Oracle Financial Services

Forms Manager User Guide

Release 8.0.0.0.0

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Oracle Financial Services Forms Manager User Guide 8 . 0 . 0 . 0 . 0

CONTENTS

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).
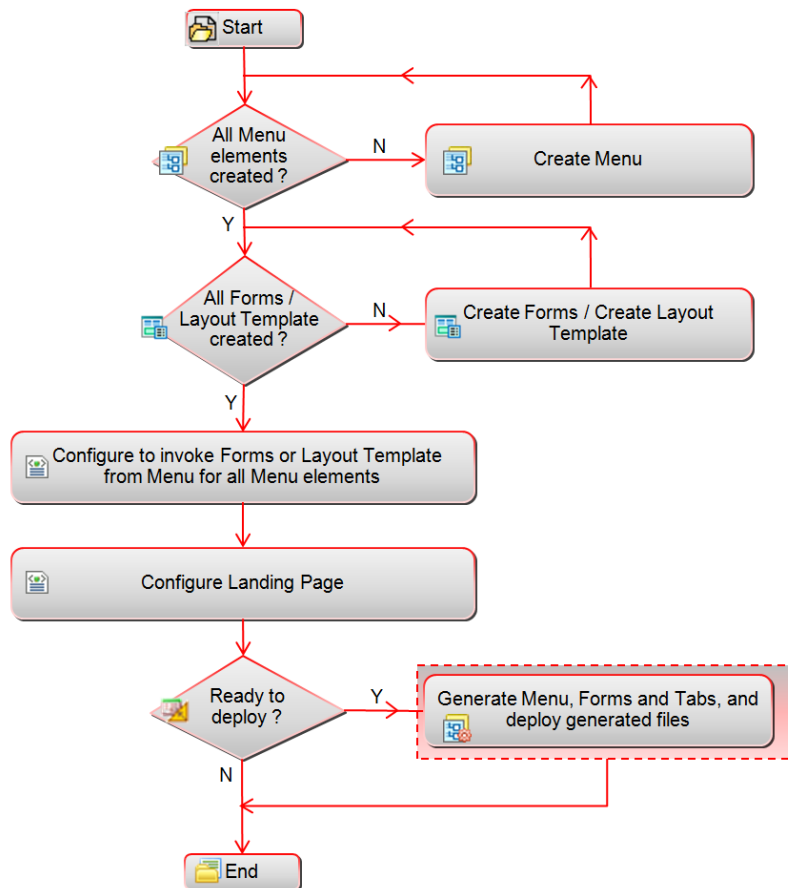
Figure 1.   Flowchart of Forms Manager

2 Forms Manager

2.1 Deploying Forms Manager

This section describes the steps required to deploy Forms Manager.

This section includes the following topics:

- Creating EAR/WAR File

- Deploying EAR/ WAR File

- Accessing Forms Manager

2.1.1 Creating EAR/WAR File

To create the EAR/WAR File, follow these steps:

1. Navigate to the `$FIC_HOME/FMStandalone` directory on the OFSAA Installed server.

2. Execute. `/ant.sh` to trigger the creation of EAR/ WAR file.

3. On completion of the EAR files creation, the "BUILD SUCCESSFUL" and "Time taken" messages are displayed and you will be returned to the prompt.

4. The EAR/ WAR file – `formsmanager.ear/ .war` - is created.

NOTE: This process overwrites any existing version of EAR file that exists in the path. If OFSAA is configured on Tomcat installation, `formsmanager.war` will be created.

2.1.2 Deploying Ear/ WAR File

Deployment of the `formsmanager.ear/ war` file is similar to the deployment of the OFSAA ear/war file. To deploy the `formsmanager.ear / war` file, follow the steps mentioned in Appendix C of OFS AAAI Installation and Configuration Guide.

2.1.3 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 or **Error! Hyperlink reference not valid.** 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:
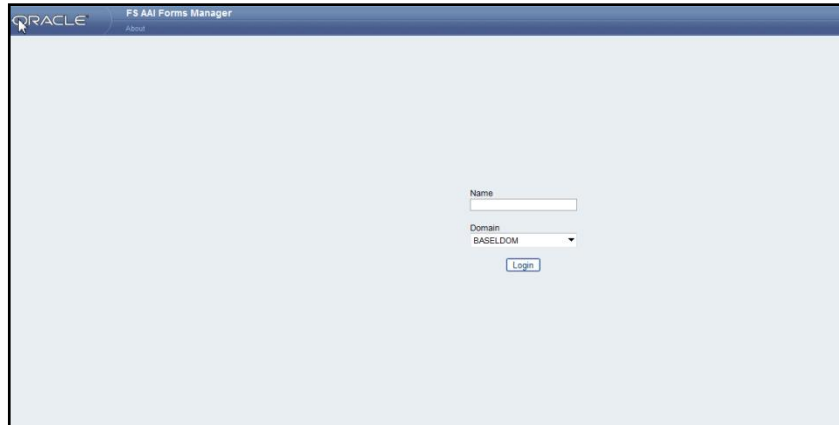
Figure 2. Forms Manager Login Screen

2.2   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. It is possible to launch a layout JSP page as well as a form, from a menu.

- **Form**– A component that acts as a background or placeholder for holding smaller components and displaying the objects and data. The smaller components include containers and controls. A form can have one or more containers. A container can have one or more controls.

  There are three kinds of forms.

  - **Simple forms** – These are static forms, used for the purpose of viewing the data. Since they do not have database access, you cannot add values in them.

  - **Forms with database access** – These forms store the input data to the database tables. They have button controls like "Save".

    The following figure displays the layout design of a form with containers and controls.
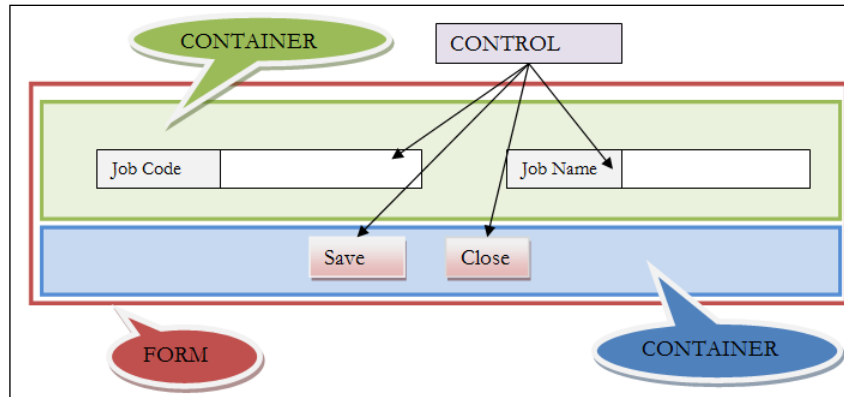
Figure 3. Form with containers and controls

- **Summary forms** – These forms display the results that are stored in the table. They contain controls for the purpose of editing, viewing, adding, and so on. Apart from showing all the results in a table, these forms also display the results based on a search filter criteria.

  The following figure displays the layout design of a summary form.
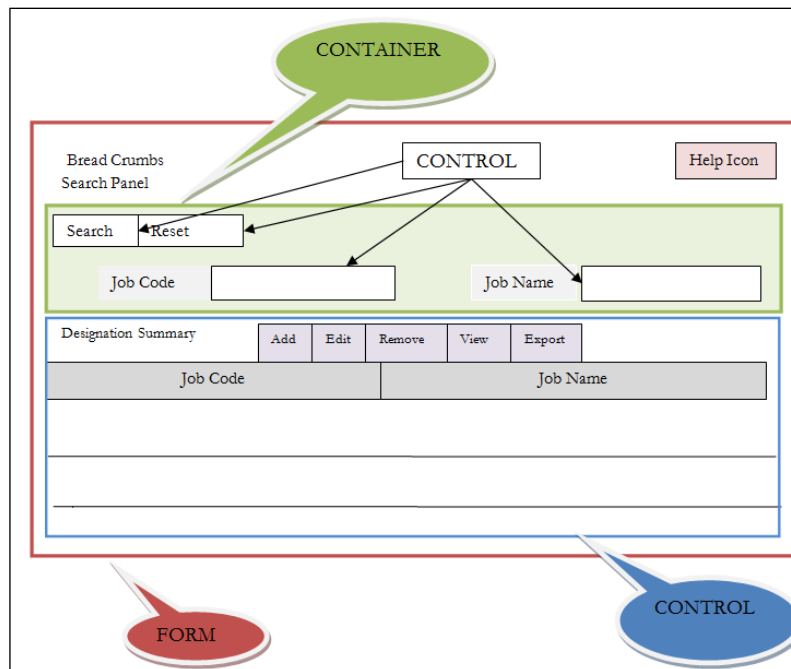
Figure 4. Summary Form

NOTE: Having excessive number of containers in a form or excessive number of controls in a container may degrade the presentation and look of the page, in addition to the performance.

- **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.

- **Container** – A component within a form that acts as a background for holding smaller components like other containers and controls. Examples of containers are:

  - **Search Container** - A container to display search fields with standard controls like Views/Search, and Clear/ Reset.

Figure 5. Search Container

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

Figure 6. Grid Container

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

Figure 7. Tab Container

  - **Difference Container** - A container to display the changes between selected records. It will show changes in different color.

Figure 8. Difference Container

- **Label Value/ Normal Container** - A simple container with a label.

Figure 9. Label Value/Normal Container

- **Control** – A component within a form or a container that performs various activities like performing an action, displaying the data, and allowing the user to interact with the application.
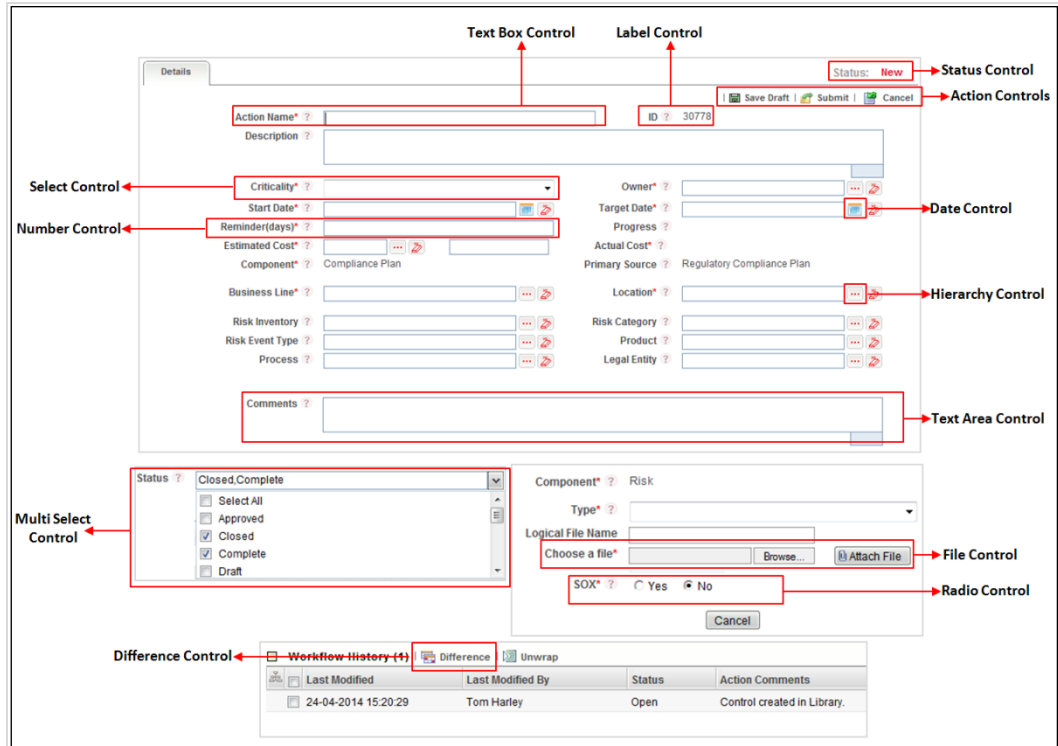
Figure 10. Different Controls

Examples of controls are:

- **Number Control** – A control that expects the entry of data in numeral format only.

- **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.

- **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.

- **Rich Text Control**– A control that expects the entry of big data in text format and supports the text with rich formatting features.

- **Date Control**– A control that displays the calendar and permits the user to select a date.

- **Label Control** – A control that displays non-editable information.

- **Status Control**– A control that displays the status of a record such as New, Draft, Open or Closed.

- **History Control** – A control that inserts data into history tables.

- **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.

- **Multi Select 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.

- **Action Control** – A control for initiating or changing an action. For example, Save/ Ok, Cancel and Close.

- **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.

- **URL 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.

- **Difference Control** – A control that calls a function to open a difference container.

- **Grid Control** - A control to call a grid container/ form.

- **Hierarchy Control** – A control that displays data after fetching from hierarchy.

- **File Control**- A control that is used to upload documents.

- **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 URL Control, and so on.

3   Administration

3.1   Layout Template

3.1.1   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).
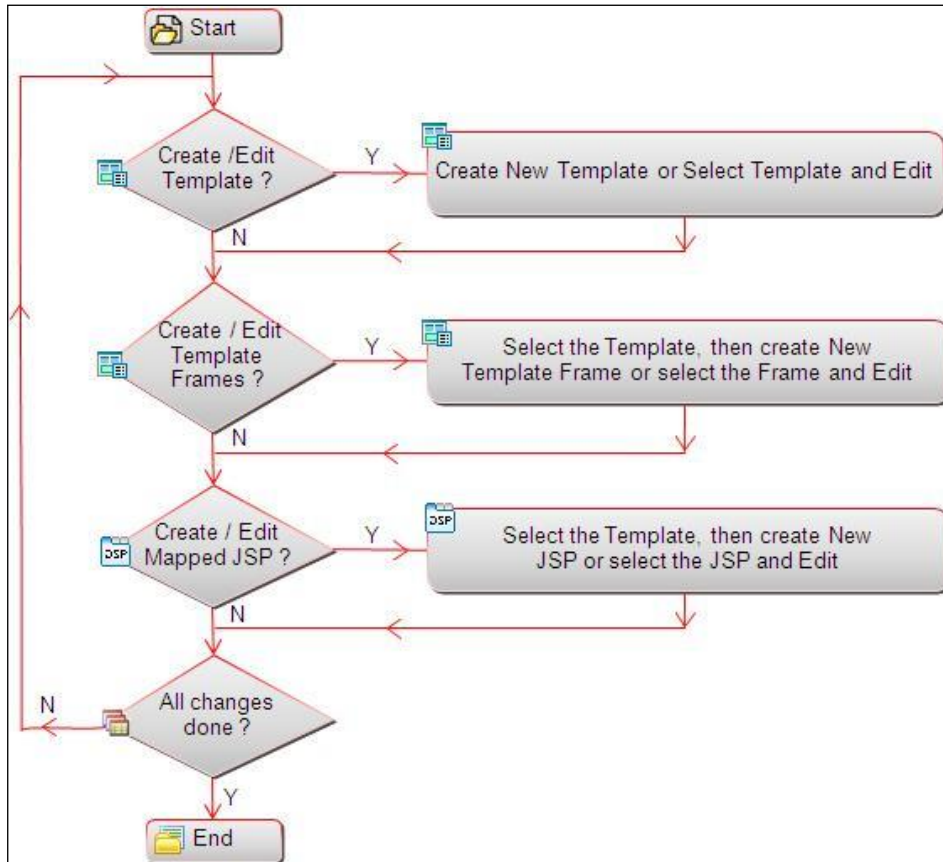
Figure 11. Flowchart of Layout Template

3.1.2 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 three frames as shown in the following figure, you have to define three template frames in your template.

Sample Landing Page Layout
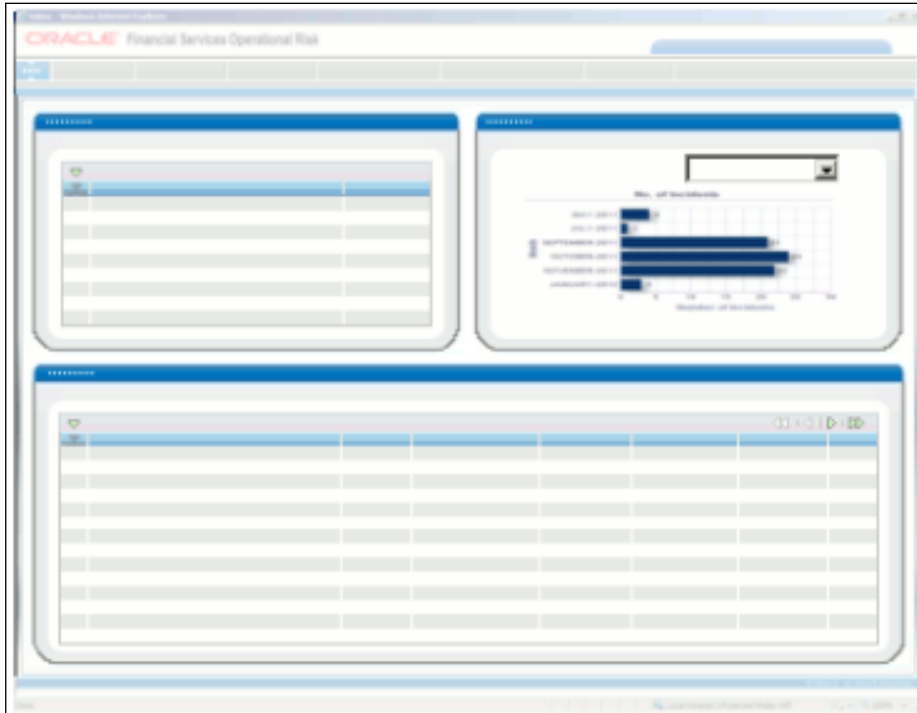
Figure 12. Sample layout

Steps for Template Configuration

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.
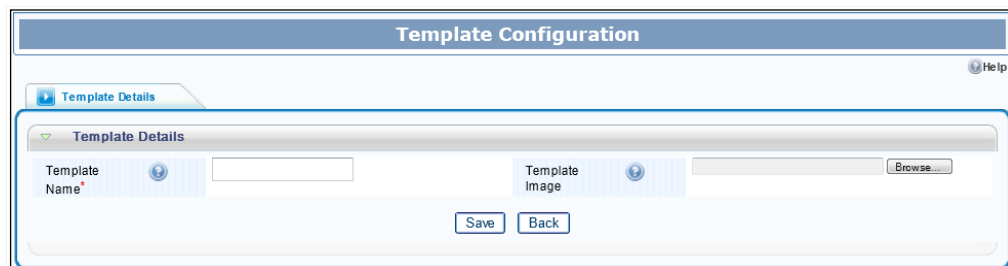
Figure 13. Template Configuration window

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.

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 14. 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). The new Frame Name should have the prefix "CS_".
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.

2. Click **Save**.

Steps to create a new Mapped Layout Template

This option is to map the underlying JSP file to the template you are creating. You can attach a prepackaged JSP or a customized JSP file based on your requirements.

1. From the *Layout Maintenance* window, select the template and template frame and click **New** in the *Template Frames* toolbar. The *Layout Template Configuration* window is displayed.
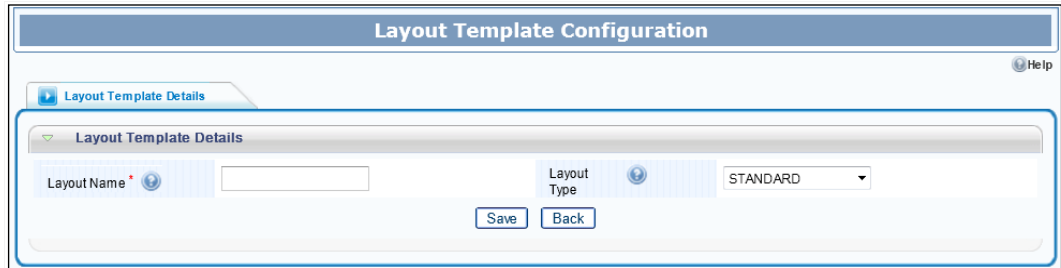
Figure 15. Layout Template Configuration window

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Layout Name*	Enter the name of the underlying JSP.
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**.

3.1.3 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.
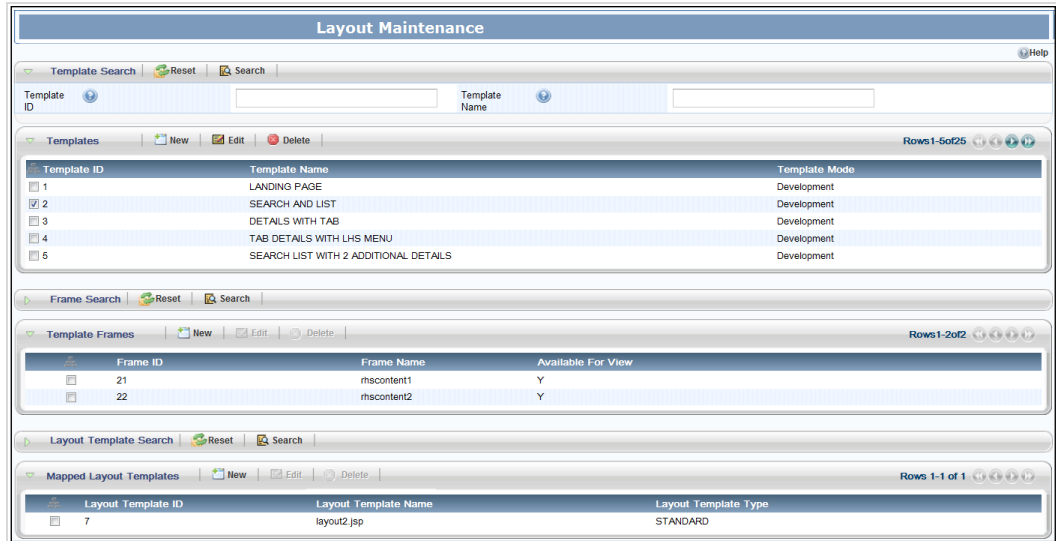
Figure 16. Layout Maintenance window

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 template frame and provide Layout Template ID and Layout Template Name and click **Search** in the Layout Template Search toolbar to search for 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.

Action	Description
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.

3.2 Group Styles

3.2.1 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.

3.2.2 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 **UI Configurations** and click **Group Styles**. The *Group Style Maintenance* window is displayed.

2. Click **New** in the *Group Styles* toolbar.
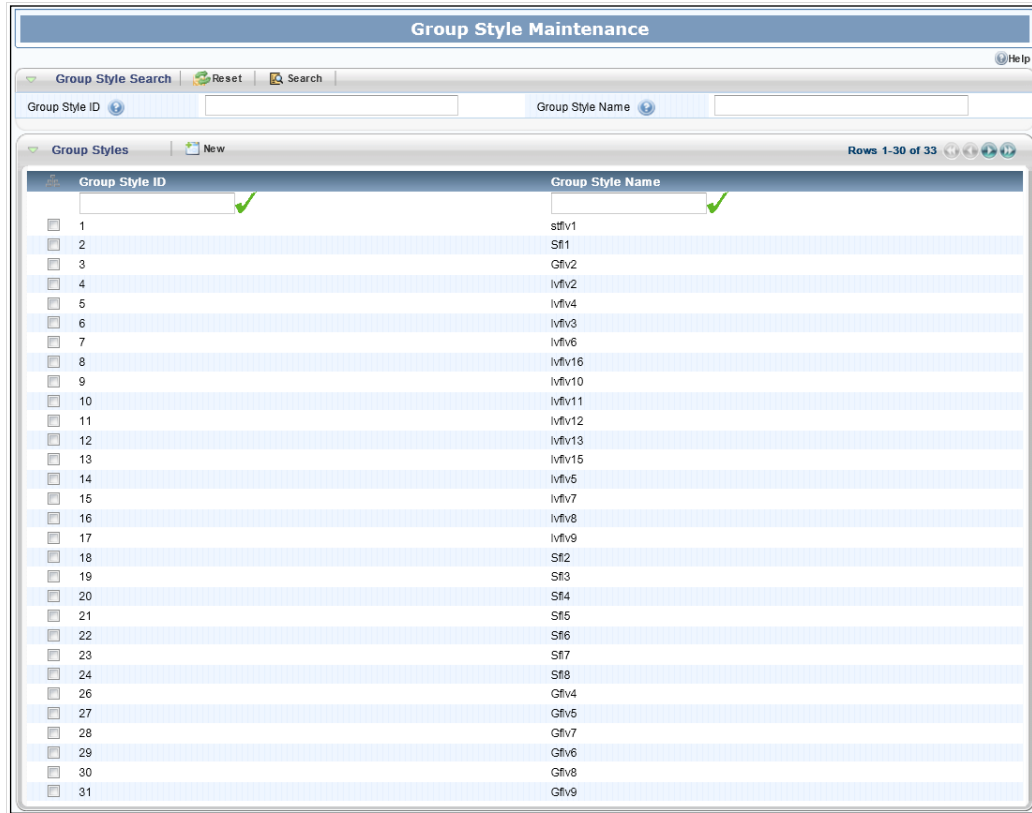
Figure 17. Group Style Maintenance window

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

3.   Click **Save.**

3.2.3   Sample Group Styles:

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

3.2.3.1   Grid Container (Type = 5)

Grid Group Style: Gflv2

Description- Grid Container without border.

	Last Modified ▼	Last Modified By	Status	Comments	Action Comments
☐	21-11-2011 19:57:08	ORMUSER	Draft		Updated
☐	21-11-2011 19:57:13	ORMUSER	Draft		Updated
☐	21-11-2011 19:57:24	ORMUSER	Draft		Updated
☐	21-11-2011 19:59:19	ORMUSER	Draft		Updated
☐	21-11-2011 19:59:22	ORMUSER	Draft		Updated

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.

	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: 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.

Grid Group Style: Gflv7

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

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

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	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: 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

3.2.3.2   Label Value/ Normal Container (Type = 1)

Label Value Group Style: lvflv2

Description- Header with Underline

Label Value Group Style: lvflv15

Description- Header without Underline
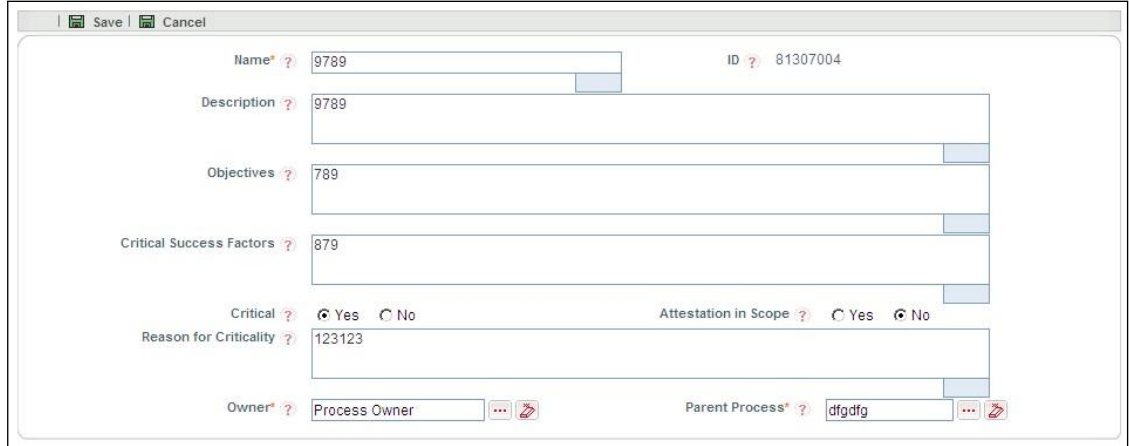
Label Value Group Style: lvflv4

Description- Rounded border with grey header.

Additional Configuration: BORDERREQUIRED="Y"
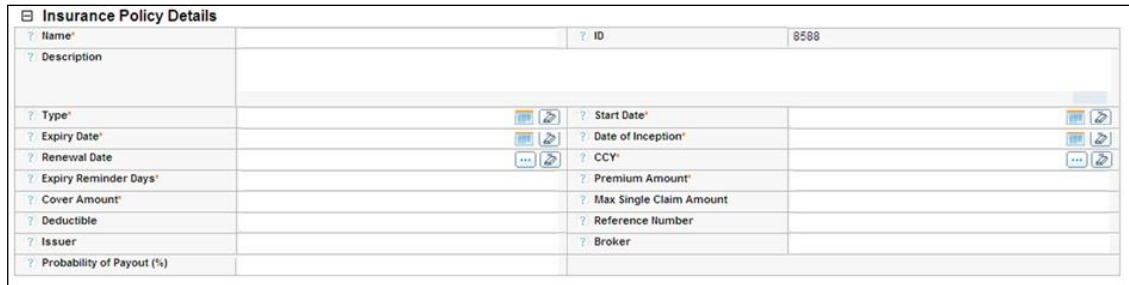
Label Value Group Style: lvflv7

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"

3.2.3.3   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.
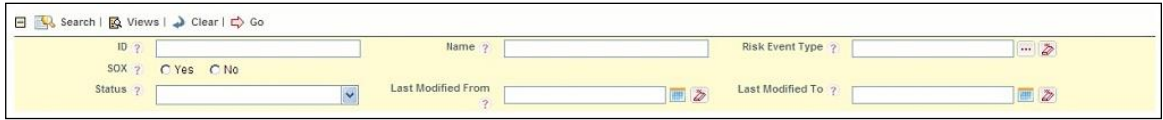
Additional Configuration: BORDERREQUIRED="N"

Search Group Style: Sfl8

Description- Yellow background without Border & Header with Underline.

Additional Configuration: BORDERREQUIRED="N"

Search Group Style: lvflv8

Search Group Style: lvflv9

3.2.3.4   Tab Container (Type = 10)

Tab Group Style: lvflv4

Tab with border- Forms XML configuration

Tab Group Style: lvflv2

Tab without border. Forms XML configuration

3.2.3.5   Stylesheet GroupStyles

Following figures display different types of Stylesheet GroupStyles.

Component Name	Referred location in Forms Manager to configure the component
Group Style : Gflv2	Forms -> Container -> Group Style-> Gflv2
Group Style : lvflv2	Forms -> Container -> Group Style-> lvflv2
Group Style : lvflv3	Forms -> Container -> Group Style-> lvflv3
Group Style : lvflv4	Forms -> Container -> Group Style-> lvflv4
Group Style : lvflv6	Forms -> Container -> Group Style-> lvflv6
Group Style : Sfl1	Forms -> Container -> Group Style-> Sfl1

Component Name	Referred location in Forms Manager to configure the component
Radio control	Forms -> Container -> Control -> Control Type -> Radio control

3.3 Events and Functions

3.3.1 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.

3.3.2 How to Define Events and Functions

To define an event:

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

2. Click **New** in the *Events* toolbar.
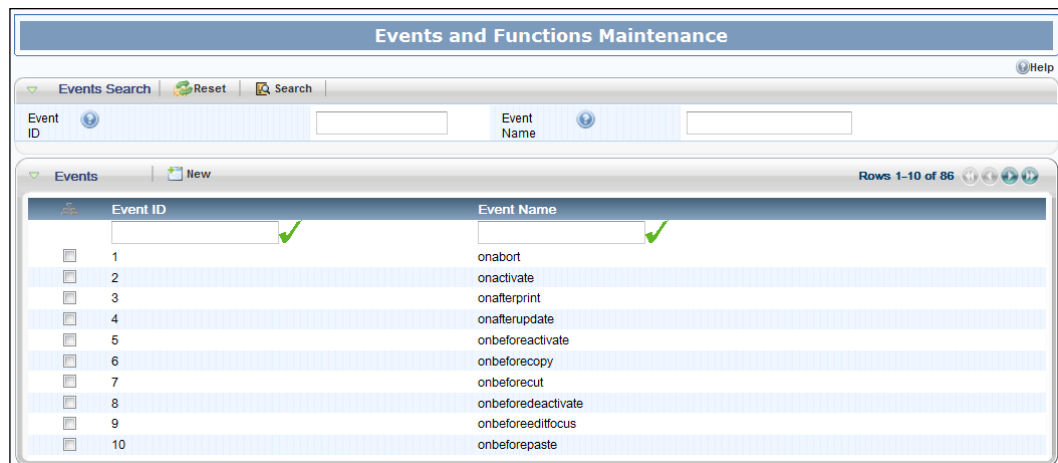
Figure 18. Events window

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.

Field Name	Description and Remarks
Event Name	Enter the name of the event.

3. Enter **Event ID** and **Event Name** in the respective fields.

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.
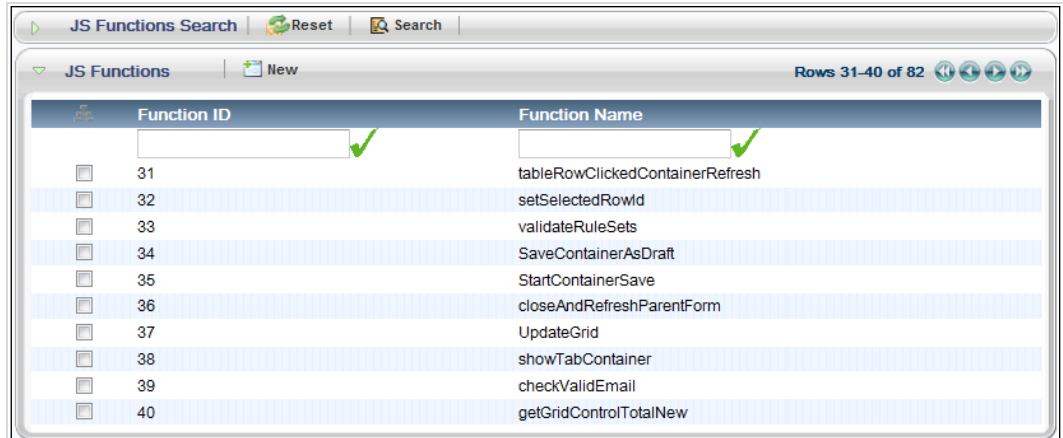
Figure 19. Functions window

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.

3. Enter **Function ID** and **Function Name** in the respective fields.

3.4 Messages

3.4.1 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.

3.4.2 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 20. Messages 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 Type	Select the message type from the drop-down list. **L** denotes Label Messages, **M** denotes Popup Messages, and **S** denotes Solution Specific Messages.
Message Description	Enter the message that needs to be displayed to the user.

3.4.3 Messages Usage

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

3.4.3.1 To use a Message in a Validation

To call a message in a validation, navigate to the validation new/ edit screen and start typing in the Message Description field as shown. The list of defined messages matching the user's suggestion will be displayed. For more information, see How to Create Validation Rules section.
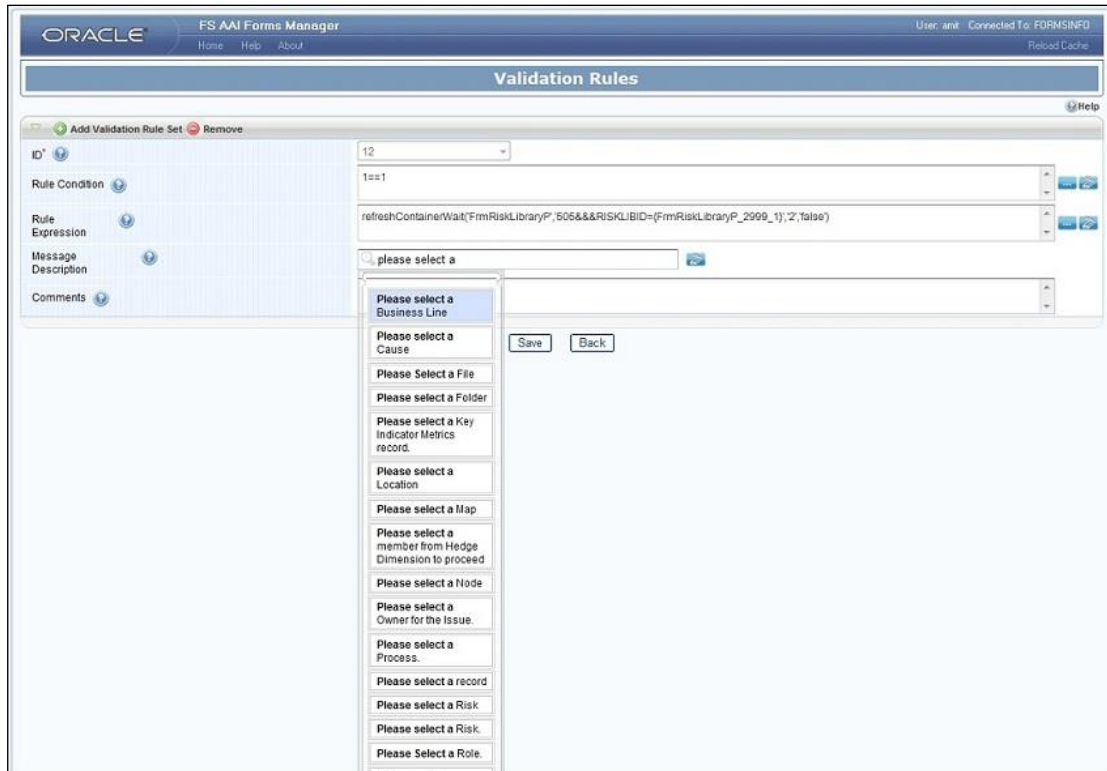
Figure 21. Message in Validation Rule

3.4.3.2 To use a Message in a URL Control

To display a message in a URL Control, navigate to the URL 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.
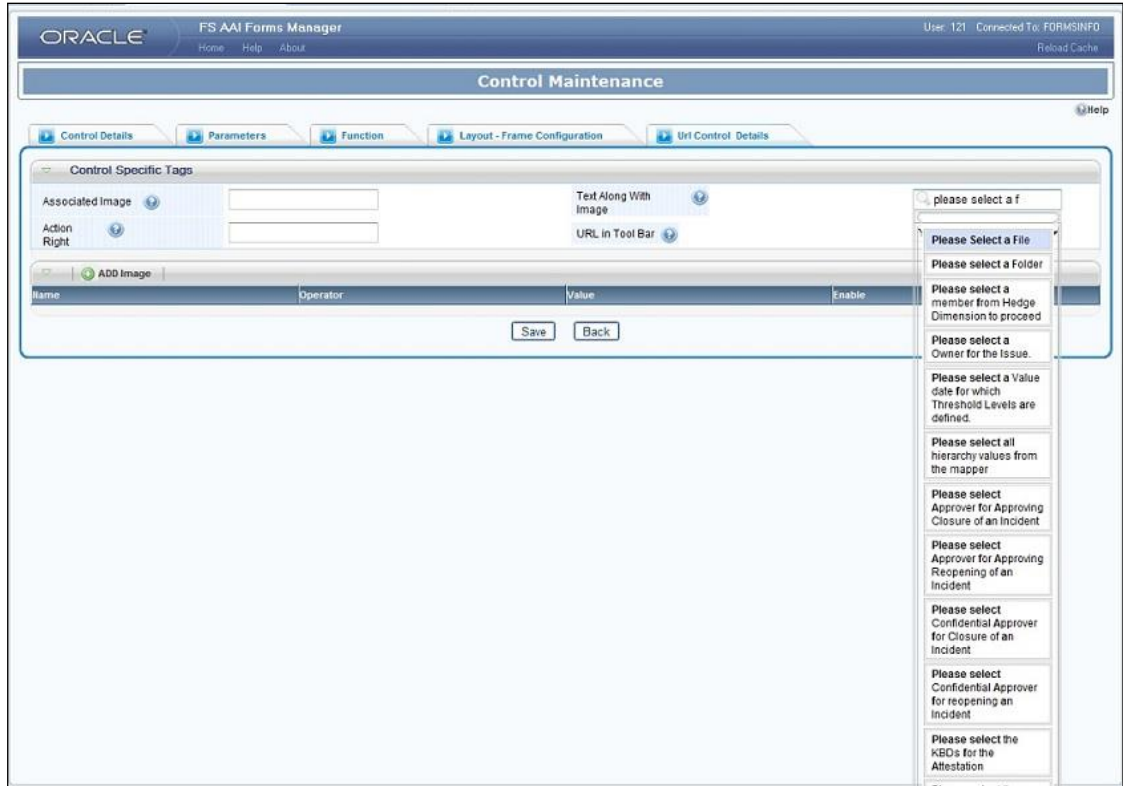
Figure 22. Message in URL Control

4 UI Configurations

4.1 Landing Page

4.1.1 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.

4.1.2 How Landing Page is displayed
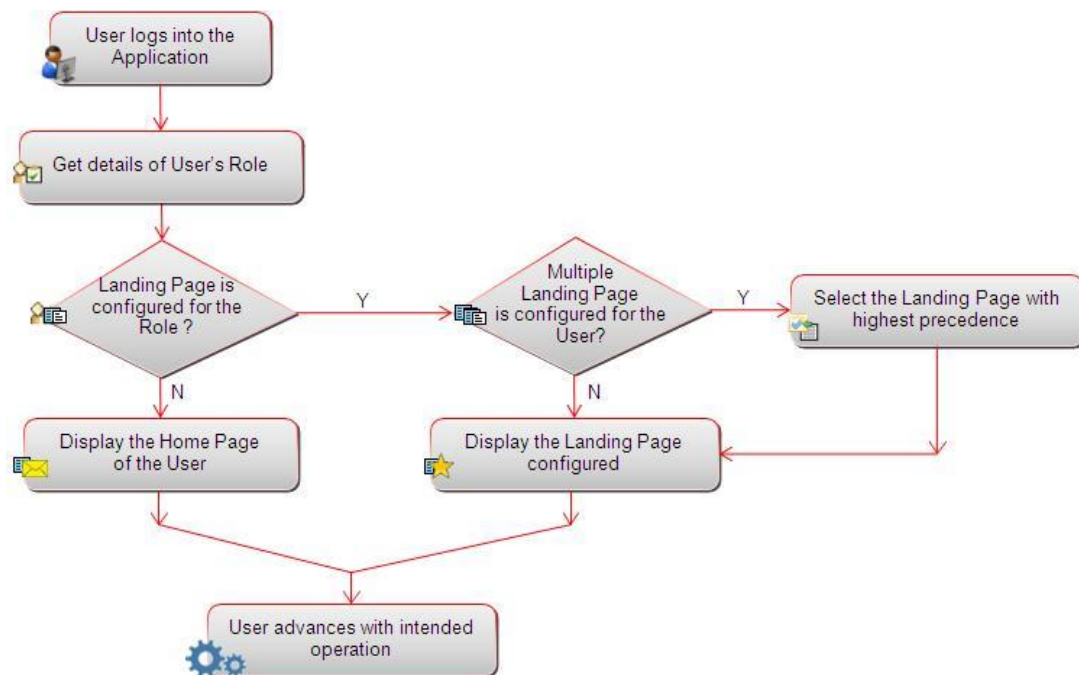
Figure 23.   Flowchart of how a landing page is displayed

4.1.3 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**.

2. Click **New** in the *Landing Page* Toolbar. The *Landing Page* window is displayed.

Figure 24. Landing Page window

Field Name	Description and Remarks
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**.

4.1.4 Landing Page Maintenance

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

Figure 25. Landing Page window

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

4.2 Tabs

4.2.1 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 need 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.

4.2.2 Flow Chart
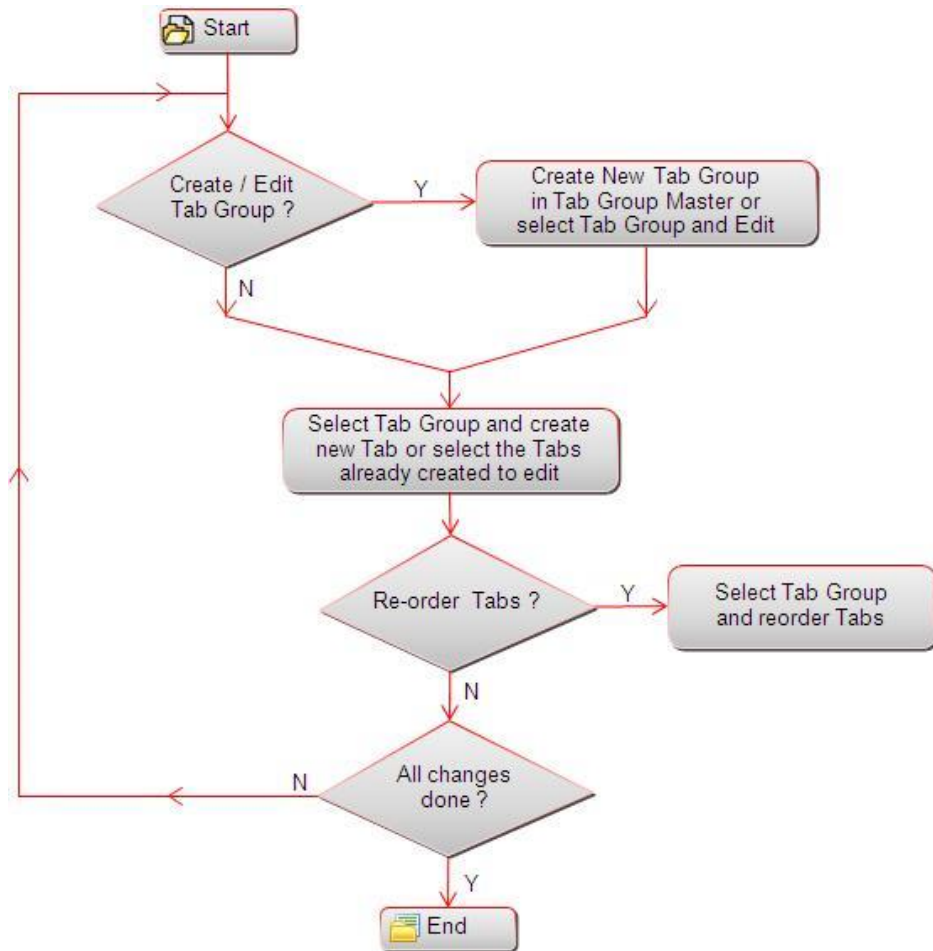
Figure 26.   Flowchart of Tab

4.2.3 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.
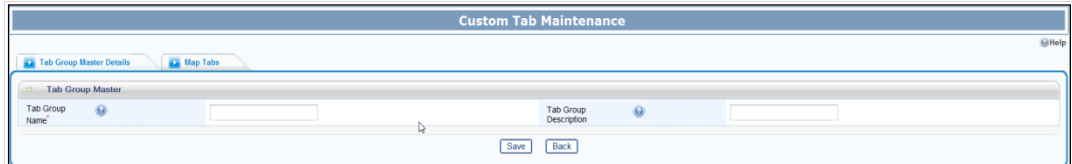
Figure 27. Custom Tab Maintenance window

Field Name	Description and Remarks
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.

3. Click **Save**.

Steps to create a Tab Master

1. Select the Tab Group to which you want to add tab masters and click **New** in the *Tab Master* Toolbar.
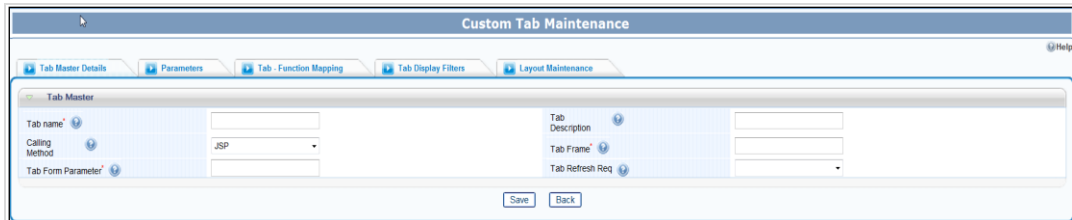
Figure 28. Tab Master Details tab

Action	Description
Tab Name	Enter the name of the tab. This is a mandatory field. The Tab name should have a prefix "CS_".
Tab Description	Enter the description of the tab.
Calling Method	Select **JSP** or **Form** from the drop-down list.
Tab Frame	Enter the frame which is linked to the tab. This is a mandatory field.

Action	Description
Tab Form Parameter	Enter the parameter to be passed to the tab form. This is a mandatory field.
Tab Refresh Required	Select **Y** or **N** to configure if the tab should be refreshed or not.

2. Click the **Parameters** tab.
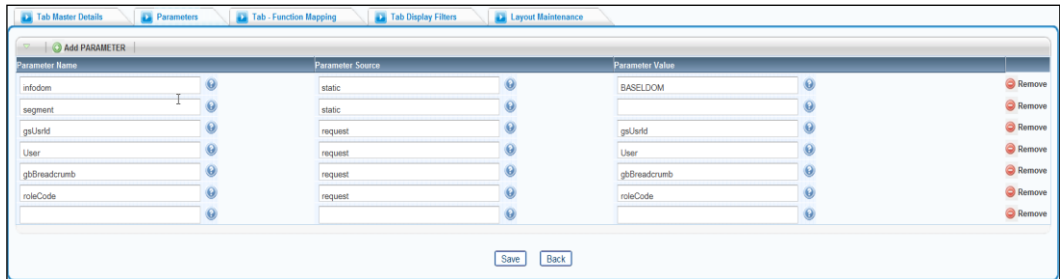
Figure 29. Parameters tab

Field Name	Description and Remarks
Name	Enter the name of the parameter to be passed to the layout template. The new parameter name should have a prefix "CS_". The parameter names are case sensitive.
Source	Enter the name of the Tab Group. This is a mandatory field.
Value	Enter the value of the parameter.
Function Code	Enter the function code. After typing characters in the text field, function codes similar to the entered values will be popped up in the suggestion box.

3. Click the **Tab Function Mapping** tab.
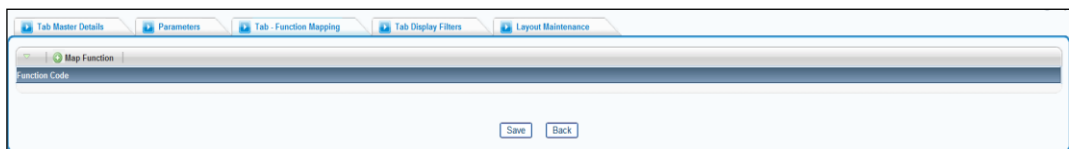
Figure 30. Tab Function Mapping tab

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**.
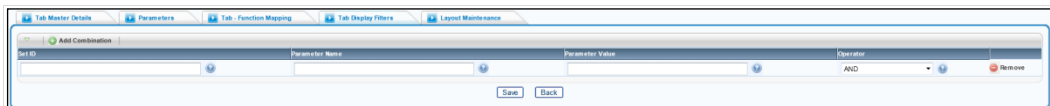
Figure 31. Tab Display Filters window

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 the **Layout Maintenance** tab.

Figure 32. Layout Maintenance tab

Field Name	Description and Remarks
Template Name	Select the template from the drop-down list.
Layout Type	Select Layout type from the drop-down list. The available values are **Standard** and **Custom**.
Layout Name	Select the name of the JSP satisfying the selected JSP template and Type from the drop-down list.
Help URL	Enter the location of the help file. Note: 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>>/
Help File	Enter the name of the help file.
Context	Enter the name of the context.
Topic	Enter unique id of the help topic which needs to be displayed for the tab.

7. Click **Save**.

4.2.4 Custom Tab Maintenance

From the LHS menu, expand **UI Configurations** and click **Tabs**. The *Custom Tab Maintenance* window is displayed.
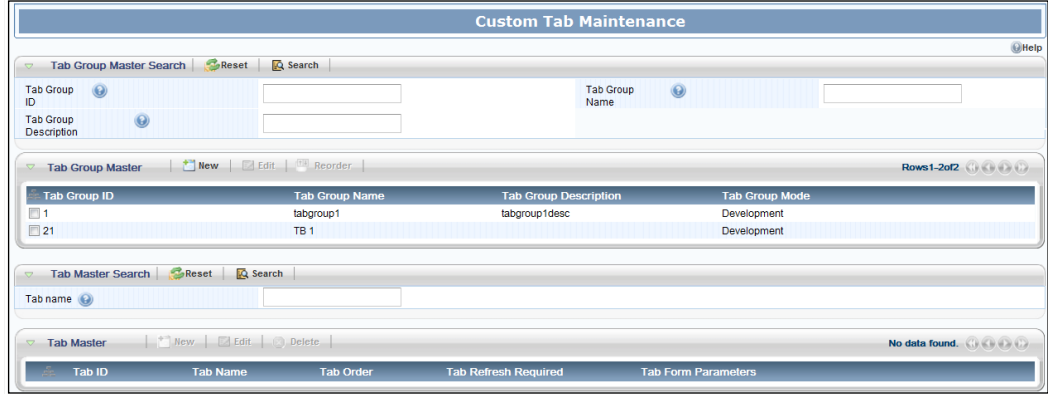
Figure 33. Custom Tab Maintenance window

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 Master Search* toolbar. Similarly, select a tab group and provide Tab Name, and then click **Search** in the *Tab Master 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 Master* toolbar to modify a tab.
Delete	Select the tab group and tab, and then click **Delete** in the *Tab Master* 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 tab should be displayed.

4.3 Forms

4.3.1 Overview

Forms are used to present application information in different formats using containers, and controls. Forms are placeholders for containers and the controls are embedded into containers.

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

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

4.3.2 Form Components

Following figures display different components present in the Application Forms. For more information on form components, see User Interface Components in Forms Manager section.

Figure 34. Form with different components
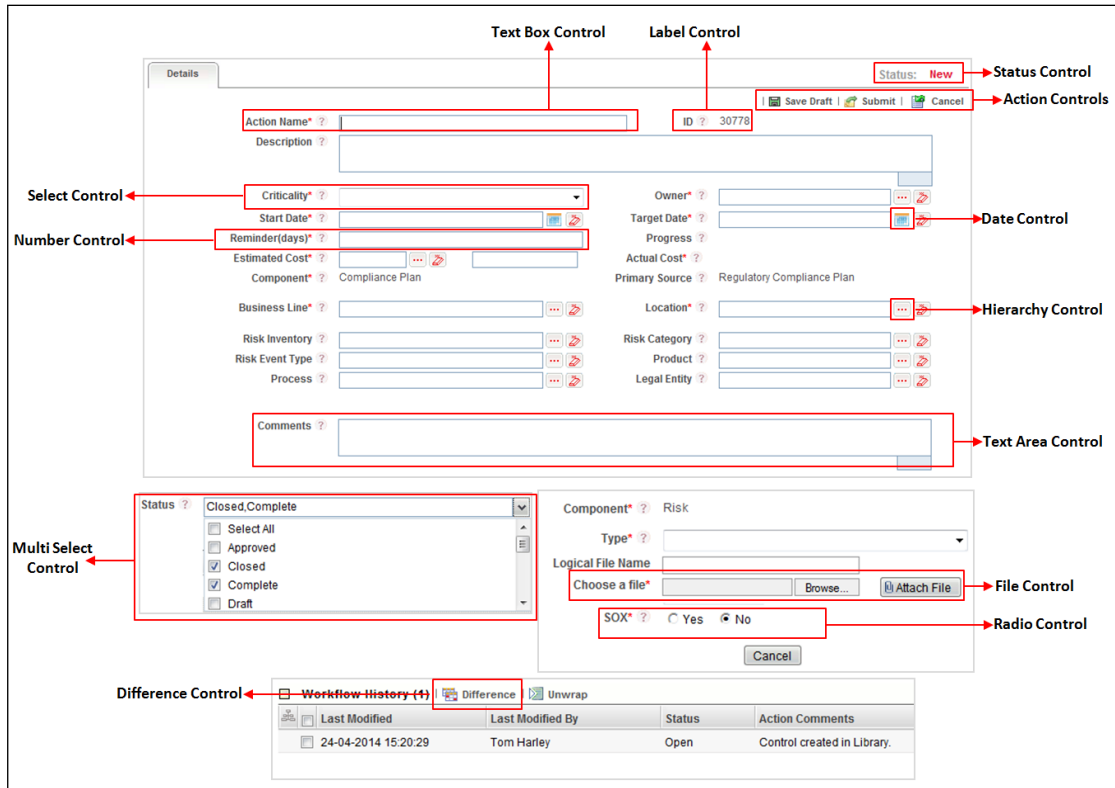
Figure 35. Form with different Controls

Figure 36. Frames and Scrollbars

Component Name	Referred location in Forms Manager to configure the component
Frame	Menu -> JSP Configurations -> Frames (In menu select Calling Method as JSP to get this screen)
Menu	Menu
Search & Filter Container	Forms -> Container -> Type Of Container -> Search Container
Grid Container	Forms -> Container -> Type Of Container -> Grid Container
Tab Container	Forms -> Container -> Type Of Container -> Tabbed Container
Difference Container	Forms -> Container -> Type Of Container -> Difference Container
Label Value Container	Forms -> Container -> Type Of Container -> Label Value Container
Button Container	Forms -> Container -> Type Of Container -> Button Container
Hierarchy Control	Forms -> Container -> Control -> Control Type -> Hierarchy Control
Checkbox Control	Forms -> Container -> Control -> Control Type -> Checkbox Control
URL Control (Hyperlink)	Forms -> Container -> Control -> Control Type -> URL Control
Label Control	Forms -> Container -> Control -> Control Type -> Label Control
Page Level Help	Forms -> Help URL + Help File Name
Number Control	Forms -> Container -> Control -> Control Type -> Number Control
Date Control	Forms -> Container -> Control -> Control Type -> Date Control
Grid Pagination	Forms -> Container -> Control -> Control Type -> Grid Control ->Pagination Option
List Control	Forms -> Container -> Control -> Control Type -> Select Control
Grid Toolbar	Forms -> Container -> Type Of Container -> Grid Toolbar
Link Label Control	Forms -> Container -> Control -> Control Type -> Link Label Control
Frame	Menu -> JSP Configurations -> Frames (In menu select Calling Method as JSP to get this screen)
Grid Toolbar	Forms -> Container -> Type Of Container -> Grid Toolbar
Link Label Control	Forms -> Container -> Control -> Control Type -> Link Label Control
Expand/ Collapse control	Forms -> Container -> Control ->Grid Control ->Collapse
Dropdown Control	Forms -> Container -> Control -> Control Type -> Dropdown Control
Textbox Control	Forms -> Container -> Control -> Control Type -> Textbox Control
Popup Form	Forms -> Overlay Form - Select 'N'
Text Area Control	Forms -> Container -> Control -> Control Type -> Text Area Control

Component Name	Referred location in Forms Manager to configure the component
Button Control	Forms -> Container -> Control -> Control Type -> Action Control
Difference Control	Forms -> Container -> Control -> Control Type -> Difference Control
Multi select Control	Forms -> Container -> Control -> Control Type -> Multi select Control
Grid HTMLABLE Control	Forms -> Container -> Control -> Control Type -> Grid HTMLABLE Control
Select Control	Forms -> Container -> Control -> Control Type -> Select Control
Audit Panel	Forms -> Container -> Type Of Container -> Audit Panel
File Control	Forms -> Container -> Control -> Control Type -> File Control
Action Tool Bar	Forms -> Container -> Type Of Container-> Grid Tool Bar
Textbox Control	Forms -> Container -> Control -> Control Type -> Textbox Control
Action Control	Forms -> Container -> Control -> Control Type -> Action Control
Expression Control	Forms -> Container -> Control -> Control Type -> Expression Control
Tool Tip	Forms -> Container -> Control -> Tool Tip
Contextual Help	Forms -> Container -> Control -> Context Help

4.3.3 Flowchart of Creating a Form
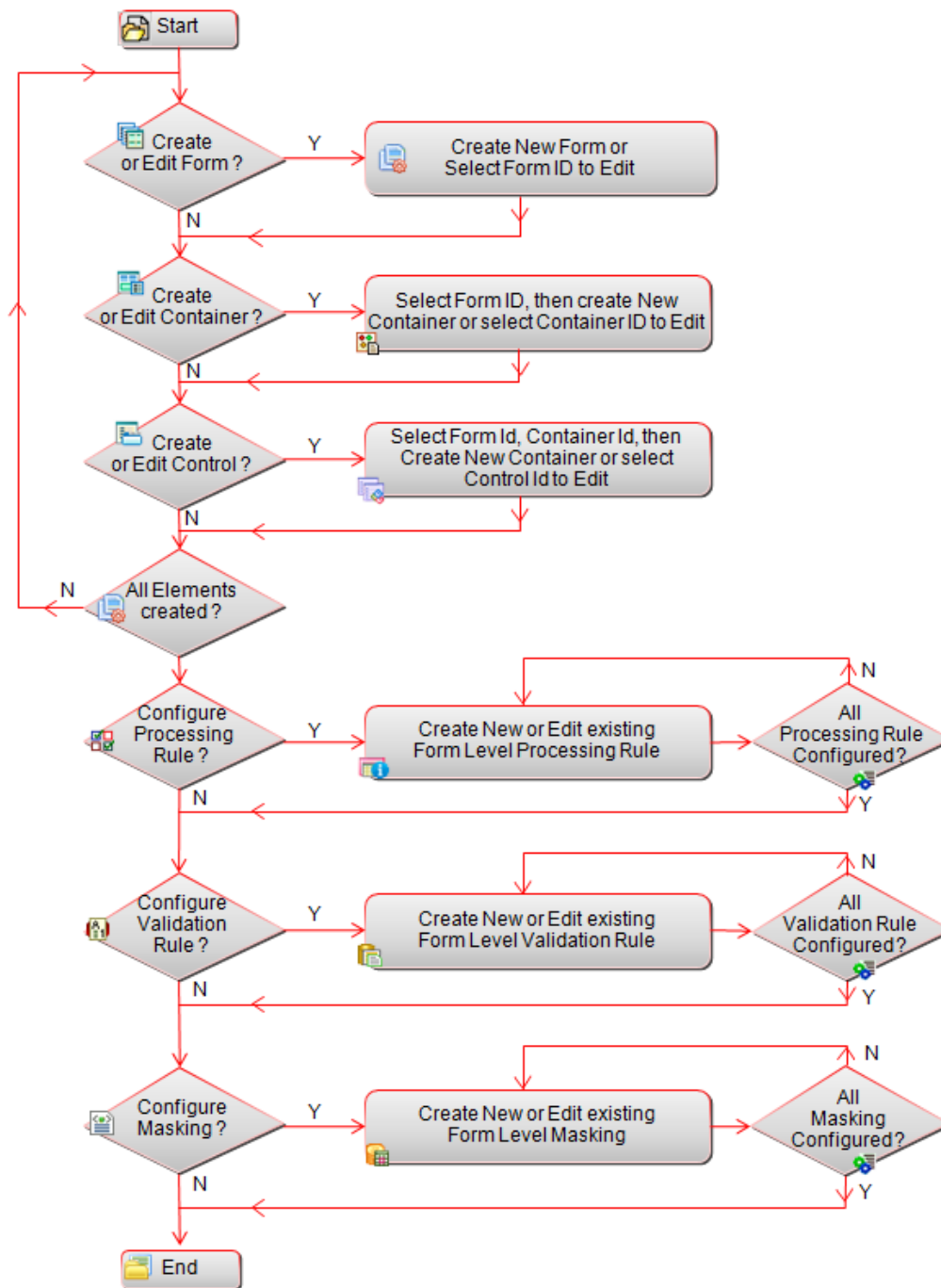
Figure 37.   Flowchart of creating a Form

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.

4.3.4 How to create a Form

Steps to create a new Form

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

2. Click **New** in the *Forms* toolbar. The *Forms Maintenance* window is displayed.

Figure 38. Forms Maintenance window

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Form Details	
Form Code*	Enter the unique code to identify the form.
	The form code for all Parent Forms should end with _P and for all pop up Forms it should end with _OPR.
	The form code should have a prefix "CS_".
	The form code/ID should not be more than 12 characters including "CS_".
Form Name*	This is the short and long description of form which will appear as a title of browser window.
	It is advisable to give some meaningful name with relevance to the function of the form.

Field Name	Description and Remarks
Overlay Form	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).
Print Required	Select **Y** if print icon needs to be displayed on top right side of the page for printing the page.
Dataset Entities	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).
Dataset 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.)
Order By	Enter the "Order By" clause of the database select query .Data in the grids will be sorted based on the order by condition.
Map Name	The mapper is used to filter the form data for security purposes. The mapper is defined through the Mapper Maintenance section in Unified Metadata Manager > Business Metadata Management module. For more details, see OFSAAI User Guide. Select the mapper code. After typing characters in the text field, mapper codes similar to the entered values will be popped up in the suggestion box. For example, suppose you have data for two regions, namely Mumbai and Delhi. And you want to display the data of Mumbai region to the users belonging to Mumbai region only. You can create a mapper based on this scenario and call that mapper here.
Navigation Path Required	Select **Y** if you want to display the navigation path, from the drop-down list.
Is Child Form	Select **Y** if the form you are creating is a child form, from the drop-down list. For a grid form or difference form, it should be always a child form.
Security DS Entities	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 and Remarks
Security DS Filters	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.
Help URL	Enter the location of the help file.
Help File Name	Enter the help file name.

3. Click the **Custom Messages** tab and click **Add.** There will be default messages available with the product. For example, if you search for a particular item and it is not present, then by default the message "No Data Found" will be displayed. If you want to replace that message with "No Data Found for this Search Criteria", you can define it here. You need to create the custom message from *Messages Maintenance* window.

Figure 39. Forms Maintenance- Custom Messages tab

Field Name	Description
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.

Field Name	Description
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.

4. Click **Save**.

4.3.5 How to Create a Container

1. From the *Forms Maintenance* window, select the form to which you want to add a container and click **New** in the *Containers* toolbar. The *Container Maintenance* window is displayed.

Figure 40. Container Maintenance window

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Container Details	
Form Code	Displays the code of the selected form.

Field Name	Description
Container ID*	Enter a unique id for the container. The Container ID should follow a sequence range from the number 200000 onwards.
Container Name	Enter the name of the container.
Type Of Container*	Select the type of the container from the drop-down list. The options are: ▪ DIFFERENCE CONTAINER (Type 7) - 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. ▪ GRID CONTAINEER (Type 5) - To draw grid in a form. This container can have only one Grid Control. ▪ GRID SPECIFIC TOOLBAR (Type 8) - To show controls in grid header. This container should be defined only in child forms, which are associated to the parent grid control. ▪ GRID HTMLTABLE CONTAINER (Type 6) - To define all the controls for a grid. This container should be defined only in child forms, which are associated to the parent grid control. ▪ BUTTON CONTAINER (Type 3) - To show Action button in a form without any border and header. Action button can be aligned left, middle, or right through this container. ▪ TABBED CONTAINER (Type 10) - To create tabs in a form. ▪ SEARCH CONTAINER (Type 11) - To draw search container which will show Clear/ Reset button with each control. ▪ NORMAL CONTAINER (Type 1) - To draw simple label value container. ▪ AUDIT PANEL- To show the audit details like created by, created date, last modified by and last modified date.
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.

Field Name	Description
No 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.
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.
Container Style	
Group Style	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.
Border	Select **Y** to display border to the container.
Collapse	Select **Y** to display the collapse button for the container. The Collapse property is not selected as N 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.
Header	Select **Y** to display header to the container.
Horizontal Group ID	Enter a unique id for all the horizontally aligned containers. Enter the same id to group the containers.
Container Width	Enter the width of the container.
Container Query	
Dataset Entities	For Container level query in a form. "From" clause of database select query to retrieve the data for the containers presented in the form .Length of this column is 4000 bytes, so for big query extra space should not be there and indentation is not required. When you are changing the Dataset Entities of a Container, do not unmap mandatory controls. Here, the business logic is changed to include or remove the controls. This applicable only if the forms query is used and no container queries are present.
Filter Condition	"Where" clause of database select query to filter data for the above 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.

2. Click **Save**.

4.3.6 How to Create a Control

Steps to create a new Control

1. From the *Forms Maintenance* window, select the form and the container to which you want to add a control, and click **New** in the *Controls* toolbar. The *Control Maintenance* window is displayed.

Figure 41. Control Maintenance window

Field Name	Description
Fields marked with red asterisk (*) are mandatory.	
Control Details	
Form Code	Displays the code of the selected form.

Field Name	Description
Container ID	Displays the unique id of the selected container. **Note**: New Control Id should follow a Sequence Range from the number 200000 onwards. If a new control is added in the grid column container, then ensure to update the number of columns in the parent form grid control specific properties. While you are adding new control in normal LV containers, ensure that the widths are modified according to the control placements, and it should not create distortion in screen.
Control ID*	Enter a unique id for the control.
Control Name*	Enter the name of the control.
Control Type*	Select the type of the control from the drop-down list. The options are: ▪ STATUS CONTROL- To display and highlight record status. It will not work in case of frame. Type 42 ▪ RADIO CONTROL- To show radio box. Type 1 ▪ CHECKBOX CONTROL- To show checkbox. Type 2 ▪ SELECT CONTROL- Single select drop-down with fixed values. Type 3 ▪ TEXTBOX CONTROL- Simple text box control. Type 7 ▪ TEXTAREA CONTROL- To enter big data. Type 39 ▪ NUMBER CONTROL- Allows to enter numbers only. Type 10 ▪ DATE CONTROL- To show control with calendar. Type 11 ▪ LABEL CONTROL- Non editable text control. Type 13 ▪ ACTION CONTROL- Simple action button used without any image. Type 22 ▪ URL CONTROL- Action button to show in header with image. Type 25 ▪ LINK LABEL CONTROL- To show a text as link. Type 38 ▪ HIERARCHY CONTROL- To show data after fetching from hierarchy. Type 41 ▪ FILE CONTROL- To upload a document. Type 44 ▪ HISTORY CONTROL- To insert data in history table while performing DML operation. Type 66 ▪ DIFFERENCE CONTROL- URL control and it calls a particular function to open difference container. Type 99 ▪ MULTISELECT CONTROL- Drop-down control which will fire dynamic query to fetch data. Type 102 ▪ GRID CONTROL- To call grid form. Type 50 ▪ EXPRESSION CONTROL- To show count with an image. Type 71.

Field Name	Description
	▪ IMAGE LABEL CONTROL- ▪ RICHTEXT CONTROL- To enter rich text. Based on the control type you select, the corresponding control details tab is displayed.
Table Name	Enter the name of the table to which the control points for DB operations.
Column Name	Enter the name of the column of table to which the control points for DB operations.
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.
Is Primary Key	Select **Y** to specify if the control is a primary key. Default sequence for primary key is "Tasks". When you are changing the Control Primary Key attribute, the corresponding changes has to be done in the database.
PK Sequence	Enter the sequence number if the Primary key has been selected from a specified sequence. **Note**: For LV container, sequence should be maintained in container definition and also should specify the corresponding row number in each control definition. If a change is made in the order of one control, all the controls need to be arranged accordingly. The control widths also should be changed accordingly.
Is Used In Db Operation	Select **Y** if this control is used in database operation.
Db Operation Mode	Click [...] and select the DB operation mode from the popup. The available modes are Select, Insert, Delete, and Update.
Row Number*	Enter the row number of the control. For example, if you want the control to appear in the 3rd row in the container, enter Row Number as 3. When you are changing the Row number of control, ensure to modify the control width in control definition. Data: To change the width of text Label : To change the width of label **Note** : In each row, the total width of controls should not be more than 100 or else, the alignment will be affected.

Field Name	Description
Sequence*	Enter the sequence of the control in the row. For example, if you want the control to appear as 2nd item in the 3rd row, enter Row Number as 3 and Sequence as 2.
	When you are changing the Sequence of control, ensure to modify the control width in control definition.
	Data: To change the width of text.
	Label : To change the width of label.
	Note : In each row, the total width of controls should not be more than 100 or else, the alignment will be affected.
Control Label Width	Enter the width of the control's label.
Control Text Width	Enter the width of the control's text.
Control Query Details	
Select	Mention the columns or values to be selected from database.
From	Mention the database tables / views from where data should be fetched.
Where	Mention the selection / filter criteria while fetching data from database.
Dim Entity PKs	Primary key of the reference table used for hierarchy.
Masking	
Masking Required	Select **Y** if masking is required for the control. Change the Render mode along with this option.
	This is to apply masking based on the masking rights for each role.
Code For Masking	Enter the masking Code which is present in the masking rights table.
Group By	Select **Y** if you want to add Group By clause while generating the page query. Data will be presented as Grouped by this control. This is applicable for controls in a grid container.
	For example, you have a status control in a grid container which has 3 statuses such as Open, Draft and Closed. If you enable Group By and you right click on the Status column and select Group By Tree, then it will display three tree structures, each tree for each status.
	The description expression configured for the Control should not be a sub query.
	It is not required to configure for controls with unique values, URL controls, and expression controls.

Field Name	Description
Is Sort By	Select **Y** if you want to add Order By clause while generating the page query. Data will be sorted based on this control. This is applicable for controls in a grid container.
	If you are changing order of the control from N to Y, then it is not required to configure for controls with URL controls and expression controls.
	If you are changing order of the control from N to Y, then it is not required to configure for controls with URL controls and expression controls.
Transpose	Select **Y** if you want to transpose the grid. This is applicable for controls in a grid container.
Field Chooser	Select **Y** if you want the control to be present among the list of field chooser. This is applicable for controls in a grid container only.
	If this is enabled, you can right click on the control and choose whether to display this control or not.
Column Display	Select **Y** to display the control as a column in the grid. This is applicable for controls in a grid container only.
	When you are changing Column Display from Y to N, ensure that there are no validation defined on the column before changing to Y to N.
Wrap	Select **Y** to wrap the control.
	Note: Wrap can be done only on Text Area (Type 39).
	If it is set as Y, then TOOLTIPREQUIRED should be N. Both, Wrap and Tool Tip should not be together enabled.
	NUMBEROFCHAR is used to specify after how many characters wrap should happen for a column
Render Mode	Select the render 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.
	Make required changes in masking as well.
Default Value	Enter the default value assigned to the control. Select the correct default value, based on the control type.
Mandatory	Select **Y** to specify the control is mandatory.
Format Req	Select **Y** if a format is required for the control. This is applicable for Date Control.
Format	Enter the format for the control if you have selected **Y** for **Format Req** field.
	For example, you can select DD/MM/YYYY format.

Field Name	Description
Tab Order	Specifies the control belongs to tab select.
Css Class Name	Enter the style sheet class applicable for the control.
Default Readonly 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.
Tool Tip	Enter the tool tip to be displayed for the control.
Context Help	Enter the context help of the control.

2. Click the **Parameters** tab and click **Add Parameter.** The *Control Maintenance-Parameters* window is displayed.

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.
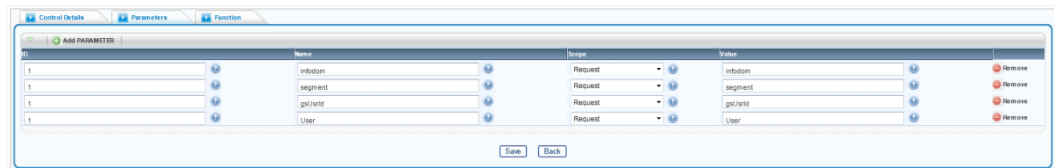
Figure 42. Control Maintenance- Parameters *tab*

Field Name	Description
ID	Enter a unique Id of the parameter.
Name	Enter the name of the parameter. For example, you need to pass the hierarchy to be called as a new parameter if you are using a hierarchy control. To apply validation rule for a control, you can add it as a parameter here. The new parameter name should have a prefix "CS_". The parameter names are case sensitive. Use session scope parameters to pass logged in user id.
Scope	Select the scope of the parameter from the drop-down list. The options are Static, Form, Request, and Session.
Value	Enter the value of the parameter.
Remove	Click **Remove** corresponding to the parameter you want to remove.

3. Click the **Function** tab and click **Add Functions**. The *Control Maintenance-Function* window is displayed.

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.
Value	Enter the function name.
	For example, for action control for saving a form, you need to call the function SaveContainerAsDraft.
Parameters	Enter the function parameter id.
	Note: Reserved parameters should be passed by the added functions.
Remove	Click **Remove** corresponding to the function you want to remove.

4. Click **Save**.

4.3.6.1 Grid Control

Figure 43. Grid Control 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.
Col 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).
Is Child Form	Select **Y** if the grid will be linked to a child form.
Child Form Id	Select the Id of the child form to be linked to the grid control.
Group Style	Select the style sheet class applicable for the grid control. See the Available grid container stylesheets.
Is Tooltip Req	Select **Y** if tooltip is required.
Is Editable	Select **Y** if the grid needs to be editable.
Do Group By	Select **Y** if data in the grid will be grouped by.
Is Group By Tab	Select **Y** if grid columns will be grouped and displayed as tabs. If this is enabled, you will get Group By Tab option when you right-click on the grid.
Do Transpose	Select **Y** if grid columns will be transposed. In this view, the grid columns will be displayed in the left hand side as a fixed column and you can view the records by scrolling horizontally.
Role Code Col	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 Col	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.
Mask Rights Col	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.
Check Box Req	Select **Y** if checkbox is required.
Check Box Display Req	Select **Y** if checkbox display is required.
Nav Req	Select **Y** if you want to show the navigation path.

Field Name	Description
Persist Selected Row Id	Select **Y** if selected control id will be used as tracker variable.
Grid Border Req	Select **Y** if border is required for the grid. Border will not be enabled, only if selected group style is not supporting the same.
Message	Enter the message to be displayed when no data is fetched in the grid.
Collapse Button Req	Select **Y** if Collapse button is required for the grid. This option should not be removed, if the Container is displayed in minimized mode.
Pagination Option	Select **Y** if pagination is required.
Multi Select Req	Select **Y** if Multi Select is required for the grid.
Grid Level Wrap	Select **Y** if Grid level wrap button is required for the grid. Ensure to add the same entry in Headers, if applicable, while changing from N to Y.
Grid UnWrap Image	Enter the name of the grid level unwrap image.
Grid Wrap Image	Enter the name of the grid level wrap image.
Checkbox Action Req	Select **Y** if checkbox action is required.
Grid Validation Req	Select **Y** if grid validation is required.
No Page Border Req	Select **Y** if page border is required. This should not be changed if the page border is not present.
Row Action Req	Select **Y** if action is required on clicking the row. When Action required is made from Y to N, ensure Checkbox option is used. When Action required is made from N to Y, the knowledge about the called unit and the necessary parameters to be passed for proper functioning is required.
Distinct Clause	Select **Y** to avoid duplicate values.
Grid Minimize Req	Select **Y** to display the grid minimization button. When you are changing from N to Y, ensure that the Collapse option is used.
Autofit	Select **Y** to enable auto fit.
Autofit Max Cols	Enter the maximum number of columns if auto fit is enabled. The maximum number column should not be more than the number of Columns.
Group By	Select **Y** if you want to add Group By clause while generating the query. Data will be presented as Grouped by certain column.

Field Name	Description
Sort By	Select **Y** if you want to add Order By clause while generating the query. Data will be sorted based on certain column. Note: Ensure that Sort By is used in Form Filter condition.
Grid CSS Required	Select **Y** if style sheet is required for the grid.
Grid Status	Enter the status of the grid.
Col Span Present	Select **Y** if colspan is present in the grid. If column span is made from N to Y, then all the controls in that grid are required to be put under a span tag. That is, even if a control is not required to be under a span, a dummy span is created without any label and the control is put under that.

Click the **Grid Header Details** tab.

Figure 44. Grid 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.
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.
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.

Field Name	Description
Pagination Options Req	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.
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.

4.3.6.2 CheckBox/ Radio Control
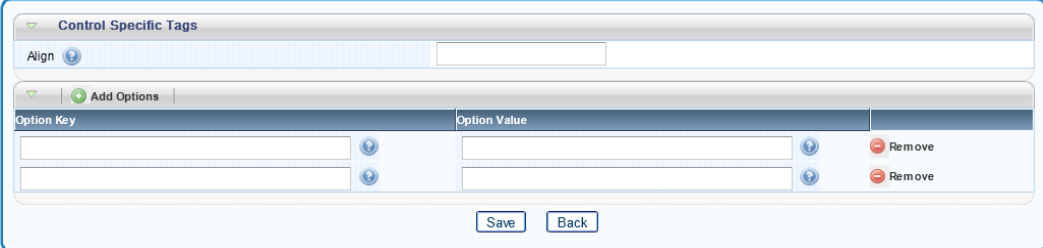
Figure 45. CheckBox/ Radio Control Details tab

Field Name	Description
Align	Enter the alignment of the checkbox/ radio control in the form namely left, center, or right.
Add Options Click **Add Options** to add the optional values for the checkbox/ radio control and enter the details of the options.	

Field Name	Description
Option Key	Enter a unique id to the checkbox/ radio control.
	When you are changing/removing the Option Key Values, ensure that change does not impact the rule validation, in case, any rule validations are applied to the Option Keys.
Option Value	Enter the value corresponding to the checkbox/ radio control.

4.3.6.3 Date Control

Figure 46. Date Control Details tab

Select **Y** if you want the user to enter the date in addition to select the date from the calendar.

4.3.6.4 Difference Control

Figure 47. 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.

4.3.6.5 Hierarchy Control

Figure 48. Hierarchy Control Details tab

Field Name	Description
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.
Node Identifier	Enter the construct node identifier. The values are Y or N.
Is Multi SelectControl Toolbar	Select **Y** to enable the Multi SelectControl toolbar.
Is Hierarchy Main Toolbar	Select **Y** to enable the Hierarchy Main toolbar.
Is DropDown	Select **Y** 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 Y to N and N to Y, ensure that it would not cause any issue in the existing functionality.
Is Multi Select	Select **Y** to enable multiple selections of hierarchies.
Is Suggest Req	Select **Y** if suggest option is required.
Suggest Size	Enter the size of the suggestion list.
Link to Open	Link to open (e.g. JSP Name)

Click the **Dynamic Filter Condition** tab. Click **Add**.

Figure 49. Dynamic Filter Condition tab

Field Name	Description
ID	Enter a unique Id of the dynamic filter to be invoked.
Name	Enter the condition expression of the dynamic filter.
Scope	Enter the scope of the dynamic filter.
Value	Enter the value to be passed to the dynamic filter.

4.3.6.6 Image Label Control

Figure 50. Image Label Control Details tab

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.
No of Columns	Enter the number of columns.

4.3.6.7 Action/ Link Label Control

Figure 51. Layout- Frame Configuration tab

Field Name	Description
Template Name	Select the JSP template from the drop-down list.
Layout Type	Select JSP type from the drop-down list. This value determines if the user wants to create a new JSP following a standard template or a customized JSP. The available values are **Standard** and **Custom**.
Layout Name	Select the name of the JSP satisfying the selected JSP template and Type from the drop-down list.
Help URL	Enter the location of the help file. This 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>>/
Help File	Enter the name of the help file.
Context	Enter the name of the context.

Field Name	Description
Topic	Enter unique id of the help topic which needs to be displayed for the menu.

4.3.6.8 Multi Select Control

Figure 52. MultiSelect Control Details tab

Field Name	Description
Dropdown Height	Specify the drop-down height for the MultiSelect Control.
Ctrl Behavior	Based on this value, format of the dropdown will change. (0- multi-select with control, 1- multi-select, 2- single select).
Dropdown Width	Specify the width of the drop-down.
Value Col Name	Specify the table in which the values of the drop-down list are stored. This should be in <table_name>.<column_name> format.

4.3.6.9 Number Control

Figure 53. Number Control Details tab

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.
No Of Digits After Decimal	Enter the number of digits allowed after the decimal point.
Currency Group ID	Enter the currency group id.

4.3.6.10 Rich Text Control

Figure 54. Rich Text Area Control Details tab

Field Name	Description
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.
No of Rows	Enter the number of rows to be displayed in the text area.

4.3.6.11 Select Control

Figure 55. Select Control Details tab

Field Name	Description
Multiselect	Select Y if multi select is required.
Add Options	
Click **Add Options** to add the optional values for the select control and enter the details of the options.	
Option Key	Enter a unique id to the select control.
Option Value	Enter the value corresponding to the select control.

4.3.6.12 Status Control

Figure 56. Status Control Details tab

Field Name	Description
Is Child Form	Select **Y** if the Status control to be displayed from a child form.

Field Name	Description
Child Form ID	Enter the child form id if you have selected **Y** in the **Is Child Form** drop-down list.
Entity Type	Enter the unique identifier for the module in the application.

4.3.6.13 Text Area Control

Figure 57. Text Area Control Details tab

Field Name	Description
No of Columns	Enter the number of columns to be displayed in the text area. Care needs to be taken when you are changing the number of columns to be displayed in Text Area. This may hamper the alignment of other controls in the LV container.
No of Rows	Enter the number of rows to be displayed in the text area.
Minimum Length	Enter the minimum length of the text area.
Maximum Length	Enter the maximum length of the text area.
No Of Characters	Maximum number of character that can be typed in the text area.
Is Tool Tip Required	Select **Y** to display Tool tip for the control.
Expand	Select **Y** if the text area is expandable. If wrap is required, then make WRAP tag as Y and TOOLTIPREQUIRED as N. Both, Wrap and Tool Tip should not be enabled together. NUMBEROFCHAR is used to specify after how many characters wrap should happen for a column.
Char Count Req	Select **Y** to display the character count. If wrap is required, then make WRAP tag as Y and TOOLTIPREQUIRED as N. Both, Wrap and Tool Tip should not be enabled together. Applicable for grid column controls only.

4.3.6.14 Text Box Control

Figure 58. Text Box Control Details tab

Field Name	Description
Minimum Length	Enter the minimum length of the text box.
Maximum Length	Enter the maximum length of the text box.
Currency Group ID	Enter the currency group id.

4.3.6.15 URL Control

Figure 59. URL Control Details tab

Field Name	Description
Associated Image	Configure the image that is displayed with the URL.
Text Along With Image	Enter the text that is displayed with the URL.
Action Right	Used for Masking
Url in Tool Bar	Select Y to display URL in toolbar. 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>>/
Add Image	
Name	Enter the name of the image
Operator	Enter the operator.
Value	Enter the value.
Enable	Select **Y** to enable the control.

4.3.7 Forms Maintenance

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

NOTE: When you select a form, all containers available in the form will be displayed under *Containers* grid. Similarly, when you select a form and a container, all controls defined in the container are displayed in the *Controls* grid.
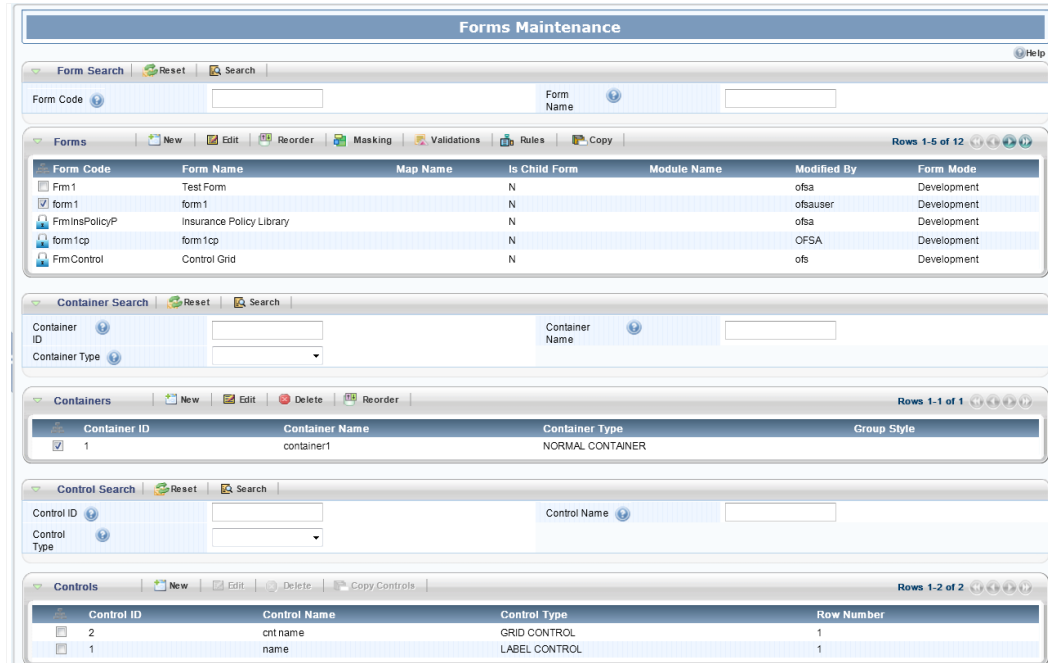
Figure 60. Forms Maintenance window

Action	Description
Search	Search for a form by providing **Form Code** and **Form Name** and clicking **Search** in the *Form Search* toolbar.
	Similarly, select a form, provide **Container ID**, **Container Name**, and **Container Type,** and click **Search** in the *Container Search* toolbar to search for container.
	Select a form and container, provide **Control ID**, **Control Name**, and **Control Type,** and click **Search** in the *Control Search* toolbar to search for control.
Modify	Select a form and click **Edit** in the *Forms* toolbar to modify a form.
	Select the form and container and then click **Edit** in the *Containers* toolbar to modify a container.
	Select the form, container, and control and then click **Edit** in the *Controls* toolbar to modify a control.

Action	Description
Delete	Select a form and click **Delete** in the *Forms* toolbar to delete a form. Select the form and container and then click **Delete** in the *Containers* toolbar to delete a container. **Note**: It is recommended to hide the Container instead of deleting. Select the form, container, and control and then click **Delete** in the *Controls* toolbar to delete a control.
Reorder	Select a form and click **Reorder** to change the order of the already created containers within the form. See Reordering Containers in a Form. Select a container and click **Reorder** to change the order of the already created controls within a container. See Reordering Controls in a Container.
Masking	Select a form and click **Masking** to apply masking rules to a container/ control. See Masking of Container/ Control.
Validation	Select a form and click **Validation** to apply validation rule to the selected form. See Validation Rule.
Rules	Select a form and click **Validation** to apply processing rules to the selected form.
Copy	Select a form and click **Copy** to create a form based on another form. Enter a Form Code and change the details as required to create a copy of form.

4.3.8   Reordering Containers in a Form

1. From the *Forms Maintenance* window, select the form whose containers you want to reorder and click **Reorder** in the *Forms* toolbar. The *Reorder Container* window is displayed.
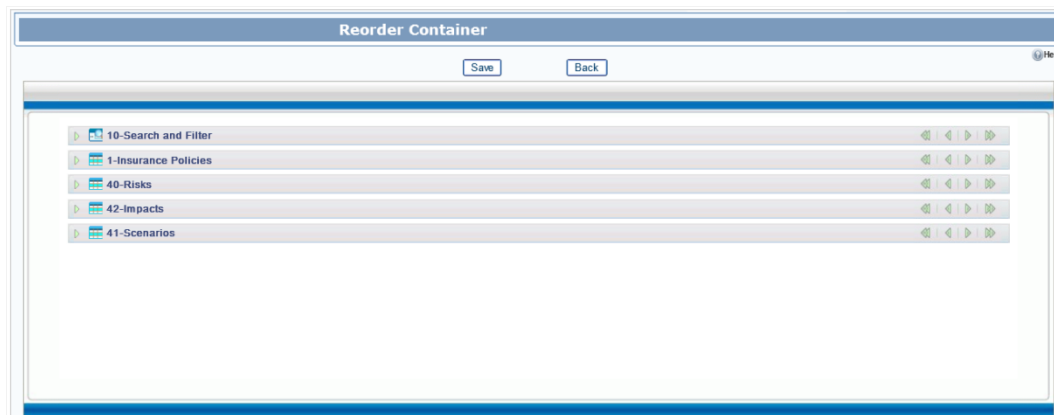
Figure 61. Reorder Container window

2. Click and drag to reorder the containers.

3. Click **Save**.

4.3.9   Reordering Controls in a Container

1. From the *Forms Maintenance* window, select the container whose controls you want to reorder and click **Reorder** in the *Containers* toolbar. The *Reorder Controls* window is displayed.
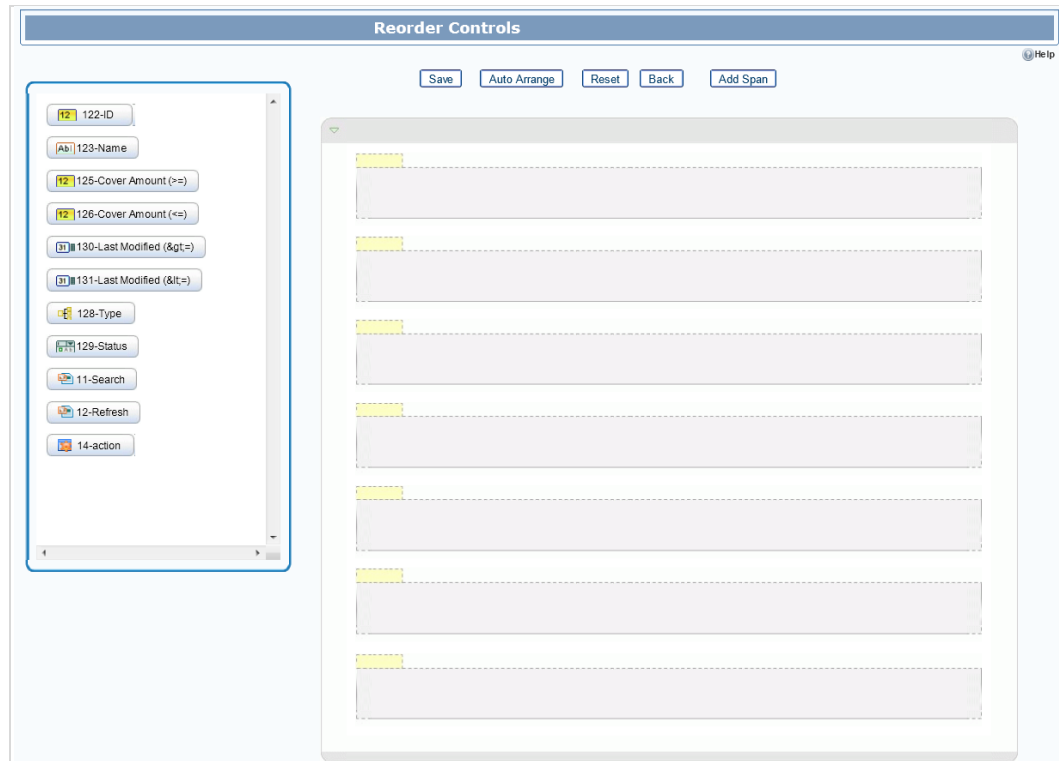
Figure 62. Reorder Controls window

2. Click and drag each control appearing on the left side to the required container.

3. Click **Auto Arrange** to arrange the controls based on the order defined during creating the control.

4. Click **Add Span** to add a span area. You can drag a control to the span area.

5. Click **Save**.

4.3.10 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 *Forms Maintenance* window, select a form and click **Masking** in the *Forms* toolbar. The *Masking Parameters* window is displayed.

Figure 63. Masking Parameters window

Field Name	Description
Form Id	Displays the unique Form Code of the form selected for masking.
Roles	Select the role from the drop-down lists. Users with the selected role only will have access to the form.
Form Status	Enter the form status, which will define a set of masking for all the controls for a role. If this is not set, it will be taken as NULL.
	For example, for status "Open" we can set Form Status = 1 and it will apply masking set 1 for role 1. For status "Close" we can set Form Status =2 and it will apply masking set 2 for role 1.
Parent Mode	Select **1** or **2** to apply form level masking from the drop-down list. Select **1** to make all controls in the form in Read only or View mode. Select **2** to make all controls in the form in editable mode.
	Note: Hidden controls will be always hidden irrespective of Parent Mode.

Field Name	Description
Parent Status	Enter the Parent status, which will define a set of masking for all the controls for a role. If this is not set, it will be taken as NULL.
	For example, for Type ""T1"" we can set Parent Status = 12 and it will apply masking set 1 for role 1. For Type ""T2"" we can set Parent Status =13 and it will apply masking set 2 for role 1.
Mask By (Container/Control)	Select the Container/ Control and click the checkbox under **Editable**, **Disabled**, 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 render mode of container or control (defined during its creation) is Hidden, then making it Editable or Disabled from this screen does not have any impact.
	Even though the render mode of a container or control is defined as Viewable while you create it, if you make it Editable from this screen

2. Click **Save**.

4.3.10.1 Scenario 1

Consider a Risk Application.

Note: This scenario does not take the Parent Status, Parent Mode, and Form Status into consideration.

User Roles:

- Risk Owner- can create risk, modify risk, and delete risk.
- Risk Assessor- can assess risk.
- Challenger- can challenge a risk assessment.

Applying Masking Rules for the form, "RiskForm"

Suppose when a menu called "Risks" is clicked, the form called "RiskForm" is invoked. This "RiskForm" contains the following containers:

- Search Container
- Risks(grid container)
- Risks (grid specific toolbar container)
- Create Risk(URL Control)
- Delete Risk(Action Control)

- Assess Risk (URL Control)

You need to define the masking rules for each role.

Steps to apply masking for the "Risk Owner" role

1. From the *Forms Maintenance* window, select "Risks" form and click **Masking** in the *Forms* toolbar. The *Masking Parameters* window is displayed.

2. Select "Risk Owner" from the **Roles** drop-down list.

3. Select the checkbox corresponding to **Editable** for all controls in the Search container since the Risk Owner can search and view risks.

4. Select the checkbox corresponding to **Editable** for Risks grid container (this has only one grid control).

5. Select the checkbox corresponding to **Editable** for Risks grid specific toolbar container.

6. Select the checkbox corresponding to **Editable** for Create Risk control and Delete Risk control.

7. Select the checkbox corresponding to **Disabled** for Assess Risk control since a risk owner cannot assess a risk.

Steps to apply masking for the "Risk Assessor" role

1. Select "Risk Assessor" from the **Roles** drop-down list.

2. Select the checkbox corresponding to **Editable** for all controls in the Search container since the Risk Owner can search and view risks.

3. Select the checkbox corresponding to **Editable** for Risks grid container (this has only one grid control).

4. Select the checkbox corresponding to **Editable** for Risks grid specific toolbar container.

5. Select the checkbox corresponding to **Disabled** for Create Risk control and Delete Risk control since a risk assessor cannot create or delete risks.

6. Select the checkbox corresponding to **Enabled** for Assess Risk control since a risk assessor can assess a risk.

Steps to apply masking for the "Challenger" role

1. Select "Risk Assessor" from the **Roles** drop-down list.

2. Select the checkbox corresponding to **Editable** for all controls in the Search container since the Risk Owner can search and view risks.

3. Select the checkbox corresponding to **Editable** for Risks grid container (this has only one grid control).

4. Select the checkbox corresponding to **Editable** for Risks grid specific toolbar container.

5. Select the checkbox corresponding to **Disabled** for Create Risk control and Delete Risk control since a risk assessor cannot create or delete risks.

6. Select the checkbox corresponding to **Enabled** for Assess Risk control since a risk assessor can assess a risk.

Suppose when the URL control "Create Risk" is clicked, it opens the form by the name "Create Risk Details" and when the URL control "Assess Risk" is clicked, it opens the form by the name "Assess Risk Details".

Applying Masking Rules for the form, "Create Risk Details"

The "Create Risk Details" contains the following containers and controls:

- Risk Details (Normal container)
  - Risk ID (Label control)
  - Risk Name (Text Box control)
  - Business Line (Hierarchy control)
- Save (Button container)
  - Save (Action control)
  - Cancel (Action control)

Steps to apply masking for the "Risk Owner" role

1. From the *Forms Maintenance* window, select "Create Risk Details" form and click **Masking** in the *Forms* toolbar. The *Masking Parameters* window is displayed.

2. Select "Risk Owner" from the **Roles** drop-down list.

3. Select the checkbox corresponding to **Editable** for Risk Details normal container and all its associated controls since the risk owner can create risk.

4. Select the checkbox corresponding to **Editable** for the Save button container and all its associated controls.

Steps to apply masking for the "Risk Assessor" role

1. From the *Forms Maintenance* window, select "Create Risk Details" form and click **Masking** in the *Forms* toolbar. The *Masking Parameters* window is displayed.

2. Select "Risk Assessor" from the **Roles** drop-down list.

3. Select the checkbox corresponding to **Disabled** for all the containers and controls since a risk assessor cannot create a risk.

Steps to apply masking for the "Challenger" role

1. From the *Forms Maintenance* window, select "Create Risk Details" form and click **Masking** in the *Forms* toolbar. The *Masking Parameters* window is displayed.

2. Select "Challenger" from the **Roles** drop-down list.

3. Select the checkbox corresponding to **Disabled** for all the containers and controls since a challenger cannot create a risk.

Applying Masking Rules for the form, "Assess Risk"

The "Assess Risk" form contains the following containers and controls:

- Risk Details (Normal container)
    - Risk ID (Label control)
    - Risk Name (Text Box control)
    - Business Line (Hierarchy control)
- Assessment Details (Normal container)
    - Number of Events per Annum(Number control)
    - Likelihood Rating(Select control)
    - Impact Rating(Select control)
- Save (Button container)
    - Save (Action control)
    - Challenge Assessment(Action Control)
    - Cancel(Action Control)

Steps to apply masking for the "Risk Owner" role

1. From the *Forms Maintenance* window, select "Assess Risk" form and click **Masking** in the *Forms* toolbar. The *Masking Parameters* window is displayed.

2. Select "Risk Owner" from the **Roles** drop-down list.

3. Select the checkbox corresponding to **Disabled** for Risk Details normal container and all its associated controls since all the fields should be displayed as Readonly.

4. Select the checkbox corresponding to **Disabled** for Assessment Details normal container and all its associated controls since a risk owner cannot assess a risk.

5. Select the checkbox corresponding to **Disabled** for the Save button container and all its associated controls since a risk owner cannot assess a risk.

Steps to apply masking for the "Risk Assessor" role

1. From the *Forms Maintenance* window, select "Assess Risk" form and click **Masking** in the *Forms* toolbar. The *Masking Parameters* window is displayed.

2. Select "Risk Assessor" from the **Roles** drop-down list.

3. Select the checkbox corresponding to **Disabled** for Risk Details normal container and all its associated controls since all the fields should be displayed as Readonly.

4. Select the checkbox corresponding to **Enabled** for Assessment Details normal container and all its associated controls since a risk assessor can assess a risk.

5. Select the checkbox corresponding to **Enabled** for Save and Cancel controls in the Save button container.

6. Select the checkbox corresponding to **Disabled** for Challenge Assessment control since an assessor cannot challenge an assessment.

Steps to apply masking for the "Challenger" role

1. From the *Forms Maintenance* window, select "Assess Risk" form and click **Masking** in the *Forms* toolbar. The *Masking Parameters* window is displayed.

2. Select "Challenger" from the **Roles** drop-down list.

3. Select the checkbox corresponding to **Disabled** for Risk Details normal container and all its associated controls since all the fields should be displayed as Readonly.

4. Select the checkbox corresponding to **Disabled** for Assessment Details normal container and all its associated controls since a challenger cannot assess a risk.

5. Select the checkbox corresponding **Disabled** for Save and Cancel controls in the Save button container since a challenger cannot save an assessment.

6. Select the checkbox corresponding to **Enabled** for Challenge Assessment control since a challenger can challenge an assessment.

4.3.11 Validation Rule

4.3.11.1 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 form 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 expression is satisfied.

- **Expression** - It provides the provision to enter the result (java script function/ method) which will be invoked when the condition is satisfied.

4.3.11.2 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])"

4.3.11.3 How to Create Validation Rules

1. From the *Forms Maintenance* window, select a form and click **Validation** in the *Forms* toolbar. The *Validation Rules* window is displayed.
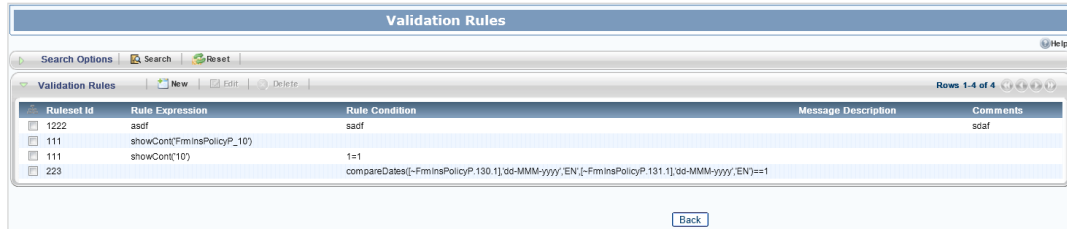
Figure 64. Validation Rules window

2. Click **New** in the *Validation Rules* toolbar. The *Validation Rules* window is displayed.
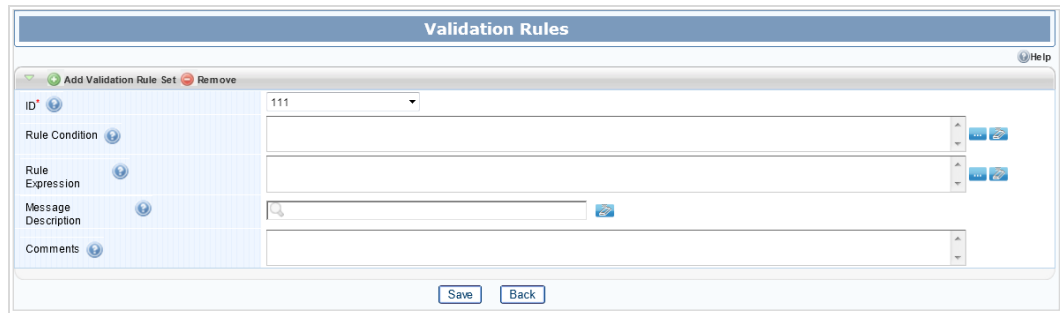
Figure 65. Validation Rules- New window

Field Name	Description
ID	Click **Add Validation Rule Set** and enter a new unique rule set id in the **Item ID** field. Click **Save**. From the **ID** drop-down list, select the rule set id you want to add. You should use the specific range while adding custom messages. This should follow a sequence range from the number 200000 onwards. The Message Identifier should have a prefix "CS_". For example, CS_ADD_OPERATION_SUCCESSFUL.
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. For complete list of standard Java Script functions, see to Appendix.

Field Name	Description
Rule 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 Description	Enter the message which will pop up when a rule condition is satisfied.
Comments	Enter any comments if required. This will be used for audit purpose only.

3.   Click **Save**.

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

4.3.12 How to Create Processing Rule

NOTE: The processing rules are executed on the server.

1.   From the *Forms Maintenance* window, select a form and click **Rules** in the *Forms* toolbar. The *Processing Rules* window is displayed.
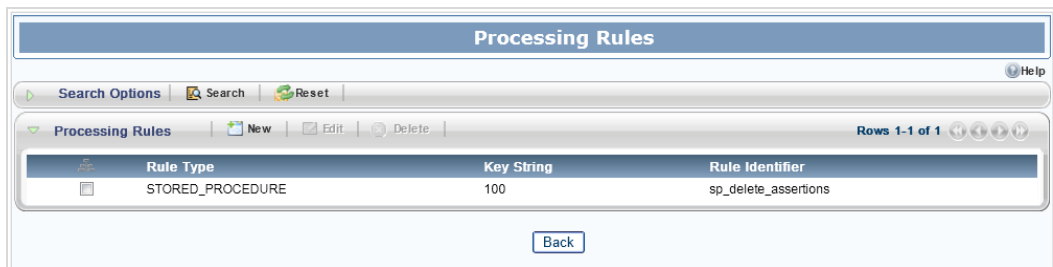
Figure 66. Processing Rules window

2.   Click **New** in the *Processing Rules* toolbar. The *Processing Rules* window is displayed.
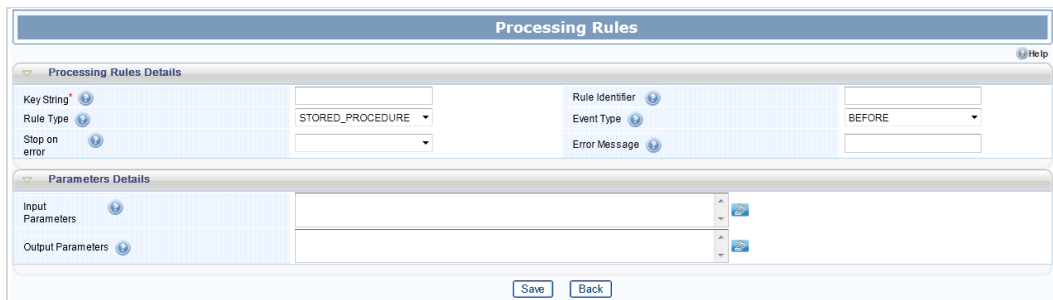
Figure 67. Processing Rules- New window

Field Name	Description
Key String	Enter a unique ID for the processing rule.
Rule Identifier	Enter the name of the processing rule.
Rule Type	Select the type of the rule to be executed from the drop-down list. **STORED_PROCEDURE**- to call any stored procedure. **RUN RULE**- to call any PR2 fire run.
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.
Stop On Error	Select **Y** if you want the server side to be aborted on failure.
Error Message	Enter the message to be popped up if there is an error.
Input Parameters	Enter the parameters required for rule to get executed.
Output Parameters	Enter the expected output parameter of the rule.

4.3.13 How to invoke a Form?

Form 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.

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

4.3.13.1 Invoke Form through Menu
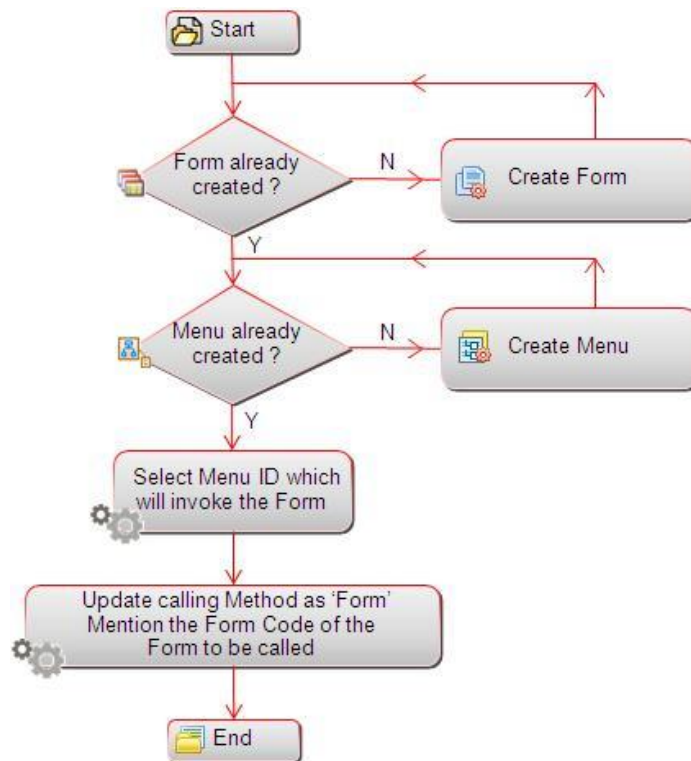
Figure 68. Flowchart to invoke form through menu

4.3.13.2   Mapping Forms to Layout Template
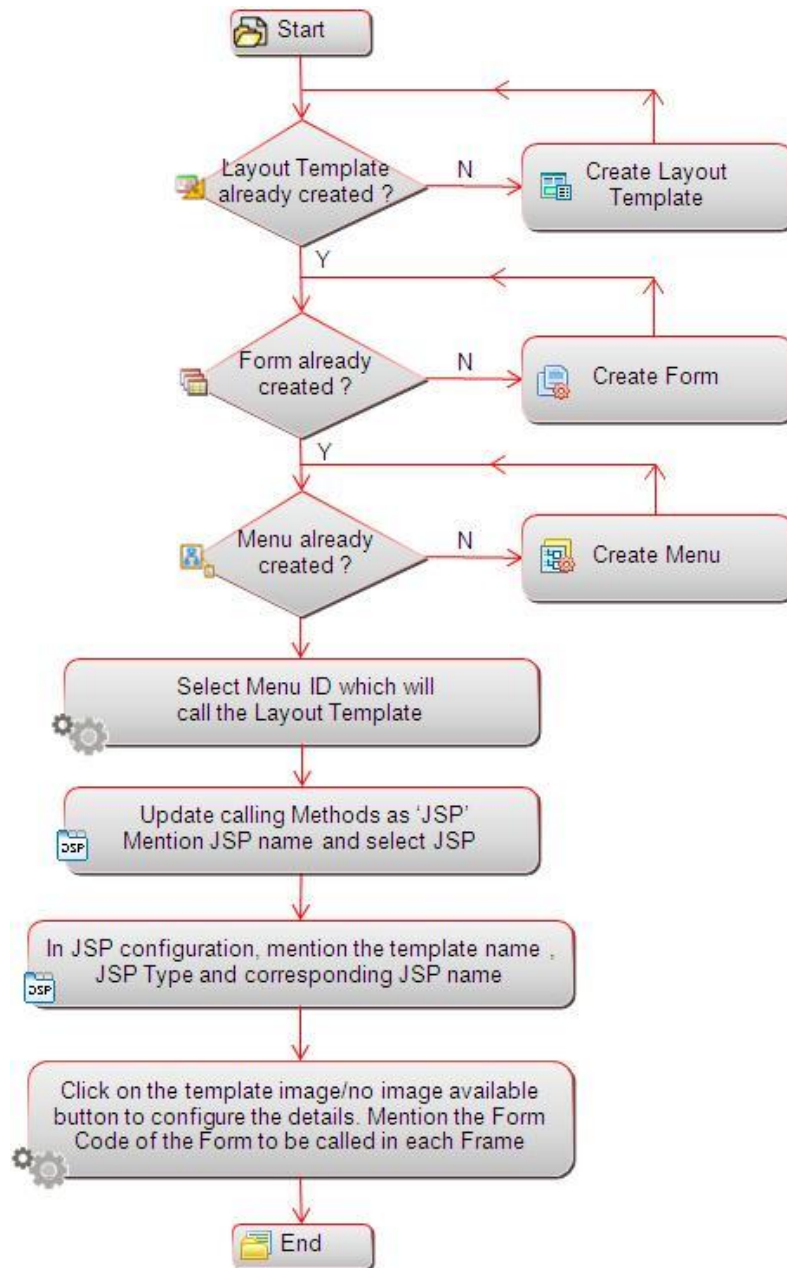
Figure 69.   Flowchart to map form to layout template

4.3.13.3 Invoking a Form from another Form
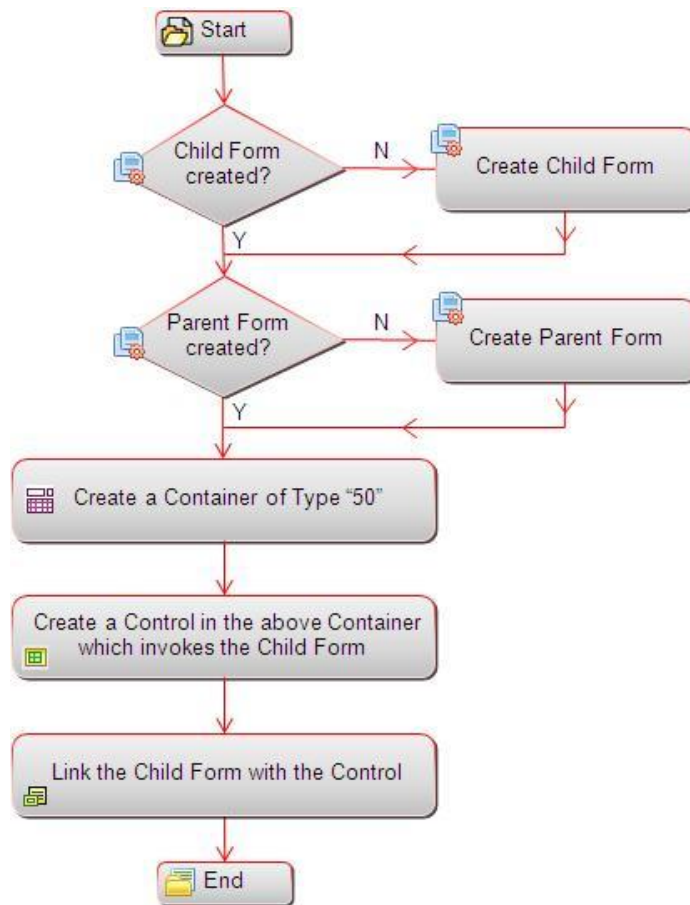
Figure 70.   Flowchart to invoke a form from another form

Note the following:

- Child Form refers to the form which is being invoked. Parent Form refers to the form through which the child form is invoked.

- A child form can be embedded in certain types of container present in the parent form. It will be linked to a control in this container. On clicking the control, the child form will open within the parent form.

4.3.13.4 Invoking a Form through Action Control

In this case, the child form is linked with the Action Control present in a container in the parent form. On clicking the Action Control, the child form opens as a pop-up form or an overlay form.

List of Action Controls:

- Hyperlink - Type 38

- Button - Type 22

- Button inside a Grid - Type 25 (New/ Edit)
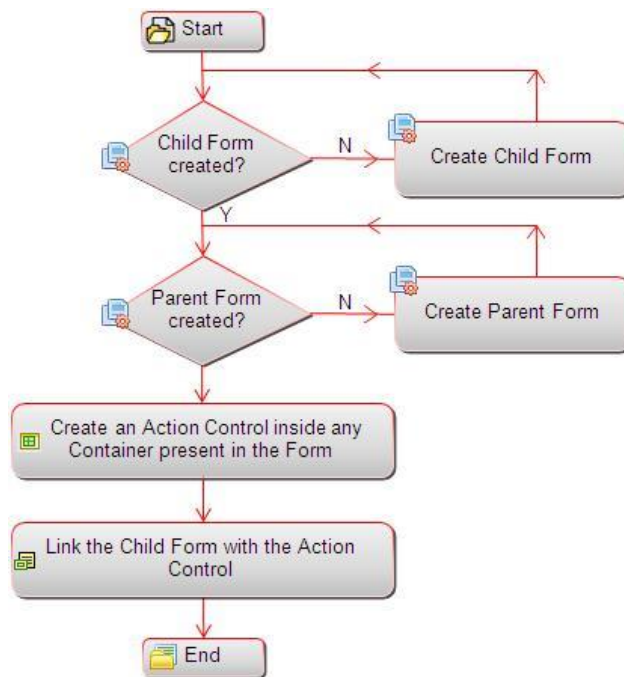
Figure 71.   Flowchart to invoke a form through action control

4.4   Menu

4.4.1   Overview

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

4.4.2   Menu Details
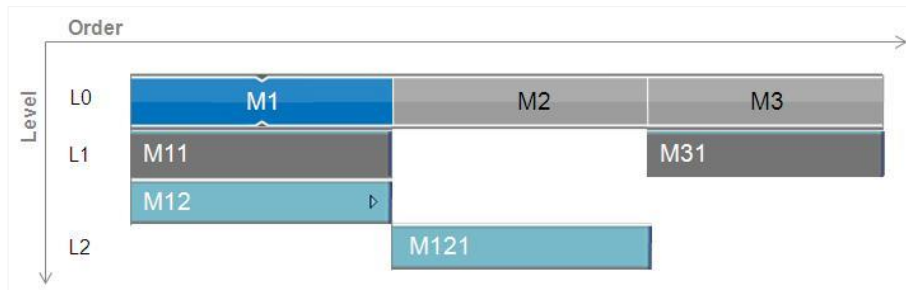
Figure 72.   Menu items with different levels

- 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 ($\rightarrow$) order.

- For L1/L2 elements, order means vertical ($\downarrow$) 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.

4.4.3 Flowchart
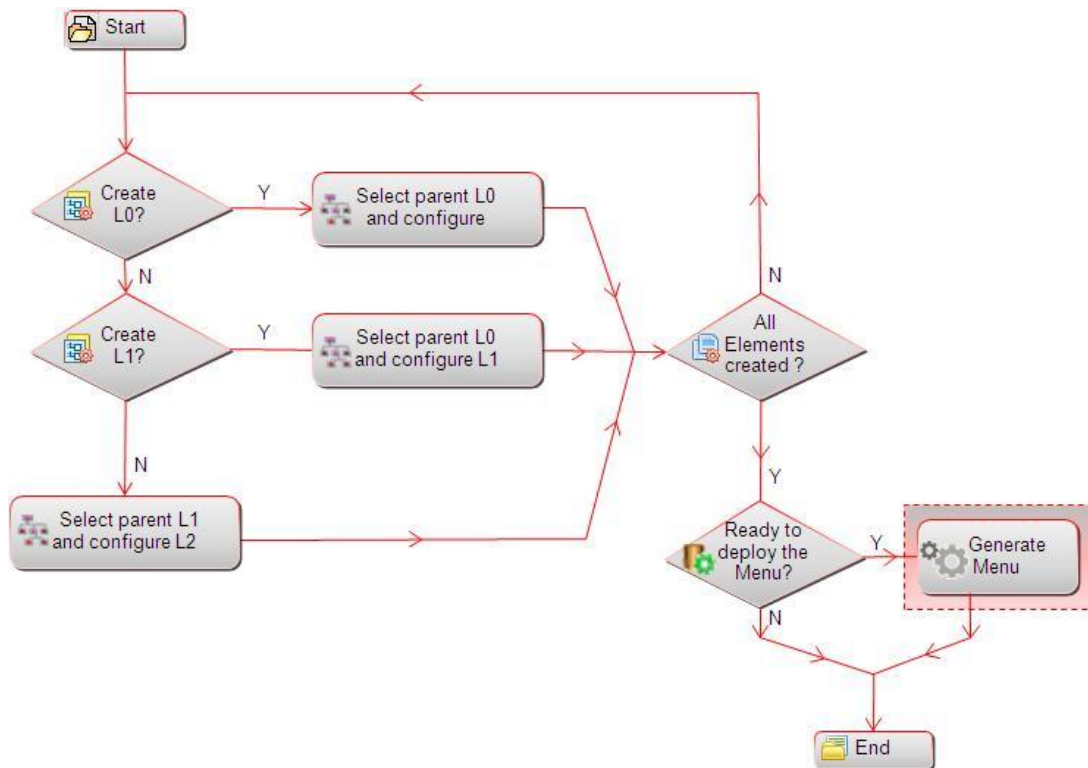
Figure 73.   Flowchart of Menu

4.4.4 How to Create Menu?

Steps to create a new Menu

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

2. Click **New** in the *Menu Items* toolbar. The *Menu Maintenance* window is displayed.

Figure 74. 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's 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**.

Field Name	Description and Remarks
Launch Mode	Select whether you want to call a layout template or Form from the menu, from the drop-down list. **Layouts-** If you select this option, you can have multiple frames/forms to be called from the menu. The page which will be displayed on clicking the menu will be based on the layout template you select. You have to configure each frame in the layout template. **Form**- If you select this option, you can have only form to be called from the menu. **Note**: If you are changing the Called Unit from the Menu item (Form/Layout) then it is recommended to unmap the existing menu node and create a new menu item to access the expected called unit.
Form Name	This field is available only if **Launch Mode** is selected as **Form.** Enter the name of the form to be called from the menu. After typing characters in the text field, form name similar to the entered values will be popped up in the suggestion box.
Layout Name	This field is available only if **Launch Mode** is selected as **Layouts**. Enter the JSP name underlying the layout template. After typing characters in the text field, JSP name similar to the entered values will be popped up in the suggestion box. This is the JSP/ Layout name which is entered in the *Layout Template Details* tab of the *Layout Template Configuration* window.
Page Context	This field is available only if **Launch Mode** is selected as **Layouts**. Enter the server location (where installation has been done) where the JSP page is stored.

4. Click the *Function Mapping* tab.
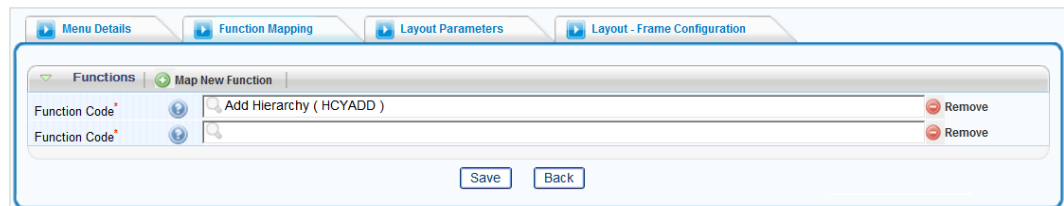
Figure 75. Function Mapping tab

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	

Field Name	Description and Remarks
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](#).

5. Click the *Form Parameters* tab. This tab will be available only if **Launch Mode** is selected as **Form**.

Figure 76. 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.
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.

6. Click the *Layout Parameters* tab. This tab will be available only if **Launch Mode** is selected as **Layout**.
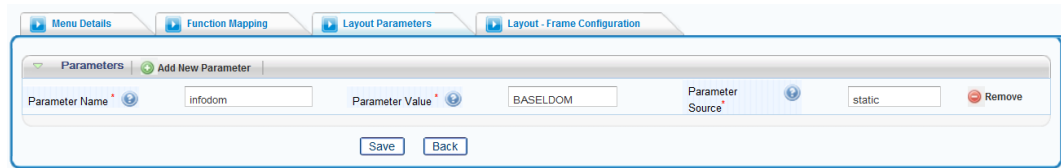
Figure 77. Layout Parameters tab

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Parameter Name*	Enter the name of the parameter to be passed in the JSP. The parameter name should have a prefix "CS_". 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.

7. Click the *Layout- Frame Configuration* tab. This tab will be available only if **Launch Mode** is selected as **Layout**.
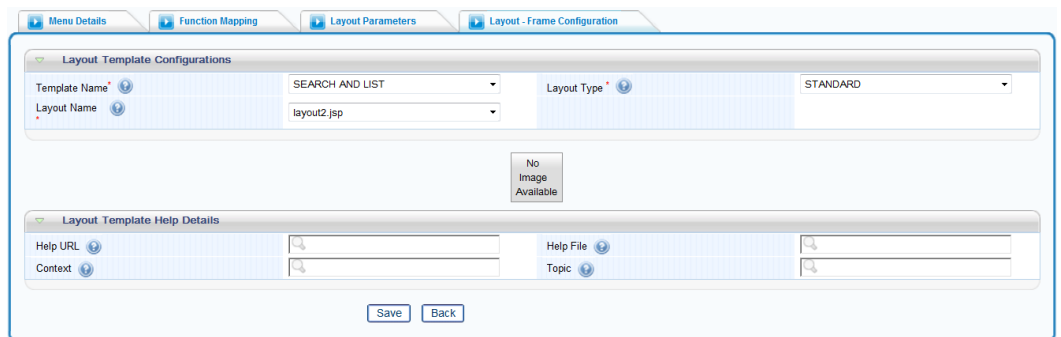
Figure 78. Layout- Frame Configuration tab

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Template Name*	Select the JSP template from the drop-down list.
Layout Type*	Select JSP type from the drop-down list. This value determines if the user wants to select a standard or customized JSP. **Standard-** prepackaged JSP **Custom**- customized JSP
Layout Name*	Select the name of the JSP satisfying the selected Template and Layout Type, from the drop-down list.

Field Name	Description and Remarks
Help URL	Enter the location of the help file which needs to be invoked on clicking the menu. Refers to the location, which is the server path in which the help file is kept. For example, the path can be << CONTEXTPATH >>/help/help_<<LOCALE>>/
Help File	Enter the name of the help file.
Context	Enter the server location (where installation has been done) where the help file is stored.
Topic	Enter unique id of the help topic which needs to be displayed for the menu.

8. Once you select the **Layout Name**, the image associated to that layout is displayed. Click the image to configure each frame available in the layout.

9. Expand the Details of Frame grid and enter the details as tabulated:

Figure 79. Layout- Frame Configuration tab

Field Name	Description and Remarks
Fields marked with red asterisk (*) are mandatory.	
Frame Name	Displays the name of the frame configured in the JSP selected as the **Layout Name** in JSP Configurations. Select proper Frame to configure the JSP properly.
Header Text	Enter the text to be displayed in the header for the frame selected.
Page Border	Select **True** or **False** to configure if page border needs to be displayed or not.
Menu Required	Select **True** or **False** to configure whether menu is required for the frame selected.
Footer	Select **True** or **False** to configure whether footer will be set for the frame.
Header	Select **True** or **False** to configure whether header will be set for the frame.
Row No	Enter the number of maximum rows to be displayed within the frame.
Show Bread Crumb	Select **True** or **False** to configure whether to displayed bread crumb to be displayed or not.

Field Name	Description and Remarks
Bread Crumb	Enter the detailed value of the Bread Crumb to be shown.
Launch Mode	Select whether you want to display a layout template, form, or report in the selected frame, from the drop-down list. The available options are: **Form**- You can select the form to be displayed in the Frame from the **Form Name** field. **Layout Template**- You can select the layout template to be displayed in the Frame from the **Layout Name** field. **Report**- You can select the report to be displayed in the Frame from the **Report Name** field.
Is in Frame	
BG Color	Set the background color of the frame.
Tab Type	

10. Similarly, enter the details for other frames also and click **Save**. Click **Back** and return to the *Menu Maintenance* window.

11. Click **Save**.

4.4.5   Menu Maintenance

From the LHS menu, expand **UI Configurations** and click **Menu**. The *Menu Maintenance* window is displayed.
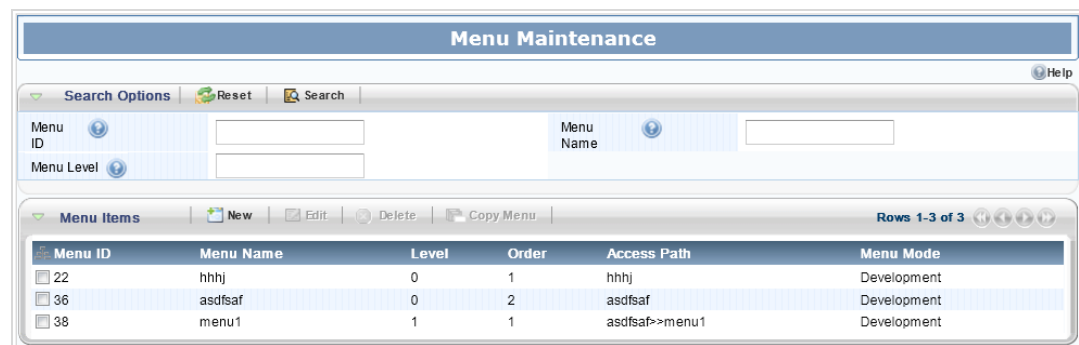
Figure 80. Menu Maintenance window

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.

4.5   LHS Tree

4.5.1   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.

4.5.2   Flow Chart
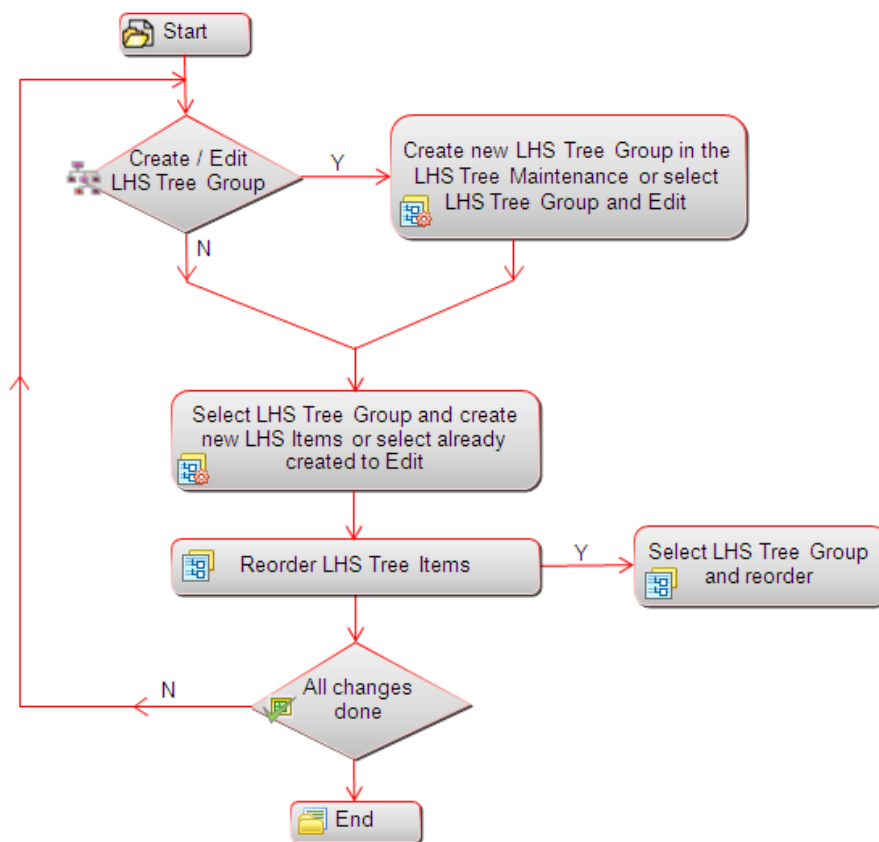
Figure 81.   Flowchart of LHS Tree

4.5.3   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.
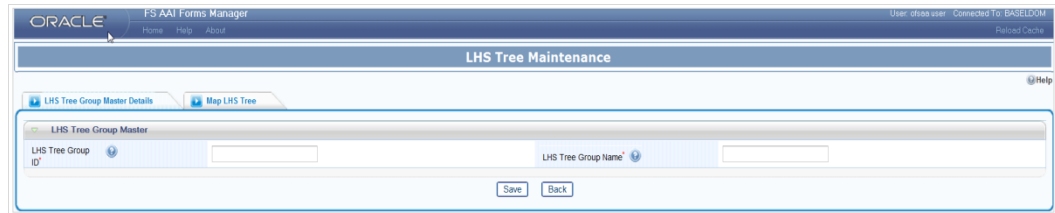
Figure 82. LHS Tree Maintenance window

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

Steps to create a LHS Tree Master

1. 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.
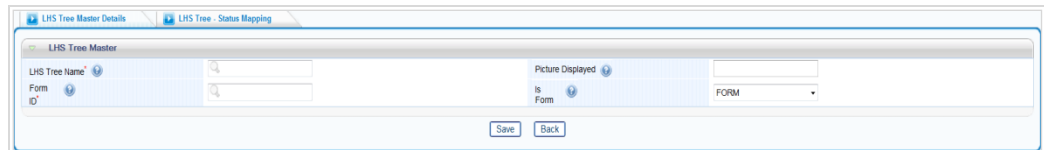
Figure 83. LHS Tree Master Details tab

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.

2. Click the **LHS Tree Status Mapping** tab.
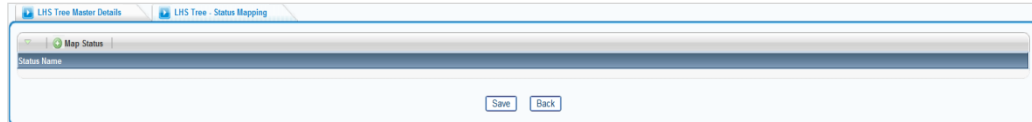
Figure 84. LHS Tree Status Mapping window

3. Click **Map Status**.

4. Enter the name of the status of the mapping.

5. Click **Save**.

4.5.4 LHS Tree Maintenance

From the LHS menu, expand **UI Configurations** and click **LHS Tree**. The *LHS Tree Maintenance* window is displayed.
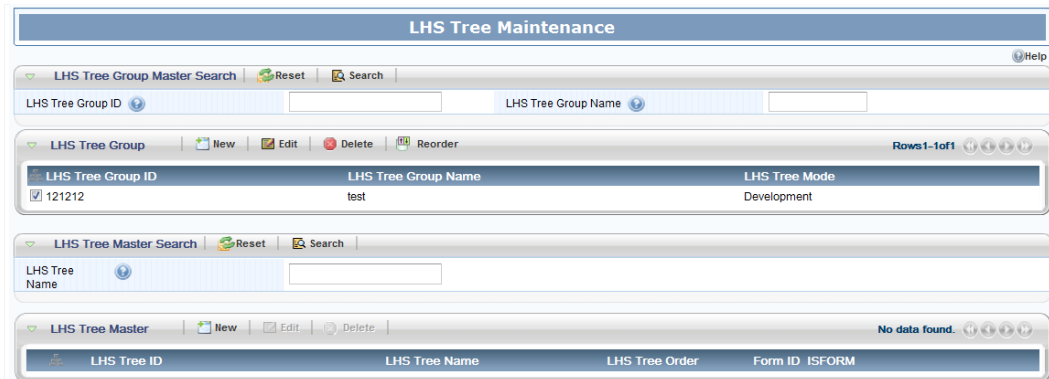
Figure 85. LHS Tree Maintenance window

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.
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.

Action	Description
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.

5   Generate

5.1   Generate Menu

5.1.1   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.

5.1.2   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 86. Generate Menu window

Field Name	Description and Remarks
Menu Id	Displays the Id corresponding to the menu.
Menu Name	Displays the name of the menu.
Menu Level / 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.

Field Name	Description and Remarks
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 menu. It's 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.

5.2 Generate Forms

5.2.1 Overview

Generate Form is used to deploy the forms created / modified using Forms Manager. You can generate and deploy all forms pertaining to an application, selected forms, or a single form based on the need. On generating the form(s), the form definitions (DB scripts and XML files) are 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 forms 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 form(s) 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 Forms* option.

- By default, the dependent Tab Groups and LHS Trees will be moved to the platform application tables.

5.2.2 How to generate a Form

Steps to generate a Form

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

Figure 87. Generate Forms window

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.

2. Select the checkbox corresponding to the Form Code(s) of the forms you want to generate.

3. Enter the appropriate information in the fields as tabulated above.

4. Click **Generate**.

While generating forms, data in the work-in-progress table for the selected forms and their respective 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 forms and its entities.

5.3 Generate Tab Groups

5.3.1 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.

5.3.2 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 Groups* window is displayed.
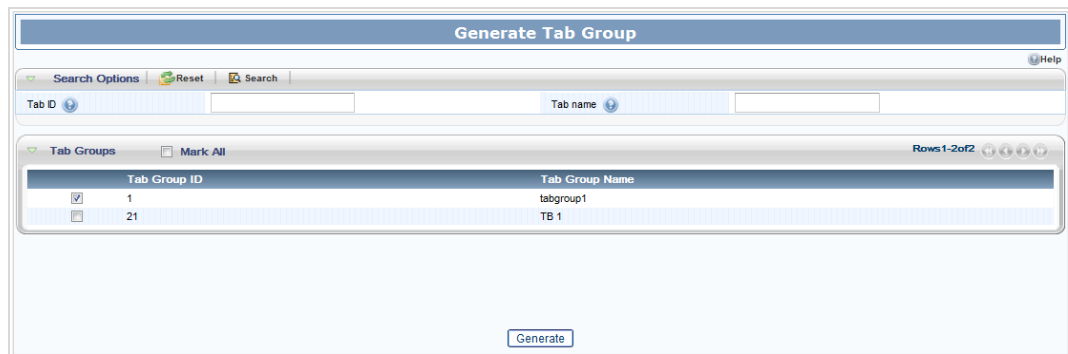
Figure 88. Generate Tab Groups window

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.

2. Select the checkbox corresponding to the Tab Group(s) you want to generate.
   Or

3. Select **Mark All** if you want to generate all tab groups.

4. Click **Generate**.

6 Forms Manager Customization Guidelines

Refer to the following spreadsheet 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

7   Configurations for Styling

7.1   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:

1. 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.

2. 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.

7.2   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

7.2.1   Container - GroupStyles

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>
```

7.2.2 Label / Value & 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 >
```

7.2.3 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.
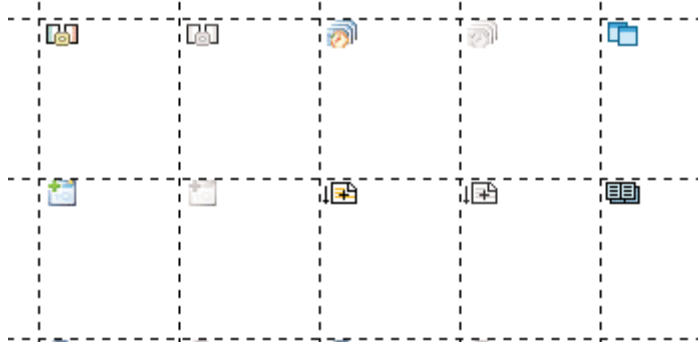
Figure 89. An example of sprited image

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>
```

7.2.3.1   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
			bg_vtl.gif	Used for layout elements vertical repeat
3	FormsFramework	//OFSAAI/formsFramework/formsrenderer/images/	lhsmenu_icon.gif	Used for Tree Icons
			icon_common.gif	Toolbar Icons
			hierarchy_icons.gif	Used in Hierarchy Browser

7.3   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	FormsFrame work	//OFSAAI/formsFrame work/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_OFS AAI.css')	Forms Framework Components

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

1. Create a copy of the required CSS file.

2. Do not change or alter any existing CSS Rule Name defined in the CSS file.

3. Changes can be made to the attributes for a particular CSS Rule Name, until the required visual effect is achieved.

7.4   CSS Structure
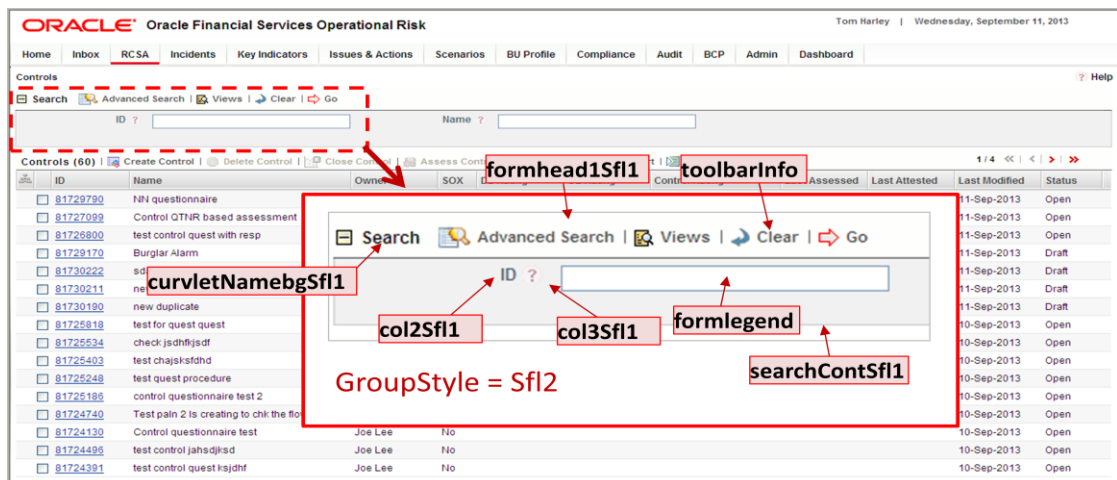
Figure 90. Search Container with a GroupStyle with ClassNames

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 below table shows commonly used GroupStyles:

#	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 91. Showing a Data Table Grid Container GroupStyle with ClassNames

Figure 92. Showing a Label Value Container GroupStyle with ClassNames
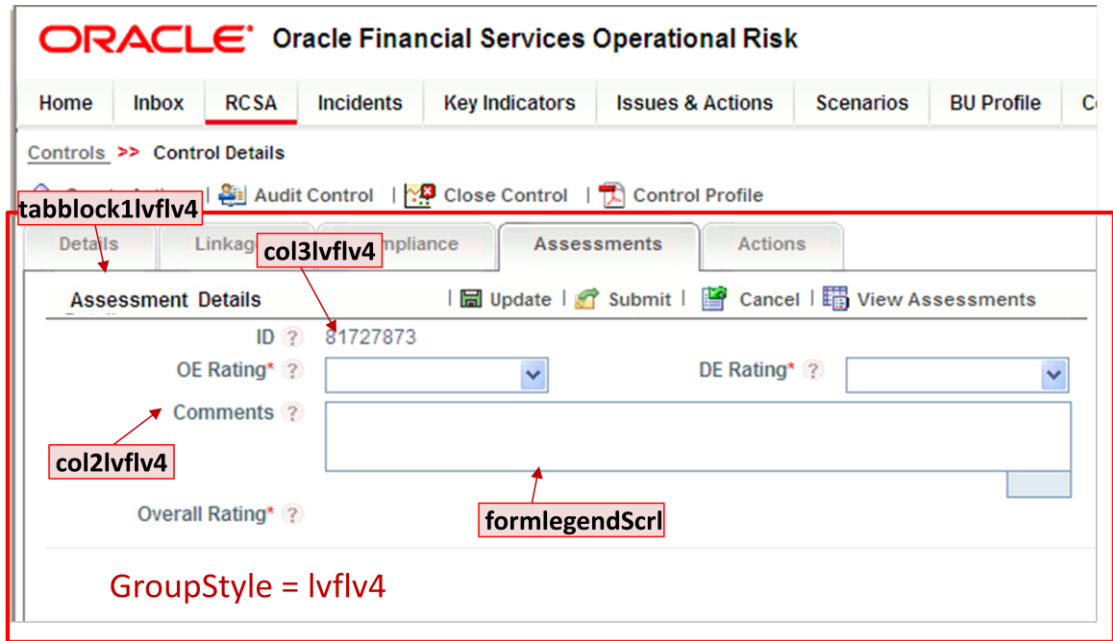
Figure 93. Showing a Tab Container GroupStyle with ClassNames
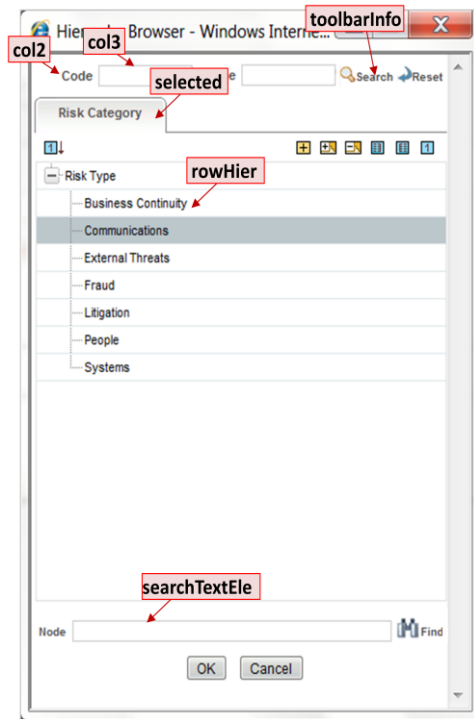
Figure 94. Showing Hierarchy Browser ClassNames

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

appttl

welbg

ORACLE® Oracle Financial Services Operational Risk

Tom Harley | Wednesday, September 11, 2013

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Controls

? Help

⊟ Search | 🔍 Advanced Search | 📇 Views | ⤴ Clear | ⇨ Go **menuParent**

brdcNonSel

Name ?

Controls (60) | 📇 Create Control | ⊘ Delete Control | 📇 Close Control | 📇 Assess Control | 📇 Attest Control | 📇 Export | 📇 Unwrap

1/4 « < > »

	ID	Name	Owner	SOX	DE Rating	OE Rating	Control Rating	Last Assessed	Last Attested	Last Modified	Status
☐	81729790	NN questionnaire	Joe Lee	No						11-Sep-2013	Open
☐	81727099	Control QTNR based assessment	Joe Lee	No	🟡 Qualified	🟢 Effective	🟡 Qualified	11-Sep-2013	11-Sep-2013	11-Sep-2013	Open
☐	81726800	test control quest with resp	Joe Lee	No						11-Sep-2013	Open
☐	81729170	Burglar Alarm		No						11-Sep-2013	Draft
☐	81730222	sdasd		No						11-Sep-2013	Draft
☐	81730211	new duplicate		No						11-Sep-2013	Draft
☐	81730190	new duplicate		No						11-Sep-2013	Draft
☐	81725818	test for quest quest	Business ... ≫	No						10-Sep-2013	Open
☐	81725534	check jsdhfkjsdf	Joe Lee	No						10-Sep-2013	Open
☐	81725403	test chajsksfdhd	Joe Lee	No						10-Sep-2013	Open
☐	81725248	test quest procedure	Tom Harley	No						10-Sep-2013	Open
☐	81725186	control questionnaire test 2	Joe Lee	No						10-Sep-2013	Open
☐	81724740	Test pain 2 Is creating to chk the flow	Tom Harley	No						10-Sep-2013	Open
☐	81724130	Control questionnaire test	Joe Lee	No						10-Sep-2013	Open
☐	81724496	test control jahsdjksd	Joe Lee	No						10-Sep-2013	Open
☐	81724391	test control quest ksjdhf	Joe Lee	No						10-Sep-2013	Open

ffwpagebcyp

Figure 95. Showing Header and Footer ClassNames

8   Appendix A – General Use Cases

8.1   Tutorial for creating a Sample Form

In this tutorial, we will see how a sample form 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

- Form name - Risk Definition Form

- 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.

8.1.1   Expected Functionality

The Risk Definition Form will be invoked by clicking the menu, Risk, which has a risk identification function mapped to it. Risk Definition Form 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.

8.1.2   Defining a Form with Form Code as FormRisk

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

1. From the LHS menu of the Forms Manager, expand **UI Configurations** and click **Forms**. The *Forms Maintenance* window appears.

2. To define the form, click **New** in the *Forms* toolbar. The *Form Details* tab appears.

3. Enter the **Form Code** as "FormRisk". This will be the name that is entered for the **Form Name** field while defining the menu.

4. Enter the **Form Name** as "Risk Definition Form". See the following screenshot.

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

8.1.3 Defining a Container within the Risk Definition Form

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

1. From the *Forms Maintenance* window, select earlier created Form, FormRisk and click **New** in the *Containers* toolbar. The *Container Maintenance* window is displayed.

2. Enter the **Container ID** as "200001".

3. Enter the **Container Name** as "Risk Details".

4. Select the **Type of Container** as NORMAL CONTAINER.

5. Select the **Container Mode** as Editable.

6. Enter **No of Columns** as "2". See the following screenshot.

7. Click **Save.**

8.1.4 Defining Controls within the Risk Details Container

8.1.4.1 Defining Risk ID Control

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

1. From the *Forms Maintenance* window, select the earlier created Form, FormRisk, and the earlier created Container, Risk Details.

2. Click **New** in the *Controls* toolbar. The *Control Maintenance* window appears.

3. Enter the Control ID as "200001".

4. Enter the **Control Name** as "Risk ID".

5. Enter the Control Type as "TEXTBOX CONTAINER".

6. Enter the Row Number as "1".

7. Enter the Sequence as "1". See the following screenshot.

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

8.1.4.2 Defining Risk Name Control

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

1. From the *Forms Maintenance* window, select the earlier created Form, FormRisk, and the earlier created Container, Risk Details.

2. Click **New** in the *Controls* toolbar. The *Control Maintenance* window appears.

3. Enter the Control ID as "200002".

4. Enter the **Control Name** as "Risk Name".

5. Enter the Control Type as "TEXTBOX CONTAINER".

6. Enter the Row Number as "1".

7. Enter the Sequence as "2".

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

8.1.4.3 Defining Created Date Control

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

1. From the *Forms Maintenance* window, select the earlier created Form, FormRisk, and the earlier created Container, Risk Details.

2. Click **New** in the *Controls* toolbar. The *Control Maintenance* window appears.

3. Enter the Control ID as "200003".

4. Enter the **Control Name** as "Created Date".

5. Enter the Control Type as "DATE CONTROL".

6. Enter the Row Number as "2".

7. Enter the Sequence as "1".

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

8.1.4.4   Defining Risk Business Line Hierarchy Control

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

1. From the *Forms Maintenance* window, select the earlier created Form, FormRisk, and the earlier created Container, Risk Details.

2. Click **New** in the *Controls* toolbar. The *Control Maintenance* window appears.

3. Enter the Control ID as "200004".

4. Enter the **Control Name** as "Risk Business Line".

5. Enter the Control Type as "HIERARCHY CONTROL".

6. Enter the Row Number as "2".

7. Enter the Sequence as "2".

8. Click the *Parameters* tab and click **Add Parameter**.

9. Enter **ID** as "1", **Name** as "hierarchy", **Scope** as "Static" and **Value** as "HREF001".

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

8.1.5 Defining another Container within the Risk Definition Form

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

1. From the *Forms Maintenance* window, select earlier created Form, FormRisk and click **New** in the *Containers* toolbar. The *Container Maintenance* window is displayed.

2. Enter the **Container ID** as "200002".

3. Enter the **Container Name** as "Save Risk Details".

4. Select the **Type of Container** as "BUTTON CONTAINER".

5. Select the **Container Mode** as "Editable".

6. Enter **No of Columns** as "2". See the following screenshot.

7. Click **Save.**

8.1.6 Defining Controls within the Save Container

8.1.6.1 Defining Save Control

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

1. From the *Forms Maintenance* window, select the earlier created Form, FormRisk and the earlier created Container, Save.

2. Click **New** in the *Controls* toolbar. The *Control Maintenance* window appears.

3. Enter the Control ID as "200005".

4. Enter the **Control Name** as "Save".

5. Enter the Control Type as "ACTION CONTROL".

6. Enter the Row Number as "1".

7. Enter the Sequence as "1".

8. Click the *Function* tab and click **Add Functions**.

9. Enter **EventName** as "onClick", **Value** as "SaveContainerAsDraft", and **Parameters** as "1".
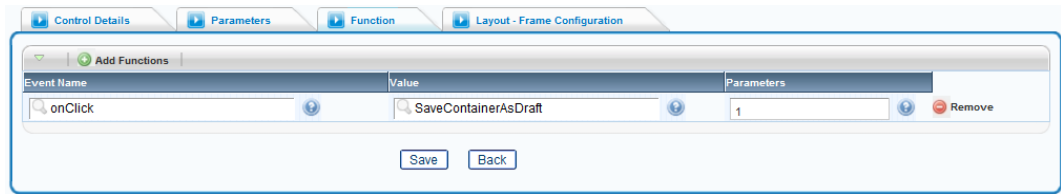
10. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

8.1.6.2 Defining Cancel Control

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

1. From the *Forms Maintenance* window, select the earlier created Form, FormRisk and the earlier created Container, Save.

2. Click **New** in the *Controls* toolbar. The *Control Maintenance* window appears.

3. Enter the Control ID as "200006".

4. Enter the **Control Name** as "Cancel".

5. Enter the Control Type as "ACTION CONTROL".

6. Enter the Row Number as "1".

7. Enter the Sequence as "2".
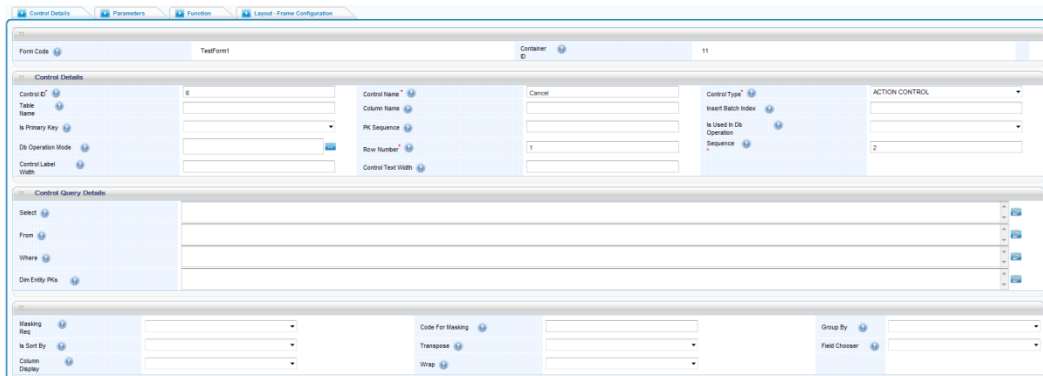
8. Click the *Function* tab and click **Add Functions**.

9. Enter **EventName** as "onClick", **Value** as "closeWindow", and **Parameters** as "1".
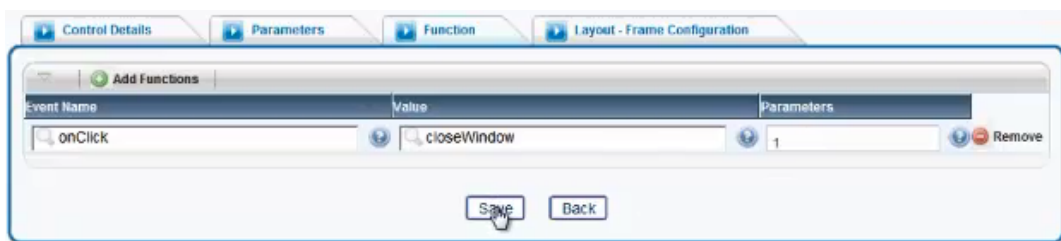
10. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

8.1.7 Reordering Containers within the Risk Definition Form

We will reorder the containers within the Risk Definition form.

1. From the *Forms Maintenance* window, select earlier created Form, FormRisk, and click **Reorder** in the *Forms* toolbar. The *Reorder Container* window appears.
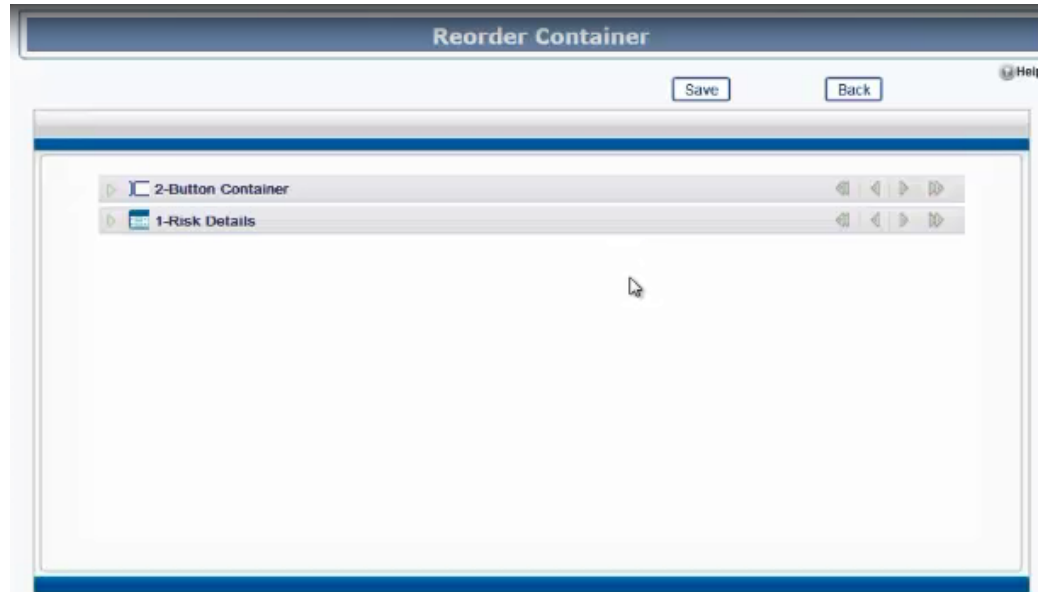
2. Drag the Risk Details container and make it appear first as shown in the following screenshot.
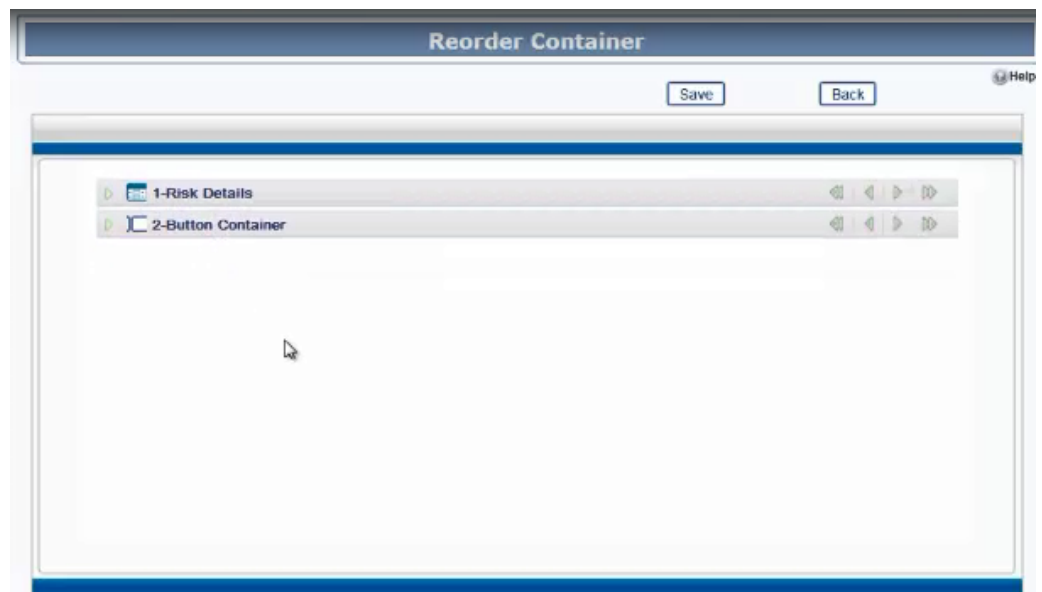
3. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

8.1.8 Reordering Controls within the Risk Details Container

We will reorder the controls within the Risk Details container.

1. From the *Forms Maintenance* window, select "FormRisk" form and select "Risk Details" container, and then click **Reorder** in the *Containers* toolbar. The *Reorder Controls* window appears.
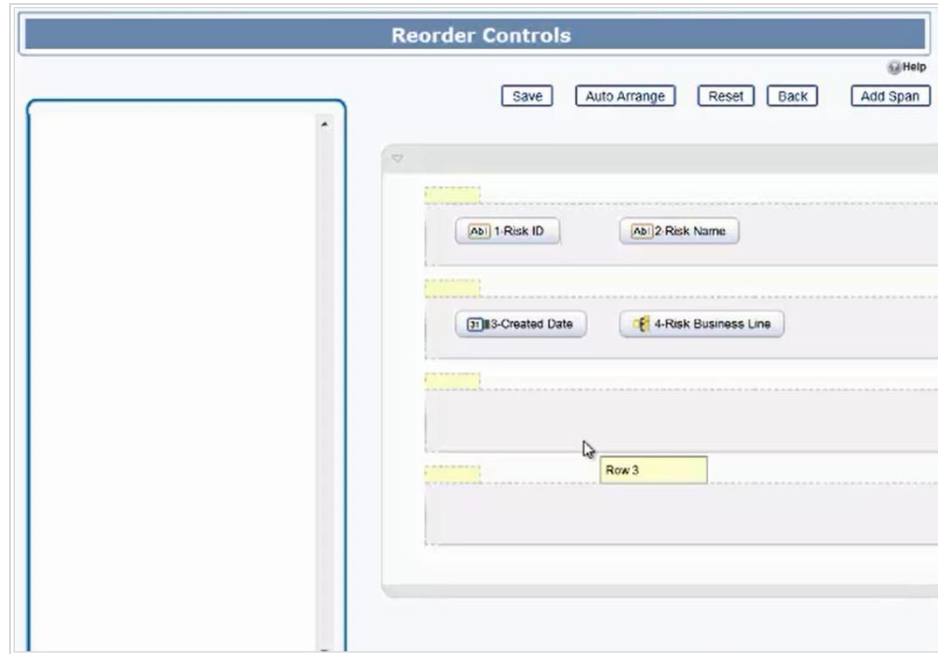
2. Drag the controls so that each control appears in separate rows as shown in the following screenshot.
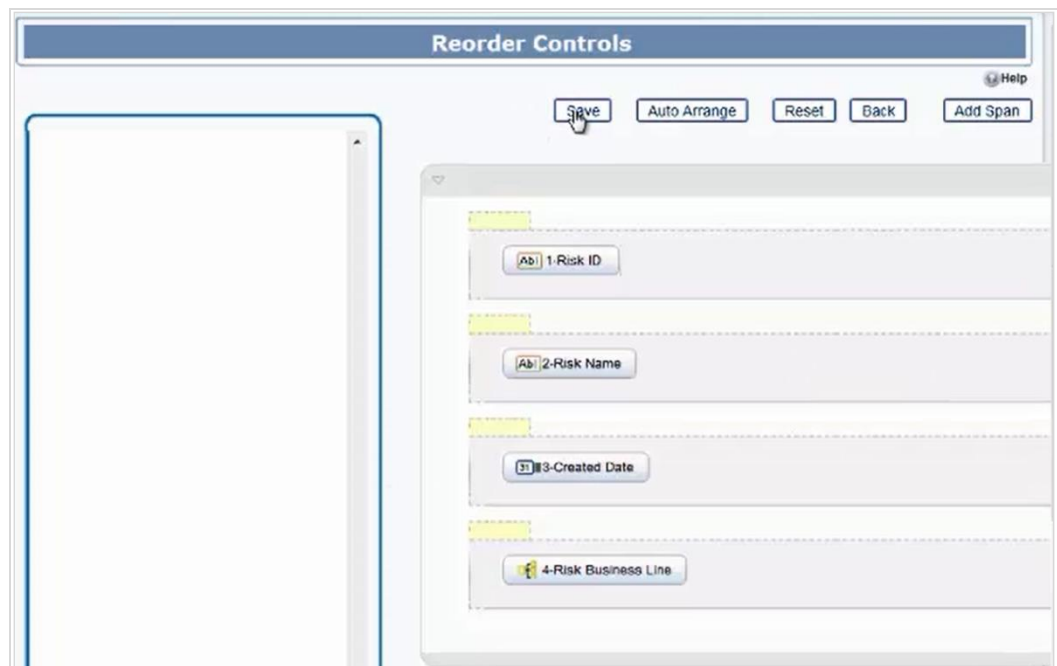
3. Click **Save**. On successful save, you will receive the confirmation message that your changes are saved.

8.1.9 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 *Forms Maintenance* window, select "FormRisk" form and click **Validations** in the *Forms* toolbar. The *Validation Rules* window appears.

2. Click **New** in the *Validation Rules* toolbar.

3. Click **Add Validation Rule Set** and enter **Item ID** as "100". Click **Save**.

4. Select "100" from the **ID** drop-down list.

5. Click ▦ in the **Rule Condition** field and form the condition by selecting the appropriate Function, Control, and Operator as shown in the screenshot.
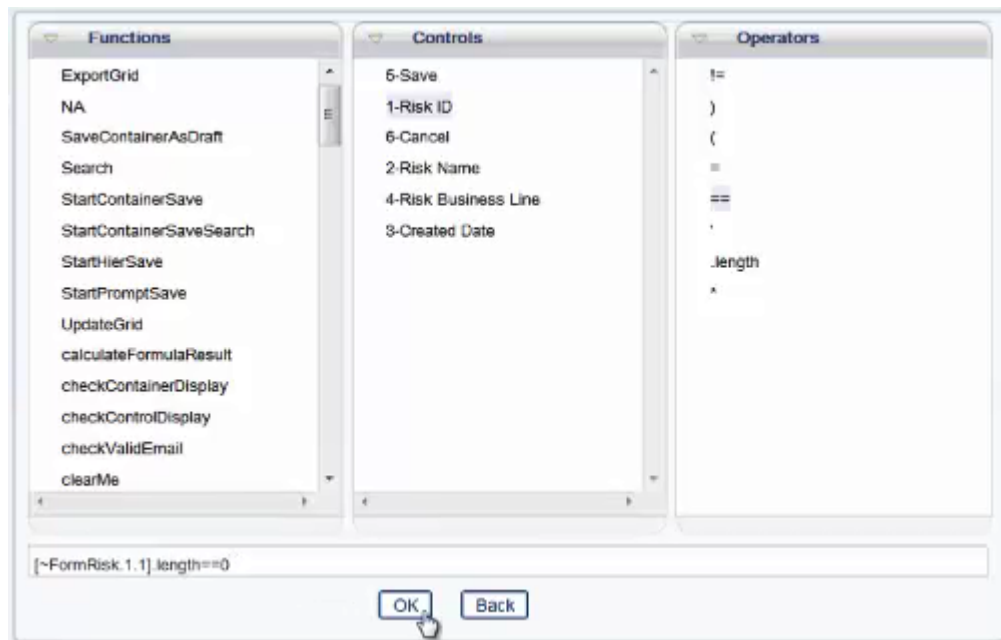
6. Click Ok.

7. Enter **Message Description** as "Please Enter Name of the Risk" as shown in the screenshot.

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

8.1.10 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.
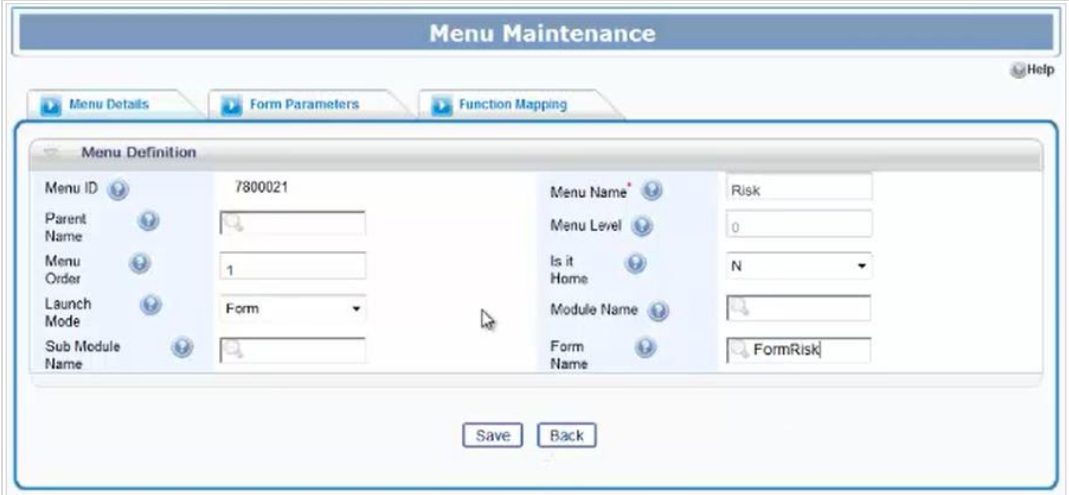
8. Click **Save**.

8.1.11 Defining a Menu by the name, Risk

We will create a Menu by the name, Risk which when clicked will invoke the "FormRisk" form.

1. From the LHS menu of the Forms Manager, expand **UI Configurations** and click **Menu**. The *Menu Maintenance* window appears.

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. Select **Launch Mode** as Form.

5. Enter the **Form Name** as "FormRisk". This is the **Form Code** of the form we created earlier. See the following screenshot.
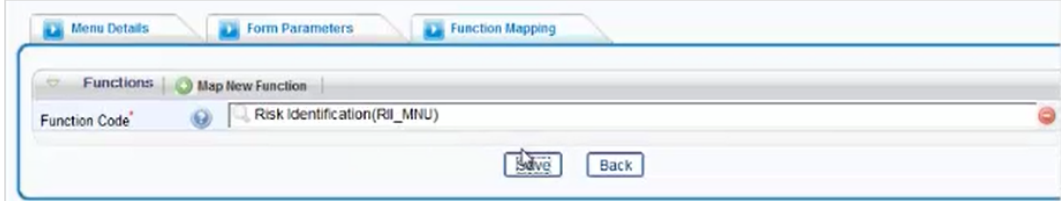
6. To associate a function to the menu, click the *Function Mapping* tab.

7. Click **Map New Function**.

8. Enter the **Function Code** as Risk Identification (RII_MNU). See the following screenshot.

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

8.1.12 Generating the 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**.

8.1.13 Generating the Form

We will generate the "FormRisk" form we created.

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

2. Select "FormRisk" form and click **Generate**.

9 Appendix B - A Tutorial based on Employee Detail Use Cases

In this tutorial, we will see how Oracle Financial Services Form Manager contemplates the Employee Detail Use Cases to create a Form. Various operations such as creating new records, editing the records, searching for values in the form, resetting the search, and deleting the records are performed within the Form. In Forms Manager, the Forms are created to hold Containers which in turn will hold various Controls.

This tutorial guides you through certain basic features of Forms Manager, which are required to create a Form, create Containers in a Form, and then create Controls in the Containers. You will find that all the features of Forms Manager are not explored in this tutorial. But this will help you to understand the basic and mandatory processes required to create the above mentioned entities, that is, Forms, Containers, and Controls.

9.1 Expected Functionality – The Use Cases

A Form is defined to assist in managing the employee details of an organization and this will be further updated to cater the following additional operations:

- Searching for Employees Records
- Creating an Employee Record
- Editing an Employee Record
- Deleting an Employee Record
- Define Masking

As mentioned earlier, the users will be able to search for values, view the records, create new records, edit them, reset the search, and delete the records. These activities will be explained in the following sections.

It is also expected that a connection with the database has been established before you proceed further with the steps mentioned in the following sections. This is mandatory to save new records, edit the records, perform validations, and so on. A database table, **DIM_EMPLOYEE**, should be present in the Database with the structure provided in the following table. This is important because, the following sections detail the process using this table name and column names. For more information on database connection, refer to OFSAAI User Guide.

DIM_EMPLOYEE

EMP_ID	EMP_NAME	DOJ	STATUS
101	Employee1	4/6/2012	Approved
102	Employee2	4/15/2015	Approved

NOTE:	: In comparison with the real application, you can observe that most of the fields are not detailed in this tutorial. This is because, this tutorial is detailing the process using minimal parameters. That is, we have used only the mandatory and most important parameters to develop this. You can modify your Form by updating the necessary fields in the application. While doing that, you may find the preceding chapters of this user guide as a useful reference.

To get started, Configuring Form for Search and Summary List is explained in the beginning.

9.1.1 Configuring Form for Search and Summary List

The objective of this section is to detail the process of Form creation, with necessary Containers and Controls to perform an employee search, in an organization. After the creation of the Form, The two Containers, Search Container (search area) and Employee Summary Grid Container (result area) are created. The Search Container will have Controls such as Employee ID, Employee Name, and Joining Date. The Employee Summary Grid Container will display the employee details in list format with the details.

The Employee Summary Form should be able to accept keywords such as Employee ID, Employee Name, or Joining Date of an employee to perform search operation and display the result in the *Summary* grid.

Following are the Form specifications.

- Form Name – Employee Form
    - Search Container with following Controls
        - Employee ID
        - Employee Name
        - Joining Date
        - Search
        - Reset
    - Employee Summary Grid for listing search results with following Controls
        - Employees Summary

A child form also will be created which will be called using the Employees Summary Control. The child form specifications are provided below:

- Form Name - Employee Grid Form
    - Toolbar Container with following controls:
        - Create New
        - Edit
        - Delete

- Authorize
- Table Container with following Controls:
  - Employee ID
  - Employee Name
  - Date of Joining
  - Status

9.1.1.1 Creating an Employee Form

The Employee Form acts as a base Form to hold the search area and the search result area.

Perform the following steps to create an Employee Form (parent form), which in turn will hold the containers:

1. Navigate to **Forms Manager > UI Configurations > Forms** menu from the **AAI Forms Manager** home page.

   The *Forms Maintenance* window is displayed.

2. Click **New** button in the *Forms* grid.

   The *Forms Maintenance* window with the *Form Details* and *Custom Messages* tab is displayed. By default, the *Form Details* tab is displayed.

3. Fill the fields in the *Form Definition* toolbar, as tabulated here:

Field Name	Description
Form Code	Enter a unique code to identify the form. Enter **FrmEmployeeP**.
Form Name	Enter the name of the form. Enter **Employee Form**. This name will appear as a title of the web browser window.

4. Click **Save** button.

The Employee Form is saved with the details provided.

Now we can proceed further to create search area and search result area in this form.

Creating the Employee Search Container

We have created the Employee Form in the previous section. Now, this Form has to be populated with necessary fields to accept the keywords and perform a search. In the beginning of this topic, we have mentioned about using Employee ID, Employee Name, and Joining Date as the criteria to perform a search. This section details about the procedure to create such a search area with those fields.

To create the search container, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **FrmEmployeeP** (the Form Code of the form you have created in the previous section) in the *Forms* toolbar.

2. Click **New** button in the Containers toolbar.

The *Container Maintenance* window is displayed.
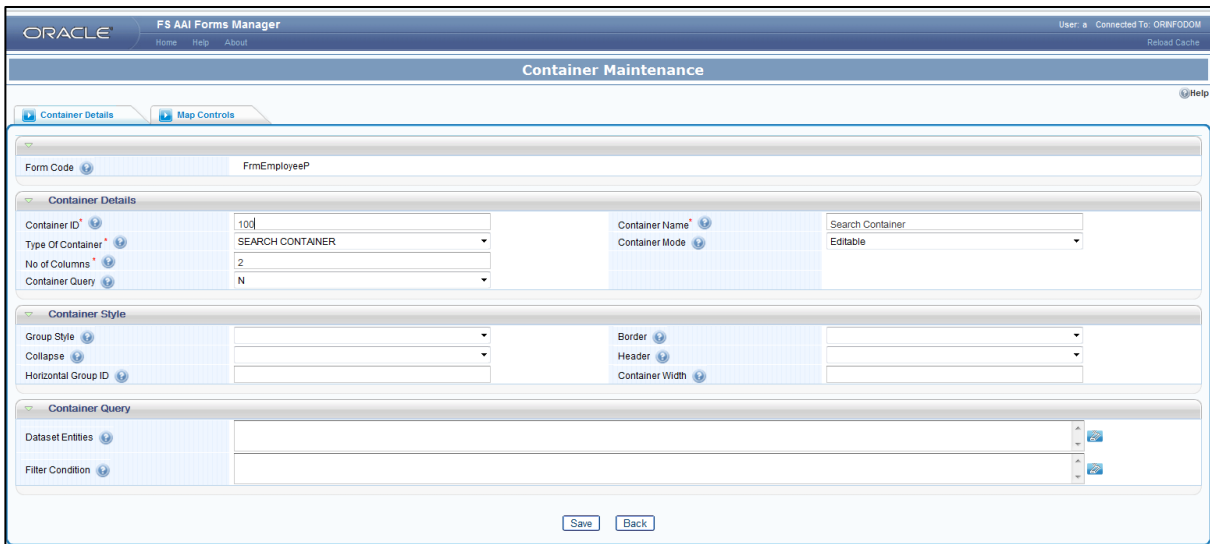
Fill the fields in the *Container Details* toolbar, as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **FrmEmployeeP** of the **Employee Form**.
Container ID	Enter **100** as a unique ID for the container.
Container Name	Enter the name of the container. Enter **Search Container**. This name will be displayed as the header of the search container.

Field Name	Description
Type Of Container	Select **NORMAL CONTAINER** from the drop-down list.
Container Mode	Select the container render mode from the drop-down list. Select **Editable** from the list. This enables you to edit the search fields of this container.
No of Columns	Enter the number of columns to be displayed in the container. Enter **2**. *Note: The number **2** is entered because we need to have two columns in a row. That is Employee ID and Employee Name in the first row and Date of Joining in the second row.* *It is important to provide this information because, while generating the Form, the number of columns will be considered and the columns will be displayed.*

3. Click **Save** button. The details of the Search Container are saved in the Form.

   Now the Form has a search area created in it. The next step is to place necessary search fields in the search area.

Creating Controls in Employee Search Container

Now that we have created a Search Container in the previous section, it is required to create the necessary Controls (search fields) and the Search/Reset buttons inside this Container. These search Controls include a Number Control to accept Employee ID, a Text Box Control to accept Employee Name, and a Date Control to accept the employee joining date. This enables you to use key words in any or all of the search fields and retrieve a specific employee/group of employees' detail.

For example, you can enter the number '**1**', alphabet '**A**', and joining date '**10/02/2015**' to retrieve the details of employees who joined on **February 10th, 2015**, whose employee ID contains '**1**' and name contains '**A**'.

Creating Employee ID Control and Employee Name Control

In the preceding sections, we have seen that the search Container needs to be populated with Employee ID, Employee Name, and Joining Date fields to perform search operation. In this section, we are learning to create two controls (search fields), that is Employee ID and Employee Name.

To create Employee ID and Employee Name controls in the previously created Form, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **FrmEmployeeP** (the Form Code of the form you have created in the previous section) in the Forms toolbar.

2. Select the checkbox adjacent to **100** (the Container ID of the Search Container you have created in the previous section) in the *Containers* toolbar.

3. Click New button in the Controls grid.

   The *Control Maintenance* window is displayed.

4. Fill the fields in the *Control Details* tab, as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **FrmEmployeeP**.
Container ID	This field is auto populated with the ID **100**.
Control ID	Enter a unique ID for the control. Enter **10** for **Employee ID** and Enter **20** for **Employee Name**.
Control Name	Enter the name of the control. Enter **Employee ID**. After completion of this procedure, repeat the steps to create the **Employee Name** control. After generation of the Form, the control names are displayed as the names of the search fields.
Control Type	Select the type of the control from the drop-down list. Select NUMBER CONTROL from the list. This accepts only numerals in the field. When you create the **Employee Name** control, select TEXTBOX CONTROL from the drop down list. This is a simple text box control which accepts alphanumeric value.
Is Primary Key	Select **Y** to set the **Employee ID** as the Primary key.

Field Name	Description
Row Number	Enter the row number of the control. Enter 1. By doing this, the control will appear in the 1st row in the Container. Do this for both **Employee ID** and **Employee Name**.
Sequence	Enter the sequence of the control in the row. Enter **1** for Employee ID and Enter 2 for Employee Name. By doing this, the **Employee ID** field will appear as the first item of the first row in the search area and **Employee Name** will appear as the second item.

5. Click **Save**.

After performing the steps mentioned in this section, the search container will have Employee ID and Employee name fields populated. The Employee ID field will accept the numeric data whereas the Employee Name field is alphanumeric.

Creating Employee Joining Date Control

In the previous section, we have learned to create two search fields, which are Employee ID and Employee Name, in the search area. The third field under consideration is Employee Joining Date. A search performed using this criterion alone can dig up the details of employees that joined on a particular day.

For example, you can use the calendar icon provided in **Joining Date** search field to select the date 10/02/2015 and click **Go** button to retrieve the details of all the employees who joined on 10th February, 2015.

To create the Employee Joining Date control in the previously created Form, perform the following steps:

1. From the Forms Maintenance window, select the checkbox adjacent to **FrmEmployeeP** (the Form Code of the form you have created in the previous section) in the Forms toolbar.

2. Select the checkbox adjacent to **100** (the Container ID of the Search Container you have created in the previous section) in the Containers toolbar.

3. Click **New** in the *Controls* grid.

   The *Control Maintenance* window is displayed.

4. Fill the fields in the *Control Details* tab as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **FrmEmployeeP**.
Container ID	This field is auto populated with the ID **100**.

Field Name	Description
Control ID	Enter a unique ID for the control. Enter **30**. This number is entered because we have previously used **10** and **20** as the Control IDs of **Employee ID** and **Employee Name** respectively.
Control Name	Enter the name of the control. Enter **Joining Date**.
Control Type	Select the type of the control from the drop-down list. Select DATE CONTROL from the list. This displays the **Joining Date** search field with a calendar icon and you will be able to pick the joining date from this calendar.
Row Number	Enter the row number of the control. Enter **2**. By doing this the control will appear in the 2nd row in the Container.
Sequence	Enter the sequence of the control in the row. Enter 1. By doing this, the Control will appear as 1st item in the 2nd row of the container.
Format	Enter dd-mon-yyyy. This will display the date value in date – month – year format.

5. Click **Save**.

After saving this Control, the search area will have Employee ID, Employee Name, and Joining Date fields present.

Creating Search Action Control

After entering the keywords, we need to click the **Search** button to perform a search. In this section, we learn how to create a search button in the search area.

To create the **Search** button in the previously created Form, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **FrmEmployeeP** (the Form Code of the form you have created in the previous section) in the *Forms* toolbar.

2. Select the checkbox adjacent to **100** (the Container ID of the Search Container you have created in the previous section) in the *Containers* toolbar.

3. Click **New** in the *Controls* grid.

   The *Control Maintenance* window is displayed.

4. Fill the fields in the *Control Details* tab as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **FrmEmployeeP**.

Field Name	Description
Container ID	This field is auto populated with the ID **100**.
Control ID	Enter a unique ID for the control. Enter **40**. This number is entered because we have previously used **10**, **20**, and **30** as the Control IDs of **Employee ID**, **Employee Name**, and **Joining Date** respectively.
Control Name	Enter the name of the control. Enter **Search Control**.
Control Type	Select the type of the control from the drop-down list. Select URL CONTROL from the list.
Row Number	Enter the row number of the control. Enter **1**. *Important: Row Number and Sequence values are having no significance, as the Search button is placed on the toolbar. These values are entered because the Row Number and Sequence fields are mandatory. But ensure that there is no conflict arise with the Row Number and Sequence of any other control.*
Sequence	Enter the sequence of the control in the row. Enter 3.

5. Click the Url Control Details tab.

6. Enter the details as tabulated.

Field Name	Description
Text Along With Image	Enter the keyword 'search' and select the value **Search** from the results. The word "Search" will be displayed in the toolbar for search operation. *Note: You can create these type of values from the **Administration** module of the Forms Manager application. For more information, refer to Administration section.*
URL in Tool Bar	Select **Y** from the drop down list. This is to place the **Search** button in the **Employee Search** container toolbar.

After providing these details, the parameters required to invoke the search operation and a function to perform search have to be entered. To enter these details, perform the following steps:

7. Click *Function* tab.

8. Click **Add Functions** button.

9. Enter '**onclick'** in the Event Name field. Select **onClick** from the results.

   By doing this, the configured function will be triggered upon click of the Search button Control.

10. Enter '**search'** in the Value field and select **Search** from the results.

The **Search** function is used to trigger a search upon clicking the Control.

11. Enter the value **1** in the Parameters field. This is a grouping of the parameters and later parameters with the Parameter ID **1** is used to invoke search.

12. Click *Parameters* tab.

You can see few default parameters in this tab. There are certain additional parameters, which need to be entered by clicking the **Add Parameter** button. Those parameters are tabulated here:

Important: *Do not modify or delete the default parameters.*

ID	Name	Scope	Value
1	gsUsrId **Note**: *This parameter is used to fetch the user information from a session.*	Request	gsUsrId **Note**: *This value is provided because the user information is fetched form the current session.*
1	User **Note**: *This parameter is used to fetch the user information depending on the Form, upon request.*	Request	User **Note**: *This value is provided because the user information is fetched form the current Form.*
1	infodom **Note**: *refers to the infodom in which the formId is available.*	Request	infodom **Note**: *The value infodom is passed because the search operation is performed on a form present in the current infodom.*
1	segment	Request	segment

	Note: refers to the segment in which the formId is available.		*Note: The value segment is passed because the search operation is performed on a form present in the current segment.*
1	EMPID **Note**: **EMPID** *refers to the search parameter* **Employee ID**.	Form	[FrmEmployeeP.10] **Note**: *The Value* **[FrmEmployeeP.10]** *refers to the Form ID on which the search is performed (FrmEmployeeP) and the Control ID of the Employee ID Control (10).*
1	EMPNAME	Form	[FrmEmployeeP.20]
1	DOJ	Form	[FrmEmployeeP.30]
1	formId **Note**: *This refers to the Form ID on which Search operation has to be performed.*	Static	FrmEmployeeP **Note**: *Here we perform search on the* **Employee Form** *and the Form ID of the* **Employee Form** *is* **FrmEmployeeP**.
1	refreshType **Note**: *This refers to the type of refresh. There are three types of refreshes and they have particular values provided.* *1 – Form refresh* *2 – Container refresh* *3 – Control refresh*	Static	2 **Note**: *Here we refresh the* **Grid Container** *and therefore the Value is given as* **2**.
1	containerID **Note**: *This references the container ID(s) which need to be refreshed.*	Static	200 **Note**: *Here we refresh the* **Grid Container** *with Container ID* **200**. *If you need to refresh more than one Containers at once, you provide the values comma separated.*

13. Click **Save**.

After performing the steps in this section, a **Search** button will be created in the Search area.

After entering the keywords, at any point of time, if you want to clear the search fields, you need to click the Reset button. In this section, we are learning to create a Reset button in the search area.

To create the Reset button in the previously created Form, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **FrmEmployeeP** (the Form Code of the form you have created in the previous section) in the *Forms* toolbar.

2. Select the checkbox adjacent to **100** (the Container ID of the Search Container you have created in the previous section) in the *Containers* toolbar.

3. Click **New** in the *Controls* grid.

   The *Control Maintenance* window is displayed.

4. Fill the fields in the *Control Details* tab as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **FrmEmployeeP**.
Container ID	This field is auto populated with the ID **100**.
Control ID	Enter a unique ID for the control. Enter **50**. This number is entered because we have previously used **10**, **20**, **30**, and **40** as the Control IDs of **Employee ID**, **Employee Name**, **Joining Date**, and **Search** respectively.
Control Name	Enter the name of the control. Enter **Reset**.
Control Type	Select the type of the control from the drop-down list. Select URL CONTROL from the list.
Row Number	Enter the row number of the control. Enter **1**. *Important: Row Number and Sequence values are having no significance, as the Search button is placed on the toolbar. These values are entered because the Row Number and Sequence fields are mandatory. But ensure that there is no conflict arise with the Row Number and Sequence of any other control.*
Sequence	Enter the sequence of the control in the row. Enter 4.

5. Click the *Url Control Details* tab.

6. Enter the details as tabulated.

Field Name	Description
Text Along With Image	Enter the keyword 'reset' and select the value **Reset** from the results. The word "Reset" will be displayed in the toolbar for reset operation.
URL in Tool Bar	Select **Y** from the drop down list. This is to place the **Reset** button in the **Employee Search** grid toolbar.

After providing these details, the parameters required to invoke the reset operation and a function to perform resetting have to be entered. To enter these details, perform the following steps:

7. Click *Function* tab.

8. Click **Add Functions** button.

9. Enter '**onclick'** in the Event Name field. Select **onClick** from the results.

   By doing this the configured function will be triggered upon clicking the Control.

10. Enter '**reset'** in the Value field and select **resetContainer** from the results.

    The **resetContainer** function is used to clear the search fields and the search result, so that you can perform a new search.

11. Enter the value **1** in the Parameters field. This is a grouping of the parameters and later parameters with the Parameter ID **1** is used to invoke reset operation.

12. Click *Parameters* tab.

    You can see few default parameters in this tab. There are certain additional parameters, which need to be entered by clicking the **Add Parameter** button. Those parameters are tabulated here:

    Important: Do not modify or delete the default parameters.

ID	Name	Scope	Value
1	segment	Request	segment
1	gsUsrId	Request	gsUsrId
1	User	Request	User
1	infodom	Request	infodom
1	refreshType	Static	2
1	containerID	Static	200
1	formId	Static	FrmEmployeeP

13. Click **Save**.

After performing the steps in this section, a **Reset** button will be created in the Search area.

Creating the Grid Container to Display the Search Result

We have created the Employee Details Form and then created Employee Search Containers in the previous sections. Now, a result area has to be created to display the result of the search we perform on the search area. In the previous sections, we have learned that Employee ID, Employee Name, and Joining Date are the search criteria to perform a search. This section details about the procedure to create a search result area with those parameters.

To create the result container, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **FrmEmployeeP** (the Form Code of the form you have created in the previous section) in the *Forms* toolbar.

2. Click **New** button in the *Containers* toolbar.

    The *Container Maintenance* window is displayed.

3. Fill the fields in the *Container Details* tab, as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **FrmEmployeeP**, the form code of the **Employee Form**.
Container ID	Enter **200** as a unique ID for the container. We are entering **200** here because we have previously created a Search Container with Container ID **100**.
Container Name	Enter the name of the container. Enter **Grid Container**.
Type Of Container	Select **GRID CONTAINER** from the drop-down list. This ensures that the container is a grid container, which can hold employee details in columns.
Container Mode	Select the container render mode from the drop-down list. Select **Editable** from the list.
No of Columns	Enter the number of columns to be displayed in the container. Enter **0**. The number **0** is entered because this is a mandatory field. Number of columns have no significance in grid container.

4. Click **Save** button. The details of the Grid Container are saved in the Form.

With this, the Employee Details Form has a search area and a result area associated with it. The next step is to place necessary result columns in the result area.

The Grid Container is associated with a control to call the child form **FrmEmployee**, which we will create in the subsequent sections.

To create the Employees Summary Grid control in the Grid Container, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **FrmEmployeeP** (the Form Code of the form you have created in the previous section) in the *Forms* toolbar.

2. Select the checkbox adjacent to **200** (the Container ID of the Grid Container you have created in the previous section) in the *Containers* toolbar.

3. Click **New** in the *Controls* tab.

   The *Control Maintenance* window is displayed.

4. Fill the fields in the *Control Details* tab as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **FrmEmployeeP**.
Container ID	This field is auto populated with the ID **200**.
Control ID	Enter a unique ID for the control. Enter **220**.
Control Name	Enter the name of the control. Enter **Employees Summary**. This name will be displayed in summary grid.
Control Type	Select the type of the control from the drop-down list. Select GRID CONTROL from the list.
Row Number	Enter the row number of the control. Enter **1**. *Important*: Row Number and Sequence values are having no significance for this control. These values are entered because the Row Number and Sequence fields are mandatory. But ensure that there is no conflict arise with the Row Number and Sequence of any other control.
Sequence	Enter the sequence of the control in the row. Enter 1.

5. Click **Save**.

After saving this Control, the search area will have Employee ID, Employee Name, and Joining Date fields present.

9.1.1.2 Creating the Employee Grid Child Form

The Employee Grid Form acts as a base Form to hold the search results.

Perform the following steps to create the child form, which in turn holds the result controls:

1. Navigate to *Forms Manager > UI Configurations > Forms* menu from the AAI Forms Manager home page.

   The *Forms Maintenance* window is displayed.

2. Click **New** button in the Forms grid.

   The *Forms Maintenance* window with the *Form Details* and *Custom Messages* tab is displayed. By default, the *Form Details* tab is displayed.

3. Fill the fields in the *Form Definition* tab, as tabulated here:

Field Name	Description
Form Code	Enter a unique code to identify the form. Enter **FrmEmployee**.
Form Name	Enter the name of the form. Enter **Employee Grid Form**.
Is Child Form	Select Y from the drop down list. This will ensure that the form is created as child form.
Dataset Entities	Enter **DIM_EMPLOYEE**. This will fetch the data from DIM_EMPLOYEE entity.
Dataset Filter	Enter "1=1 and EMPLOYEE.EMP_ID like ('%[EMPID]%') and EMPLOYEE.EMP_NAME like ('%[EMPNAME]%')". This filter will fetch the employee details based on the search criteria provided in the search area.

4. Click **Save** button.

The Employee Details Grid child form is saved with the details provided.

Once the child form is created, we can edit the Employees Summary grid Control to call the child form. To perform this follow the below steps:

1. Select the check box adjacent to the Form code **FrmEmployeeP** of the Employee Form.

2. Select the check box adjacent to the Container ID **200** of the Grid Container.

3. Select the check box adjacent to the Control ID **220** of the Employees Summary grid control.

4. Click **Edit** button.

   The *Control Maintenance* window is displayed.

5. Click the *Grid Control Details* tab.

6. Enter '**frmemployee'** and select **FrmEmployee** (the child form name) from the list in the **Child Form ID** field.

7. Click **Save** button.

Now we can proceed further to create Toolbar and table containers in this child form.

Creating the Toolbar Container

We have created the Employee Grid Child Form in the previous section. Now, this Form has to be updated with the a toolbar Container to hold the buttons such as Create New, Edit, Authorize, and Delete.

To create the toolbar container, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **FrmEmployee** (the Form Code of the child form you have created in the previous section) in the Forms toolbar.

2. Click **New** button in the Containers toolbar.

   The *Container Maintenance* window is displayed.

3. Fill the fields in the *Container Details* tab, as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **FrmEmployee**, the form code of the **Employee Grid Form**.
Container ID	Enter **400** as a unique ID for the container.
Container Name	Enter the name of the container. Enter **Tool Bar Container**.
Type Of Container	Select **GRID SPECIFIC TOOLBAR** from the drop-down list. This ensures that the container is explicitly created for creating toolbar items such as Create New, Edit, Delete, and so on.
Container Mode	Select the container render mode from the drop-down list. Select **Editable** from the list. This will ensure that the controls are in enabled mode.
No of Columns	Enter the number of columns to be displayed in the container. Enter **0**. The number **0** is entered because this is a mandatory field. Number of columns have no significance in grid container.

4. Click **Save** button. The details of the Toolbar Container are saved in the form.

Now the child Form has a toolbar created in it. The next step is to create the necessary toolbar items in this toolbar.

Creating a Create New Action Control in the Toolbar to Add a New Employee Record

Whenever a new employee joins the organization, the employee ID has to be generated and the employee details have to be added to the system. In our Employee Details Form, this

should be achieved by clicking a **Create New** button from the Tool Bar Container of the child form.

The person who enters the employee information should be able to click this Create New button and enter the new employee information such as Employee ID, Employee Name, and Joining Date.

To create the Create button in the previously created Tool Bar Container, perform the following steps:

1. From the Forms Maintenance window, select the checkbox adjacent to **FrmEmployee** (the Form Code of the form you have created in the previous section) in the Forms toolbar.

2. Select the checkbox adjacent to **400** (the Container ID of the Tool Bar Container you have created in the previous section) in the *Containers* toolbar.

3. Click **New** button in the *Controls* grid.

   The *Control Maintenance* window is displayed.

4. Fill the fields in the *Control Details* tab, as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **FrmEmployee**.
Container ID	This field is auto populated with the ID **400**.
Control ID	Enter a unique ID for the control. Enter **410**.
Control Name	Enter the name of the control. Enter **Create New**.
Control Type	Select the type of the control from the drop-down list. Select URL CONTROL from the list.
Is Used In Db Operation	Select **Y** if this control is used in database operation.
Row Number	Enter the row number of the control. Enter **1**. *Important: Row Number and Sequence values are having no significance, as the Edit button is placed on the toolbar. These values are entered because the Row Number and Sequence fields are mandatory. But ensure that there is no conflicts arise with the Row Number and Sequence of any other control.*
Sequence	Enter the sequence of the control in the row. Enter **1**.

5. Click the *Url Control Details* tab.

6. Enter the details as tabulated.

Field Name	Description

Field Name	Description
Text Along With Image	Enter the keyword 'create' and select the value **Create New** from the results. The name "**Create New"** will be displayed in the toolbar for create operation.
URL in Tool Bar	Select **Y** from the drop down list. This is to place the **Create New** button in the **Tool Bar Container**.

7. Click **Save** button.

After providing these details, the parameters required to invoke the create operation and a function to perform create action have to be entered. To enter these details, perform the following steps:

8. Click *Function* tab.

9. Click **Add Functions** button.

10. Enter 'onclick' in the **Event Name** field. Select **onClick** from the results.

    By doing this the configured function will be triggered upon clicking the Control.

11. Enter 'openPopupForm' in the **Value** field and select **openPopupForm** from the results.

    The **openPopupForm** function is used to launch the Employee Details form in a new window.

12. Enter the value 1 in the Parameters field. This is a grouping of the parameters and later parameters with the Parameter ID 1 is used to invoke create operation.

13. Click **Parameters** tab.

    You can see few default parameters in this tab. There are certain additional parameters, which need to be entered by clicking the **Add Parameter** button. Those parameters are tabulated here:

Important: Do not modify or delete the default parameters.

ID	Name	Scope	Value
1	gsUsrId	Request	gsUsrId
1	User	Request	User
1	infodom	Request	infodom
1	segment	Request	segment
1	EMPID	Static	-1 *Note: On click of Create New button, we need to open the*

			employee details page with no values in any of the fields. The parameter as -1 is passed because there is no record with employee ID -1. Hence the employee detail page opens with no values in any of the fields.
1	formStatus *Note: This parameter refers to the status of the form as defined in the masking section. For more details refer to Enabling Masking in the Records section.*	Static	4 *Note: This value has been provided for Form Status while defining Masking Parameters. The value 4 is defined according to the masking provided for create new operation.*
1	parentMode *Note: This parameter is passed to determine the mode (editable/viewable) in which the Controls have to be displayed. Following are the Modes available:* *1 – View Mode* *2 – Edit Mode*	Static	2 *Note: This value is set as 2 because we need to open the Employee Detail page in editable mode, on click of the Create New button.*
1	parentStatus *Note: This parameter is used when there is a parent grid - child grid relationship present.*	Static	0 *Note: The value is set as "0" because there is no parent grid –child grid relationship present.*
1	[next.CONTROL_EMPLOYEE_OPR.540] *Note: This refers to the Status of the employee record, after saving the details.* *Here EMPLOYEE_OPR is the form code of the details page and 540 is the Control ID of the Status Control.*	Static	3 Note: The value 3 is provided to set the status of the employee record as Draft, after saving. These values are defined in Status

			Control.
1	formId	Static	Employee_OPR *Note: This is the Form code of the Employee Details Form, which is a child Form we create later.*

14. Click **Save**.

After performing the steps mentioned in this section, the **Employee Toolbar** will have a **Create New** button populated.

Creating an Edit Action Control in the Child Form Toolbar to Edit an Existing Employee Record

An existing employee details can be edited for changes. This functionality can be made available from the **Tool Bar Container** by placing an **Edit** button. The **Edit** button is created using URL control.

Before proceeding with creation of Edit button in the **Tool Bar Container**, it is assumed that a person who has the intention to edit the employee detail will search for that particular employee and the result will be displayed in the search result grid.

To create the **Edit** button in the previously created **Tool Bar Container**, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **FrmEmployee** (the Form Code of the child form you have created in the previous section) in the Forms toolbar.

2. Select the checkbox adjacent to **400** (the Container ID of the **Tool Bar Container**) in the *Containers* toolbar.

3. Click **New** button in the *Controls* toolbar.

   The *Control Maintenance* window is displayed.

4. Fill the fields in the *Control Details* tab, as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **FrmEmployee**.
Container ID	This field is auto populated with the ID **400**.
Control ID	Enter a unique ID for the control. Enter **420**.
Control Name	Enter the name of the control. Enter **Edit**.
Control Type	Select the type of the control from the drop-down list. Select **URL CONTROL** from the list.

Field Name	Description
Row Number	Enter the row number of the control. Enter **1**. *Important: Row Number and Sequence values are having no significance, as the Edit button is placed on the toolbar. These values are entered because the Row Number and Sequence fields are mandatory. But ensure that there is no conflicts arise with the Row Number and Sequence of any other control.*
Sequence	Enter the sequence of the control in the row. Enter **2**.

5. Click the *Url Control Details* tab.

6. Enter the details as tabulated.

Field Name	Description
Text Along With Image	Enter the keyword 'edit' and select the value **Edit** from the results. This text value will be displayed in Edit control. That is in URL control, the control name will not be displayed.
URL in Tool Bar	Select **Y** from the drop down list. This is to place the **Edit** button in the **Tool Bar Container**.

After providing these details, the parameters required to invoke the edit operation and a function to perform edit have to be entered. To enter these details, perform the following steps:

7. Click *Function* tab.

8. Click **Add Functions** button.

9. Enter 'onclick' in the **Event Name** field. Select **onClick** from the results.

    By doing this the configured function will be triggered upon clicking the Control.

10. Enter 'openPopupForm' in the **Value** field and select **openPopupForm** from the results.

    The **openPopupForm** function is used to launch the Employee Details form in a new window.

11. Enter the value 1 in the Parameters field. This is a grouping of the parameters and later parameters with the Parameter ID 1 is used to invoke edit operation.

12. Click **Parameters** tab.

    You can see few default parameters in this tab. There are certain additional parameters, which need to be entered by clicking the **Add Parameter** button. Those parameters are tabulated here:

    Important: Do not modify or delete the default parameters.

ID	Name	Scope	Value
1	gsUsrId	Request	gsUsrId
1	User	Request	User
1	infodom	Request	infodom
1	segment	Request	segment
1	EMPID	Form	[*FrmEmployee.310] *Note: Pass the Form code and Control ID to get the details of selected employee dynamically. Need to provide asterisk to get this value from grid.*
1	formStatus	Form	[*FrmEmployee.350] *Note: Pass the Form code and Control ID to get the recordStatus of the selected employee dynamically. Need to provide asterisk to get this value from grid.*
1	parentMode	Static	2
1	parentStatus	Static	0
1	formId	Static	Employee_OPR
1	gridId *Note: This parameter refers to the ID of the grid Control, from which you select a record.*	Static	220 *Note: Here you select the record from Employees Summary grid Control, whose ID is 220.*

13. Click **Save**.

After performing the steps mentioned in this section, the **Tool Bar Container** will have an **Edit** button populated.

Creating a Delete Action Control in the Toolbar to Delete an Existing Employee Record

Upon separation of an employee from the organization and after the settlement is done, the details pertaining to that particular employee has to be removed from the database. Our form expect this to be performed by clicking a **Delete** button after selecting an employee record.

That is, a **Delete** button should be present in the **Tool Bar Container** and upon clicking this button, a selected record has to be removed from the system.

To create the **Delete** button in the previously created **Tool Bar Container**, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **FrmEmployee** (the Form Code of the child form you have created in the previous section) in the Forms toolbar.

2. Select the checkbox adjacent to **400** (the Container ID of the **Tool Bar Container** you have created in the previous section) in the *Containers* toolbar.

3. Click **New** button in the *Controls* toolbar.

   The *Control Maintenance* window is displayed.

4. Fill the fields in the Control Details section, as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **FrmEmployee**.
Container ID	This field is auto populated with the ID **400**.
Control ID	Enter a unique ID for the control. Enter **430**.
Control Name	Enter the name of the control. Enter **Delete**.
Control Type	Select the type of the control from the drop-down list. Select URL CONTROL from the list.
Row Number	Enter the row number of the control. Enter **1**. *Important: Row Number and Sequence values are having no significance, as the Edit button is placed on the toolbar. These values are entered because the Row Number and Sequence fields are mandatory. But ensure that there is no conflicts arise with the Row Number and Sequence of any other control.*
Sequence	Enter the sequence of the control in the row. Enter **3**.

5. Click the *Url Control Details* tab.

6. Enter the details as tabulated.

Field Name	Description
Text Along With Image	Enter the keyword 'delete' and select the value **Delete** from the results. This text value will be displayed in Delete control. That is in URL control, the control name will not be displayed.
URL in Tool Bar	Select **Y** from the drop down list. This is to place the **Delete** button in the **Tool Bar Container**.

7. Click **Save** button.

After providing these details, the parameters required to invoke the delete operation and a function to perform delete have to be entered. To enter these details, perform the following steps:

8. Click *Function* tab.

9. Click **Add Functions** button.

10. Enter 'onclick' in the **Event Name** field. Select **onClick** from the results.

    By doing this the configured function will be triggered upon clicking the Control.

11. Enter 'doDelete' in the **Value** field and select **doDelete** from the results.

    The **doDelete** function is used to delete the selected record from the database.

12. Enter the value 1 in the Parameters field. This is a grouping of the parameters and later parameters with the Parameter ID 1 is used to invoke delete operation.

13. Click **Parameters** tab.

You can see few default parameters in this tab. There are certain additional parameters, which need to be entered by clicking the **Add Parameter** button. Those parameters are tabulated here:

ID	Name	Scope	Value
1	gsUsrId	Request	gsUsrId
1	User	Request	User
1	infodom	Request	infodom
1	segment	Request	segment
1	save	Static	1
1	dbAction *Note: Specifies the database action that you are performing. These actions include 'insert', 'update', or 'delete'.*	Static	Delete *Note: Here we perform a delete operation and the dbAction is provided as 'Delete'.*
1	refreshType	Static	2
1	formId	Static	FrmEmployeeP
1	gridId	Static	220
	containerID	Static	200

14. Click **Save** Button.

After performing the steps mentioned in this section, the **Tool Bar Container** will have a **Delete** button populated.

Creating the Table Container to Display the Search Result

We have created the Employee Form and then created Employee Search Containers in the previous sections. Now, a result area has to be created to display the result of the search we perform on the search area. In the previous sections, we have learned that Employee ID, Employee Name, and Joining Date are the search criteria to perform a search. This section details about the procedure to create a search result area with those parameters.

To create the Table container, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **FrmEmployee** (the Form Code of the child form you have created) in the Forms toolbar.

2. Click **New** button in the Containers toolbar.

   The *Container Maintenance* window is displayed.

3. Fill the fields in the Container Details tab, as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the form code, **FrmEmployee** of the **Employee Grid Form**.
Container ID	Enter **300** as a unique ID for the container.
Container Name	Enter the name of the container. Enter **Table Container**.
Type Of Container	Select **GRID HTMLTABLE CONTAINER** from the drop-down list. This ensures that the container is explicitly created for listing the search result.
Container Mode	Select the container render mode from the drop-down list. Select **Editable** from the list.
No of Columns	Enter the number of columns to be displayed in the container. Enter **0**. The number **0** is entered because this field is mandatory. Number of columns have no significance in grid table Container.

4. Click **Save** button. The details of the Result Container are saved in the form.

Now the child Form has a toolbar and result area created in it. The next step is to place the necessary columns items in this result area.

Creating Employee ID, Employee Name, and Joining Date Controls in the Table Container

The **Table Container** is expected to display the employee details such as Employee ID, Employee Name, and Joining Date as the result of the search operation. In this section, we

will learn to create three controls (result columns), that is Employee ID, Employee Name, and Joining Date.

To create Employee ID, Employee Name, and joining Date controls in the previously created Container, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **FrmEmployee** (the Form Code of the child form you have created) in the Forms toolbar.

2. Select the checkbox adjacent to **300** (the Container ID of the **Table Container** you have created) in the *Containers* toolbar.

3. Click **New** button in the *Controls* grid.

    The *Control Maintenance* window is displayed.

4. Fill the fields in the Control Details tab, as tabulated here:

NOTE: The following table details the control creation of Employee ID, Employee Name, and Date of Joining. You will have to execute these steps thrice to create three controls.

Field Name	Description
Form Code	This field is auto populated with the code **FrmEmployee**.
Container ID	This field is auto populated with the ID **300**.
Control ID	Enter a unique ID for the control. Enter **310** for **Employee ID**, **320** for **Employee Name**, and enter **330** for **Joining Date**.
Control Name	Enter the name of the control. Enter **Employee ID**, **Employee Name**, and **Joining Date** controls in three different iterations of this procedure. After generation of the Form, the control names are displayed as the names of the result columns.
Control Type	Select the type of the control from the drop-down list. Select NUMBER CONTROL, TEXTBOX CONTROL, and DATE CONTROL from the drop down list for Employee ID, Employee Name, and Joining Date controls respectively.
Table Name	Enter **DIM_EMPLOYEE**. This is the name of the table to which the control points for DB operations.
Column Name	Enter **EMP_ID**, **EMP_NAME**, and **DOJ** for Employee ID, Employee Name, and Joining Date controls respectively. These are the names of the columns of **DIM_EMPLOYEE** table to which the control points for DB operations. This linking to the database tables and columns are established to perform database operations such as Create, Edit, Insert, Update, and so on.

Field Name	Description
Is Primary Key	Select **Y** from the drop down list only for the Employee ID.
Row Number	Enter the row number of the control. Enter **1**.
	For a table container, there is only one row to display the Controls. Therefore, even if you provide the Row Number as **2**, the controls will be displayed after the Controls having Row Number 1.
	Do this for **Employee ID**, **Employee Name**, and **Joining Date**.
Sequence	Enter the sequence of the control in the row. Enter **1**, **2**, and **3** for Employee ID, Employee Name, and Joining Date, respectively.
	By doing this, **Employee ID** column will appear as the first item, **Employee Name** as the second item, and **Joining Date** as the third item in the result area.

5. Click **Save**.

After performing the steps mentioned in this section, the **Table Container** will have Employee ID, Employee Name, and Joining Date fields populated.

Creating the Checkbox Adjacent to the Result Items for Selection

A checkbox, adjacent to the Employee ID field, is required to select the item in the **Table Container**. For this, make the following amendments in the Employee ID control as described here:

1. Select the checkbox adjacent to **FrmEmployeeP**, the Form code of the Employee Form.

2. Select the checkbox adjacent to **200**, the Container ID of the Grid Container.

3. Select the checkbox adjacent to **220**, the Control ID of the Employees Summary Control.

4. Click **Edit** button in the Controls toolbar.

   The *Control Maintenance* window is displayed.

5. Click the Grid Control Details tab.

6. Ensure that the values of **Check Box Req** and **Checkbox Display Req** are set as **Y**.

   This enables the checkboxes adjacent to the Employee ID, in the Employees Grid.

7. Click **Save**.

This enables the checkbox adjacent to the Employee ID field in the **Table Container**. This check box is required to perform edit, delete, or authorize operations.

9.1.2 Enabling Masking in the Records

Masking feature of Forms manager enables you to enable/disable/hide particular Containers/Controls for certain defined users/roles. That is, by enabling masking feature, you can apply masking in Container level or Control level, based on user roles, form status, parent mode, and parent status.

We have created the Employee Form with Search Container and Grid Container and also created Employee Grid Form, which is a child form. Now, to display the masking feature, we need to create another form which in turn will hold a Details Page Container and a Button Container.

The Details Page Container will have the controls to display the employee details and the Button Container will have the buttons for user operations such as cancel, save, update, approve, and reject.

9.1.2.1 Creating an Employee Details Form

The Employee Details Form acts as a base Form to hold the Details Page Container and a Button Container.

Perform the following steps to create a detail page, which in turn holds the containers:

1. Navigate to *Forms Manager > UI Configurations > Forms* menu from the AAI Forms Manager home page.

   The *Forms Maintenance* window is displayed.

2. Click **New** button in the *Forms* grid.

   The *Form Maintenance* window with the *Form Details* and *Custom Messages* tab is displayed. By default, the *Form Details* tab is displayed.

3. Fill the fields in the Form Definition tab, as tabulated here:

Field Name	Description
Form Code	Enter a unique code to identify the form. Enter **Employee_OPR**.
Form Name	Enter the name of the form. Enter **Employee Details Form**. This name will appear as a title of the web browser window.
Dataset Entities	Enter **DIM_EMPLOYEE**. This will fetch the data from DIM_EMPLOYEE entity.
Dataset Filter	Enter "1=1 and EMPLOYEE.EMP_ID like ('%[EMPID]%')". This filter will fetch the employee details of the selected employee record.

Field Name	Description
Security DS Entities	Enter the following value: **ORGUNIT_LOC_ROLE_USERGROUP JOIN USER_GROUP_MAP ON ORGUNIT_LOC_ROLE_USERGROUP.HREF0024 = USER_GROUP_MAP.V_GROUP_CODE** *Note: This query fetches the role code from the GRC view (Governance Risk and Compliance application view). If you do not have the GRC pack, then this query needs to be updated accordingly.*
Security DS Filters	Enter the following value: **USER_GROUP_MAP.V_USR_ID = '%USER_ID%' and VERSION_NO=1** *Note: The role query is fetched dynamically depending upon login user ID.*

4. Click **Save** button.

The Employee Details Form is saved with the details provided.

Now we can proceed further to create Details page Container and Button Container in this form.

Creating the Details page Container

We have created the Employee Details Form in the previous section. This section details about the procedure to create Details page Container and Button Container in this form.

To create the detail page container, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **Employee_OPR** (the Form Code of the form you have created in the previous section) in the Forms toolbar.

2. Click **New** button in the Containers toolbar.

   The *Container Maintenance* window is displayed.

3. Fill the fields in the Container Details tab, as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **Employee_OPR**, the Form code of the **Employee Details Form**.
Container ID	Enter **500** as a unique ID for the container.
Container Name	Enter the name of the container. Enter **Details Page Container**.
Type Of Container	Select **NORMAL CONTAINER** from the drop-down list.

Field Name	Description
Container Mode	Select the container render mode from the drop-down list. Select **Editable** from the list. This enables you to edit the detail page fields of this container.
No of Columns	Enter the number of columns to be displayed in the container. Enter **2**. The number **2** is entered because we need to have two columns in a row. That is Employee ID and Employee Name in the first row and Date of Joining in the second row. It is important to provide this information because, while generating the Form, the number of columns will be considered.

4. Click **Save** button. The details of the Details Page Container are saved in the form.

Now the Form has a Container to hold the employee details. The next step is to create the necessary controls, which is the employee details such as Employee ID, Employee Name, and Joining Date.

Creating Employee ID Control and Employee Name Control

The Employee Details Form hold the employee details in the Details Page Container. The employee details have to be listed with the fields such as Employee ID, Employee Name, Date of joining, and Status. To achieve this, the necessary Controls have to be created. This section details about the creation of Employee ID and Employee Name Controls.

To create Employee ID and Employee Name controls in the previously created Form, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **Employee_OPR** (the Form Code of the form you have created) in the Forms toolbar.

2. Select the checkbox adjacent to **500** (the Container ID of the Details page Container you have created in the previous section) in the Containers toolbar.

3. Click **New** button in the *Controls* grid.

   The *Control Maintenance* window is displayed.

4. Fill the fields in the Control Details tab, as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **Employee_OPR**.
Container ID	This field is auto populated with the ID **500**.
Control ID	Enter a unique ID for the control. Enter **510** for **Employee ID** and Enter **520** for **Employee Name**.

Field Name	Description
Control Name	Enter the name of the control. Enter **Employee ID**. After completion of this procedure, repeat the steps to create the **Employee Name** control. After generation of the Form, the control names are displayed as the names of the fields.
Control Type	Select the type of the control from the drop-down list. Select NUMBER CONTROL from the list. This accepts only numerals in the field. When you create the **Employee Name** control, select TEXTBOX CONTROL from the drop down list. This is a simple text box control.
Table Name	Enter **DIM_EMPLOYEE**. This is the name of the table to which the control points for DB operations.
Column Name	Enter **EMP_ID** and **EMP_NAME** for Employee ID and Employee Name controls respectively. These are the names of the columns of **DIM_EMPLOYEE** table to which the control points for DB operations. This linking to the database tables and columns are established to perform database operations such as insert, update, and so on.
Is Used In Db Operation	Select **Y** if this control is used in database operation.
Row Number	Enter the row number of the control. Enter 1. By doing this, the control will appear in the 1st row in the Container. Do this for both **Employee ID** and **Employee Name**.
Sequence	Enter the sequence of the control in the row. Enter **1** for Employee ID and Enter 2 for Employee Name. By doing this, the **Employee ID** field will appear as the first item of the first row in the search area and **Employee Name** will appear as the second item.

5. Click **Save**.

After performing the steps mentioned in this section, the Details Page Container will have Employee ID and Employee name fields populated. The Employee ID field will accept the numeric data whereas the Employee Name field is alphanumeric.

Creating Employee Joining Date Control

Along with Employee ID and Employee Name, it is expected that the Details Page Container will display the Employee Joining Date and Status information. This section details the process to create the Joining Date Control.

To create the Employee Joining Date control in the Employee Details Form, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **Employee_OPR** (the Form Code of the form you have created) in the Forms toolbar.

2. Select the checkbox adjacent to **500** (the Container ID of the Details Page Container you have created in the previous section) in the Containers toolbar.

3. Click **New** in the *Controls* grid.

   The *Control Maintenance* window is displayed.

4. Fill the fields in the *Control Details* tab as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **Employee_OPR**.
Container ID	This field is auto populated with the ID **500**.
Control ID	Enter a unique ID for the control. Enter **530**. This number is entered because we have previously used **510** and **520** as the Control IDs of **Employee ID** and **Employee Name** respectively.
Control Name	Enter the name of the control. Enter **Joining Date**.
Control Type	Select the type of the control from the drop-down list. Select DATE CONTROL from the list. This displays the control with a calendar and you will be able to pick the joining date from this calendar.
Table Name	Enter **DIM_EMPLOYEE**. This is the name of the table to which the control points for DB operations.
Column Name	Enter **DOJ** for Joining Date control. This is the name of the column of **DIM_EMPLOYEE** table to which the control points for DB operations. This linking to the database tables and columns are established to perform database operations such as insert, update, and so on.
Row Number	Enter the row number of the control. Enter 2. By doing this, the control will appear in the 2nd row in the Container.
Sequence	Enter the sequence of the control in the row. Enter 1. By doing this, the Control will appear as 1st item in the 2nd row of the container.
Format	Enter dd-mon-yyyy. This will display the date value in date – month – year format.

5. Click **Save**.

After saving this Control, the Details Page Container will have Employee ID, Employee Name, and Joining Date fields present.

Employees who joined the organization has to be approved by the approving authorities. Usually the terms Approved, Unapproved, or Reject are used to display the approval status of the employee. The Status Control is used to display such information.

To create the Employee Status control in the Employee Details Form, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **Employee_OPR** (the Form Code of the form you have created) in the Forms toolbar.

2. Select the checkbox adjacent to **500** (the Container ID of the Details Page Container you have created in the previous section) in the Containers toolbar.

3. Click **New** in the *Controls* grid.

   The *Control Maintenance* window is displayed.

4. Fill the fields in the *Control Details* tab as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **Employee_OPR**.
Container ID	This field is auto populated with the ID **500**.
Control ID	Enter a unique ID for the control. Enter **540**. This number is entered because we have previously used **510**, **520,** and **530** as the Control IDs of **Employee ID**, **Employee Name**, and **Joining Date** respectively.
Control Name	Enter the name of the control. Enter **Status**.
Control Type	Select the type of the control from the drop-down list. Select SELECT CONTROL from the list.
Table Name	Enter **DIM_EMPLOYEE**. This is the name of the table to which the control points for DB operations.
Column Name	Enter **STATUS** for Status control. This is the name of the column of **DIM_EMPLOYEE** table to which the control points for DB operations. This linking to the database tables and columns are established to perform database operations such as insert, update, and so on.
Is Used In Db Operation	Select **Y** if this control is used in database operation.

Field Name	Description
Row Number	Enter the row number of the control. Enter 2. By doing this, the control will appear in the 2nd row in the Container.
Sequence	Enter the sequence of the control in the row. Enter 2. By doing this, the Control will appear as 2nd item in the 2nd row of the container.

5. Click *Select Control Details* tab.

6. Click **Add Options** button and provide the following Option Keys and corresponding Option values:

Option Key	Option Value
3	Unauthorized
8	Authorized
10	Rejected
45	Reviewed

These values are used to determine and display the status of an employee record.

7. Click **Save**.

After saving this Control, the Details Page Container will have Employee ID, Employee Name, Joining Date, and Status fields present.

Creating the Button Container

We have created the Employee Details Form and then Details page Container with controls, in the previous sections. This section details about the procedure to create Button Container in this form.

To create the Button container, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **Employee_OPR** (the Form Code of the form you have created in the previous section) in the Forms toolbar.

2. Click **New** button in the Containers toolbar.

    The *Container Maintenance* window is displayed.

3. Fill the fields in the Container Details tab, as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **Employee_OPR**.

Field Name	Description
Container ID	Enter 6**00** as a unique ID for the container.
Container Name	Enter the name of the container. Enter **Button Container**.
Type Of Container	Select **BUTTON CONTAINER** from the drop-down list.
Container Mode	Select the container render mode from the drop-down list. Select **Editable** from the list. This enables the button controls of this container.
No of Columns	Enter the number of columns to be displayed in the container. Enter **3**. The number **3** is entered because this is a mandatory field. This field does not have any significance in button container.

4. Click **Save** button. The details of the Details Page Container are saved in the form.

Creating Cancel, Save, Approve, Update, and Reject Actions Controls

To create the Cancel, Save, Approve, Update, and Reject Actions Controls in the Button Container, perform the following steps:

1. From the *Forms Maintenance* window, select the checkbox adjacent to **Employee_OPR** (the Form Code of the form you have created) in the Forms toolbar.

2. Select the checkbox adjacent to **600** (the Container ID of the Button Container you have created in the previous section) in the Containers toolbar.

3. Click **New** in the *Controls* grid.

   The *Control Maintenance* window is displayed.

4. Fill the fields in the *Control Details* tab as tabulated here:

Field Name	Description
Form Code	This field is auto populated with the code **Employee_OPR**.
Container ID	This field is auto populated with the ID **600**.
Control ID	Enter a unique ID for the control. Enter **610**, **620**, **630**, **640**, and **650** for **Cancel**, **Save**, **Approve**, **Update**, and **Reject** Controls respectively.
Control Name	Enter the name of the controls. Enter **Cancel**, **Save**, **Approve**, **Update**, and **Reject** in different iterations of this procedure.
Control Type	Select the type of the control from the drop-down list. Select ACTION CONTROL from the list for all the five controls.
Row Number	Enter the row number of the control. Enter 1.

Field Name	Description
	For a button Container, there is only one row to display the Controls. Therefore, even if you provide the Row Number as **2**, the controls will be displayed after the Controls having Row Number 1. Do this for **Cancel**, **Save**, **Approve**, **Update**, and **Reject** Controls.
Sequence	Enter the sequence of the control in the row. Enter 1, 2, 3, 4, and 5 for Cancel, Save, Approve, Update, and Reject Controls respectively. By doing this, the Cancel, Save, Approve, Update, and Reject Controls will be displayed as 1st, 2nd, 3rd, 4th, and 5th items respectively, in the Button Container.

5. Click **Save**.

After saving this Control, the Buttons Container will have Cancel, Save, Approve, Update, and Reject buttons present.

After saving this Control, the parameters required to invoke the buttons and a function to perform action have to be entered. To enter these details, repeat the following steps for all the controls:

1. Select the checkbox adjacent to the **Control ID** of the each Controls and click **Edit** button.

    The *Control Maintenance* window is displayed.

2. Click *Function* tab.

3. Click **Add Functions** button.

4. Enter 'onclick' in the **Event Name** field. Select **onClick** from the results.

    By doing this the configured function will be triggered upon clicking the Control.

5. Enter the following values in the **Value** field and select the values from the results as tabulated below, for each controls.

Control Name	Event Name	Value	Parameters
Cancel	onClick	closeAndRefreshParentForm *Note: The closeAndRefreshParentForm function is used to close the current Form, go back to the parent Form, and refresh the parent Form.*	1
Save	onClick	StartContainerSave *Note: This function saves the data seeded by user.*	1

Approve	onClick	StartContainerSave	1
Update	onClick	StartContainerSave	1
Reject	onClick	StartContainerSave	1

6. Click **Parameters** tab.

You can see few default parameters in this tab. There are certain additional parameters which need to be entered by clicking the **Add Parameter** button.

Important: *Do not modify or delete the default parameters.*

Perform this for each controls as provided:

Cancel Control

ID	Name	Scope	Value
1	gsUsrId	Request	gsUsrId
1	User	Request	User
1	infodom	Request	infodom
1	segment	Request	segment
1	refreshType	Static	2
1	containerID	Static	100,200
1	formId	Static	FrmEmployeeP

Save Control

ID	Name	Scope	Value
1	gsUsrId	Request	gsUsrId
1	User	Request	User
1	infodom	Request	infodom
1	EMPID	Form	[Employee_OPR.510]
1	segment	Request	segment
1	formStatus	Form	[Employee_OPR.540]
1	parentMode	Static	1
1	parentStatus	Static	0
1	formId	Static	Employee_OPR
1	saveContainerID *Note: Refers to the Container IDs which are*	Static	500 *Note: Here the Container*

	need involved in the save action.		*involved is Details page Container and the Container ID of the same is 500.*
1	dbAction	Static	Insert
1	Save	Static	1
1	userId *Note: Along with the parentMode and parentStatus, the userId* *Also has to be passed to the calling Form to evaluate the masking. This can be either be dynamically fetched from the logged in user or provided as static values.*	Request	userId *Note: The role for this control has been dynamically fetched from the logged in user.*
1	refreshType	Static	2
1	containerID	Static	500,600

Approve Control

ID	Name	Scope	Value
1	gsUsrId	Request	gsUsrId
1	User	Request	User
1	infodom	Request	infodom
1	EMPID	Form	EMPID
1	segment	Request	segment
1	formStatus	Form	[Employee_OPR.540]
1	parentMode	Static	1
1	parentStatus	Static	0
1	saveContainerID	Static	500
1	formId	Static	Employee_OPR
1	dbAction	Static	Update
1	Save	Static	1
1	userId	Request	userId
1	refreshType	Static	2
1	containerID	Static	500,600

1	ValidationRuleSet *Note: This refers to the rule set ID which will be validated before a request is submitted.*	Static	124 *Note: This value is entered via Validation Rules window available from the Forms toolbar. For this select the checkbox adjacent to the Form code Employee_OPR of the Employee Details Form and click Validations button. For more information, refer to [Validation Rule](#) section.*

Update Control

ID	Name	Scope	Value
1	gsUsrId	Request	gsUsrId
1	User	Request	User
1	infodom	Request	infodom
1	EMPID	Request	EMPID
1	segment	Request	segment
1	formStatus	Form	[Employee_OPR.540]
1	parentMode	Static	1
1	parentStatus	Static	0
1	saveContainerID	Static	500
1	formId	Static	Employee_OPR
1	dbAction	Static	Update
1	Save	Static	1
1	userId	Request	userId
1	refreshType	Static	2
1	containerID	Static	500,600
1	ValidationRuleSet	Static	125

Reject Control

ID	Name	Scope	Value
1	gsUsrId	Request	gsUsrId
1	User	Request	User
1	infodom	Request	infodom
1	EMPID	Request	EMPID
1	segment	Request	segment
1	formStatus	Form	[Employee_OPR.540]
1	parentMode	Static	1
1	parentStatus	Static	0
1	saveContainerID	Static	500
1	formId	Static	Employee_OPR
1	dbAction	Static	Update
1	Save	Static	1
1	userId	Request	userId
1	refreshType	Static	2
1	containerID	Static	500,600
1	ValidationRuleSet	Static	123

7. Click **Save**.

After performing the steps mentioned in this section, the **Employee Details Form** will have **Cancel**, **Save**, **Approve**, **Update**, and **Reject** buttons present.

Selecting the Operations that can be Performed by the Control Owner

The procedures in the preceding sections have created employee details page and a buttons container for operations such as approve, reject, update, cancel, or save. Now, we can determine the accessibility of different users with different roles to these functions using the masking functionality of Forms Manager.

It is assumed that there are multiple stages present for a Form. This stages can be create, edit, authorize, and so on. Here we discuss the Create stage of the Form.

Assume that you are proving the necessary access privileges to the Control Owner (CO) of the organization. The CO must have the privileges to create, update, or delete the employee details. Meantime, the CO must not have the privileges to perform Approve or Reject action on an employee record.

Here we define the masking for create operation by the CO. Perform the following procedure to create such a masking:

1. Select the checkbox adjacent to the **Employee_OPR** (the form code of Employee Details form).

2. Click **Masking** button form the *Forms* toolbar.

   The *Masking Parameters* page is displayed. You can see the **Form ID** field is populated with the code **Employee_OPR**, the Form code of Employee Grid Form.

3. Select the Role **CO-Control Owner** from the **Roles** drop down list.

4. Enter number **4** in the **Form Status** field.

   The value **4** has no direct significance here. Actually, we are defining the value **4** for this Create stage of the Form. Once the Form Status value is set as **4** for creation stage, you can use this in the Control parameters.

5. Select the value **2** from the drop down list in **Parent Mode** field.

   Parent Mode **1** opens the Form in View only mode and Parent Mode **2** opens the Form in Editable mode. Selecting the number 2 from the drop down ensures that the Form opens for create operation is in editable mode.

6. Enter the number **0** in the **Parent Status** field.

   The value **0** is entered because there is no parent grid –child grid relationship present here.

   > **NOTE:** The role for this use case has been dynamically fetched from the logged in user.

7. From the *Mask By(Container/Control)* toolbar, and perform the following:

   i. Select the Editable check box for Employee ID, Employee Name, and Date of Joining controls.

      This is because the CO needs to edit these details.

   ii. Select the Hidden check box for Approver Comments, Approve, Cancel, and Reject controls.

      These controls are hidden for the CO because only a user with approver privileges can approve or reject an employee and can provide comments.
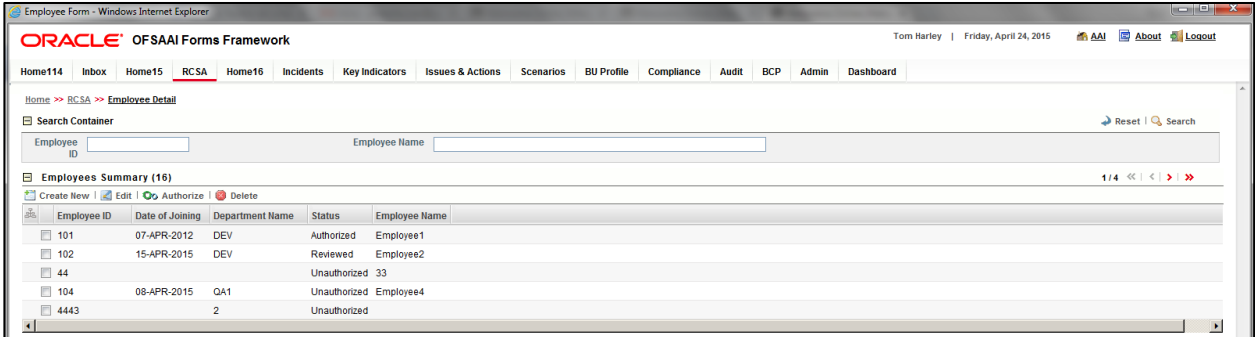
   iii. Click **Save**.

The above procedure details the creation of masking for Create operation. The same can be repeated with different masking parameter value combinations to create masking for Edit and Approve operations.

9.1.3 Summary

As mentioned in the initial section, a Form generated after performing the preceding procedure will have a Search area with three fields Employee ID, Employee Name, and Joining Date and a Result area which will display the search results with Employee ID, Employee Name, and joining Date. The result area toolbar will also have Edit, Create New, Authorize, and Delete buttons.

After going through the second use case, that is Enabling Masking in Records, you will be able to enable/disable different features for different Users/Roles.

After performing the Form generation process, the output will look like the following:

Note: *To know more about Form Generation, Menu Creation, and Menu Generation, refer to the respective sections in this document.*