Oracle FLEXCUBE Universal Banking® 12.0
Dashboard Development Guide

Release 12.0

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Contents

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1. Preface

This document describes the method to create Oracle FLEXCUBE Dashboards using Rapid Application Development (MICON) web based development tool. This also explains the steps to integrate the Dashboards with Oracle FLEXCUBE Application.

1.1 Audience

This manual is intended for use by the Oracle FLEXCUBE application developers who perform the following tasks with Extensible MICON:

- Development of Dashboard
- Modification of Dashboard

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

Proficiency	Resources
FCUBS Development overview	FCUBS-FD01-01-01-Development Overview Guide
MICON function ID development getting started	FCUBS-FD02-01-01-MICON Getting Started
MICON function ID development	FCUBS-FD02-02-01-MICON Function ID Development Volume 1
MICON installation and setup	FCUBS-FD05-02-02-MICON-Installation and Setup

1.2 Related documents

For more information on Function ID development, refer to the following guides:

- FCUBS-FD01-01-01-Development Overview Guide
- FCUBS-FD02-01-01-MICON Getting Started
- FCUBS-FD05-02-01-MICON-Reference
- FCUBS-FD05-02-02-MICON-Installation and Setup
- FCUBS-FD02-02-01-MICON Function ID Development Volume 1

1.3 Conventions

The following text conventions may be used in this document:

boldface	Boldface type indicates graphical user interface elements (for example, menus and menu items, buttons, tabs, dialog controls), including options that you select.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates language and syntax elements, directory and File name, URLs, text that appears on the screen, or text that you enter.

1.4 Prerequisites

- MICON environment with designated project and release details

  Note: For details on installation and setup of project/release, refer to *FCUBS-FD05-02-02-MICON-Installation and Setup* guide.

- Target Oracle FCUBS environment

2. Introduction

2.1 How to use this Guide

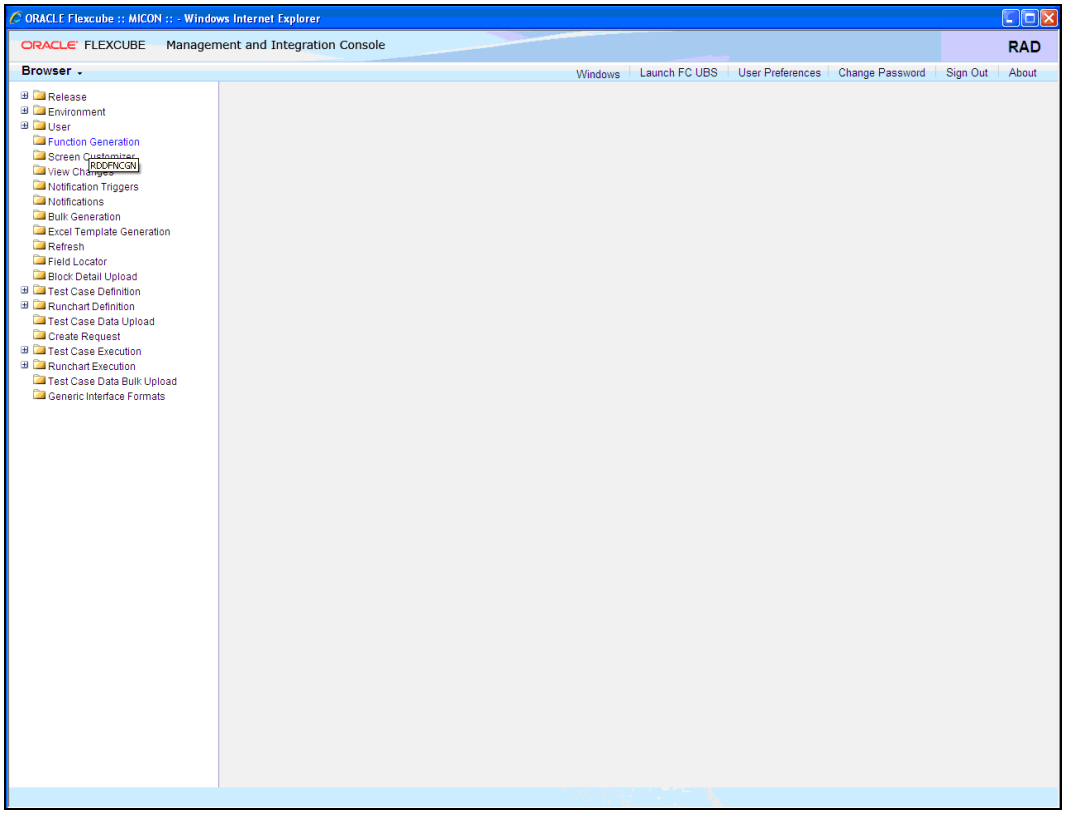
The information in this guide include:

- Chapter 2, “Introduction”
- This is introduction chapter.
- Chapter 3, “Creating a Dashboard Screen”
- This chapter describes the steps required to create dashboards.
- Chapter 4, “Generation of Units”
- This chapter describes the steps to design summary dashboards.
- Chapter 5, “User to Dashboard Mapping”
- This chapter describes steps to map users to dashboards and the usability of dashboards in Oracle FLEXCUBE.

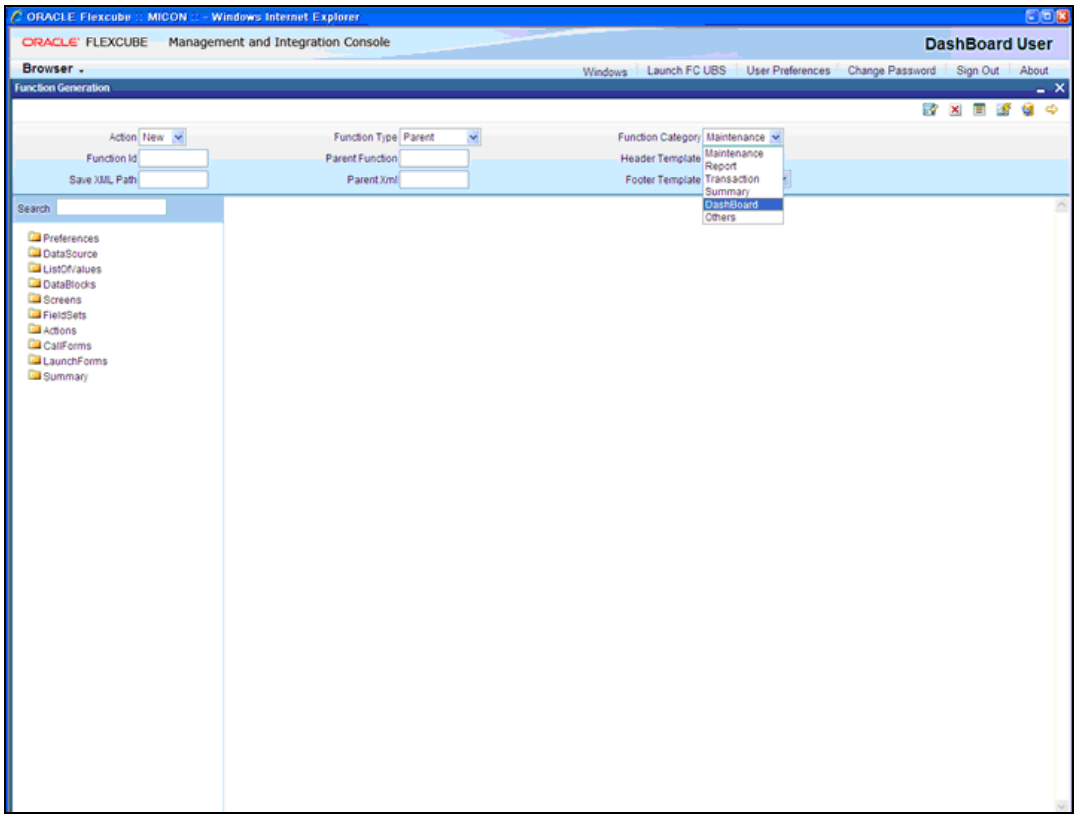
3. Creating a Dashboard Screen

This section describes the method to create Oracle FLEXCUBE dashboard screens. Follow the steps given below:

1. Login to the MICON Tool and select **Function Generation** tab.



2. Select Action - New.



3. Specify the following details:

Function ID

Specify the Dash Board ID. This follows the same naming convention as that of a normal function ID.

Function Type

Select 'Parent' from the drop-down list.

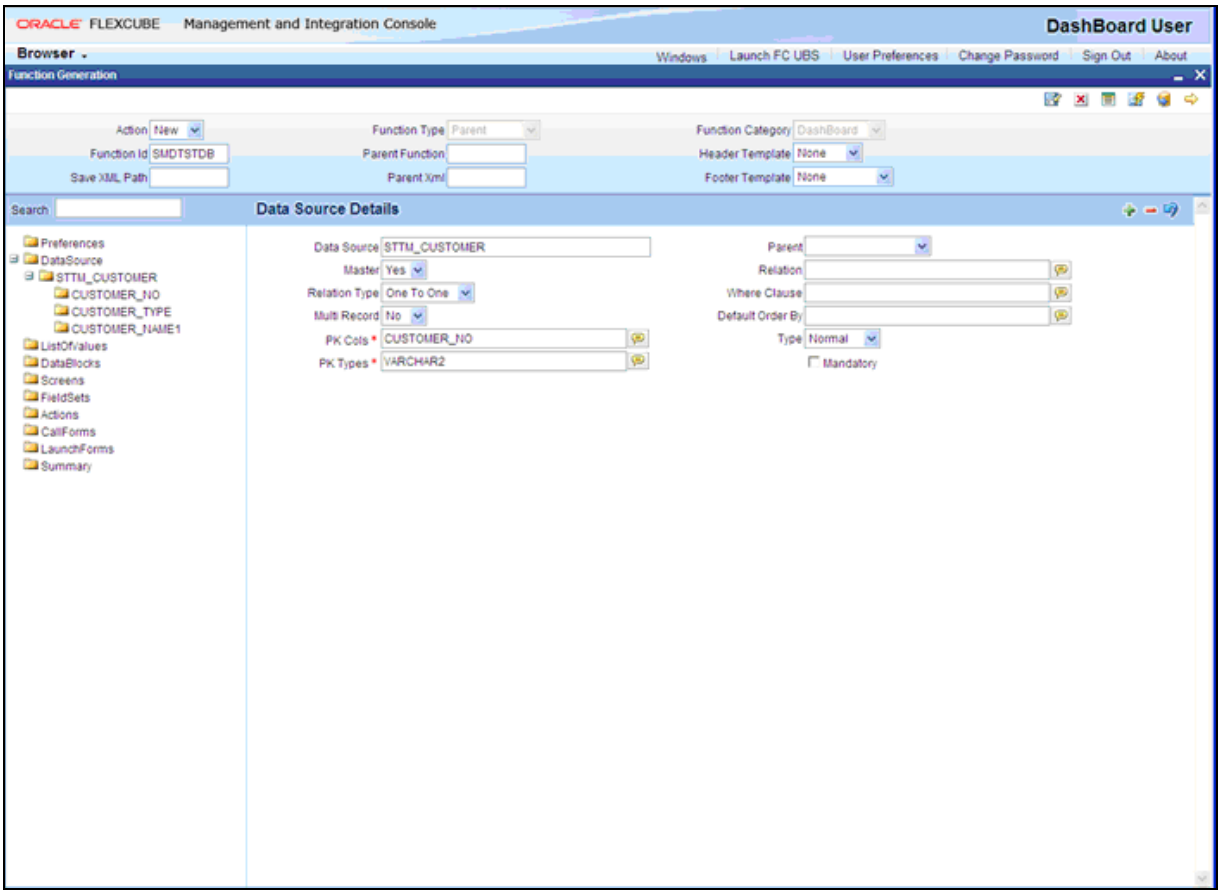
Function Category

Select 'Dashboard' from the drop-down list.

3.1 Preferences

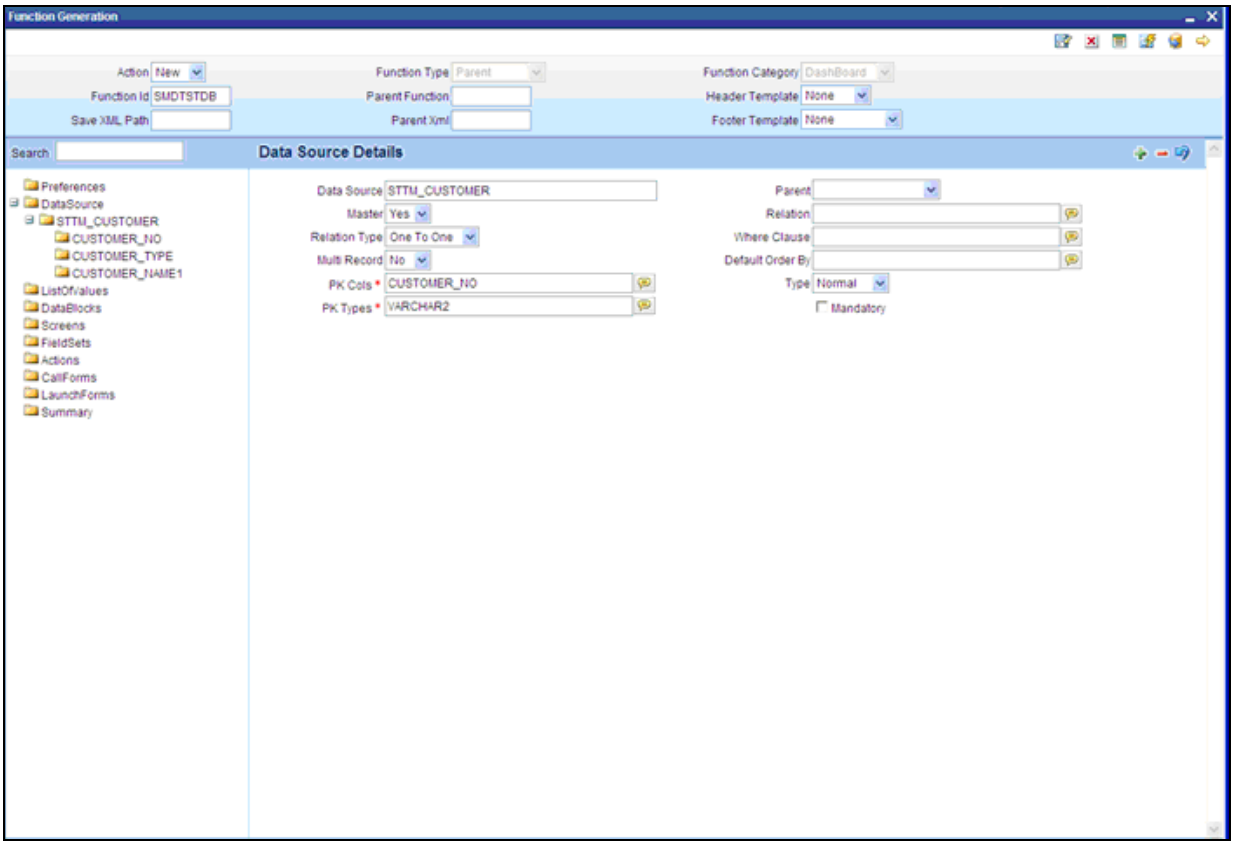
You can maintain the menu details in 'Preferences' screen. Notice that in smtb_menu, the type string for dashboard screens are generated as 'D'.

Currently, Summary Dashboard screens are supported.



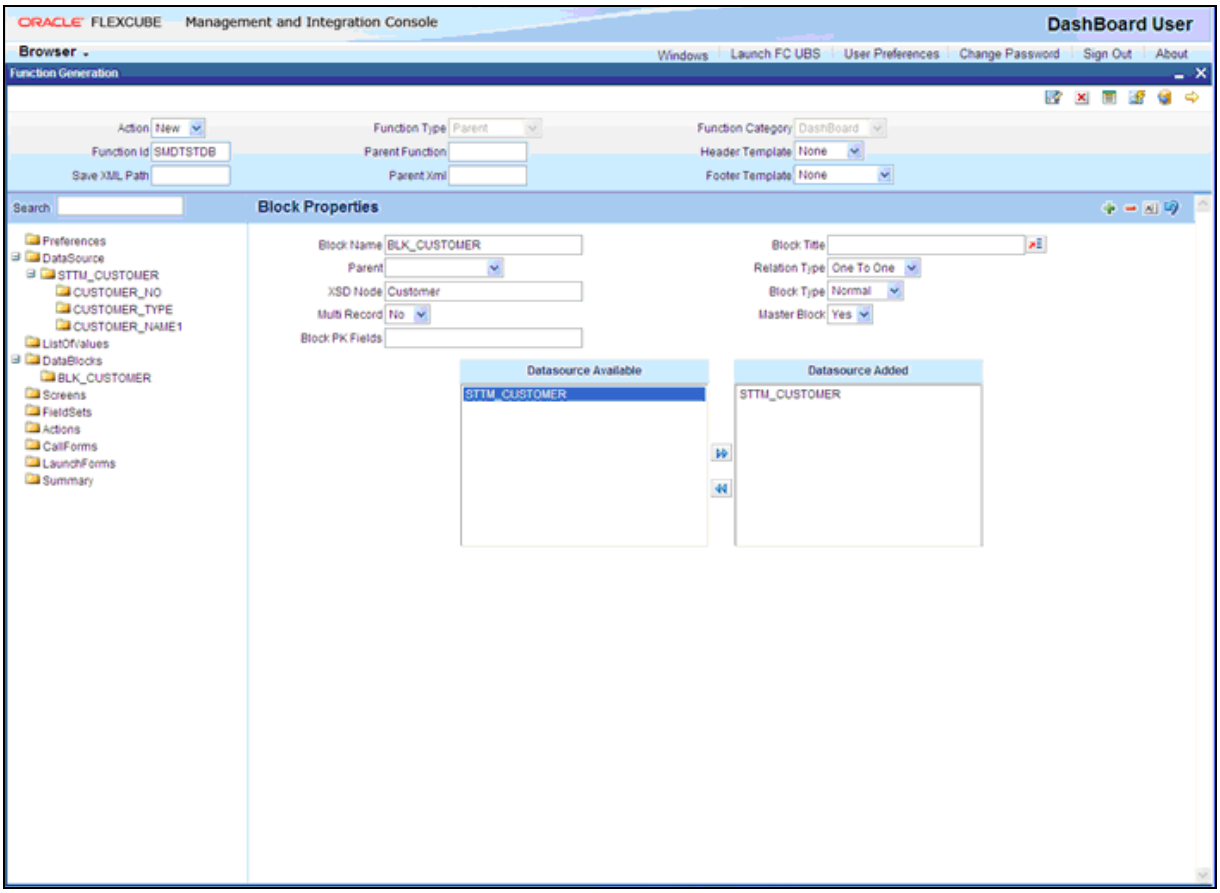
3.2 Data Sources

You can add data source tables as per your requirements. You can have only one data source in a Dashboard screen. This will be the master data source.



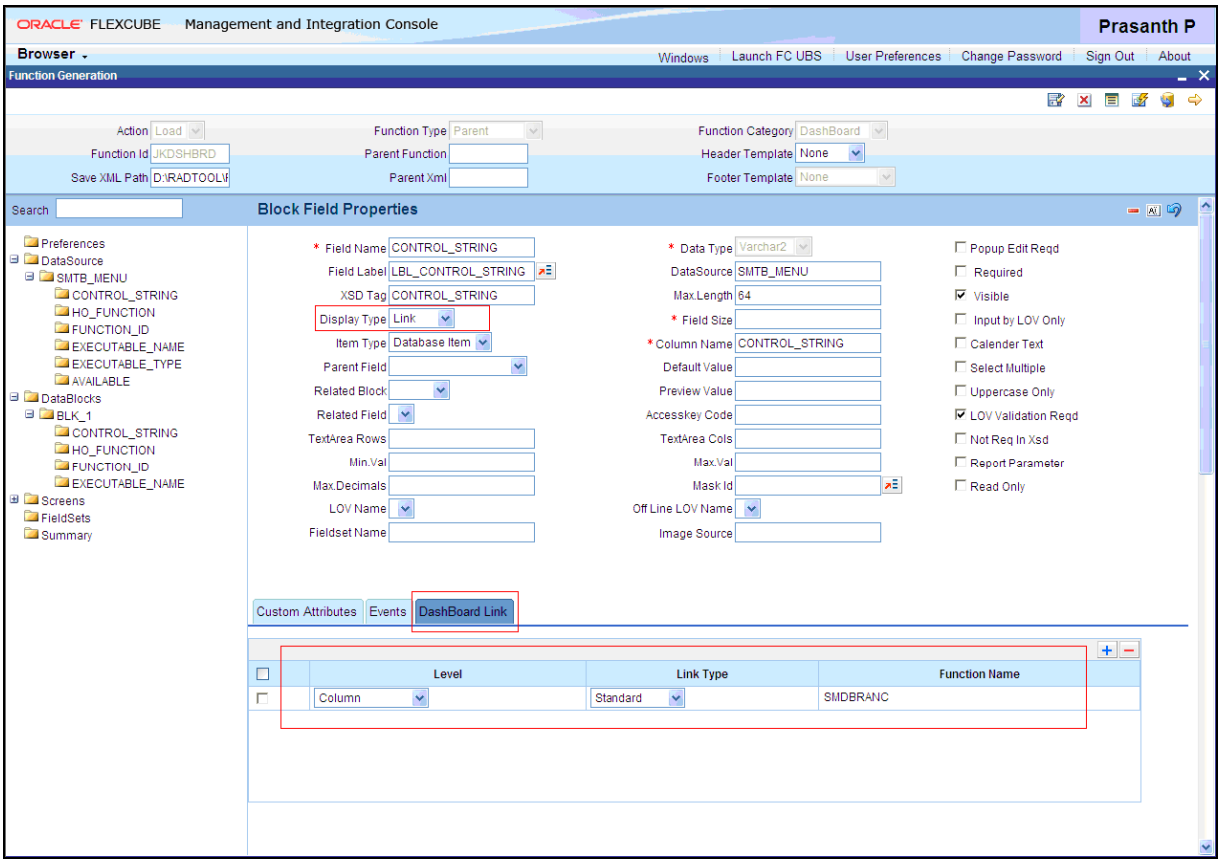
3.3 Data Blocks

You need to create data blocks and attach the data sources to the data blocks. A Dashboard screen can have one data block.



3.3.1 Block Fields

You can add block fields to the block as required under 'Block Field Properties'.



Display Type

If the field is of type 'Link' (hyperlink), you need to select the Display Type as 'Link'. If the field is a linked field, Dashboard link details need to be maintained in dashboard link tab.

Level

Level can be either Row or Column.

Column - If the level is 'Column', then the link is limited to that column alone. You can have different links if there are different fields in the same row. You can define multiple column level links for a Summary Dashboard.

Row - If the level is 'Row', the link is the same across all the fields in the row. You can define one row level link for a Summary Dashboard. If you have defined a row level link, then you should not define other links in the Summary Dashboard.

Link Type

For level 'Column', the link type is 'Standard'. For level 'Row', the link type is 'Custom'.

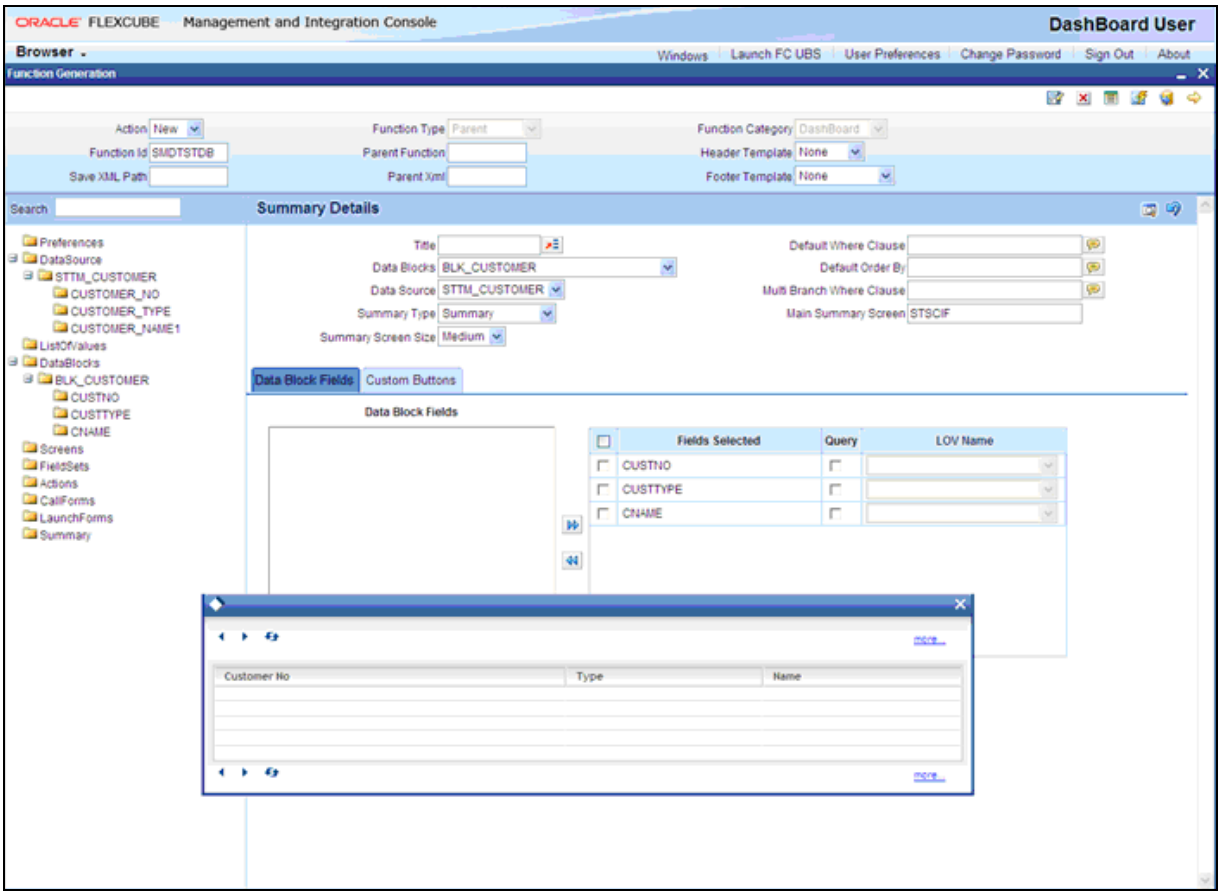
Function Name

Specify the function ID to be launched on clicking the linked field. The linked field value is taken as the primary key for launching this function ID. If link level is selected as 'Column', this is mandatory.

3.4 Summary

MICON supports only Summary Dashboards. You can attach the block to the summary screen. Hence, you need not create any screens.

Attach the fields which are required in the summary screen. Below screenshot shows the summary screen along with the preview of the screen.



Summary Screen Size

Specify the size of the summary screen. The drop-down list displays the following sizes.

- Small
- Medium
- Large

Select the appropriate size.

Main Summary Screen

Specify the function ID of the main summary screen. On clicking 'More', this function ID will be launched.

Default Where Clause

Do not provide any value in this field. The user must maintain this using 'User Dashboard Maintenance' screen in Oracle FLEXCUBE.

4. Generation of units

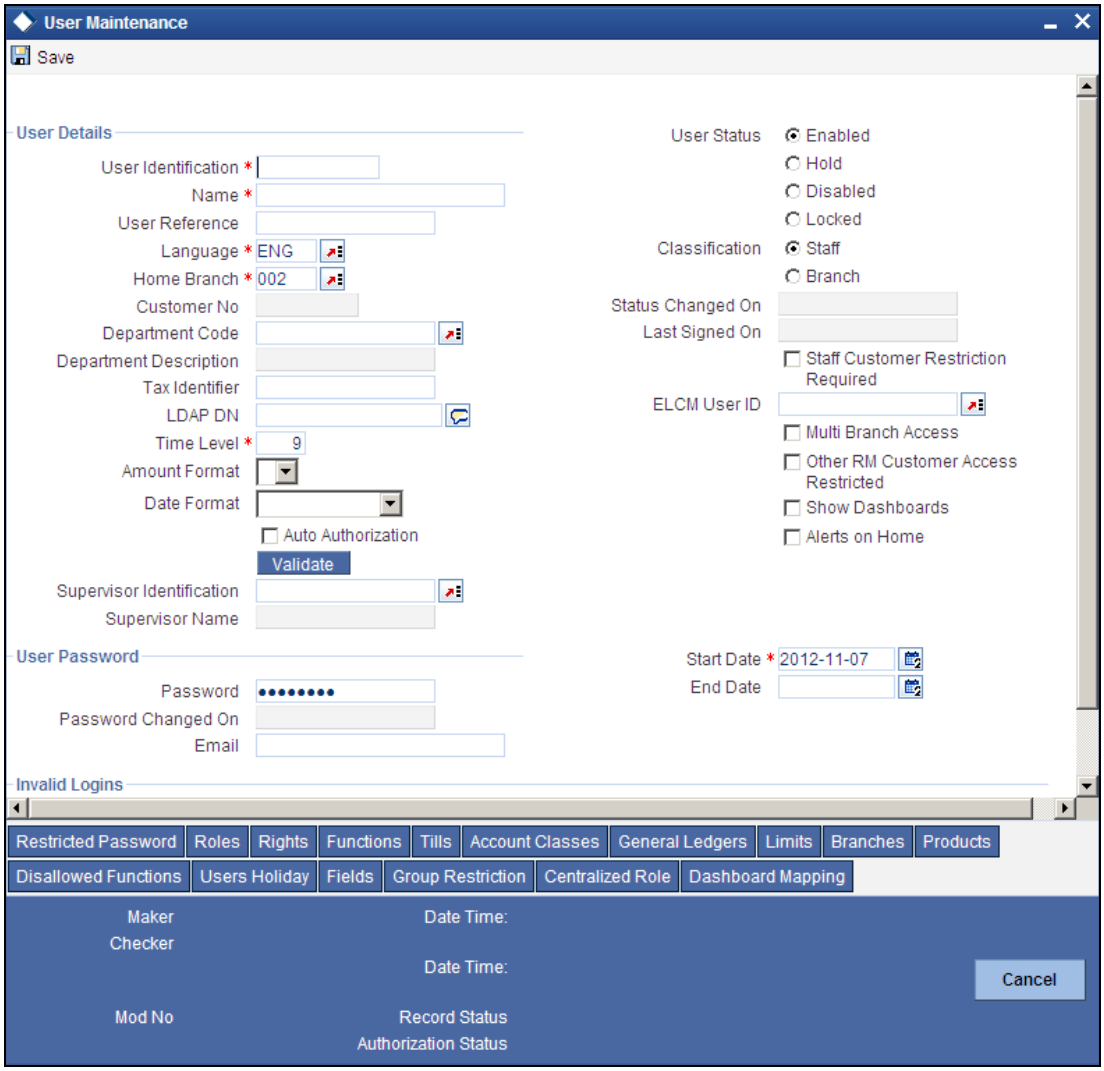
For functioning of Summary Dashboard screens, you need to generate and deploy the following units.

- SYS js
- UIXML
- Menu details Inc (smtb_menu)
- Summary Details Inc(cstb_summary_info)
- Label Details
- Data Source Details

5. User to Dashboard Mapping

This section describes the method to map a user to the dashboards.

1. Login to Oracle FLEXCUBE and invoke the User Maintenance Screen (Function ID – SMDUSRDF).

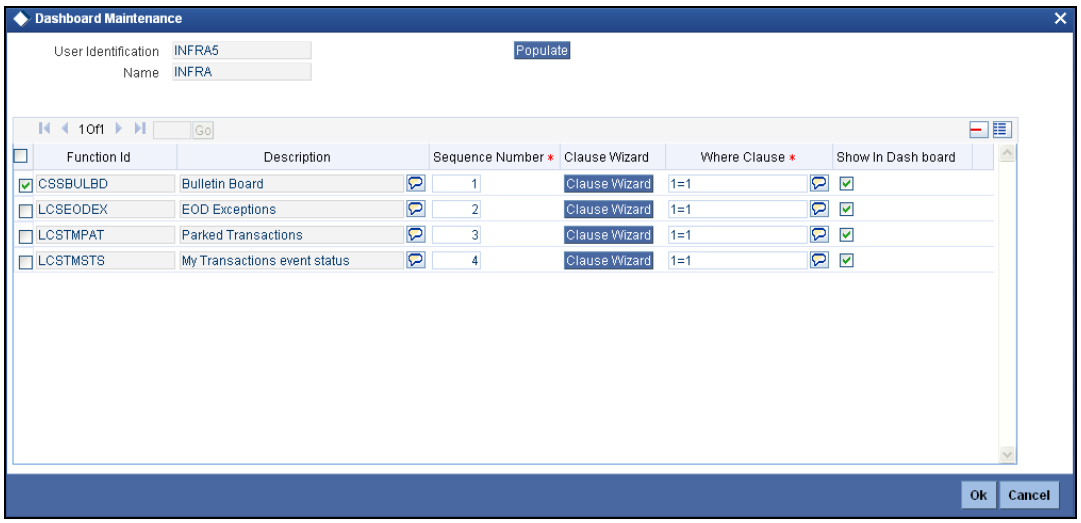


Note the following:

- You need to check the box 'Show Dashboards' in order to display the user dashboards to be displayed at the time of login.
- You need to check the box 'Alerts on Home' in order to display the 'Alerts and Reminders' dashboard in the Home tab.

These options can be configured dynamically using the 'User Settings' link available in 'Preference' tab.

2. Click 'Dashboard Mapping' button and invoke the 'Dashboard Mapping' sub-screen.

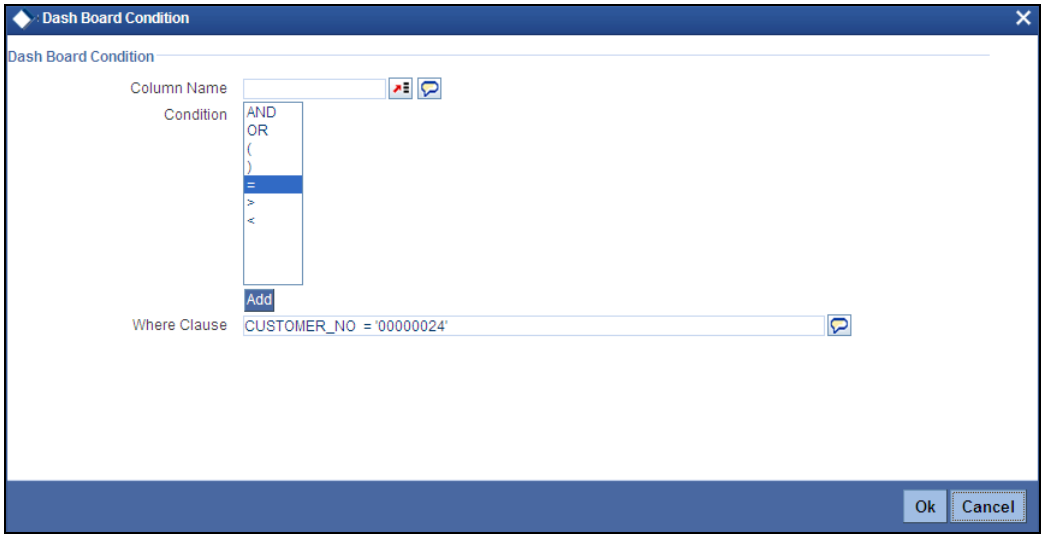


3. Click 'Populate' button. The system displays the DFI mapped to the roles of the user along with the function description.

You can edit the fields 'Sequence Number', 'Where' clause and 'Show in Dashboard' after data population.

- 'Sequence Number' is the order of display of the dashboards.
- 'Show Dashboards' check box is used for mapping the dashboards to users.
- 'Where' clause is the condition based on which the dashboard fetches result. This condition is to be defined as free text. The system will not check the validity of the condition.

4. Click 'Clause Wizard' button. The following screen is displayed.

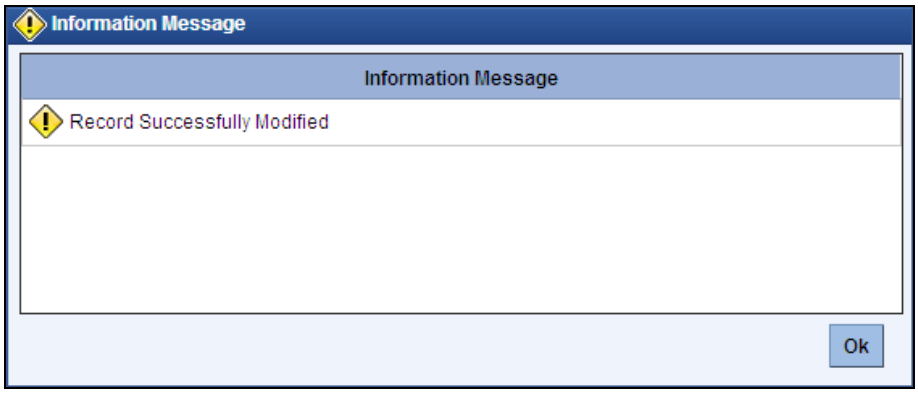


5. This is the 'Dash Board Condition' screen. You can define a filter condition for each function ID to which a user is mapped. You can add column name on which you need to set a filter. Click 'Add Conditions'. You can select the conditions (and, or, {, }, =, <, >). Further, set a value to the selected columns in the 'Where' clause. This is reflected in the main screen.

6. Click 'OK'. The system saves the Dash Board mapping information.

NOTE: You can also map specific user roles to a Dashboard in Oracle FLEXCUBE. A user who is mapped to a specific role will also be mapped to the Dashboards associated with that role.

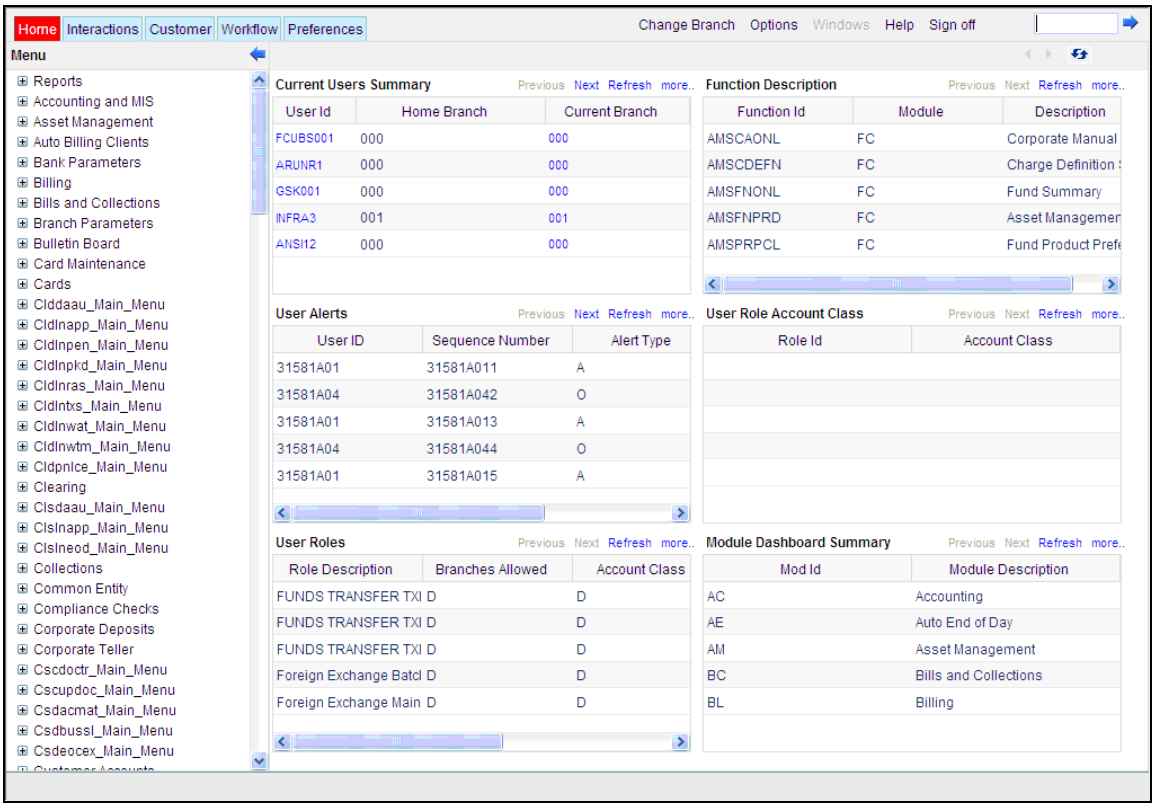
7. Save and authorize the record.



The above message is displayed once the record is successfully saved.

5.1 Mapped User Login

Login to Oracle FLEXCUBE with the user ID mapped to a specific dashboard. You can view the dashboard as follows.



Functioning of Links

If you have selected 'Column' as the Link Type under Block Field Properties (standard level), on clicking the respective column, the system will invoke the function ID given in the UIXML in query mode. While launching function ID, the column value is taken as the primary key value.

If you require a different operation, you can use the hook 'fnPreShowDashboardCol_<functionid>_<Release>(screenArgs)'.

screenArgs consists of:

- screenArgs["OBJECT"] - will hold the object which has been clicked
- screenArgs["FUNCTIONID"] - will hold the original function ID
- screenArgs["EVENT"] - will hold the event object

If you have selected 'Row' as the Link Type (custom level) under 'Block Field Properties', then you will find only one link in the entire row. The column link will not work in this case. The user can click the link and write his/her method in the js file. The code must be written in the function 'fnCallDetail_<functionid>_<Release>(screenArgs)'.

screenArgs consists of:

- screenArgs["NODENAMES"] - will hold the names of the fields in the row (tilde separated)

- screenArgs["NODEVALUES"] - will hold the values of the fields in the row (tilde separated)
- screenArgs["OBJECT"] -will hold the object which has been clicked
- screenArgs["EVENT"] - will hold the event object

While using the row level link, you need to query a detail screen using an Infra function 'fnQueryDetailScreen(screenArgs)'.

screenArgs consists of :

- screenArgs["PKVALS"] - should have tilde separated values of the detail screen to be launched
- scrArgs["FUNCTIONID"] - should contain the function ID to be launched

Next and Previous Buttons

The dashboard displays the first five records. To view the remaining records, you can use 'Next' and 'Previous' buttons.

Refresh Button

You can use the 'Refresh' button to refresh the records displayed on the screen dashboard.

More Link

You can use the 'More' link to view the main summary screen mentioned in MICON.

6. Impacts of Dashboards on System Performance

This section describes the impact of dashboards on system performance and suggests some points to be considered while developing and deploying dashboards.

6.1 Points to Consider while Developing Dashboards

Dashboards are created using RAD data sources that use direct tables, queries or views. The performance of dashboard display is directly proportional to the time taken by database to retrieve the records for summary display. Developers need to consider the following points while development dashboards.

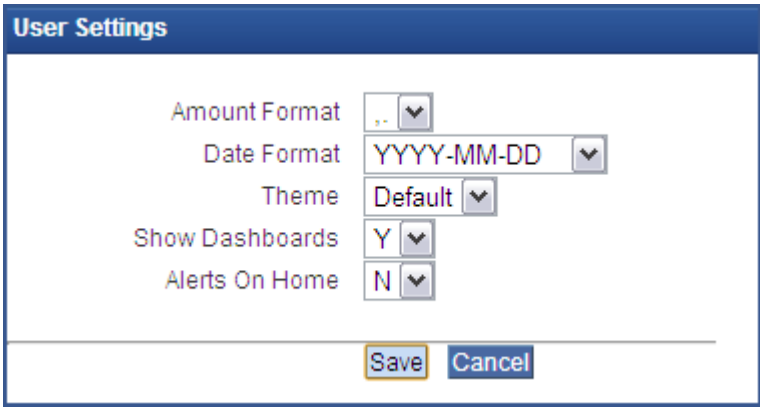
- Always try to use direct and single tables that have primary key or indexes. Ensure that the dashboard mapping uses this primary key or indexes.
- While using Views as data source, you need to ensure that the Views have the 'WHERE' clause that includes primary key or indexes. Also, ensure that this clause is used at Dashboard mapping.
- Following are some tips for creating queries for dashboards:
    - Use EXISTS instead of "IN" in WHERE clause of the queries
    - Avoid outer joins
    - Avoid voluminous table that does not purge records periodically
    - Avoid table where too much of data is inserted in a day
    - Avoid SQL functions in queries, instead create procedure or package that returns the required value
    - Avoid multiple selects on the same table in WHERE clause

6.2 Points to Consider while Deploying/Configuring Dashboards

Dashboards consume higher database CPU resources as they continuously run to fetch the records for multiple users. The usage by 500 users, each having six dashboards, is equivalent of running 3000 summary screens simultaneously on Oracle FLEXCUBE.

Oracle FLEXCUBE provides some performance features to control the dashboard availability and reduces the load on Database while running the dashboard queries. Bank IT users can configure the features to achieve the performance gain.

- Map dashboards only to users who need it
- Ensure that WHERE clause is configured to each dashboard that can use index based columns
- Individual users can turn on/turn off the display of dashboards using 'Show Dashboards' feature in user preferences



Turn off the dashboard display whenever it is not required.

Dashboard Development Guide

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