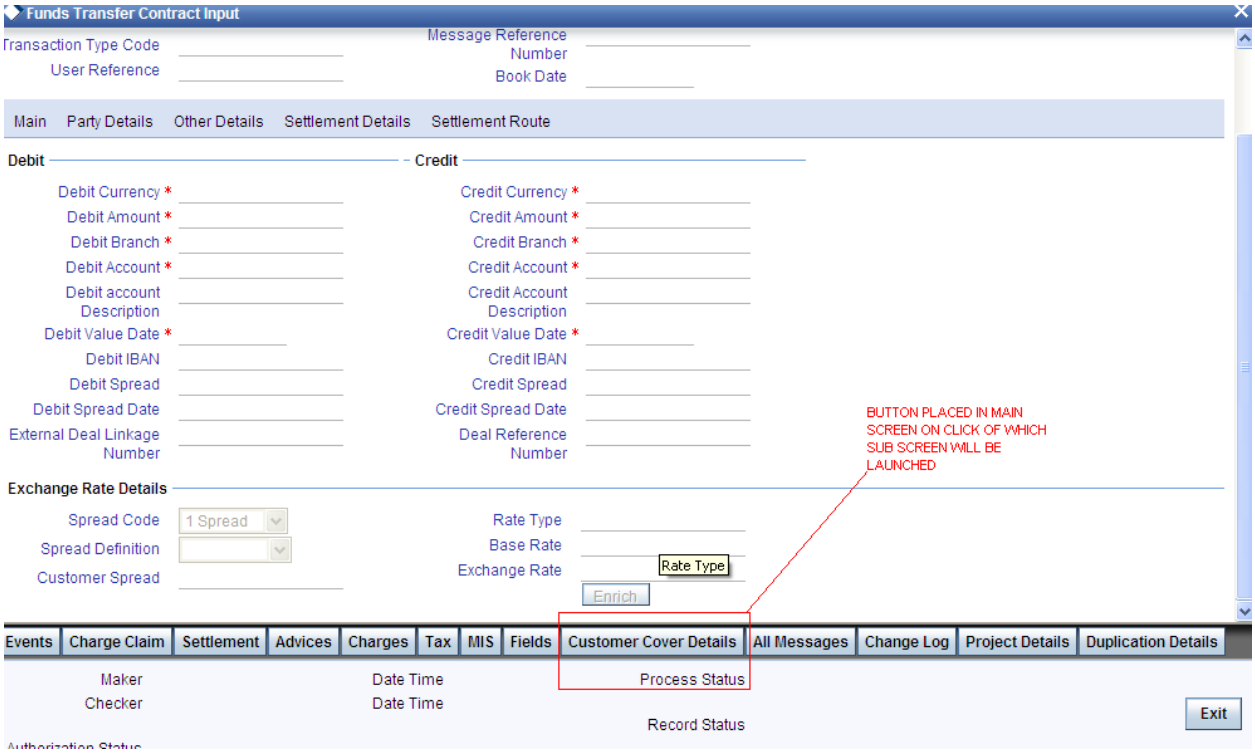


Fig 9.13 Preview of a Sample Screen illustrating Multiple Screens linked by Buttons

Buttons has to be placed in the main screen. Button Events to be maintained such that on clicking the button, sub screens will be launched. The button events maintained for the button can be seen in the below figure. Screen name is mentioned as the screen to be launched and the button screen is the screen where button is placed.

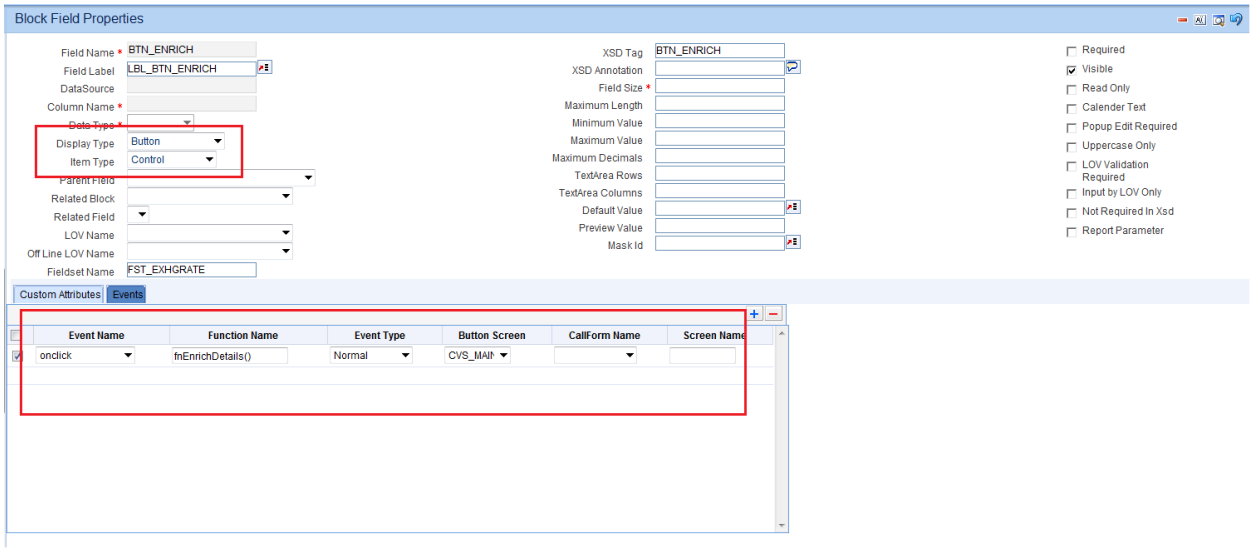


Fig 9.14 Button Events for Launching Sub Screen

8.3 Guidelines and Best Practices

Follow the below practices while designing screens:

- A function Id should have one main screen.
- Screen Name should start with 'CVS_'.
- Every screen will have three portions called Header, Body and Footer. Developer should not delete these portions.

While creating tabs, note the following

- FLEXCUBE architecture does not support multiple tabs in footer portion of the screen.
- If the screen does not have multiple tabs, then only the TAB_MAIN needs to be used.
  TAB_HEADER should not contain any sections in this scenario.
- If the screen is multi tabbed, TAB_HEADER and TAB_MAIN should be used while designing. TAB_HEADER denotes the header portion of the screen and TAB_MAIN should contain the main tab fields.
- TAB_HEADER, TAB_FOOTER and TAB_MAIN should not be deleted by the developer.
- If any templates are chosen for footer, TAB_FOOTER need not be manually designed.
- ***Order of Tabs/Sections in the screen can be re arranged by re arranging them in the tree by drag and drop***

8.4 Deletion of Screens

Screens can be deleted either by:

iii) Selecting the delete option from the right click menu of the Screen or

iv) By clicking on the delete icon in top right of the particular Screen

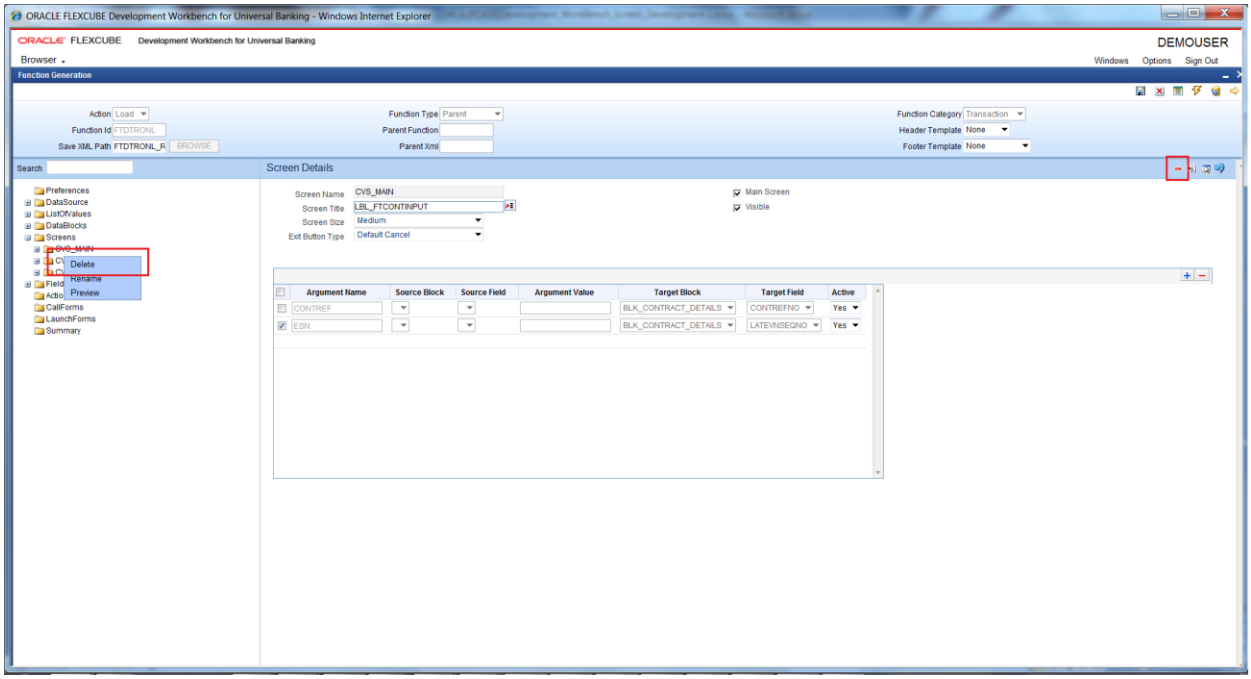


Fig 9.15 Deleting a Screen

Any reference to the particular screen in any field set will also be reset to null.

Tabs and Sections can also be deleted in a similar way.

Note that ODT will allow deletion of elements only if it is created in the same release. Otherwise tool will throw error as show below:

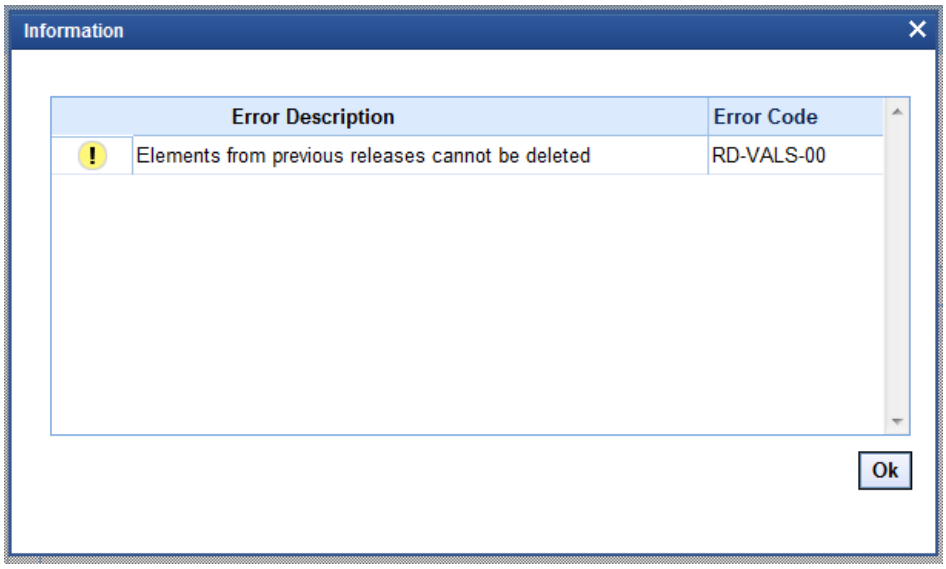


Fig 9.15 Error Window during Deletion of Previous Release Elements

8.4.1 Visible Flag

If in a future release, if the screen/tab/section needs to be removed, it can be made invisible; i.e. uncheck the visible flag.

Visible flag is available at Screen, Tab and Section level.

Note the following when making a screen invisible.

- If a screen is made invisible, all its tabs and sections will also be made invisible. Any field set which is placed in the particular screen will also be made invisible.
- If the same screen is again made visible, tabs and sections still remain invisible. Developer has to manually change the tabs and sections to visible.
  Field sets also have to be made visible manually.
  This is done so that so that if the fields attached to invisible field sets was attached to some other field set, then the particular field set should not be made visible as it will result in more than one field set containing same field.

Note the following when making tab as invisible:

- If a tab is made invisible, all the sections under that tab will also be made invisible. Also any field set placed in the particular tab will also be made invisible.
- If the tab is again made visible, all the sections under that tab still remains invisible. Field sets also remain invisible. Developer has to manually make the section and field sets visible as per requirement.
- Tab can be made visible only if its screen is visible. Otherwise it throws error.

  Similarly when a section is made invisible, all the field sets placed in the section will also become invisible. But when it is again made visible, field sets till remain invisible. Section can be made visible only if the corresponding screen and tab is visible.

8.5 Renaming Of Screens

Screens can be deleted either by:

i) Selecting the rename option from the right click menu of the Screen or

ii) By clicking on the rename icon in top right of the particular Screen

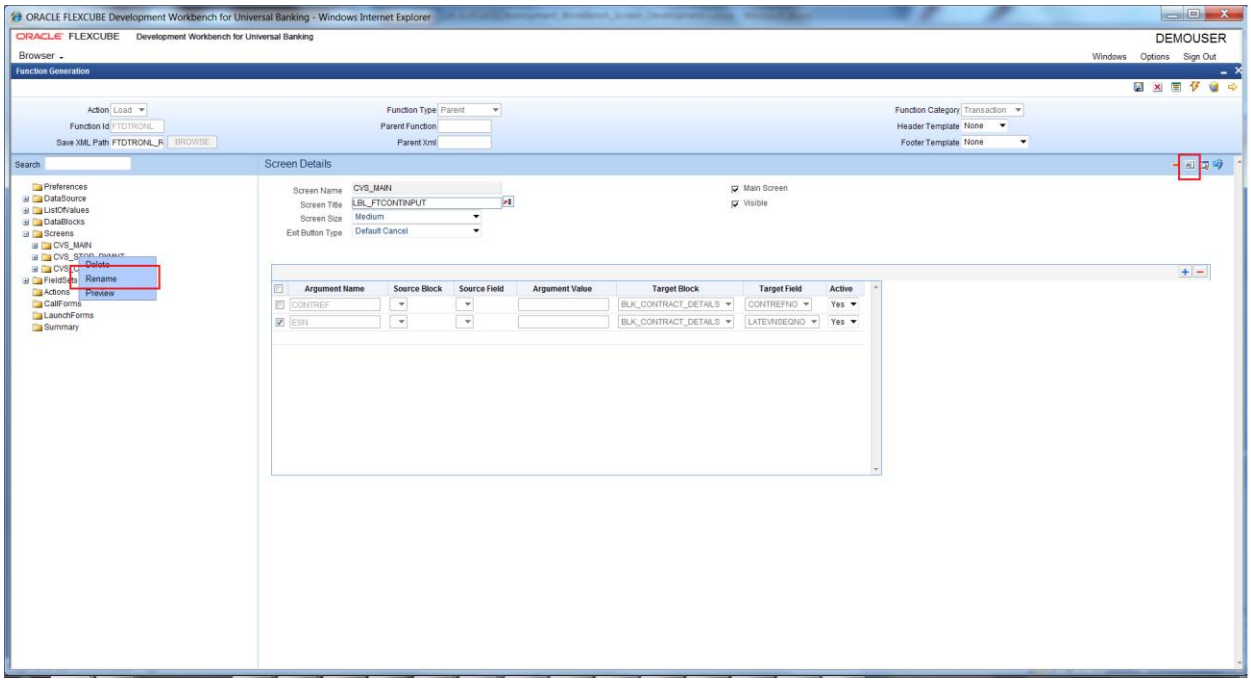


Fig 9.16 Renaming of Screen

Renaming of the screen will also be reflected in any reference to the particular screen in the Radxml.

Note that renaming of screens would be allowed only if they were created in the same release.

Tabs and sections can be renamed in a similar way.

9 Field Sets

Field set is a logical set of fields which would appear together in one partition of the screen layout. The blocks in a Field should be grouped as Field sets to make them appear on specific locations on the screen.

9.1 Creating a New Field Set

A new field set can be created either by:

i) Selecting Add Field Set option from the right click menu of the Field set Node or

ii) Clicking on the Add Field set icon in top right corner of the Field Set Screen

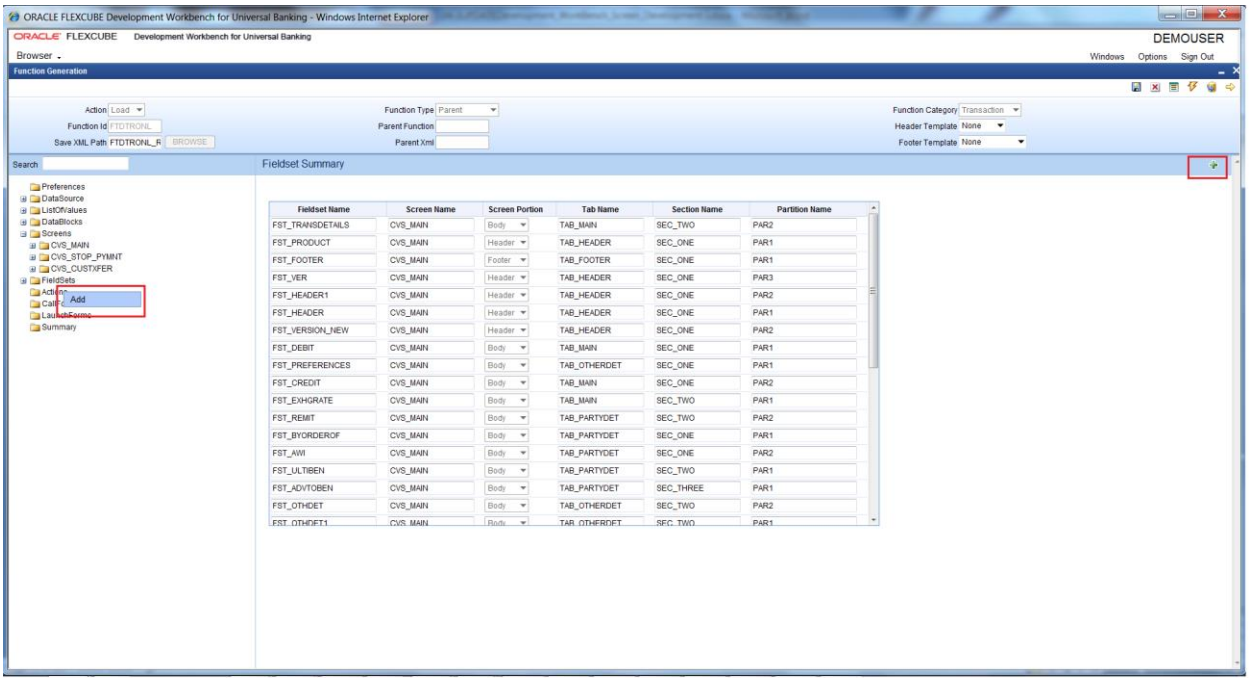


Fig 10.1 Adding a New Field Set

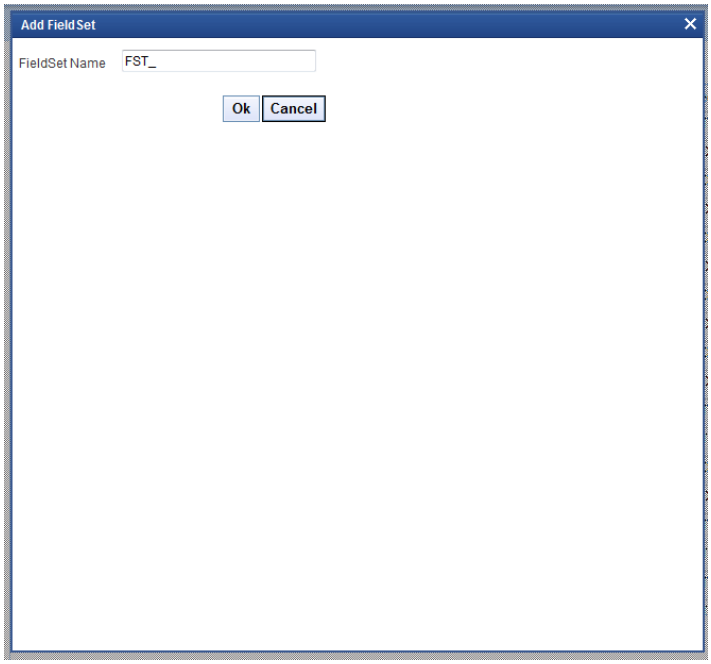


Fig 10.2 New Field Set window

Standard naming convention for field sets is FST_< Descriptive Code of the Field Set>.
Example: FST_VERSION

9.1.1 Field Set Properties

Provide the Field Set properties as required.

9.1.1.1 Field Set Name

This is a non editable field. Value is defaulted from the field set name provided during creation.

9.1.1.2 Field Set Label

All field sets can have a title to them, and same can be mentioned in this field as label code. Label code can be selected using the list of values attached to the field.
In the screen Field Set Title will appear as title for a field set.

9.1.1.3 Data Block

Data block has to be selected from select list. Select list provides the list of all data blocks in the radxml. Developer can attach fields of the data block selected to the field set.
Note that data block Name cannot be modified in a future release.

9.1.1.4 Multi Record

This is a non editable field. This will be defaulted based on the type of data block selected.
If data block is of type multi record, field will be set to yes; otherwise to No.

9.1.1.5 View Type

View type option will be enabled only if multi record is yes.
If multi record is No, View Type is defaulted to Single.
If multi record is yes, developer can choose the view type as either Single or Multiple View**.**
In **Multiple View** type, multi records are displayed in a table grid format.
In **Single View** type, only one record will be displayed at time. Navigation buttons will be provided for viewing the next record.

9.1.1.6 Field Set height

Developer can provide the height of the field set. This is optional field
FLEXCUBE will calculate the standard height of the field set depending on the number of fields and size of screen etc. Here ODT provides developer a provision to over ride the standard settings.

9.1.1.7 No Of rows

If **view type is multiple**, then number of rows in the multiple tables can be decided using 'No of rows' field. This is optional field, Tool will default to **15 rows**, if the field value is null.

9.1.1.8 Field Set Type

Three options are there

1) **Normal:** This option will be for the normal field sets.
2) **Image Set:** If a fieldset is Image fieldset then this option needs to be chosen.
3) **Version:** If a fieldset represents version control field set then the field set type should be version. If Field set Type is Version then the Selected Block must have below mentioned fields
   a)VERNO
   b)LASTVERNO
   Note: Option for Manual selection of fields will not be provided.

9.1.1.9 Screen Name

This field captures the name of the screen where the particular field set to be added. Select List provides the list of all Screens created in the Radxml.

9.1.1.10 Screen Portion

Select the Screen Portion where the field set has to be placed.

9.1.1.11 Tab Name

Select the tab name where the field set has to be placed. Select List will contain all the tabs defined in the screen mentioned above.

9.1.1.12 Section Name

Select the section in the tab provided earlier to which the field set has to be placed. Select List provides all the sections defined in the Tab mentioned above.

9.1.1.13 Partition Name

Select the partition in the section mentioned above where the field set will be placed.

9.1.1.14 Horizontal Field Set

A field set can be horizontal if this flag is selected.
A horizontal field set will have fields horizontally arranged, where as in normal field sets all the fields will be arranged vertically by default.

9.1.1.15 Read Only

This is applicable only field set is attached to multi record data block. The entire block can be made read only be selecting this checkbox.

9.1.1.16 Navigation Button

This is applicable only for if multi record is yes and selected view type is Single. If this check box is selected, tool will add previous and next buttons to the screen. This can be used for navigating multiple records in a single view type.

9.1.1.17 Visible

If a field set is no longer required, it can be made invisible.

Note that ODT does not allow developer to delete a field set if it is created in a previous release. Instead the same functionality can be achieved by making it invisible.

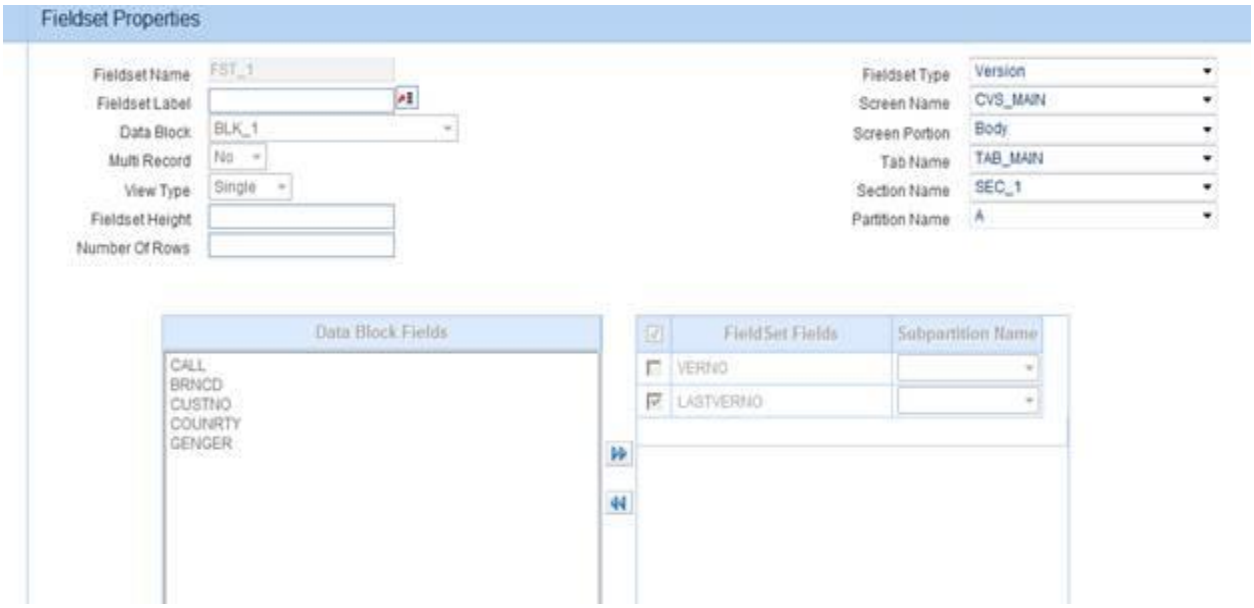


Fig 10.3 Field Set Properties

9.1.2 Attaching Field to a Field Set

Once the data block and the screen details (up to partition) in which field set has to be placed is identified, fields can be attached to the field set.

Data Block Fields

This List Select box provides all the block fields of the data block mentioned which is not yet attached to any *visible* field set. Any of the fields available in the data block fields can be moved to the field set fields by selecting and clicking on the *move arrows*. Similarly any attached field can be removed from the field set by moving it back to data block fields.

Field Set Fields

This contains the list of all fields which is attached to the field set. The order of the fields in this grid signifies **the order** in which it will be displayed in the screen. Fields can be re arranged as per requirement.

If the partition mentioned in the field set properties is divided into sub partitions, Then **the sub partition** in which the particular field has to come has to be selected from the sub partition list

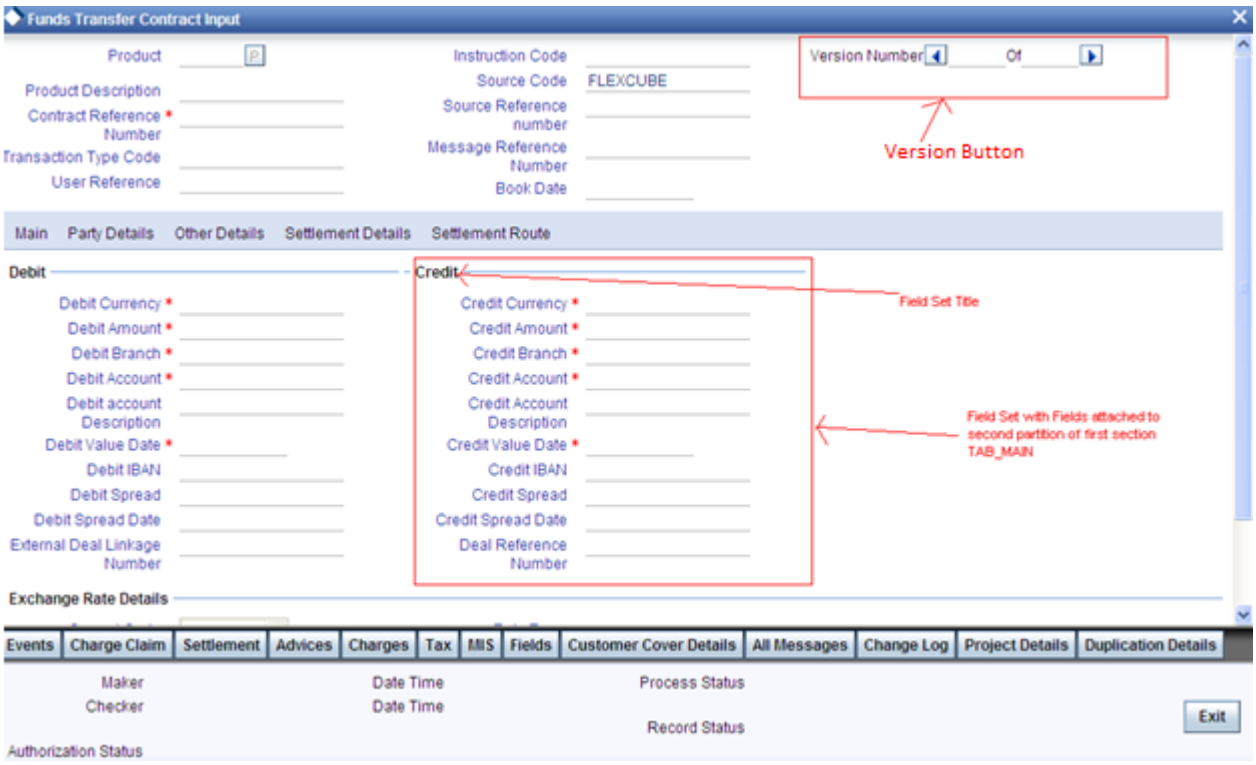


Fig 10.4 Preview of a Sample Screen illustrating different Fields Sets

9.2 Guidelines and Best Practices

Follow the below guidelines while designing Field Sets:

1. Ensure that proper Label Code is given as title and make sure that the same is available in CSTB_LABELS.
2. Select the Screen, Section and partition and the Block from which the field set as to be created.
3. Select the fields into field set from the left text area (data block fields) to right and give the appropriate Sub partition number wherever applicable.

4. In case the field set has to be horizontal, check the Horizontal Field set Check box.
5. For multi record field sets (either single view or multiple entry view), check the Read only Check box to avoid +/- buttons. Note that checking this check box would only stop the user from adding and deleting records. System would still allow modifying the fields of a row based on whether or not they are read only.

9.3 Deletion of Field Set

Field Set can be deleted either by

i) Selecting the delete option from right click of menu of the field set node or

ii) By clicking on delete field set icon in top right corner of the field set screen.

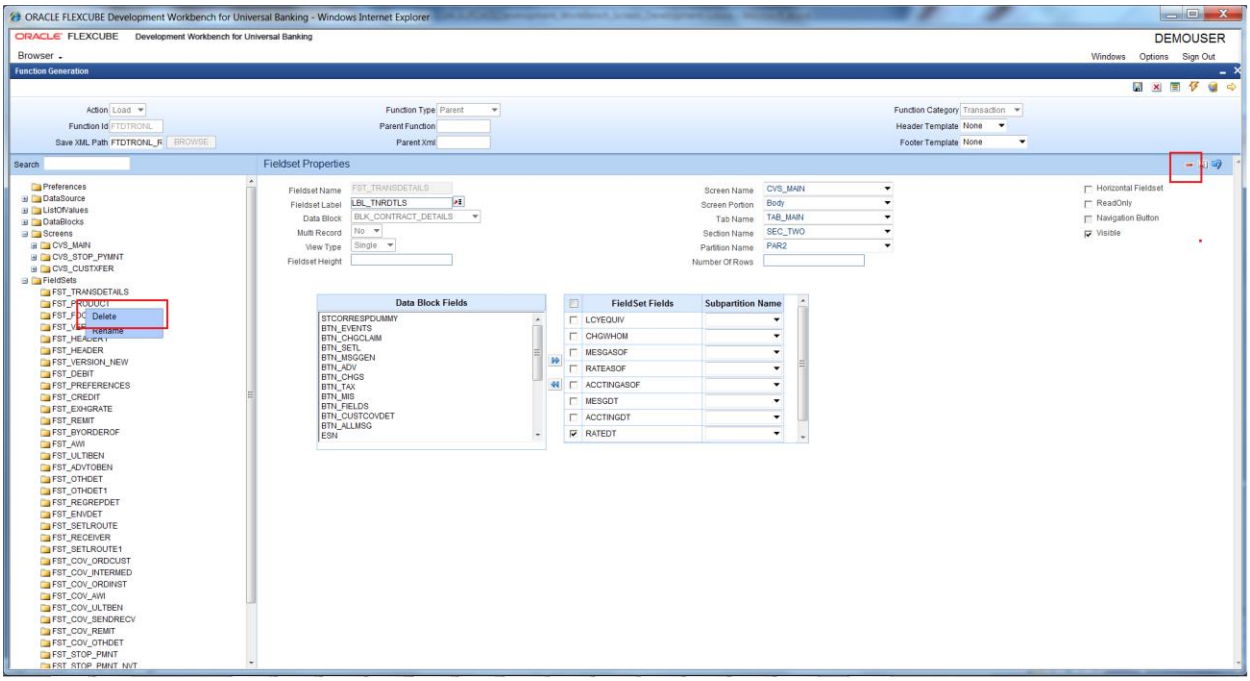


Fig 10.4 Deletion of Field set

Note that deletion of field set is allowed only if the field set is created in the same release.

9.3.1 Visible Flag

If the field set is no longer required in any future release, then the field set can be made invisible. This serves the same purpose as deleting the field set.

Note the following while making field set as invisible:

- When a field set is made invisible, all the field set properties will be disabled. Developer won't be able to add any new field to an invisible field set; but he will be allowed remove field from the field set fields.
- If he makes the field set visible again, System validates whether the Screen, Tab and section in which the field set is placed is visible. If any of them is not, the system throws error.
- When the field set is made visible, system checks whether any of the fields attached to this field set has been re used in any other field set . If any fields are found to be attached to any other visible field set, it won't allow making the field set visible.

9.4 Renaming of Field Set

Field Set can be renamed by either:

i) Selecting the rename option from the right click menu of the particular Field Set or

ii) Clicking on the Rename Field Set Icon in Top right corner of the Field Set Screen

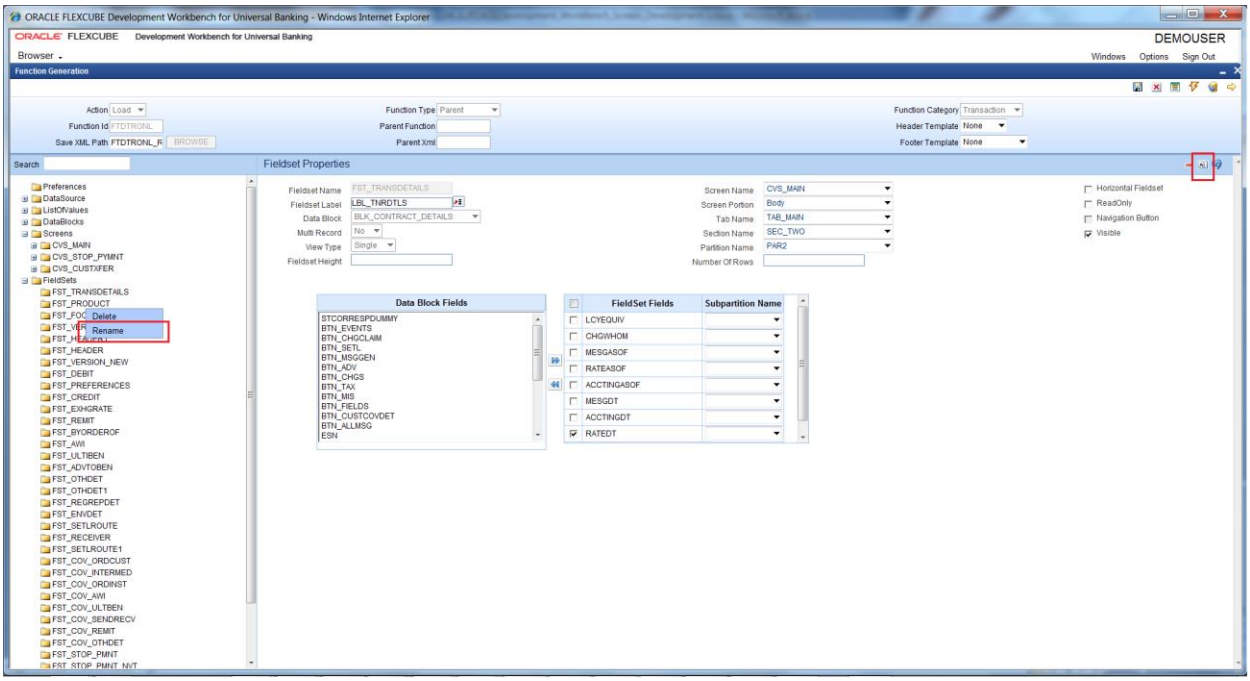


Fig 10.5 Renaming of Field Set

Note that renaming of field set is allowed only if the field set is created in the current release.

10 LOVs

FLEXCUBE supports two type of List of Values (LOVs):

i) Global LOVs

These are LOVS defined in the system which can be used across all the functions**.** Global LOVs are stored in **CSTB_LOV_INFO** with function id as **COMMON.**

ii) Local LOVs

These are defined particular to the function Id. They are defined in the function Id and can be attached to any field in the function Id as per requirement.

10.1 Defining LOVs

Developer can define a new LOV either by:

i) Selecting Add LOV option from the right click menu of the LOV node or

ii) By clicking on the Add LOV icon in top right portion of the LOV grid screen.

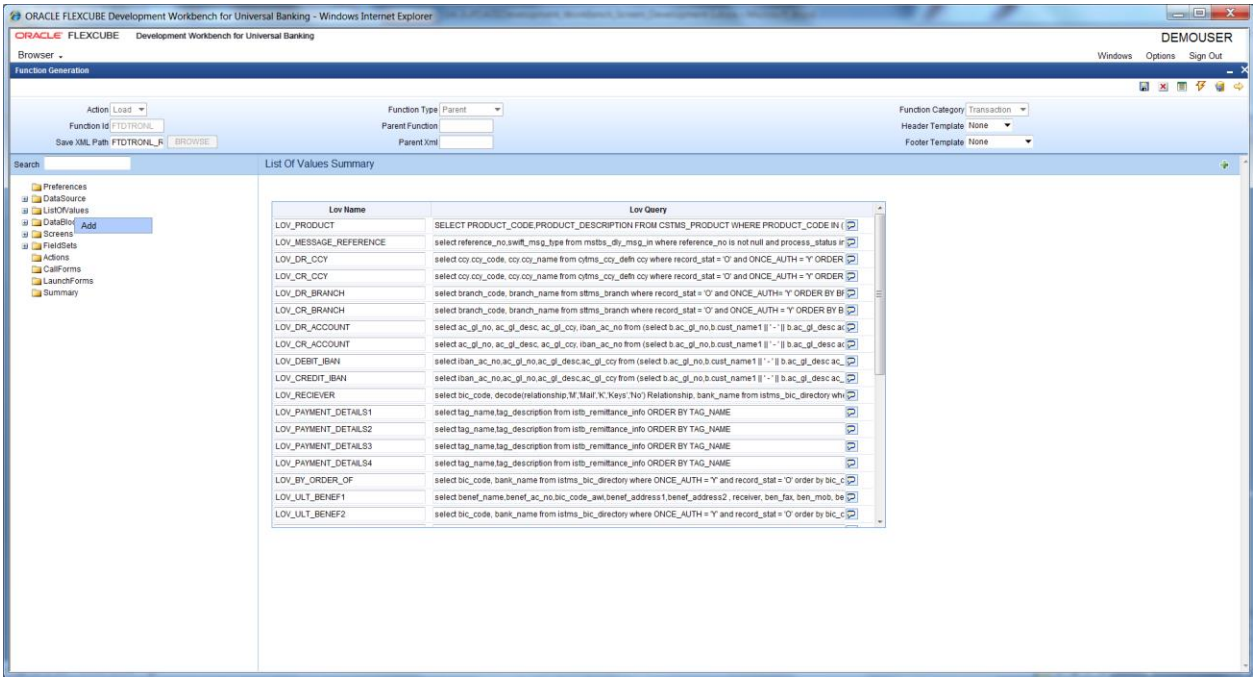


Fig 11.1 Adding a new LOV

Provide the LOV name in the Add LOV screen.
LOV name should start with LOV_ .*example: LOV_COUNTRY*

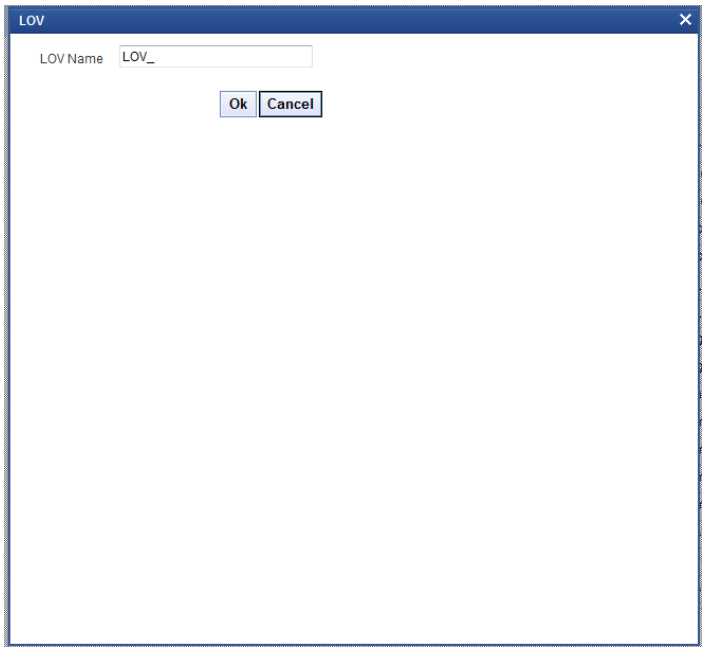


Fig 11.2 Add LOV window

10.1.1 LOV Name

This is non editable field. It will be defaulted based on the LOV name provided while creating LOV.

10.1.2 LOV Query

LOV query has to be provided in this field. **Bind variables** for the LOV have to specified as '**? '.**

Bind variables are the parameters whose values are required as input for executing the query during run time

Example: SELECT CUSTOMER_TYPE FROM STTM_CUSTOMER WHERE CUSTOMER_NO=?
Here value for Customer No is to be passed as parameter.

10.1.3 LOV Column Details

Click on **Populate** button. This will default all the columns which will come in the output of the LOV query.

Example: for the above query, it will populate only one row with Query Cols value as CUSTOMER_TYPE

11.1.3.1 Query Cols

This is a non editable field. This will be populated by the system on clicking of Populate button. All the columns from the query result will be populated as query cols.

11.1.3.2 Data Type

This row will also be defaulted based on the LOV query. Data type of the query cols has to be provided here.

11.1.3.3 Visible

Result Column of the LOV can be made invisible by specifying in this column.

11.1.3.4 Reduction Fld

A field can be made as reduction of non reduction by using this flag.

If the field is a **reduction field**, then in the LOV screen in FLEXCUBE, user will have to filter the list of values based on the reduction fields.

11.1.3.5 Reduction Fld Type

Display type of the reduction field can be specified here .Display type of the reduction field can be either of the below given values:

- TEXT
- CHECK BOX
- RADIO
- SELECT

11.1.3.6 Redn/Col Label

The reduction fields should be provided with proper labels so that it description comes in the LOV screen.

Label Codes has to be mandatorily maintained for the functioning of LOV screen.

Figure below explains the meaning of reduction labels:

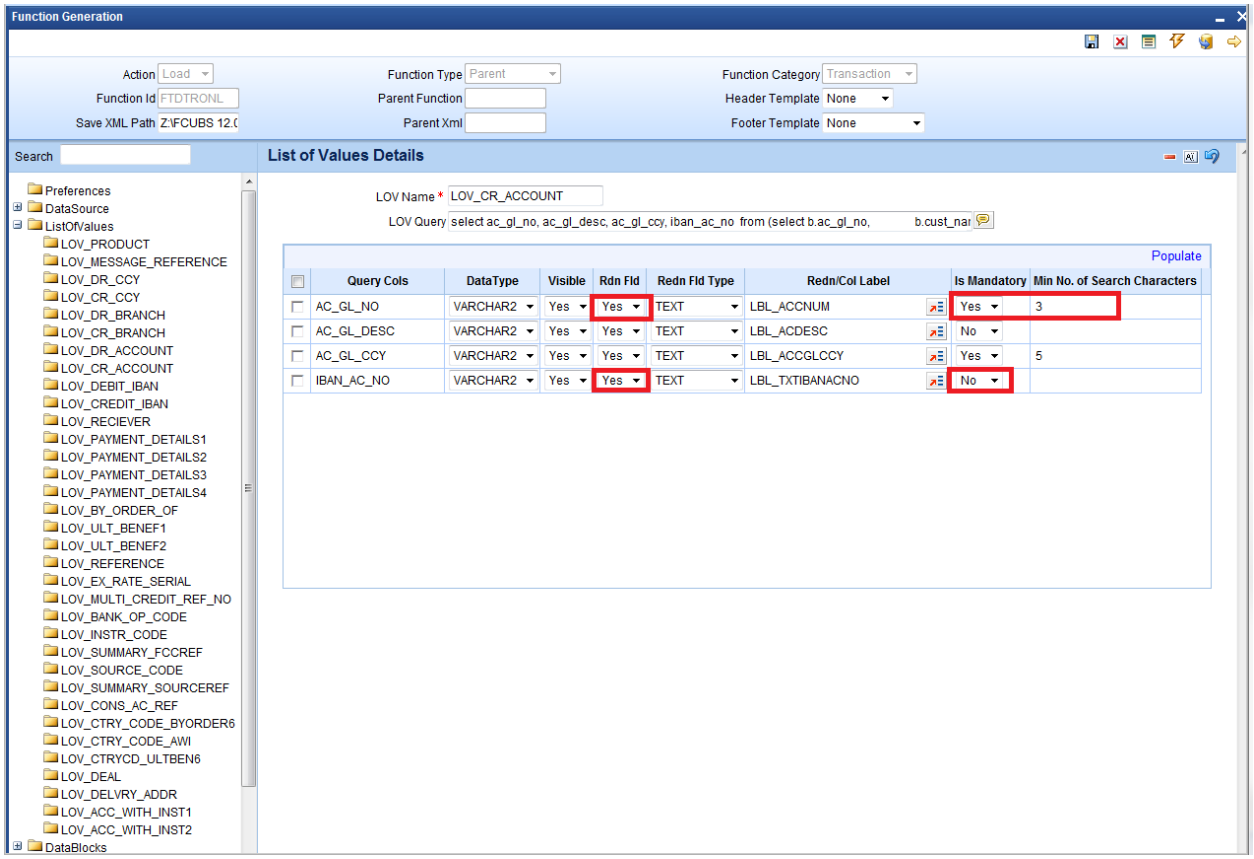
11.1.3.7 Is Mandatory

If the reduction field id selected as 'YES', ODT will allow to select 'Is mandatory' option for a particular column . If ' Is mandatory ' is selected as yes, ODT will ask for minimum search character length. By default the value is 3. If field is mandatory and minimum search character length is given as n , then while searching, user has to enter minimum of n characters in order to search a particular value otherwise the system will show error message.

11.1.3.8 Minimum Search Character length

If Is mandatory is selected as 'YES' , then only ODT will allow to enter values for Min search character length. By default the value is 3. Any value less than 3 will not be accepted. ODT will show alert message in case of any rule violation. Once the value for Minimum search character length field is provided, user has to enter minimum character length to fetch a value corresponding to that return field.

Figure below explains the Is mandatory and min search char len:


Function Generation
Action Load
Function Id FTDTRONL
Save XML Path Z:\FCUBS 12.0
Function Type Parent
Parent Function
Parent Xml
Function Category Transaction
Header Template None
Footer Template None
Search
Preferences
DataSource
ListOfValues
LOV_PRODUCT
LOV_MESSAGE_REFERENCE
LOV_DR_CCY
LOV_CR_CCY
LOV_DR_BRANCH
LOV_CR_BRANCH
LOV_DR_ACCOUNT
LOV_CR_ACCOUNT
LOV_DEBIT_IBAN
LOV_CREDIT_IBAN
LOV_RECIEVER
LOV_PAYMENT_DETAILS1
LOV_PAYMENT_DETAILS2
LOV_PAYMENT_DETAILS3
LOV_PAYMENT_DETAILS4
LOV_BY_ORDER_OF
LOV_ULT_BENEF1
LOV_ULT_BENEF2
LOV_REFERENCE
LOV_EX_RATE_SERIAL
LOV_MULTI_CREDIT_REF_NO
LOV_BANK_OP_CODE
LOV_INSTR_CODE
LOV_SUMMARY_FCCREF
LOV_SOURCE_CODE
LOV_SUMMARY_SOURCEREF
LOV_CONS_AC_REF
LOV_CTRY_CODE_BYORDER6
LOV_CTRY_CODE_AWI
LOV_CTRYCD_ULTBEN6
LOV_DEAL
LOV_DELVRY_ADDR
LOV_ACC_WITH_INST1
LOV_ACC_WITH_INST2
DataBlocks
List of Values Details
LOV Name * LOV_CR_ACCOUNT
LOV Query select ac_gl_no, ac_gl_desc, ac_gl_ccy, iban_ac_no from (select b.ac_gl_no, b.cust_nar
Populate
Query Cols
DataType
Visible
Rdn Fld
Redn Fld Type
Redn/Col Label
Is Mandatory
Min No. of Search Characters
AC_GL_NO VARCHAR2 Yes Yes TEXT LBL_ACCNUM Yes 3
AC_GL_DESC VARCHAR2 Yes Yes TEXT LBL_ACDESC No
AC_GL_CCY VARCHAR2 Yes Yes TEXT LBL_ACCGLCCY Yes 5
IBAN_AC_NO VARCHAR2 Yes Yes TEXT LBL_TXTIBANACNO No

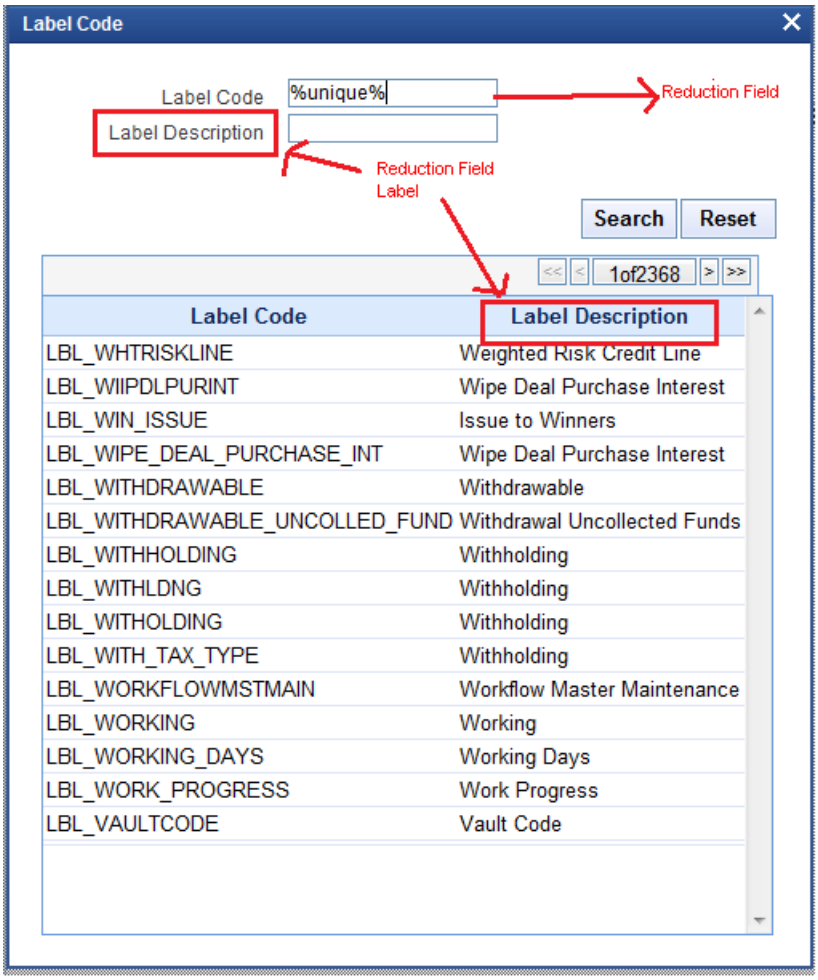


Fig 11.3 Sample LOV Screen illustrating Reduction Fields

10.2 Attaching LOV to Block Field

LOVs have to be attached to the block field as per requirement.

In the block field, select the **display type** as LOV.

10.2.1 LOV name:

Select List will contain both Local and Global LOVs. Developer has to select the LOV as required for the field.

10.2.2 Input By LOV Only:

This field has to be checked if the field has to input through LOV only

10.2.3 LOV Validation Reqd:

If validation for the entered value is required against the values fetched from LOV query, this checkbox can be checked.

10.2.4 Bind Variables:

Bind variables defined in the LOV query has to be mapped to corresponding data block field.

During LOV query execution, the value of these data blocks will be picked up in place of bind variables (?).

Click on button **Default from LOV Definition.** Number of rows corresponding to the number of bind variables in the query will be created.

Below details has to be maintained in bind variable tab:

Block Name:

The block which contains the bind variable block field has to be selected from the list of all data blocks.

Bind Variable:

The block field which is the bind variable has to be selected from list of fields of the block selected.

Data Type:

The data type of the bind variable has to be mentioned here.

This can be STRING, DATE, NUMBER etc.

If more than one bind variable is present in the LOV query, bind variables has to be provided in the same order as it appears in the LOV query.

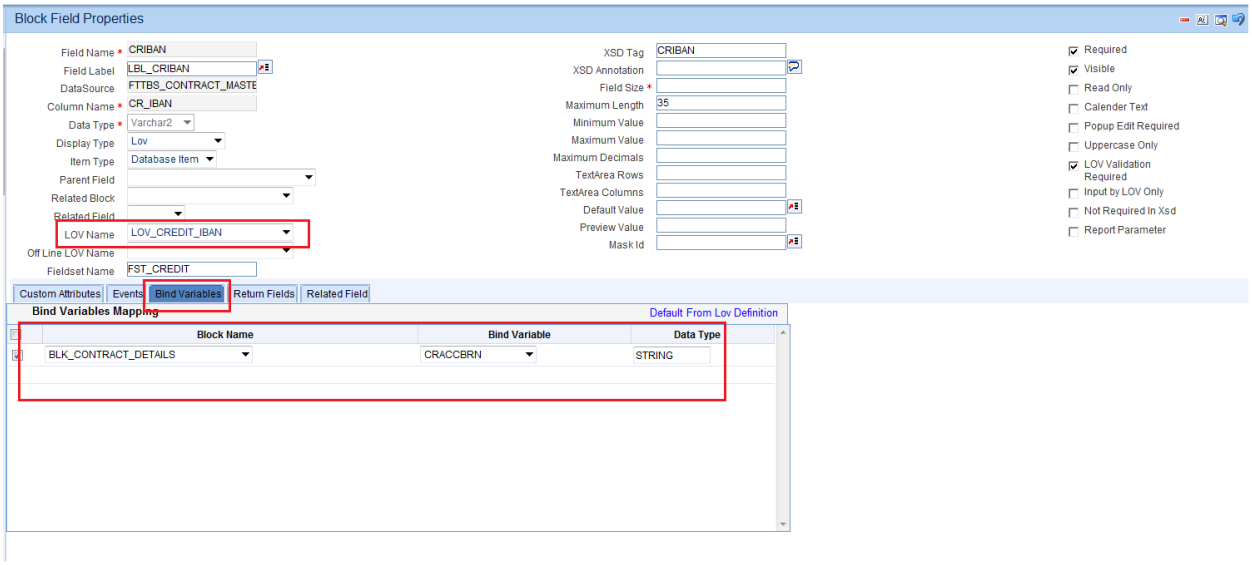


Fig 11.4 Attaching LOV to a Block Field: Specifying bind variables

10.2.5 Return Fields

Information regarding the return fields has to be provided in the Return Fields Tab. Developer has to map the block fields to which the selected values from LOV should be assigned.

Click on button **Default from LOV Definition**. All Query Cols will be defaulted based on the LOV definition**.**

Query Column:

This will be defaulted by the system based on the LOV definition on clicking default button.

Block Name:

Provide the Block Name which contains the field to which the particular coulmn value has to assigned**.**

Return Fld Name:

Select the data block field to which the result will be assigned.

All the query Cols need not have a return field.

In the figure below AC_GL_NO is mapped to CRACC field. Therefore the value of result column AC_GL_NO from the selected record will be defaulted to CRACC field.

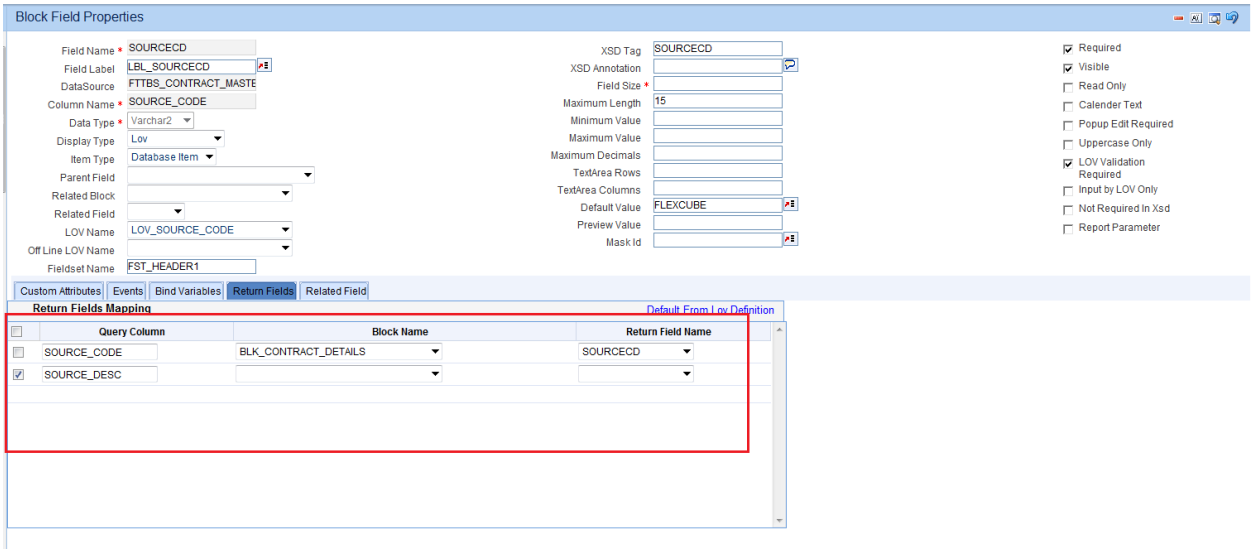


Fig 11.4 Attaching LOV to a Block Field: Specifying Return Fields

LOV Details will be generated in the script for CSTB_LOV_INFO which needs to compiled in the FLEXCUBE schema for functioning of LOVs.

10.3 Guidelines and Best Practices

Note the following points while defining LOVs:

- Avoid using in line views.
- Avoid order by clause, as the same can be chosen by the user at run time.
- Select proper Label Codes and ensure that the same are available in CSTB_LABELS.

10.4 Deletion and Renaming of LOVs

Deletion and Renaming of LOVs can be done provide they are created in the same release. Procedure for deletion/renaming is similar to those of data blocks explained in previous sections.

11 Call Forms

Call forms are function Id's that do processing which is common across many screens. Call forms cannot be launched independently. They need to be launched from another function Id. Third letter of the function id will be C for a call form.
Most of the sub systems of contract screens are designed as call forms. *Example: Settlement Screen, tax details etc.*

11.1 Attaching Call Forms

Call forms to be attached to a function Id has to be maintained in the Call form node. Developer can add Call form by clicking on the 'add (+)' button.

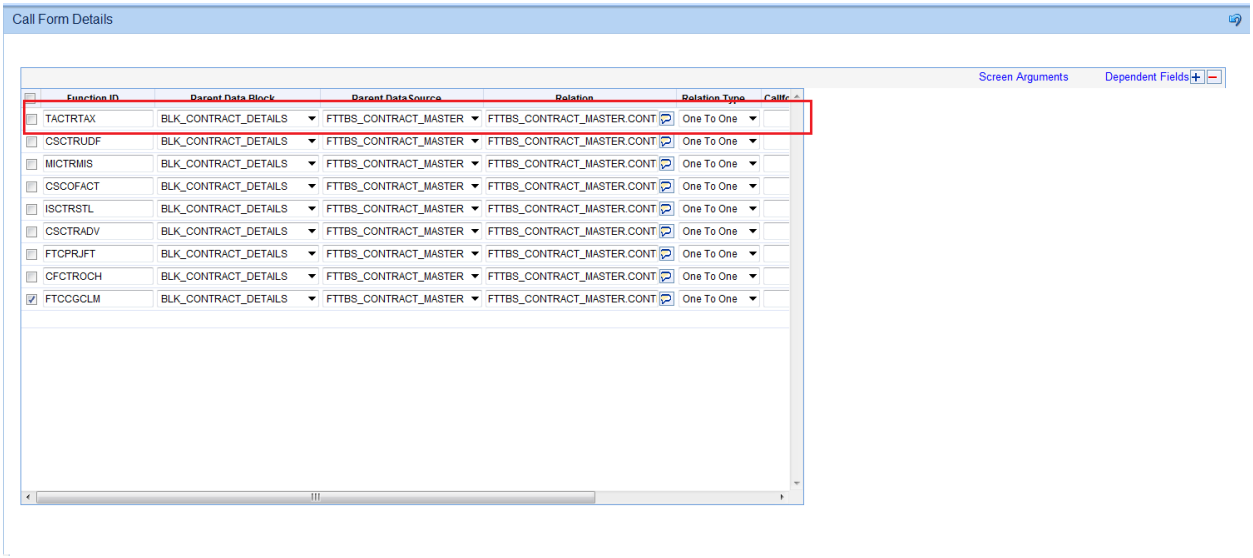


Fig 12.1 Attaching Call Forms to the Function Id

11.1.1 Function Id

Provide the call form name which has to be attached to the main screen here.

11.1.2 Parent Data Block

Parent data source has to be mentioned for the call form master data source. In most cases this would be the master data source of the main function itself.

11.1.3 Relation Type

Relation type between the parent data source and call from master data source has to be provided here.

Note that relation type **has to be One to One** as Multi Record Master Blocks are not supported for call forms.

11.1.4 Call form Screen

The screen name of the call form that has to be launched has to be mentioned here. In most cases ,this will be the main screen of the call form**.**

11.1.5 Display Type

Call form type has to be specified as either button or the tab name. In case of button, a **button** needs to be created and the Call form's name has to be mentioned in Call form field for the button events.

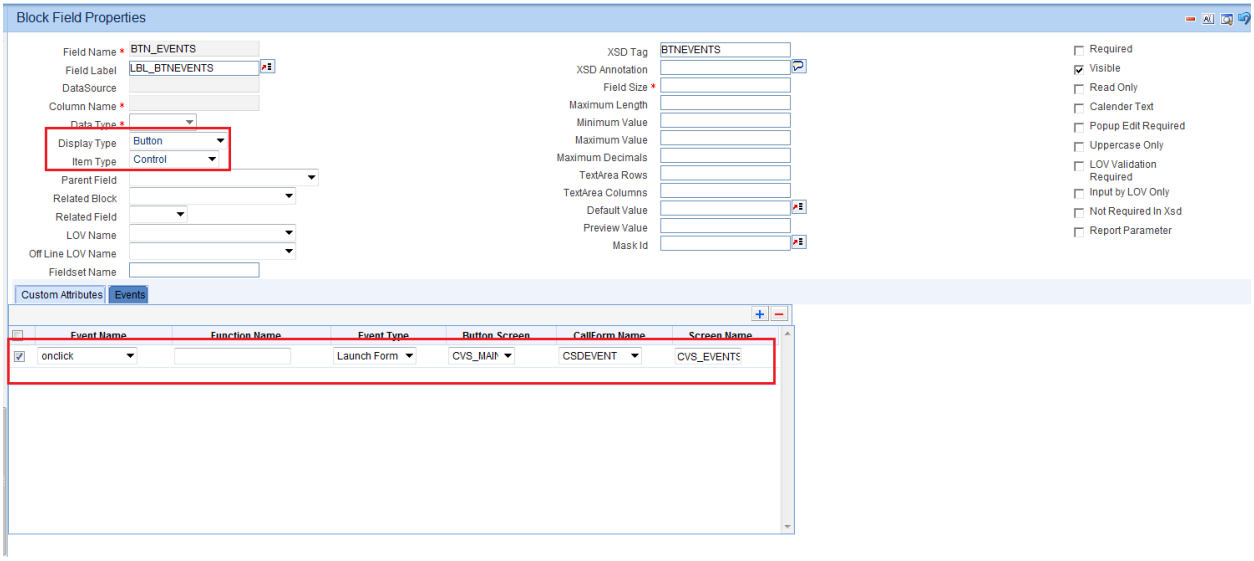


Fig 12.2 Maintaining button events for launching Call form screens

Tab type of call form is currently for Branch screens only and in which case no button is required and Oracle FLEXCUBE infra would handle the same and embeds the call form under the mentioned tab.

11.1.6 Active

Call forms from previous releases cannot be deleted. So, if they are not required, the Active can be turned off.

11.1.7 Screen Arguments

Whenever a Sub-Screen or Call form is launched from a main screen, there would be a necessity to send a value from calling function to the call form. This can be provided in the screen arguments window.

Select the call form and click on Screen argument window .It will launch the screen argument window as shown below:

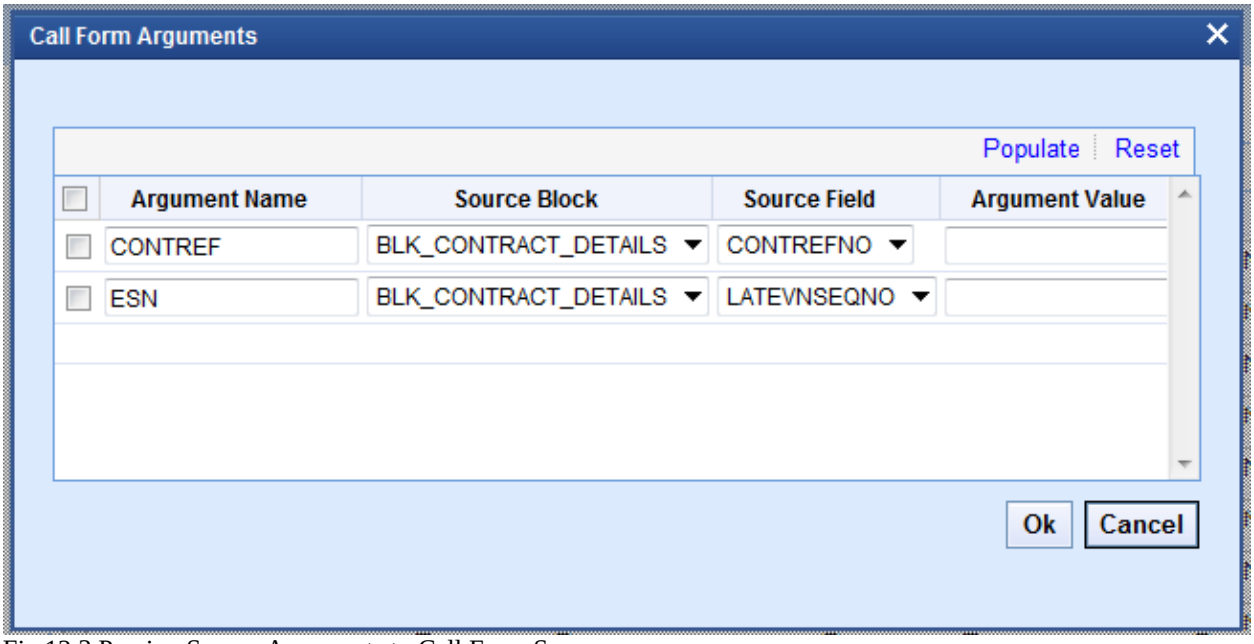


Fig 12.3 Passing Screen Arguments to Call Form Screen

The window allows user to enter Screen Argument Name, and select Source block and field from which the value has to be taken. The user also has an option to directly give the value for the Screen Argument in the Argument value field.

Click on the **Populate** button. This will default the screen arguments for the call form as maintained in CSTB_CALL_FORM_NODES table for the particular call form.

Reset button takes the screen to the initial state. All the entries made will be deleted.

Argument Name:

This will be defaulted based on the screen arguments specified for call form main screen maintained in CSTB_CALL_FORM_NODES.

Source Block & Source Field:

Provide the block Name and source field of the function id whose value will be passed to the screen argument mentioned.

Arg Value:

If the screen argument value is to be hard coded, then value can be mentioned in this field. In this scenario, source block and source field need not be mentioned.

11.1.8 Dependent Fields

Subsystems may depend on the value provided in fields in main function id or in another subsystem.

Example:

For funds transfer contract input screen, account details are provided in the main function id. On clicking of the settlement subsystem, settlements will be defaulted based on the accounts mentioned in the main screen. So settlement subsystem is dependent on the account fields.

It may also depend on the taxes applicable which are provided in another subsystem for the same .i.e. Tax subsystem.

Hence if dependent fields are changed, subsystem needs to be defaulted based on the latest values yet again before saving.

This can be achieved by maintaining the dependent fields and subsystems for a particular subsystem in **Dependent On** screen. FLEXCUBE Infra will handle the subsystem to be picked up accordingly.

As shown in the below figure, dependent fields in the main function id has to be mentioned in Fields table. Block Name and Filed Name has to be mentioned to identify the exact field.

Any other subsystems (call forms) on which it is dependent can be mentioned in Services table.

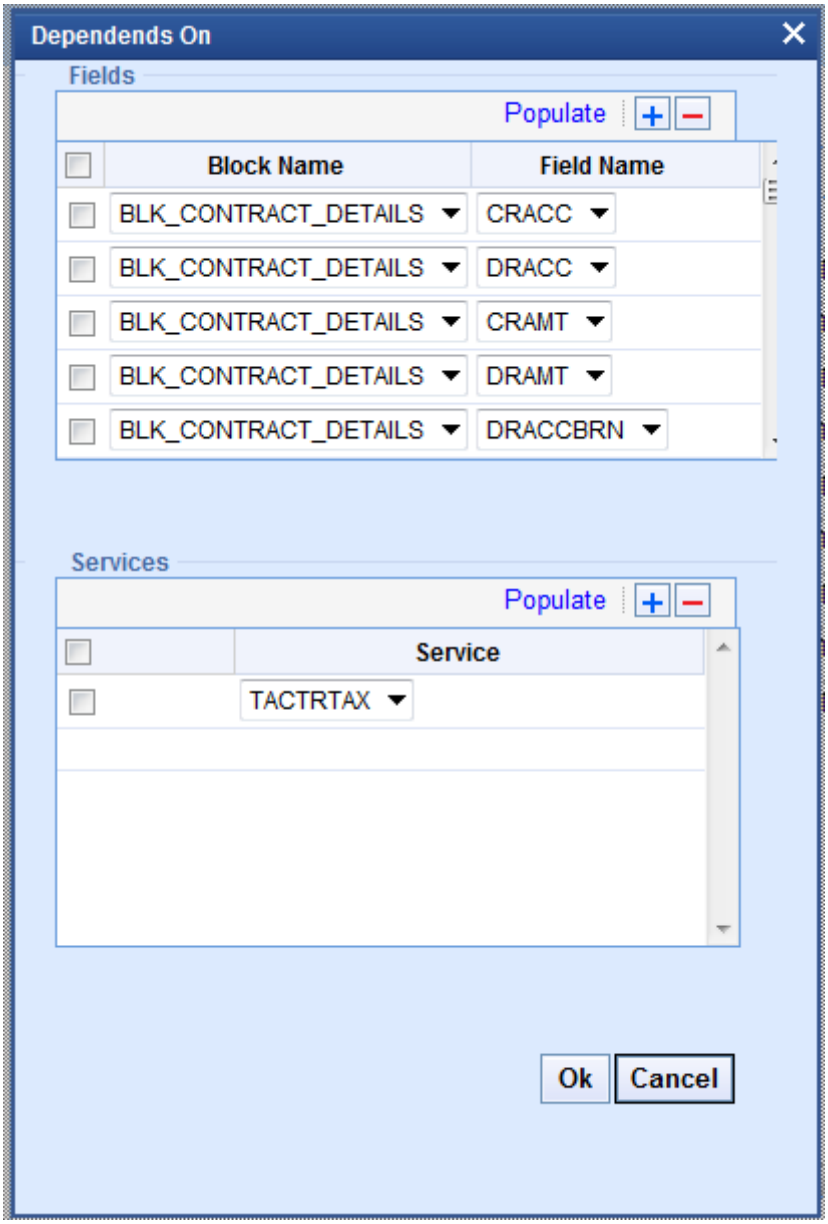


Fig 12.4 Maintaining Dependent Fields Information for a Call Form

11.2 Guidelines and Best Practices

Note the following points while attaching call form to a screen.

- A maintenance Call form should be attached only to a maintenance function. Similarly, only transaction call forms can be attached to a transaction screen.
- Static Scripts for CSTB_CALL_FORM_NODES and SMTB_MENU generated by the Call Form Radxml has to be compiled in the FLEXCUBE schema before attaching that call form to any screen. Call form details are populated based on the maintenance in these tables.

Therefore ensure that data is present in CSTB_CALL_FOR_NODES and SMTB_MENU for all the attached call forms.

12 Launch Forms

Launch Forms are function ids which can be launched from another screen for data view purpose. No processing can be done on Launch Form screen data as done in Call form. Launch Form is like any other normal function id and it can be launched independently.
Example: Screen for viewing accounting entries for a transaction

12.1 Attaching Launch Forms

Launch Forms to be attached to a function Id has to be maintained in the Launch Form node. Developer can add Launch form by clicking on the 'add (+)' button.

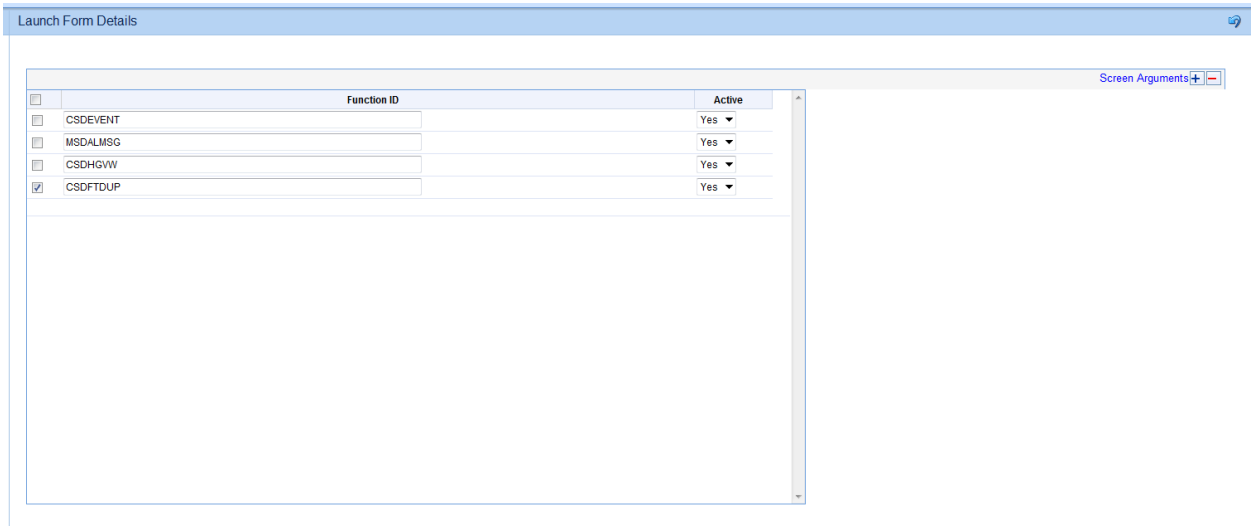


Fig 13.1 Attaching Launch forms to a Function Id

12.1.1 Function Id

Name of the Launch Form function id to be attached has to be specified here.

12.1.2 Active

Launch Forms attached in one release cannot be removed in a future release. Instead, active flag can be set as NO to achieve the same.

12.1.3 Screen Arguments

Launch Form is used for query purpose only. Thus primary key and the action code have to be passed on to the Launch form screen on launching Launch Form.
Select the launch Form and click on **Screen Arguments** button. Following screen will be launched.

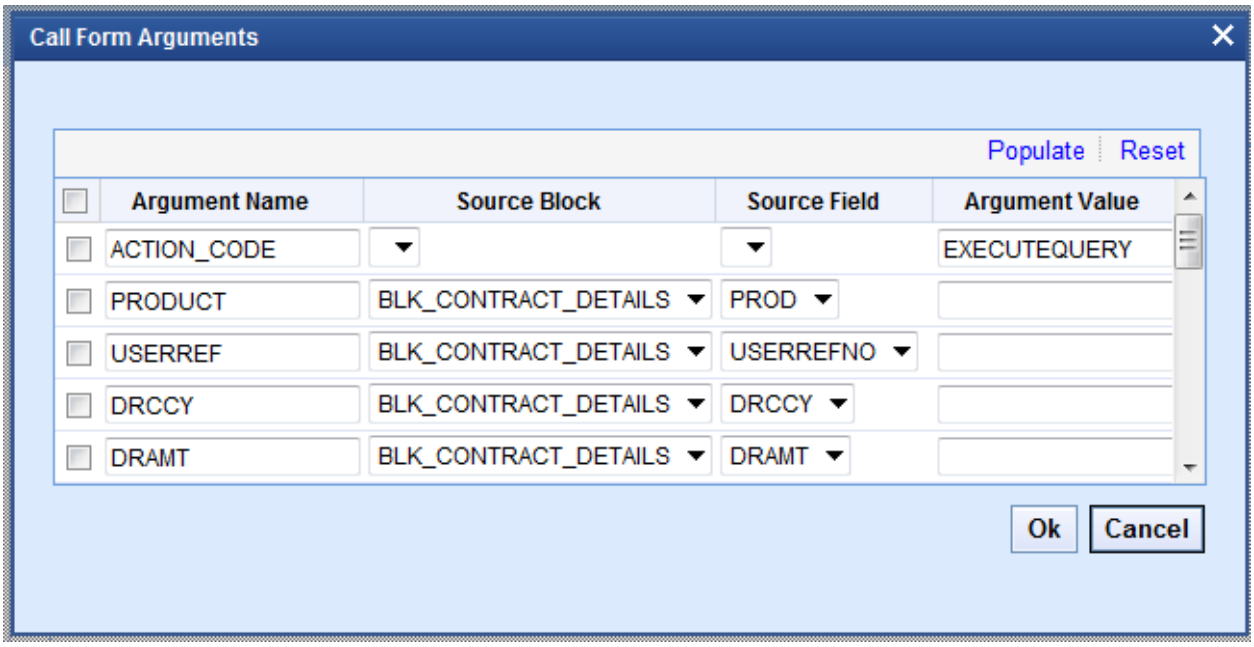


Fig 13.2 Passing Screen Arguments to Launch Form

Click **Populate** button to default the screen arguments. Note that the Screen arguments for the Launch Form have to be maintained in CSTB_CALL_FORM_NODES table.

Argument Name:
This will be defaulted based on the screen arguments specified for Launch Form main screen maintained in CSTB_CALL_FORM_NODES.
Source Block & Source Field:
Provide the block Name and source field of the function id whose value will be passed to the screen argument mentioned.
Arg Value:
If the screen argument value is to be hard coded, then value can be mentioned in this field. In this scenario, source block and source field need not be mentioned.

12.1.4 Attaching Launch form to Main Screen Using Button

Launch forms can be launched by clicking on button placed in the main screen.

Button events have to be maintained such that Launch Form will be launched on clicking it. Refer the below figure for reference:

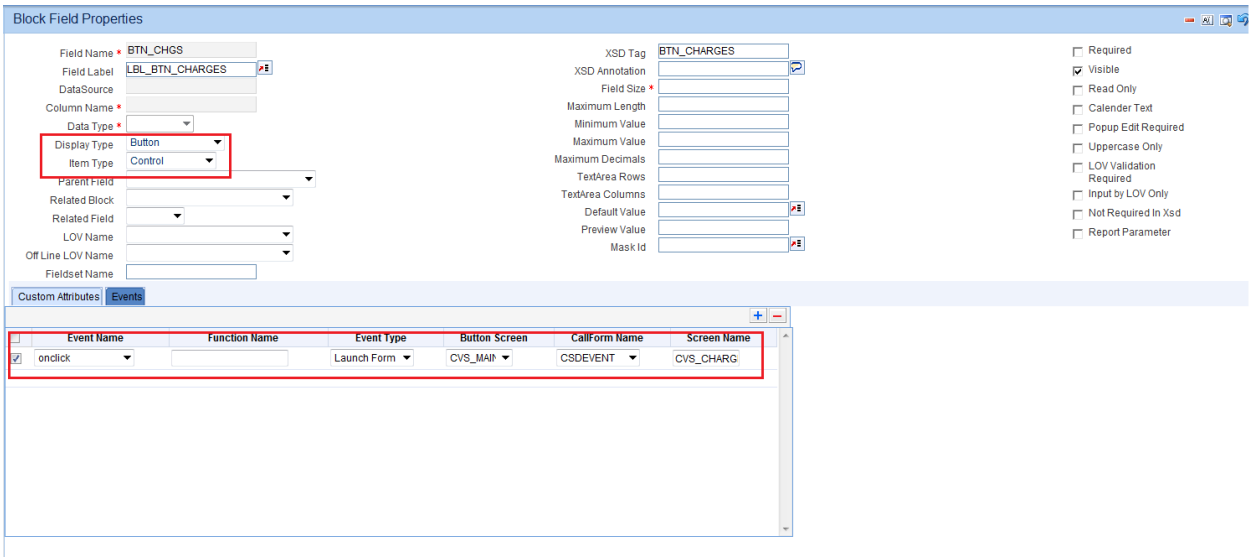


Fig 13.3 Maintaining Button Event for launching Launch Form screen

12.2 Guidelines and Best Practices

Note the following points while attaching Launch Forms:

- Entry has to be made manually in CSTB_CALL_FORM_NODES for the launch form. Script won't be generated by the Tool while designing the Launch Form. Hence it has to be inserted manually providing the screen arguments as maintained for Launch Form main screen.
- Launch Forms are used only for querying data. Hence ACTION_CODE has to be passed as a screen argument with arg value as EXECUTEQUERY and the Primary Key values for querying in launch Form screen should be passed as the other parameters.

13 Actions

Web Service related information and FLEXCUBE amendable fields details are captured in the actions screen.

13.1 Web Service Information

13.1.1 XSD Type identifier

A unique descriptive code should be given in this field, which would describe the nature of the Function. *For example 'LCProd' For LC Product Definition Form Screen Layout Design*

13.1.2 Service name

Appropriate Web service name should be selected here. LOV will fetch the service names maintained in *gwtm_operation_master*

13.1.3 Operation Id

This is the key using which the Web service operation code would be derived. *For example of Operation Id is 'Product' Operation Code for 'QUERY' would be 'QueryProduct'.*

Note that this should be given in Sentence case and should be unique within the service. Ensure that correct operation id is given i.e. in case of LC Product Operation id can be 'Product'. It need not be 'LCProduct'. In case of multiple products/contracts there under the same service, for example in Exchange traded derivates module, Operation Id for Deal product can 'DealProd' and for Margin product 'MarginProd' etc.

13.1.4 Action Code

Pre-defined actions will be available for the action code. These are the operations which are available in the FLEXCUBE.

For maintenance, type of function system enables the below action codes only:

- QUERY
- NEW
- MODIFY
- AUTHORIZE
- DELETE
- CLOSE
- REOPEN
- SUMMARYQUERY

For transaction Screens all the action would be enabled.

13.1.5 Operation Code

If the web service is selected, the operation code will be defaulted and operation code will be the combination of action code and Operation Id and same operation code will be used to perform operations for web service.

If developer wants custom specific Operation Code names, he can provide so. For this double click on particular action code, operation code field for that action code will be enabled. Developer can modify the operation code now

13.1.6 Action Stage Type

For multistage actions, it should be checked. ***If any field has to made amendable during the particular operation, action stage type has to be checked for the particular action***

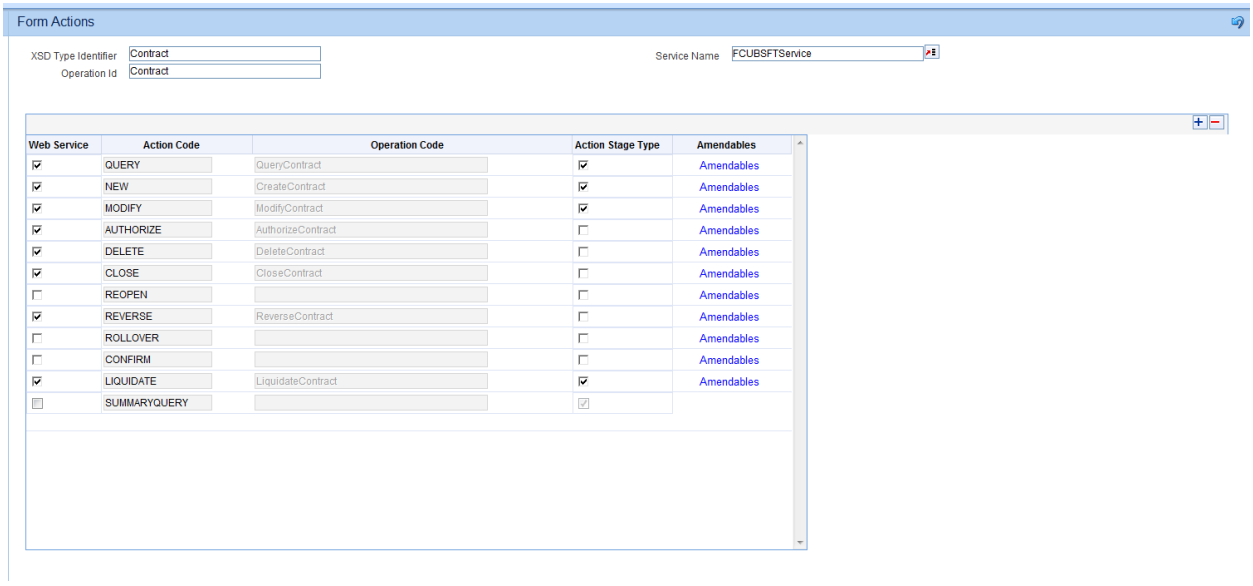


Fig 14.1 Maintaining Web Services Information for a Function Id

13.2 Amendable Field Information

Button amendable against each action would capture the amendable information for each action. It is mandatory to give the amendable information for applicable actions for web services to function normally.

Amendable information is not just for 'Modification' and for all the applicable actions. For example in a transaction screen, for QUERY action amendable information could be Oracle FLEXCUBE Reference number, User Reference Number and External reference Number. It is not necessary to just have the Primary key in the XSD as external systems might query contracts based on any of these reference numbers.

At a block level user has to specify All Records, Delete allowed, New allowed and Mandatory. This information is used by the Tool to generate scripts and code accordingly.

13.2.1 All Records

If All records is checked, System expects the full data every time; i.e. in case of a multi record block if there are 10 records and 1 record has to be modified, external systems still should sent the remaining 9 records with the old data.

13.2.2 New Allowed

This indicates whether a new record can be added or not, in this block as part of this action.

13.2.3 Delete Allowed

This indicates whether a record can be deleted or not, in this block as part of this action.

13.2.4 Mandatory

This flag indicates whether the node is mandatory to be sent from external systems. This flag would be used to set the Min Occurs Flag in XSDs for that operation.

Generated code also would perform validations based on the above preferences.

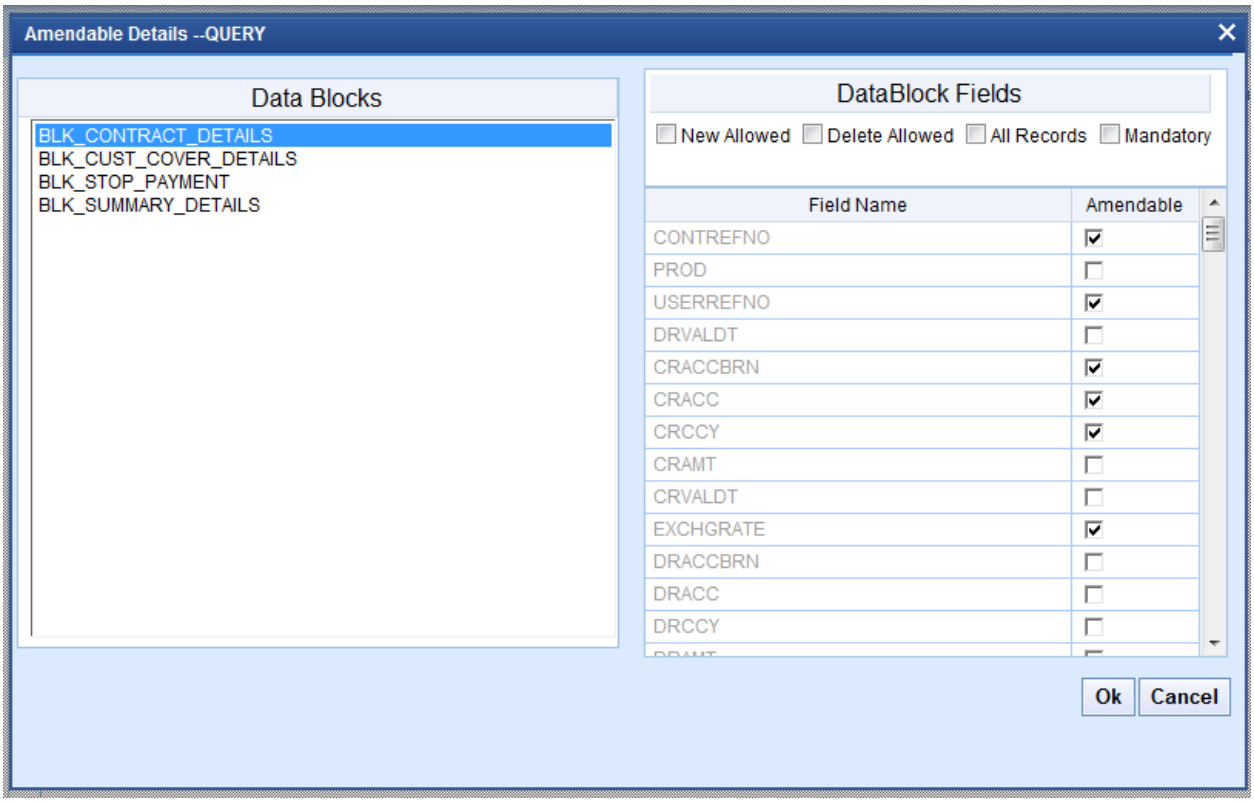


Fig 14.2 Maintaining Amendable Fields Information

14 Summary

Summary screen can be designed using ODT if applicable.

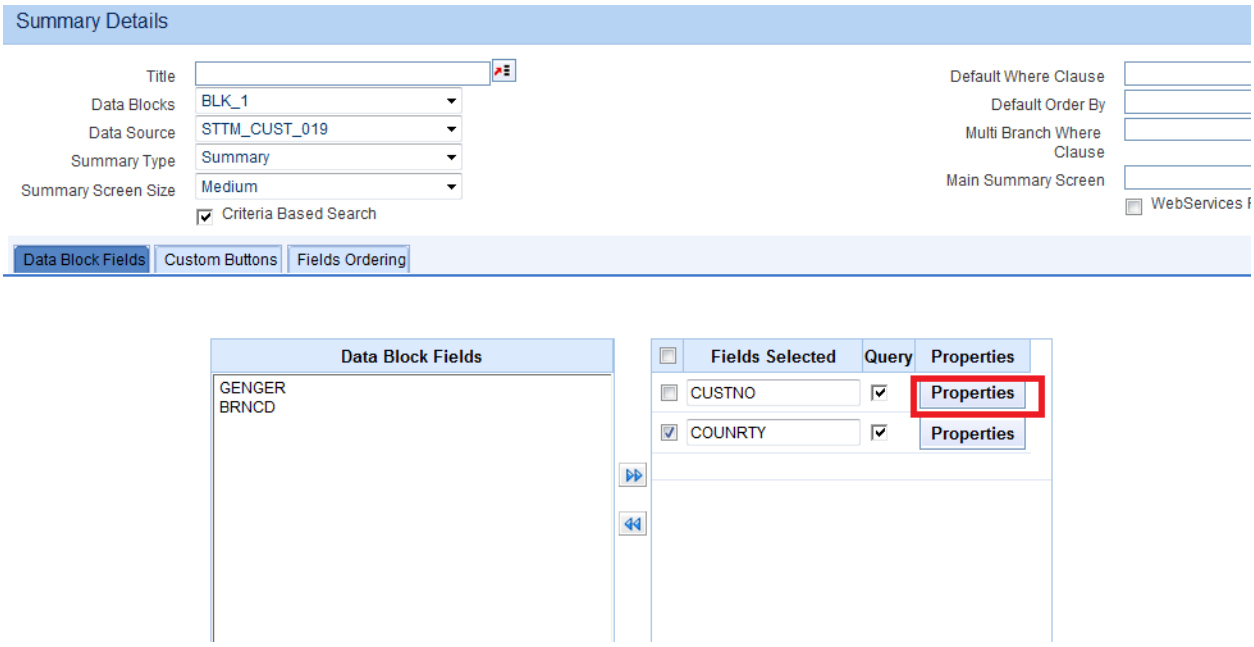


Fig 15.1 Summary Screen Properties

14.1 Designing Summary Screen

14.1.1 Title

Summary screen title can be maintained here using a label code, and label code can be selected from the list of values attached to the field.

14.1.2 Data Block

A block has to be selected as Summary Block. This block can be either one of the Single record blocks of the function or a block of type Summary. In most cases Master Block itself can be used for Summary also and if the requirement is to show some other information a new summary type block can be created and can be used.

14.1.3 Data Source

Captures the data source name of the summary, on which query should happen for summary. This will also be the data source attached to the summary data block.

14.1.4 Summary Type

Summary Type can be of:

- **Summary**

This is the default option. For a normal summary screen to a function id, this option can be used.

- **Query**
  This is defunct.
- **Bulk Authorization**
  Checkbox option will be provided in the Summary screen. User will have the option to select multiple records in the summary screen at the same time and process it.
  Example: Bulk authorization screen
- **Upload**

14.1.5 Summary Screen Size

Captures the size of the summary screen

14.1.6 Default Where Clause

This field captures the default where clause for summary query.

14.1.7 Default Order By

This field captures the default order by clause for summary query.

14.1.8 Multi Branch Where Clause

This screen is applicable only if multi branch access is checked for the screen in Preferences node.

This field captures the summary where clause for multi branch screens.

14.1.9 Main Summary Screen

Specifies the main form to be launched on clicking on a record from Summary Result . This is applicable only for Dashboard screens

14.1.10 Summary Web Services Required

Specifies whether a web service for summary screen is required. SUMMARYQUERY action in Actions screen has to be selected as well for enabling web services for summary screen

14.1.11 Data Block Fields

All the block fields present in the summary data block will appear in the text area to the left. Developer can select the block fields required in the summary screen and move it to the right.

Field name:

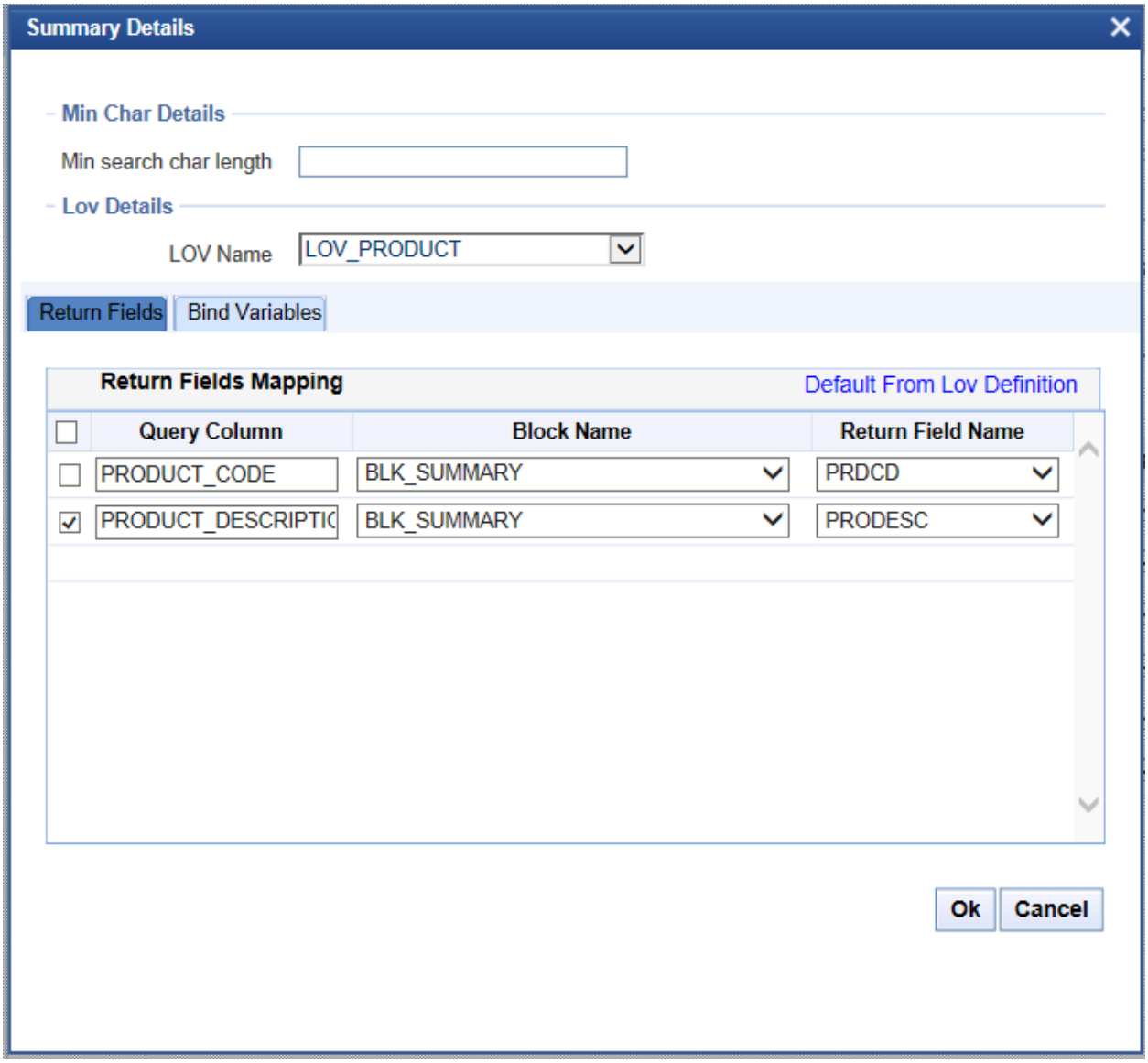
The required fields in the summary grid result can be moved to the right from data block fields.

Query Field:

Check the 'Query' for fields that need to appear in Query portion of the Summary screen. Note that maximum number of Query fields for any screen is 12.

LOV Name:

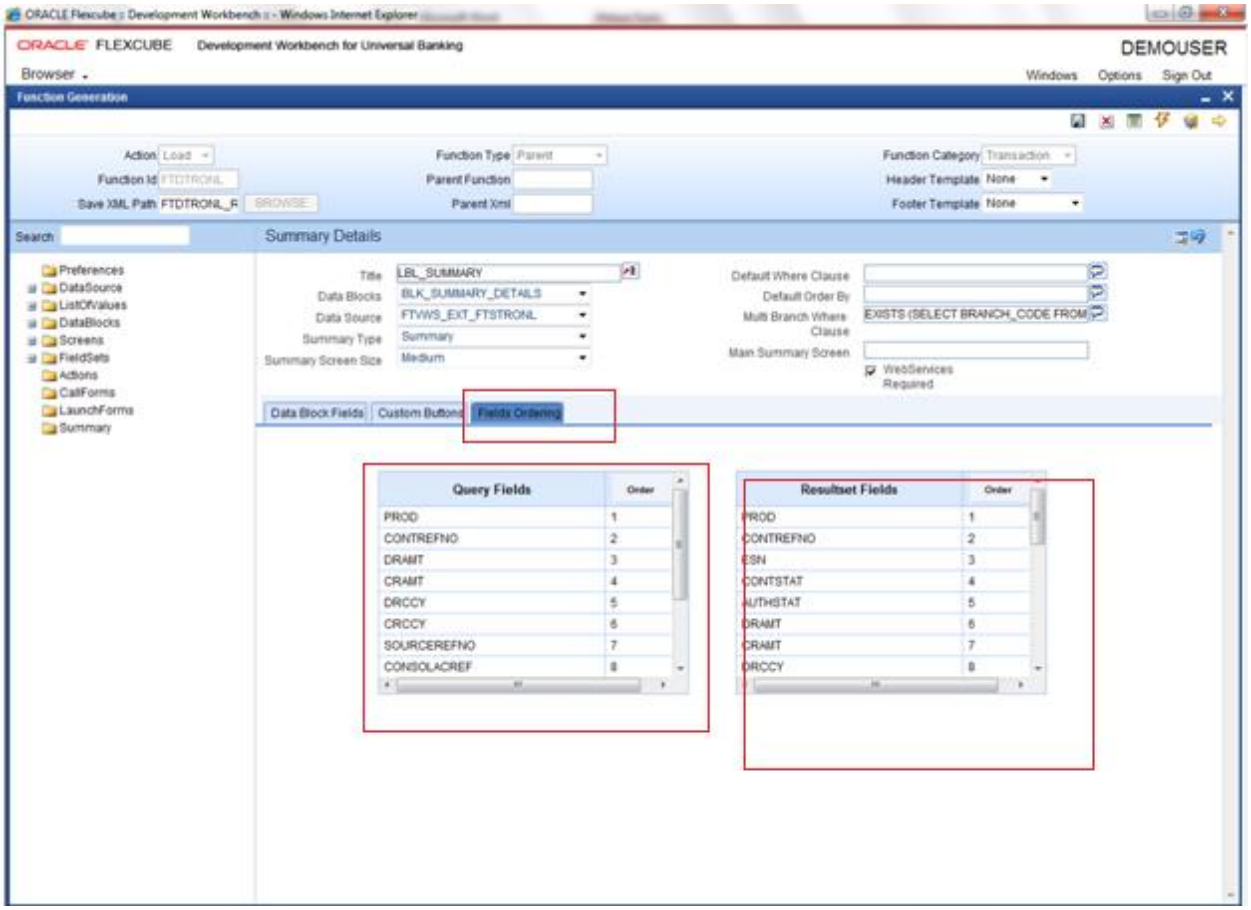
If the query option is checked, the properties button will be enabled, then on click of the button below screen will launch where lov name and its corresponding return and bind variables can be defined, even min search char length details can also be mentioned here.



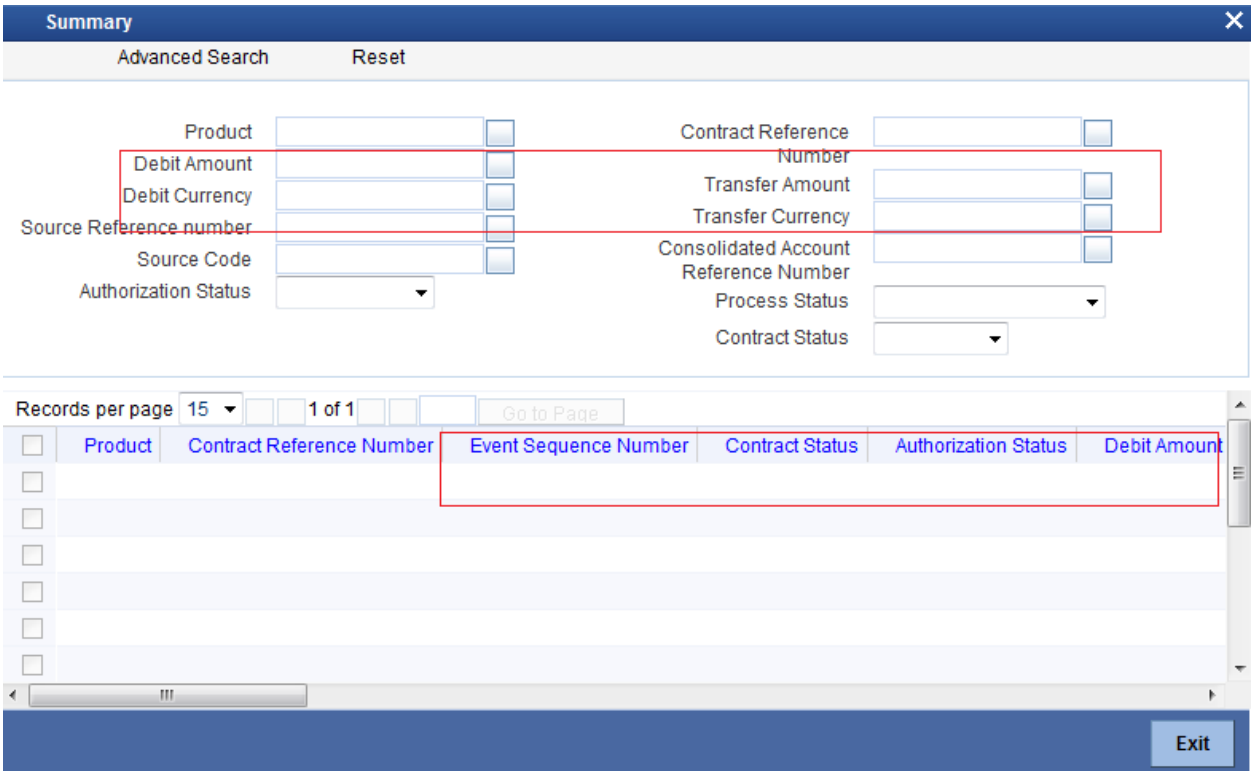
14.1.12 Fields Ordering

Order of the fields in the summary screen can be rearranged .

Here all the query fields will be shown to the developer in one table while all the fields in result set will be shown in another table. Order of fields in both tables can be changed by the developer as per requirement.



Preview of the Summary screen with different ordering of query fields and result set fields are shown below.



14.1.13 Custom Buttons

Buttons can be added to summary screen using "Custom Buttons" Tab of the summary screen of Oracle FLEXCUBE Enterprise Limits and Collateral Management Development Workbench, same is shown below:

Number of Rows:

Adding buttons to the summary screen can be of any number, and buttons can be arranged in more than one row.

Max number of rows is 5.

Number of Buttons/Row

Number of Buttons per row can be maintained.

Field Name:

This refers to the button name which is placed in the summary screen.

Label:

Label Code for the button.

Function Name:

JavaScript function which would be invoked on clicking the particular button is maintained here. Normally, this function would be written in the release specific JavaScript file.

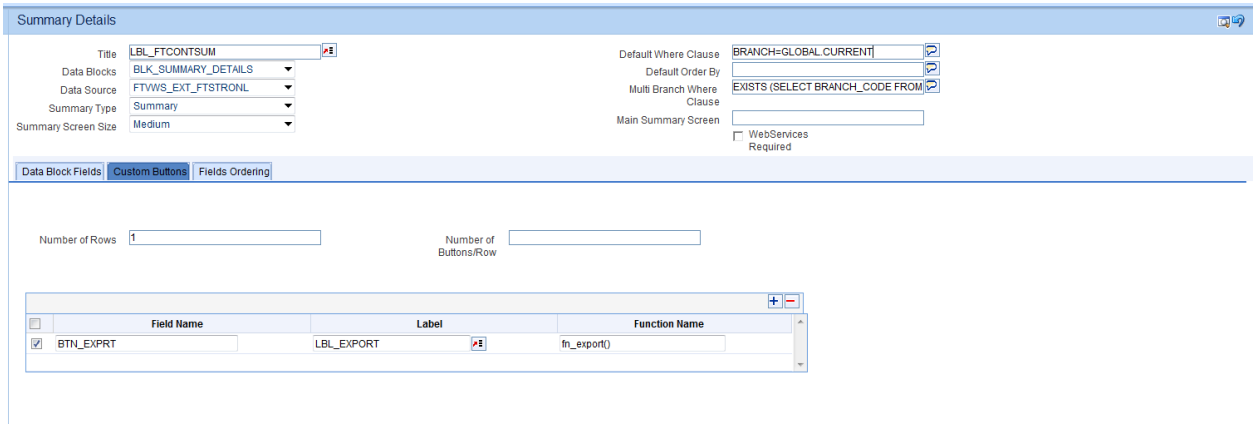


Fig 15.2 Adding Custom buttons to a Screen

14.2 Guidelines and Best Practices

Note the following points while designing summary screen:

- Maximum number of Query Fields allowed for a summary screen is 12.
- ***For Maintenance screen, if summary data block and master data block are not the same, care should be taken so that name of the primary key fields of both the blocks should be the same***

15 Generation and Deployment of files

Once the screen development is over, files have to be generated. Use generate icon to generate files.

Once the files are generated, they have to be deployed in the FLEXCUBE environment for testing.

Refer *05-ODT Generation, Deployment and Release of files.docx* for detailed explanation.

After deployment of generated units , function id can be launched from the FLEXCUBE console. Unit testing of the function id can be carried out and any custom code can be added for additional functionality.

16 Appendix

16.1 Screen Preview

Screen Preview gives the preview of the screen as it appears in the FLEXCUBE. It helps the developer to track the screen design changes much faster during development phase.

Preview of a screen can be viewed either by:

1) Clicking on the Preview icon present in the top right portion of the Screen or
2) By selecting preview option from right click menu option of the particular screen.

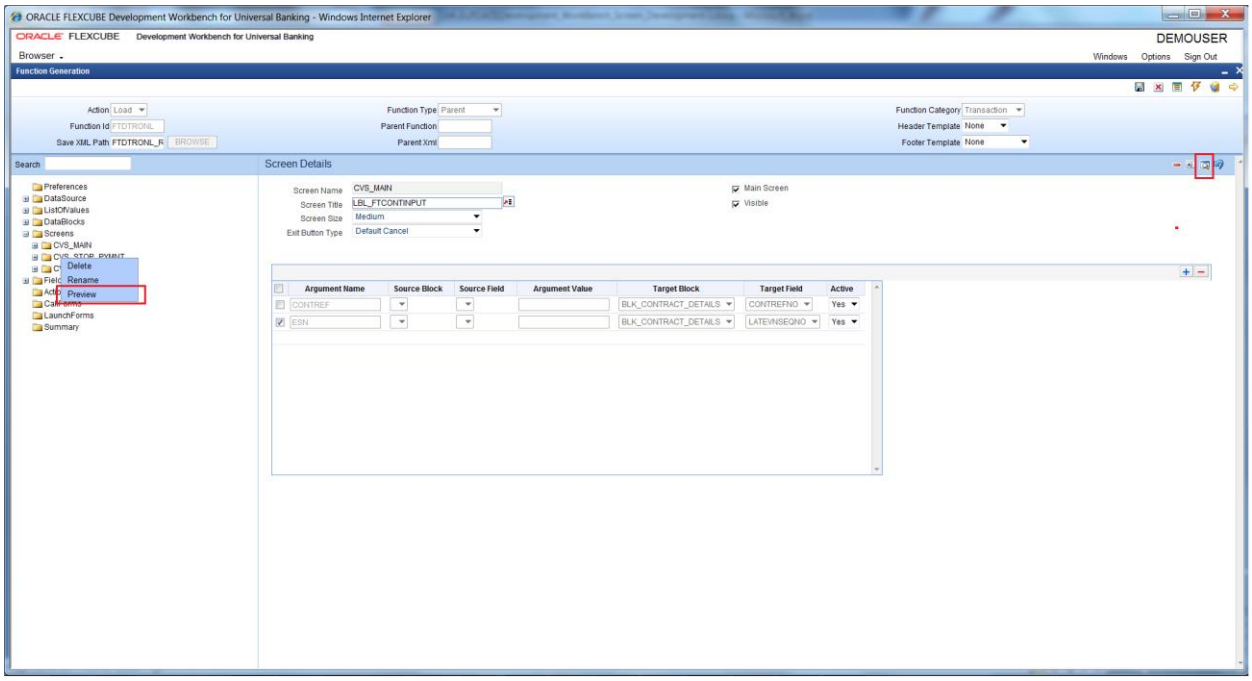


Fig 17.1 Previewing a Screen

The preview of the screen as shown by the Tool is shown below:

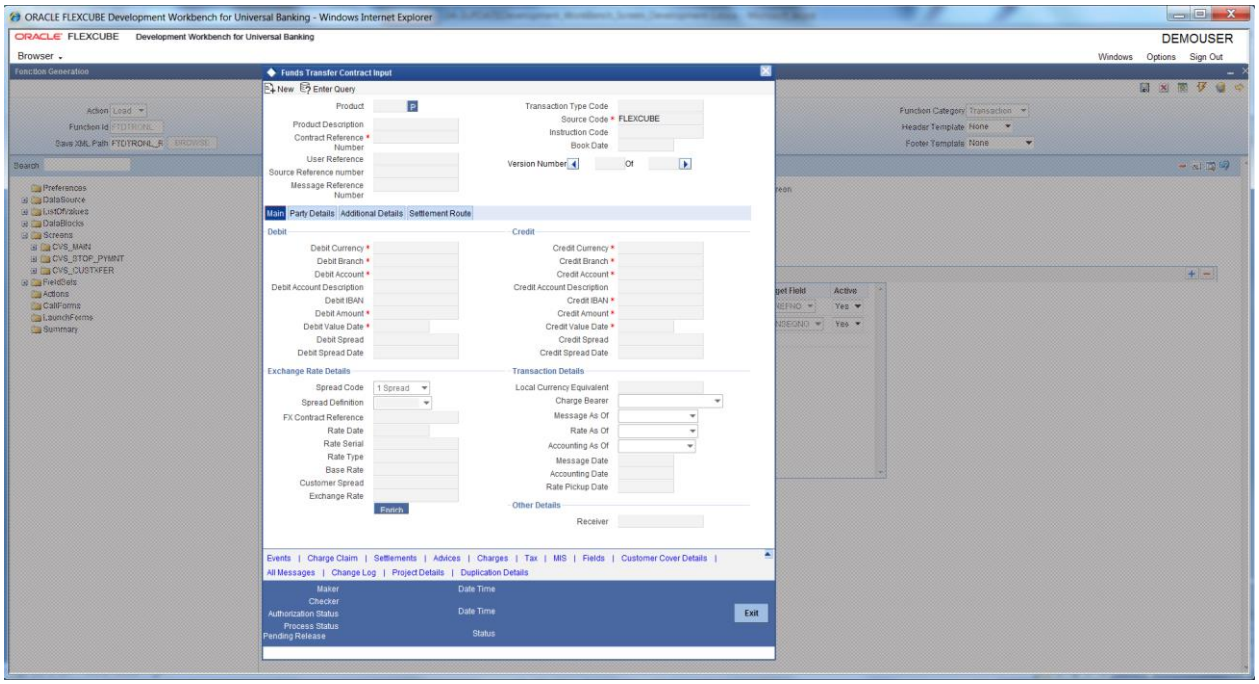


Fig 17.2 Sample Preview of a Screen

By double clicking on any field in the Preview, developer can navigate directly to the particular data block field.

16.2 Locate Field

Locate Field Feature is helpful in determining the position of a field in a screen.

For locating a block field in the screen, select locate field option from the right click menu of the data block field.

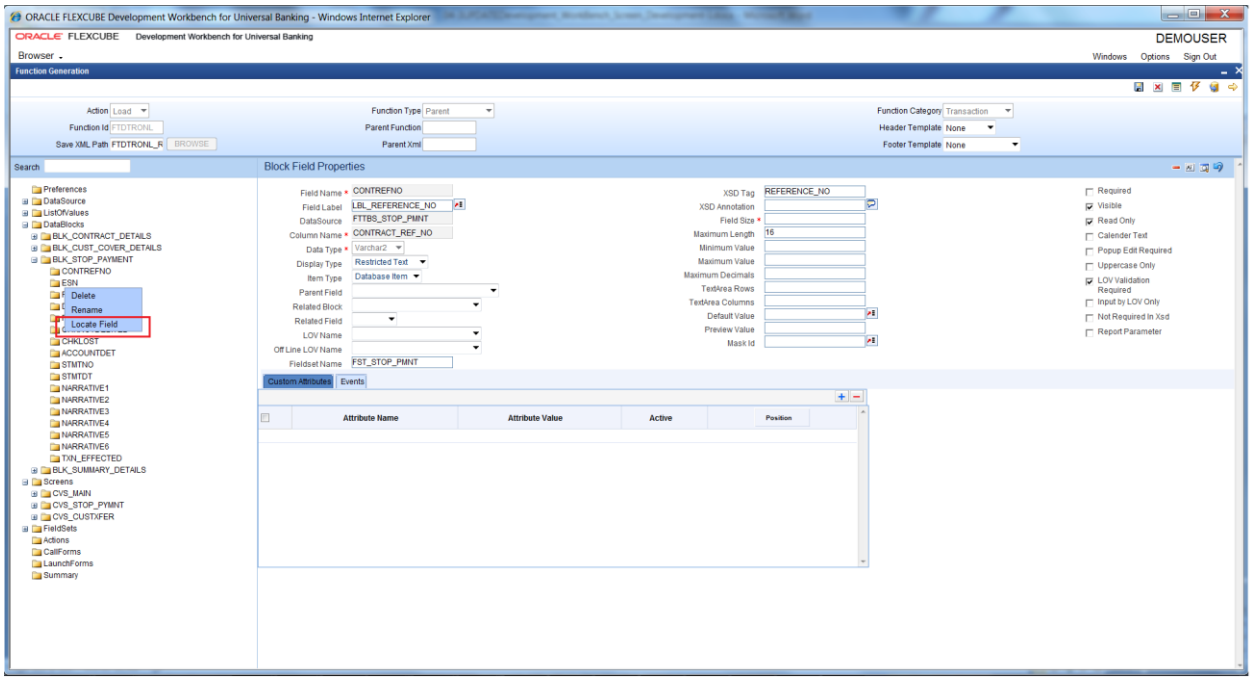


Fig 17.3 Locating a Field in Screen

Preview of the screen containing the field will be launched and the position of the particular fiedl will be highlighted in green background colour.

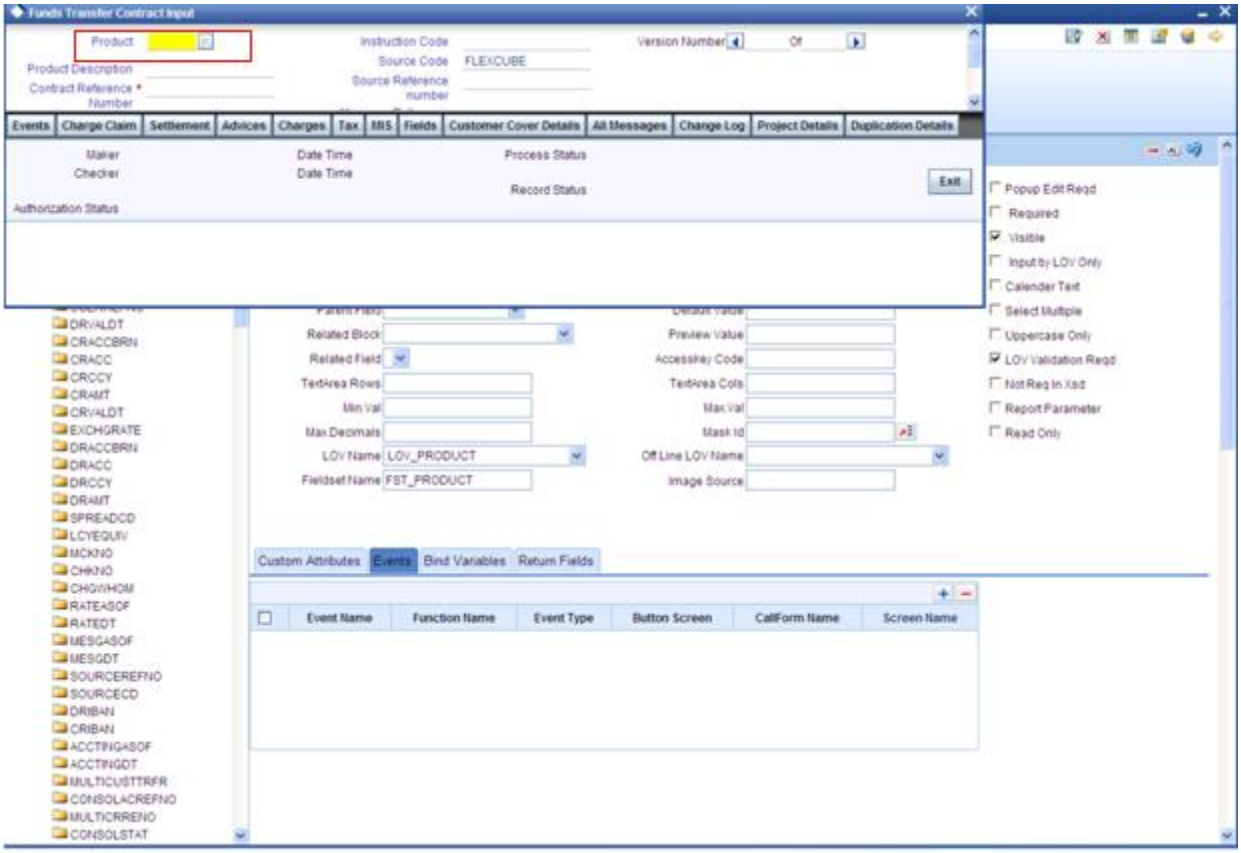


Fig 17.4 Preview of the Screen with the field located

16.3 Label Code Maintenance

Label Codes needs to be maintained in CSTB_LABELS (in the current environment language) for proper generation of files by ODT.

Label Codes can be maintained in the FLEXCUBE through ODT itself.

Click on Label code Icon found in the top right portion of the screen.

Label Code maintenance screen will be launched.

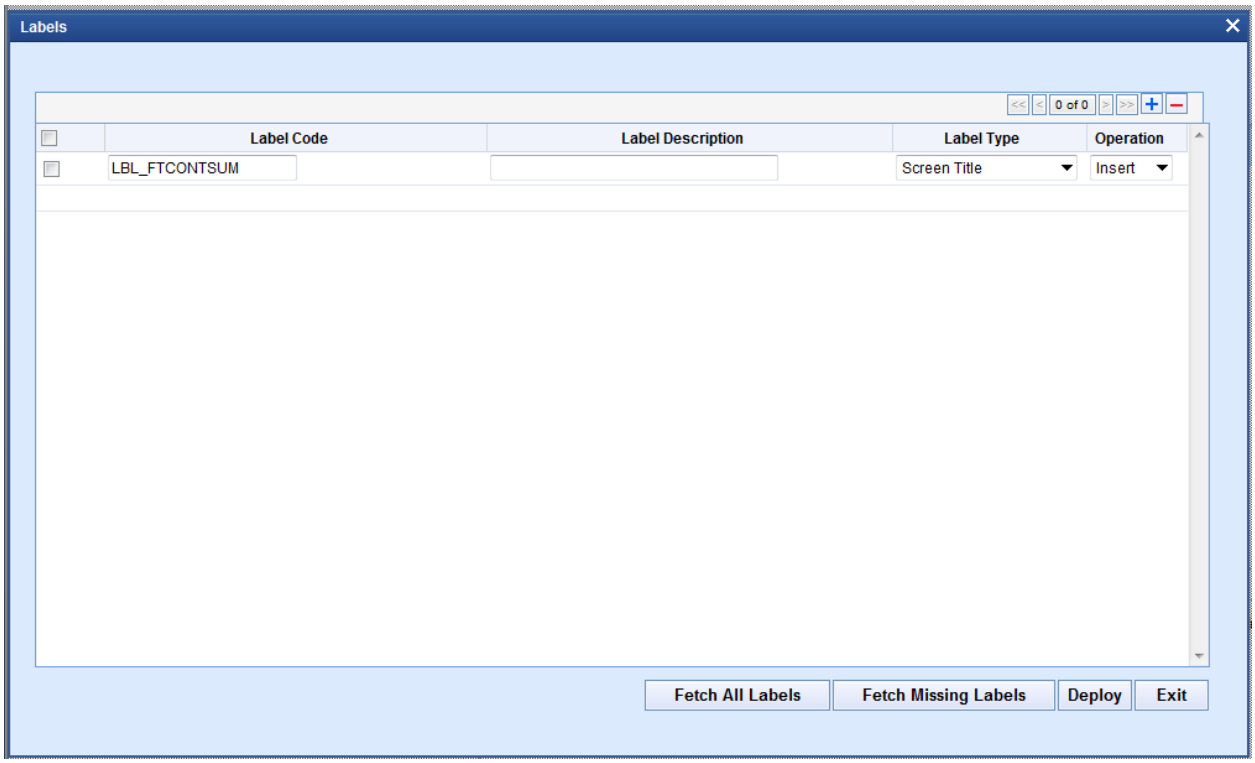


Fig 17.5 Label Code Maintenance Screen

Label Codes can be maintained through this screen. Screen provides option to deploy the label codes directly to FLEXCUBE schema.

16.3.1 Maintaining a New Label Code

For maintaining a new label code, add a new label code as required in **Label Code** field. Label code should start with **LBL_.** Provide the description of the field in **Label description** field. **Label Type** can be selected based on the requirement. Select the **Operation** as **Insert**

Click on **Deploy** button. ODT will insert the label code provided to CSTB_LABELS. Language code will be taken from the language code of the current environment code.

More than one label code can be deployed at one time.

Note the following while creating new label codes:

1) Label Code should start with **LBL_**
2) ***Label Code should not contain any special characters except underscore(_)***

16.3.2 Maintaining Missing labels

Developer can fetch the missing labels for the screen by clicking on **Fetch Missing Labels** button. All the label codes present in the function id which is not maintained in CSTB_LABELS will be fetched and displayed in the table. Developer can provide proper description and deploy the label codes.

16.3.3 Fetch All Label Codes for the Screen

On clicking **Fetch All Labels** button, all the label codes used in the function Id will be displayed in the table. Developer can update the label description of any field he wishes.

16.3.4 Updating an existing Label

Fetch all Labels used in the function Id. Change the Label Description of the label codes for which update has to be done. Change the **Operation** to **Update.** Check the checkbox and click on Deploy. The selected label codes will be updated.

16.4 Search Feature

Search Feature allows the developer to locate an element in tree easily. It is useful while browsing a function id with many nodes.

Key In the string you want to find, ODT will search for the exact match of the string. If exact match is not found, then first n character search will be done. The first match will be highlighted in green and tree moves to the location.

Next Occurrence of the same string can be found by pressing Enter or Down Arrow key.

Figure shows an example for search feature:

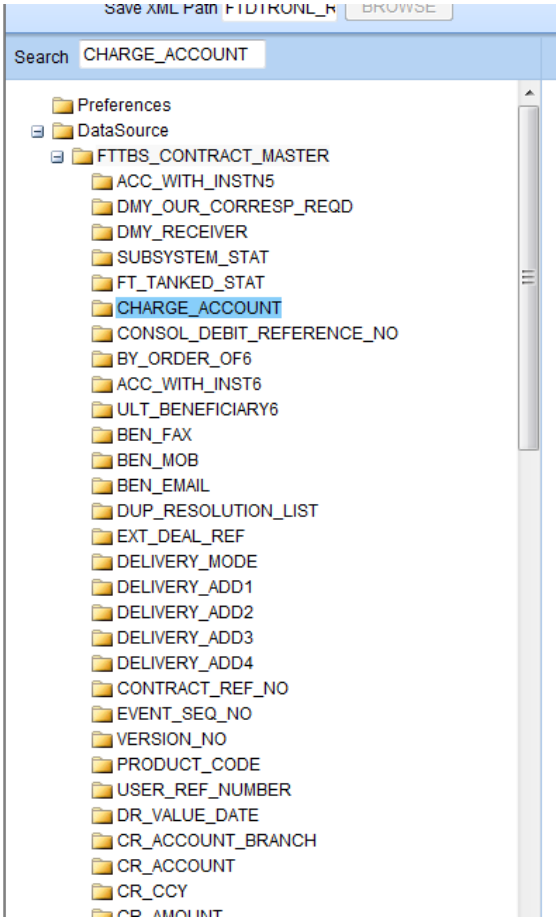


Fig 17.6 Illustration of Search Feature

16.5 Undo Feature

Undo feature allows the developer to undo all the changes done in a particular screen of ODT.

Represents undo icon. On clicking of Undo icon the field values will be restored to the values before visiting the screen.

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