Oracle Financial Services

Forms Manager User Guide

Release 2.0

Oracle Financial Services Forms Manager User Guide 2 . 0

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1 Introduction

Forms Manager is a utility, which is used to design the application user interfaces supported by Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Forms Framework. Using Forms Manager, you can create or change an application user interface. This utility enables the user to define menus, layouts, and forms and link them together based on the needs of the application.

- **Menu**- Logical grouping of information/ application functionality or operations.
- **Layout**- Enables sectioning of screen space flexibly to present information in an optimal, clear, and user friendly manner.
- **Form**- Presentation of information in different formats (Label-Value Pair, Grid, Tab, and so on).
- **Page**- Grouping of several forms which in turn consists of one or more frames.

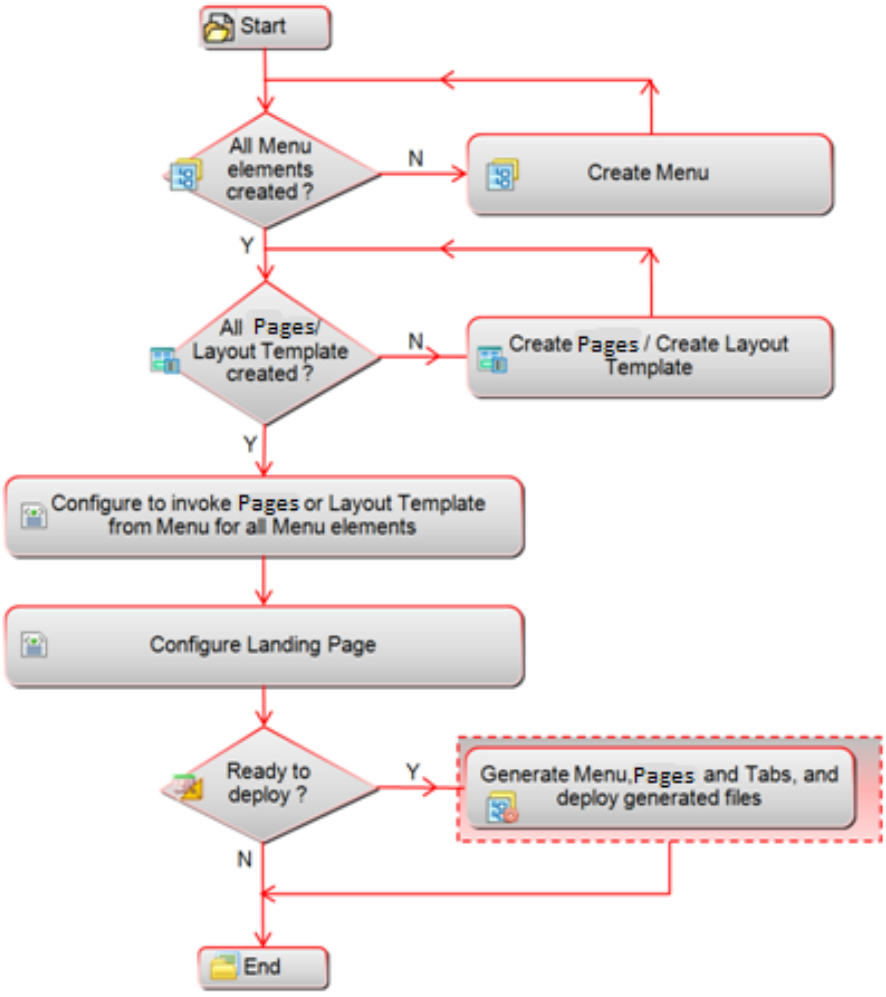


Figure 1. Flowchart of Forms Manager

2 Forms Manager

2.1 Deploying Forms Manager

To deploy Forms Manager, see Oracle Financial Services Analytical Applications Infrastructure Administration User Guide.

2.1.1 Accessing Forms Manager

To access Forms Manager, follow these steps:.

1. From a client workstation, open the client browser and provide the URL as <http://<address>:<servlet port>/formsmanager/

   For example, http://10.111.222.111:8888/formsmanager/

   NOTE: If https configuration is enabled, the client browser will need to disable the proxy servers through the client browser's internet options.

2. The Forms Manager login screen is displayed:

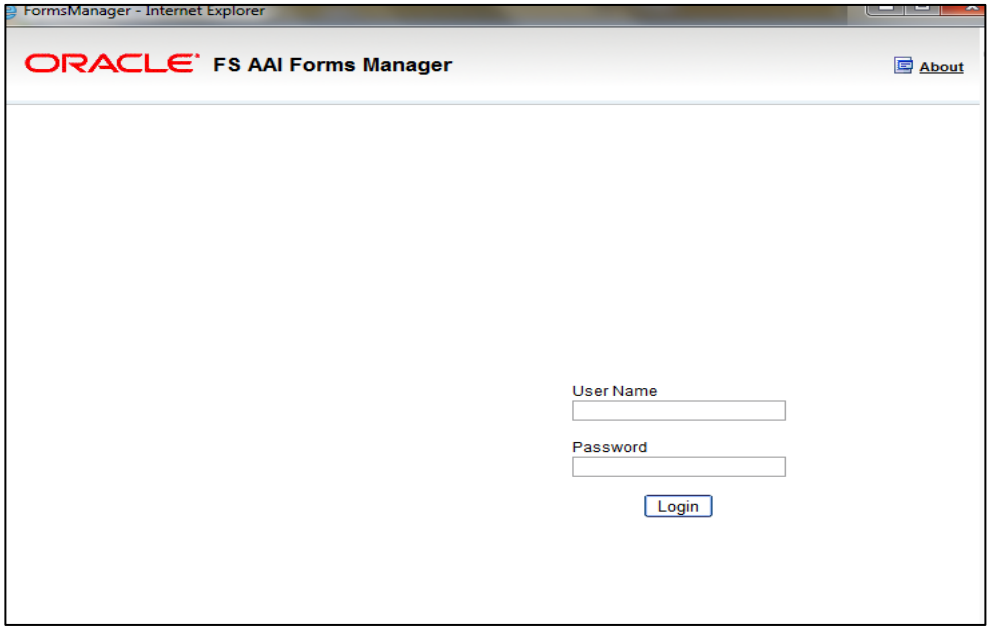


Figure 2. Forms Manager Login Screen

3. Enter your user ID and password. Any of the users created in Oracle Financial Service Applications Infrastructure can be used as User ID.
4. Click **Login**. The Application Packs page is displayed.
5. Click the Application for which you want to create/ edit Forms. The Forms Manager home page is displayed.

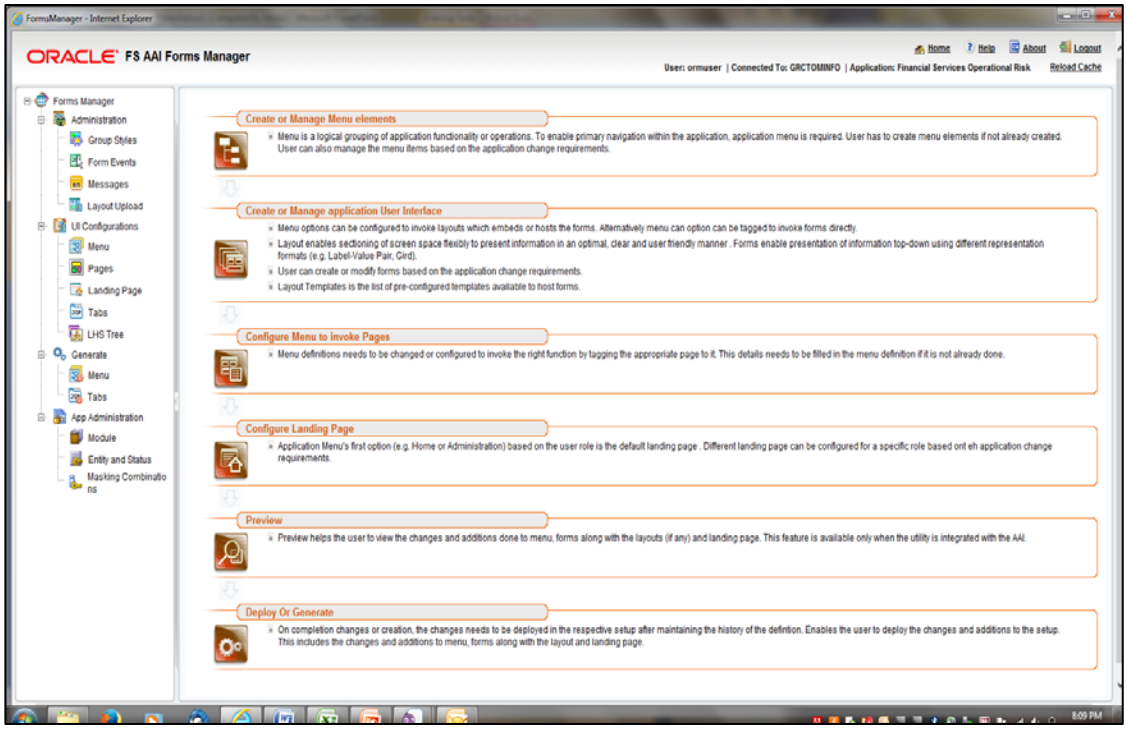


Figure 3. Forms Manager Home Screen

2.2 Forms Manager Home Page

The Forms Manager Home Page explains the flow of creating an Application through Forms Manager on the right hand side, and the controls to perform this task are on the left hand side. Using these controls, we can create Menus, Pages, Tabs and so on, and generate the same to create an Application.

2.3 User Interface Components in Forms Manager

The user interface components include menu, frame, form, container, control, and so on, that are used for the design of the user interface. More effective and powerful designs can be achieved by masking, enabling, and disabling of the components and adding validations.

Following are the descriptions for some of the user interface components.

- **Menu**– A component that displays a list of commands, presented to a user based on the user role. A menu can have up to three levels. The level determines the parent - child hierarchy of the menu items. A Menu can be used to display a page of the user interface.
- **Page**– A page is a physical instance of a layout template. A page holds components like containers and controls. A page can have one or more containers. A container can have one or more controls. A Page contains blocks that in turn call the objects which can be a Form, Tab or JSP.

  The following figure displays the layout design of a page with containers and controls.

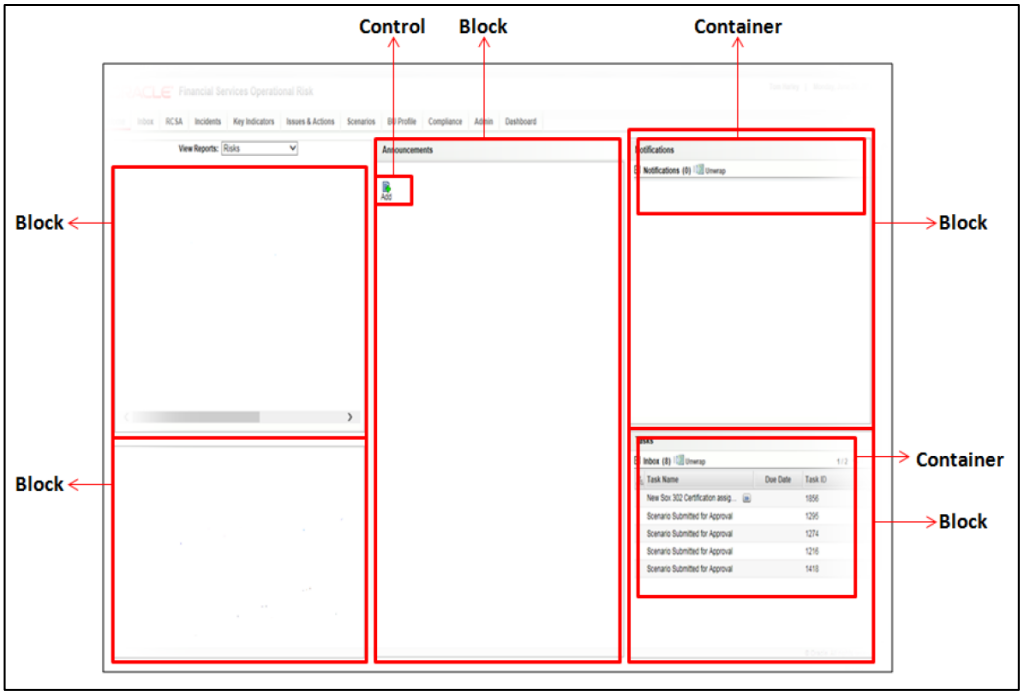


Figure 3. Page Components with Form, containers and controls

- **Tab**– A component, usually in the shape of a file folder tab, which displays a page of the user interface.
- **Tab Group**– A component that is a collection of tabs.
- **Form** – A component of a page that holds containers and controls.
- **Container** – A component within a form that acts as a background for holding smaller components like controls. Examples of containers are:

- **Normal Container** - A simple container with a label.

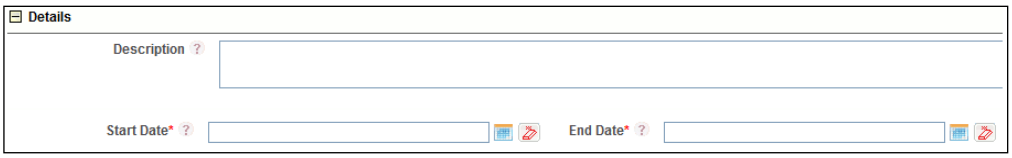


Figure 4. Normal Container

- **Search Container** - A container to display search fields with standard controls like Search and Clear/ Reset. A Normal Container can also be used instead of a Search Container.

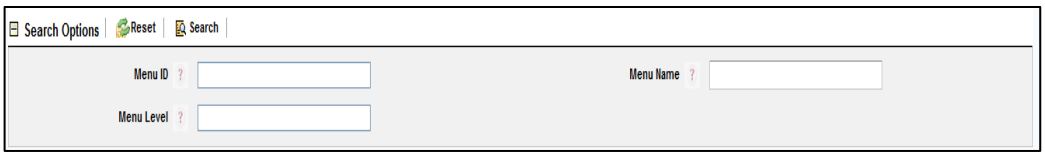


Figure 5. Search Container

- **Grid Container** - A container to display information in a tabular format.

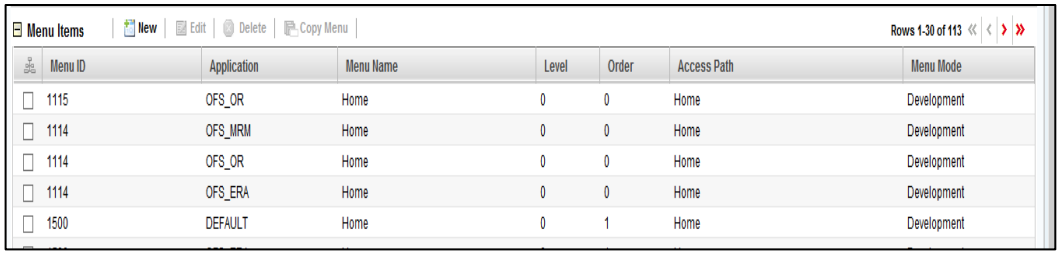


Figure 6. Grid Container

- **Tabbed Container** - A container to display different tabs in a form.

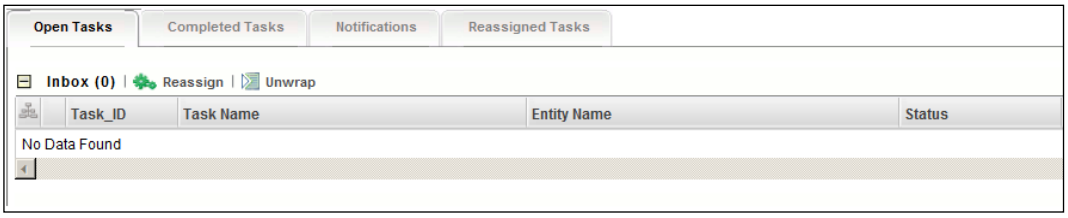


Figure 7. Tab Container

- **Button Container** - A container to define a set of button controls.
- **Difference Container** - A container to display the changes between selected records. It will show changes in different color.

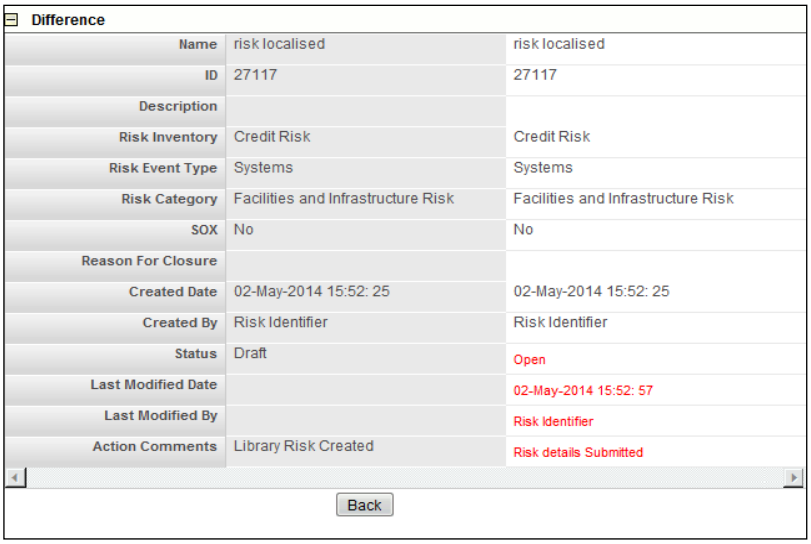


Figure 8. Difference Container

- **Control** – A component within a form (that is associated to a container) that performs various activities like performing an action, displaying the data, and allowing the user to interact with the application.

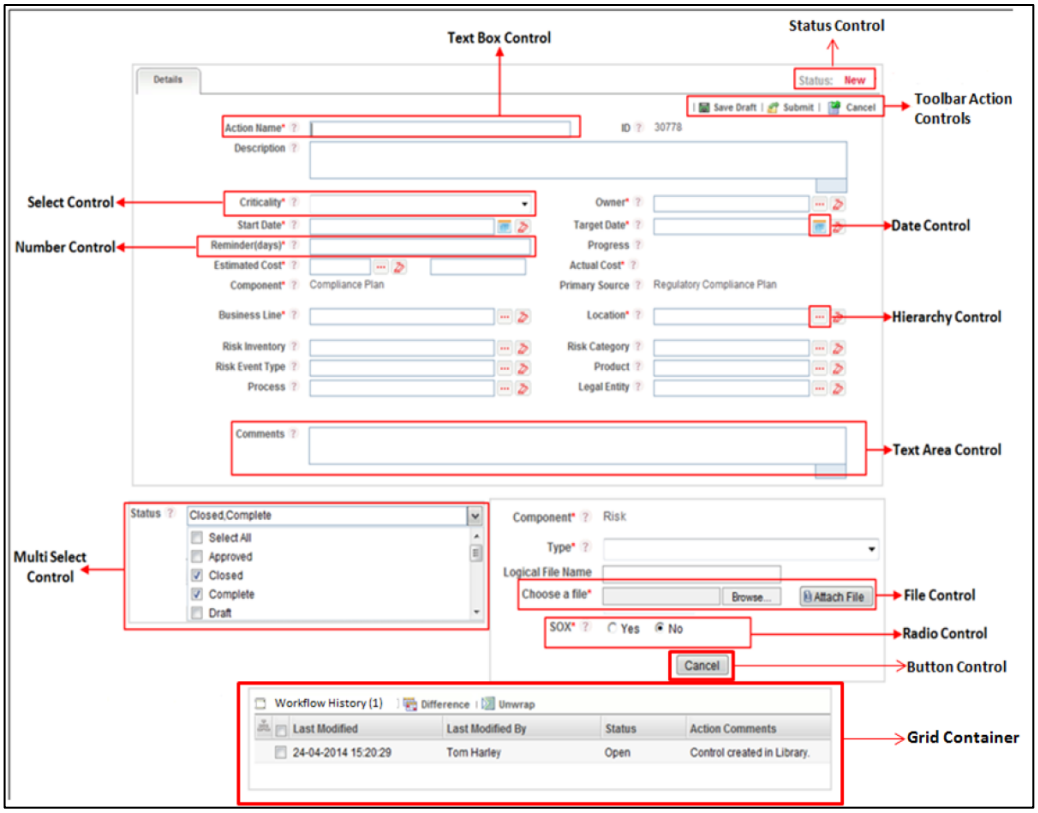


Figure 9. Different Controls

Examples of controls are:

- **Checkbox Control** – A control which enables selection of multiple options. Each option has a checkbox corresponding to it.
- **Radio Control** – A radio button that when clicked selects an option. It is not possible to select more than one option at the same time.
- **Select Control**– A control that allows single selection from a drop-down of fixed values.
- **Date Control**– A control that displays the calendar and permits the user to select a date.
- **History Control** – A control that inserts data into history tables.
- **Hierarchy Control** – A control that displays data after fetching from hierarchy.
- **KBD Control** – A set of Hierarchy controls (Key business dimensions).
- **Label Control** – A control that displays non-editable information.
- **MultiSelect Control** – A control that displays a list of values as a drop-down from which you can make multiple selections. The selection will fire dynamic query to fetch data.
- **Number Control** – A control that expects the entry of data in numeral format only.
- **Rich Text Control**– A control that expects the entry of big data in text format and supports the text with rich formatting features.

- **Text Area Control**– A control that expects the entry of big data in text format. You can also display the character count. For example, a control to enter a long description or comment.
- **Text Box Control**– A control that expects the entry of single line data in text format. For example, a control to enter name or short description.
- **Button Control** – A control for initiating or changing an action. For example, Save/ Ok, Cancel and Close.
- **File Control**- A control that is used to upload different types of files.
- **Image Label Control** – A control with an image and a label which when clicked opens another page.
- **Link Label Control** – A control that displays the text as a hyperlink which when clicked opens another page.
- **ToolBar Action Control**– A control that is used to open another form. This appears in header with an image. For example, control named “Create” when clicked opens the Create form.
- **Grid Control** - A control to call a grid container/ form.
- **Difference Control** – A control that calls a function to open a difference container.
- **Status Control**– A control that displays the status of a record such as New, Draft, Open or Closed.

- **Messages** – Messages are the preferred locale specific text that is displayed to the users. These messages are displayed to communicate the occurrence of an event or on checking of a validation. They are also used for displaying locale sensitive texts on the forms like Bread Crumbs, Header Text, Name of the ToolBar Action Control, and so on.

3 UI Configurations

3.1 Menu

3.1.1 Overview

Menu is a list of application operations or functionality presented to you based on your role. Menu elements can be defined in different levels. Level determines the parent - child hierarchy of the menu items.

3.1.2 Menu Details

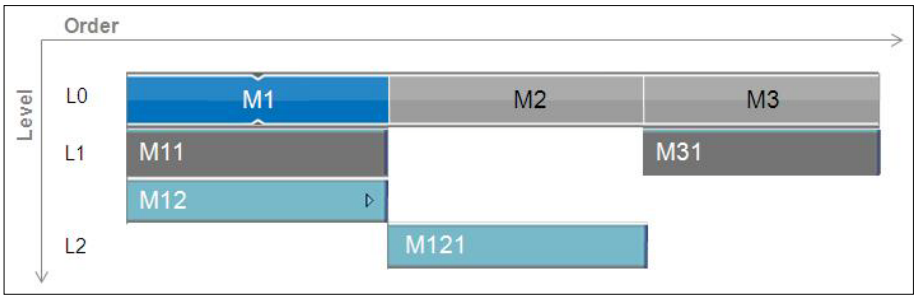


Figure 10. Menu items with different levels

- M1 menu is in horizontal order 1. It is in level '0' (L0) and it has 3 levels.
  - M11 and M12 are children of M1. These are in level '1' (L1)
  - M11 does not have any child.
    - M121 is the child of M12. It is in level 2 (L2).
- M2 menu is in horizontal order 2. It is in level ‘0’ (L0). It does not have any child.
- M3 menu is in horizontal order 3. It is in level ‘0’ (L0)
  - M31 is child of M3. It is in level ‘1’ (L1)

More on Menu:

- Maximum number of levels supported is 3 (i.e. L0,L1,and L2).
- Maximum number of children a parent can have -> No limitation. But it is advisable to keep the maximum number of children around 5 for better representation of the page.
- For L0 elements, order means horizontal (→) order.
- For L1/L2 elements, order means vertical (↓) order.
- If there are more number of menu elements present than the configured number of menu to be displayed at a time, then the rest of the menu will be displayed on clicking icon.

3.1.3 Flowchart

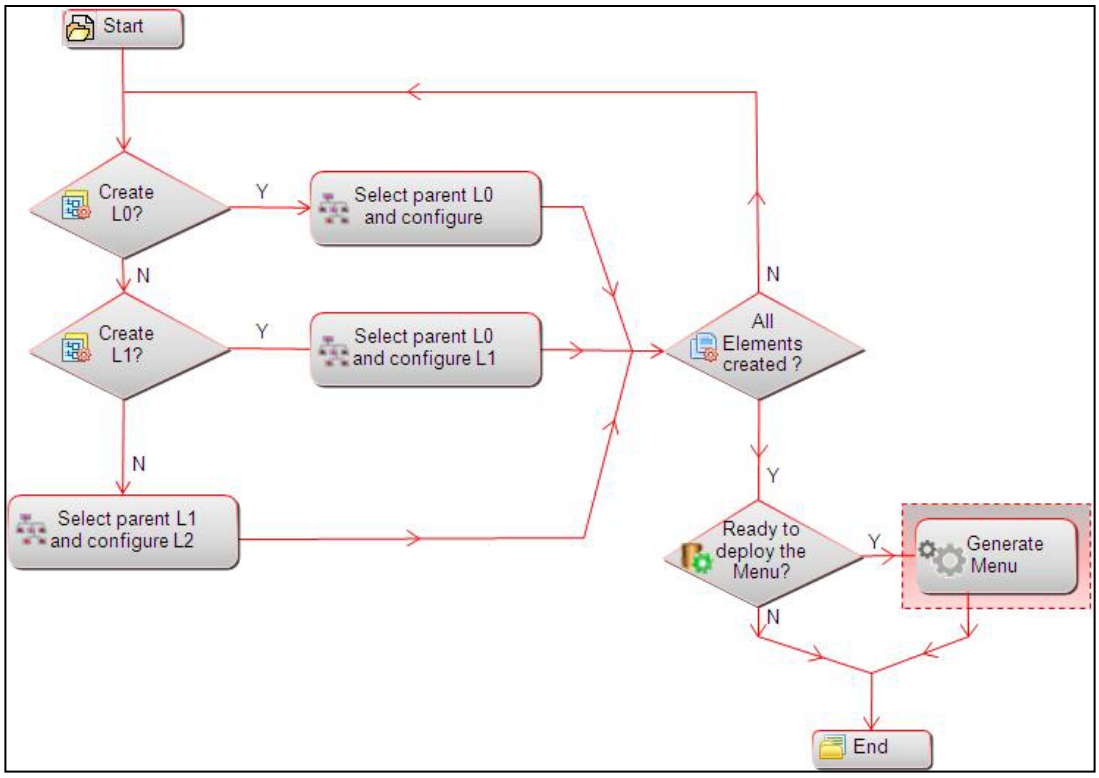


Figure 11. Flowchart of Menu

3.1.4 How to Create Menu?

Steps to create a new Menu

1. From the LHS menu, expand **UI Configurations** and click **Menu**. The *UI Configurations Menu* window is displayed.
2. Click **New** in the *Menu Items* toolbar. The *Menu Maintenance* window is displayed.

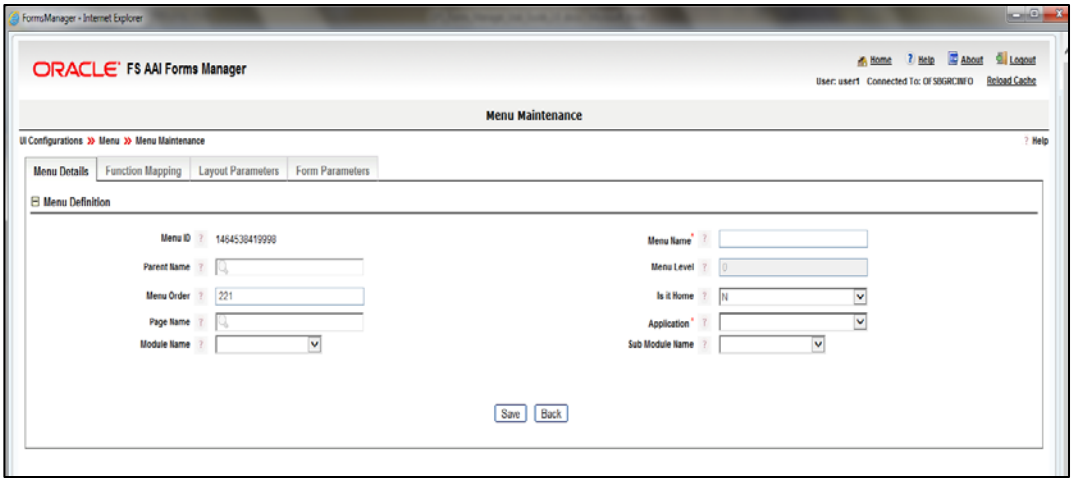


Figure 12. Menu Maintenance window

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Menu Details	
Menu ID	ID corresponding to the menu. It is a system generated unique number to identify the menu.
Menu Name*	Enter the name of the menu to be displayed in the application.
Parent Name	Enter/ select the name of the parent menu if you want to create a menu of Level 1 or 2. If this field is left blank, a menu of level 0 is created. After typing characters in the text field, parents name similar to the entered values will be popped up in the suggestion box.
Menu Level	Level determines the parent /child hierarchy of the menu. Currently maximum number of levels supported is 3. If **Parent Name** is not selected, the level will be **0** by default. If a parent of level **0** is selected, then the level value will be **1** and if a parent of level **1** is selected, then the level value will be **2**. When you are modifying the levels of an existing Menu, then the corresponding parent and /or child levels changes is not automatic. You need to make the level changes for the corresponding parent and /or levels need to be modified using the same option for each of the corresponding menu items that will get affected.
Menu Order	Enter the order of the menu. Based on this order, the menu will be displayed compared to other menu in the same level. For example, if you want to display two menus namely Administration and Generate, specify the menu order of Administration as 1 and Generate as 2 so that Administration will be the first menu available and Generate will be the second menu available.
Is it Home	Select **Y** from the drop-down list to make this page as home page for the menu. The available values are **Y** and **N**.
Page Name	Enter the name of the page to be called from the menu. After typing characters in the text field, page name similar to the entered values will be popped up in the suggestion box.
Application*	Select the Application ID from the **Application** drop-down list. The Menu will be displayed in the selected Application.
Module Name	Select the Module from the **Module Name** drop-down list. This list is displayed based on the Application selected.

Field Name	Description and Remarks
Sub Module Name	Select the Sub Module from the **Sub Module Name** drop-down list. This list is displayed based on the Application and Module selected.

3. Click the **Function Mapping** tab.

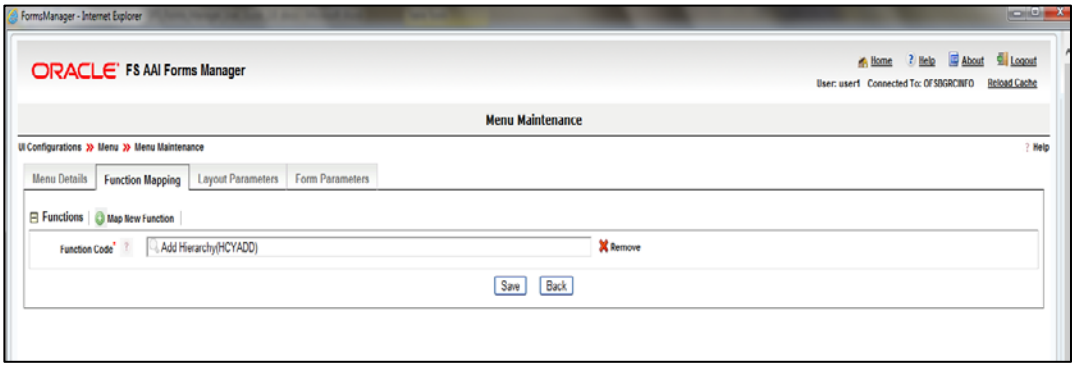


Figure 13. Menu - Function Mapping tab

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Function Code*	Click **Map New Function** in the *Functions* toolbar and enter the function code to be mapped with the menu. The users with this function code mapped can only access the menu. After typing characters in the text field, function codes similar to the entered values will be popped up in the suggestion box. For more information on Function creation, see *OFSAAI User Guide*.

4. Click the **Layout Parameters** tab. Click **Add New Parameter** in the *Parameters* toolbar.

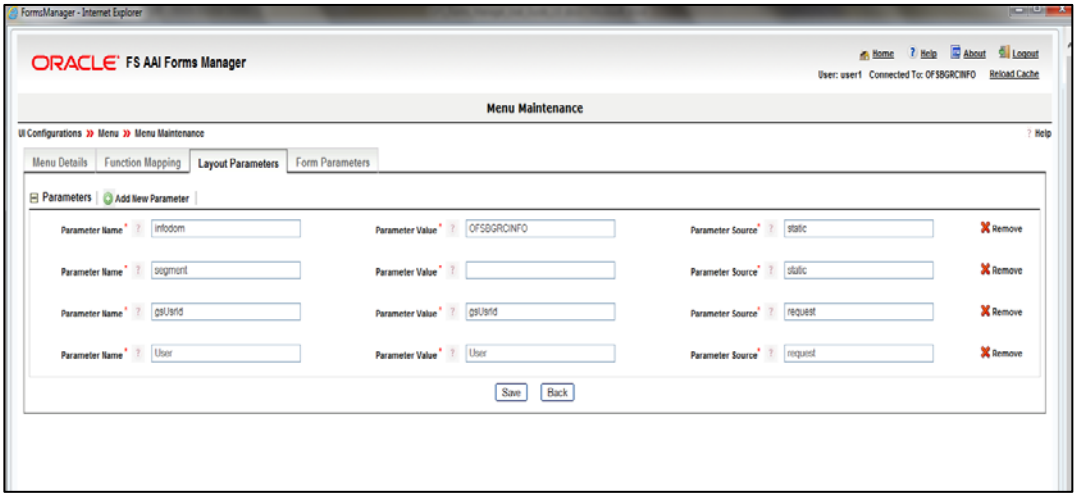


Figure 14. Menu - Layout Parameters tab

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Parameter Name*	Enter the name of the parameter to be passed to the layout template. The parameter names are case sensitive.
Parameter Value*	Enter the value of the parameter mentioned in the **Parameter Name** field.
Parameter Source*	Enter the source of the parameter mentioned in the **Parameter Name** field.

NOTE: The reserved parameters are infodom, segment, gsUsrId, usrLocale, and roleCode. These parameters are used in every call to any object in the Forms Manager, whose name, value, and source should not be modified or removed.

5. Click the **Form Parameters** tab.

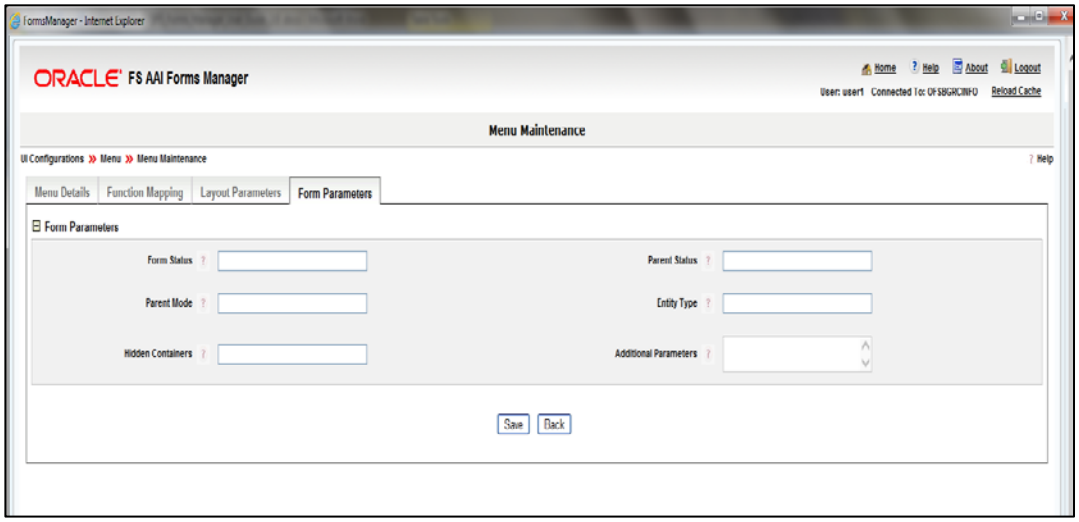


Figure 15. Menu - Form Parameters tab

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Form Status	Enter the form status. Combination of Form Status, Parent Status, and Parent Mode is used in masking.
Parent Status	Enter the parent status. Combination of Form Status, Parent Status, and Parent Mode is used in masking.
Parent Mode	Enter the parent mode. Combination of Form Status, Parent Status, and Parent Mode is used in masking.

Field Name	Description and Remarks
Entity Type	Enter the unique id for each entity like risk, or **control**. Based on this value the flow of operation will be determined.
Hidden Containers	Enter the ID of the containers which should be made hidden on loading this page, separated by comma.
Additional Parameters	Enter any additional parameters. These parameters will be passed to the query while fetching data. **Note**: If you want to pass some additional parameter/ logic while fetching data, you can configure it here. For example, the following format is used for this field: `&Param1=Value1&Param2=Value2&`

6. Click **Save**. Click **Back** and return to the *UI Configurations Menu* window.

NOTE: Form Parameters are applicable for Pages which are defined on Form Layout.

3.1.5 Menu Maintenance

From the LHS menu, expand **UI Configurations** and click **Menu**. The *UI Configurations Menu* window is displayed.

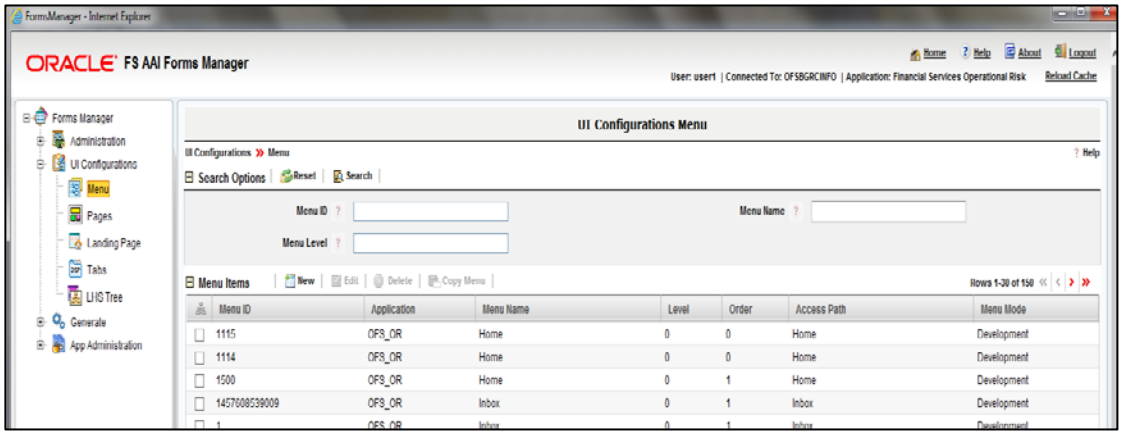


Figure 16. UI Configurations Menu window

Action	Description
Search	Enter **Menu ID, Menu Name,** and **Menu Level** and click **Search** in the *Search Options* toolbar.
Modify	Select a menu and click **Edit** in the *Menu Items* toolbar to modify a menu.

Action	Description
Copy Menu	Select a menu and click **Copy Menu** in the *Menu Items* toolbar to copy a menu.
Delete	Select a menu and click **Delete** in the *Menu Items* toolbar to delete a menu.

3.2 Pages

3.2.1 Overview

Pages are used to present application information in different formats using containers, and controls. Pages are placeholders for containers and the controls are embedded into containers. A Page contains blocks that in turn call the objects which can be a Form, Tab or JSP.

There can be multiple containers inside a page. Similarly there can be multiple controls in a container.

NOTE: Having excessive number of Containers in a Page or excessive number of Controls in a Container may degrade the presentation / look of the page in addition to performance.

3.2.2 Flowchart of Creating a Page

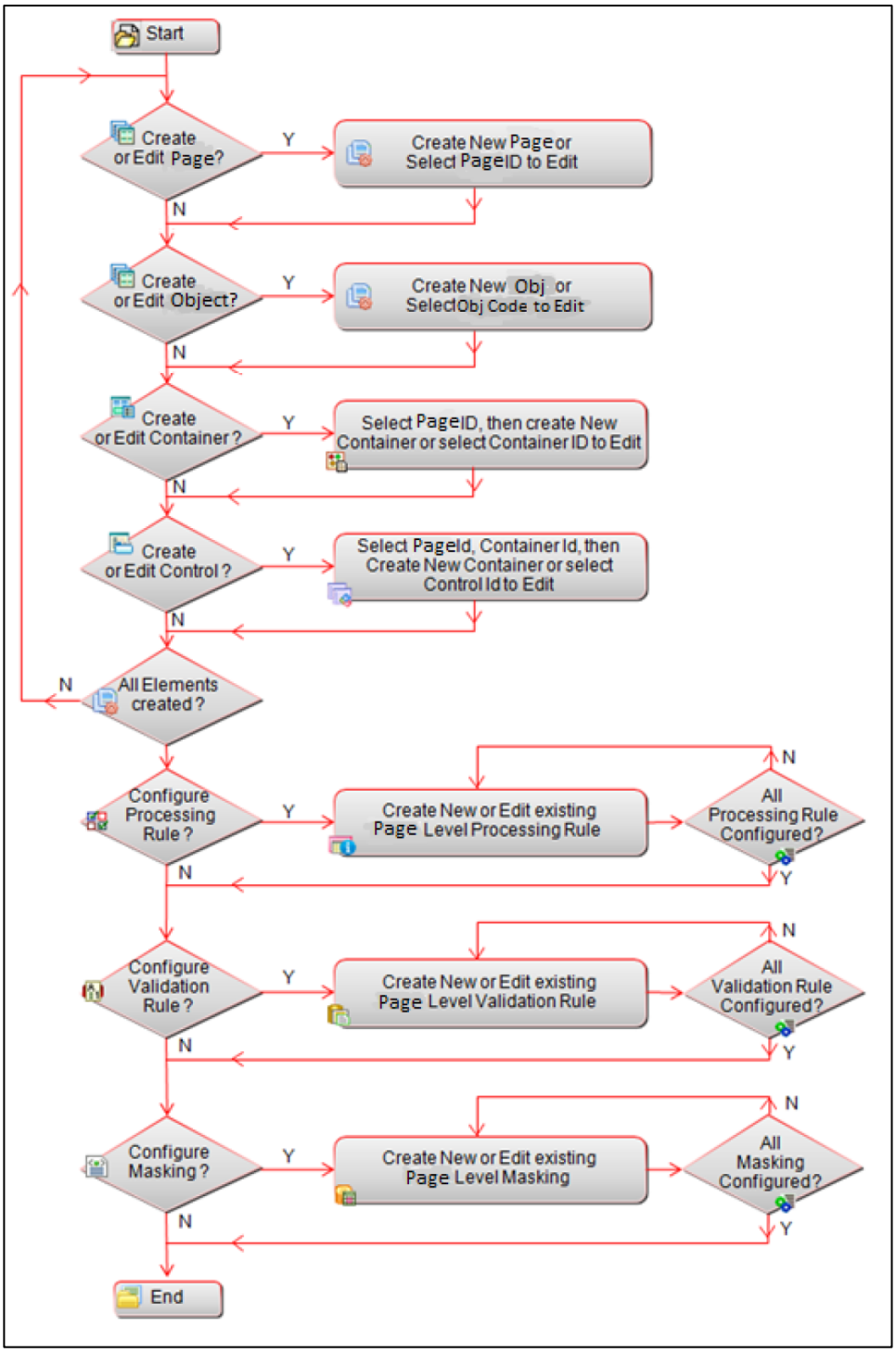


Figure 17.Flowchart of creating a Page

NOTE: Grid level Masking (Record based Masking) can be done through application front end. The above diagram includes Form level masking through Forms Manager Utility.

3.2.3 How to create a Page

Steps to create a new Page

1. From the LHS menu, expand **UI Configurations** and click **Page**. The *Pages* window is displayed.
2. Click **New** in the *Pages* toolbar. The *Page Details* window is displayed.

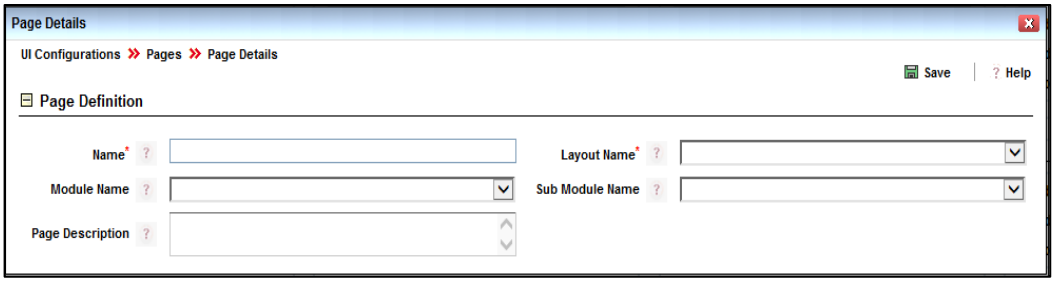


Figure 18. Page Details window

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Form Details	
Name *	Enter the Name of the Page you want to create.
Layout Name*	Select the type of Layout for the page from the drop-down list. This list is populated based on the Layout Templates created or seeded in the *Layout Upload* section.
Module Name	Select the Module from the **Module Name** drop-down list where this page will be called.
Sub Module Name	Select the Sub Module from the **Sub Module Name** drop-down list where this page will be called. This list is displayed based on the Module selected.
Page Description	Enter the description for this page. It is advisable to give some meaningful description with relevance to the function of the page.

3. Click **Save**. The *Page Maintenance* window is displayed.

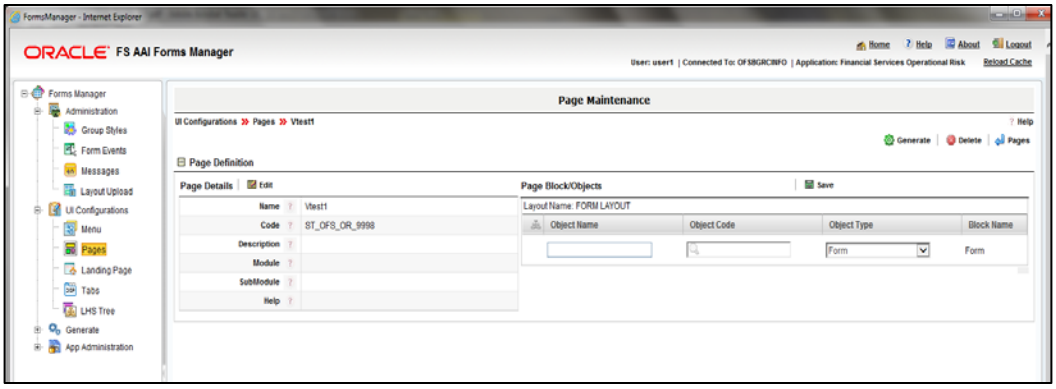


Figure 19. Page Definition Window

4. In the *Page Block/Objects* section, you can either select an existing **Object Code** or you can create a new Object by entering the **Object Code** and **Object Name**. for the page. After typing characters in the text field, Object Codes similar to the entered values will be popped up in the suggestion box. Select the appropriate one. The corresponding **Object Name** will be displayed..Object Type can be of three types: Form, Tab and Custom JSP.

5. Click **Save**. The *Page Maintenance* window is displayed.

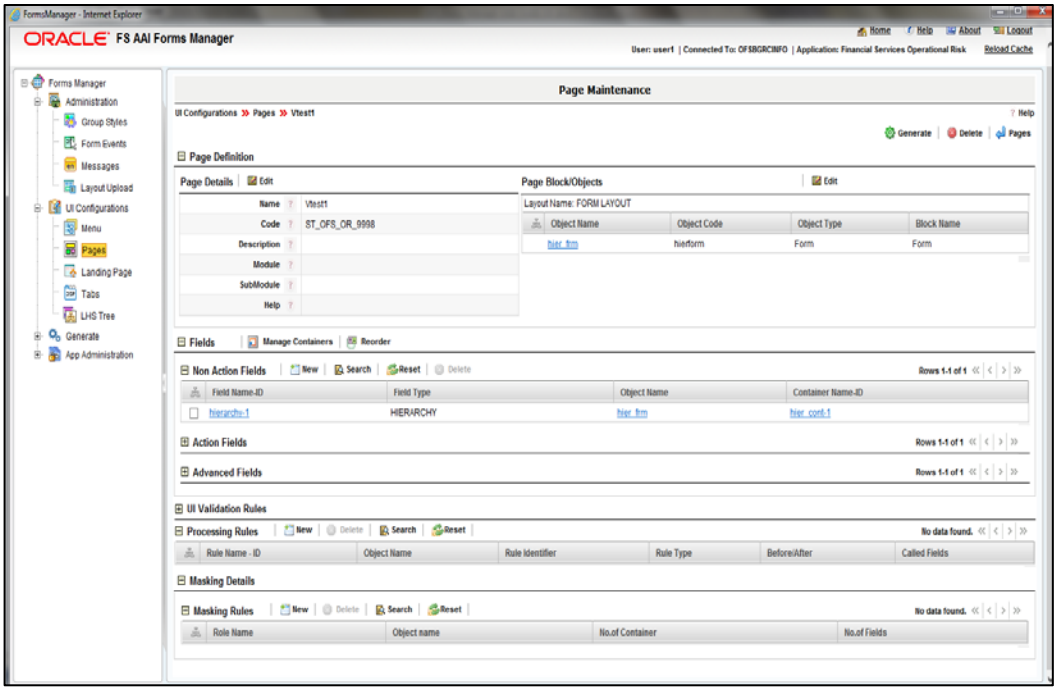


Figure 20. Page Maintenance Window

6. Click the **Object Name**. The *Page Block* window is displayed.

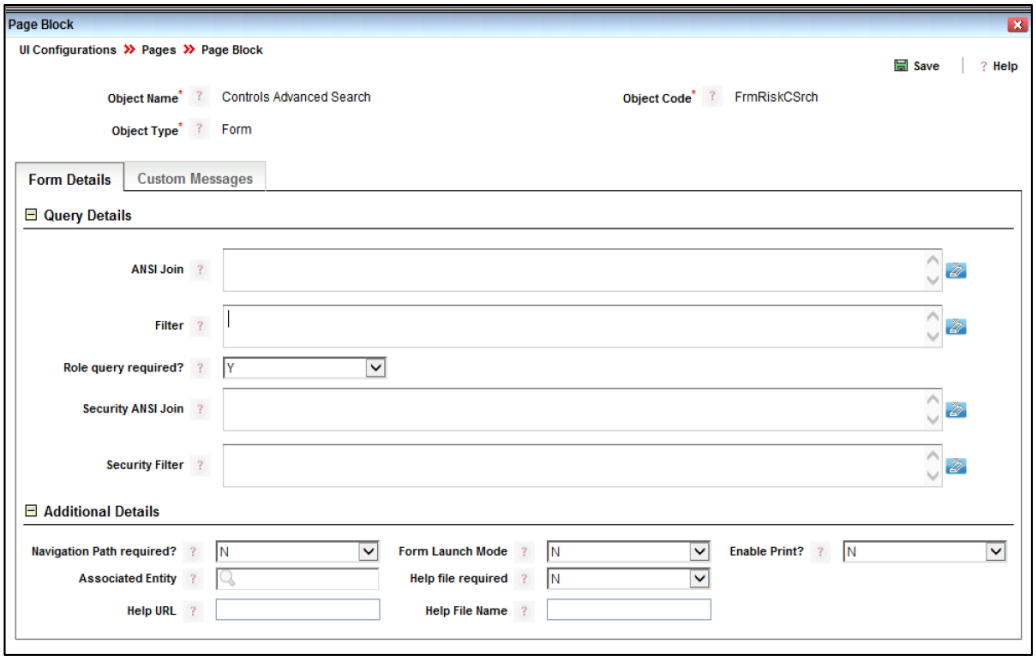


Figure 21. Page Block Window

7. In the *Page Block* window, the Object Name, Object Code and Object Type of the page are displayed. Enter the following details in the **Form Details** tab.

Field Name	Description
Query Details	
ANSI Join	Enter the "From" clause of the database select query to retrieve the data for containers presented in the form and in case of Child Form to retrieve the data for grid. (Length of this column is 4000 bytes so for big query extra space should not be there, indentation is not required).
Filter	Enter the "Where" clause of the database select query to filter data while fetching from database. (Length of this column is 4000 bytes so for big filter condition extra space should not be there, indentation is not required.)
Role query required?	Select **Y** if query for Role is required.
Security ANSI Join	Enter the list of entities which are involved in fetching the user roles. You can enter entities separated by comma or combined by Join conditions. For example, "select de_cssms_group_role_map.V_ROLE_CODE HROLE from de_cssms_group_role_map inner join user_group_map on user_group_map.V_GROUP_CODE = de_cssms_group_role_map.V_GROUP_CODE". For this query, the entry will be “de_cssms_group_role_map inner join user_group_map”.

Field Name	Description
Security Filter	Enter the filter conditions used by "Security DS Entities" to filter roles for current user. For example, "user_group_map.V_USR_ID= '%USER_ID%')". These two fields are used to apply security settings for the form based on user roles.
Additional Details	
Navigation Path Required	Select **Y** if you want to display the navigation path, from the drop-down list.
Form Launch Mode	Select **Y** if you want to overlay this form on another form, from the drop-down list. This is used if you want to go back to the previous form (from where this form is launched)..
Enable Print?	Select **Y** if print icon needs to be displayed on top right side of the page for printing the page..
Associated Entity	Enter the Entity that is created for the Application which will be associated to this Object. For more information, see How to Create Application Entities. This is used for masking purposes.
Help File Required	Select **Y** if Help File is required.
Help URL	Enter the location of the help file.
Help File Name	Enter the help file name.

8. Click the **Custom Messages** tab and click **Add Messages**.

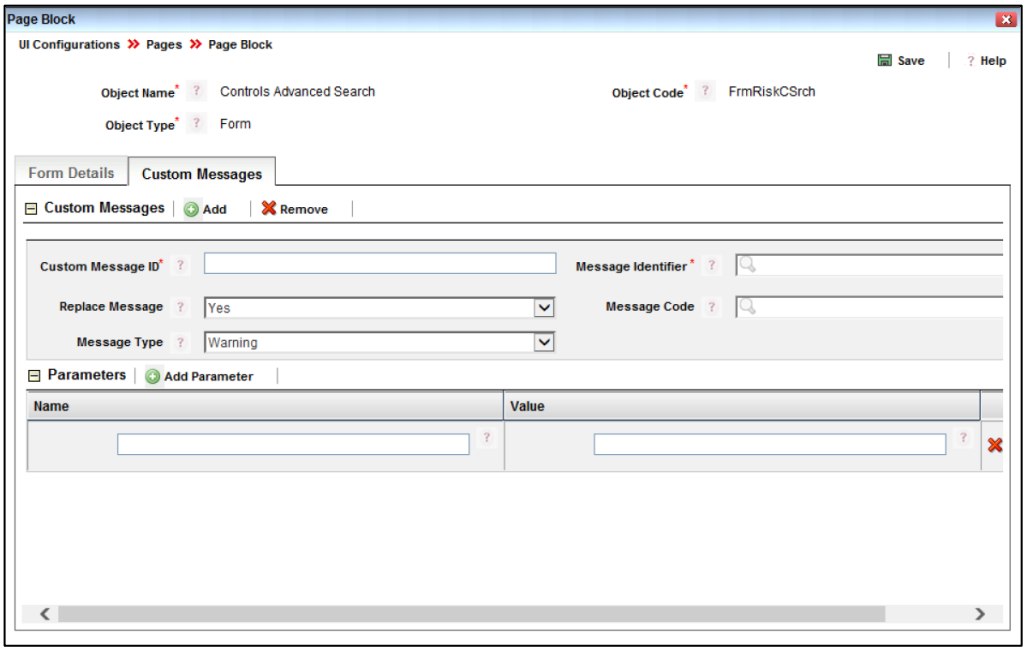


Figure 22. Page Block- Custom Messages Tab

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Custom Message ID*	Enter a unique id for the Custom Message.
Message Identifier*	Select the locale specific message. This should be defined from the *Messages Maintenance* window.
Replace Message	Select **Yes** if you want to replace the platform message with user defined/ application message. You can also give locale specific messages here.
Message Code	This field is displayed only if you have selected **Yes** in the **Replace Message** field. Select the platform message, which you want to replace with the custom/ application message defined in **Message Identifier** field.
Message Type	Select the message type from the drop-down list. The options are Warning, Error, Failure, Success, Confirm, Information, and Message.
Parameters Click **Add Parameter** in the *Parameters* toolbar. You can remove a parameter by clicking the **Remove** button corresponding to the parameter entry.	
Name	Enter the name of the parameter.
Value	Enter the value of the parameter.

9. Click **Save**.

3.2.4 How to Create a Container

1. From the *Page Maintenance* window, click **Manage Containers** in the *Fields* toolbar. The *Container Details* window is displayed.

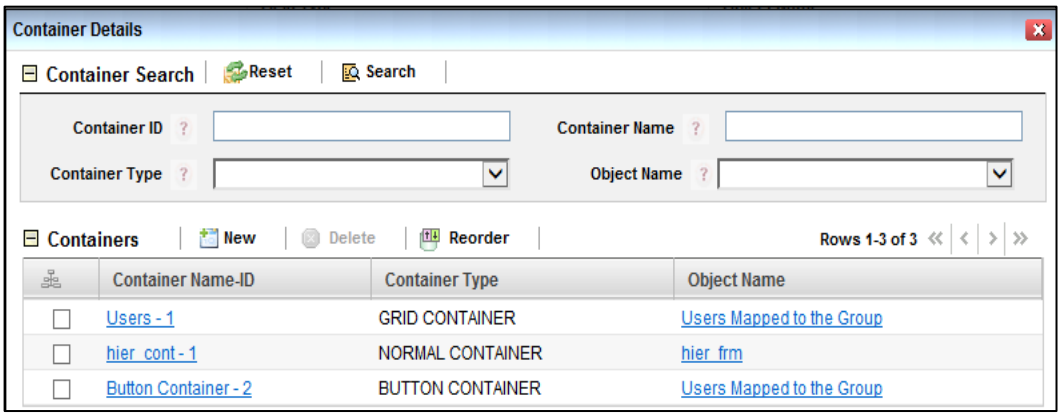


Figure 23. Container Maintenance window

2. Click **New** in the *Containers* toolbar. The *Container* window is displayed.

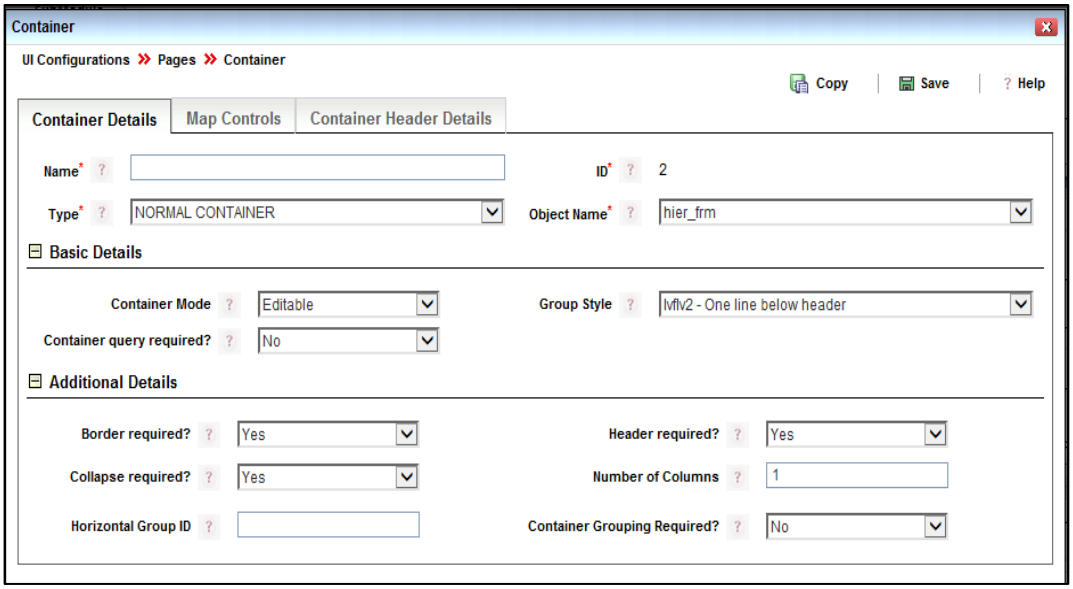


Figure 24.. Container- Container Details Tab

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Container Details	
Name*	Enter the name of the container.
ID*	ID corresponding to the container. It is a system generated unique number to identify the container.

Field Name	Description
Type*	Select the type of the container from the drop-down list. The options are: ▪ SEARCH CONTAINER - To draw search container which will show Clear/ Reset button with each control. ▪ GRID CONTAINER - To draw grid in a form. This container can have only one Grid Control. ▪ NORMAL CONTAINER - To draw simple label value container. ▪ TABBED CONTAINER - To create tabs in a form. ▪ BUTTON CONTAINER - To show Action button in a form without any border and header. Action button can be aligned left, middle, or right through this container. ▪ AUDIT PANEL- It is a legacy container which is used to display the Mapper content. ▪ DIFFERENCE CONTAINER - To show the changes between selected records. It will show changes in different colors. For example, you can use this container to show the differences between audit records. **Note**: In this container, you should add only one Difference Control. You should not add any other controls.
Object Name*	Select the **Object Name** of the page from the drop-down list. This value is populated based on the selection of Object Code during Page creation.
Basic Details	
Container Mode	Select the container render mode from the drop-down list. The options are: **Editable**- You can edit the container details. **Viewable**- You can only view the container, you cannot edit it. **Hidden**- The container will not be displayed in the form. **Note:** It is supported only for those containers, for which masking is not applied. UI rule validations need to be added/ reviewed according to the modified Render mode. In the case of non-editable to editable mode, required Save operation needs to be implemented.
Group Style	This field is displayed if you have selected Search Container or Normal Container. Select the group style from the drop-down list. For information on available group styles, see Sample Group Styles. When you are changing an existing Group Style for a container and increasing the number of columns, ensure that control widths are modified accordingly.
Tab layout	This field is displayed if you have selected Tabbed Container. Enter the tab group id. This is used to group tabbed containers into one group.

Field Name	Description
Container query required?	Select **Yes** or **No** from the drop-down list based on whether Container Query is required or not.
ANSI Join	This field is displayed if you have selected **Yes** in the **Container query required?** field. Length of this column is 4000 bytes, so for big query extra space should not be there and indentation is not required.
Filter	This field is displayed if you have selected **Yes** in the **Container query required?** field. "Where" clause of database select query to filter data for the Dataset Entities while fetching from database. Length of this column is 4000 bytes, so for big query extra space should not be there and indentation is not required.
Additional Details	
Border required?	Select **Yes** to display border to the container.
Header required?	Select **Yes** to display header to the container.
Collapse required?	Select **Yes** to display the collapse button for the container. The Collapse property is not selected as No for the container that is already minimized on load. When you add or remove the collapse property of a Container, the group styles that are specific to the container type is added.
Number of Columns	Enter the number of columns to be displayed in the container. When you are changing the number of columns in an existing Container and grouping the containers, take care of the alignment.
Horizontal Group ID	Enter a unique ID for all the horizontally aligned containers. Enter the same ID to group the containers.
Container Grouping Required?	Select **Yes** if Containers are to be grouped.

3. Click **Save**.
4. Click the **Map Controls** tab.

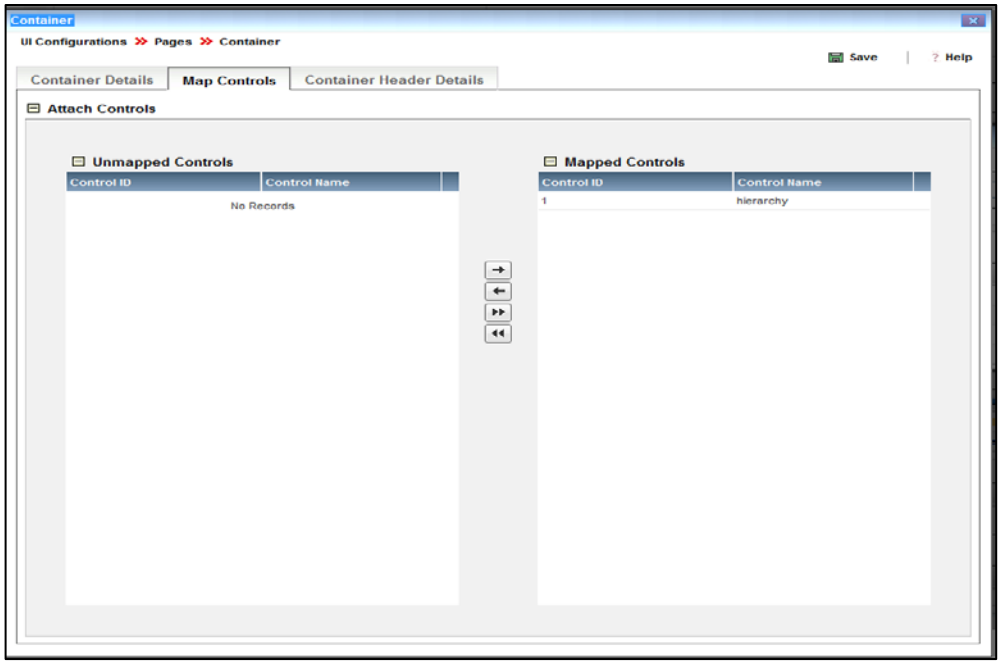


Figure 25. Container – Map Controls Tab

5. Move the Controls from the Unmapped Controls section to the Mapped Controls that you want in this container.
6. Click the **Container Header Details** tab. This tab is not displayed if the Container selected is of type Button or Tabbed.

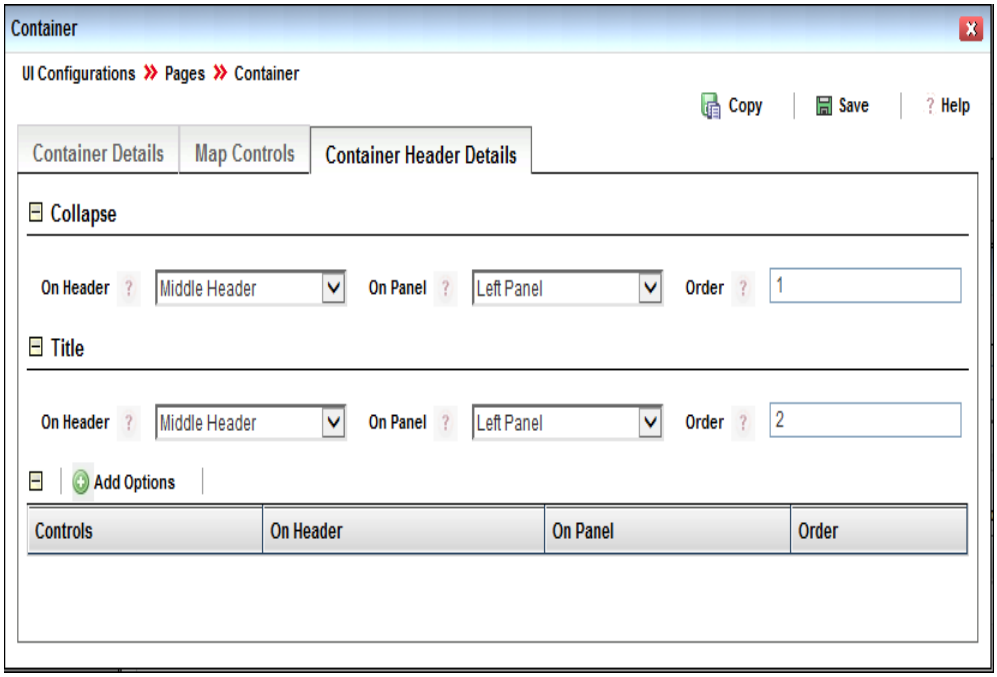


Figure 26. Container – Container Header Details Tab

Field Name	Description
Collapse	Select the position of the Collapse button on the header and on the panel (left, middle, or right) of the header from the **On Header** and **On Panel** drop-down lists respectively. Enter the order of the Collapse button in the panel of the grid header in the **Order** field. Collapse image should not be placed on Header 3, which is, Content Header.
Title	Select the position of the Title on the header and on the panel (left, middle, or right) of the header from the **On Header** and **On Panel** drop-down lists respectively. Enter the order of the Title in the panel of the grid header in the **Order** field.
Add Options If you want to add a new control in the grid header, click Add Options and enter the control details.	
Controls	Click and enter the control name in the popup. Select the position of the control on the header and on the panel (left, middle, or right) of the header from the **On Header** and **On Panel** drop-down lists respectively. Enter the order of the control in the panel of the grid header in the **Order** field. When you are adding a header, ensure that it does not create any distortion to headers, and suggested to use Type 25.

7. Click **Save.** The Container is displayed in the *Container Details* window.

3.2.5 How to Create Non-Action Controls

Steps to create a new Non- Action Control

1. From the *Page Maintenance* window of your page, click **New** in the *Non- Action Fields* toolbar. The *Add Non Action Controls* window is displayed.

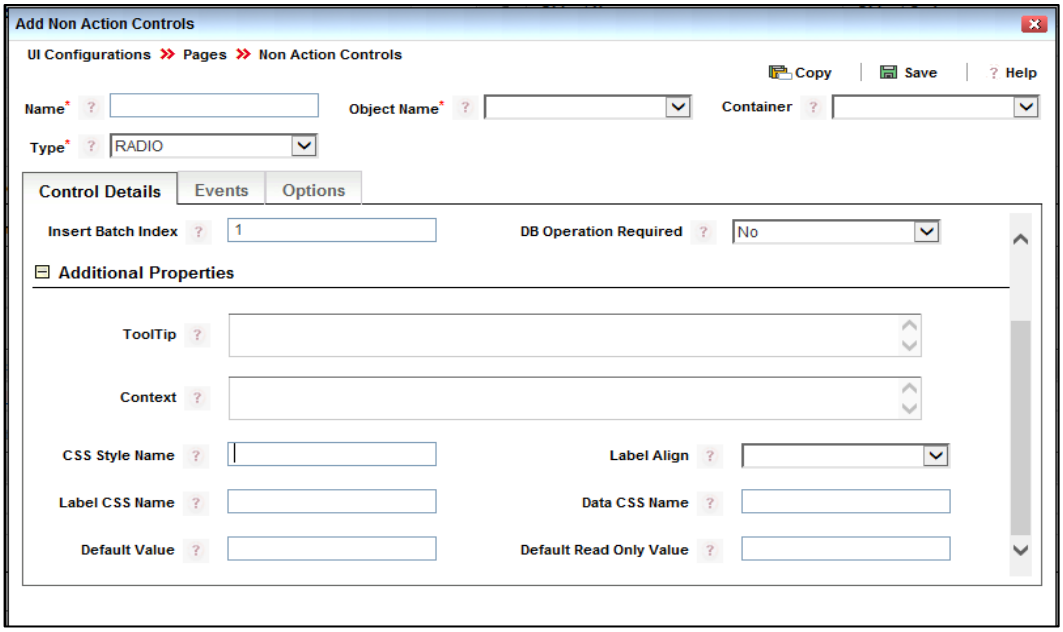


Figure 27.Add Non Action Control window

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Name*	Enter the name of the control.
Object Name*	Select the Object Name of the page from the drop-down list. This value is populated based on the selection of Object Code during Page creation.
Container	Select the Container from the drop-down list. This list is populated based on the Containers that are created for this page.

Field Name	Description
Type*	Select the type of the control from the drop-down list. The options are: ▪ CHECKBOX - To show checkbox. ▪ DATE - To show control with calendar. ▪ EXPRESSION- To show count with an image. ▪ HIERARCHY- To show data after fetching from hierarchy. ▪ HISTORY - To insert data in history table while performing DML operation. ▪ KBD – A group of Hierarchies which represent the Key Business Dimensions. ▪ LABEL - Non editable text control. ▪ MULTISELECT - Drop-down control which will fire dynamic query to fetch data. ▪ NUMBER - Allows to enter numbers only. ▪ RADIO - To show radio box. ▪ RICHTEXT - To enter rich text. ▪ SELECT - Single select drop-down with fixed values. ▪ TEXTAREA - To enter big data. ▪ TEXTBOX - Simple text box control. Based on the control type you select, the corresponding **Basic Properties** is displayed.
Basic Properties	
Control Mode*	Select the Control mode from the drop-down list. The available options are: **Editable**- The configured user can edit the control. **Viewable**- The configured user can only view the control, cannot edit it. **Hidden**- The control will be hidden.
Masking Required	Select **Yes** if masking is required for the control. Change the Control mode along with this option. This is to apply masking based on the masking rights for each role.
Is Mandatory	Select the checkbox to specify the control is mandatory.
Insert Batch Index	Enter an index number to group controls. Controls can be grouped based on table and based on their DB action. For example, all the controls with Insert Batch index =1 belongs to table 1 or can perform insert action. All the controls with insert Batch index =2 belongs to table 2 or can perform update action.

Field Name	Description
DB Operation Required	Select **Yes** if this control is used in database operation.
Additional Properties	
Tool Tip	Enter the tool tip to be displayed for the control.
Context	Enter the context help of the control.
Currency Group ID	Enter the Currency Group ID. This field is displayed only if Container selected is of the type Number/ Text Box/ Hierarchy.
No of Rows	Enter the Number of Rows for the Textbox. This field is displayed only if Container selected is of the type Textarea.
No. of Columns	Enter the Number of Columns for the Textbox. This field is displayed only if Container selected is of the type Textarea.
Css Style Name	Enter the style sheet applicable for the control.
Label Align	Select **Left** or **Right** based on which side of the container you want the control to be placed.
Label CSS Name	Enter the style sheet name applicable for the Label.
Data CSS Name	Enter the data style sheet name applicable for the Control.
Default Value	Enter the default value to be displayed for the control.
Default Read Only Value	Enter the default value to be displayed for the control. If the control is not part of the select query, value defined here will be displayed in the UI.
Placeholder	Enter the Placeholder details. This field is displayed only if Container is selected of the type Multiselect.

NOTE: Additional Details is not displayed for KBD type of Container.

2. Click the **Events** tab and click **Add Events.** This tab is not displayed if the Container selected is of type Label or History.

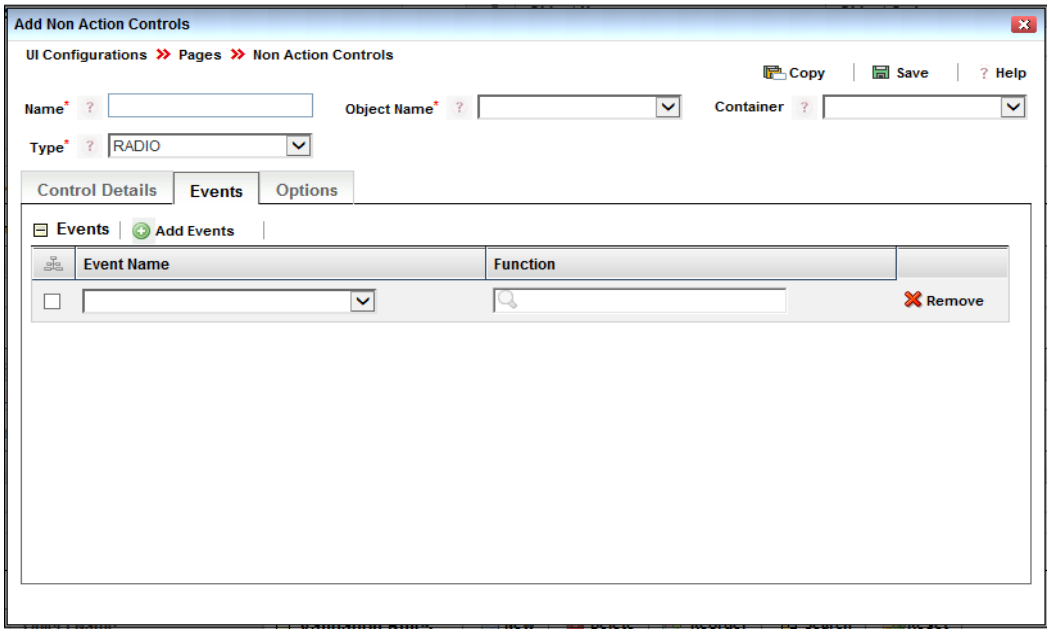


Figure 28. Add Non Action Control - Events tab

Field Name	Description
Event Name	Enter the name of the event which will call the required function. For example, for action control for saving a form, you need to call the event onClick. You can call platform or application specific functions and user defined functions. It is not advised to change the existing functions. However, if you still need to change a function, the impact should be properly analyzed. Pass the necessary parameters for the function.
Function	Enter the function name. For example, for action control for saving a form, you need to call the function SaveContainerAsDraft.

3. Click the **Options** tab. This tab is displayed only if the Container selected is of type Checkbox/ Radio/ Select.

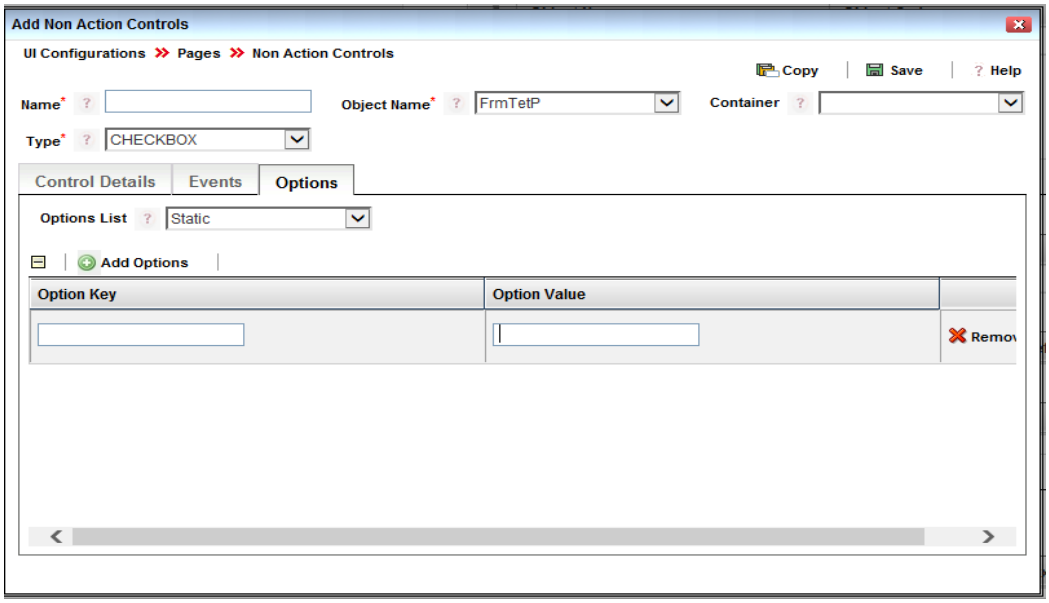


Figure 29. Add Non Action Controls – Options Tab

4. Select the **Options List** from drop-down list. The options signify whether the Control should be **Static** and **Dynamic.** Based on the options, perform the following steps:
   - Static: Click **Add Options.** Enter the **Option Key** and **Option Value** for the Control.
   - Dynamic: Enter the **Custom Query** for the Control. This is a mandatory field.
5. Click **Save**.

3.2.5.1 CheckBox/ Radio/ Select Control

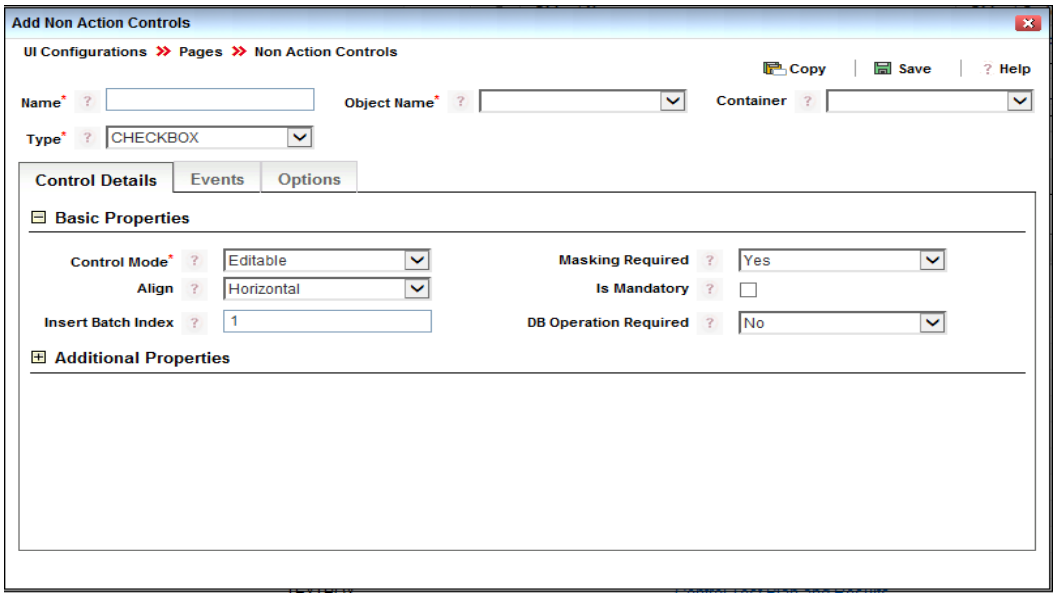


Figure 30. CheckBox/ Radio Control Details

Field Name	Description
Align	Select the alignment of the Control from the drop-down list. The options are **Horizontal** and **Vertical**.

3.2.5.2 Date Control

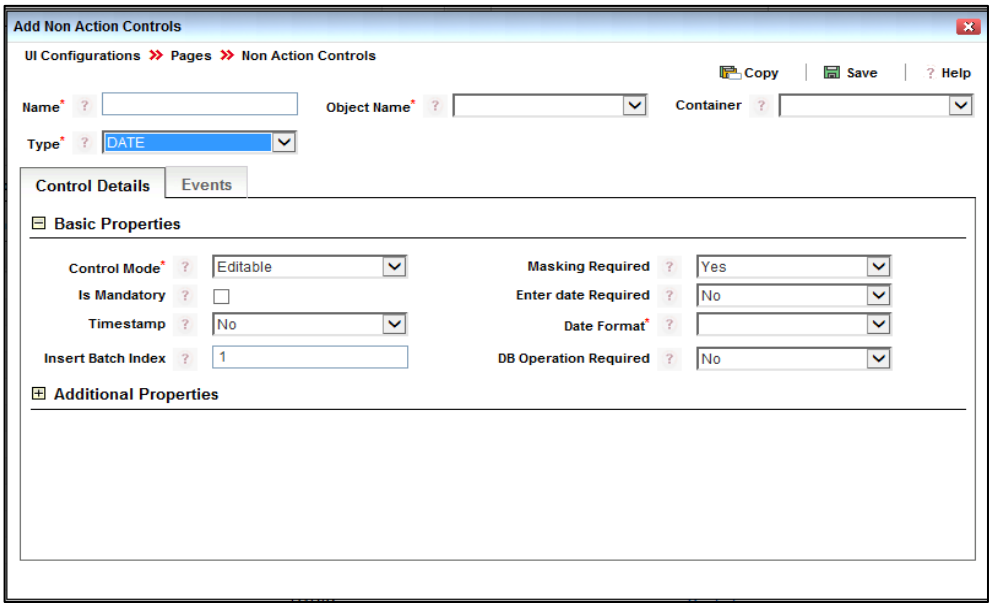


Figure 31. Date Control Details

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Enter Date Required	Select **Yes** if Date entry is required.
Timestamp	Select **Yes** if Timestamp has to be displayed.
Date Format*	Select the Date Format from the drop-down list.

3.2.5.3 Expression/ History Control

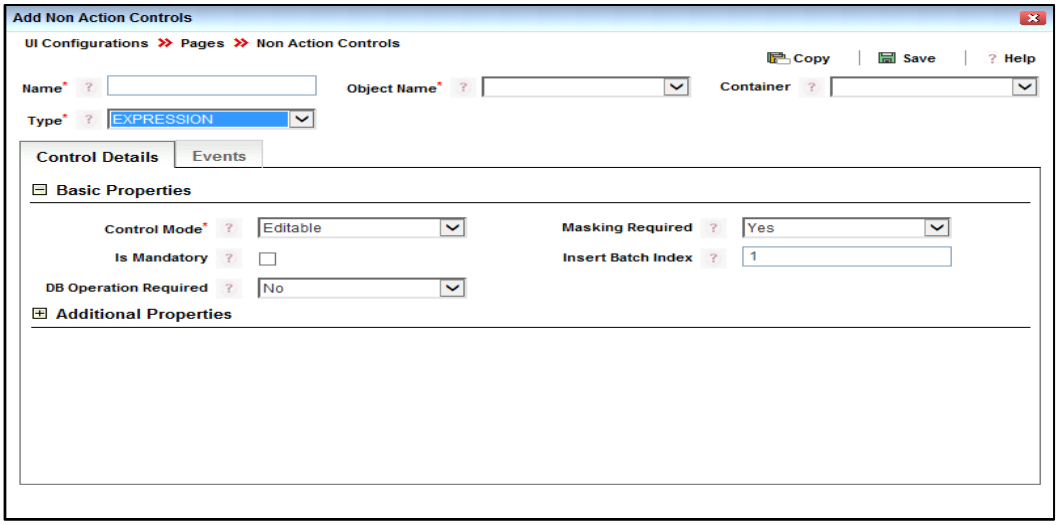


Figure 32. Expression/ History Control Details

3.2.5.4 Hierarchy Control

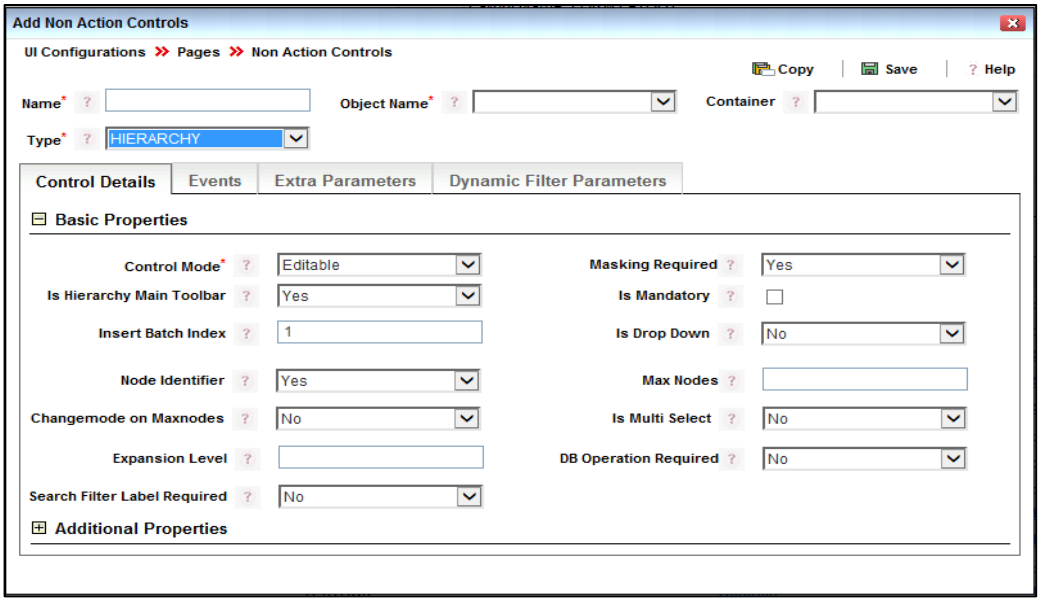


Figure 33. Hierarchy Control Details

Field Name	Description
Is Hierarchy Main Toolbar	Select **Yes** to enable the Hierarchy Main toolbar.
Is DropDown	Select **Yes** to display the Hierarchy data as drop-down list. This is applicable only when the hierarchy is displayed in drop-down mode. When you are changing the Hierarchy Display mode to drop-down from Yes to No and No to Yes, ensure that it would not cause any issue in the existing functionality.
Node Identifier	Enter the construct node identifier. The values are Yes or No.
Max Nodes	Enter the maximum number of nodes to be displayed in the hierarchy. Maximum number is applicable only when the hierarchy is displayed in drop-down mode.
Changemode on Maxnodes	Select **Yes** to change the mode of dropdown to hierarchy tree selection when the Max Nodes value is exceeded.
Is Multi Select	Select **Yes** to enable multiple selections of hierarchies.
Expansion Level	Enter the hierarchy nodes to the required expansion level.
Search Filter Label Required	Select **Yes** to enable the Search Filter.

1. Click the **Extra Parameters** tab. Click **Add Parameters**.

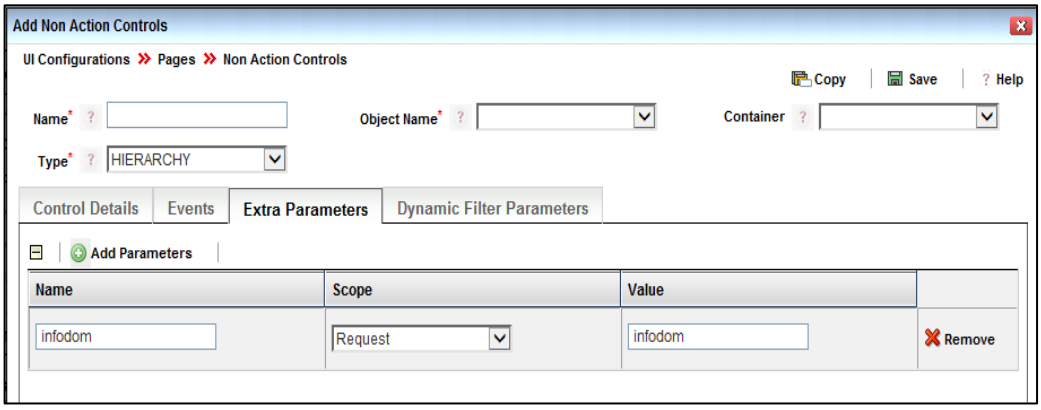


Figure 34. Hierarchy Control - Extra Parameters tab

Field Name	Description
Name	Enter the name of the parameter to be passed to the container. The parameter names are case sensitive.
Scope	Select the scope of the parameter mentioned in the **Name** field. The options are Static, Form, Request and Session.

Field Name	Description
Value	Enter the value of the parameter mentioned in the **Name** field.

2. Click the **Dynamic Filter Parameters** tab. Click **Add Parameters**.

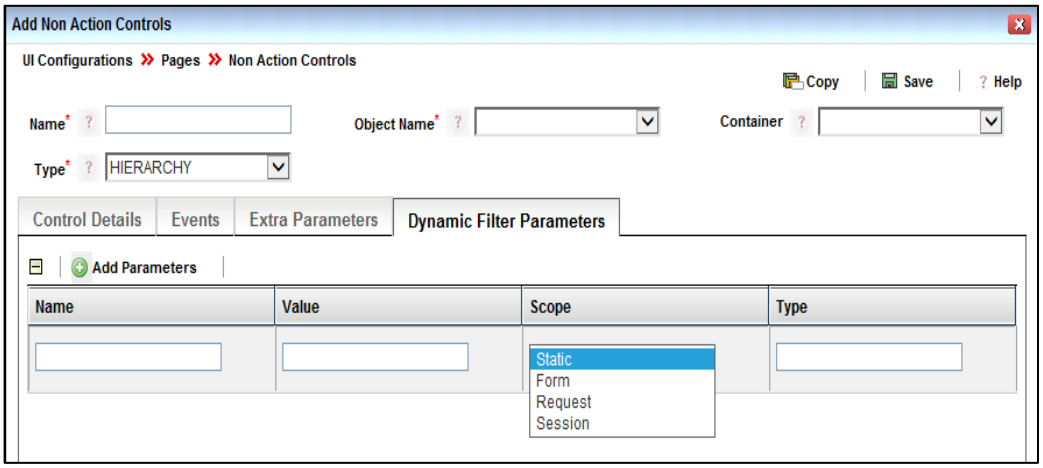


Figure 35. Hierarchy Control - Dynamic Filter Parameters tab

Field Name	Description
Name	Enter the condition expression of the dynamic filter.
Value	Enter the value to be passed to the dynamic filter.
Scope	Select the scope of the dynamic filter. The options are Static, Form, Request and Session.
Type	Enter the type of the dynamic filter.

3.2.5.5 KBD/ Label Control

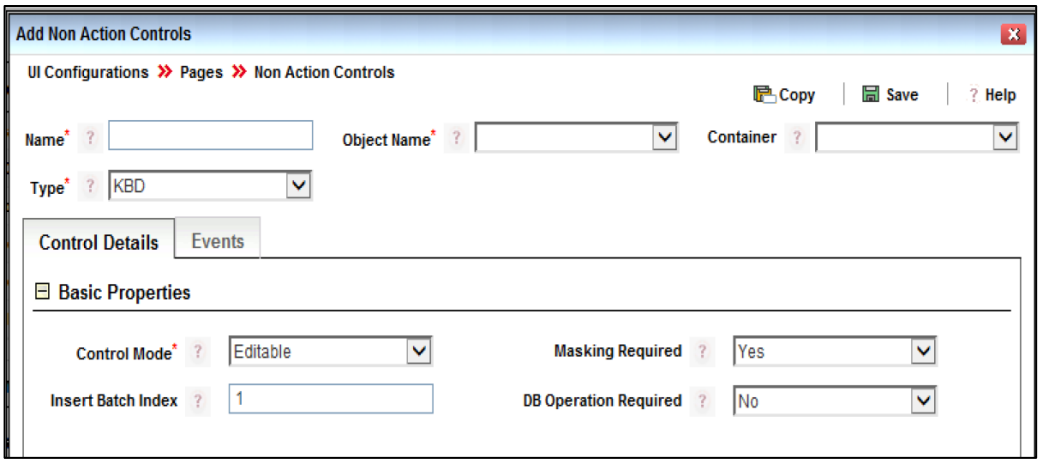


Figure 36. KBD/ Label Control

3.2.5.6 MultiSelect Control

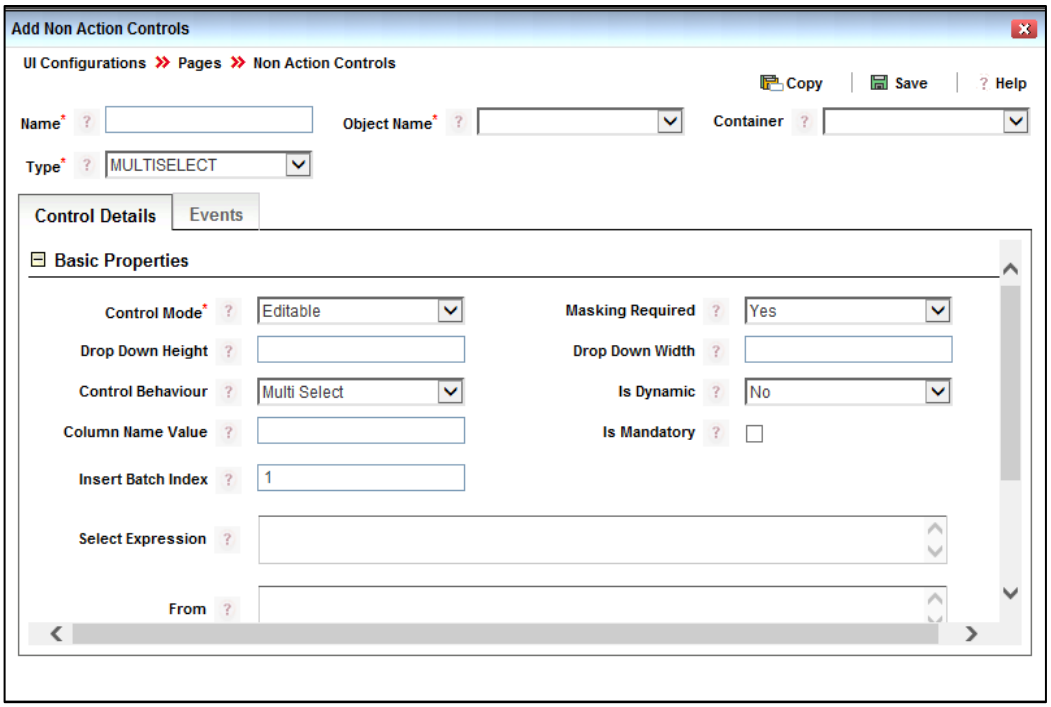


Figure 37. MultiSelect Control Details

Field Name	Description
Dropdown Height	Specify the drop-down height for the MultiSelect Control.
Dropdown Width	Specify the width of the drop-down.

Field Name	Description
Control Behavior	Select the format of the dropdown from the list. The options are Multi Select, Single Select, Multi Select With Go.
Is Dynamic	Select **Yes** to enable dynamic behavior for the MultiSelect Control.
Column Name Value	Specify the table in which the values of the drop-down list are stored. This should be in <table_name>.<column_name> format.
Select Expression	This field should be <column_name>. It defines a set of data extracted from one or more tables or views.
From	This field should be <table_name>. It defines names for the table references used.
Filter Condition	This field defines the filtered data that is fetched
Dim Entity Pk	This field refers to primary key of the table.

3.2.5.7 Number Control

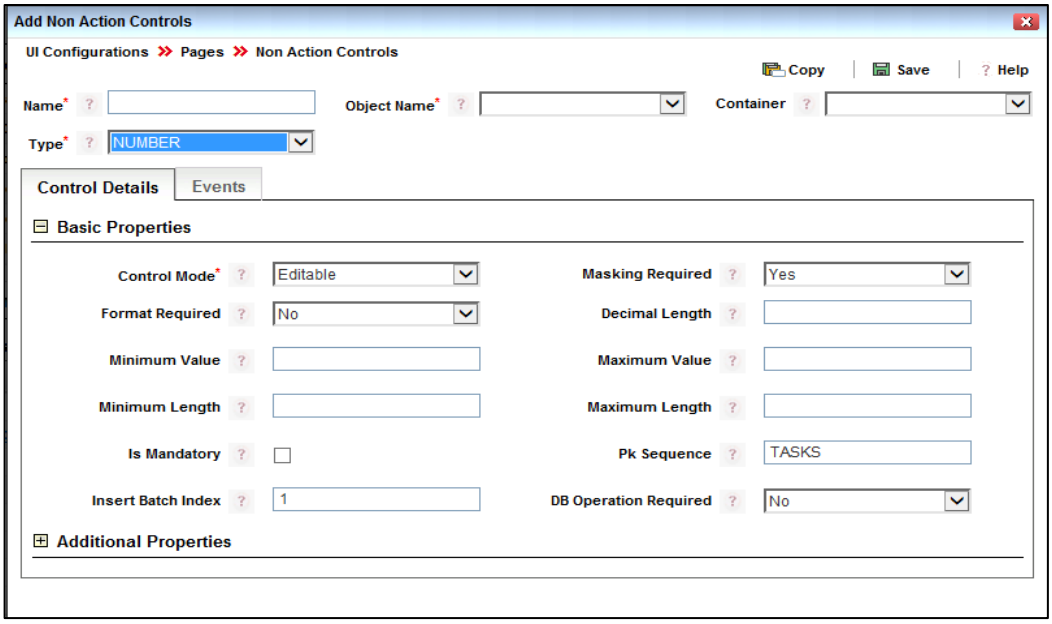


Figure 38. Number Control Details

Field Name	Description
Format Required	Select **Yes** if a format is required for the control.
Decimal Length	Enter the decimal length allowed for the control.

Field Name	Description
Minimum Value	Enter the minimum value that is allowed for the control. **Note**: Care needs to be taken if the value is going to be inserted in the database. The column datatype should match with the changed maximum value.
Maximum Value	Enter the maximum value that is allowed for the control. **Note**: Care needs to be taken if the value is going to be inserted in the database. The column datatype should match with the changed maximum value.
Minimum Length	Enter the minimum length allowed for the control.
Maximum Length	Enter the maximum length allowed for the control.
Pk Sequence	Enter the sequence number if the Primary key has been selected from a specified sequence.

3.2.5.8 Rich Text Control

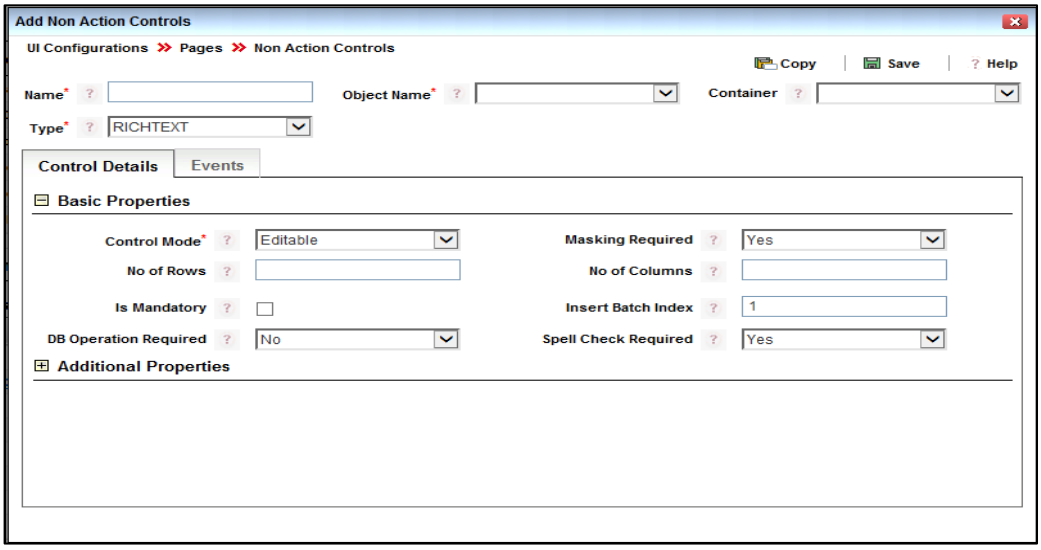


Figure 39. Rich Text Area Control Details

Field Name	Description
No of Rows	Enter the number of rows to be displayed in the text area.
No of Columns	Enter the number of columns to be displayed in the text area. The number of columns to be displayed in RichText can be modified based on the screen width.
Spell Check Required	Select **Yes** if spell check is required for the text in the text area.

3.2.5.9 Text Area Control

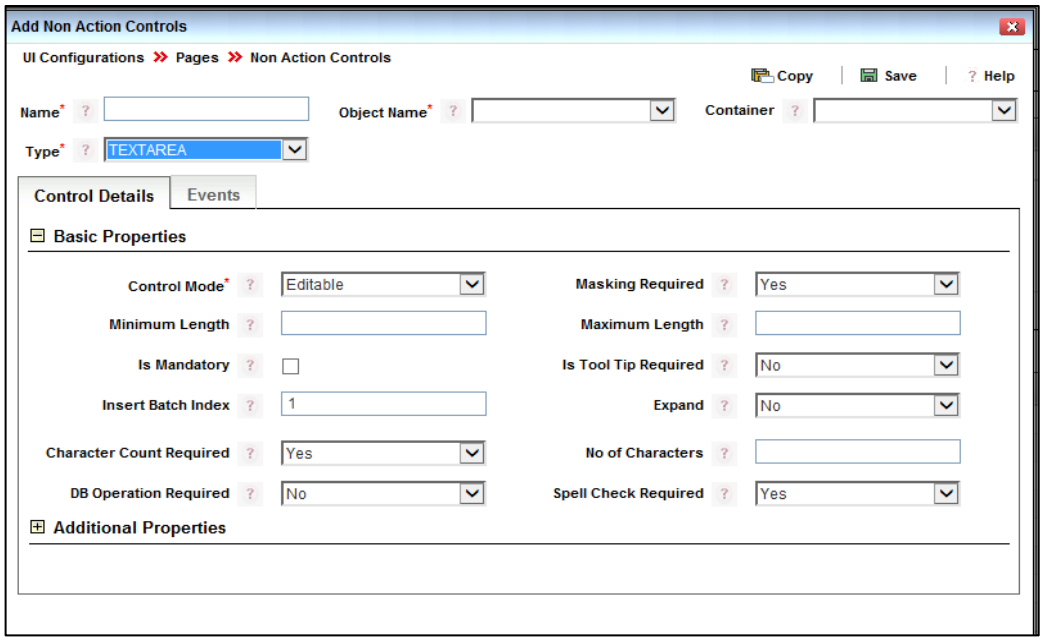


Figure 40. Text Area Control Details

Field Name	Description
Minimum Length	Enter the minimum length of the text area.
Maximum Length	Enter the maximum length of the text area.
Is Tool Tip Required	Select **Yes** to display Tool tip for the control.
Expand	Select **Yes** if the text area is expandable.
Character Count Required	Select **Yes** to display the character count.
No Of Characters	Maximum number of character that can be typed in the text area.
Spell Check Required	Select **Yes** if spell check is required for the text in the text area.

3.2.5.10 Text Box Control

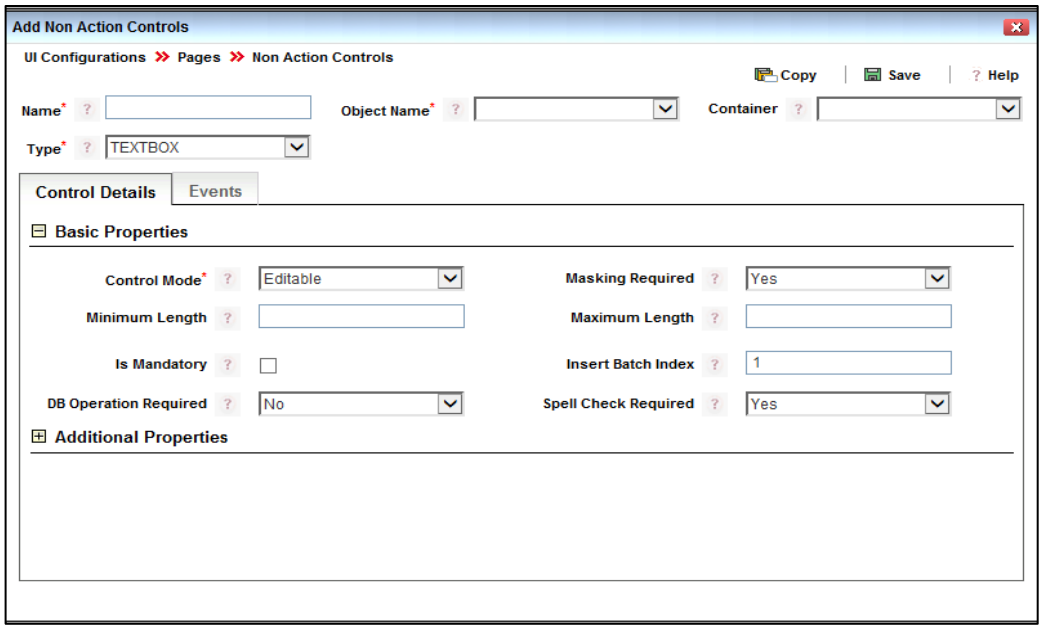


Figure 41. Text Box Control Details

Field Name	Description
Minimum Length	Enter the minimum length of the text box.
Maximum Length	Enter the maximum length of the text box.
Spell Check Required	Select **Yes** if spell check is required for the text in the text area.

3.2.6 How to Create Action Controls

Steps to Create a New Action Control

1. From the *Page Maintenance* window of your page, click **New** in the *Action Fields* toolbar. The *Action Controls* window is displayed.

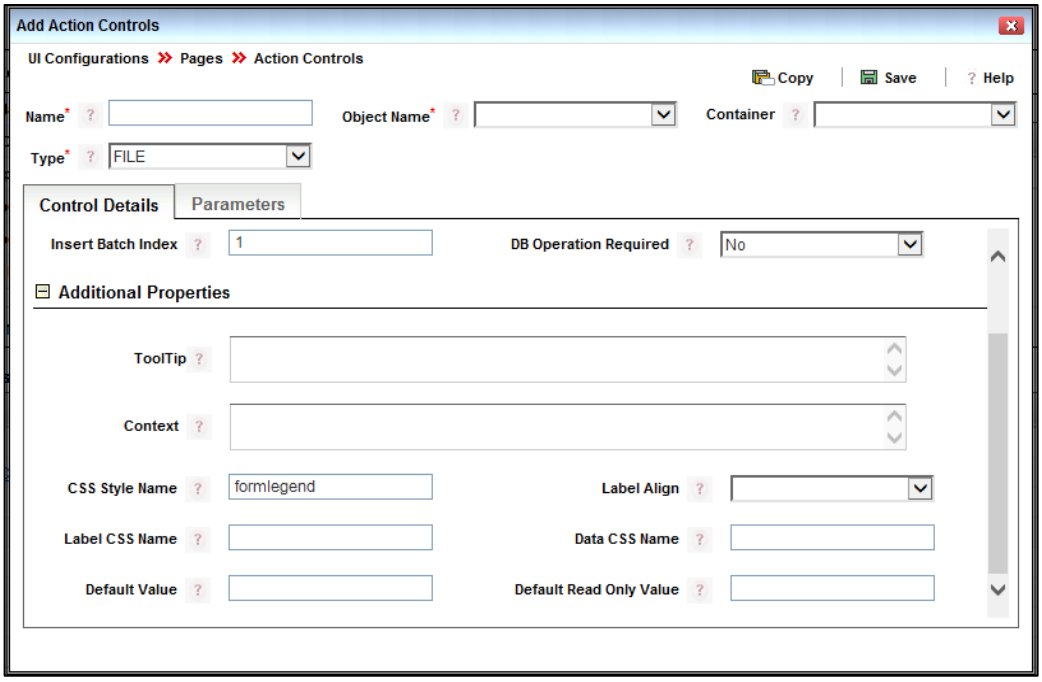


Figure 42. Add Action Control Window

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Name*	Enter the name of the control.
Object Name*	Select the Object Name of the page from the drop-down list. This value is populated based on the selection of Object Code during Page creation.
Container	Select the Container from the drop-down list. This list is populated based on the Containers that are created for this page.
Type*	Select the type of the control from the drop-down list. The options are: ▪ BUTTON - To show Action button in a form without any border and header. Action button can be aligned left, middle, or right through this container. ▪ FILE - To upload a document. ▪ IMAGE LABEL – To upload an image label. ▪ LINK LABEL - To show a text as link. ▪ TOOLBAR ACTION - Based on the control type you select, the corresponding **Basic Properties** is displayed.
Basic Properties	

Field Name	Description
Control Mode*	Select the Control mode from the drop-down list. The available options are: **Editable**- The configured user can edit the control. **Viewable**- The configured user can only view the control, cannot edit it. **Hidden**- The control will be hidden.
Masking Required	Select **Yes** if masking is required for the control. Change the Control mode along with this option. This is to apply masking based on the masking rights for each role.
Additional Properties	
Tool Tip	Enter the tool tip to be displayed for the control.
Context	Enter the context help of the control.
Css Style Name	Enter the style sheet applicable for the control.
Label Align	Select **Left** or **Right** based on which side of the container you want the control to be placed.
Label CSS Name	Enter the style sheet name applicable for the Label.
Data CSS Name	Enter the data style sheet name applicable for the Control.
Default Value	Enter the default value to be displayed for the control.
Default Read Only Value	Enter the default value to be displayed for the control. If the control is not part of the select query, value defined here will be displayed in the UI.
URL in ToolBar	Select **Yes** to display URL in toolbar. This field is displayed only for ToolBar Action Control. It refers to the location, which is the server path in which the help file is kept. For example, the path will be like, << CONTEXTPATH >>/help/help_<<LOCALE>>/.
Action Right	This is used for masking. This field is displayed only for ToolBar Action Control.

2. Click the **Events** tab and click **Add Events.** This tab is not displayed if the Container selected is of type File.

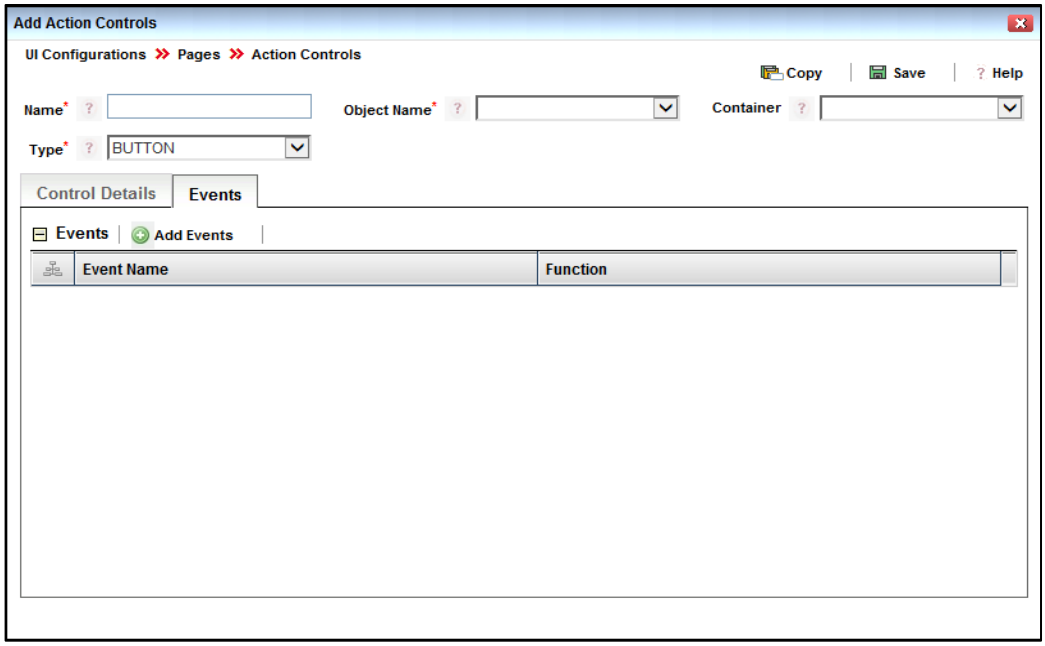


Figure 43. Add Action Control – Events Tab

Field Name	Description
Event Name	Enter the name of the event which will call the required function. For example, for action control for saving a form, you need to call the event onClick. You can call platform or application specific functions and user defined functions. It is not advised to change the existing functions. However, if you still need to change a function, the impact should be properly analyzed. Pass the necessary parameters for the function.
Function	Enter the function name. For example, for action control for saving a form, you need to call the function SaveContainerAsDraft.

3.2.6.1 Button Control

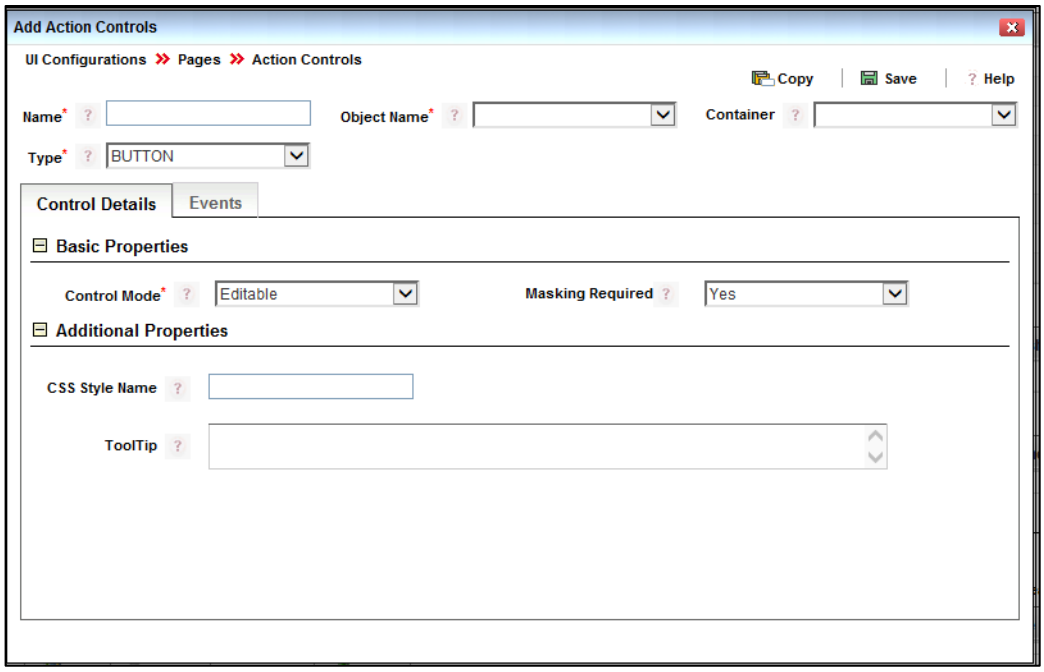


Figure 44. Button Control Details

3.2.6.2 File Control

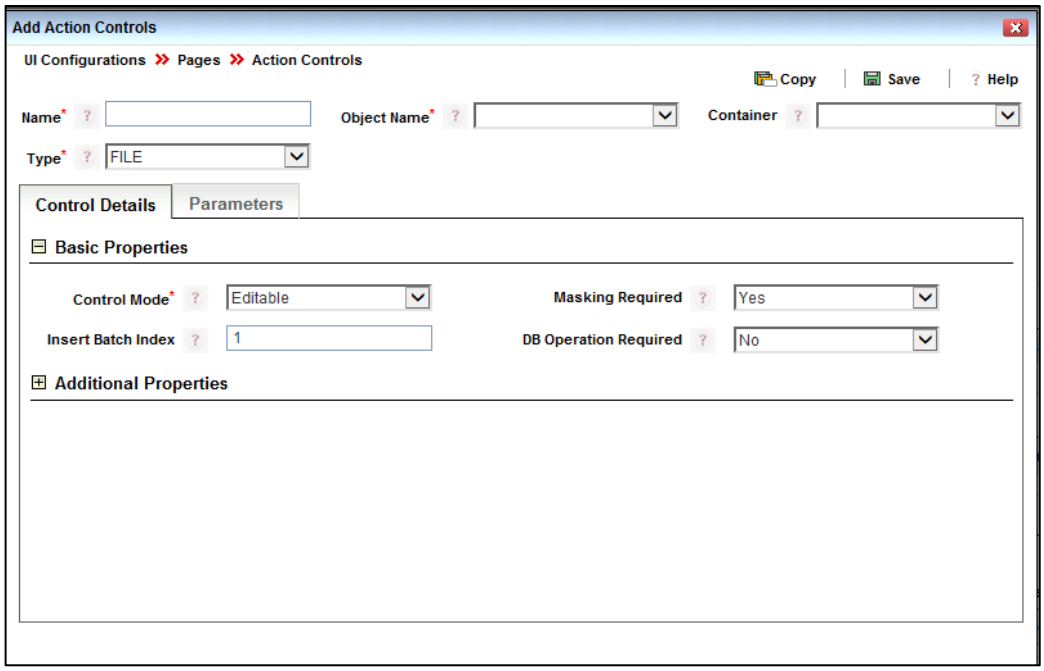


Figure 45. File Control Details

Field Name	Description
Insert Batch Index	Enter an index number to group controls. Controls can be grouped based on table and based on their DB action. For example, all the controls with Insert Batch index =1 belongs to table 1 or can perform insert action. All the controls with insert Batch index =2 belongs to table 2 or can perform update action.
DB Operation Required	Select **Yes** if this control is used in database operation.

1. Click the **Parameters** tab. Click **Add Parameters**.

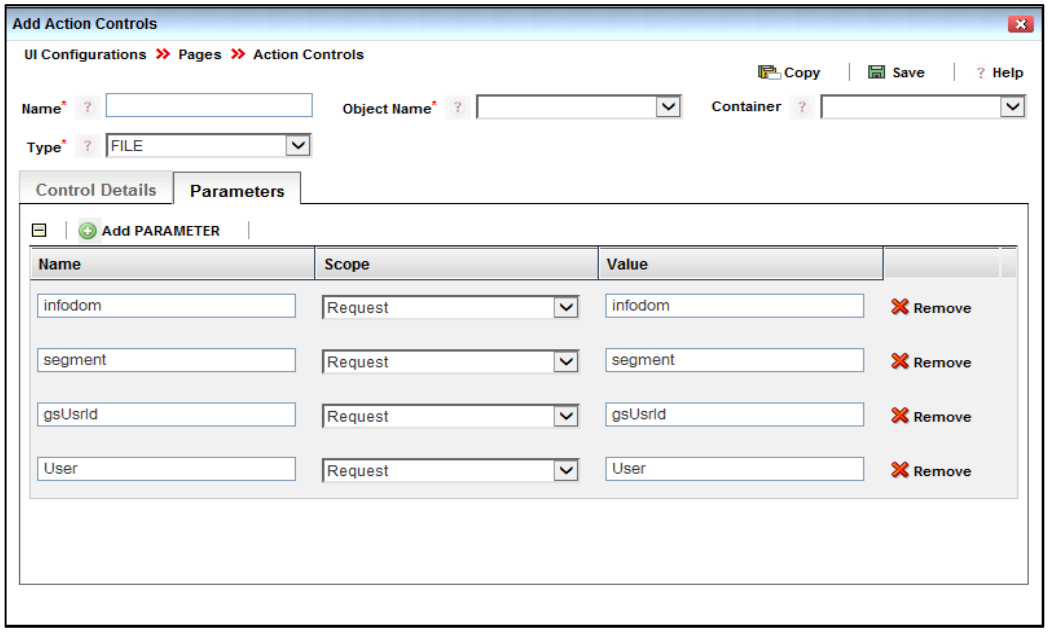


Figure 46. File Control - Parameters tab

Field Name	Description
Name	Enter the name of the parameter to be passed to the container. The parameter names are case sensitive.
Scope	Enter the scope of the parameter mentioned in the **Name** field. The options are Static, Form, Request and Session.
Value	Enter the value of the parameter mentioned in the **Name** field.

3.2.6.3 Image Label Control

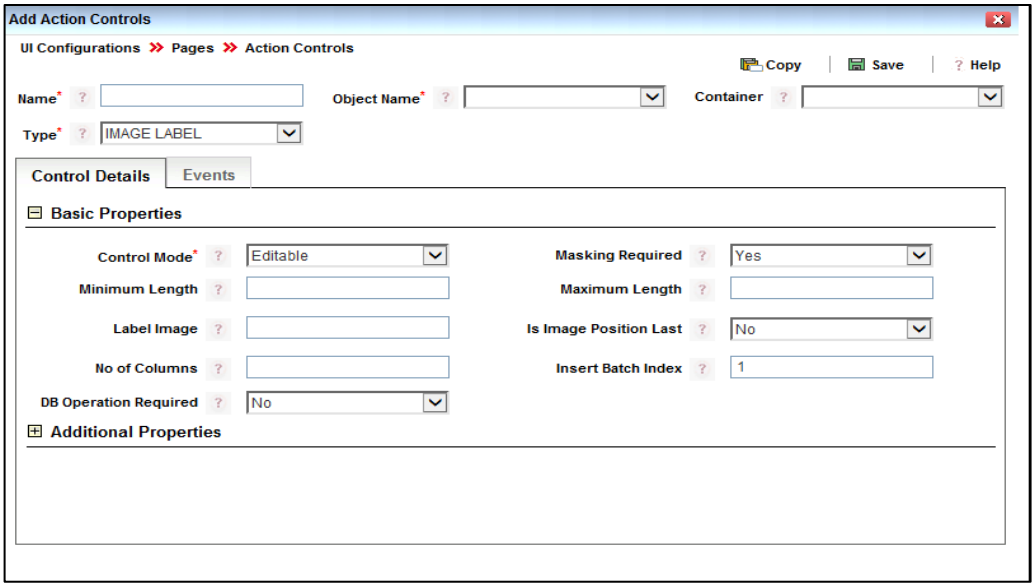


Figure 47. Image Label Control Details

Field Name	Description
Minimum Length	Enter the minimum length of the image label.
Maximum Length	Enter the maximum length of the image label.
Label Image	Select the label image.
Is Image Position Last	Select **Yes** if the position of the image is at the last.
No of Columns	Enter the number of columns.
Insert Batch Index	Enter an index number to group controls. Controls can be grouped based on table and based on their DB action. For example, all the controls with Insert Batch index =1 belongs to table 1 or can perform insert action. All the controls with insert Batch index =2 belongs to table 2 or can perform update action.
DB Operation Required	Select **Yes** if this control is used in database operation.

3.2.6.4 Link Label Control

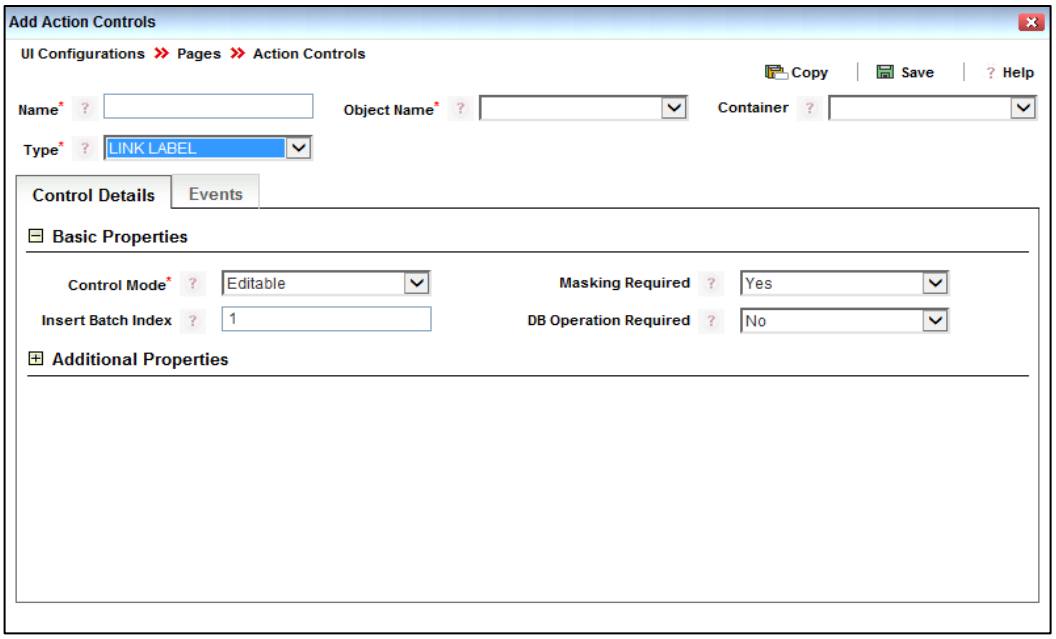


Figure 48. Link Label Control Details

Field Name	Description
Insert Batch Index	Enter an index number to group controls. Controls can be grouped based on table and based on their DB action. For example, all the controls with Insert Batch index =1 belongs to table 1 or can perform insert action. All the controls with insert Batch index =2 belongs to table 2 or can perform update action.
DB Operation Required	Select **Yes** if this control is used in database operation.

3.2.6.5 ToolBar Action Control

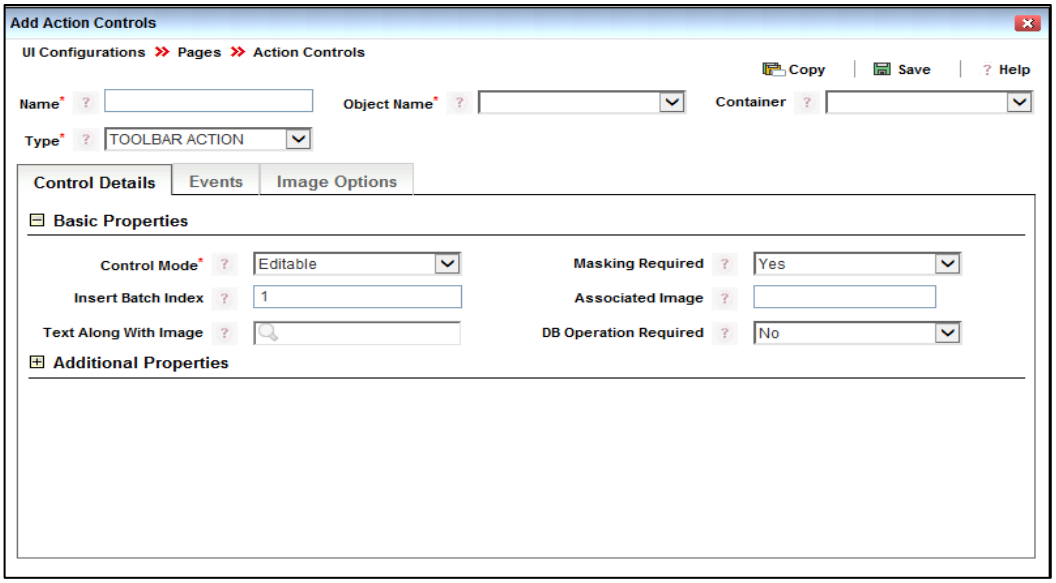


Figure 49. ToolBar Action Control Details

Field Name	Description
Insert Batch Index	Enter an index number to group controls. Controls can be grouped based on table and based on their DB action. For example, all the controls with Insert Batch index =1 belongs to table 1 or can perform insert action. All the controls with insert Batch index =2 belongs to table 2 or can perform update action.
Associated Image	Configure the image that is displayed with the URL.
Text Along With Image	Enter the text that is displayed with the URL.
DB Operation Required	Select **Yes** if this control is used in database operation.

1. Click the **Image Options** tab. Click **Add Image**.

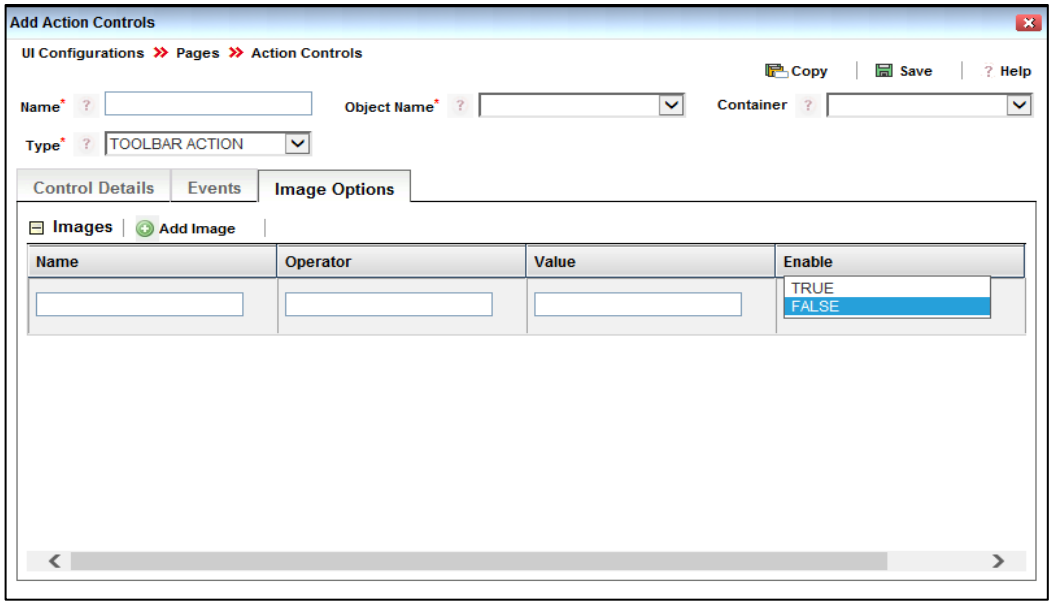


Figure 50. ToolBar Action Control – Image Options Tab

Field Name	Description
Name	Enter the name of the image.
Operator	Enter the operator.
Value	Enter the value.
Enable	Select **True** to enable the image.

3.2.7 How to Create Advanced Fields

1. From the *Page Maintenance* window of your page, click **New** in the *Advanced Fields* toolbar. The *Advance Controls* window is displayed

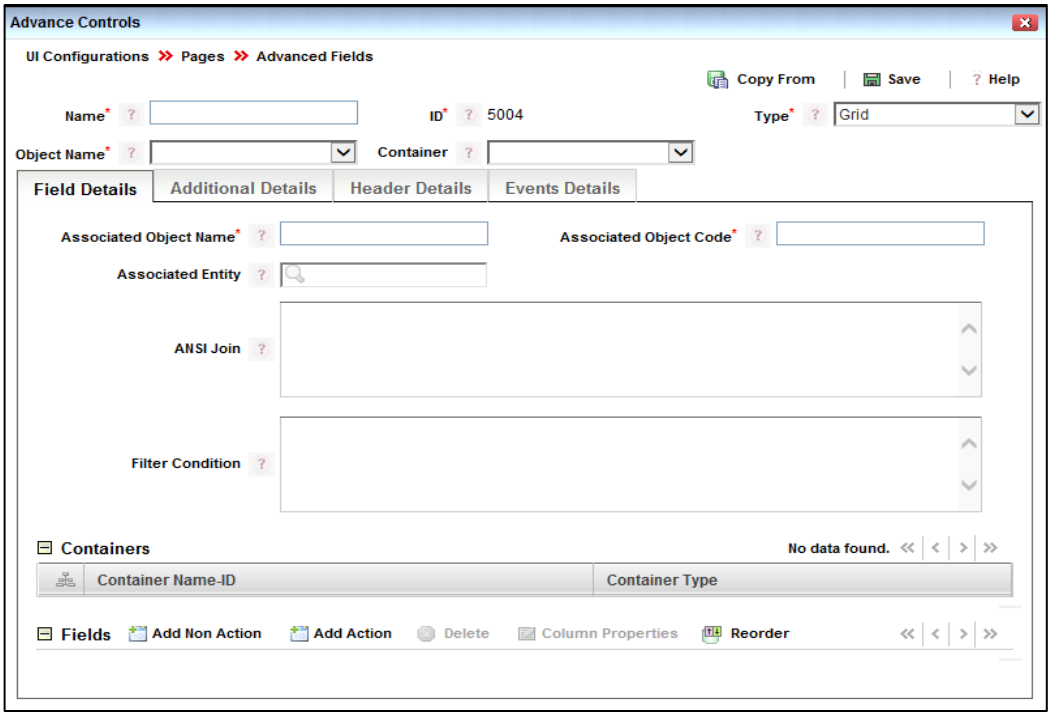


Figure 51. Advanced Control Details

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Name*	Enter the name of the control.
ID*	This number is auto generated for the control.
Type*	Select the type of the control from the drop-down list. The options are: ▪ GRID - To call a grid page. ▪ DIFFERENCE GRID-URL control that calls a particular function to open difference container. ▪ STATUS - To display and highlight record status. Based on the control type you select, the corresponding **Basic Properties** is displayed.
Object Name*	Select the Object Name of the page from the drop-down list. This value is populated based on the selection of Object Code during Page creation..
Container	Select the Container from the drop-down list. This list is populated based on the Containers that are created for this page. **Note:** Grid control can be created only with Grid container.
Field Details	

Field Name	Description
Associated Object Name*	Enter the name of the associated child object form to be linked to the grid control.
Associated Object Code*	Enter the code of the child form to be linked to the grid control.
Associated Entity	Enter the Entity that defines the associated Child Entity that is being accessed if the Parent form is participating in masking
ANSI Join	Enter the datasets ANSI join to obtain the grid data.
Filter Condition	Enter the "Where" clause of the database select query to filter grid data while fetching from database.

2. In the **Containers** toolbar of the *Field Details* tab, the containers that are associated with the **Object Name** are displayed. Selecting the container displays the associated Action and Non Action fields in the *Fields* toolbar. To add more Action or Non Action fields, click **Add Action** or **Add Non Action** respectively in the Fields toolbar and refer How to Create Action Controls and How to Create Non-Action Controls.

3.2.7.1 Grid Control

1. Enter the details associated with the Grid control in the ***Field Details*** tab as mentioned in the previous section.
2. Click the **Additional Details** tab.

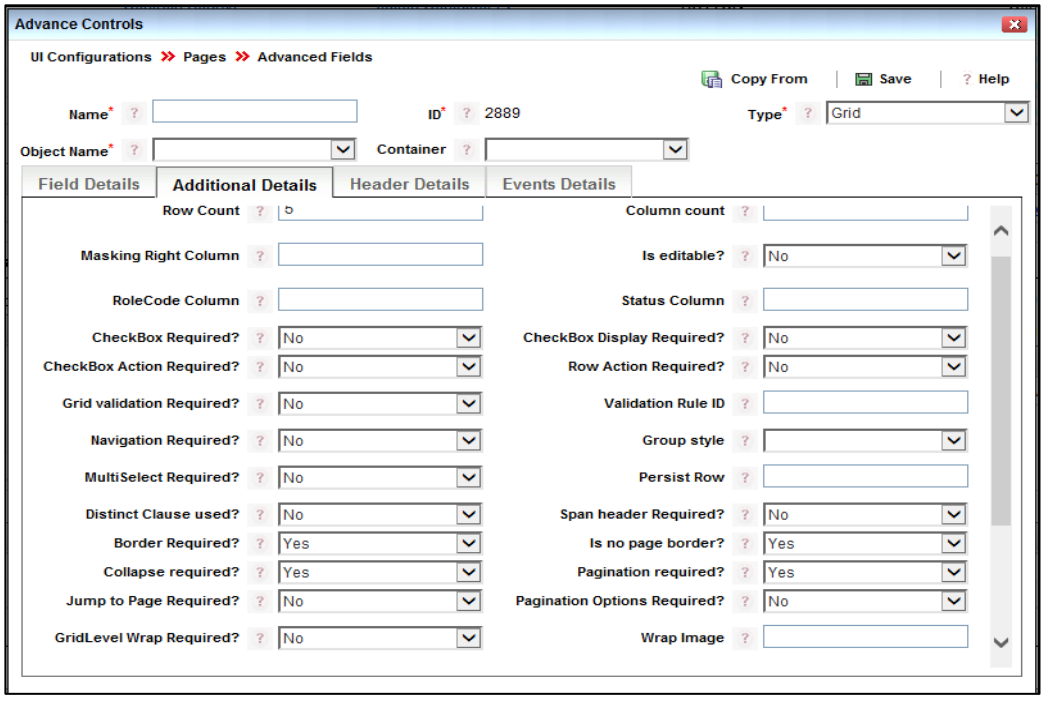


Figure 52. Grid Control - Additional Details Tab

Field Name	Description
Row Count	Enter the number of rows to be displayed at a time in the grid. For example, if there are 20 records present and you give row count as 10, first 10 records will be displayed in the first page. You have to go to the next page to view the remaining 10 records. Ensure the pagination option is enabled in the grid.
Column Count	Enter the number of columns to be displayed in the grid. The number of columns should not be greater than associated number of controls used in Grid table Container (Type 6).
Masking Rights Column	Enter the masking rights available for the particular row in the format “CONTROL_FORM_ID_CONTROLID”. You need to specify this if you want to apply masking for each grid row.
Is Editable?	Select **Yes** if the grid needs to be editable.
Role Code Column	Enter the column name in which the role code is stored. You need to specify this if you want to apply masking for each grid row.
Status Column	Enter the column name in which the status of the record is stored. You need to specify this if you want to apply masking for each grid row.
CheckBox Required?	Select **Yes** if checkbox is required.
CheckBox Display Required?	Select **Yes** if checkbox display is required.
CheckBox Action Required?	Select **Yes** if an action is required on selecting the checkbox.
Row Action Required?	Select **Yes** if action is required on clicking the row. When Action required is made from Yes to No, ensure Checkbox option is used. When Action required is made from No to Yes, the knowledge about the called unit and the necessary parameters to be passed for proper functioning is required.
Grid Validation Required?	Select **Yes** if grid validation is required.
Validation Rule ID	Enter the unique ID of the validation rule.
Navigation Required?	Select **Yes** if you want to show the navigation path.
Group Style	Select the style sheet class applicable for the grid control
Multi Select Required?	Select **Yes** if Multi Select is required for the grid.

Field Name	Description
Persist Row	Enter the row that will be used as tracker variable. For example, it should be of the following format: `FrmCtrlKRIGrid_1` Where `FrmCtrlKRIGrid` is the Grid form code (Associated object code) 1 is the column control ID
Distinct Clause Used?	Select **Yes** to get the record count in the grid with respect to full grid query.
Span Header Required?	Select **Yes** if Span header is required for the grid.
Border Required?	Select **Yes** if border is required for the grid. Border will not be enabled, only if selected group style is not supporting the same.
Is no Page Border?	Select **Yes** if page border is required. This should not be changed if the page border is not present.
Collapse Required?	Select **Yes** if Collapse button is required for the grid. This option should not be removed, if the Container is displayed in minimized mode.
Pagination Required?	Select **Yes** if pagination is required.
Jump to Page Required?	Select **Yes** if a jump to another page is required.
Pagination Options Required?	Select **Yes** if pagination options are required for the grid.
Grid Level Wrap Required?	Select **Yes** if Grid level wrap button is required for the grid. Ensure to add the same entry in Headers, if applicable, while changing from No to Yes.
Wrap Image	Enter the name of the grid level wrap image.
Unwrap Image	Enter the name of the grid level unwrap image.
No Data Label	Enter the message identifier to display customized ‘no data found’’ message
No Data Display Status	Select the display status of the grid from the drop-down list when there is no data in the grid. The options are: ▪ Hide ▪ Show ▪ Minimize

Field Name	Description
Sort By	Enter the default Sort column. The format is as follows: `FrmCtrlKRIGrid_5000 DESC` Where `FrmCtrlKRIGrid` is the Grid form code (Associated Object code) 5000 is Column control Id DESC is type of sort. It can be ASC (for ascending) or DESC (for descending)
Is Autofit Columns?	Select **Yes** to enable auto fit.
Autofit Max Columns	Enter the maximum number of columns if auto fit is enabled. The maximum number column should not be more than the number of Columns.
New CSS Name	Enter the name of the style sheet for the grid.

3. Click the **Grid Header Details** tab.

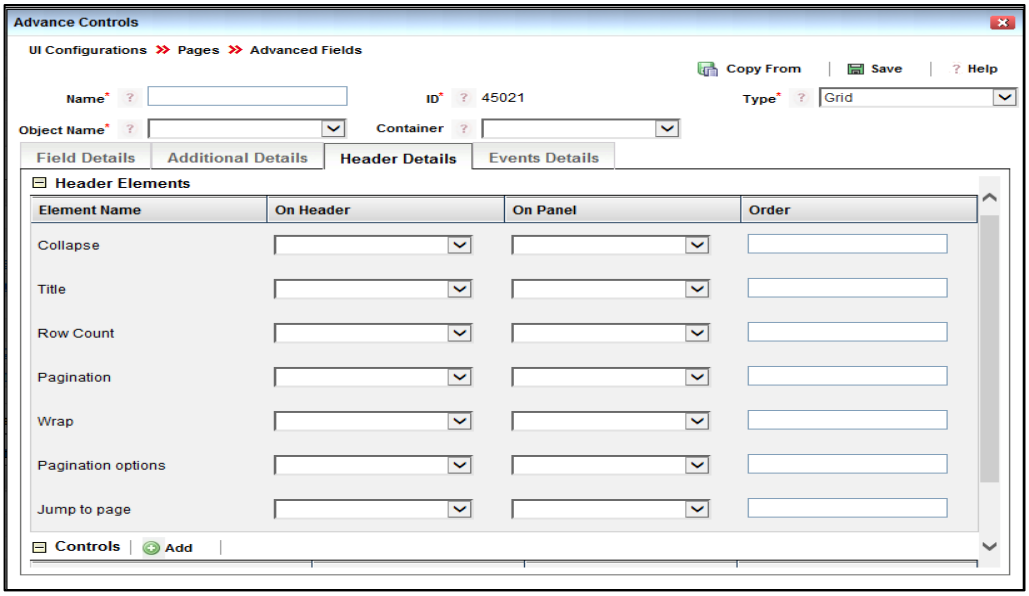


Figure 53. Grid Control - Header Details tab

Field Name	Description
Collapse	Select the position of the Collapse button on the header and on the panel (left, middle, or right) of the header from the **On Header** and **On Panel** drop-down lists respectively. Enter the order of the Collapse button in the panel of the grid header in the **Order** field. Collapse image should not be placed on Header 3, which is, Content Header.

Field Name	Description
Title	Select the position of the Title on the header and on the panel (left, middle, or right) of the header from the **On Header** and **On Panel** drop-down lists respectively. Enter the order of the Title in the panel of the grid header in the **Order** field.
Row Count	Select the position of the Row Count field on the header and on the panel (left, middle, or right) of the header from the **On Header** and **On Panel** drop-down lists respectively. Enter the order of the Row Count field in the panel of the grid header in the **Order** field.
Pagination	Select the position of the Pagination field on the header and on the panel (left, middle, or right) of the header from the **On Header** and **On Panel** drop-down lists respectively. Enter the order of the Pagination field in the panel of the grid header in the **Order** field.
Wrap	Select the position of the Wrap field on the header and on the panel (left, middle, or right) of the header from the **On Header** and **On Panel** drop-down lists respectively. Enter the order of the Wrap field in the panel of the grid header in the **Order** field.
Pagination Options	Select the position of the Pagination Options Req button on the header and on the panel (left, middle, or right) of the header from the **On Header** and **On Panel** drop-down lists respectively. Enter the order of the Pagination Options Req button in the panel of the grid header in the **Order** field. Ensure Pagination option is used and to add the same entry in Headers, if applicable, while changing from N to Y.
Jump to Page	Select the position of the Jump to Page field on the header and on the panel (left, middle, or right) of the header from the **On Header** and **On Panel** drop-down lists respectively. Enter the order of the Jump to Page field in the panel of the grid header in the **Order** field. Ensure Pagination option is used and to add the same entry in Headers, if applicable, while changing from N to Y.
Controls If you want to add a new control in the grid header, click **Add** and enter the control details.	

Field Name	Description
Controls	Click and enter the control name in the popup. Select the position of the control on the header and on the panel (left, middle, or right) of the header from the **On Header** and **On Panel** drop-down lists respectively. Enter the order of the control in the panel of the grid header in the **Order** field. When you are adding a header, ensure that it does not create any distortion to headers, and suggested to use Type 25.

4. Click the **Events** tab and click **Add Events.**

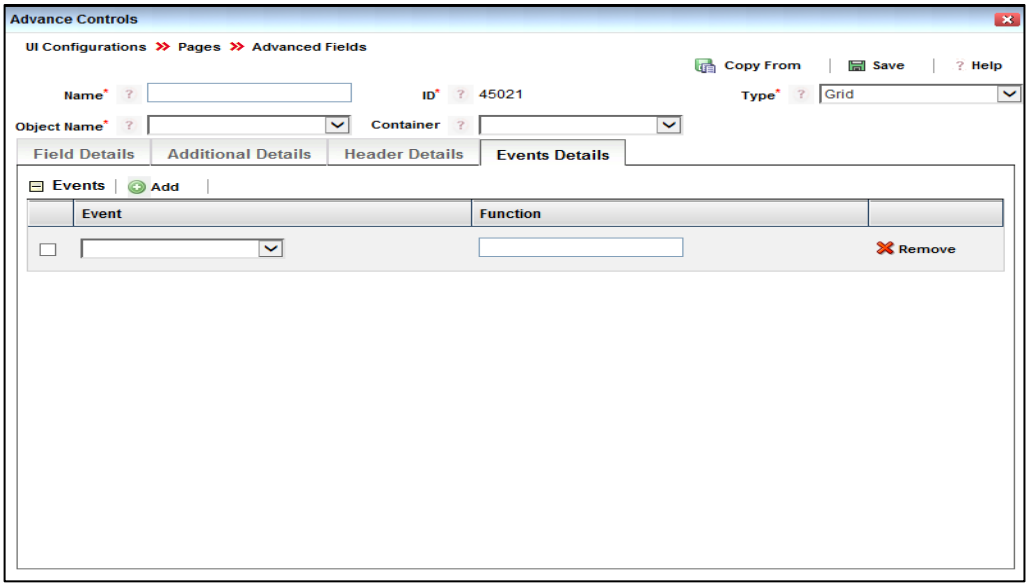


Figure 54. Grid Control - Events tab

Field Name	Description
Event Name	Enter the name of the event which will call the required function. For example, for action control for saving a form, you need to call the event onClick. You can call platform or application specific functions and user defined functions. It is not advised to change the existing functions. However, if you still need to change a function, the impact should be properly analyzed. Pass the necessary parameters for the function.
Function	Enter the function name. For example, for action control for saving a form, you need to call the function SaveContainerAsDraft.

3.2.7.2 Difference Control

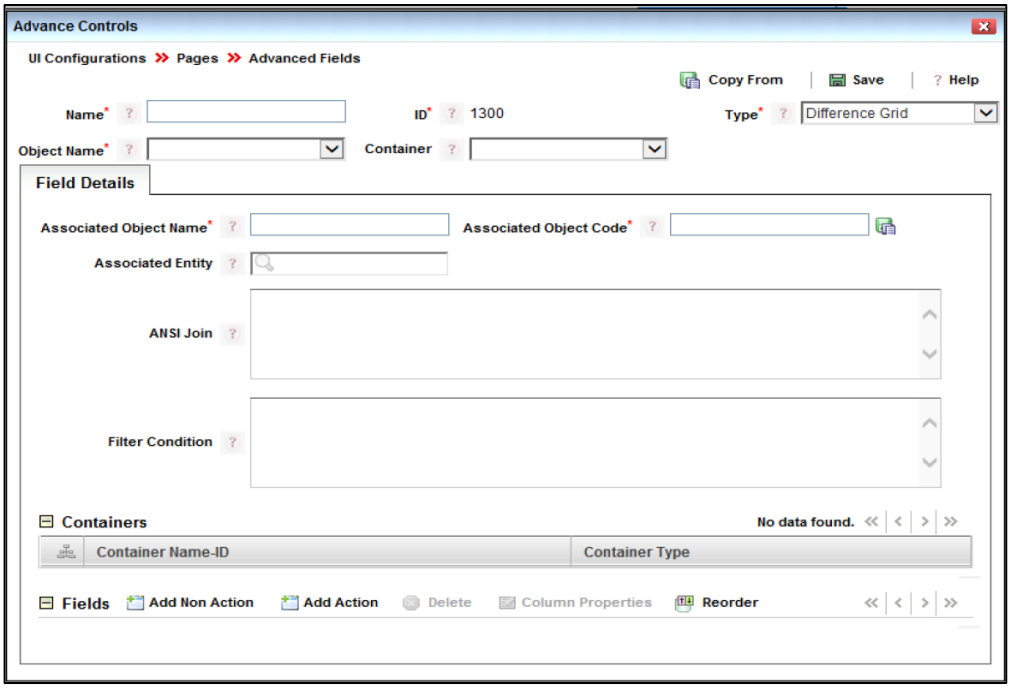


Figure 55. Difference Control Details tab

Field Name	Description
Is Child Form	Select **Y** if the difference control is a child form.
Child Form ID	Enter the child form id if you have selected **Y** in the Is Child Form drop-down list.

3.2.8 UI Validation Rule

3.2.8.1 Overview

Validation rules are used for performing actions in a page, based on the predefined conditions. These rules get invoked on any of the HTML events in the page such as onClick, onFocus, onBlur, and so on. The validation rules are executed on the client machine.

Validation rule comprises of three components:

- **Condition**- It provides the provision to enter the condition for the rule. Condition returns true when it is satisfied.
- **Consequence**- It provides the provision to enter the message which is displayed when the condition is satisfied.
- **Expression** - It provides the provision to enter the result (java script function/ method) which will be invoked when the condition is satisfied.

3.2.8.2 Steps:

Validation rules can be defined in two ways:

- **Rule with consequence**

Once the condition is satisfied, the message defined in the consequence will be displayed.

To get the value of a control, the control id needs to be preceded with form name and ~. For e.g. [~CM_CASE_SEARCHN.717.1]

Example 1:				
	CONDITION =	"([~CM_CASE_SEARCHN.717.1]=='%')"	CONSEQUENCE =	"[[RENDERER.CM_WC_SRCH]]"
Example 2:				
	CONDITION=	"1==1"	CONSEQUENCE=	"[[RENDERER.ROR545]]"

NOTE: The condition clause should be placed in parenthesis (angular brackets).

- **Rule with Expression**

Once the condition is satisfied, the expression will be executed. The expressions can be invoking a java script method, assigning a value to a field, disabling a field and so on.

Example 1:	To assign a value to a control			
	CONDITION =	"[~CM_CUST_ACTA.131.1]=='Yes'"	CONSEQUENCE =	"[~CM_CUST_ACTA.111.1]='3'"
Example 2:	To invoke a java script method to hide a field			
	CONDITION =	"1==1"	CONSEQUENCE =	"hideTitle('FrmActionE_OPR','1')"
Example 3:	To invoke a java script method to hide a container			
	CONDITION =	"([~FrmActionE_OPR.70.1]==4)"	CONSEQUENCE =	"hideTabContainer('FRMACTIONE_OPR','1221')"
Example 4:	To disable a field			
	CONDITION =	"([~FrmActionE_OPR.74.1]!=[~FrmActionE_OPR.72.1])"	CONSEQUENCE =	"[~~FrmActionE_OPR.20.1].disabled=true"/>
Example 5:	To assign the selected value from the hierarchy to another field			
	CONDITION =	"1==1"	CONSEQUENCE =	"([~FrmKI_OPR.1233.1])=getHierarchyCode([~FrmKI_OPR.121.1])"

3.2.8.3 How to create UI Validation Rulesets

A UI Validation Ruleset consists of a number of UI Validation Rules that are created for a particular page. To create a UI Validation Ruleset, follow these steps:

1. From the *Page Maintenance* window of your page, expand **UI Validation Rules** and click **New** in the *Validation Rulesets* toolbar under *UI Validation Rules* toolbar. The *Validation Ruleset* window is displayed.

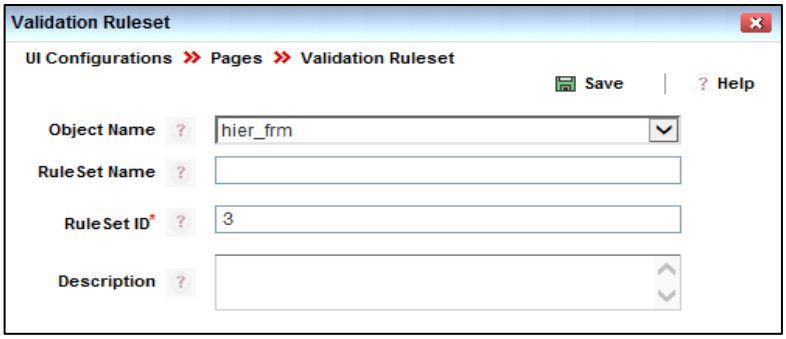


Figure 56. Validation Ruleset window

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Object Name	Select the Object Name of the page from the drop-down list. This value is populated based on the selection of Object Code during Page creation.
Rule Set Name	Enter the name of the Rule Set.
Rule Set ID*	The ID for the Rule Set is automatically generated in the order of creation. This can be changed based on the level of execution.
Description	Enter a description for the Ruleset.

2. Click **Save**.

NOTE: After creating validation rules, you have to go to *Events* tab of the associated Control and add the event with **Name** as ValidationRuleSet, **Scope** as Static, and **Value** as the Ruleset ID of the validation rule you want to invoke.

NOTE: Selecting a rule in the Validation Rules list displays the **Called Fields** that are invoked in the associated function.

3.2.8.4 How to Create UI Validation Rules

1. From the *Page Maintenance* window of your page, expand **UI Validation Rules** and click **New** in the *Validation Rules* toolbar under *UI Validation Rules* toolbar. The *Validation Rule* window is displayed.

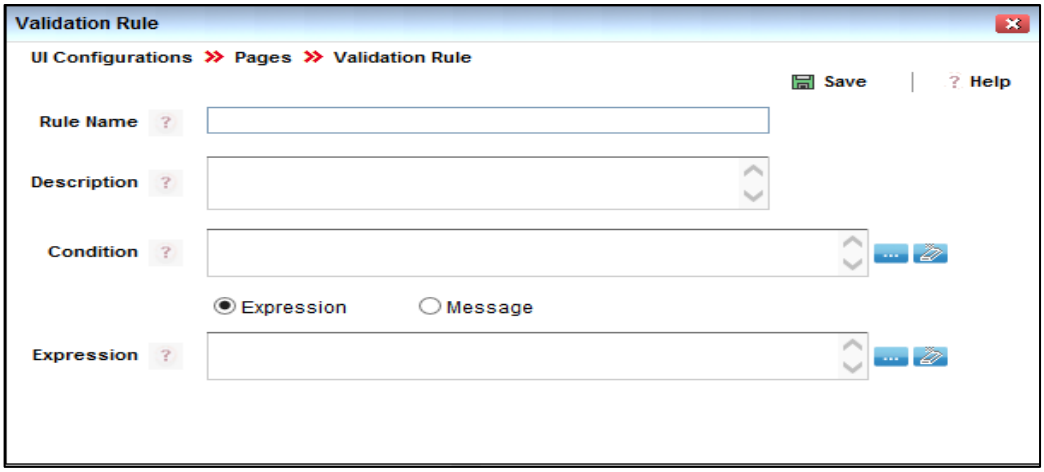


Figure 57. Validation Rules window

Field Name	Description
Rule Name	Enter the name of the Rule.
Description	Enter a description for this Rule.
Condition	Enter the condition when the Rule will be applicable or click ... and form the condition by selecting the appropriate **Function**, **Control,** and **Operator**. Try to reuse the existing product supplied validations. New validations can be created using existing Java Script. If a new Java Script function is created, it has to be added to custom.js. The newly created function will not be supported.
Expression or Message	Select if the rule condition should result in an expression or a message.
Expression	Enter the details of the rule to be executed if the rule condition is satisfied. Click ... and form the expression by selecting the appropriate **Function**, **Control,** and **Operator**.
Message	Enter the message which will pop up when a rule condition is satisfied. This field appears when Message is selected in the previous entry.
Message Type	Select the type of Message that should be displayed when the rule condition is satisfied. The options are, Warning, Error, Failure, Success, Confirm, Information, Message.

2. Click **Save**.

3.2.8.5 Reordering Validation Rules in a Ruleset

1. From the *Page Maintenance* window of your page, click **Reorder** in the *Validation Rules* toolbar under *UI Validation Rules* toolbar. The *Rules Reorder* window is displayed.

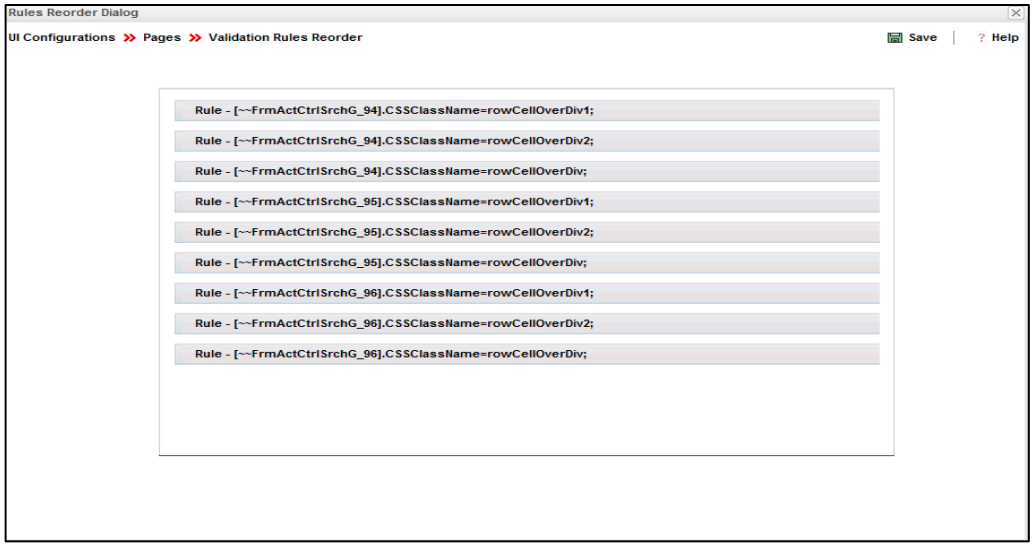


Figure 58. Reordering Validation Rules window

2. Click and drag to reorder the rules.
3. Click **Save**.

3.2.9 How to Create Processing Rule

NOTE: The processing rules are executed on the server.

1. From the *Page Maintenance* window of your page, click **New** in the *Processing Rules* toolbar. The *Serverside Rules* window is displayed.

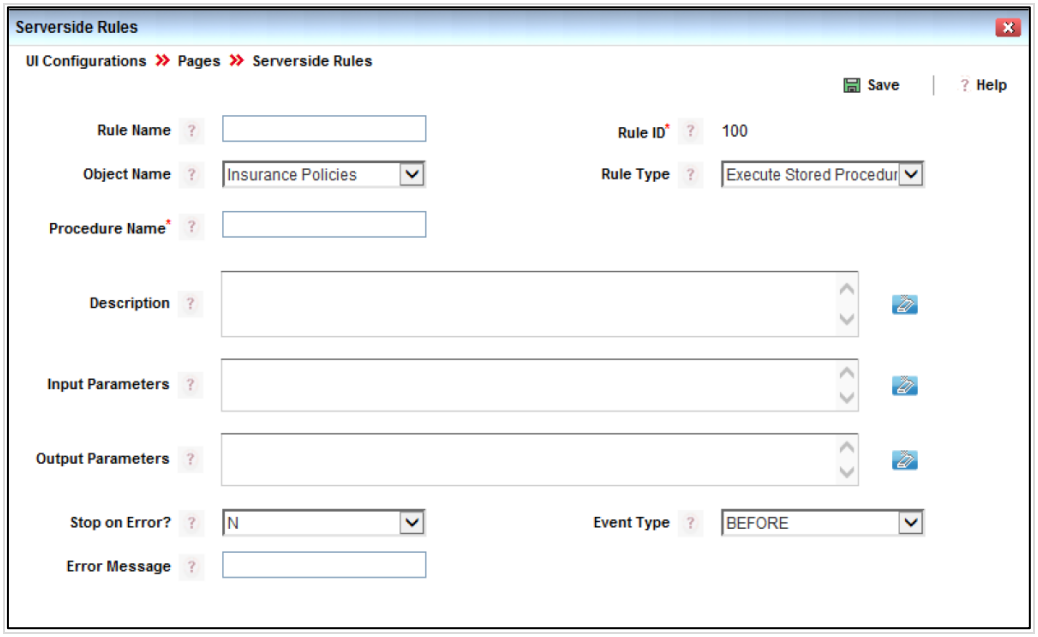


Figure 59. Processing Rules window

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Rule Name	Enter the name of the Processing Rule.
Rule ID*	The ID for the Processing Rule is automatically generated.
Object Name	Select the Object Name of the page from the drop-down list. This value is populated based on the selection of Object Code during Page creation.
Rule Type	Select the type of the rule to be executed from the drop-down list. **Execute Stored Procedure**- to call any stored procedure. **Execute RULE**- to call any PR2 fire run. **Execute RUN** –to execute Run. **Invoke PMF Workflow** – to invoke PMF workflow.
Procedure Name	Enter the name of the Procedure.
Description	Enter a valid description for the Processing Rule.
Input Parameters	Enter the parameters required for rule to get executed.
Output Parameters	Enter the expected output parameter of the rule.
Stop On Error?	Select **Y** if you want the server side to be aborted on failure.
Event Type	Select **Before** or **After** from the drop-down list. **Before**- Select this to call the processing rule before Forms refresh or save. **After**- Select this to call the processing rule after Forms refresh or save.
Error Message	Enter the message to be popped up if there is an error.

3.2.10 Masking of Container/ Control

This feature allows you to apply masking in container level or control level based on user roles, form status, parent mode and parent status.

Steps to apply masking

1. From the *Page Maintenance* window of your page, expand **Masking Details** and click **New** in the *Masking Rules* toolbar. The *Masking Rule Sets* window is displayed.

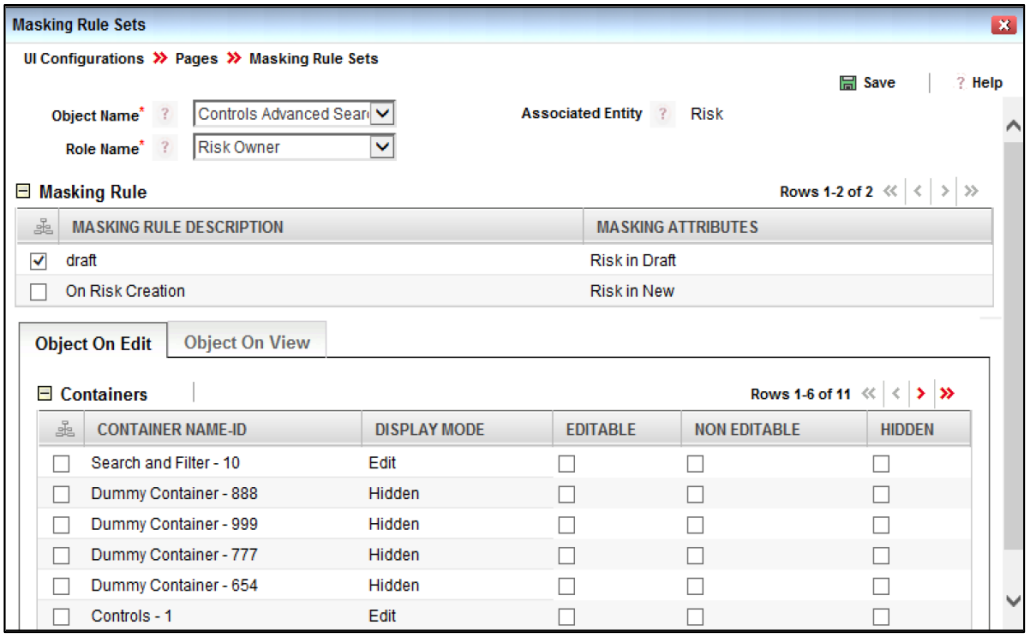


Figure 60. Masking Rule Sets window

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Object Name*	Select the Object Name of the page from the drop-down list. This value is populated based on the selection of Object Code during Page creation.
Associated Entity*	The Associated Entity that is linked to all the masking combinations will be automatically populated here.
Role Name*	Select the role from the drop-down lists. Users with the selected role only will have access to the page.

1. Select the **Masking Rule** for which you want to choose the various view/ edit options on controls and containers. Masking rules for the associated entity can be maintained in App Administration. For more information, refer App Administration.
2. Click **Object on Edit** or **Object on View** based on whether you want to configure masking on edit/view of the form or object.
3. Select the Container/ Control and click the checkbox under **Editable**, **Non Editable**, or **Hidden** based on how you want to configure. If you want to apply masking on container level, select the required checkbox corresponding to the container. If you want to apply masking on control level, expand the container and select the required checkbox corresponding to the control.

NOTE: If the **Masking Required** for control (defined during its creation) is **No**, then making it Editable or Non Editable from this screen does not have any impact. Click **Save**.

3.2.11 Page Maintenance

1. From the LHS menu, expand **UI Configurations** and click **Pages**. The *Pages* window is displayed.
2. Select the page whose elements you want to edit/delete. The *Page Maintenance* window is displayed.

NOTE: When you select a page, all containers available in the page will be displayed under *Containers* grid.

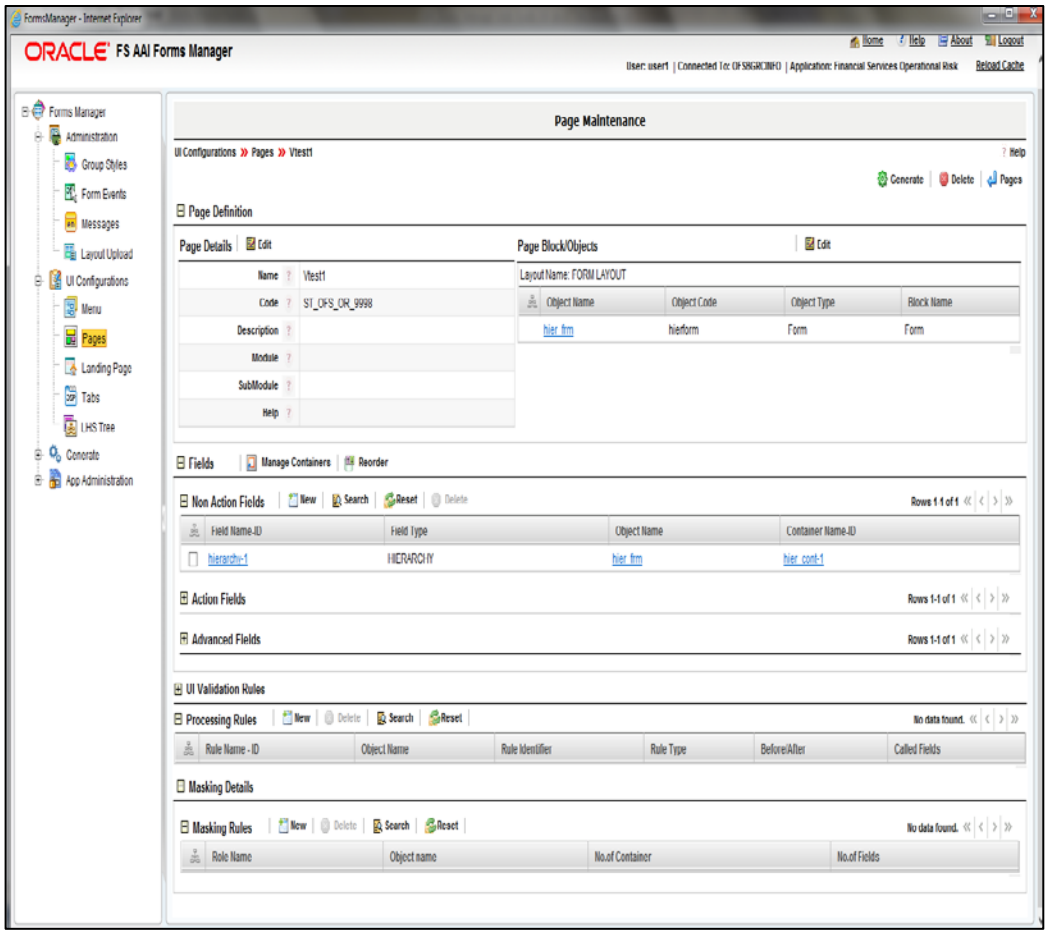


Figure 61. Page Maintenance window

Action	Description
Search	Search for a page by providing **Page Name** and clicking **Search** in the *Search Options* toolbar of the *Pages* window. You can also select **Module Name** and **Sub Module Name** in the same toolbar, to make the search results easier. Similarly, click **Manage Containers** in the *Fields* toolbar and provide **Container ID, Container Name, Container Type** and **Object Name** and click **Search** in the *Container Search* toolbar. In the *Non Action Fields* toolbar, click **Search** and provide **Control ID**, **Control Name**, **Control Type, Object Name, Container Name, Container ID** and click **Search** in the *Control Search* window to search for Non Action Field. In the *Action Fields* toolbar, click **Search** and provide **Control ID**, **Control Name**, **Control Type, Object Name, Container Name, Container ID** and click **Search** in the *Control Search* window to search for Action Field. In the *Validation Rules* toolbar under **UI Validation Rules**, click **Search** and provide **Rule Name** and click **Search** in the *Validation Rule Search* window to search for Validation Rule. In the *Processing Rules* toolbar, click **Search** and provide **ID, Rule Name, Rule Identifier, Rule Type, Object Name, Event Type** and click **Search** in the *Server Rule Search* window to search for Processing Rule. In the *Masking Rules* toolbar under **Masking Details**, click **Search** and provide **Object Name, Role Name** and click **Search** in the *Masking Rule Search* window to search for Masking Rule.

Action	Description
Modify	Select a page and click **Edit** in the *Page Definition* toolbar to modify a page. Similarly, click **Manage Containers** in the *Fields* toolbar and select the container and then click **Edit** in the *Containers Details* window to modify a container. In the *Non- Actions Fields* grid, select a control and click **Edit** in the *Controls* window to modify a Non-Action field. In the *Actions Fields* grid, select a control and click **Edit** in the *Controls* window to modify an Action field. In the *Advanced Fields* grid, select a control and click **Edit** in the *Controls* window to modify an Advanced field. In the *UI Validation Rules* grid, select a Rule under *Validation Rule* and click **Edit** in the *Validation Rule Details* window to modify a Validation Rule. In the *UI Validation Rules* grid, select a Ruleset under *Validation Rulesets* and click **Edit** in the *Ruleset Details* window to modify a Validation Ruleset. In the *Processing Rules* grid, select a Rule and click **Edit** in the *Serverside Rule* window to modify a Processing Rule. In the *Masking Details* grid, select a Rule under *Masking Rules* and edit the details of containers and controls in the *Masking Rule Sets* window.
Delete	Select a page and click **Delete** in the *Page Maintenance* window to delete a page. Similarly, click **Manage Containers** in the *Fields* toolbar and select the container and then click **Delete** in the *Containers Details* window to delete a container. **Note**: It is recommended to hide the Container instead of deleting. In the *Non- Actions Fields* grid, select a control and click **Delete** in the *Non Action Fields* toolbar to delete a Non-Action field. In the *Actions Fields* grid, select a control and click **Delete** in the *Action Fields* toolbar to delete an Action field. In the *Advanced Fields* grid, select a control and click **Delete** in the *Advanced Fields* toolbar to delete an Advanced field. In the *UI Validation Rules* grid, select a Rule under *Validation Rule* and click **Delete** in the *Validation Rules* toolbar to delete a Validation Rule. In the *UI Validation Rules* grid, select a Ruleset under *Validation Rulesets* and click **Delete** in the *Validation Rulesets* toolbar to delete a Validation Ruleset. In the *Processing Rules* grid, select a Rule and click **Delete** in the *Processing Rules* toolbar to delete a Processing Rule. In the *Masking Details* grid, select a Rule under *Masking Rules* and click **Delete** in the *Masking Rules* toolbar to delete a Masking Rule.

Action	Description
Reorder	Select a page and click **Manage Containers** in the *Fields* toolbar and then click **Reorder** in the *Containers* toolbar to change the order of the already created containers within the page. See Reordering Containers in a Page. Select a page and click **Reorder** in the *Fields* toolbar to change the order of the already created controls within a container. See Reordering Controls in a Container.
Masking	Select a page and click **Masking Details** to apply masking rules to a container/ control. See Masking of Container/ Control.
Validation	Select a page and click **UI Validation Rules** to apply validation rule to the selected page. See UI Validation Rule.
Rules	Select a page and click **Processing Rules** to apply processing rules to the selected page. See How to Create Processing Rule.

3.2.12 Reordering Containers in a Page

1. From the *Page Maintenance* window, click **Manage Containers** in the *Fields* toolbar. The Container Details window is displayed.
2. Click **Reorder** in the *Containers* toolbar. The *Container Reorder* window is displayed.

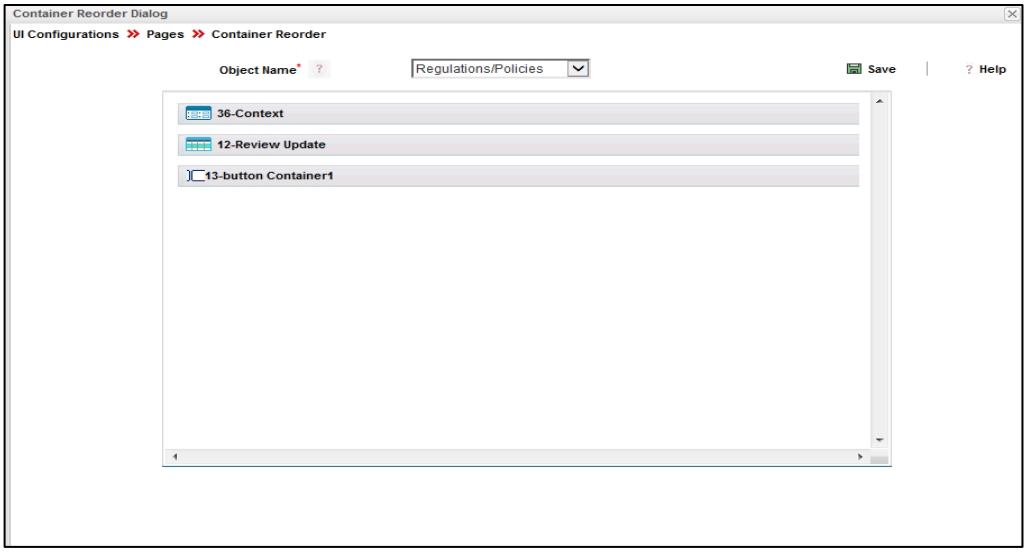


Figure 62. Container Reorder window

3. Select the **Object Name** of the page from the drop-down list. This value is populated based on the selection of Object Code during Page creation.
4. Click and drag to reorder the containers.

5. Click **Save**.

3.2.13 Reordering Controls in a Container

1. From the *Page Maintenance* window, click **Reorder** in the *Fields* toolbar. The *Field Reorder* window is displayed.

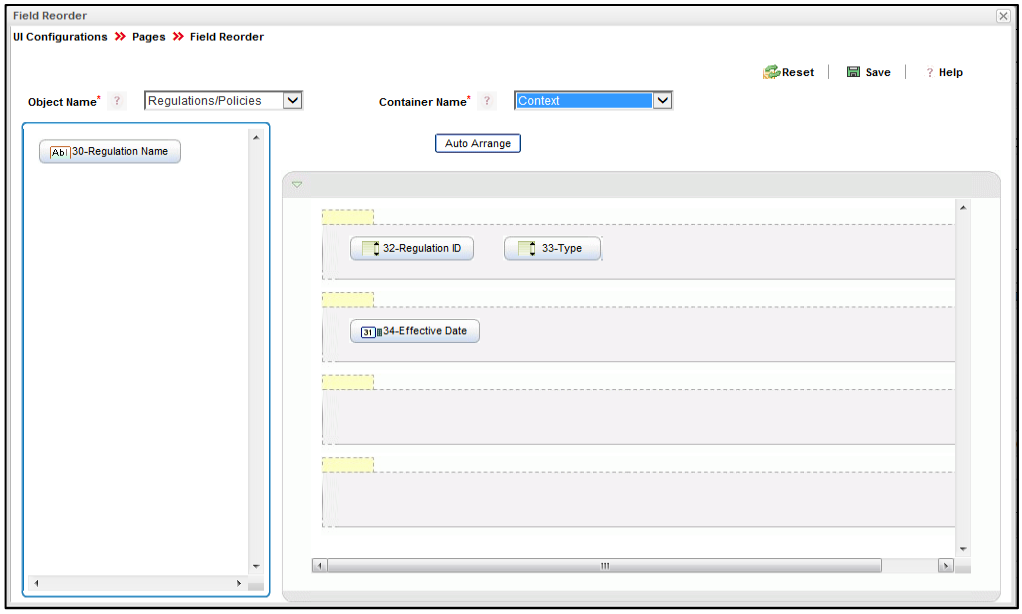


Figure 63. Field Reorder window

2. Select the **Object Name** of the page from the drop-down list. This value is populated based on the selection of Object Code during Page creation.
3. Select the Container from the drop-down list. This list is populated based on the Containers that are created for this page.
4. Click and drag each control appearing on the left side to the required container.
5. Click **Auto Arrange** to arrange the controls based on the order defined during creating the control.
6. Click **Add Span** to add a span area. Double click on the control to add the control Properties.
7. Click **Save**.

3.2.14 How to invoke a Page?

Page can be accessed or invoked from

- Menu/ menu options
- Frames of the layout. (Layouts are done in JSP and are referred as Hosting JSP)
- Action icon/ control/ processing button

Page can be embedded in another page too. (For example, grid container is a page by itself).

3.3 Landing Page

3.3.1 Overview

The user will be directed to application Home page on login. This option allows configuring the landing page or default page on login based on the user's role.

- Specific menu/ submenu options or functionality can be configured as landing page for a role.
- Precedence is used to decide the landing page for a user having multiple roles.

3.3.2 How Landing Page is displayed

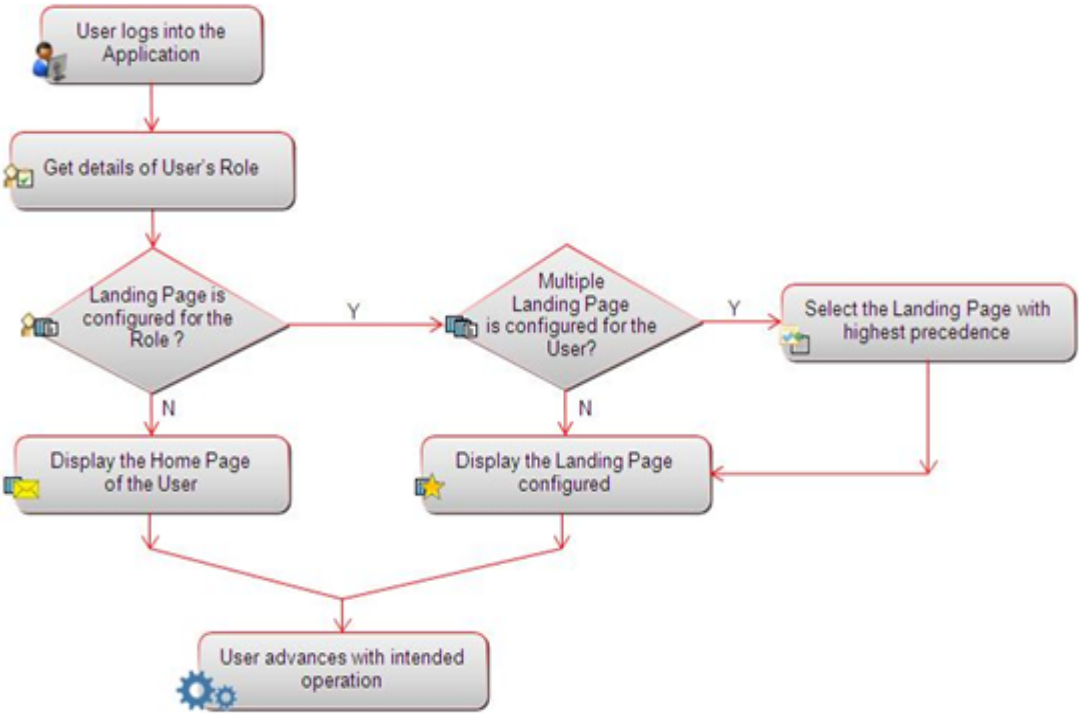


Figure 64. Flowchart of how a Landing Page is displayed

3.3.3 How to Associate Landing Page to Role

Steps to associate a landing page to a role

1. From the LHS menu, expand **UI Configurations** and click **Landing Page**. The *Landing Page* window is displayed.
2. Click **New** in the *Landing Page* Toolbar. The *Landing Page* details is displayed.

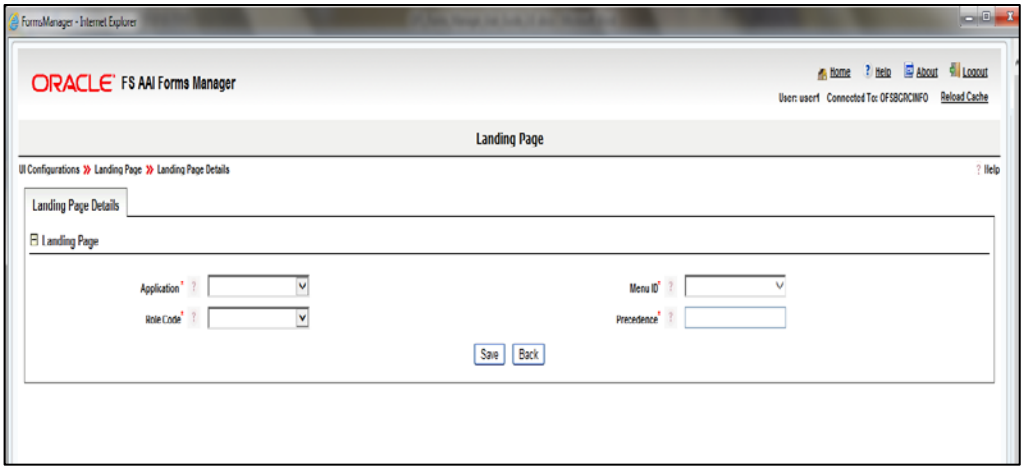


Figure 65. Landing Page Details

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Application*	Select the Application ID from the **Application** drop-down list. The Landing Page will be displayed in the selected Application.
Menu ID*	Select the Menu ID from the drop-down list. The selected menu will be displayed as the landing page.
Role Code*	Select the role code from the drop-down list. For the selected role, the selected menu will be displayed as the landing page.
Precedence*	Out of several landing pages assigned to a role, enter the precedence of the current landing page.

3. Click **Save**.

3.3.4 Landing Page Maintenance

From the LHS menu, expand **UI Configurations** and click **Landing Page**. The *Landing Page* window is displayed.

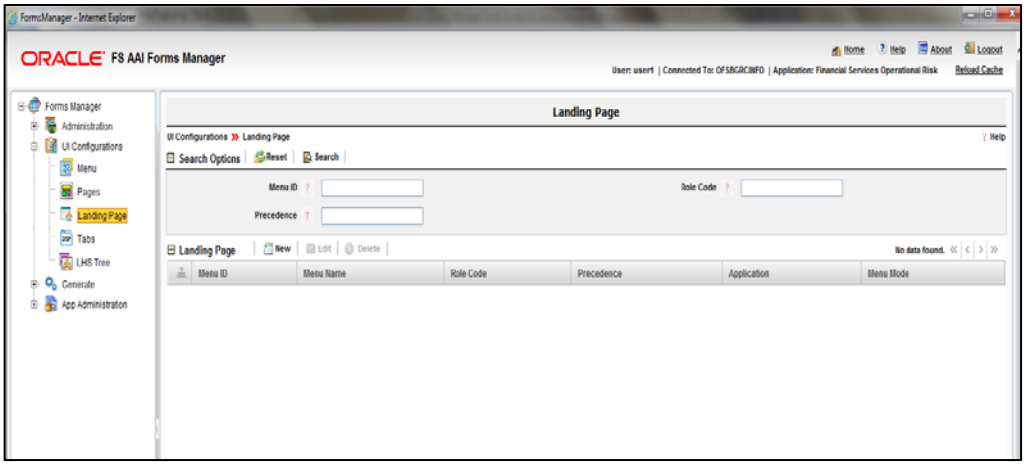


Figure 66. Landing Page window

Action	Description
Search	Enter **Menu ID, Role Code,** and **Precedence.** Click **Search** in the *Search Options* Toolbar.
Edit	Select a Landing Page record and click **Edit** in the *Landing Page* Toolbar to edit a Landing Page.
Delete	Select a Landing Page record and click **Delete** in the *Landing Page* Toolbar to delete a Landing Page.

3.4 Tabs

3.4.1 Overview

This option allows you to create tabs to be displayed in the application screen.

A Tab Group is a collection of tabs. You can define a tab group in the Tab Group Master. After creating the tab group, you have to create the tabs for the tab group. You can modify (add/ remove / re-order tabs) at any point of time. Tab groups can be mapped to multiple forms.

3.4.2 Flow Chart

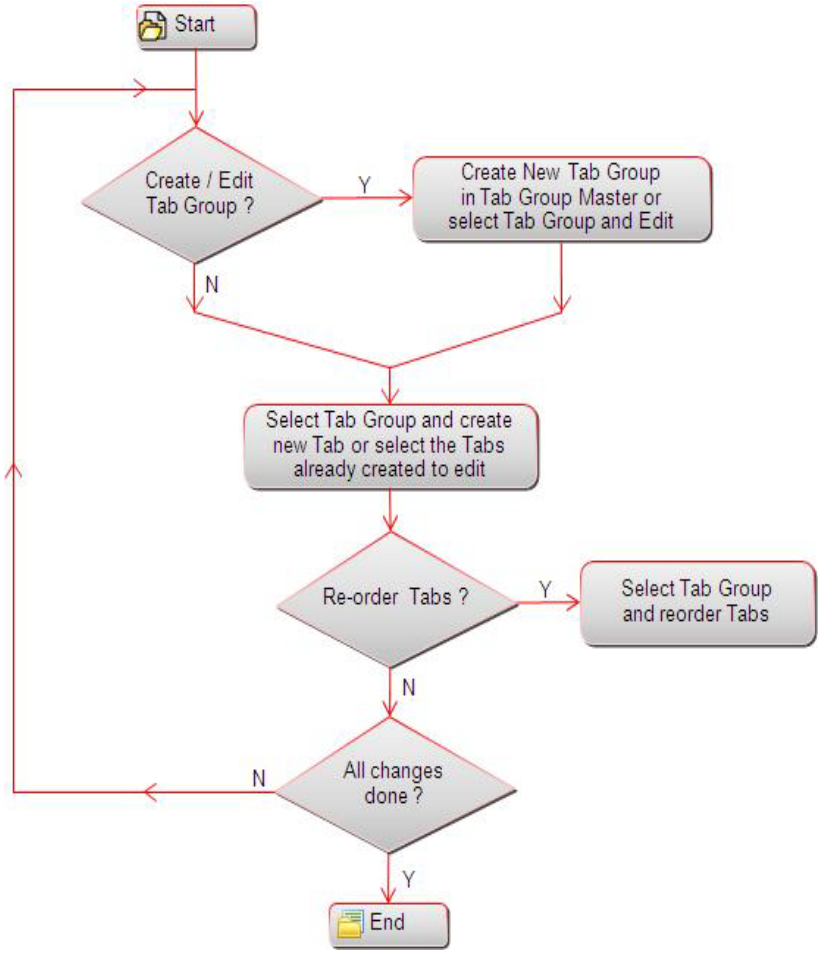


Figure 67. Flowchart of Tab

3.4.3 How to create a Tab

Steps to create a Tab Group

1. From the LHS menu, expand **UI Configurations** and click **Tabs**. The *Custom Tab Maintenance* window is displayed.
2. Click **New** in the *Tab Group Master* Toolbar.

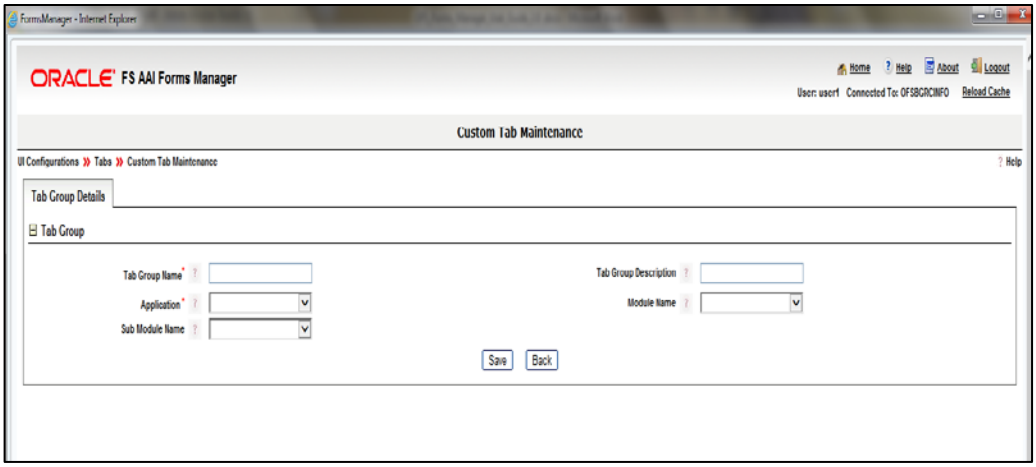


Figure 68. Tab Group Details

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Tab Group Name*	Enter the name of the Tab Group. This is a mandatory field. The Tab Group name should have a prefix “CS_”.
Tab Group Description	Enter the description of the Tab Group.
Application*	Select the Application ID from the **Application** drop-down list. The Tab Group will be displayed in the selected Application.
Module Name	Select the Module from the **Module Name** drop-down list. This list is displayed based on the Application selected.
Sub Module Name	Select the Sub Module from the **Sub Module Name** drop-down list. This list is displayed based on the Application and Module selected.

3. Click **Save**.

Steps to create a Tab

1. Select the Tab Group to which you want to add tab and click **New** in the *Tab* toolbar.

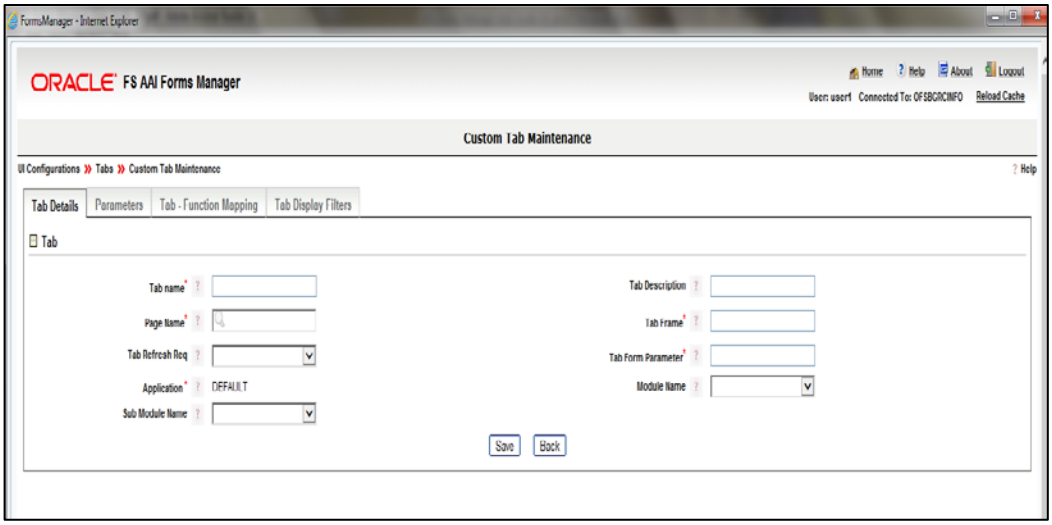


Figure 69. Tab Details tab

Action	Description
Fields marked with red asterisk (*) are mandatory.	
Tab Name*	Enter the name of the tab.
Tab Description	Enter the description of the tab.
Page Name*	Enter the name of the Page to display the tab in. After typing characters in the text field, Page Names similar to the entered values will be popped up in the suggestion box. Select the appropriate one.
Tab Frame*	Enter the frame which is linked to the tab. This is a mandatory field.
Tab Refresh Req	Select **Y** or **N** to configure if the tab should be refreshed or not.
Tab Form Parameter*	Enter the parameter to be passed to the tab form. This is a mandatory field.
Application*	Select the Application ID from the **Application** drop-down list. The Tab will be displayed in the selected Application.
Module Name	Select the Module from the **Module Name** drop-down list. This list is displayed based on the Application selected.
Sub Module Name	Select the Sub Module from the **Sub Module Name** drop-down list. This list is displayed based on the Application and Module selected.

2. Click the **Parameters** tab. Click **Add Parameter** in the *Parameters* toolbar.

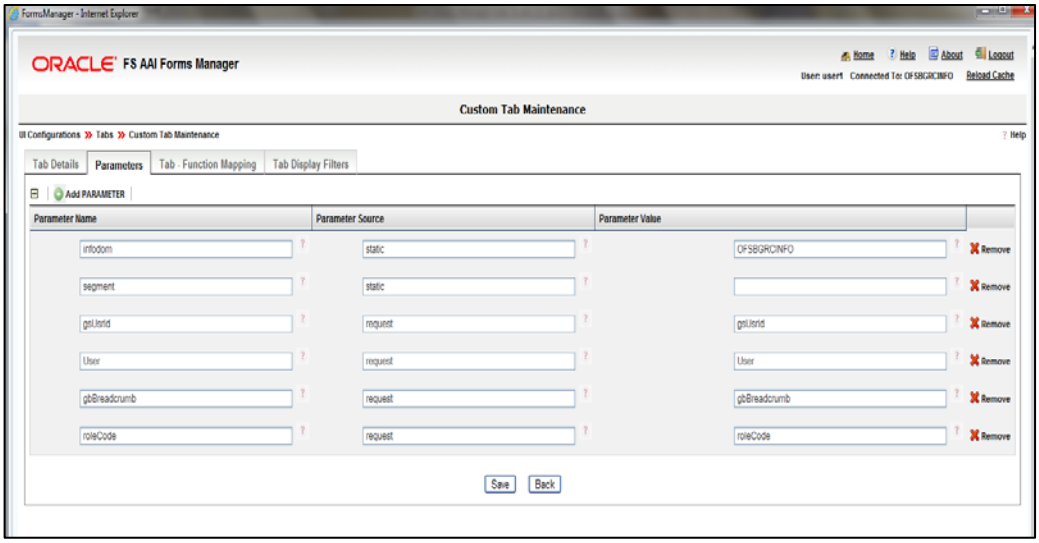


Figure 70. Tab - Parameters tab

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Parameter Name*	Enter the name of the parameter to be passed to the layout template. The parameter names are case sensitive.
Parameter Source*	Enter the value of the parameter mentioned in the **Parameter Name** field.
Parameter Value*	Enter the source of the parameter mentioned in the **Parameter Name** field.

3. Click the **Tab - Function Mapping** tab.

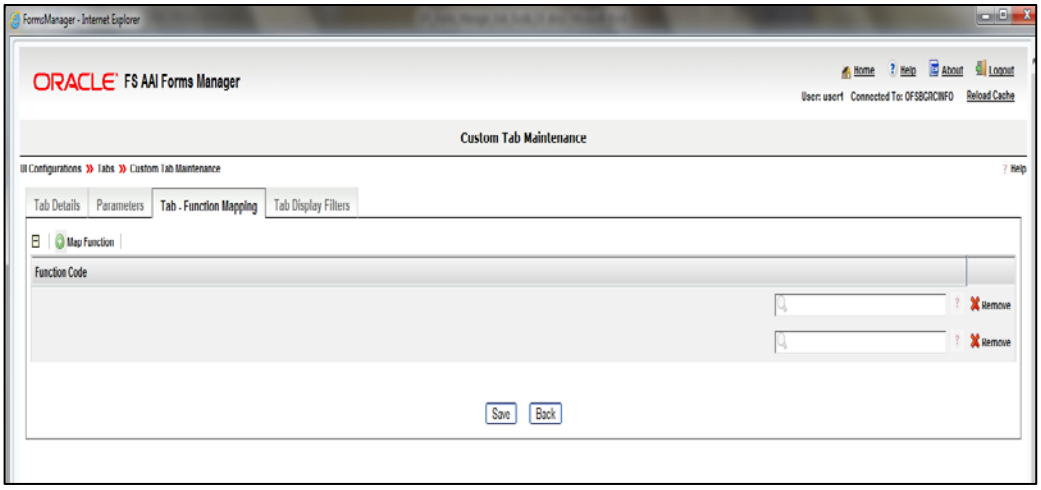


Figure 71. Tab Details - Tab Function Mapping tab

4. Click **Map Function** and enter the function code to be mapped with the tab. The users with this function code mapped can only access the tab. After typing

characters in the text field, function codes similar to the entered values will be popped up in the suggestion box.

5. Click the **Tab Display Filters** tab and then click **Add Combination**.

Figure 72. Tab Details – Tab Display Filters tab

Field Name	Description and Remarks
Set ID	Enter the ID of the set.
Parameter Name	Enter the name of the parameter.
Parameter Value	Enter the value of the parameter.
Operator	Select the operator type from the drop-down list. The operators are **AND** and **OR**.

6. Click **Save**.

3.4.4 Custom Tab Maintenance

From the LHS menu, expand **UI Configurations** and click **Tabs**. The *Custom Tab Maintenance* window is displayed.

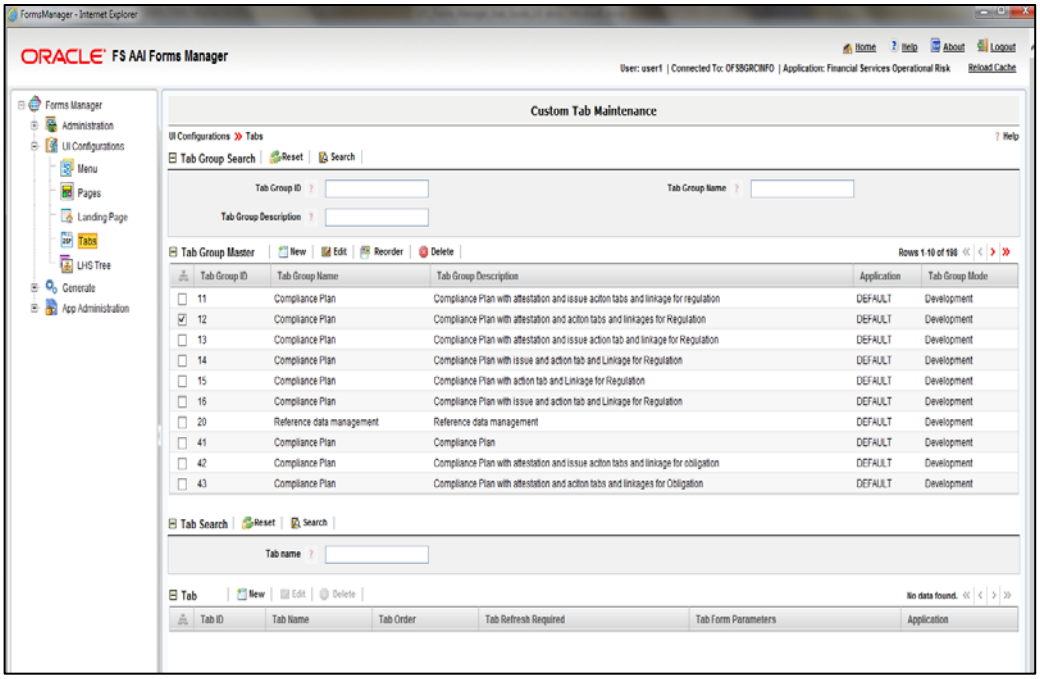


Figure 73. Custom Tab Maintenance window

Action	Description
Search	Search for a tab group by providing **Tab Group ID, Tab Group Name,** and **Tab Group Description** and then clicking **Search** in the *Tab Group Search* toolbar. Similarly, select a tab group and provide **Tab Name**, and then click **Search** in the *Tab Search* toolbar to search for a tab.
Modify	Select a tab group and click **Edit** in the *Tab Group Master* toolbar to modify a tab group. Select the tab group and tab, and then click **Edit** in the *Tab* toolbar to modify a tab.
Delete	Select a tab group and click **Delete** in the *Tab Group Master* toolbar to delete a tab group. Select the tab group and tab, and then click **Delete** in the *Tab* toolbar to delete a tab.
Reorder	Select a tab group and click **Reorder** in the *Tab Group Master* toolbar to change the order in which the tabs should be displayed.

3.5 LHS Tree

3.5.1 Overview

This option allows you to create LHS Tree group to be displayed in the application screen.

A LHS Tree Group is a collection of LHS Tree items. You can define an LHS tree in the *LHS Tree Maintenance* screen. After creating the LHS Tree Group, you need to create LHS tree items for the LHS Tree Group. You can modify (add/ remove / re-order LHS tree items) at any point of time. A single LHS Tree Group can be mapped to multiple forms.

3.5.2 Flow Chart

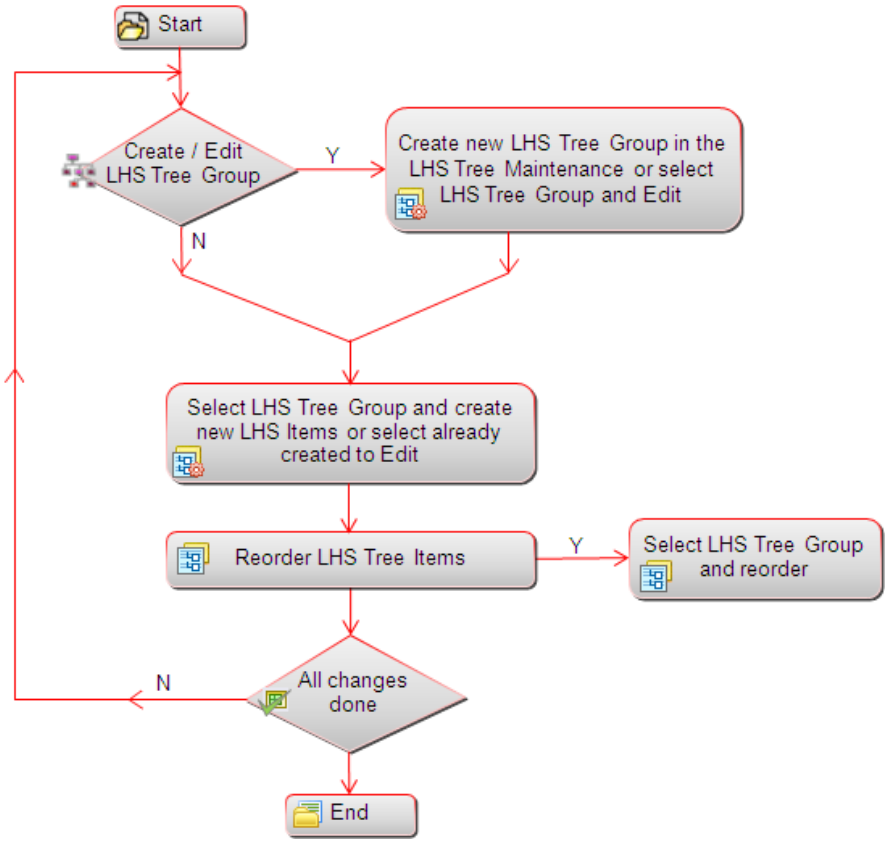


Figure 74. Flowchart of LHS Tree

3.5.3 How to create a LHS Tree

Steps to create a LHS Tree Group

1. From the LHS menu, expand **UI Configurations** and click **LHS Tree**. The *LHS Tree Maintenance* window is displayed.
2. Click **New** in the *LHS Tree Group* Toolbar. The *LHS Tree Maintenance* window is displayed.

Field Name	Description and Remarks
LHS Tree Group ID	Enter a unique ID for the LHS tree group. This is a mandatory field.

Field Name	Description and Remarks
LHS Tree Group Name	Enter the name of the LHS Tree Group. This is a mandatory field.

Steps to create a LHS Tree Master

3. Select the LHS Tree Group to which you want to add LHS tree masters and click **New** in the *LHS Tree Master* toolbar. The *Custom LHS Tree Maintenance* window is displayed.

Field Name	Description and Remarks
LHS Tree Name	Enter the name of the LHS tree item. This is a mandatory field.
Picture Displayed	Select the picture that should be displayed with the LHS tree item.
Form ID	Enter the ID of the form that is to be called on clicking this LHS tree item. This is a mandatory field.
Is Form	Select **Layout Template** or **Form** from the drop-down list.

4. Click the **LHS Tree Status Mapping** tab.
5. Click **Map Status**.
6. Enter the name of the status of the mapping.
7. Click **Save**.

3.5.4 LHS Tree Maintenance

From the LHS menu, expand **UI Configurations** and click **LHS Tree**. The *LHS Tree Maintenance* window is displayed.

Action	Description
Search	Search for a LHS Tree group by providing **LHS Tree Group ID** and **LHS Tree Group Name,** and then clicking **Search** in the *LHS Tree Group Master Search* toolbar. Similarly, select a LHS Tree group and provide LHS Tree Name, and then click **Search** in the *LHS Tree Master Search* toolbar to search for a LHS tree.
Modify	Select a LHS Tree group and click **Edit** in the *LHS Tree Group* toolbar to modify it. Select the LHS Tree group and LHS Tree, and then click **Edit** in the *LHS Tree Master* toolbar to modify the LHS tree.

Action	Description
Delete	Select a LHS Tree group and click **Delete** in the *LHS Tree Group* toolbar to delete it. Select the LHS Tree group and LHS Tree, and then click **Delete** in the *LHS Tree Master* toolbar to delete the LHS tree.
Reorder	Select a LHS Tree group and click Reorder in the *LHS Tree Group* toolbar to change the order in which the LHS tree should be displayed.

4 Generate

4.1 Generate Menu

4.1.1 Overview:

Generate Menu option is used to deploy the application menu created / modified using Forms Manager. On generating the menu, the menu definitions (all levels and sub levels for the application information domain) are deployed in the Information Domain after moving the previous version of the application menu / Information Domain specific menu to history tables along with the comments supplied for audit purpose. It also generates the dependent Tab Groups and LHS Trees that are being called from the menus.

4.1.2 How to generate a Menu

Steps to generate a Menu

1. From the LHS menu, expand **Generate** and click **Menu**. The *Generate Menu* window is displayed.

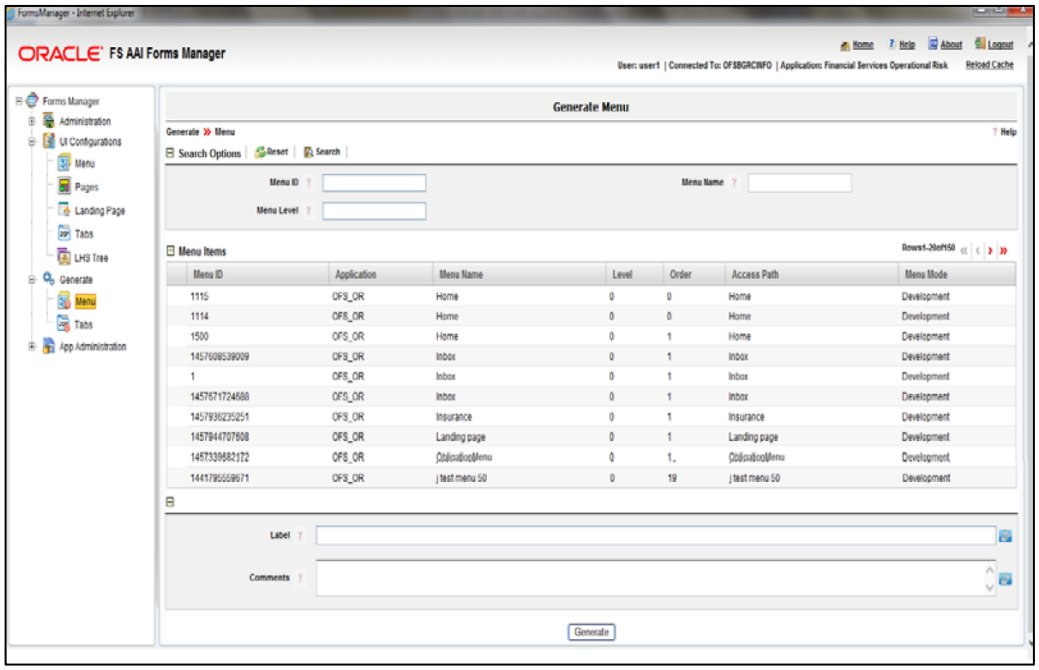


Figure 75. Generate Menu window

Field Name	Description and Remarks
Menu Id	Displays the ID corresponding to the menu.
Application	Displays the Application that will display the menu.
Menu Name	Displays the name of the menu.

Field Name	Description and Remarks
Level	Displays the level of the menu. It can be 0, 1, or 2.
Order	Displays the order of the menu. For menu of level 0, order means →Horizontal order and for level 1 and level 2, menu order means ↓Vertical order.
Access Path	Displays the path to access the menu.
Menu Mode	Displays the mode of the menu.
Label	Enter the label to identify the change. It is advisable to put appropriate label for tracking purpose.
Comments	Enter any comments you want to add while generating the menu. It is advisable to put appropriate comments for tracking purpose.

2. Click **Generate**.

While generating the menu, data in the work-in-progress table for all menu items along with tab groups and LHS trees will be moved to application tables. The same data will be moved to history tables with version number and comments to keep track of changes in the menu along with its dependent tab groups and LHS trees.

NOTE: Search for a menu by providing the **Menu Id**, **Menu Name**, and **Menu Level** in the Search Options Toolbar.

4.2 Generate Pages

4.2.1 Overview

Generate Page is used to deploy the pages created / modified using Forms Manager. You can generate and deploy a single page based on the need. On generating the page, the page definition (DB scripts and XML files) is deployed in the Information Domain after making a copy of the definition for audit/ tracking purposes. It also generates the corresponding Tab Groups and LHS trees that are being called from the page you are generating.

- XML files will be backed up in the YYYMMDDHHMISS directory under the directory configured for copying the latest XML definition.
- New set of definitions for the page will be copied with the required privilege in the directory configured for copying the latest XML definition.
- DB scripts will be deployed in the AAI Config Schema after moving the older version to the history tables along with the comments entered during the *Generate Page* option.
- By default, the dependent Tab Groups and LHS Trees will be moved to the platform application tables.

4.2.2 How to generate a Page

Steps to generate a Page

3. From the LHS menu, expand **UI Configurations** and click **Pages**. The *Pages* window is displayed.
4. Select the Page that you want to generate and deploy. The Page Maintenance window is displayed.

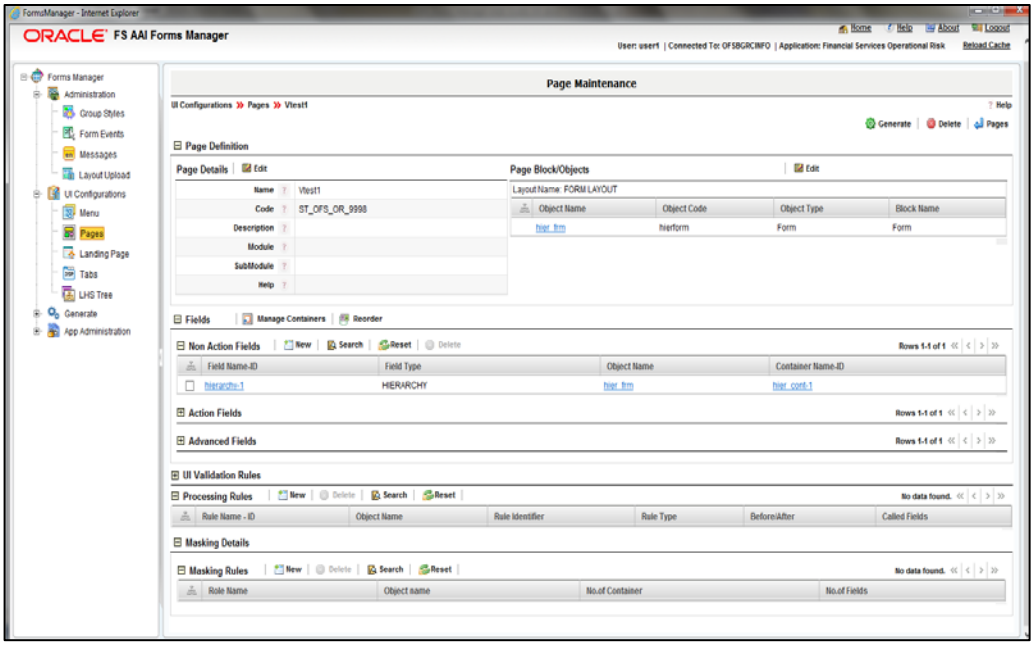


Figure 76. Page Maintenance window – Generate Page

Field Name	Description and Remarks
Form Code	Displays the unique identifier of the form.
Form Name	Displays the name of the form.
Label	Enter the label to identify the change. It's advisable to put appropriate label for tracking purpose.
Comments	Enter any comments you want to add while generating the form. It's advisable to put appropriate comments for tracking purpose.
Path	Displays the path where the form will be generated.

5. Click **Generate** which is on the top right hand side of the page.

4.3 Generate Tabs

4.3.1 Overview

Generate Tab Group is used to deploy the tab groups and the tabs associated with the tab group, which are created / modified using Forms Manager. On generating the tab group, the tab group definitions are deployed in the Information Domain after moving the previous version of the tab group to history tables along with the comments supplied for audit purpose.

4.3.2 How to generate a Tab Group

Steps to generate a Tab Group

1. From the LHS menu, expand **Generate** and click **Tabs**. The *Generate Tab Group* window is displayed.

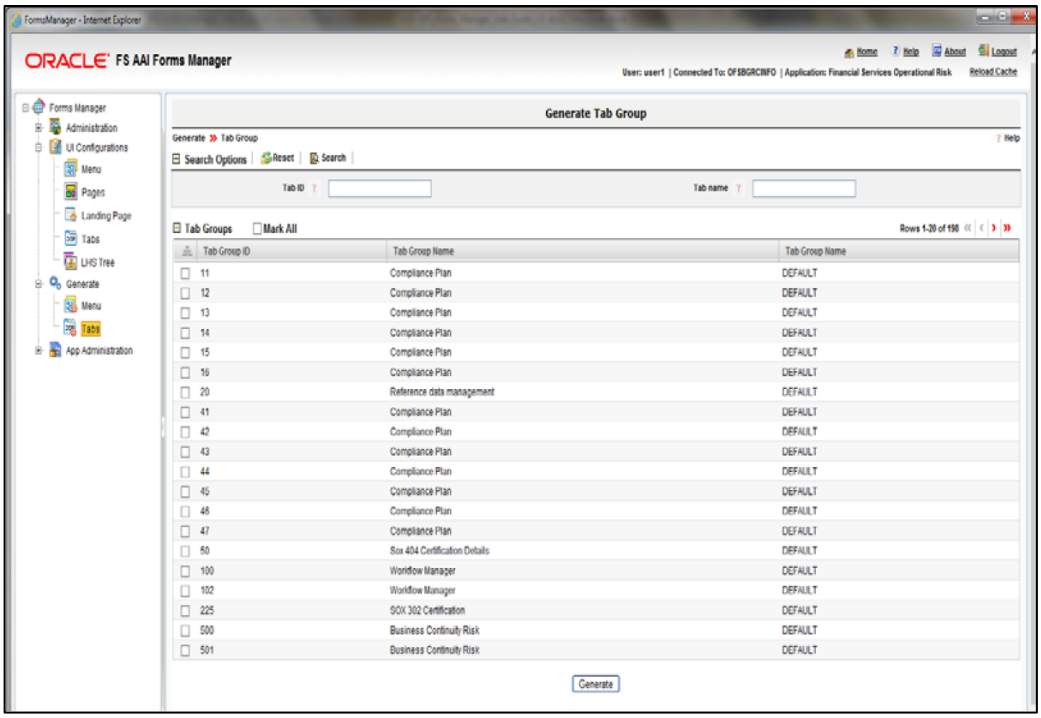


Figure 77. Generate Tab Group window

Field Name	Description and Remarks
Tab Group ID	Displays the unique identifier of the tab group.
Tab Group Name	Displays the name of the tab group.
Application	Displays the name of the Application.

2. Select the checkbox corresponding to the Tab Group(s) you want to generate or select **Mark All** if you want to generate all tab groups.

3. Click **Generate**.

NOTE: Search for a tab group by providing the **Tab ID** and **Tab Name** in the *Search Options* toolbar.

5 App Administration

5.1 Module

5.1.1 Overview

This option is used to create Modules and Sub Modules for the Application. These Modules appear in the Menu and Page creation screens, based on the Application that is chosen.

5.1.2 How to Create a Module

1. From the LHS menu, expand **App Administration** and click **Module**. The *Module* window is displayed.

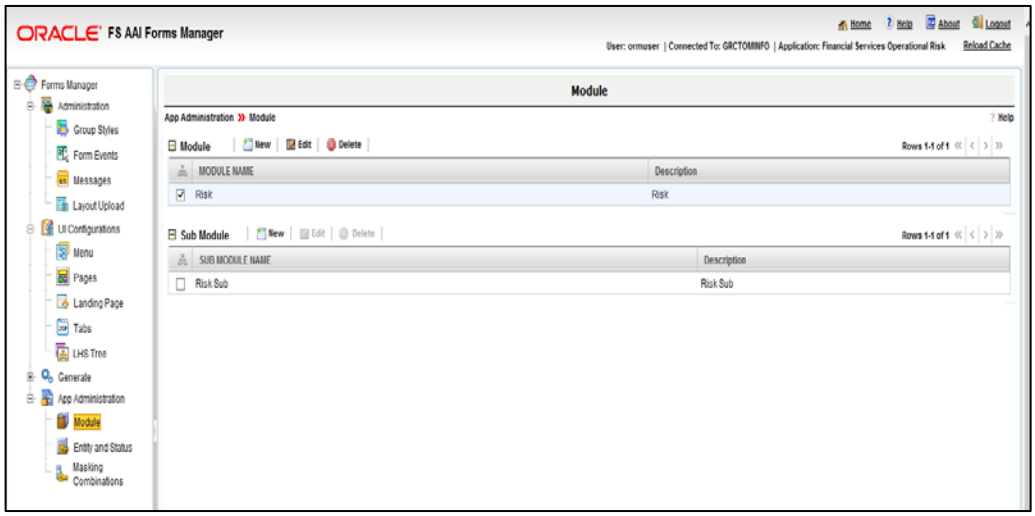


Figure 78. Module window

2. Click **New** in the *Module* Toolbar. The *Add New Module* window is displayed.

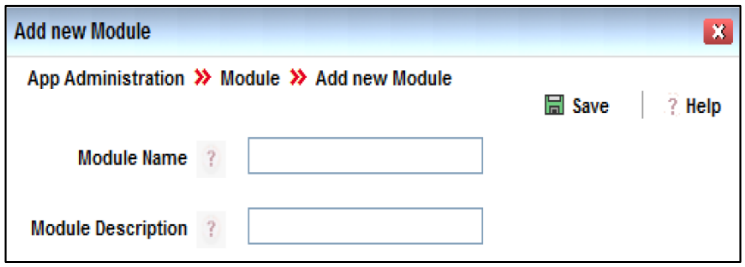


Figure 79. Add New Module window

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Module Name*	Enter the name of the Module.
Module Description*	Enter a valid description for the Module.

3. Click **Save**.

5.1.3 How to Create a Sub Module

1. From the *Module* window, select the Module to which you want to create a Sub Module. The *Sub Module* toolbar is displayed.
2. Click **New** in the *Sub Module* toolbar. The *Add New Sub Module* window is displayed.

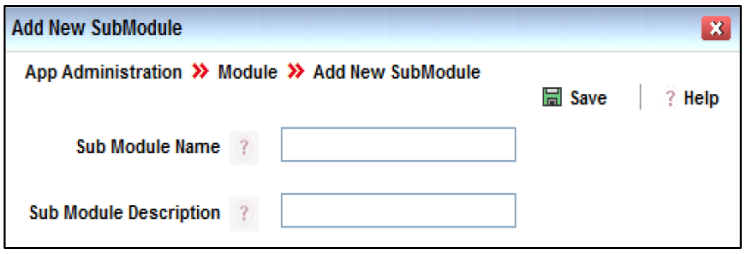


Figure 80. Add New Sub Module window

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Sub Module Name*	Enter the name of the Sub Module.
Sub Module Description*	Enter a valid description for the Sub Module.

3. Click **Save**.

5.1.4 Module Maintenance

From the LHS menu, expand **App Administration** and click **Modules**. The *Module* window is displayed.

NOTE: When you select a Module, the available Sub Modules will be displayed under *Sub Modules* grid.

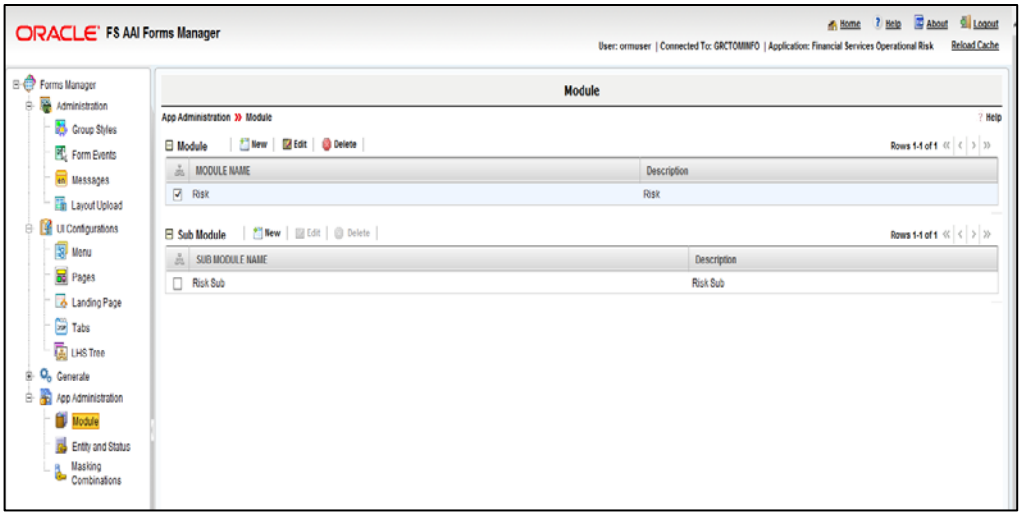


Figure 81. Module window

Action	Description
Modify	Select a Module and click **Edit** in the *Module* toolbar to modify a module. Select the Module and Sub Module and then click **Edit** in the *Sub Modules* toolbar to modify a Sub Module.
Delete	Select a Module and click **Delete** in the *Module* toolbar to delete a module. Select the Module and Sub Module and then click **Delete** in the *Sub Modules* toolbar to delete a Sub Module.

5.2 Entity and Status

5.2.1 Overview

This section is used to create and manage different Entities across the Application. These Entities are assigned with various Statuses that are also created for the Application. We can link the Entities to other Entities and also map them to various Roles based on the functionality is required for a particular module or sub module of the Application.

5.2.2 How to Create Application Entities

1. From the LHS menu, expand **App Administration** and click **Entity and Status**. The *Entity and Status* window is displayed.
2. Click **New** in the *Application Entities* toolbar. The *Add New Entity* window is displayed.

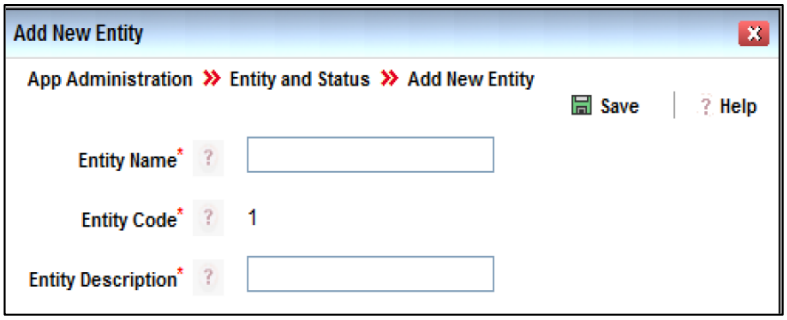


Figure 82. Add New Entity window

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Entity Name*	Enter the name of the Entity.
Entity Code*	The Code or ID for the Entity is automatically generated.
Entity Description*	Enter a valid description for the Entity.

3. Click **Save**.

5.2.3 How to Create Status

1. From the *Entity and Status* window, select the Entity to which you want to create a Status. The *Status* toolbar is displayed.
2. Click **New** in the *Status* toolbar. The *Add New Status* window is displayed.

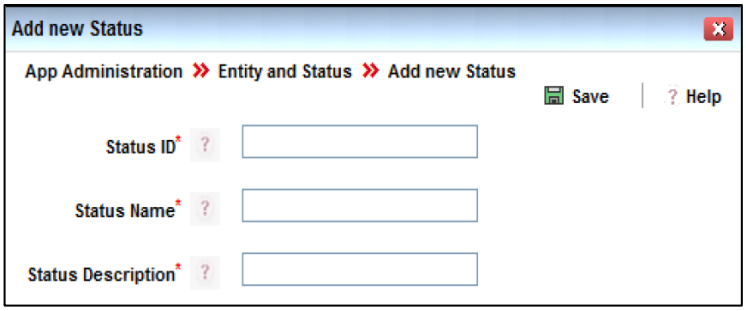


Figure 83. Add New Status window

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Status ID*	Enter the ID of the Status.
Status Name*	Enter the Name of the Status.
Status Description*	Enter a valid description for the Status.

3. Click **Save**.

5.2.4 Mapping Status to an Entity

1. From the *Entity and Status* window, select an Entity whose Statuses have been created and for which you want to map the status.
2. Click **Map Status** in the *Application Entities* toolbar. The *Map Status* window is displayed.

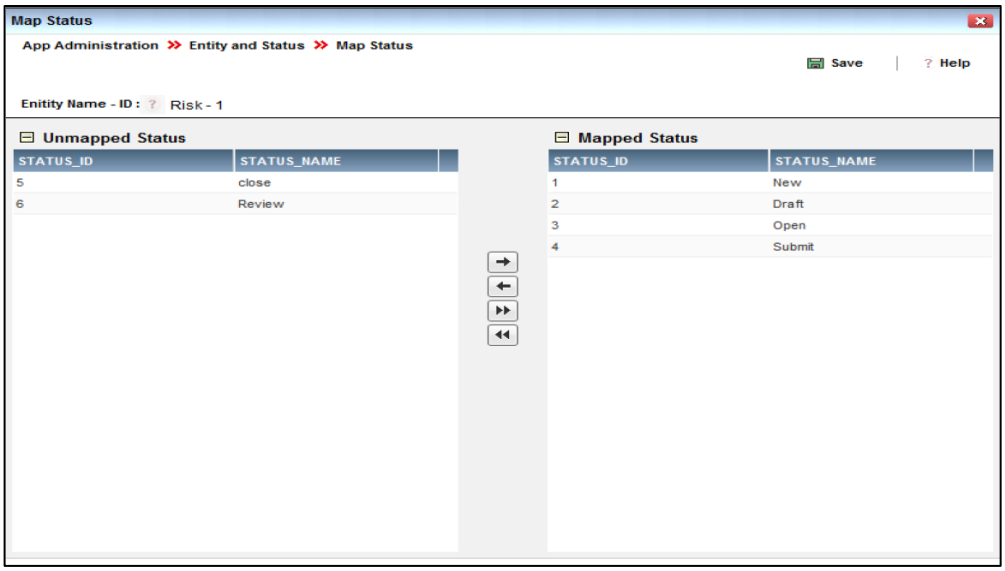


Figure 84. Map Status window

3. Move the Statuses from the **Unmapped Status** column to the **Mapped Status** column.
4. Click **Save**.

5.2.5 Linking Entities for an Application

1. From the *Entity and Status* window, select an Entity for which you want to link another Entity that is already created.
2. Click **Link Entities** in the *Application Entities* toolbar. The *Link Entities* window is displayed.

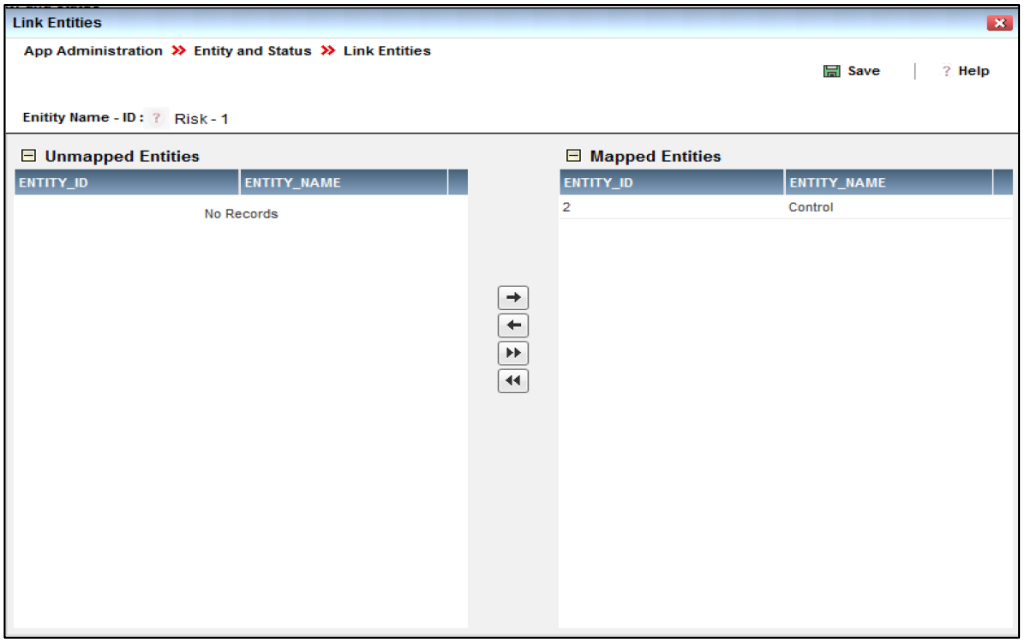


Figure 85. Link Entities window

3. Move the Entities from the **Unmapped Entities** column to the **Mapped Entities** column.
4. Click **Save**.

5.2.6 Mapping Roles to an Entity

1. From the *Entity and Status* window, select an Entity for which you want to map Roles that are previously seeded into the system.
2. Click **Map Roles** in the *Application Entities* toolbar. The *Map Role* window is displayed.

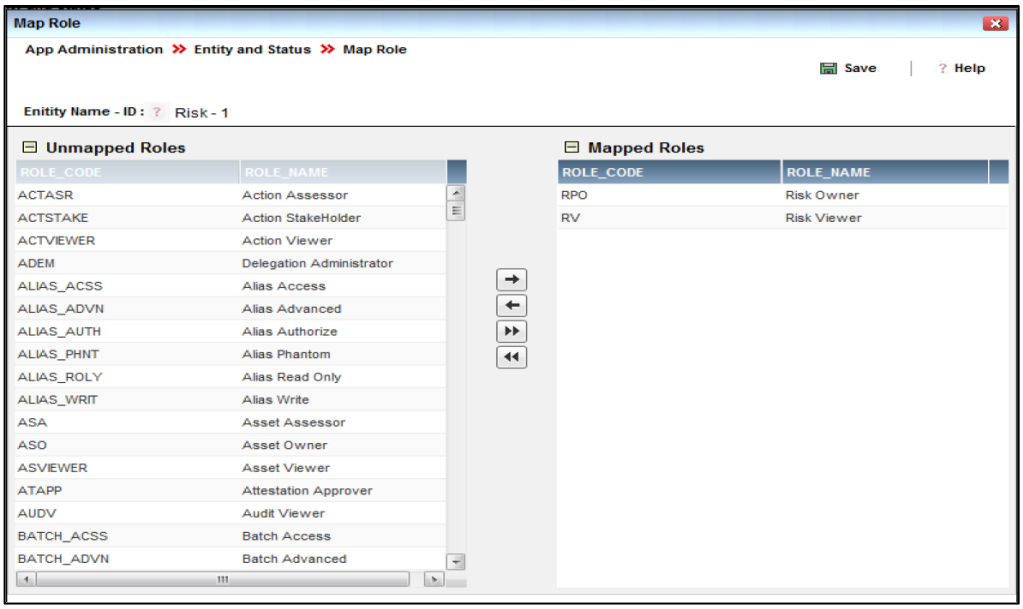


Figure 86. Map Role window

3. Move the Roles from the **Unmapped Roles** column to the **Mapped Roles** column.
4. Click **Save**.

5.2.7 Entity and Status Maintenance

From the LHS menu, expand **App Administration** and click **Entity and Status**. The *Entity and Status* window is displayed.

NOTE: When you select an Entity, the available Statuses will be displayed under *Status* grid.

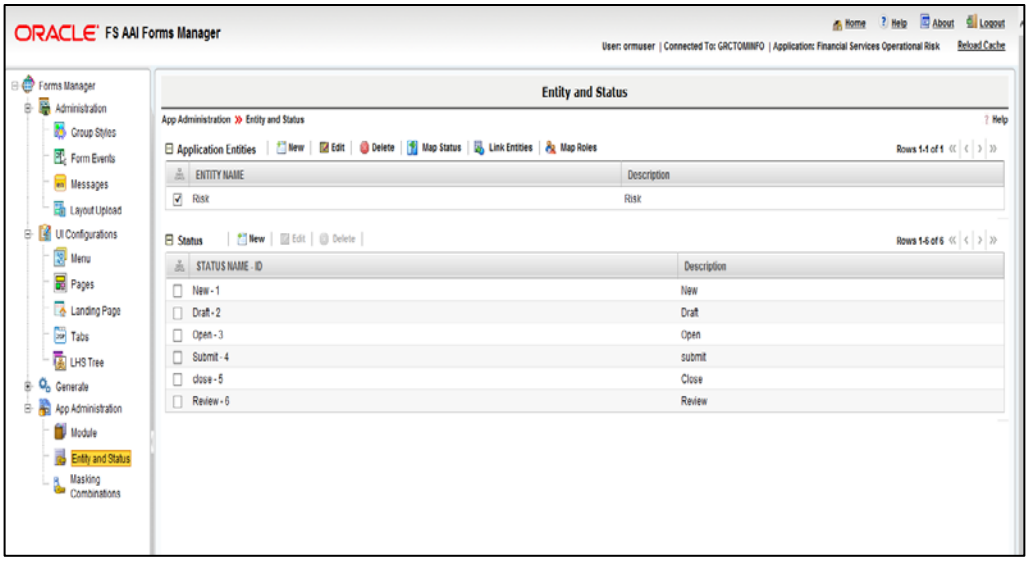


Figure 87. Entity and Status window

Action	Description
Modify	Select an Entity and click **Edit** in the *Application Entities* toolbar to modify an Entity. Select the Entity and Status and then click **Edit** in the *Status* toolbar to modify a Status.
Delete	Select an Entity and click **Delete** in the *Application Entities* toolbar to delete an Entity. Select the Entity and Status and then click **Delete** in the *Status* toolbar to delete a Status.

5.3 Masking Combinations

5.3.1 Overview

This section allows you to create different combinations of masking for the Entities in an Application. These combinations can be applied over different Roles and linked Entities also.

5.3.2 How to Create Masking Combinations

1. From the LHS menu, expand **App Administration** and click **Masking Combinations**. The *Masking Combinations* window is displayed.
2. Select the **Entity** from the drop-down list. This list is populated based on the entities that were previously created. For more information, see How to Create Application Entities.
3. Click **New** in the *Masking Combinations* toolbar. The *Add Masking Rule* window is displayed.

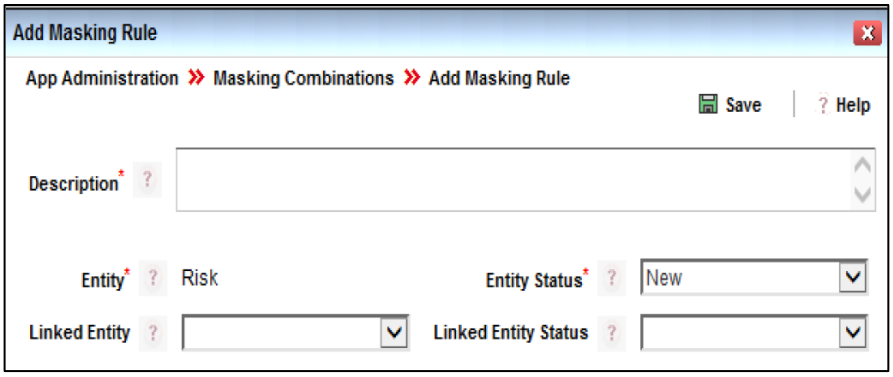


Figure 88. Add Masking Rule window

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Description*	Enter a valid description for the Masking Rule, which will describe what the Masking Rule is about.
Entity*	This field is automatically populated. This is the Entity for which you are creating Masking combinations.
Entity Status*	Select the Status from the drop-down list for the Entity
Linked Entity	Select a Linked Entity from the drop-down list if the masking rules have to be applied to it.
Linked Entity Status	Select the Status from the drop-down list for the Linked Entity.

5.3.3 Masking Combinations Maintenance

From the LHS menu, expand **App Administration** and click **Masking Combinations**. The *Masking Combinations* window is displayed.

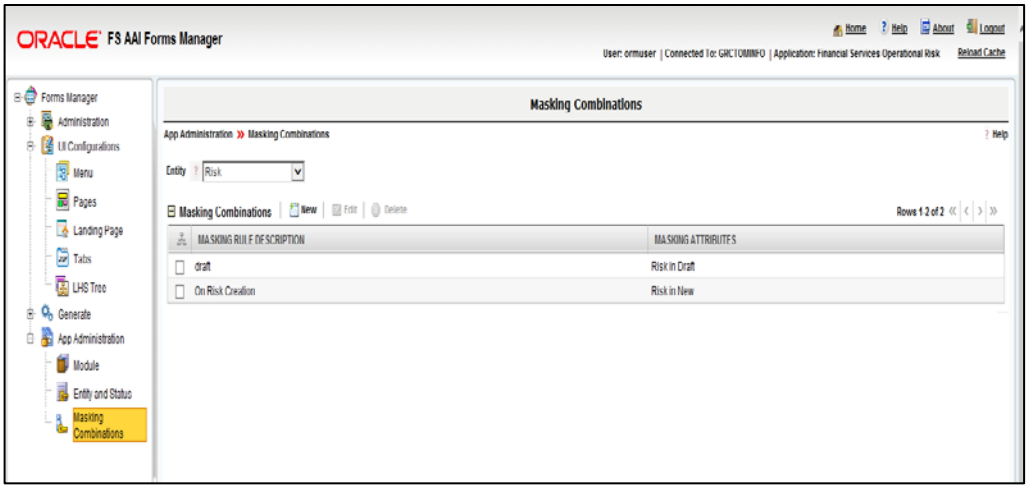


Figure 89. Masking Combinations window

Action	Description
Modify	Select the Entity and Masking Combination and then click **Edit** in the *Masking Combinations* toolbar to modify a Masking Combination.
Delete	Select the Entity and Masking Combination and then click **Delete** in the *Masking Combinations* toolbar to delete a Masking Combination.

6 Administration

6.1 Group Styles

6.1.1 Overview

A Group Style is a set of styles defined for every element of a container or control. These are the styles which are predefined and packaged along with the Forms Manager.

A group style has pre-defined attributes like background image, border properties (border style, width, and color), font properties (font size, color, weight, style), and so on. These group styles are then associated to the cssclass of the container/control. The stylesheet.css file should have entries for all the group styles available in the Group Style Maintenance window.

6.1.2 How to Create a Group Style

This option allows you to register a new group style which is defined/ available in the stylesheet. Once it is registered, you can use the group styles while you define a container.

Steps to create a Group Style

1. From the LHS menu, expand **Administration** and click **Group Styles**. The *Group Style Maintenance* window is displayed.
2. Click **New** in the *Group Styles* toolbar.

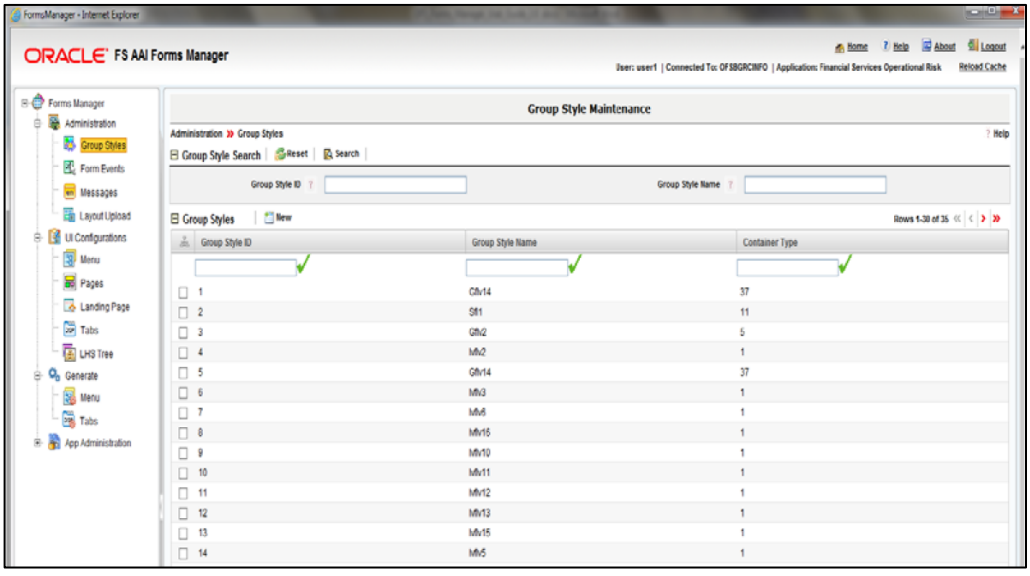


Figure 90. Group Style Maintenance window

Field Name	Description and Remarks
Group Style ID	Enter a unique ID for the group style. It is advisable to put unique ID. However a validation has been done which will restrict the user to save duplicate values.

Field Name	Description and Remarks
Group Style Name	Enter the name of the group style.
Container Type	Enter the type of the container.

3. Click **Save.**

NOTE: Search for a Group Style by providing the **Group Style ID** and **Group Style Name** in the *Group Style Search* toolbar.

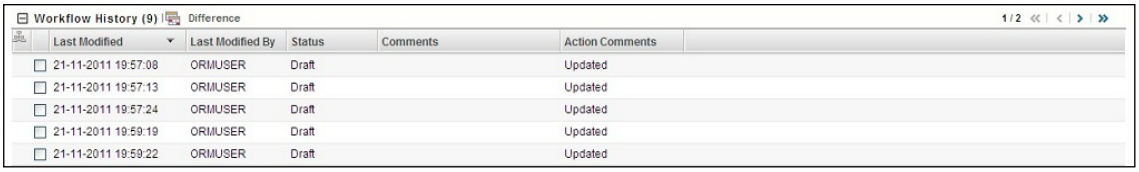
6.1.3 Sample Group Styles

Following figures display different group styles present in the Application Forms. These are the group styles shipped with the standard product.

6.1.3.1 Grid Container (Type = 5)

Grid Group Style: Gflv2

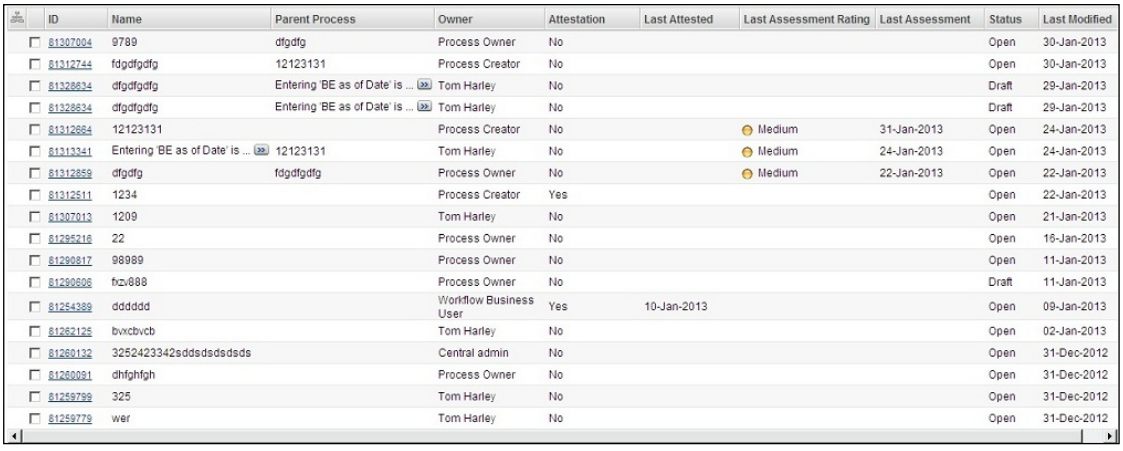
Description- Grid Container without border.



Grid Group Style: Gflv4

Description- Grid Container without Border and Toolbar.

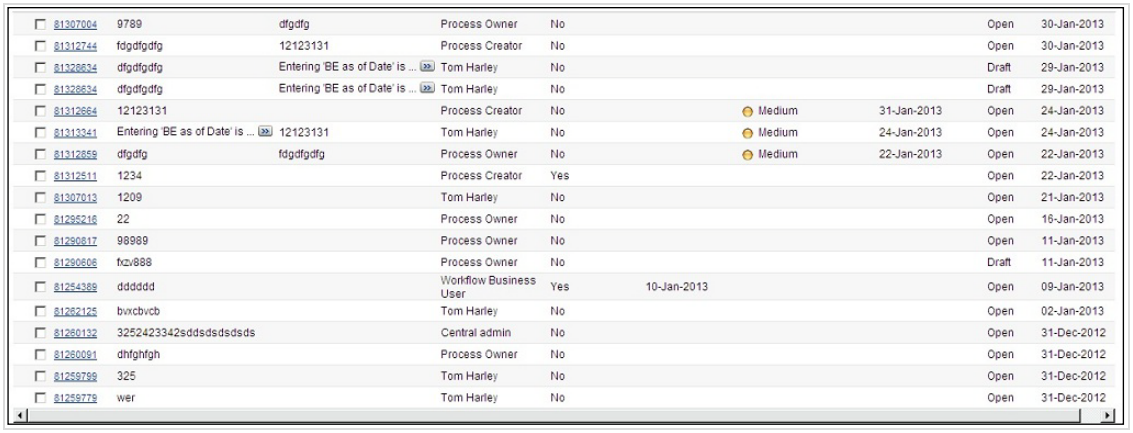
Additional XML Configuration: Header should not be present. **Note**: Transpose should not be configured in menu, since we cannot return back to Grid view when we do a transpose.



Grid Group Style: Gflv5

Description- Grid Container without Border, Toolbar, and Header.

Additional XML Configuration: Header should not be present.



81307004	9789	dfgdfg	Process Owner	No			Open	30-Jan-2013
81312744	fdgdfgdfg	12123131	Process Creator	No			Open	30-Jan-2013
81328634	dfgdfgdfg	Entering 'BE as of Date' is ...	Tom Harley	No			Draft	29-Jan-2013
81328634	dfgdfgdfg	Entering 'BE as of Date' is ...	Tom Harley	No			Draft	29-Jan-2013
81312664	12123131		Process Creator	No	Medium	31-Jan-2013	Open	24-Jan-2013
81313341	Entering 'BE as of Date' is ...	12123131	Tom Harley	No	Medium	24-Jan-2013	Open	24-Jan-2013
81312859	dfgdfg	fdgdfgdfg	Process Owner	No	Medium	22-Jan-2013	Open	22-Jan-2013
81312511	1234		Process Creator	Yes			Open	22-Jan-2013
81307013	1209		Tom Harley	No			Open	21-Jan-2013
81295216	22		Process Owner	No			Open	16-Jan-2013
81290817	98989		Process Owner	No			Open	11-Jan-2013
81290606	fxzv888		Process Owner	No			Draft	11-Jan-2013
81254389	dddddd		Workflow Business User	Yes	10-Jan-2013		Open	09-Jan-2013
81262125	bvxcbvcb		Tom Harley	No			Open	02-Jan-2013
81260132	3252423342sddsdsdsdsds		Central admin	No			Open	31-Dec-2012
81260091	dhfghfgh		Process Owner	No			Open	31-Dec-2012
81259799	325		Tom Harley	No			Open	31-Dec-2012
81259779	wer		Tom Harley	No			Open	31-Dec-2012

Grid Group Style: Gflv6

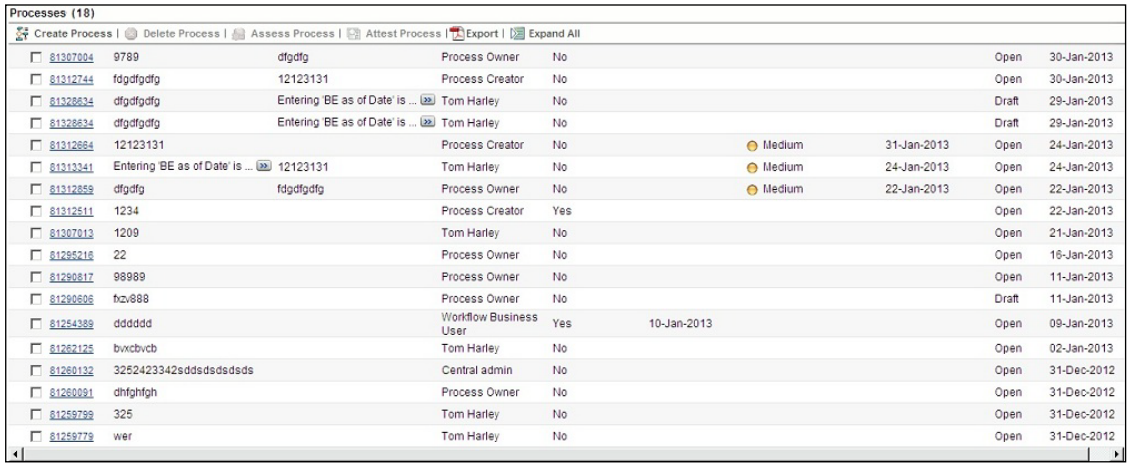
Description- Grid Container with Border and toolbar.

Delegation (4) | Create New | Edit | View | Revoke | Delete | Export

Delegator	Delegate	Start Date	End Date	Last Modified	Created By	Status
grcuser	Admin	16-Oct-2012	24-Oct-2012	09-Oct-2012	grcuser	Draft
grcuser	Akank	09-Oct-2012	25-Oct-2012	09-Oct-2012	grcuser	Draft
grcuser	Akanksha	09-Oct-2012	31-Oct-2012	09-Oct-2012	grcuser	Draft
grcuser	Action Assessor	11-Sep-2012	13-Sep-2012	04-Sep-2012	grcuser	Draft

Grid Group Style: Gflv7

Description- Grid Container with toolbar, but no border and header.



Processes (18)

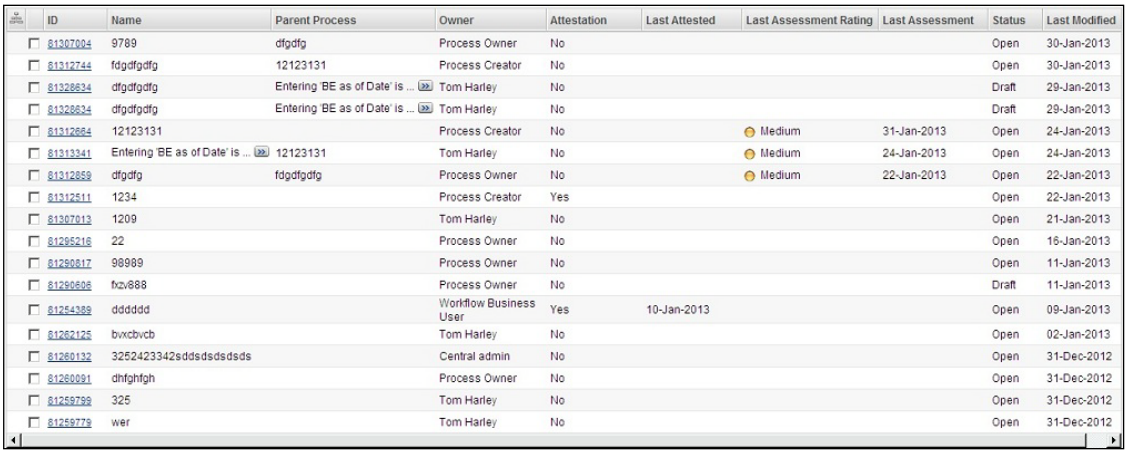
Create Process | Delete Process | Assess Process | Attest Process | Export | Expand All

81307004	9789	dfgdfg	Process Owner	No			Open	30-Jan-2013
81312744	fdgdfgdfg	12123131	Process Creator	No			Open	30-Jan-2013
81328634	dfgdfgdfg	Entering 'BE as of Date' is ...	Tom Harley	No			Draft	29-Jan-2013
81328634	dfgdfgdfg	Entering 'BE as of Date' is ...	Tom Harley	No			Draft	29-Jan-2013
81312664	12123131		Process Creator	No	Medium	31-Jan-2013	Open	24-Jan-2013
81313341	Entering 'BE as of Date' is ...	12123131	Tom Harley	No	Medium	24-Jan-2013	Open	24-Jan-2013
81312859	dfgdfg	fdgdfgdfg	Process Owner	No	Medium	22-Jan-2013	Open	22-Jan-2013
81312511	1234		Process Creator	Yes			Open	22-Jan-2013
81307013	1209		Tom Harley	No			Open	21-Jan-2013
81295216	22		Process Owner	No			Open	16-Jan-2013
81290817	98989		Process Owner	No			Open	11-Jan-2013
81290606	fxzv888		Process Owner	No			Draft	11-Jan-2013
81254389	dddddd		Workflow Business User	Yes	10-Jan-2013		Open	09-Jan-2013
81262125	bvxcbvcb		Tom Harley	No			Open	02-Jan-2013
81260132	3252423342sddsdsdsdsds		Central admin	No			Open	31-Dec-2012
81260091	dhfghfgh		Process Owner	No			Open	31-Dec-2012
81259799	325		Tom Harley	No			Open	31-Dec-2012
81259779	wer		Tom Harley	No			Open	31-Dec-2012

Grid Group Style: Gflv8

Description- Grid Container with Border, but no Toolbar.

Additional XML Configuration: Header should not be present. **Note**: Transpose should not be configured in menu, since we cannot return back to Grid view when we do a transpose

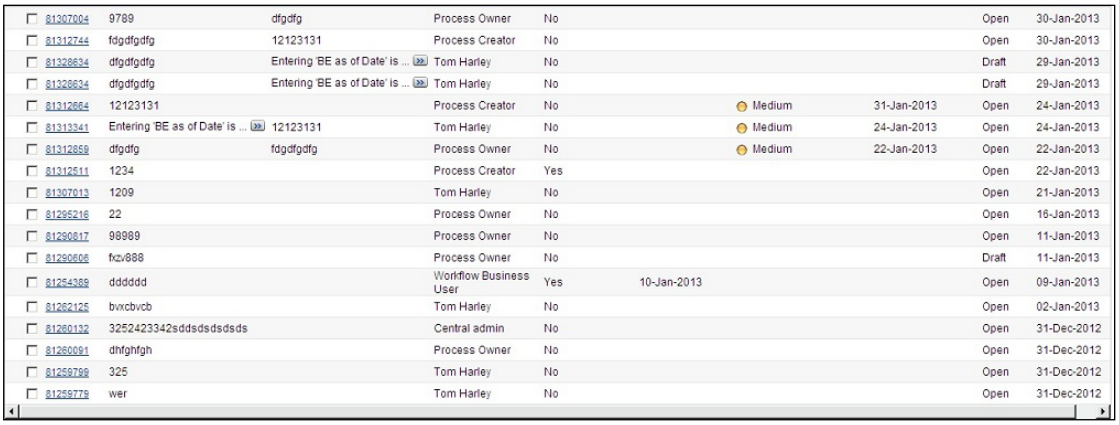


ID	Name	Parent Process	Owner	Attestation	Last Attested	Last Assessment Rating	Last Assessment	Status	Last Modified
81307004	9789	dfgdfg	Process Owner	No				Open	30-Jan-2013
81312744	fdgdfgdfg	12123131	Process Creator	No				Open	30-Jan-2013
81328634	dfgdfgdfg	Entering 'BE as of Date' is ...	Tom Harley	No				Draft	29-Jan-2013
81328634	dfgdfgdfg	Entering 'BE as of Date' is ...	Tom Harley	No				Draft	29-Jan-2013
81312664	12123131		Process Creator	No		Medium	31-Jan-2013	Open	24-Jan-2013
81313341	Entering 'BE as of Date' is ...	12123131	Tom Harley	No		Medium	24-Jan-2013	Open	24-Jan-2013
81312859	dfgdfg	fdgdfgdfg	Process Owner	No		Medium	22-Jan-2013	Open	22-Jan-2013
81312511	1234		Process Creator	Yes				Open	22-Jan-2013
81307013	1209		Tom Harley	No				Open	21-Jan-2013
81295216	22		Process Owner	No				Open	16-Jan-2013
81290817	98989		Process Owner	No				Open	11-Jan-2013
81290606	fxzv888		Process Owner	No				Draft	11-Jan-2013
81254389	dddddd		Workflow Business User	Yes	10-Jan-2013			Open	09-Jan-2013
81262125	bvxcbvcb		Tom Harley	No				Open	02-Jan-2013
81260132	3252423342sddsdsdsdsds		Central admin	No				Open	31-Dec-2012
81260091	dhfghfgh		Process Owner	No				Open	31-Dec-2012
81259799	325		Tom Harley	No				Open	31-Dec-2012
81259779	wer		Tom Harley	No				Open	31-Dec-2012

Grid Group Style: Gflv9

Description- Grid Container with Border, but no Toolbar and Header.

Additional XML Configuration: Header should not be present.

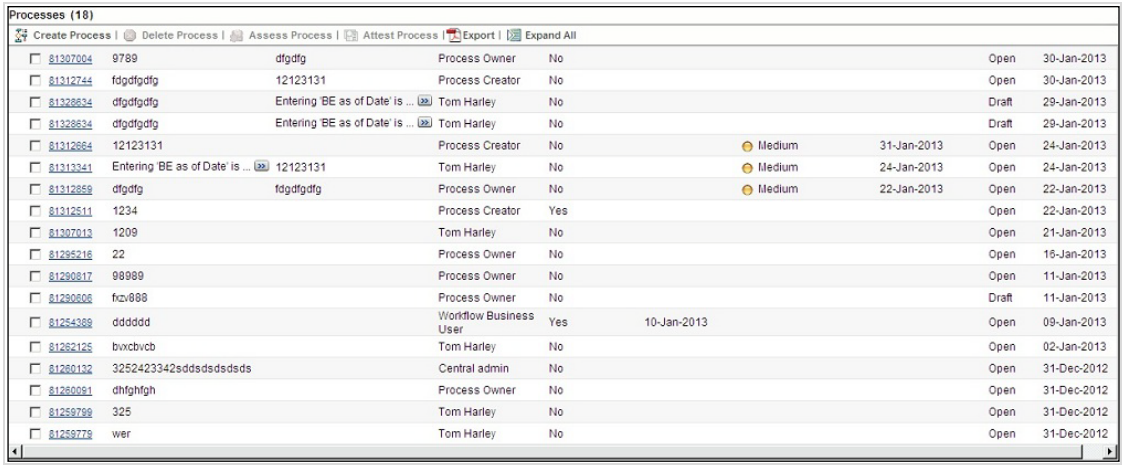


81307004	9789	dfgdfg	Process Owner	No				Open	30-Jan-2013
81312744	fdgdfgdfg	12123131	Process Creator	No				Open	30-Jan-2013
81328634	dfgdfgdfg	Entering 'BE as of Date' is ...	Tom Harley	No				Draft	29-Jan-2013
81328634	dfgdfgdfg	Entering 'BE as of Date' is ...	Tom Harley	No				Draft	29-Jan-2013
81312664	12123131		Process Creator	No		Medium	31-Jan-2013	Open	24-Jan-2013
81313341	Entering 'BE as of Date' is ...	12123131	Tom Harley	No		Medium	24-Jan-2013	Open	24-Jan-2013
81312859	dfgdfg	fdgdfgdfg	Process Owner	No		Medium	22-Jan-2013	Open	22-Jan-2013
81312511	1234		Process Creator	Yes				Open	22-Jan-2013
81307013	1209		Tom Harley	No				Open	21-Jan-2013
81295216	22		Process Owner	No				Open	16-Jan-2013
81290817	98989		Process Owner	No				Open	11-Jan-2013
81290606	fxzv888		Process Owner	No				Draft	11-Jan-2013
81254389	dddddd		Workflow Business User	Yes	10-Jan-2013			Open	09-Jan-2013
81262125	bvxcbvcb		Tom Harley	No				Open	02-Jan-2013
81260132	3252423342sddsdsdsdsds		Central admin	No				Open	31-Dec-2012
81260091	dhfghfgh		Process Owner	No				Open	31-Dec-2012
81259799	325		Tom Harley	No				Open	31-Dec-2012
81259779	wer		Tom Harley	No				Open	31-Dec-2012

Grid Group Style: Gflv10

Description- Grid Container with Border, Toolbar, and Header.

Additional XML Configuration: Header should not be present.



Processes (18)

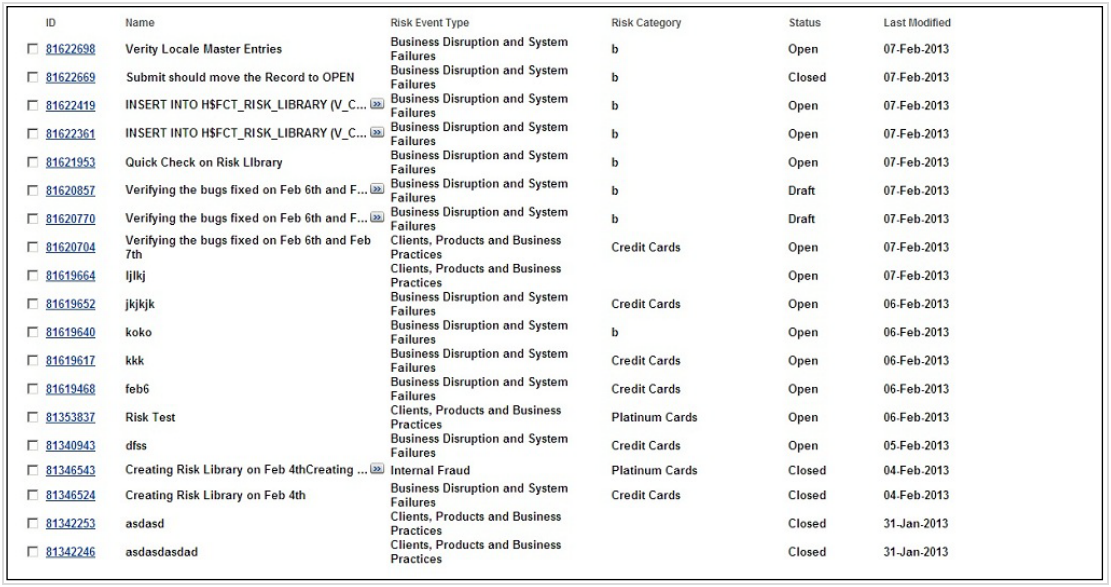
Create Process | Delete Process | Assess Process | Attest Process | Export | Expand All

☐	81307004	9789	dfgdfg	Process Owner	No			Open	30-Jan-2013
☐	81312744	fdgdfgdfg	12123131	Process Creator	No			Open	30-Jan-2013
☐	81328634	dfgdfgdfg	Entering 'BE as of Date' is ...	Tom Harley	No			Draft	29-Jan-2013
☐	81328634	dfgdfgdfg	Entering 'BE as of Date' is ...	Tom Harley	No			Draft	29-Jan-2013
☐	81312664	12123131		Process Creator	No	Medium	31-Jan-2013	Open	24-Jan-2013
☐	81313341	Entering 'BE as of Date' is ...	12123131	Tom Harley	No	Medium	24-Jan-2013	Open	24-Jan-2013
☐	81312859	dfgdfg	fdgdfgdfg	Process Owner	No	Medium	22-Jan-2013	Open	22-Jan-2013
☐	81312511	1234		Process Creator	Yes			Open	22-Jan-2013
☐	81307013	1209		Tom Harley	No			Open	21-Jan-2013
☐	81295216	22		Process Owner	No			Open	16-Jan-2013
☐	81290817	98989		Process Owner	No			Open	11-Jan-2013
☐	81290606	fvzv888		Process Owner	No			Draft	11-Jan-2013
☐	81254389	dddddd		Workflow Business User	Yes	10-Jan-2013		Open	09-Jan-2013
☐	81262125	bvxcbvcb		Tom Harley	No			Open	02-Jan-2013
☐	81260132	3252423342sddsdsdsdsds		Central admin	No			Open	31-Dec-2012
☐	81260091	dhfghfgh		Process Owner	No			Open	31-Dec-2012
☐	81259799	325		Tom Harley	No			Open	31-Dec-2012
☐	81259779	wer		Tom Harley	No			Open	31-Dec-2012

Grid Group Style: Gflv11

Description- Grid Container without any styling & Toolbar.

Additional XML Configuration: Header should not be present.

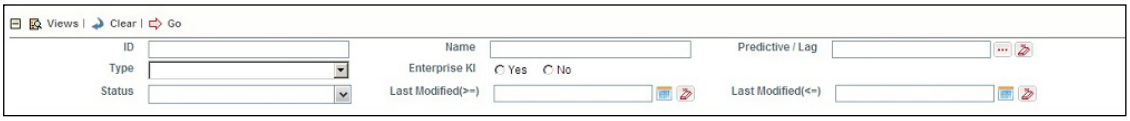


ID	Name	Risk Event Type	Risk Category	Status	Last Modified
81622698	Verity Locale Master Entries	Business Disruption and System Failures	b	Open	07-Feb-2013
81622669	Submit should move the Record to OPEN	Business Disruption and System Failures	b	Closed	07-Feb-2013
81622419	INSERT INTO H$FCT_RISK_LIBRARY (V_C...	Business Disruption and System Failures	b	Open	07-Feb-2013
81622361	INSERT INTO H$FCT_RISK_LIBRARY (V_C...	Business Disruption and System Failures	b	Open	07-Feb-2013
81621953	Quick Check on Risk LIbrary	Business Disruption and System Failures	b	Open	07-Feb-2013
81620857	Verifying the bugs fixed on Feb 6th and F...	Business Disruption and System Failures	b	Draft	07-Feb-2013
81620770	Verifying the bugs fixed on Feb 6th and F...	Business Disruption and System Failures	b	Draft	07-Feb-2013
81620704	Verifying the bugs fixed on Feb 6th and Feb 7th	Clients, Products and Business Practices	Credit Cards	Open	07-Feb-2013
81619664	ljlkj	Clients, Products and Business Practices		Open	07-Feb-2013
81619652	jkjkjk	Business Disruption and System Failures	Credit Cards	Open	06-Feb-2013
81619640	koko	Business Disruption and System Failures	b	Open	06-Feb-2013
81619617	kkk	Business Disruption and System Failures	Credit Cards	Open	06-Feb-2013
81619468	feb6	Business Disruption and System Failures	Credit Cards	Open	06-Feb-2013
81353837	Risk Test	Clients, Products and Business Practices	Platinum Cards	Open	06-Feb-2013
81340943	dfss	Business Disruption and System Failures	Credit Cards	Open	05-Feb-2013
81346543	Creating Risk Library on Feb 4thCreating ...	Internal Fraud	Platinum Cards	Closed	04-Feb-2013
81346524	Creating Risk Library on Feb 4th	Business Disruption and System Failures	Credit Cards	Closed	04-Feb-2013
81342253	asdasd	Clients, Products and Business Practices		Closed	31-Jan-2013
81342246	asdasdasdad	Clients, Products and Business Practices		Closed	31-Jan-2013

6.1.3.2 Normal Container (Type = 1)

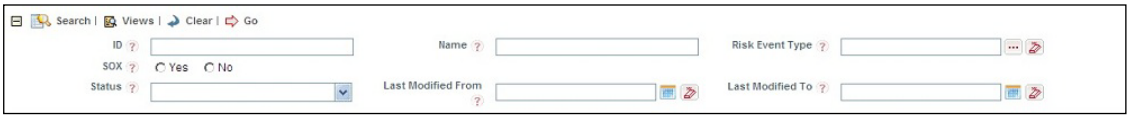
Label Value Group Style: lvflv2

Description- Header with Underline



Label Value Group Style: lvflv15

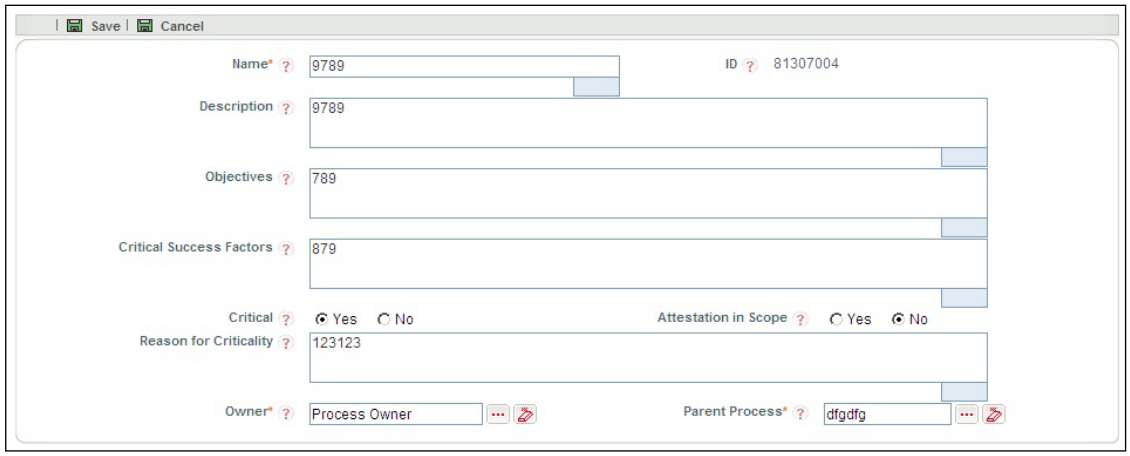
Description- Header without Underline



Label Value Group Style: lvflv4

Description- Rounded border with grey header.

Additional Configuration: BORDERREQUIRED="Y"

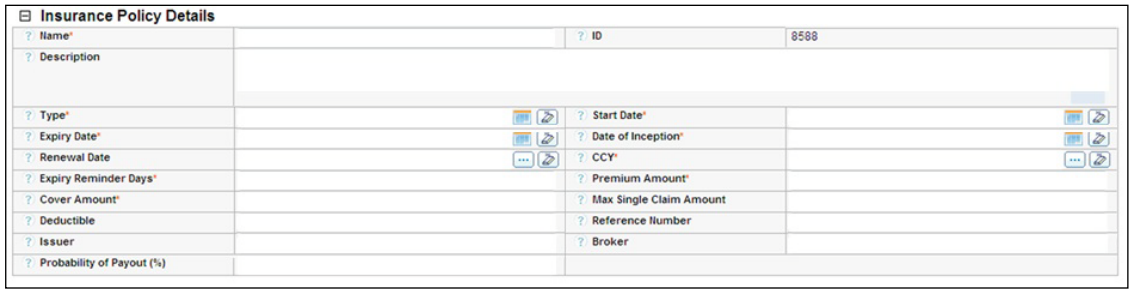


Label Value Group Style: lvflv7

Description- Single shade Grey container with Row lines.

In edit mode, all Input types in the container will not have borders.

Additional Configuration: BORDERREQUIRED="N"

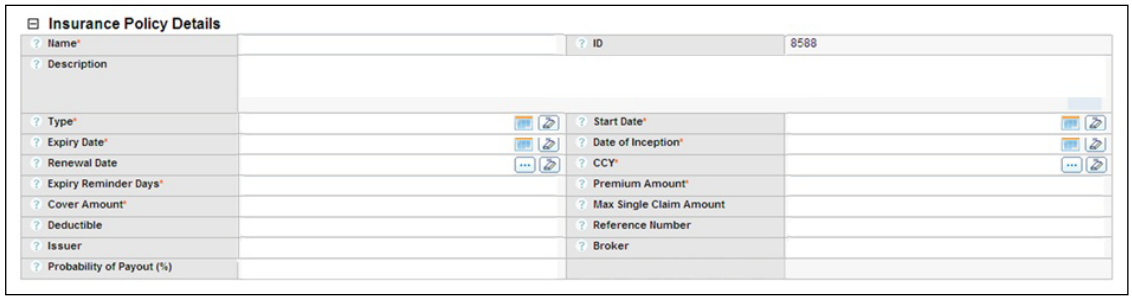


Label Value Group Style: lvflv10

Description- Double shade Grey container with Row lines.

In edit mode, all Input types in the container will not have borders.

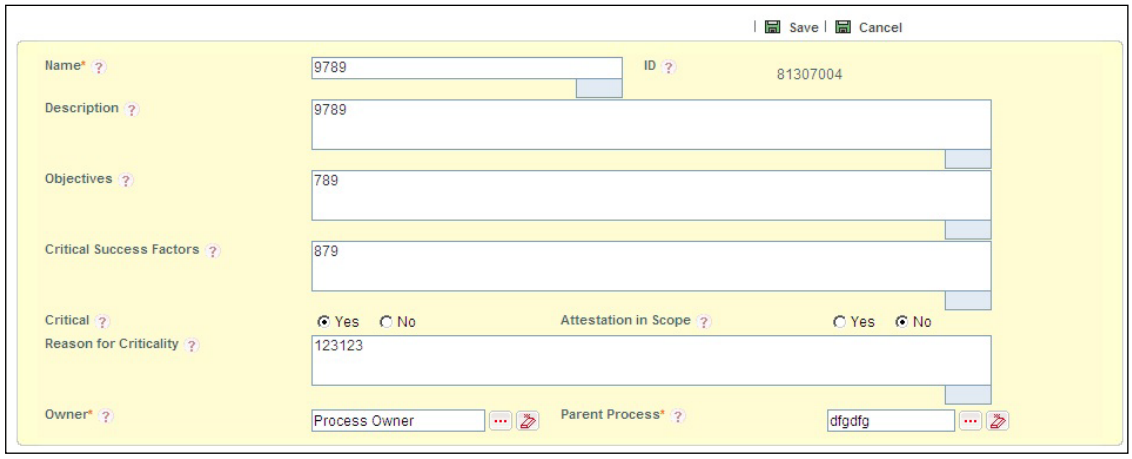
Additional Configuration: BORDERREQUIRED="N"



Label Value Group Style: lvflv11

Description- Rounded border & yellow background.

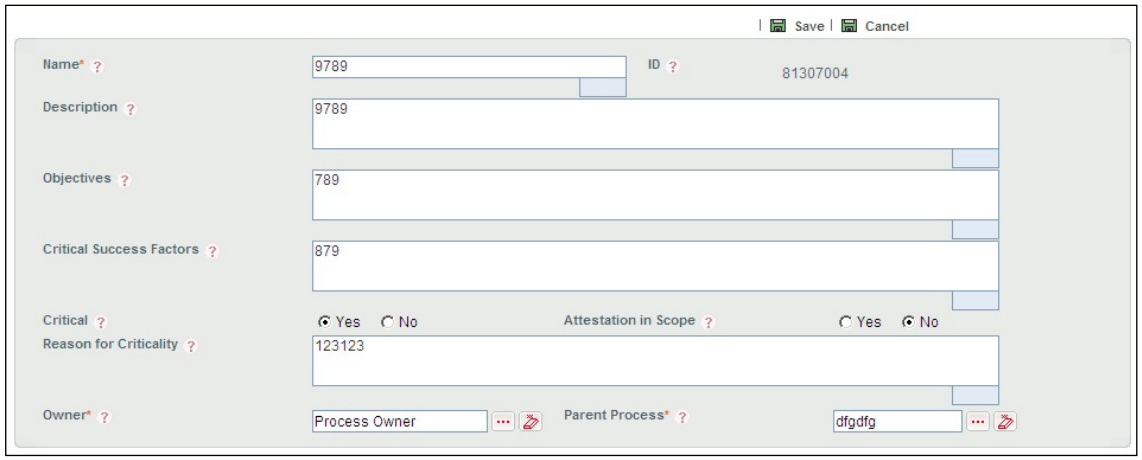
Additional Configuration: BORDERREQUIRED="Y"



Label Value Group Style: lvflv12

Description- Rounded border & white background.

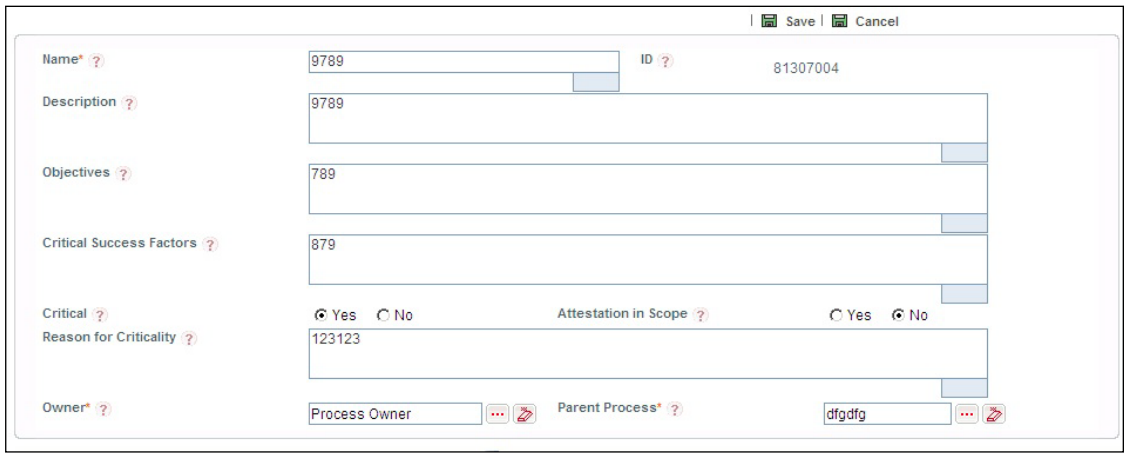
Additional Configuration: BORDERREQUIRED="Y"



Label Value Group Style: lvflv13

Description- Rounded border & grey background.

Additional Configuration: BORDERREQUIRED="Y"



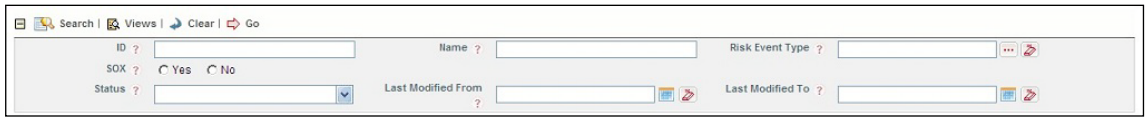
6.1.3.3 Search Container (Type 11)

Search Group Style: Sfl1

Search Group Style: Sfl2

Description- Grey background with Border & Header with Underline.

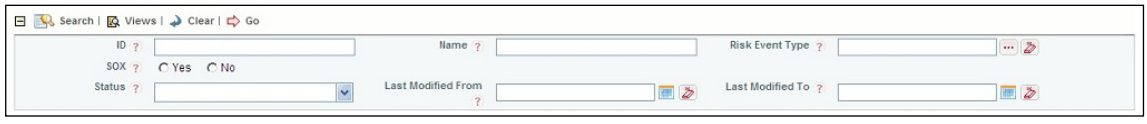
Additional Configuration: BORDERREQUIRED="N"



Search Group Style: Sfl3

Description- Blue background with Border & Header with Underline.

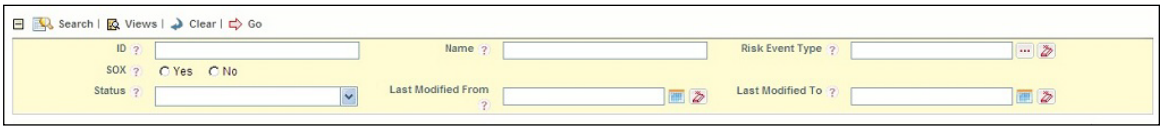
Additional Configuration: BORDERREQUIRED="N"



Search Group Style: Sfl4

Description- Yellow background with Border & Header with Underline.

Additional Configuration: BORDERREQUIRED="N"



Search Group Style: Sfl5

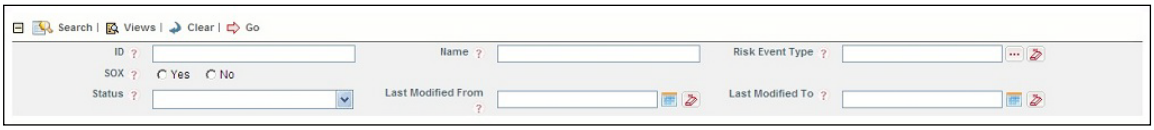
Description- White background with Border & Header with Underline.

Additional Configuration: BORDERREQUIRED="N"

Search Group Style: Sfl6

Description- White background without Border & Header with Underline.

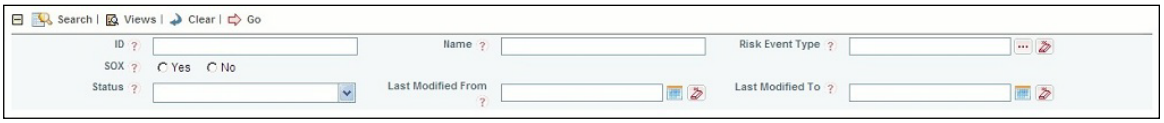
Additional Configuration: BORDERREQUIRED="N"



Search Group Style: Sfl7

Description- Blue background without Border & Header with Underline.

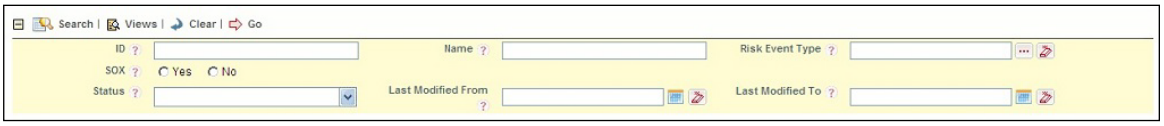
Additional Configuration: BORDERREQUIRED="N"



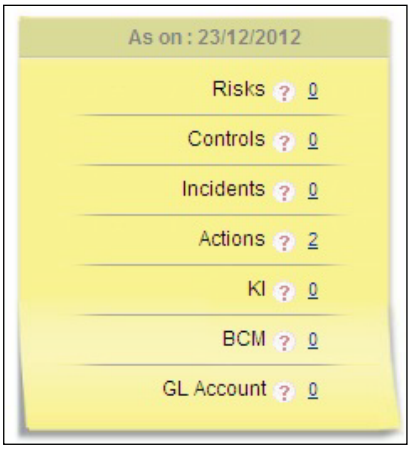
Search Group Style: Sfl8

Description- Yellow background without Border & Header with Underline.

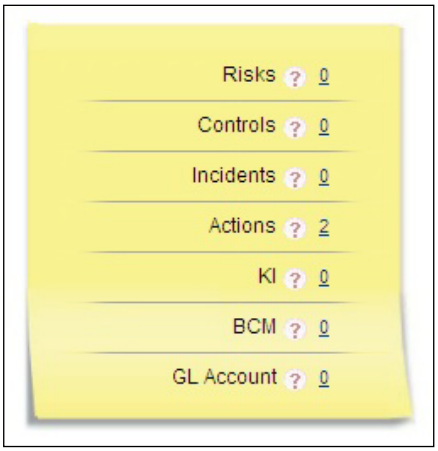
Additional Configuration: BORDERREQUIRED="N"



Search Group Style: lvflv8



Search Group Style: lvflv9



6.1.3.4 Tabbed Container (Type = 10)

Tab Group Style: lvflv4

Tab with border- Forms XML configuration

Tab Group Style: lvflv2

Tab without border. Forms XML configuration

6.2 Form Events

6.2.1 Overview

This feature allows the user to upload new events and functions that are supported by platform.

Event: A JavaScript can be executed when an event occurs, like when a user clicks on an HTML element. Examples of events are onclick, onerror, onfinish, onfocus, and onselect.

Function: A function is a block of code that will be executed when it is called. Examples of functions are gethierarchycode, readOnly, getSelectedRows, openPopupForm, and UpdateGrid.

6.2.2 How to Define Form Events

To define an event:

1. From the LHS menu, expand **Administration** and click **Form Events**. The *Events and Functions Maintenance* window is displayed.

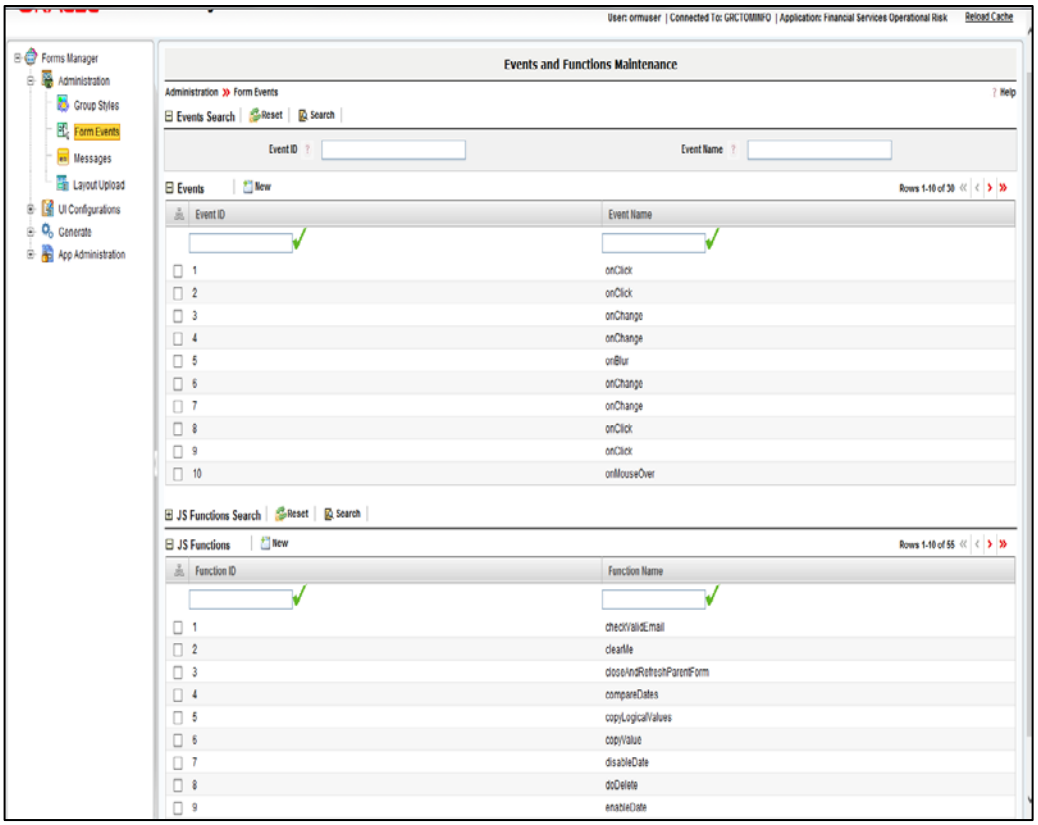


Figure 91. Events and Functions Maintenance window

2. Click **New** in the *Events* toolbar.

Field Name	Description and Remarks
Event ID	Enter a unique ID for the event. This is a mandatory field. It's advisable to put unique ID. However a validation has been done which will restrict the user to save duplicate values.
Event Name	Enter the name of the event.

To define a function:

1. From the LHS menu, expand **Administration** and click **Form Events**. The *Events and Functions Maintenance* window is displayed.
2. Click **New** from the *JS Functions* toolbar.

Field Name	Description and Remarks
Function ID	Enter a unique ID for the event. This is a mandatory field. It's advisable to put unique ID. However a validation has been done which will restrict the user to save duplicate values.
Function Name	Enter the name of the function.

6.3 Messages

6.3.1 Overview

Messages refer to the preferred locale specific text that is displayed to the users. These messages are displayed to communicate the occurrence of an event or the checking of a validation. These are also used for displaying locale sensitive texts on the screen like Bread Crumbs, Header Text, Name of the URL Control, and so on.

6.3.2 How to Create a Message

Steps to create a message

1. From the LHS menu, expand **Administration** and click **Messages**. The *Messages Maintenance* window is displayed.
2. Click **New** in the *Messages* toolbar.

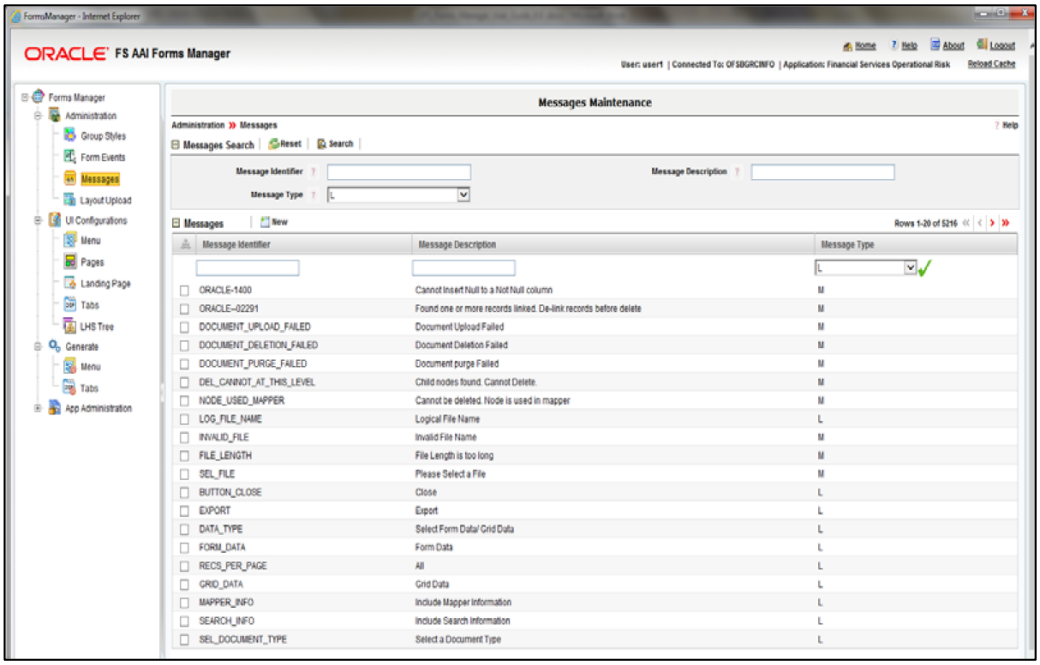


Figure 92. Messages Maintenance window

Field Name	Description and Remarks
Message Identifier	Enter a unique ID for the message. This is a mandatory field. It's advisable to put unique ID. However a validation has been done which will restrict the user to save duplicate values.
Message Description	Enter the message that needs to be displayed to the user.
Message Type	Select the message type from the drop-down list. **L** denotes Label Messages, **M** denotes Popup Messages, and **S** denotes Solution Specific Messages.

6.3.3 Messages Usage

Following example displays how the messages can be created and tagged with the validations, header text and so on.

6.3.3.1 To use a Message in a UI Validation

To call a message in a UI validation, navigate to the validation new/ edit screen and start typing in the **Message** field as shown. The list of defined messages matching the user's suggestion will be displayed. For more information, see How to Create UI Validation Rules section.

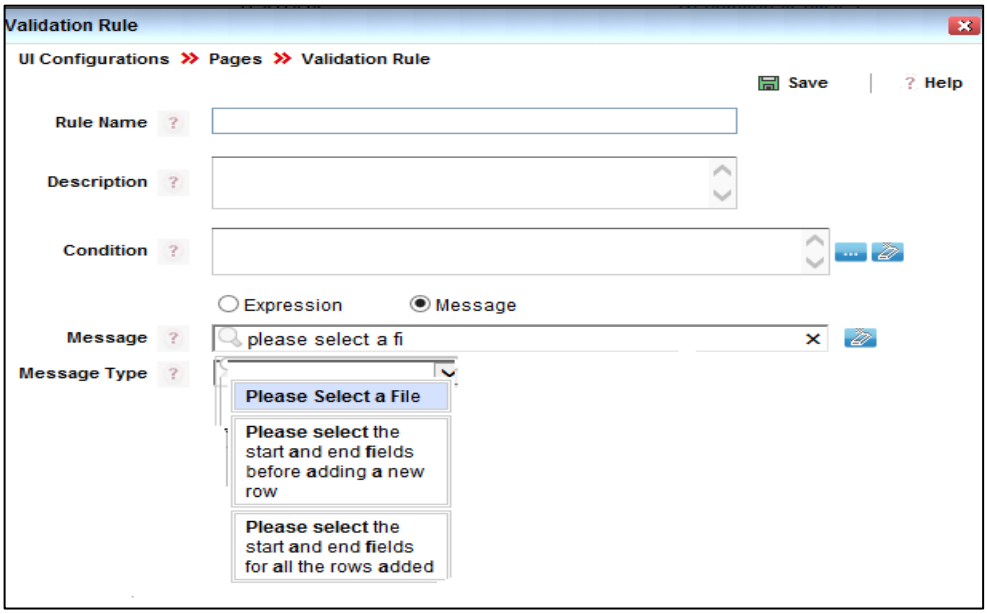


Figure 93. Message in UI Validation Rule

6.3.3.2 To use a Message in a ToolBar Action Control

To display a message in a ToolBar Action Control, navigate to the ToolBar Action control new/ edit screen and start typing in the **Text Along With Image** field as shown in the following figure. The list of defined messages matching the user's suggestion will be displayed.

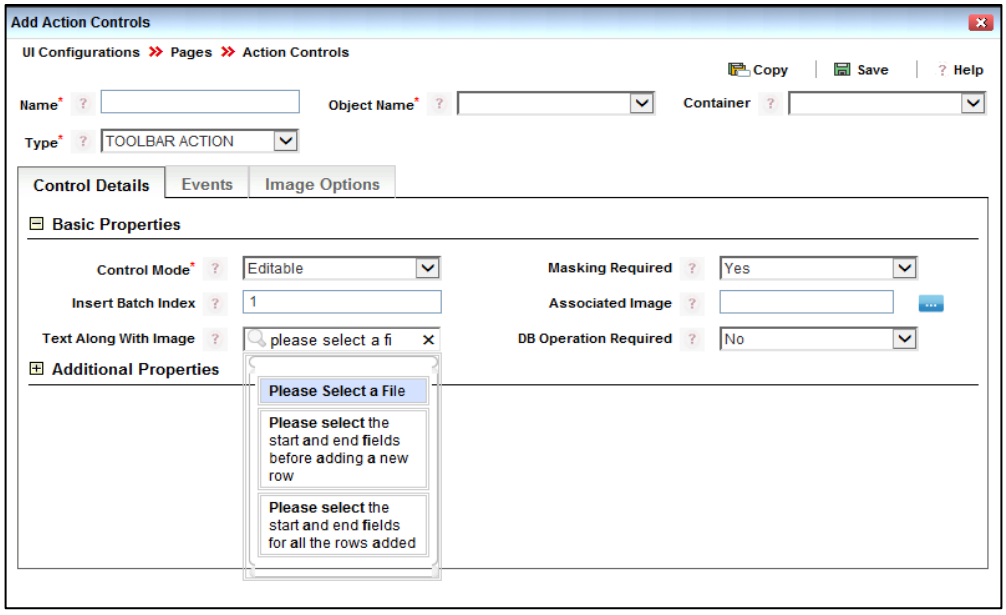


Figure 94. Message in ToolBar Action Control

6.4 Layout Upload

6.4.1 Overview

Layout Template is used to define the Layout of standard template / format that can be used as the framework to create different screens in the application. Details of the frames and JSP to be available in the template can be configured. Sample image of the template can be uploaded for reference. These templates can be chosen while configuring different screens of the application to maintain standard look and feel throughout.

NOTE: The new template name and the associated layouts (JSP) should not overwrite the packaged template name and the associated layouts (JSP).
The frame name used to register should match the frame name used during the development of layout (JSP).

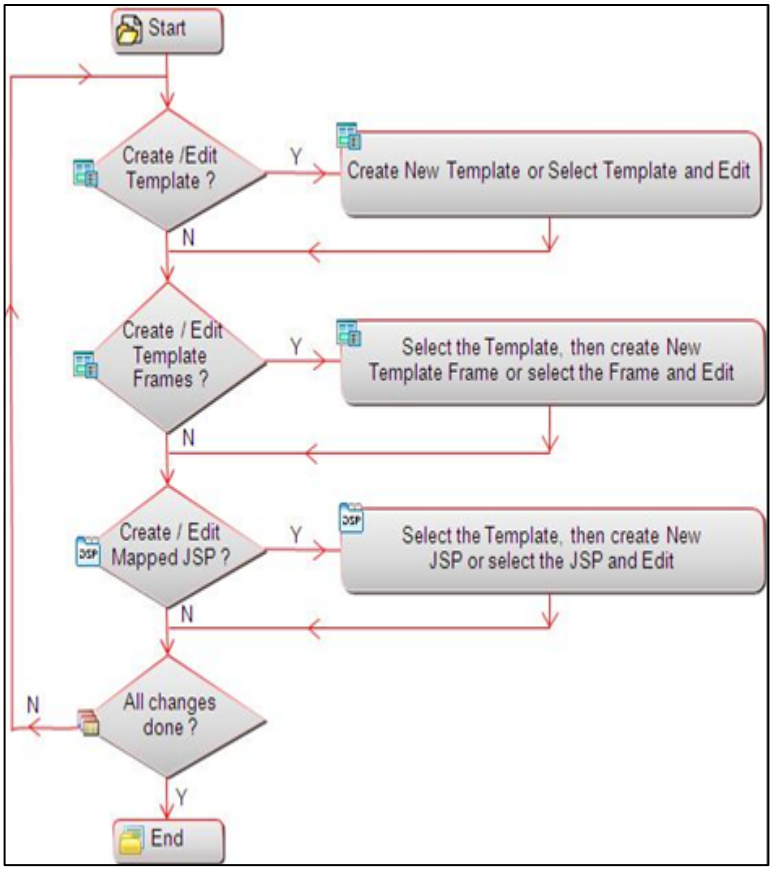


Figure 95. Flowchart of Layout Upload

6.4.2 How to Create a Layout Template

This feature allows you to create a new template based on the design of the underlying JSP file. For example, if your underlying JSP contains five frames as shown in the following figure, you have to define five template frames in your template.

Sample Landing Page Layout

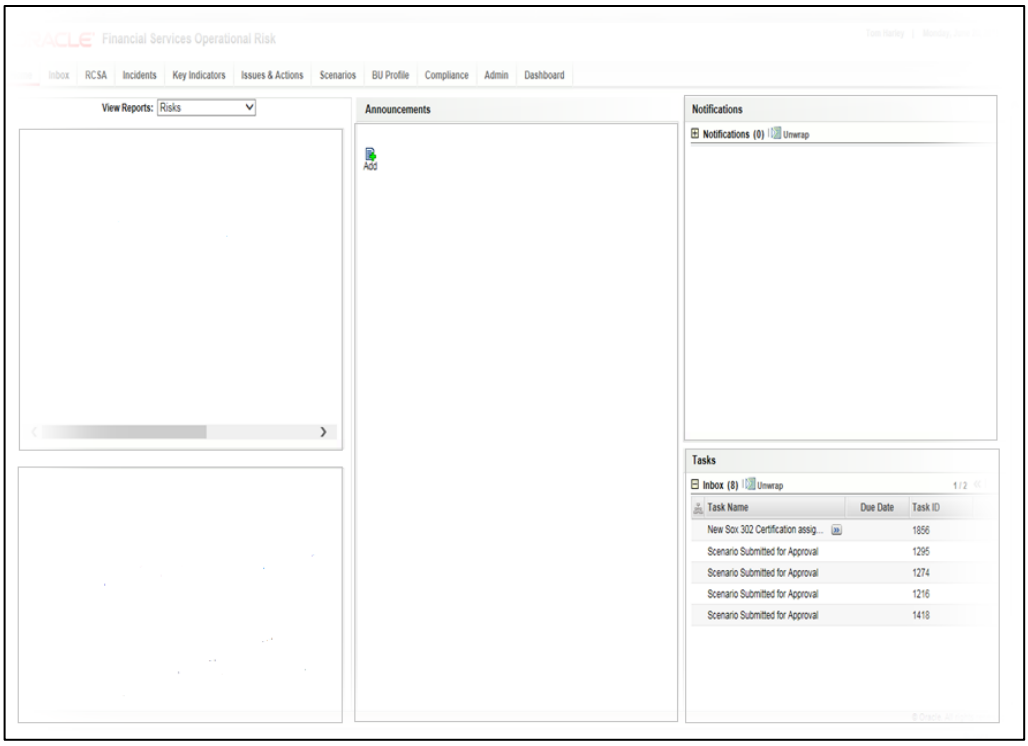


Figure 96. Sample Layout

Steps for Template Configuration and Mapped Layout Template

1. From the LHS menu, expand **Administration** and click **Layout Upload**. The *Layout Maintenance* window is displayed.
2. Click **New** in the *Templates* toolbar. The *Template Configuration* window is displayed.

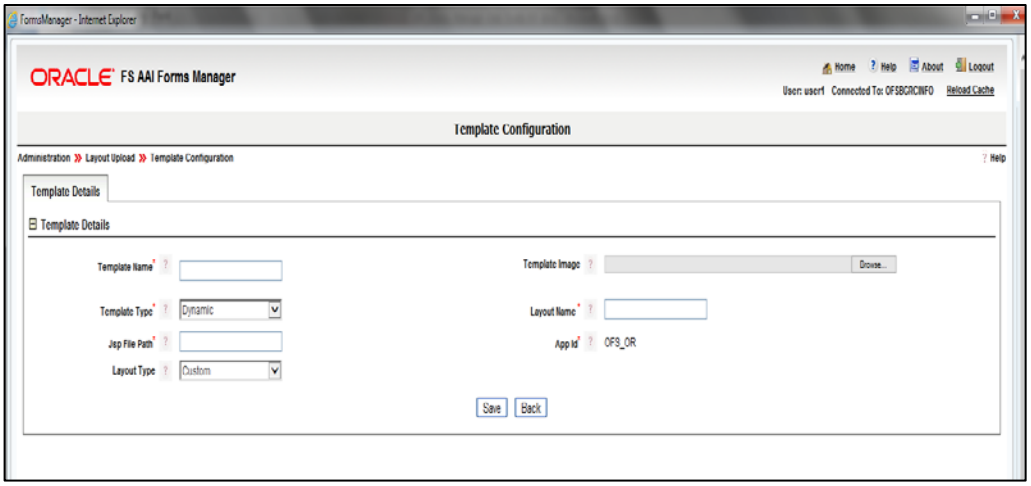


Figure 97. Template Configuration Window

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Template Name*	Enter the name of the template. You should not enter the template name same as packaged templates.
Template Image	Select a sample image for the template from the appropriate location by clicking **Browse**. The image should be a preview of the template.
Template Type*	Select the type of Template from the drop-down list, if it has to be Dynamic or Static.
Layout Name*	Enter the name of the underlying JSP.
Jsp File Path*	Enter the path where the underlying JSP is located.
App ID*	The Application ID is automatically generated.
Layout Type	Select the layout type from the drop-down list. This value determines if the user wants to select a prepackaged JSP file or a customized JSP file. The options are **Standard** and **Custom**. **Standard-** Select this option if the JSP file you entered in the **Layout Name** field is prepackaged along with the product. **Custom**- Select this option if the JSP file you entered in the **Layout Name** field is a customized JSP file.

3. Click **Save.**

Steps to create a new Template Frame

1. From the *Layout Maintenance* window, select the template to which you want to add a frame and click **New** in the *Template Frames* toolbar. The *Template Frame Configuration* window is displayed.

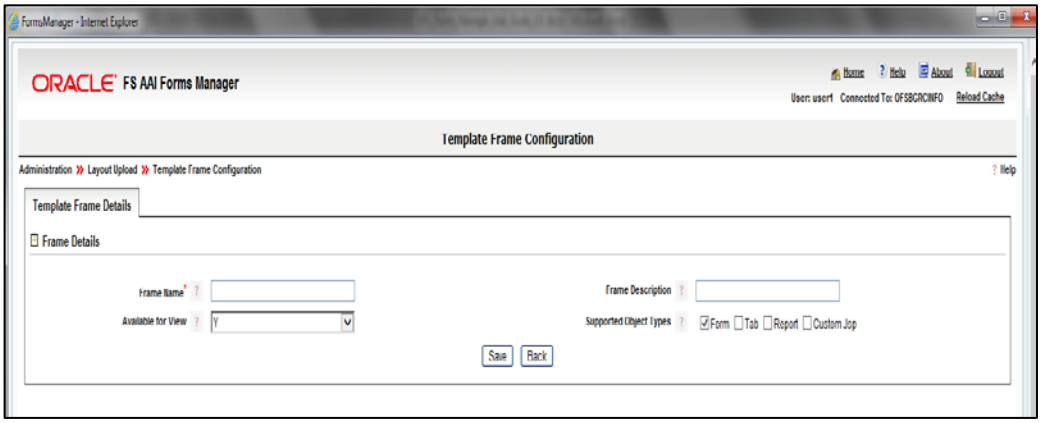


Figure 98. Template Frame Configuration Window

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Frame Name*	Enter the name of the template frame. It is advisable to give some meaningful name to the frame. The frame name should match the exact frame name used during the development of underlying layout (JSP).
Frame Description	Enter the description of the frame. It is advisable to give some meaningful name to the frame.
Available for View	Select **Y** or **N** to display or hide the frame in the template layout.
Supported Object Types	Select the supported object type for the frame. The options are: Form, Tab, Report, Custom Jsp.

6.4.3 Layout Maintenance

From the LHS menu, expand **Administration** and click **Layout Upload**. The *Layout Maintenance* window is displayed.

NOTE: When you select a template, the available frames will be displayed under *Template Frames* grid and all mapped layout templates are displayed in the *Mapped Layout Templates* grid.

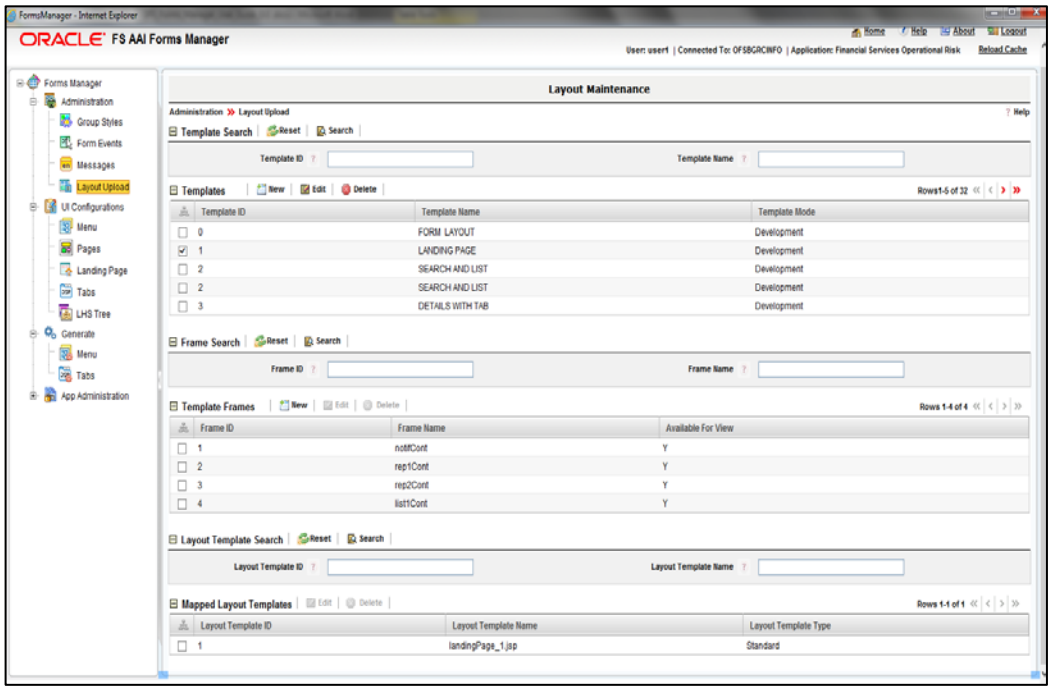


Figure 99. Layout Maintenance Window

Action	Description
Search	Search for a template by providing **Template ID** and **Template Name** and clicking **Search** in the *Template Search* toolbar. Similarly, select a template and provide **Frame ID** and **Frame Name** and click **Search** in the *Frame Search* toolbar to search for template frame. Select a template and provide **Layout Template ID** and **Layout Template Name** and click **Search** in the *Layout Template Search* toolbar to search for Mapped layout template.
Modify	Select a template and click **Edit** in the *Templates* toolbar to modify a template. Select the template and frame and then click **Edit** in the *Template Frames* toolbar to modify a template frame. Select the template and the mapped layout template and then click **Edit** in the *Mapped Layout Templates* toolbar to modify a mapped layout template.
Delete	Select a template and click **Delete** in the *Templates* toolbar to delete a template. Select the template and frame and then click **Delete** in the *Template Frames* toolbar to delete a template frame. Select the template and the mapped layout template and then click **Delete** in the *Mapped Layout Templates* toolbar to delete a mapped layout template.

7 Forms Manager Customization Guidelines

Refer to the FMConfigurationGuidelines.xlsx for information about configuration and support of each feature in Forms Manager. It also lists out the guidelines to be followed for each operation.

FMConfigurationGuidelines.xlsx

8 Configurations for Styling

8.1 Required Configuration for Application Level Skin

All applications using Forms Framework can be configured with a custom CSS file. This helps application developers and clients to define their own custom look and feel within the application.

The user can configure skins for the following levels:

1. The configurability is decided at the time of choosing the Application link from the AAI LHS menu.

- Configuration changes are made to the LHS Menu (locale specific) xml file, using the "cssFileName" parameter.

  For example, if bankXYZ requires a particular customized version of the skin, they can create their own version of the CSS file named bankXYZ.css (see Creating a custom .CSS File). This CssFileName parameter can then be set in the LHS Menu XML for a particular application, where the paraname key is "cssFileName", with the paraname value "bankXYZ".

- If the "cssFileName" parameters are not defined, then the default AAI CSS file is loaded.
- This configuration is applicable to both Application CSS and the FormsFramework CSS files.

2. What happens when an application directly lands to the application landing page, without having to choose the application link from AAI LHS menu. This will occur if the application user selects the AAI "Make my Home Page" select box option, in the AAI home page.

- To change the skin, you will have to modify the Database values. The above parameter configurations "cssFileName" paraname key and the paraname value are appended to the field "START_PAGE_URL" in Table cssms_start_page_master.
- If the "cssFileName" parameters are not defined, then the default AAI CSS file is loaded.
- This configuration is applicable to both Application CSS and the FormsFramework CSS files.

3. Login Page, AAI Home Page CSS Configuration.

NOTE: The below configuration feature for AAI stylesheet, is available only in the forthcoming OFSAAI 8.0.0.0 release. For any installation prior to this release, the user has to override his changes to the existing stylesheetAAI.css file (see: List of CSS files with paths).

Login Page, AAI Home Page, and AAI Modules can be customized using the below steps:

2. Create a new configurable stylesheet. For example, XYZ_stylesheetAAI.css. The XYZ_stylesheetAAI.css stylesheet will be configurable and will be decided during product installation.
3. Configure the required style in Configuration table for the paraname key 'DEFAULT_AAICSS_INFO'. Specify the paraname value as the new customized XYZ_stylesheetAAI.css.

This configuration is applicable to the AAI CSS file.

8.2 Forms Framework Styles Hierarchy

Forms Framework Styles can be configured at a

- Macro level – for example, Application skin.
- Micro level- for example, containers, container rows, and container controls.

Macro level changes are explained in Required Configuration for Application Level Skin section.

The Micro level Style configuration can be configured in the Form XML pages. These settings will override the Macro level style settings. These can be classified as:

- Container - GroupStyles
- Row - Label/ Value & Controls

8.2.1 Container – Group Styles

Containers are used to group controls. This is also a logical grouping of controls. Containers have GUI definitions, so that the look and feel of the containers can be set.

GUI Definition is achieved through a XML definition.

An XML file is created for each form. The name of the XML file is same as the form code with the extension xml. The HTML properties of containers and controls in a form are defined in the XML file.

Container Groupstyles are a grouping of CSS rules. These Groupstyles are applied to the container. For a particular GroupStyle, all child CSS rule definitions are appended with the Groupstyle Name.

For example, consider GroupStyle “Gflv2” has got CSS rule definitions such as rowHead, TRrow2, and TRrow3. These ClassNames belonging to the GroupStyle “Gflv2” will now be defined as rowHeadGflv2, TRrow2Gflv2, TRrow3Gflv2, and so on.

Example for GroupStyle Configuration in XML:

```
<CONTAINER GROUP_STYLE="Gflv2" ID="5" NAME="RiskDetails" TYPE="5"
VIEWMODE="1" COLLAPSEREQUIRED="N"></CONTAINER>
```

8.2.2 Label / Value and Controls

A container row having input fields can contain any number of Label-Value pairs. Each Label-Value pair can have a ClassName assigned to the Label and a ClassName assigned to the Value. This can be configured using the following Configuration in XML:

```
<CSSCLASSNAME TD_LABEL_STYLE="className_1"
TD_DATA_STYLE="className_2"></CSSCLASSNAME >
```

Controls can be assigned to their own ClassNames. This can be configured using the following configuration in XML:

```
< CSSCLASSNAME="formlegend" ></CSSCLASSNAME >
```

8.2.3 Images Configuration

This configuration is for controls of TYPE 25 and TYPE 41 that make use of image icons in XML configuration.

<IMAGE IMAGE_TEXT="**RENDERER.ROR_ADD_IMG**"> **images/gridtoolbar_ add.gif**</IMAGE>

The following steps explain how this new image can be included in the FormsFramework CSS file, which can be later utilized by the XML configuration.

1. Define a new Rule in your FormsFramework CSS file as shown below:

   .gridtoolbar_add{width:23px;height:15px; background-image: URL (.../images/icon_common.gif); background-repeat: no-repeat; background-position:-140px -400px;}

   - The ClassName should be the same as the image name without the file extension (.css).
   - The width and height for toolbar images should be 23px X 15px.
   - The icon-image should be present in the sprited image: icon_common.gif (see List of Sprited images and Paths)
   - The background-repeat should be no-repeat.
   - Calculate the x, y co-ordinate values for the sprited image background-position. The block size of each image icon- width * height = 70px * 80px as shown in the following figure.

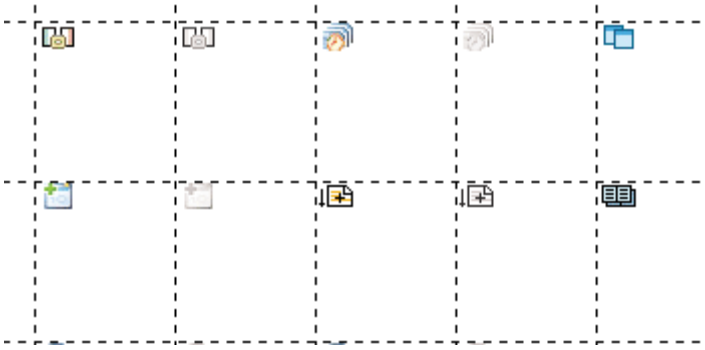


Figure 100. An example of sprited image

2. The newly created CSS Rule Definition can now be utilized in the XML configuration:

<IMAGE IMAGE_TEXT="**RENDERER.ROR_ADD_IMG**">**images/gridtoolbar_add.gif**</IMAGE>

8.2.3.1 List of Sprited images with Paths

#	Module	Path	Sprited Image Names	
			Image name	**Description**
1	AAI	//OFSAAI /images/	bg_cvd.gif	Used for layout elements
2	Applications (Example: ROR)	//OFSAAI/solution/ROR/images/	bg_hzl.gif	Used for layout elements horizontal repeat
3	FormsFramework	//OFSAAI/formsFramework/formsrenderer/images/	bg_vtl.gif	Used for layout elements vertical repeat
			lhsmenu_icon.gif	Used for Tree Icons
			icon_common.gif	Toolbar Icons
			hierarchy_icons.gif	Used in Hierarchy Browser

8.3 Creating a Custom .CSS File

List of CSS files with paths:

#	Module	Path	CSS File Name	Comments	Usage
1	AAI	//OFSAAI /css/	stylesheetAAI.css		Login Page, AAI-Home Page & AAI Modules,
2	Applications (Example: ROR)	//OFSAAI/solution/ROR/css/	CSS_OFSAAI.css		Application files

#	Module	Path	CSS File Name	Comments	Usage
3	FormsFramework	//OFSAAI/formsFramework/formsrenderer/css/	CSS_OFSAAI.css (This file name should have the same Name as the above Solution file Name)	This file has a CSS file import for icons used in the application: @import URL('CSS_ICON_OFSAAI.css')	Forms Framework Components

The required customization can be achieved by following the below set of steps.

4. Create a copy of the required CSS file.
5. Do not change or alter any existing CSS Rule Name defined in the CSS file.
6. Changes can be made to the attributes for a particular CSS Rule Name, until the required visual effect is achieved.

8.4 CSS Structure

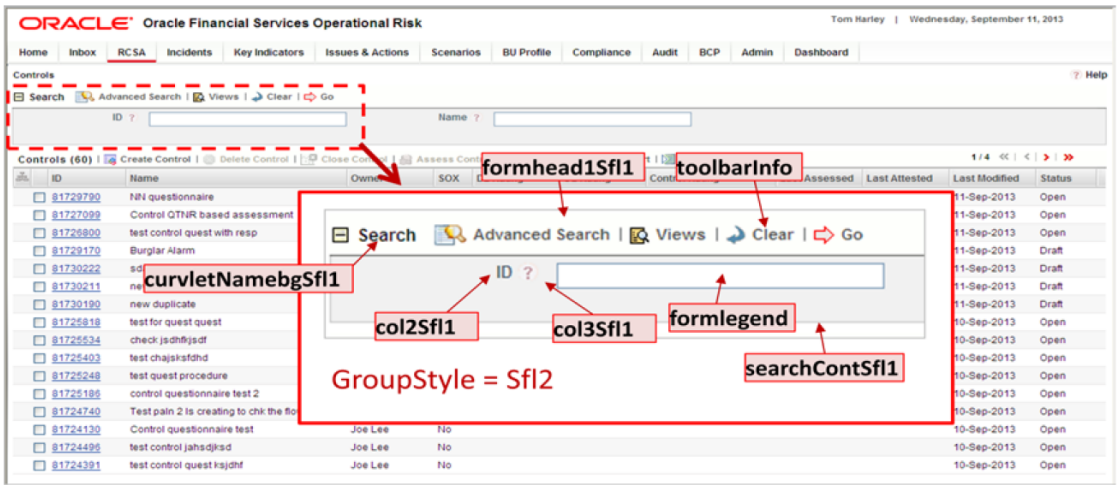


Figure 101. Search Container with a GroupStyle with ClassNames

In the above example, the GroupStyle “Sfl” is applied to the search container. All ClassNames belonging to the GroupStyle are appended with the GroupStyle name. For example, SearchContSfl1, col2Sfl1, col2Sfl1 and so on.

Any changes to these ClassNames will affect all containers where the GroupStyle has been applied.

The following table shows commonly used Group Styles:

#	GroupStyle ID	Container Type	Description
1	Sfl1	Search Container	Applied to Search Container
2	Gflv2	Data Table	Applied to Data Table Grid
3	lvflv2	Label Value Container	Applied to Label Value Container
4	lvflv4	Tab Container	Applied to Tab Container

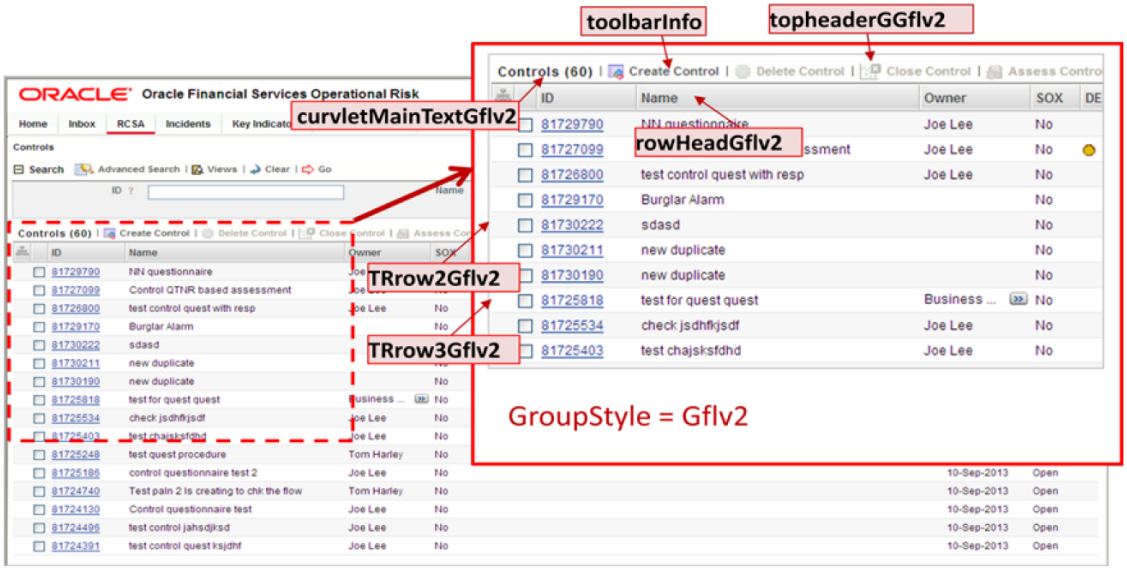


Figure 102. Showing a Data Table Grid Container GroupStyle with ClassNames

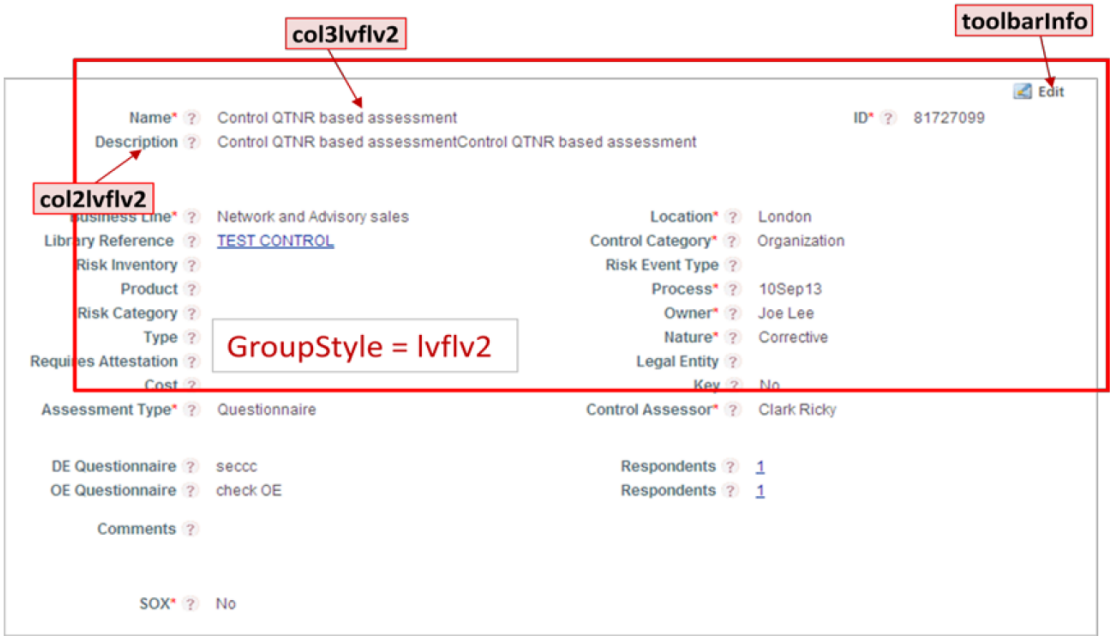


Figure 103. Showing a Label Value Container GroupStyle with ClassNames

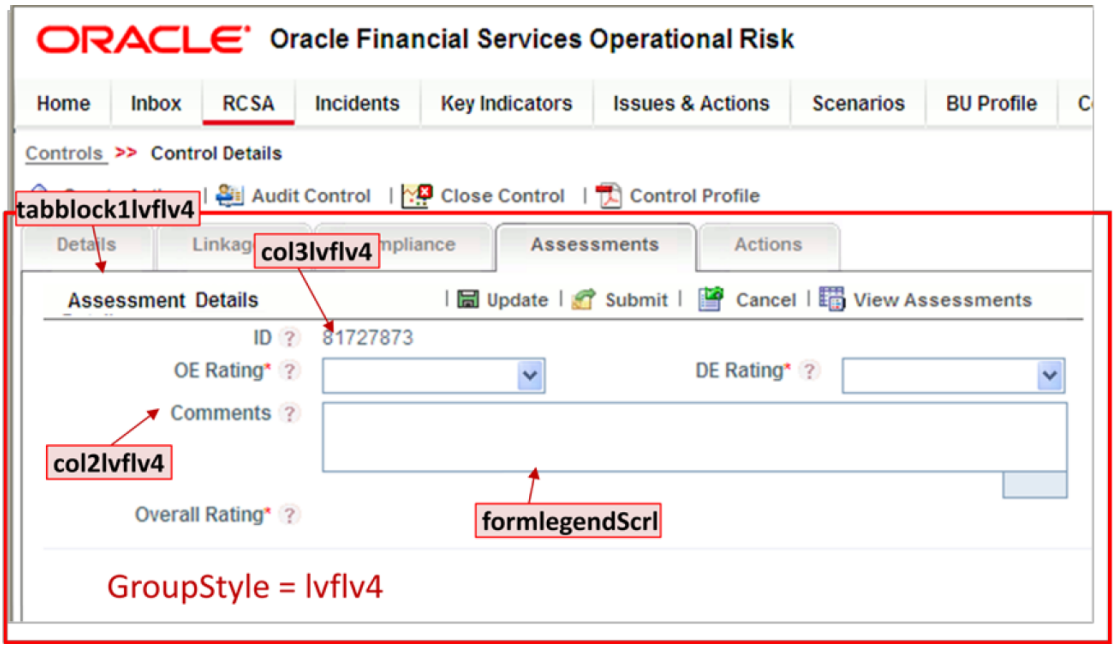


Figure 104. Showing a Tab Container GroupStyle with ClassNames

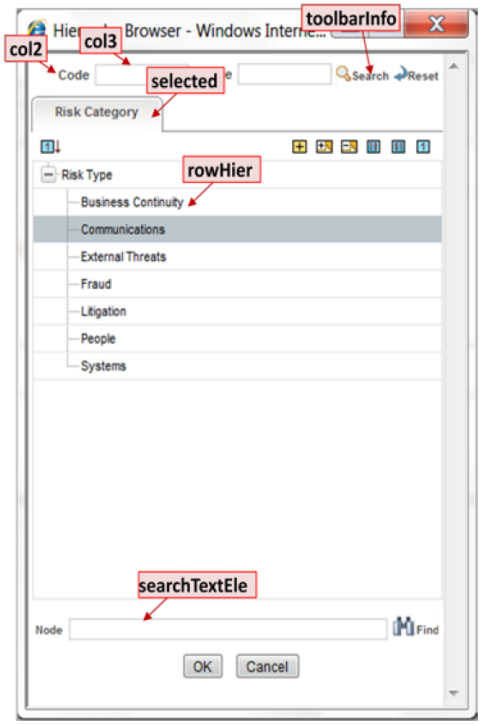


Figure 105. Showing Hierarchy Browser ClassNames

Hierarchy related CSS files are located in the following folder:
//OFSAAI/formsFramework/formsrenderer/hiercss

Hierarchy related Image files are located in the following folder:

//OFSAAI/formsFramework/formsrenderer/hierimages

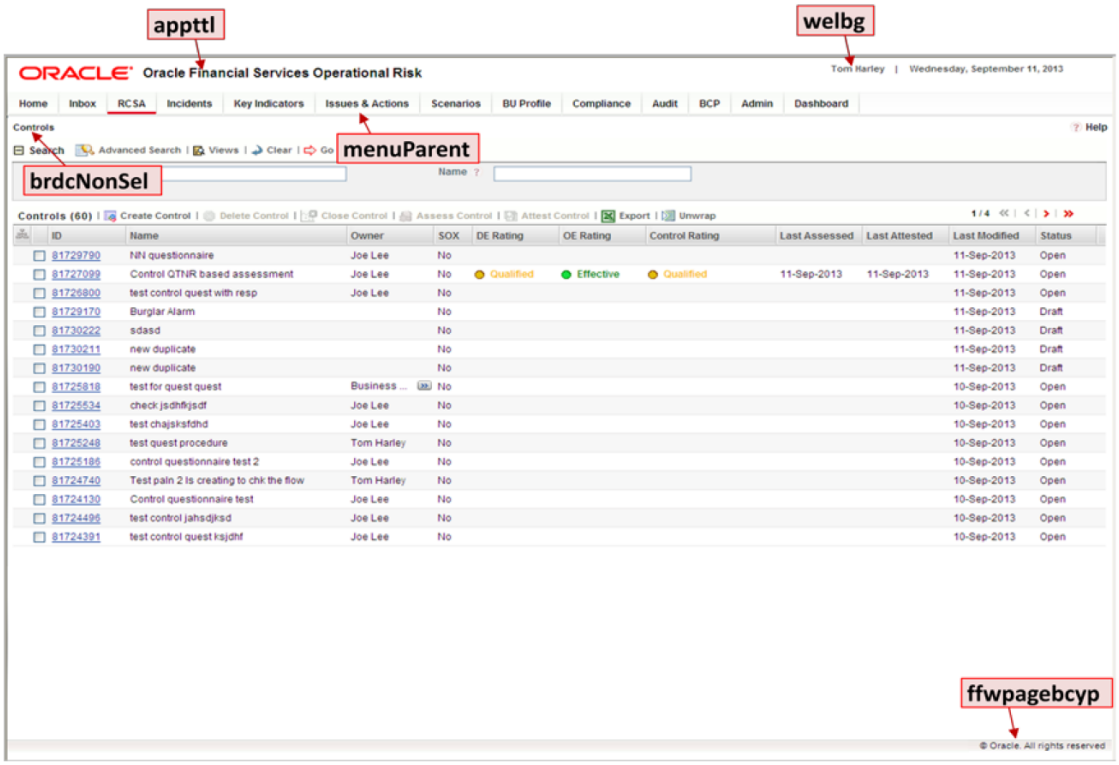


Figure 106. Showing Header and Footer ClassNames

9 Appendix A – General Use Cases

9.1 Tutorial for creating a Sample Page

In this tutorial, we will see how a sample page is created with containers and controls within the containers. This form will be invoked, when a menu is clicked and can be saved after making the changes.

Following are the specifications.

- Menu name – Risk
- Page name - Risk Definition Page
- Container name - Risk Details, Save
- Controls within the Container, Risk Details – Risk ID, Risk Name, Created Date, Risk Business Line

> **NOTE:** In this tutorial, filling of mandatory fields and minimum details are only given. You can add more details according to your requirement.

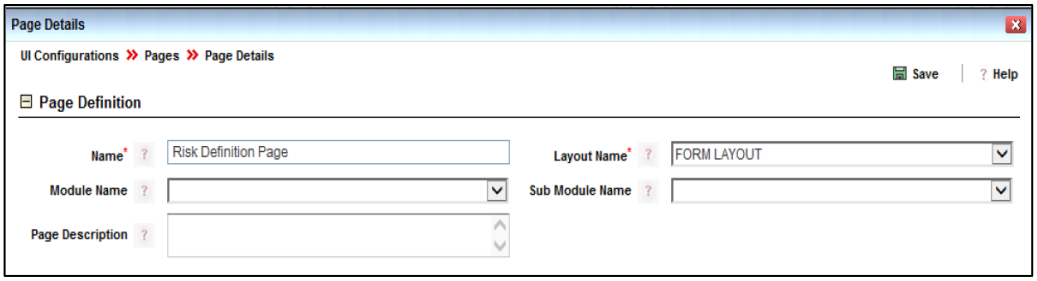
9.1.1 Expected Functionality

The Risk Definition Page will be invoked by clicking the menu, **Risk**, which has a risk identification function mapped to it. Risk Definition Page will have two containers by the names Risk Details and Save Risk Details. Risk Details is a Normal container with different controls inside that. Save Risk Details is a Button container that has the Save and Cancel controls with respective functions mapped to them. When the **Save** button is clicked, the risk details get saved with the changes made to the controls in its Risk Details container.

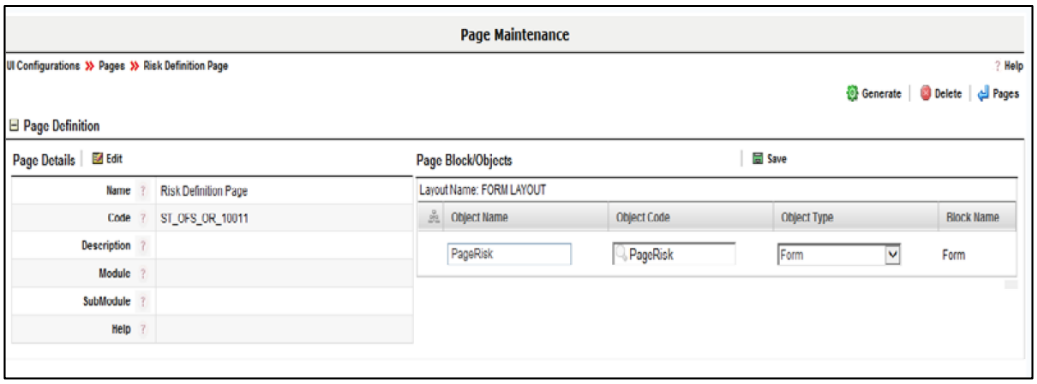
9.1.2 Defining a Page with Object Code as PageRisk

We will begin by creating the page that gets invoked on the click of the menu, Risk.

1. From the LHS menu of the Forms Manager, expand **UI Configurations** and click **Pages**. The *Pages* window appears.
2. Click **New** in the *Pages* toolbar. The *Page Details* window is displayed.
3. Enter the **Name** as “Risk Definition Page” and select the **Layout Name** as Form Layout. This will be the name that is entered for the **Page Name** field while defining the Menu. See the following screenshot:



4. Click **Save**. The *Page Maintenance* window is displayed.
5. In the *Page Block/Objects* section, enter the **Object Code** as “PageRisk” and **Object Name** as “PageRisk”. See the following screenshot.

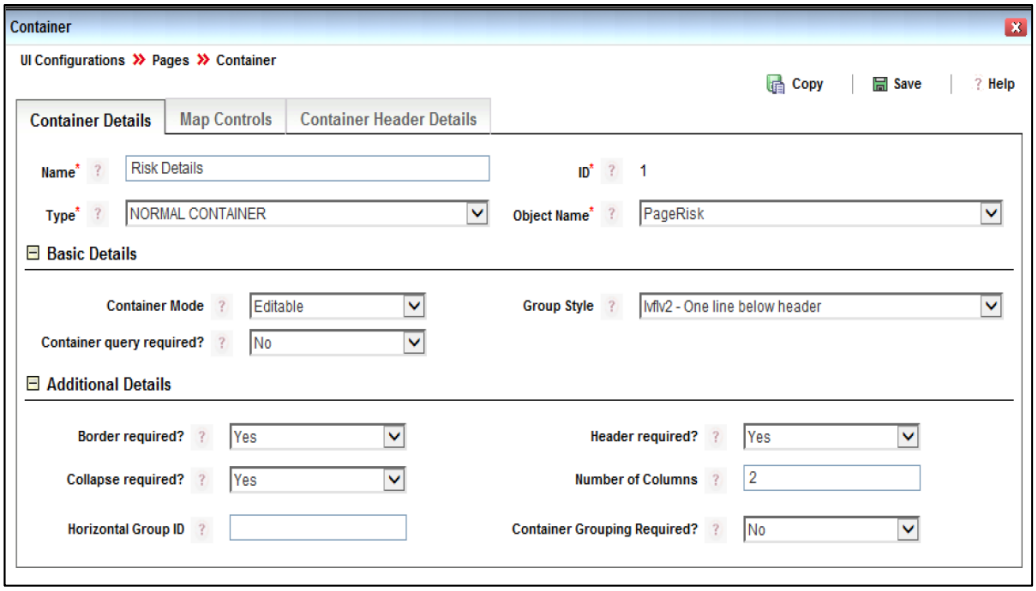


6. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved and the *Page Maintenance* window is displayed.

9.1.3 Defining a Container within the Risk Definition Page

We will create a container within the page by the name, Risk Details.

1. From the *Page Maintenance* window, click **Manage Containers** in the *Fields* toolbar. The *Container Details* window is displayed.
2. Click **New** in the *Containers* toolbar. The *Container* window is displayed.
3. Enter the **Name** as “Risk Details”.
4. Select the **Type** as NORMAL CONTAINER.
5. Select the **Container Mode** as Editable.
6. Enter **Number of Columns** as “2”. See the following screenshot.



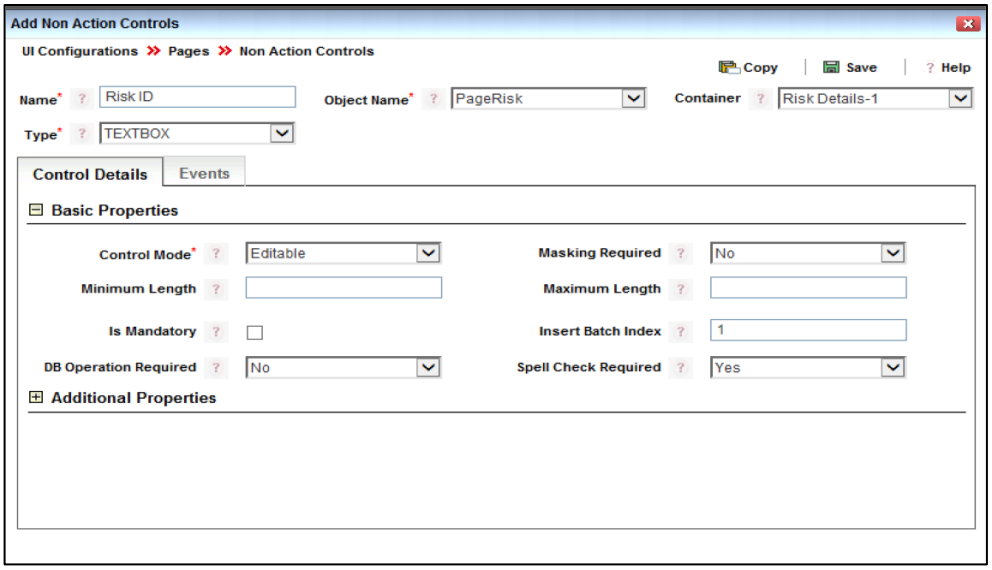
7. Click **Save.**

9.1.4 Defining Controls within the Risk Details Container

9.1.4.1 Defining Risk ID Control

We will create a control within the container by the name Risk ID.

1. From the *Page Maintenance* window of your page, click **New** in the *Non- Action Fields* toolbar. The *Add Non Action Controls* window is displayed.
2. Enter the **Name** as “Risk ID”.
3. Select **Object Name** as “PageRisk”, which is the name of the Page that you created.
4. Select **Container** as “Risk Details”, which is the name of the Container that you created.
5. Select **Type** as TEXTBOX.
6. Select **Control Mode** as Editable. See the following screenshot.

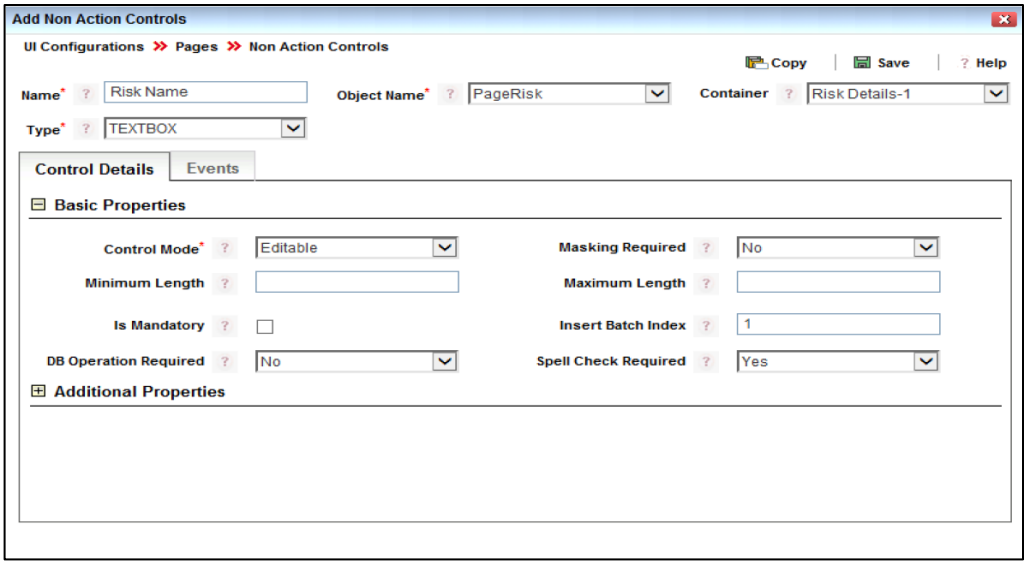


7. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

9.1.4.2 Defining Risk Name Control

We will create a control within the container by the name Risk Name.

1. From the *Page Maintenance* window of your page, click **New** in the *Non- Action Fields* toolbar. The *Add Non Action Controls* window is displayed.
2. Enter the **Name** as “Risk Name”.
3. Select **Object Name** as “PageRisk”, which is the name of the Page that you created.
4. Select **Container** as “Risk Details”, which is the name of the Container that you created.
5. Select **Type** as TEXTBOX.
6. Select **Control Mode** as Editable. See the following screenshot.

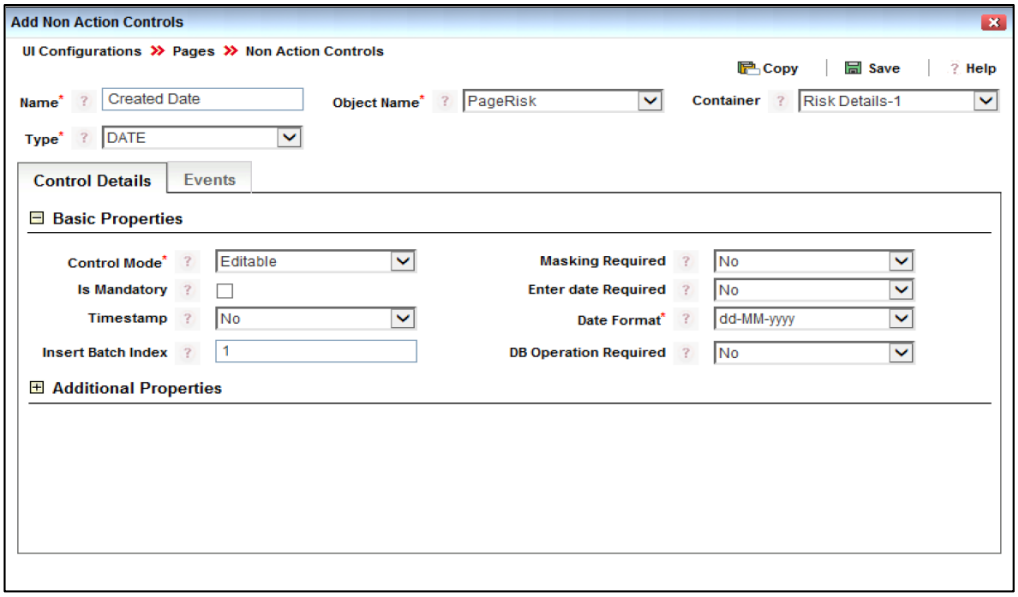


7. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

9.1.4.3 Defining Created Date Control

We will create a Date control within the container by the name Created Date.

1. From the *Page Maintenance* window of your page, click **New** in the *Non- Action Fields* toolbar. The *Add Non Action Controls* window is displayed.
2. Enter the **Name** as “Created Date”.
3. Select **Object Name** as “PageRisk”, which is the name of the Page that you created.
4. Select **Container** as “Risk Details”, which is the name of the Container that you created.
5. Select **Type** as DATE.
6. Select **Control Mode** as Editable.
7. Select **Date Format** from the drop-down list. See the following screenshot.

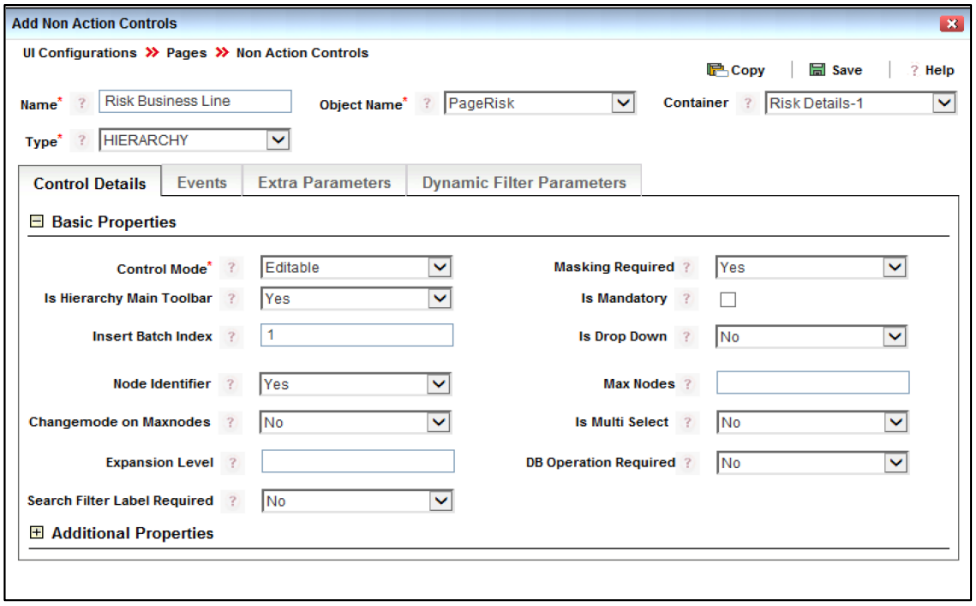


8. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

9.1.4.4 Defining Risk Business Line Hierarchy Control

We will create a hierarchy control within the container by the name Risk Business Line.

1. From the *Page Maintenance* window of your page, click **New** in the *Non- Action Fields* toolbar. The *Add Non Action Controls* window is displayed.
2. Enter the **Name** as “Risk Business Line”.
3. Select **Object Name** as “PageRisk”, which is the name of the Page that you created.
4. Select **Container** as “Risk Details”, which is the name of the Container that you created.
5. Select **Type** as HIERARCHY.
6. Select **Control Mode** as Editable. See the following screenshot:

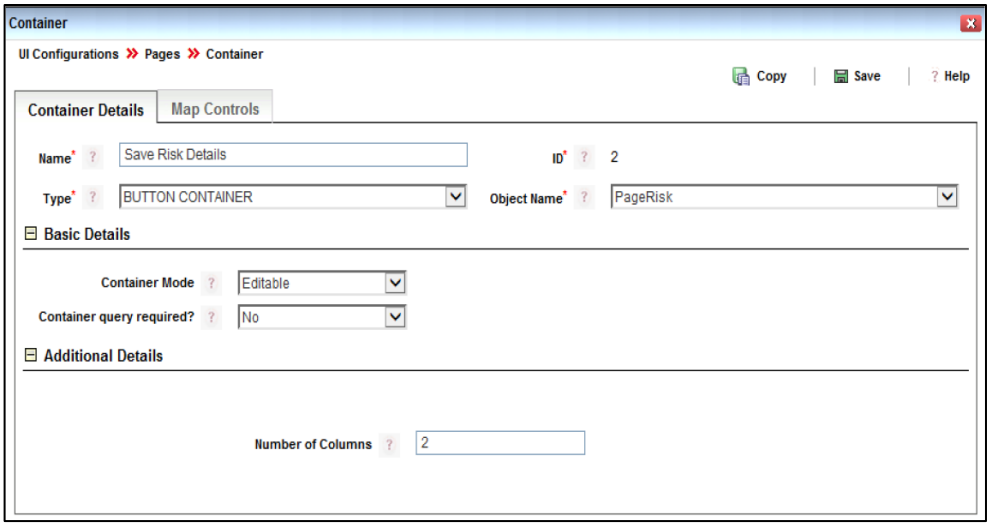


7. Click the *Extra Parameters* tab and click **Add Parameters**.
8. Enter **Name** as “hierarchy”, **Scope** as “Static” and **Value** as “1”.
9. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

9.1.5 Defining another Container within the Risk Definition Form

We will create a container within the page by the name, Save Risk Details.

1. From the *Page Maintenance* window, click **Manage Containers** in the *Fields* toolbar. The *Container Details* window is displayed.
2. Click **New** in the *Containers* toolbar. The *Container* window is displayed.
3. Enter the **Container Name** as “Save Risk Details”.
4. Select the **Type** as BUTTON CONTAINER.
5. Select the **Container Mode** as Editable.
6. Enter **Number of Columns** as “2”. See the following screenshot.



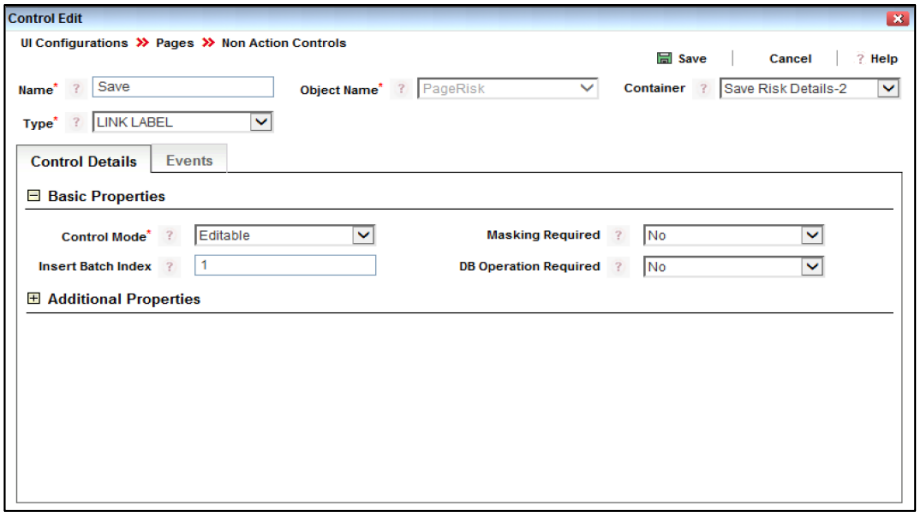
10. Click **Save.**

9.1.6 Defining Controls within the Save Risk Details Container

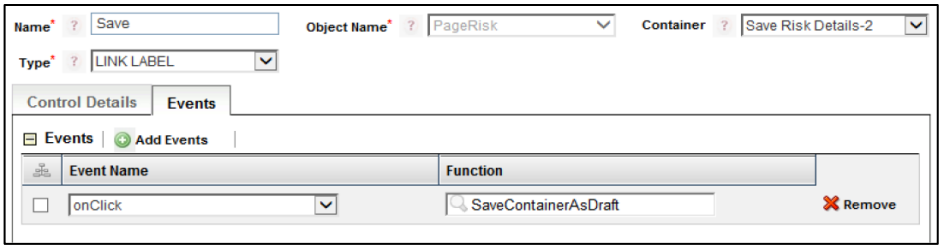
9.1.6.1 Defining Save Control

We will create a Link Label control within the container by the name Save.

1. From the *Page Maintenance* window of your page, click **New** in the *Action Fields* toolbar. The *Add Action Controls* window is displayed.
2. Enter the **Name** as “Save”.
3. Select **Object Name** as “PageRisk”, which is the name of the Page that you created.
4. Select **Container** as “Save Risk Details”, which is the name of the Container that you created.
5. Select **Type** as LINK LABEL.
6. Select **Control Mode** as Editable. See the following screenshot:



7. Click the *Events* tab and click **Add Events**.
8. Select **Event Name** as “onClick” from the drop-down list and **Function** as “SaveContainerAsDraft”.

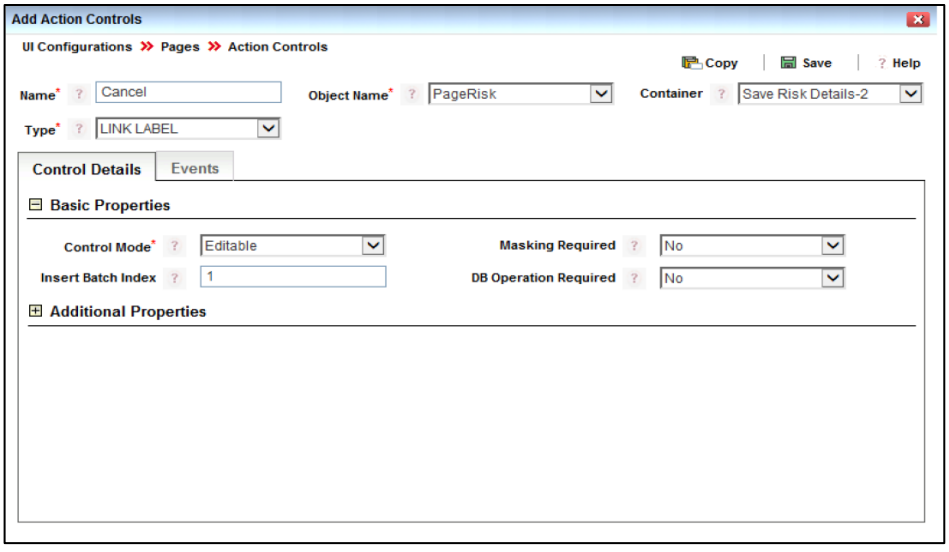


9. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

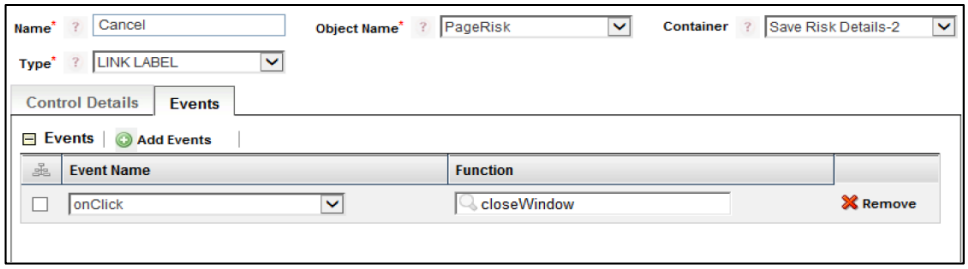
9.1.6.2 Defining Cancel Control

We will create a Link Label control within the container by the name Cancel.

1. From the *Page Maintenance* window of your page, click **New** in the *Action Fields* toolbar. The *Add Action Controls* window is displayed.
2. Enter the **Name** as “Cancel”.
3. Select **Object Name** as “PageRisk”, which is the name of the Page that you created.
4. Select **Container** as “Save Risk Details”, which is the name of the Container that you created.
5. Select **Type** as LINK LABEL.
6. Select **Control Mode** as Editable. See the following screenshot:



7. Click the *Events* tab and click **Add Events**.
8. Select **Event Name** as “onClick” from the drop-down list and Function as “closeWindow”.

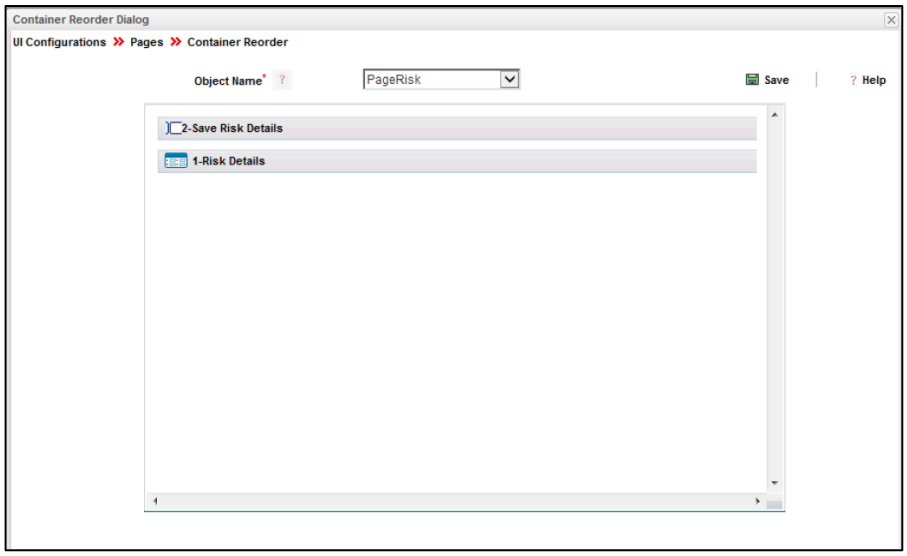


9. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

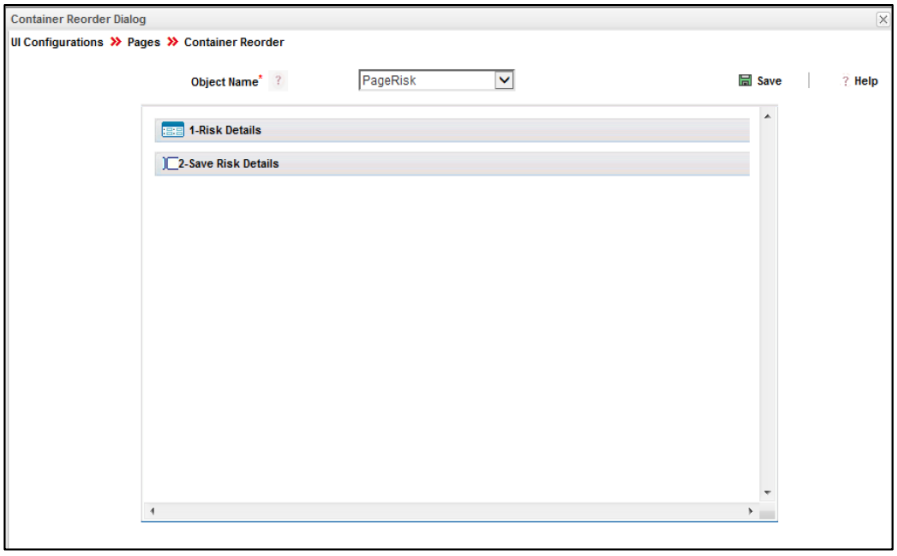
9.1.7 Reordering Containers within the Risk Definition Page

We will reorder the containers within the Risk Definition form.

1. From the *Page Maintenance* window, click **Manage Containers** in the *Fields* toolbar. The Container Details window is displayed.
2. Click **Reorder** in the *Containers* toolbar. The *Container Reorder* window is displayed.



3. Select **Object Name** as “PageRisk”, which is the name of the Page that you created.
4. Drag the Risk Details container and make it appear first as shown in the following screenshot.

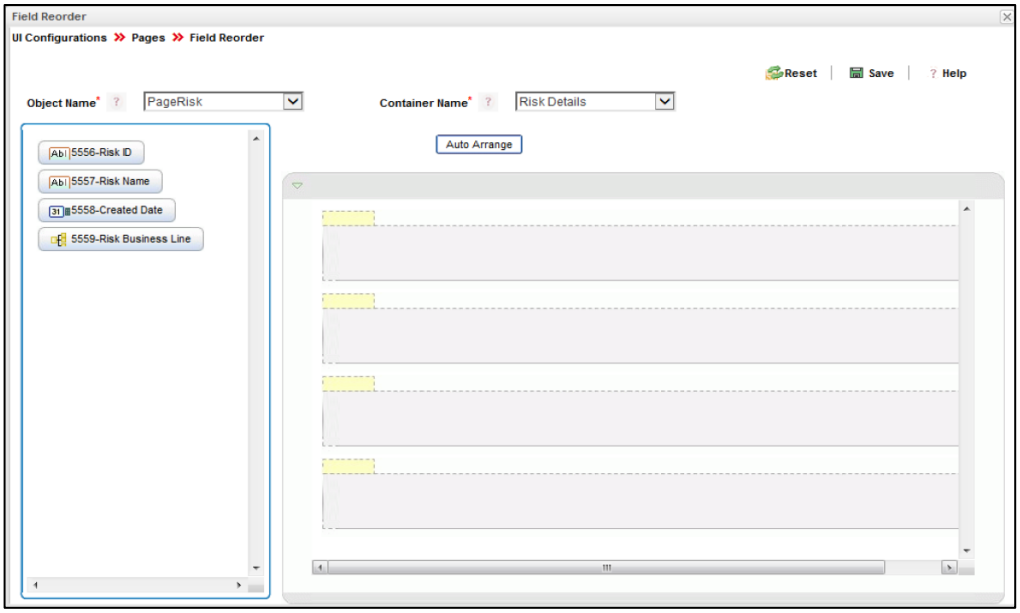


5. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

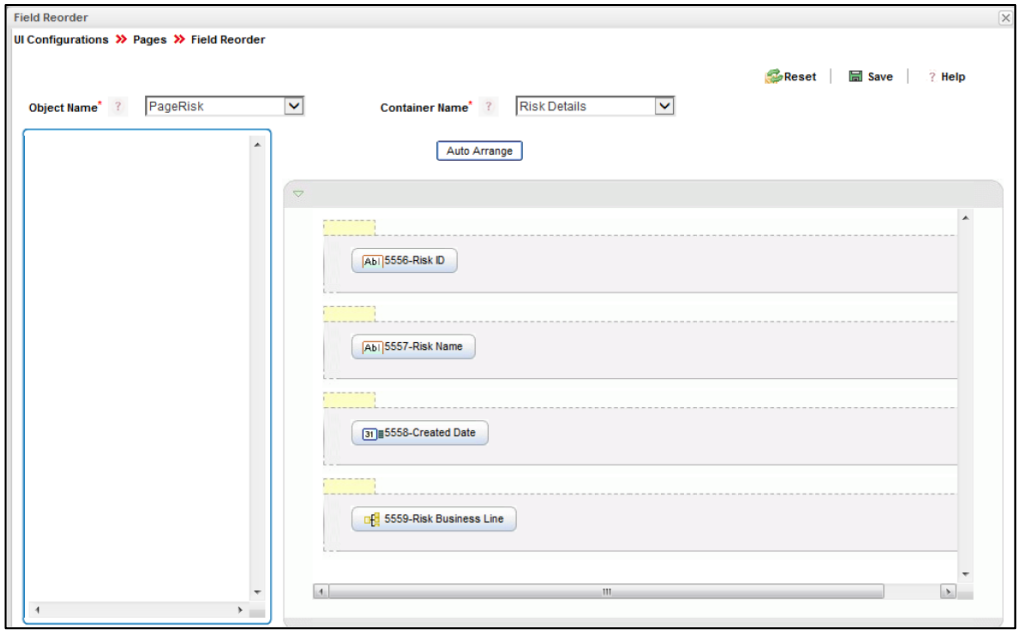
9.1.8 Reordering Controls within the Risk Details Container

We will reorder the controls within the Risk Details container.

1. From the *Page Maintenance* window, click **Reorder** in the *Fields* toolbar. The *Field Reorder* window is displayed.
2. Select the **Object Name** as “PageRisk” and **Container Name** as “Risk Details”. The corresponding Controls appear on the left as shown in the following screenshot:



3. Drag the controls so that each control appears in separate rows as shown in the following screenshot:

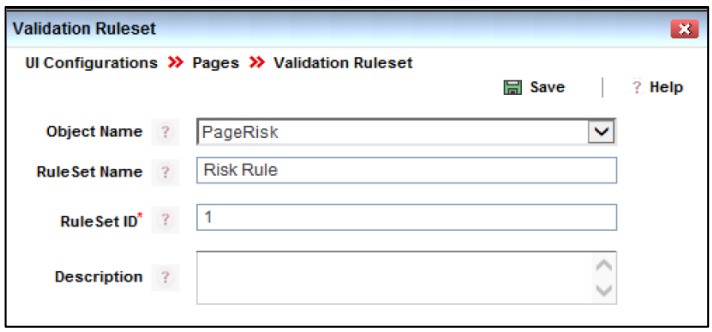


6. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

9.1.9 Creating a Validation Rule

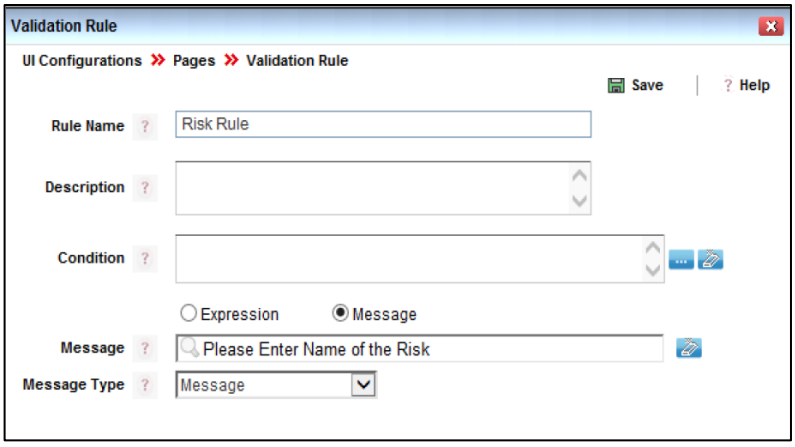
We will create a validation rule to display a message to prompt the user to enter Risk Name.

1. From the *Page Maintenance* window of your page, click **New** in the *Validation Rulesets* toolbar under *UI Validation Rules* toolbar. The *Validation Ruleset* window is displayed with the **Object Name** automatically populated.
2. Enter the **Rule Set Name** as “Risk Rule”. The **Rule Set ID** is automatically populated. See the following screenshot:

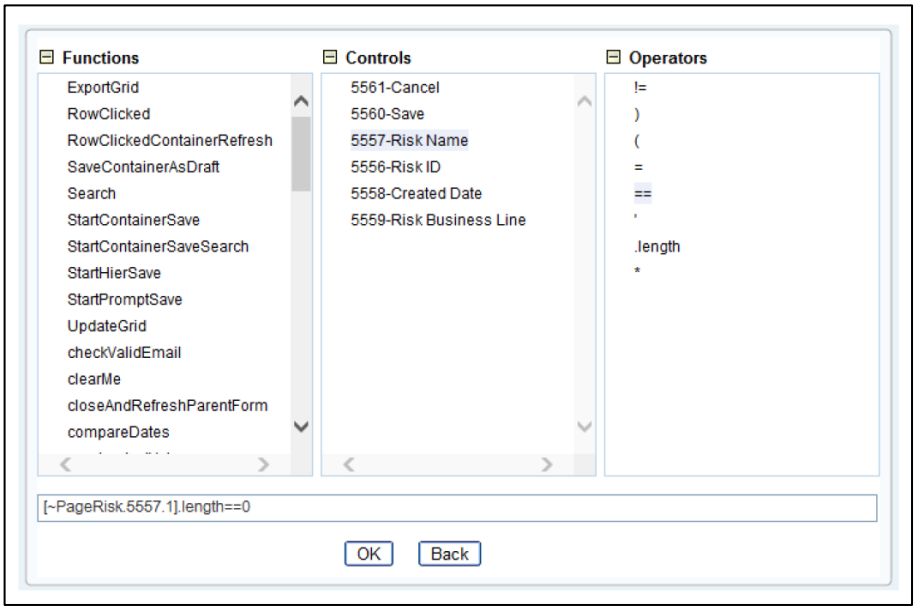


3. Click Save.
4. Click **New** in the *Validation Rules* toolbar under *UI Validation Rules* toolbar. The *Validation Rule* window is displayed.
5. Enter **Rule Name** as “Risk Rule”.
6. Select **Message**. Enter **Message** as “Please Enter Name of the Risk”.

7. Select **Message Type** as Message from the drop-down list. See the following screenshot:



8. Click in the **Condition** field and form the condition by selecting the appropriate Function, Control, and Operator as shown in the screenshot.



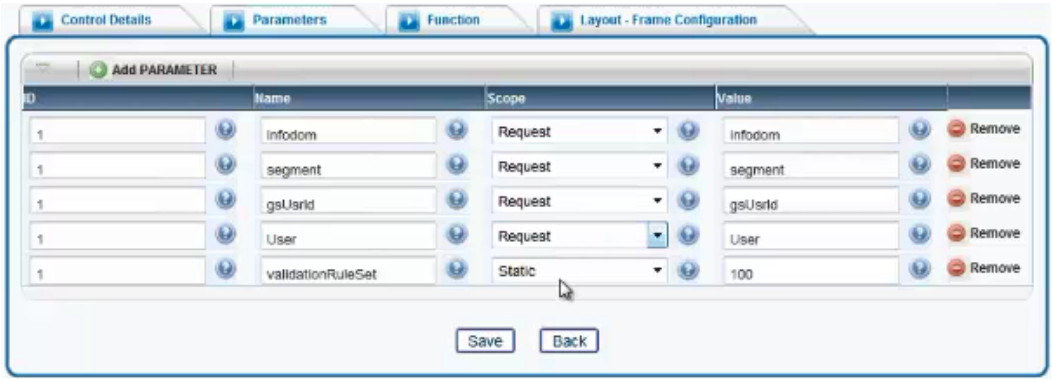
9. Click Ok.
10. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

9.1.10 Associating the Validation Rule with Save Control

We will associate the validation rule with the Save control.

1. From the *Forms Maintenance* window, select “FormRisk” form and select “Save” container, and select “Save” control.
2. Click **Edit** in the *Controls* toolbar. The *Control Maintenance* window appears.
3. Click the *Parameters* tab and click **Add Parameter**.

4. Enter **ID** as “1”.
5. Enter **Name** as “validationRuleSet”.
6. Enter **Scope** as “Static”.
7. Enter **Value** as “100”. See the following screenshot.

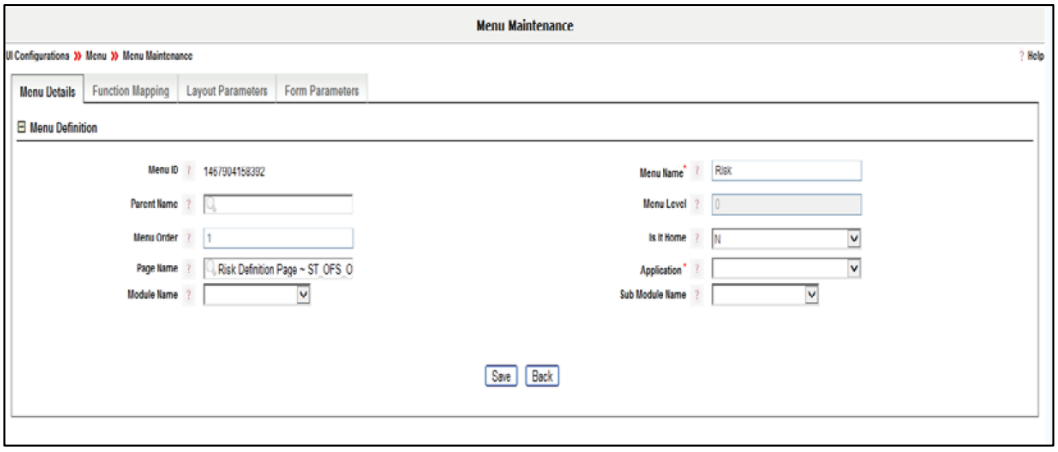


8. Click **Save**.

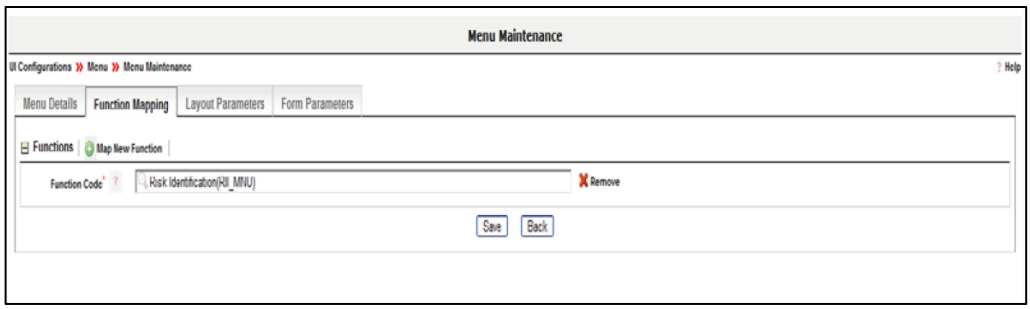
9.1.11 Defining a Menu by the name, Risk

We will create a Menu called **Risk** which when clicked will invoke the “RiskPage” page.

1. From the LHS menu, expand **UI Configurations** and click **Menu**. The *UI Configurations Menu* window is displayed.
2. Click **New** in the *Menu Items* toolbar. The *Menu Maintenance* window is displayed. The Menu ID is seen generated automatically.
3. Enter the **Menu Name** as “Risk”.
4. Enter **Menu Order** as “1”.
5. Select the **Application** from the drop-down list.
6. Enter the **Page Name** as “Risk Definition Page”. This is the **Name** of the Page we created earlier. See the following screenshot.



7. To associate a function to the menu, click the *Function Mapping* tab.
8. Click **Map New Function**.
9. Enter the **Function Code** as Risk Identification (RII_MNU). See the following screenshot.

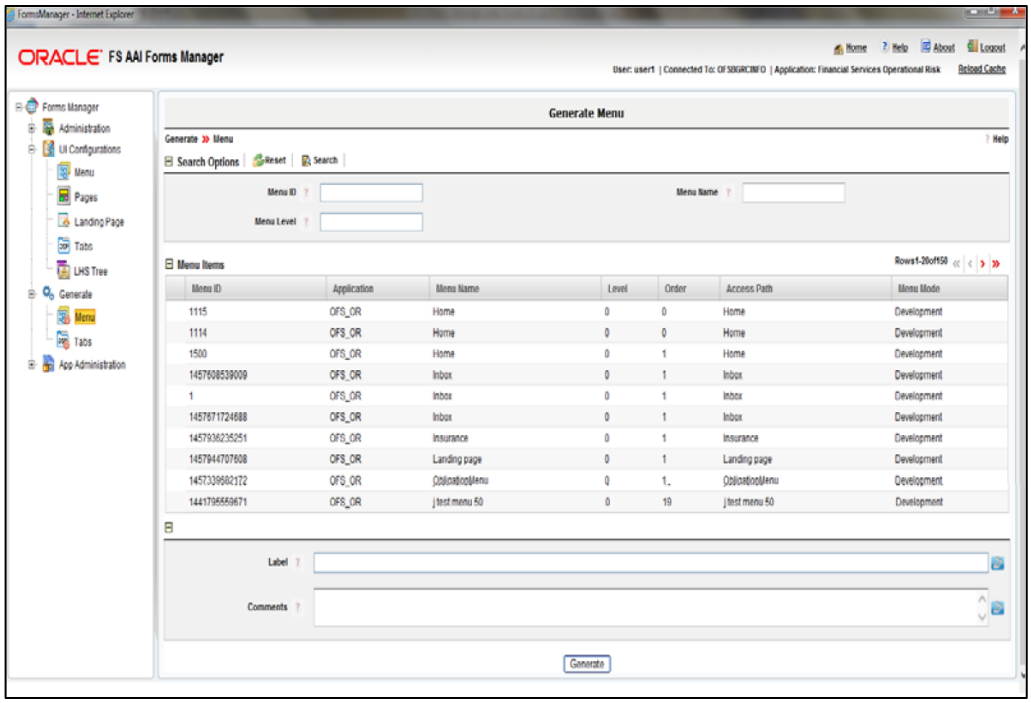


10. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

9.1.12 Generating Menu

We will generate the “Risk” menu we created.

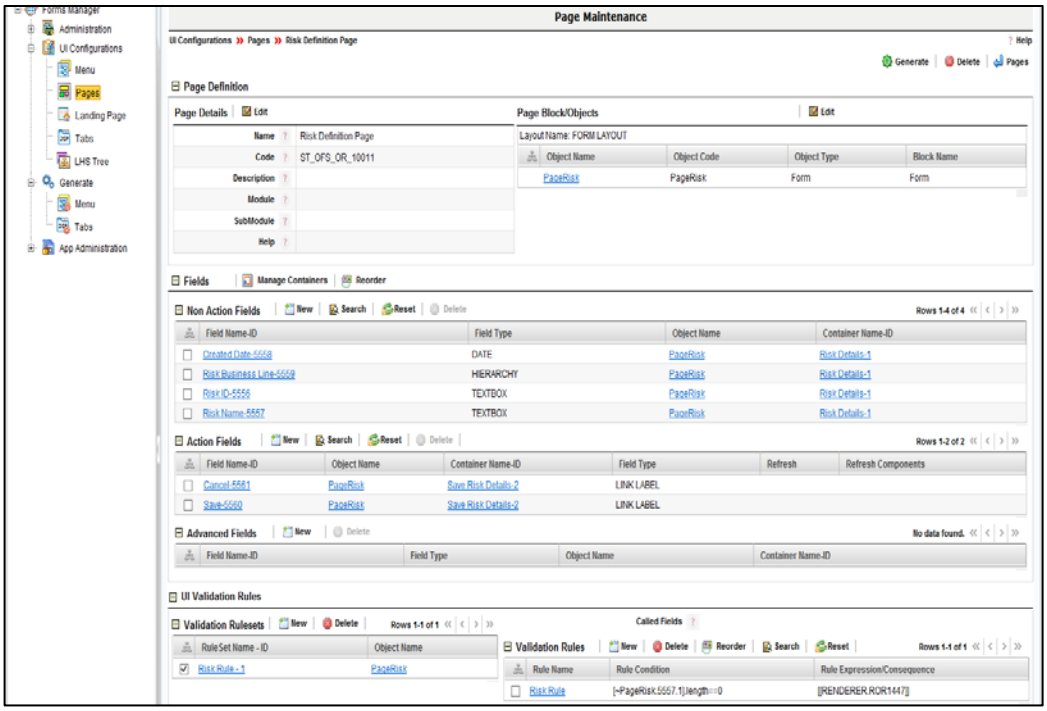
1. From the LHS menu, expand **Generate** and click **Menu**. The *Generate Menu* window appears.



2. Click **Generate**.

9.1.13 Generating Page

1. From the LHS menu, expand **UI Configurations** and click **Pages**. The *Pages* window is displayed.
2. Select the “Risk Definition Page” that you want to generate and deploy. The *Page Maintenance* window is displayed.



3. Click **Generate**.