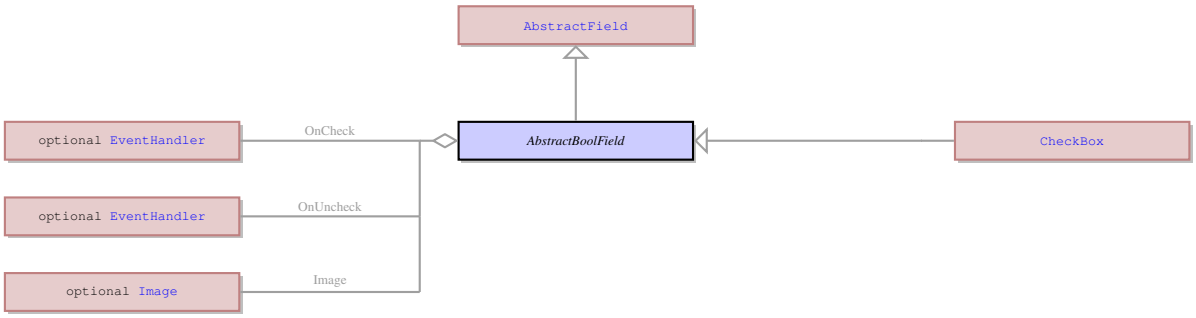
# Model's reference

October 9, 2024

# Contents

# 1 AbstractBoolField Not-referenced

## 1.1 Diagram




## 1.2 Description

**Name**: AbstractBoolField

It is an abstract UI element, which unites the concrete UI elements that can be in one of the two states: enabled (TRUE) or disabled (FALSE). The concrete UI elements that inherit their properties from the AbstractBoolField are CheckBox .

**Parent:** AbstractField - This UI element represents an abstract field from which all the form widgets inherit their properties. This abstract UI element unites all form fields - the form elements that can accept and display data - as opposed tp form containers - elements that determine the form layout.

It is an abstract UI element, which unites the concrete UI elements that can be in one of the two states: enabled (TRUE) or disabled (FALSE). The concrete UI elements that inherit their properties from the AbstractBoolField are CheckBox .

## 1.3 Children

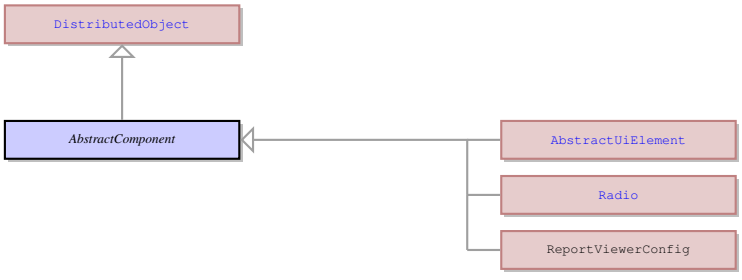
- CheckBox - It is a concrete UI element that consists of a single check box and a label attached to it. It can be in only one of 2 states at a time - either checked or unchecked. Changing of the state can either change the value that will be written to the underlying variable, or trigger an event handler.

## 1.4 Fields

| Name | Type | Description |
|---|---|---|
| OnCheck | optional EventHandler | The OnCheck field defines the event which will be triggered if the IsChecked field of the UI element is changed to TRUE. |
| OnUncheck | optional EventHandler | The OnUncheck field defines the event which will be triggered if the IsChecked field of the UI element is changed to FALSE. |
| Title | optional String | This is the inscription attached to the UI element. Usually this is the text of all sorts of labels. |
| Image | optional Image | It is an image that can be applied to other UI elements, e.g. to a button. |
| AllowNewlines | Bool | This property specifies whether the Enter key will be used to move to another form element at runtime (if the value is FALSE), or it will create a newline symbol inside the current field (if the value is TRUE). It is typically applied for the TextArea element. |

# 2 AbstractComponent Not-referenced

## 2.1 Diagram



## 2.2 Description

**Name**: AbstractComponent

This is the common parent of all UI elements.

**Parent:** DistributedObject - This is the root of the UI element hierarchy.

This is the common parent of all UI elements.

## 2.3 Children

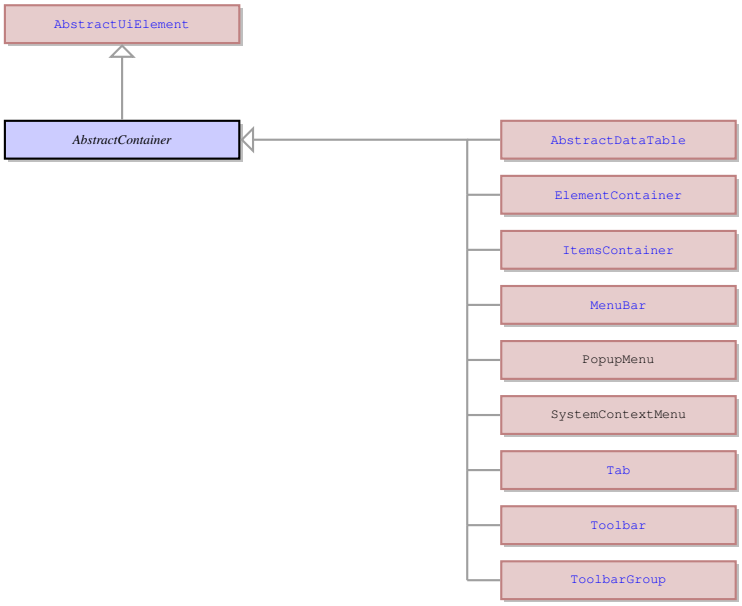
- AbstractUiElement - AbstractUiElement is the base class for UI widgets. It is a generic UI element that can accept user actions. Most of concrete UI elements must inherit the properties and action types from the AbstractUIElement.
- Radio - A Radio is a UI element that can only occur inside a RadioGroup . It can be in either of the two states at a time - checked or unchecked. The state of one Radio in a list influences and depends on the state of other items in the same list.

## 2.4 Fields

| Name | Type | Description |
|---|---|---|
| Identifier | String | It is a unique name of a UI element by which it can be referenced. |

# 3 AbstractContainer Not-referenced

## 3.1 Diagram




## 3.2 Description

**Name**: AbstractContainer

This UI element represents an abstract container from which all the form containers their properties. This abstract UI element unites all form containers - elements that determine the form layout.

**Parent:** AbstractUiElement - AbstractUiElement is the base class for UI widgets. It is a generic UI element that can accept user actions. Most of concrete UI elements must inherit the properties and action types from the AbstractUIElement.

This UI element represents an abstract container from which all the form containers their properties. This abstract UI element unites all form containers - elements that determine the form layout.

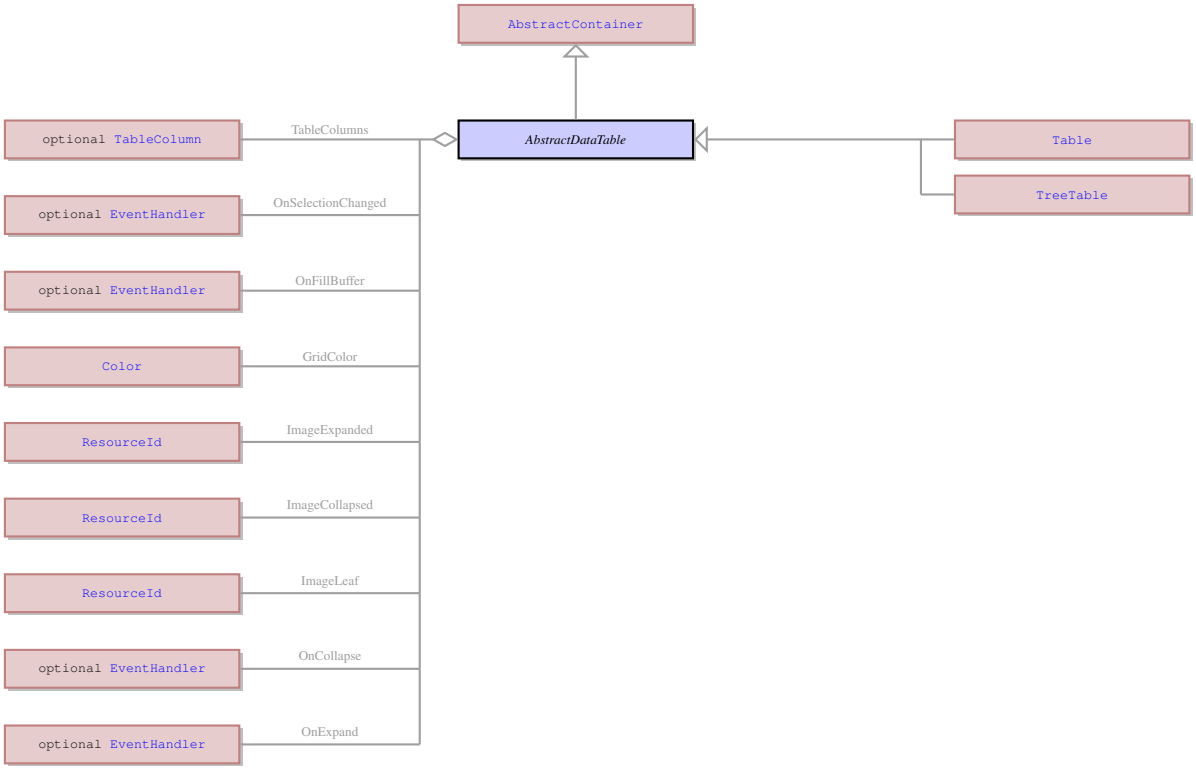
## 3.3 Children

- AbstractDataTable - This UI element is used to display and edit data in a customized two-dimensional table of cells. The data in the cell therefore can be retrieved by specifying the row and column identifier of that cell in the table. AbstractDataTable UI element manages the overall appearance and behavior of the table, but does not have direct influence on the columns and rows.
- ElementContainer - This UI element unites all the containers which can contain exactly one element. The containers that derive from ElementContainer UI element can be logically opposed to containers derived from ItemsContainer UI element that can contain any number of elements of any type. The elements that inherit their properties from ElementContainer can encompass such elements as ring menu area or any other container. They can also contain an element belonging to ui.AbstractFiled class, but only one such element.

- ItemsContainer - The containers that can contain any number of UI elements inherit their properties from the ItemsContainer UI element. These are the containers that can contain any number of form fields and other containers, as opposed to the containers belonging to ElementContainer class.
- MenuBar - This is the area for the top menu (is not applied to ring menus). It includes menu options and menu option groups.
- Tab - This is a special type of container which can contain any number of elements, but these elements can only be of TabPage . The Tab serves as the container for a stack of tab pages with only one page visible at a time. Other pages can be brought forward by clicking on their tabs.
- Toolbar - This is the container that incorporates toolbar buttons.
- ToolbarGroup - This is a set of toolbar buttons that are united into a single group. The group unites the toolbar buttons that have the same conditions for being displayed. It was designed to make the toolbar more dynamic - to display or hide the toolbar groups depending on what widgets are active and to combine different groups freely.

# 4 AbstractDataTable Not-referenced

## 4.1 Diagram




## 4.2 Description

**Name**: AbstractDataTable

This UI element is used to display and edit data in a customized two-dimensional table of cells. The data in the cell therefore can be retrieved by specifying the row and column identifier of that cell in the table. AbstractDataTable UI element manages the overall appearance and behavior of the table, but does not have direct influence on the columns and rows.

**Parent:** AbstractContainer - This UI element represents an abstract container from which all the form containers their properties. This abstract UI element unites all form containers - elements that determine the form layout.

This UI element is used to display and edit data in a customized two-dimensional table of cells. The data in the cell therefore can be retrieved by specifying the row and column identifier of that cell in the table. AbstractDataTable UI element manages the overall appearance and behavior of the table, but does not have direct influence on the columns and rows.

## 4.3 Children

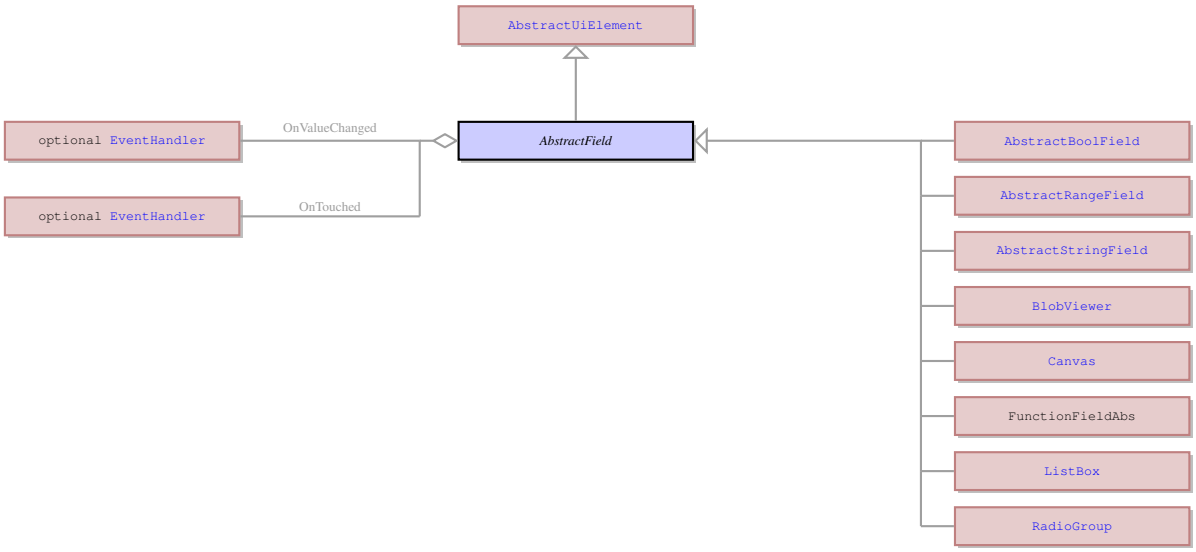
- Table - This is a container that can only contain a specific type of element - TableColumn . It serves as the root container of a table with rows and columns of widgets used to display and input data.
- TreeTable - This is a special container that can contain only TableColumn elements. It is similar to a table, but arranges the items in a hierarchical order and allows to fold and unfold rows.

## 4.4 Fields

| Name | Type | Description |
|---|---|---|
| TableColumns | list of TableColumn | A set of columns that belong to the same table. |
| RowHeight | optional String | It defines the default height of a table row in pixels. |
| IsMultiSelect | Bool | It enables or disables the possibility to select multiple rows of one table during DISPLAY ARRAY execution. The default value is FALSE - the multi-selection is turned off. |
| OnSelectionChanged | optional EventHandler | It defines an event which must be triggered if the current row is changed or if a new row is selected or deselected, if the multiselect mode is on. |
| GridColor | Color | The color of the grid lines that separate one table cell from the other cells. |
| Indent | optional Int | It specified how far should the tree elements in each sub-tree be offset to the right. It is used if the AutoIndent is set to false. |
| ImageExpanded | ResourceId | It specifies the icon to be shown next to an expanded tree element which has a sub-tree. Its priority is lower than that of the ImageColumn and it is ignored at runtime if both are used. |
| ImageCollapsed | ResourceId | It specifies the icon to be shown next to a collapsed tree element which has a sub-tree. Its priority is lower than that of the ImageColumn and it is ignored if both are used. |
| ImageLeaf | ResourceId | It specifies the global icon for the tree elements that do not have the nested elements / sub-trees. Its priority is lower than ImageColumn and is ignored at runtime if ImageColumn is also set. |
| OnCollapse | optional EventHandler | It is the event that is triggered when the tree or sub-tree received the command to collapse (the user clicked on the collapse button). |
| OnExpand | optional EventHandler | It is the event that is triggered when the tree or sub-tree received the command to unfold (the user clicked on the unfold button). |
| ColumnParentId | optional String | It specifies the identifier of the column that stores the id of the parent tree element which serves as the root of the sub-tree to which each row belongs. If a column's identifier is specified in here, the column becomes hidden. |
| ColumnId | optional String | It specifies the identifier of the column that stores the id of the row. If a column's identifier is specified in here, the column becomes hidden. |
| ColumnExpanded | optional String | It should be assigned to the column which indicates whether each tree element should be collapsed or expanded when the tree is first displayed at runtime. It is an optional column in the array that is used in the DISPLAY ARRAY for the tree container. In this column each row should have value 1, if the element on the row should be expanded, and 0 if it should be collapsed. |
| ColumnIsNode | optional String | It should be assigned to the column which indicates the tree items that have children. It is an optional column in the array that is used in the DISPLAY ARRAY for the tree container. In this column each row should have value 1, if the element on the row has children and 0 if it does not. For the rows where 1 is set, the icons indicating that the element includes a sub-tree will be shown next to the element at runtime even if it does not factually have any children. The elements for which 0 is set will look as if they have no children even if they actually do. |
| ColumnImage | optional String | It should be assigned to the column which contains individual images for each tree element. It is an optional column in the array that is used in the DISPLAY ARRAY for the tree container. In this column each row should contain a BYTE value which will be displayed next to the tree element at runtime. |
| ColumnEdit | optional String | It should be assigned to the column containing the labels for the tree items. By default is is the first column of the table. |

# 5 AbstractField Not-referenced

## 5.1 Diagram




## 5.2 Description

**Name**: AbstractField

This UI element represents an abstract field from which all the form widgets inherit their properties. This abstract UI element unites all form fields - the form elements that can accept and display data - as opposed tp form containers - elements that determine the form layout.

**Parent:** AbstractUiElement - AbstractUiElement is the base class for UI widgets. It is a generic UI element that can accept user actions. Most of concrete UI elements must inherit the properties and action types from the AbstractUIElement.

This UI element represents an abstract field from which all the form widgets inherit their properties. This abstract UI element unites all form fields - the form elements that can accept and display data - as opposed tp form containers - elements that determine the form layout.

## 5.3 Children

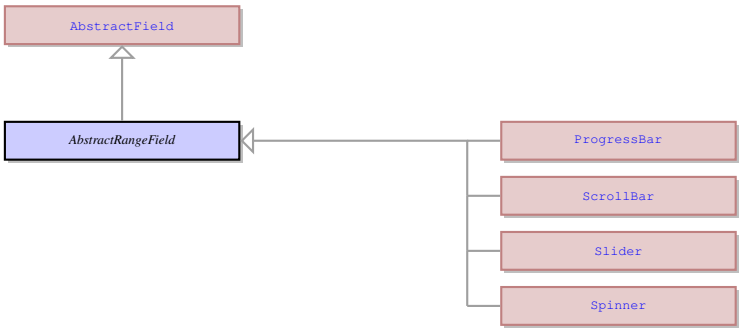
- AbstractBoolField - It is an abstract UI element, which unites the concrete UI elements that can be in one of the two states: enabled (TRUE) or disabled (FALSE). The concrete UI elements that inherit their properties from the AbstractBoolField are CheckBox .
- AbstractRangeField - It is an abstract UI element, which unites the concrete UI elements which accept only the values included into the specified range. It is typically a range or numeric values, for example from 1 to 100. The concrete UI elements that inherit their properties from the AbstractRangeField are Slider , ProgressBar , Spinner , and ScrollBar .
- AbstractStringField - It is an abstract UI element, which unites the concrete UI elements that accept a character string as their value. Most of the concrete UI elements that are not containers inherit their properties from this element.
- BlobViewer - This UI element is used to display and edit BYTE or TEXT values e.g a text or a picture.
- Canvas - It is a concrete UI element that serves as a container for SVG images and allows interactions with such images.
- ListBox - It is a concrete UI element that has the form of a form field with a list of values inside available for selection. It does not accept values entered from the keyboard, but can participate in the input and records into the underlying variable the value that was selected from the list.
- RadioGroup - The Radio is a UI element - a form widget - that contains a set of Radio which are either in selected or deselected state. The user can select only one Radio belonging to the same RadioGroup at a time, selecting a new item from the set deselects the previously selected element.

## 5.4 Fields

| Name | Type | Description |
|---|---|---|
| OnValueChanged | optional EventHandler | This event is triggered when the value of the UI element changes. The value of the element is the value which will be recorded to the underlying variable when the input finishes. |
| OnTouched | optional EventHandler | No information |

# 6 AbstractRangeField Not-referenced

## 6.1 Diagram




## 6.2 Description

**Name**: AbstractRangeField

It is an abstract UI element, which unites the concrete UI elements which accept only the values included into the specified range. It is typically a range or numeric values, for example from 1 to 100. The concrete UI elements that inherit their properties from the AbstractRangeField are Slider , ProgressBar , Spinner , and ScrollBar .

**Parent:** AbstractField - This UI element represents an abstract field from which all the form widgets inherit their properties. This abstract UI element unites all form fields - the form elements that can accept and display data - as opposed tp form containers - elements that determine the form layout.

It is an abstract UI element, which unites the concrete UI elements which accept only the values included into the specified range. It is typically a range or numeric values, for example from 1 to 100. The concrete UI elements that inherit their properties from the AbstractRangeField are Slider , ProgressBar , Spinner , and ScrollBar .

## 6.3 Children

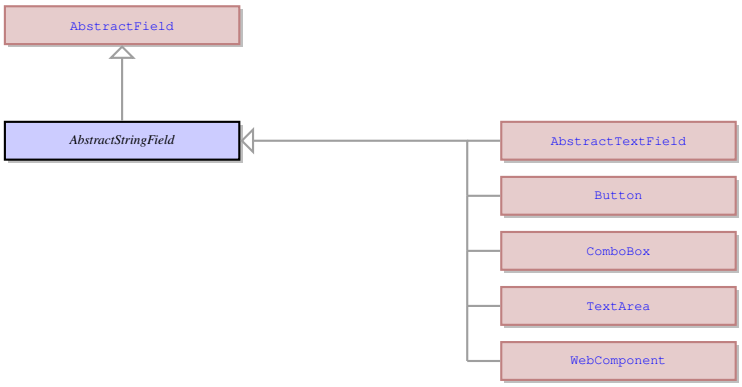
- ProgressBar - This is a concrete UI element that has a form of a rectangular bar that can show the progress of the application execution by means of being filled with colour background gradually. For it to reflect the progress, the DISPLAY TO statement should be used to indicate the degree to which it must be filled after each stage. The progress bar should have the maximum value (when it is displayed to the progress bar it becomes 100 percent filled) and minimum value (when displayed makes the progress bar 0 percent filled).
- ScrollBar - It is a concrete UI element that is represented by a scrollbar. It as the maximum and minimum values and the slider can be moved by the user at runtime or by displaying values to the element.
- Slider - This is a concrete UI element that consists of a scale and a slider that can move across this scale. The slider widget has the minimum and maximum value which present the start and the end of the scale. It can be moved directly by the user during the input, or it can be moved if a value within its values range is displayed to it by the 4GL means.
- Spinner - This is a concrete UI element that has a form of a field available for inputting and displaying data that accepts only values inside the allowed range of values. It has the up and down arrows on the right that allow the user to scroll through the acceptable values and prevents the user from entering values from keyboard.

## 6.4 Fields

| Name | Type | Description |
|---|---|---|
| MinValue | Int | The minimum value in the range of values accepted by a UI element. |
| MaxValue | Int | The maximum value in the range of values accepted by a UI element. |

# 7 AbstractStringField Not-referenced

## 7.1 Diagram




## 7.2 Description

**Name**: AbstractStringField

It is an abstract UI element, which unites the concrete UI elements that accept a character string as their value. Most of the concrete UI elements that are not containers inherit their properties from this element.

**Parent:** AbstractField - This UI element represents an abstract field from which all the form widgets inherit their properties. This abstract UI element unites all form fields - the form elements that can accept and display data - as opposed tp form containers - elements that determine the form layout.

It is an abstract UI element, which unites the concrete UI elements that accept a character string as their value. Most of the concrete UI elements that are not containers inherit their properties from this element.

## 7.3 Children

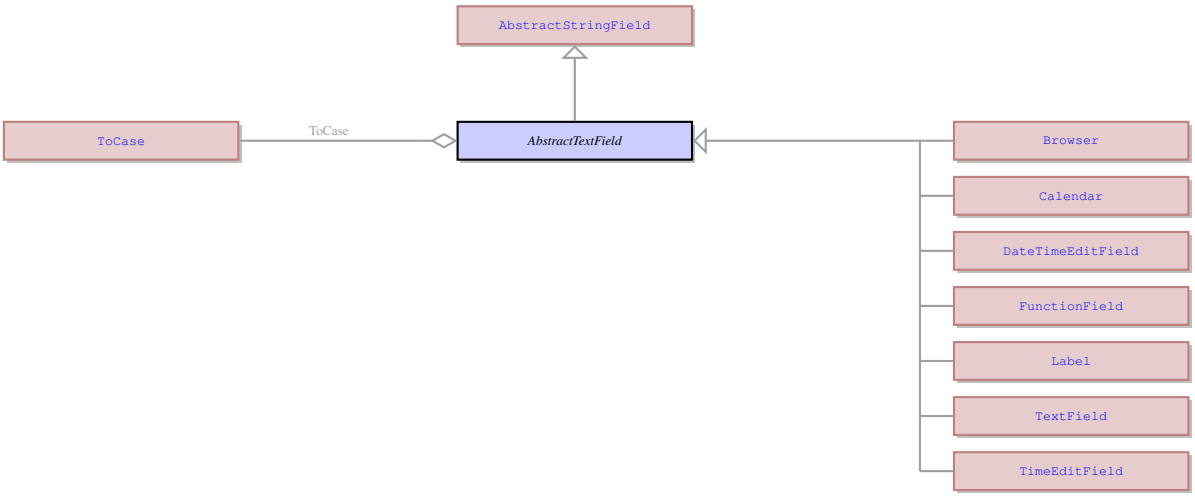
- AbstractTextField - It is an abstract UI element, which unites a subset of AbstractStringField elements with the exception of TextArea , ComboBox , and Button . Typically it includes the UI elements which allow entering values, like normal text fields, and usually are only one line wide.
- Button - It is a clickable concrete UI element in a form of a button that is typically used to trigger various events when it is pressed and/or released. It can have a text label or an image on it.
- ComboBox - It is a concrete UI element that has a form of a text field with a drop-down list. It can be restricted to accepting only values from this drop-down list, or it can be set to accept values from the list and the custom values entered by the user. Only one item from the drop-down combobox list can be selected at a time.
- TextArea - This is a concrete UI element that has the form of a text field and shares many features with TextField , but is designed for working with multiline text instead of single lines of text. It does not have some features of the text field that deal with the navigation between fields, but instead it had improved facilities for navigating inside the field.
- WebComponent - It is a concrete UI element that serves as a container for third party web components. It is basically just the space which is filled by the web component at runtime.

## 7.4 Fields

| Name | Type | Description |
|---|---|---|
| Text | optional String | This is the value of the UI element, typically of a text field or a combo box which is recorded to the variable linked to it after the input or which is displayed to it. |

# 8 AbstractTextField Not-referenced

## 8.1 Diagram




## 8.2 Description

**Name**: AbstractTextField

It is an abstract UI element, which unites a subset of AbstractStringField elements with the exception of TextArea , ComboBox , and Button . Typically it includes the UI elements which allow entering values, like normal text fields, and usually are only one line wide.

**Parent:** AbstractStringField - It is an abstract UI element, which unites the concrete UI elements that accept a character string as their value. Most of the concrete UI elements that are not containers inherit their properties from this element.

It is an abstract UI element, which unites a subset of AbstractStringField elements with the exception of TextArea , ComboBox , and Button . Typically it includes the UI elements which allow entering values, like normal text fields, and usually are only one line wide.

## 8.3 Children

- Browser - It is a concrete UI element that encompasses a built-in web browser with a somewhat limited functionality. It is used to display web pages, but can also work as a file explorer, display contents of files (e.g. text or image files), etc.
- Calendar - It is a concrete UI element that serves for displaying and inputting dates and has a drop-down lookup calendar for graphical date selection.
- DateTimeEditField - This is a concrete UI element that accepts a limited range of datetime values.
- FunctionField - This is a form widget in a form of a text field with a button attached to its right side.
- Label - It is a concrete UI element that has the form of a label with some text, image or both. The label is not an interactive widget and cannot be used for input, but the information displayed by it can be changed dynamically.
- TextField - This is a concrete UI element that is commonly used for input and displaying information. Normally it is used to process a single line of data.
- TimeEditField - This is a concrete UI element that accepts a limited range of time values. The value inside the field is formatted into hh:mm:ss format. It also has up and down arrows that can scroll the data in the field - whether hours, minutes or seconds are scrolled depends on there inside the field the cursor is located.

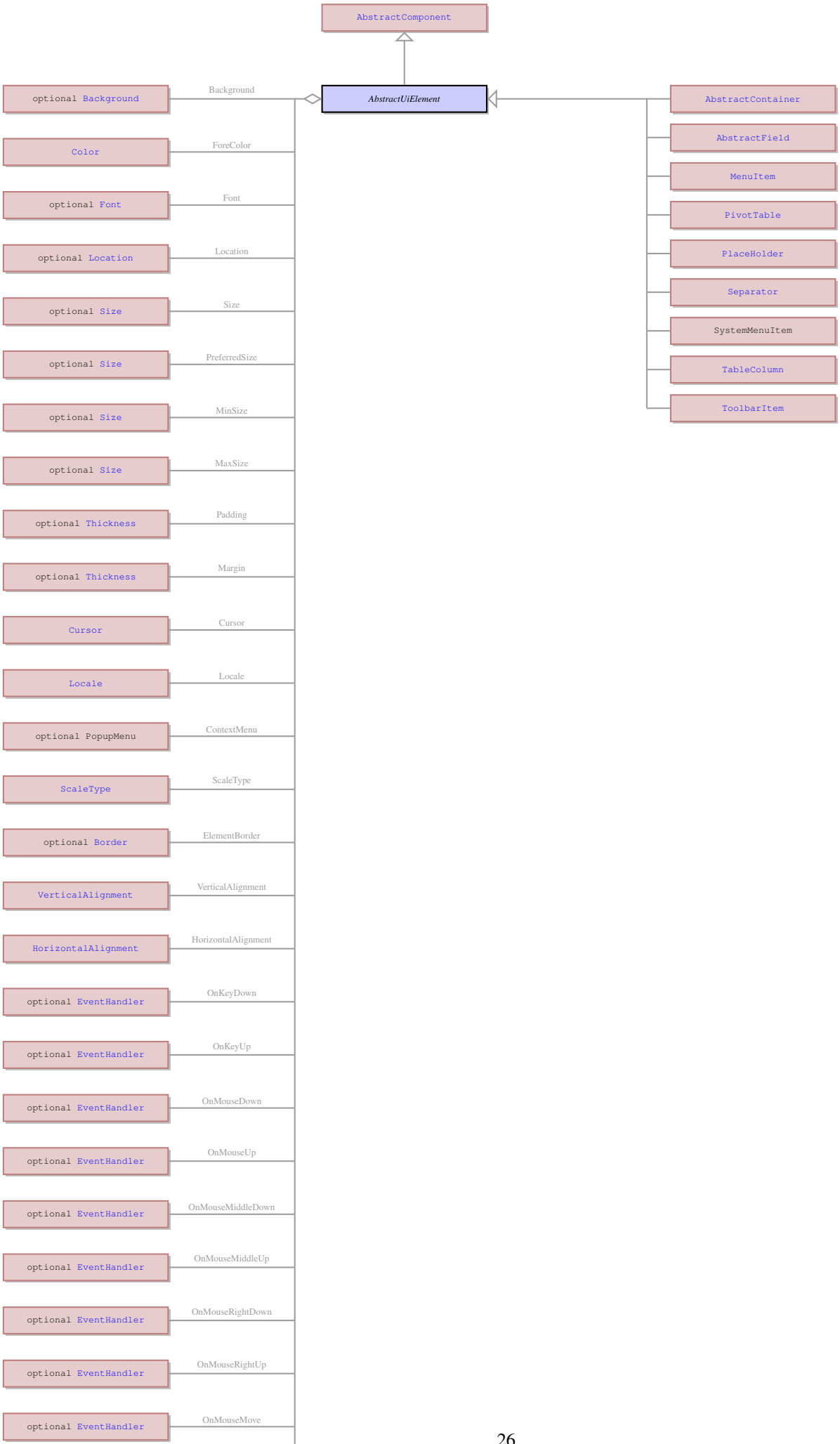
## 8.4 Fields

| Name | Type | Description |
|---|---|---|
| IsPasswordMask | Bool | If enabled, it turns the entered value into a set of * signs to mask it. The value displayed to the field will also be masked with asterisks. |
| MaxLength | optional Int | It specifies the maximum length in bytes allowed for entering into the filed. Its value is normally taken from the data type and size of the variable linked to the field. |
| Format | optional String | It specifies the format pattern according to which the entered data should be formatted. Typically used for numeric values to specify the decimal point sign and location and the thousands separator. |

| | | |
|---|---|---|
| ToCase | ToCase | This property specifies the case of a UI element. It can be applied to any UI element that allows entering text from keyboard. By default its value is None, meaning that the case of the letters does not change and remains as they were inputted. |
| TextPicture | optional String | It formats the entered value by specifying that only letters or only numbers or both can be entered and by supplying delimiters. It is typically used for character values. E.g. if picture is AA-XX, the value may be ab-3c. |
| Autonext | Bool | If enabled, moves the cursor to the next field during input automatically, when the MaxLength of the current field is met. |
| Editor | optional String | Specifies the program to be used for opening and editing the BYTE or TEXT value. |
| Required | Bool | No information |

# 9 AbstractUiElement Not-referenced

## 9.1 Diagram



## 9.2 Description

**Name**: AbstractUiElement

AbstractUiElement is the base class for UI widgets. It is a generic UI element that can accept user actions. Most of concrete UI elements must inherit the properties and action types from the AbstractUIElement.

**Parent:** AbstractComponent - This is the common parent of all UI elements.

AbstractUiElement is the base class for UI widgets. It is a generic UI element that can accept user actions. Most of concrete UI elements must inherit the properties and action types from the AbstractUIElement.

## 9.3 Children

- AbstractContainer - This UI element represents an abstract container from which all the form containers their properties. This abstract UI element unites all form containers - elements that determine the form layout.
- AbstractField - This UI element represents an abstract field from which all the form widgets inherit their properties. This abstract UI element unites all form fields - the form elements that can accept and display data - as opposed tp form containers - elements that determine the form layout.
- MenuItem - This UI element serves as the base class for all menu items: menu commands, menu groups, and menu separators.
- PivotTable - No information
- PlaceHolder - No information
- Separator - Any kind of separator, e.g. the status bar separator.
- TableColumn - This is a container that can only be placed inside the Table container or TreeTable container. It can contain only one element belonging to the AbstractField class. Though only one element can be placed into a column, this element will be repeated till the bottom of the column, creating table row together with the elements in other columns, if any. All the duplicates of the element will have the same identifier and will be treated as a single element by th e form designer. The 4GL can differentiate between the instances of the element belonging to different rows by means of using the element identifier together with the number of the table row. The table row numbers start at number 1 at the top of the table.
- ToolbarItem - This is an abstract element that unites the toolbar buttons and toolbar separators.

## 9.4 Fields

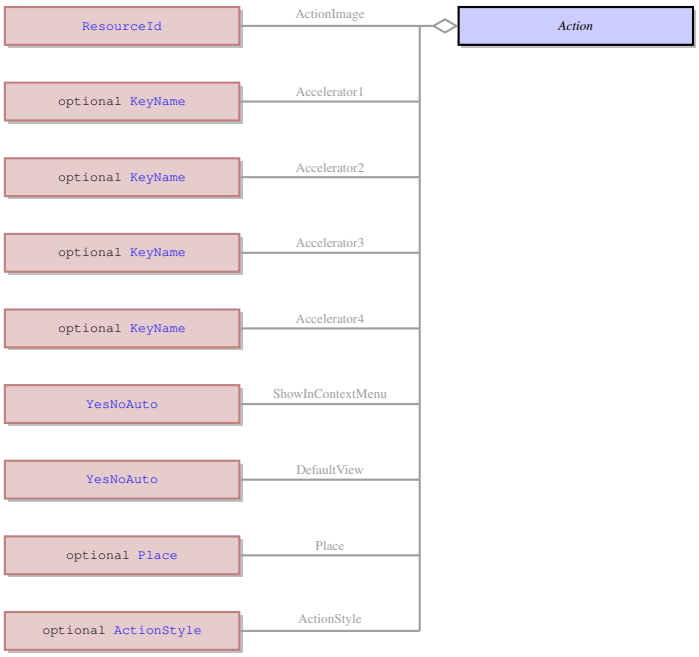
| Name | Type | Description |
|---|---|---|
| ClassNames | list of ClassName | The name of a class that is applied to the UI element. There can be a customly created class or one of the default classes. The default classes depend on the 4GL attributes applied to the element by means of the 4GL code or form file and usually specify the colour or intensity attribute. |
| Background | optional Background | Background - defines the background type, color and other parameters. |
| ForeColor | optional Color | ForeColor - foreground color of the control(used to draw text and/or control border) |
| Font | optional Font | The font to be used for the UI element. |
| Location | optional Location | The location of the UI element specified in pixels. |
| PreferredSize | optional Size | The size of the UI element in pixels that specified by the user that will override the size dynamically calculated at runtime. |
| MinSize | optional Size | The minimum size of the UI element smaller than which an element cannot shrink when resized. |
| MaxSize | optional Size | The maximum size of the UI element bigger than which an element cannot become when resized. |
| NotNull | Bool | If enabled, it forbids to save NULL values to the variable linked to the field. |
| Padding | optional Thickness | The space between the contents of the UI element (e.g. text in a text field) and the border of this element. |
| Margin | optional Thickness | The space between the border of the UI element and other UI elements surrounding it. |
| Cursor | Cursor | The type of the cursor that should be applied when the mouse cursor is hovering above the UI Element. |
| Locale | Locale | The custom locate of the UI element that may be different from the default locale of the application. |
| Visible | optional Bool | If enabled, the UI element is visible at runtime. If disabled, it is hidden. The default value is TRUE. |

| | | |
|---|---|---|
| Collapsed | Bool | No information |
| Enable | optional Bool | If set to TRUE (the default value), the UI element can be interacted with (e.g. button can be pressed, text can be entered into the field). If a UI element is disabled, it is grayed and inaccessible. |
| ToolTip | optional String | It specifies the text of the tooltip to be visible when the mouse hovers over the element at runtime. If its value is empty, the element will have no tooltip. |
| TabIndex | optional Int | It specifies the order of the UI elements located on a single form. This order can be used during input for cursor navigation. |
| ZOrder | Int | It specifies whcih element should be on top if two or more elements overlap. It should be applied only to elements whose container is the coordinate panel. |
| EnableBorder | Bool | If set to TRUE (the default value), shows the default 1 pixel border around UI elements. If disabled, the element will have no default border. |
| ScaleType | ScaleType | It defines whether the element contents will be scaled, if the element is resized. |
| ElementBorder | optional Border | Sets the custom border for a UI element. |
| VerticalAlignment | VerticalAlignment | Specifies the vertical alignment of the UI element inside its container. |
| HorizontalAlignment | HorizontalAlignment | Specifies the horizontal alignment of the UI element inside its container. |
| OnKeyDown | optional EventHandler | The event specified will be triggered, when the cursor is in the given UI element and any key on the keyboard is pressed down. |
| OnKeyUp | optional EventHandler | The event specified will be triggered when the cursor is in the given UI element and the key on the keyboard previously pressed is released. |
| OnMouseDown | optional EventHandler | The event specified will be triggered when left mouse button is clicked on the UI element. |
| OnMouseUp | optional EventHandler | The event specified will be triggered when the left mouse button is released after it was clicked on the UI element. |
| OnMouseMiddleDown | optional EventHandler | The event specified will be triggered when left mouse button is clicked on the UI element. |
| OnMouseMiddleUp | optional EventHandler | The event specified will be triggered when left mouse button is clicked on the UI element. |
| OnMouseRightDown | optional EventHandler | The event specified will be triggered when left mouse button is clicked on the UI element. |
| OnMouseRightUp | optional EventHandler | The event specified will be triggered when left mouse button is clicked on the UI element. |
| OnMouseMove | optional EventHandler | The event specified will be triggered when the mouse cursor is moved inside the UI element area. |
| OnMouseEnter | optional EventHandler | The event specified will be triggered when the mouse cursor enters the UI element area. |
| OnMouseHover | optional EventHandler | The event specified will be triggered when the mouse cursor enters the UI element area and remains them for a second. Triggered only once while the cursor is inside the element. |
| OnMouseExit | optional EventHandler | The event specified will be triggered when the mouse cursor exits the UI element. |
| OnMouseWheel | optional EventHandler | The event specified will be triggered when the mouse wheel is rotated while the cursor hovers over the UI element. |
| OnMouseDoubleClick | optional EventHandler | The event specified will be triggered when the the user double-clicks on the UI element. |
| OnMouseClick | optional EventHandler | The event specified will be triggered when the the user left-clicks on the UI element. |
| OnMenuDetect | optional EventHandler | This event is triggered when the user right-clicks the UI element to invoke context menu. |
| OnDragStart | optional EventHandler | The event is triggered when the user clicks on an element, holds the mouse key and starts moving it away from its location. |
| OnDragEnter | optional EventHandler | The event is triggered when the mouse cursor with the dragged item enters the visual boundaries of the UI element to which the item may be dropped. |

| | | |
|---|---|---|
| OnDragOver | optional EventHandler | The event is triggered when the mouse cursor with the item is dragged over a drop target. Typically invoked after OnDragEnter event. |
| OnDragFinished | optional EventHandler | Triggered after OnDragStart was invoked and then OnDrop executed successfully or the drag and drop action was terminated. |
| OnDrop | optional EventHandler | The event is triggered when the user releases the mouse button holding the dragged item over an area which allows the item to be dropped. |
| OnResize | optional EventHandler | The event is triggered when the size of a UI element is changed. |
| OnSelection | optional EventHandler | The event is triggered when a UI element is selected by mouse cursor. |
| OnFocusIn | optional EventHandler | The event is triggered when the UI element becomes the current element, e.g. is when the cursor enters the field or when an element is selected. |
| OnFocusOut | optional EventHandler | The event is triggered when the UI element stops being the current element, e.g. is when the cursor leaves the field or when an element is deselected. |
| TextAlignment | optional TextAlignment | It specifies the alignment of the text withing the UI element. E.g. the placement of the text inside the label area or in a text field. |
| IsProtected | Bool | If set to TRUE it prevents character strings displayed from 4GL to overlap with the UI elements. Such strings will be displayed below the UI elements where they are supposed to overlap. |
| BorderPanelItemLocation | BorderPanelItemLocation | It is applicable only if the UI element is located inside the BorderPanel container and indicates which part of the border panel the element occupies. |
| GridItemLocation | optional GridItemLocation | It is applicable only if the UI element is located inside the GridPanel container and indicates which cell of the grid panel the element occupies. |
| Comment | optional String | A character string with some sort of description. |
| FieldTable | String | No information |
| Metadata | optional String | No information |

# 10 Action Not-referenced

## 10.1 Diagram




## 10.2 Description

**Name**: Action

This UI element is used for compatibility with Genero 4GL. It is used in Genero to define the default actions in a form. In Lycia 4GL they are converted into Toolbar elements via the form converter. The action defaults are necessary in the form model for the compatibility reasons, but it need not be possible to be added to form.

No parents.

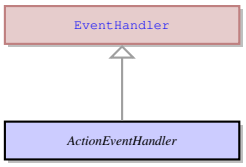
This UI element is used for compatibility with Genero 4GL. It is used in Genero to define the default actions in a form. In Lycia 4GL they are converted into Toolbar elements via the form converter. The action defaults are necessary in the form model for the compatibility reasons, but it need not be possible to be added to form.

### 10.3 Fields

| Name | Type | Description |
|---|---|---|
| Identifier | String | It is a unique name of a UI element by which it can be referenced. |
| Text | optional String | Specifies the text displayed to the trigger. |
| ActionImage | optional ResourceId | Specifies the image which is displayed to the trigger. |
| Comment | optional String | Specifies the text that is displayed at hover and usually describes the action. |
| Accelerator1 | optional KeyName | Defines the accelerator key(s) that will trigger the action at runtime. |
| Accelerator2 | optional KeyName | Defines the accelerator key(s) that will trigger the action at runtime. |
| Accelerator3 | optional KeyName | Defines the accelerator key(s) that will trigger the action at runtime. |
| Accelerator4 | optional KeyName | Defines the accelerator key(s) that will trigger the action at runtime. |
| ShowInContextMenu | optional YesNoAuto | It defines whether an element should appear in application toolbar. This property is not applied on the client side, used only by application server. |
| Statical | optional Bool | Determines whether triggers are visible even if they are not defined. |
| Order | optional Int | Indicates in what order triggers appear on the toolbar. |
| DefaultView | optional YesNoAuto | Determines whether the trigger is visible on the toolbar. |
| Validate | optional Bool | Determines whether data validation is required for the action. |
| Place | optional Place | It defines where a toolbar button will appear in the application toolbar. This property is applied on the client side. It has two predefined values - top and top-popup. The default value is top-popup. |
| ClassNames | list of ClassName | The name of a class that is applied to the UI element. There can be a customly created class or one of the default classes. |
| ActionStyle | optional ActionStyle | It specifies what should be shown in action view (e.g. toolbar button). I includes values ”Icon”, ”Label” and ”Icon Label”. Default value is ”Icon”. |

## 11 ActionEventHandler Not-referenced

### 11.1 Diagram




### 11.2 Description

**Name**: ActionEventHandler

This is an event handler that triggers the specified 4GL action. A 4GL action is identified by its name. This event handler can be assigned to any of the available events, like OnInvoke. When this event handler is invoked, the action is triggered and the 4GL code that references this action name is executed.

**Parent:** EventHandler - This is common class for all the specific event handler types.

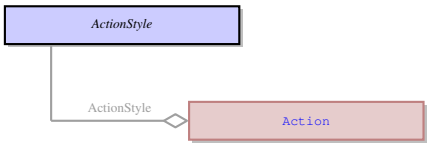
This is an event handler that triggers the specified 4GL action. A 4GL action is identified by its name. This event handler can be assigned to any of the available events, like OnInvoke. When this event handler is invoked, the action is triggered and the 4GL code that references this action name is executed.

### 11.3 Fields

| Name | Type | Description |
|---|---|---|
| ActionName | optional String | It is a string that contains the name of the 4GL action. It can consist of any printable symbols. |

# 12 ActionStyle

## 12.1 Diagram




## 12.2 Description

**Name**: ActionStyle
No information
No parents.
No information

## 12.3 Options

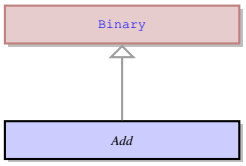
| Name | Description |
|---|---|
| Icon | Not described yet |
| Label | A label that can contain text or image; normally applied to Label UI element. |
| IconLabel | Not described yet |

## 12.4 Referenced in

- ActionStyle field in optional Action - No information

# 13 Add Not-referenced

## 13.1 Diagram

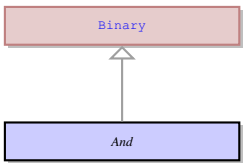



## 13.2 Description

**Name**: Add
It is a part of the conditional 4GL display attributes - +. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator +.
**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.
It is a part of the conditional 4GL display attributes - +. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator +.

# 14 And Not-referenced

## 14.1 Diagram




## 14.2 Description

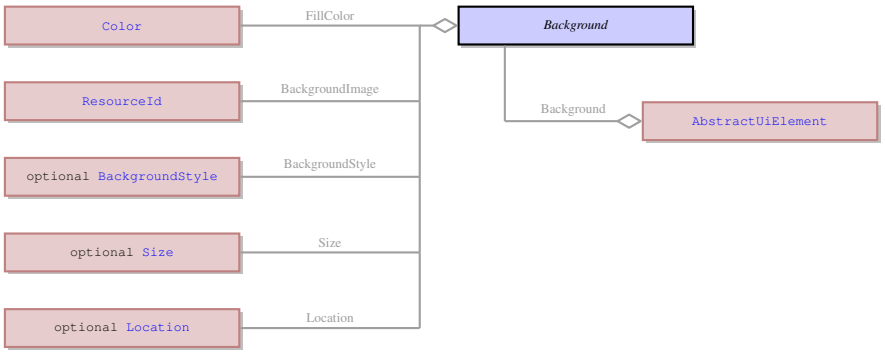
**Name**: And
It is a part of the conditional 4GL display attributes - AND. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of logical union AND.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - AND. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of logical union AND.

# 15 Background

## 15.1 Diagram




## 15.2 Description

**Name**: Background

This element determines the colour of the background of an element, the background image, if any, and its properties.

No parents.

This element determines the colour of the background of an element, the background image, if any, and its properties.

## 15.3 Fields

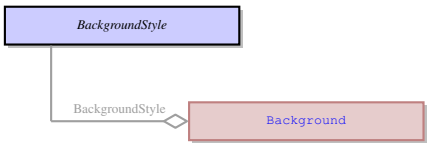
| Name | Type | Description |
|---|---|---|
| FillColor | optional Color | The color of the background of an element. |
| BackgroundImage | optional ResourceId | A background image for the UI element. |
| BackgroundStyle | optional BackgroundStyle | The position of the background image of the UI element. |
| Size | optional Size | The size of the UI element in pixels that. |
| Location | optional Location | The location of the UI element specified in pixels. |

## 15.4 Referenced in

- Background field in optional AbstractUiElement - This element determines the colour of the background of an element, the background image, if any, and its properties.

# 16 BackgroundStyle

## 16.1 Diagram




## 16.2 Description

**Name**: BackgroundStyle

This element determines the position and arrangement of the background image of the UI element. It is not applicable if the background of an element does not have a background image specified.

No parents.

This element determines the position and arrangement of the background image of the UI element. It is not applicable if the background of an element does not have a background image specified.

## 16.3 Options

| Name | Description |
|---|---|
| Default | The window size is the size with which it was opened or which was set after opening by 4GL or graphical theme means. |
| Normal | The background image is not changed, it retains its size, unless Size is applied, and is placed in the top left colour, if the Location is not set. |
| Stretched | The background image is stretched to fill whole UI element without preserving the aspect ratio. Its size and location cannot be changed. |
| Tiled | The background image retains its original size, but it is multiplied and used to cover the whole UI element area in a form of tiles. The size and location of the image cannot be changed. |
| Centered | The background image retains its original size and is placed in the center of the UI element. Its size and location cannot be changed. |
| Uniform | The background image is stretched to fill whole UI element while preserving the aspect ratio. Some margin will be added to the image. Its size and location cannot be changed. |
| UniformToFill | The background image is stretched to fill whole UI element while preserving the aspect ratio. No margin will be added to the image. Its size and location cannot be changed. |

### 16.4 Referenced in

- BackgroundStyle field in optional Background - This element determines the position and arrangement of the background image of the UI element. It is not applicable if the background of an element does not have a background image specified.

## 17 BatchEventHandler Not-referenced

### 17.1 Diagram


### 17.2 Description

**Name**: BatchEventHandler

This is an event handler which allows a UI element to have more than one event handler assigned to one event.

**Parent:** EventHandler - This is common class for all the specific event handler types.

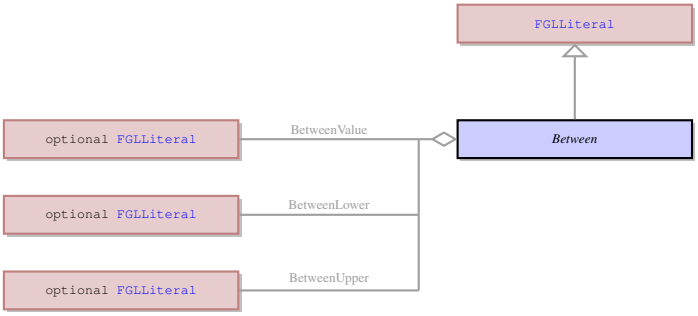
This is an event handler which allows a UI element to have more than one event handler assigned to one event.

### 17.3 Fields

| Name | Type | Description |
|---|---|---|
| Handlers | list of EventHandler | A set of event handlers assigned to a single event. |

## 18 Between Not-referenced

### 18.1 Diagram




### 18.2 Description

**Name**: Between

It is a part of the conditional 4GL display attributes - BETWEEN...AND. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of membership, e.g.: field_tag BETWEEN 1 AND 100.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

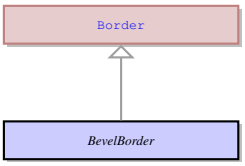
It is a part of the conditional 4GL display attributes - BETWEEN...AND. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of membership, e.g.: field_tag BETWEEN 1 AND 100.

### 18.3 Fields

| Name | Type | Description |
|---|---|---|
| BetweenValue | optional FGLLiteral | This is the value which membership is tested by the operator. |
| BetweenLower | optional FGLLiteral | This is the value located before AND in ”var BETWEEN val1 AND val2”. |
| BetweenUpper | optional FGLLiteral | This is the value located after AND in ”var BETWEEN val1 AND val2”. |

## 19 BevelBorder Not-referenced

### 19.1 Diagram




### 19.2 Description

**Name**: BevelBorder

This UI element is used to apply a custom bevel border to any concrete UI element. The border can be lowered or raised, its thickness or colour can be changed.

**Parent:** Border - It defines the properties of a custom border around a concrete UI element. The properties border can be applied to one of the three border types: BevelBorder , EtchedBorder , and LineBorder .

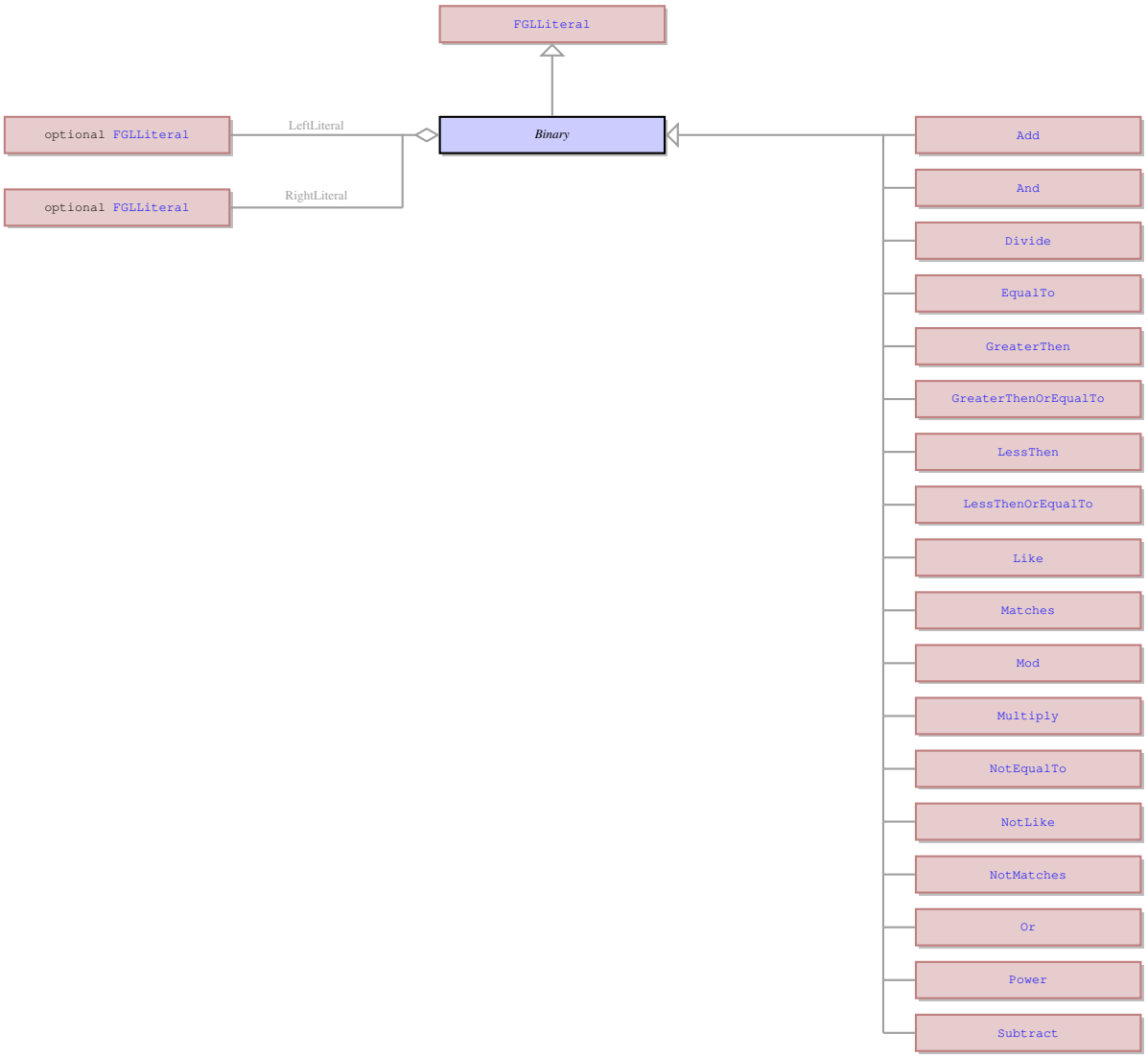
This UI element is used to apply a custom bevel border to any concrete UI element. The border can be lowered or raised, its thickness or colour can be changed.

### 19.3 Fields

| Name | Type | Description |
|---|---|---|
| IsRaised | Bool | This property specifies whether custom the bevel or etched border should be raised or lowered. |

# 20 Binary Not-referenced

## 20.1 Diagram




## 20.2 Description

**Name**: Binary

These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

## 20.3 Children

- Add - It is a part of the conditional 4GL display attributes - +. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator +.
- And - It is a part of the conditional 4GL display attributes - AND. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of logical union AND.
- Divide - It is a part of the conditional 4GL display attributes - /. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator /.
- EqualTo - It is a part of the conditional 4GL display attributes - =. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator =.
- GreaterThen - It is a part of the conditional 4GL display attributes - ¿. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator ¿.

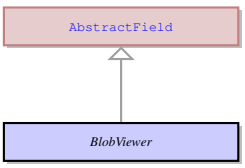
- GreaterThenOrEqualTo - It is a part of the conditional 4GL display attributes - ¿=. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator ¿=.
- LessThen - It is a part of the conditional 4GL display attributes - ¡. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator ¡.
- LessThenOrEqualTo - It is a part of the conditional 4GL display attributes - ¡=. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator ¡=.
- Like - It is a part of the conditional 4GL display attributes - LIKE. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of string comparison LIKE.
- Matches - It is a part of the conditional 4GL display attributes - MATCHES. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of string comparison MATCHES.
- Mod - It is a part of the conditional 4GL display attributes - MOD. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of module MOD.
- Multiply - It is a part of the conditional 4GL display attributes - *. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator *.
- NotEqualTo - It is a part of the conditional 4GL display attributes - !=. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator !=.
- NotLike - It is a part of the conditional 4GL display attributes - NOT LIKE. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of string comparison NOT LIKE.
- NotMatches - It is a part of the conditional 4GL display attributes - NOT MATCHES. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of string comparison NOT MATCHES.
- Or - It is a part of the conditional 4GL display attributes - OR. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of logical intersection OR.
- Power - It is a part of the conditional 4GL display attributes - **. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of exponentiation **.
- Subtract - It is a part of the conditional 4GL display attributes - -. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator -.

### 20.4 Fields

| Name | Type | Description |
|---|---|---|
| LeftLiteral | optional FGLLiteral | This is the left operand of a binary operator. |
| RightLiteral | optional FGLLiteral | This is the right operand of a binary operator. |

## 21 BlobViewer Not-referenced

### 21.1 Diagram



## 21.2 Description

**Name**: BlobViewer

This UI element is used to display and edit BYTE or TEXT values e.g a text or a picture.

**Parent:** AbstractField - This UI element represents an abstract field from which all the form widgets inherit their properties. This abstract UI element unites all form fields - the form elements that can accept and display data - as opposed tp form containers - elements that determine the form layout.

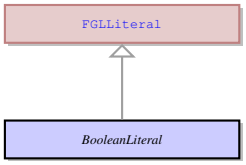
This UI element is used to display and edit BYTE or TEXT values e.g a text or a picture.

## 21.3 Fields

| Name | Type | Description |
|---|---|---|
| Editor | optional String | Specifies the program to be used for opening and editing the BYTE or TEXT value. |
| EditorConfig | optional String | No information |
| UploadInfo | optional String | No information |

# 22 BooleanLiteral Not-referenced

## 22.1 Diagram




## 22.2 Description

**Name**: BooleanLiteral

It is a literal that can have values 'true' and 'false' only.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

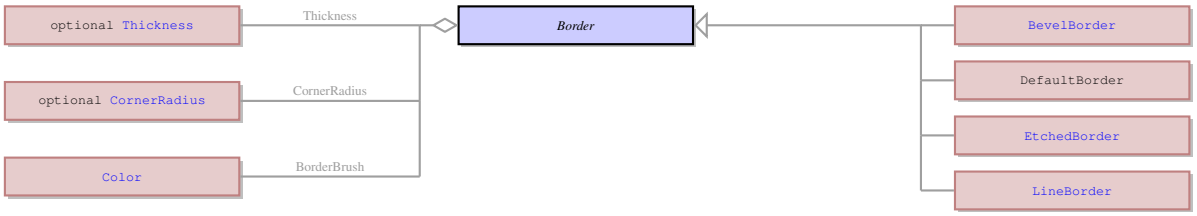
It is a literal that can have values 'true' and 'false' only.

## 22.3 Fields

| Name | Type | Description |
|---|---|---|
| BooleanValue | Bool | This is a boolean value (either true or false). |

# 23 Border Not-referenced

## 23.1 Diagram




## 23.2 Description

**Name**: Border

It defines the properties of a custom border around a concrete UI element. The properties border can be applied to one of the three border types: BevelBorder , EtchedBorder , and LineBorder .

No parents.

It defines the properties of a custom border around a concrete UI element. The properties border can be applied to one of the three border types: BevelBorder , EtchedBorder , and LineBorder .

### 23.3 Children

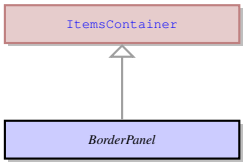
- BevelBorder - This UI element is used to apply a custom bevel border to any concrete UI element. The border can be lowered or raised, its thickness or colour can be changed.
- EtchedBorder - It sets a custom etched border around the UI element. The border can be raised and lowered, its colour can be changed.
- LineBorder - This UI element is used to apply a custom line border to any concrete UI element. A line border is just a line of the defined thickness and colour that surrounds the element. The line border allows the CornerRadius to be set to round the corners.

### 23.4 Fields

| Name | Type | Description |
|---|---|---|
| Thickness | optional Thickness | It defines the thickness of a border, or the space left empty for a margin or padding in pixels. |
| CornerRadius | optional CornerRadius | The radius of a corner of a custom border around the UI element. It is used to make the border corners rounded. |
| BorderBrush | optional Color | It specifies the colour of the border. Typically applied to LineBorder . |

## 24 BorderPanel Not-referenced

### 24.1 Diagram




### 24.2 Description

**Name**: BorderPanel

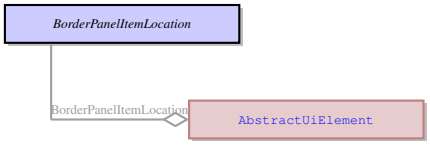
It is a concrete UI element - a container for arranging the layout of other UI elements. Other UI elements can be located either alongside the panel borders or in its center, thus this panel can incorporate up to 5 elements - 1 for each side and 1 in the center. The elements are stretched by default, one element can take up more than one position cell. The position of an element inside the Border panel (that is which of the ) is defined by the BorderPanelItemLocation property of this element.

**Parent:** ItemsContainer - The containers that can contain any number of UI elements inherit their properties from the ItemsContainer UI element. These are the containers that can contain any number of form fields and other containers, as opposed to the containers belonging to ElementContainer class.

It is a concrete UI element - a container for arranging the layout of other UI elements. Other UI elements can be located either alongside the panel borders or in its center, thus this panel can incorporate up to 5 elements - 1 for each side and 1 in the center. The elements are stretched by default, one element can take up more than one position cell. The position of an element inside the Border panel (that is which of the ) is defined by the BorderPanelItemLocation property of this element.

## 25 BorderPanelItemLocation

### 25.1 Diagram




### 25.2 Description

**Name**: BorderPanelItemLocation

This property is applicable only if the UI element is located inside the BorderPanel container. It indicates which part of the border panel the element occupies. A Border panel can have 5 positions that elements can take. One element can take several adjacent positions at once. They cannot overlap.

No parents.

This property is applicable only if the UI element is located inside the BorderPanel container. It indicates which part of the border panel the element occupies. A Border panel can have 5 positions that elements can take. One element can take several adjacent positions at once. They cannot overlap.

### 25.3 Options

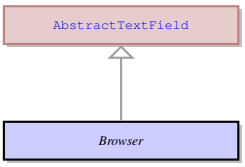
| Name | Description |
|---|---|
| Center | The element is located without adjoining to any of the 4 borders of the container, in the space in the middle of the panel. |
| Left | The element is located adjoined to the left side of the border panel. |
| Right | The element is located adjoined to the right side of the border panel. |
| Top | The element is located adjoined to the top border of the border panel. |
| Bottom | The element is located adjoined to the bottom border of the border panel. |

### 25.4 Referenced in

- BorderPanelItemLocation field in optional AbstractUiElement - This property is applicable only if the UI element is located inside the BorderPanel container. It indicates which part of the border panel the element occupies. A Border panel can have 5 positions that elements can take. One element can take several adjacent positions at once. They cannot overlap.

## 26 Browser Not-referenced

### 26.1 Diagram




### 26.2 Description

**Name**: Browser

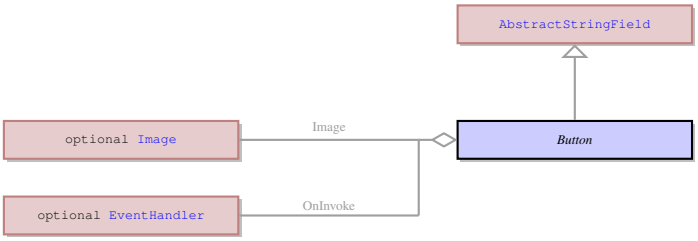
It is a concrete UI element that encompasses a built-in web browser with a somewhat limited functionality. It is used to display web pages, but can also work as a file explorer, display contents of files (e.g. text or image files), etc.

**Parent:** AbstractTextField - It is an abstract UI element, which unites a subset of AbstractStringField elements with the exception of TextArea , ComboBox , and Button . Typically it includes the UI elements which allow entering values, like normal text fields, and usually are only one line wide.

It is a concrete UI element that encompasses a built-in web browser with a somewhat limited functionality. It is used to display web pages, but can also work as a file explorer, display contents of files (e.g. text or image files), etc.

## 27 Button Not-referenced

### 27.1 Diagram




### 27.2 Description

**Name**: Button

It is a clickable concrete UI element in a form of a button that is typically used to trigger various events when it is pressed and/or released. It can have a text label or an image on it.

**Parent:** AbstractStringField - It is an abstract UI element, which unites the concrete UI elements that accept a character string as their value. Most of the concrete UI elements that are not containers inherit their properties from this element.

It is a clickable concrete UI element in a form of a button that is typically used to trigger various events when it is pressed and/or released. It can have a text label or an image on it.

### 27.3 Fields

| Name | Type | Description |
|---|---|---|
| IsToggleButton | Bool | Determines that the button should be released automatically after it was pressed if set to FALSE (the default value). If set to TRUE - the button is treated as a toggle button which does not get released automatically. Once it was clicked it remains pressed and can only be released with another click. |
| Image | optional Image | It specifies the icon that should be displayed to the button instead of the inscription. The button is resized to the size of the icon applied. |
| OnInvoke | optional EventHandler | The event which is triggered when the UI element is invoked. It can be invoked by mouse click, by pressing Enter, or in some cases Space, when the cursor is in the element. |
| AllowNewlines | Bool | This property specifies whether the Enter key will be used to move to another form element at runtime (if the value is FALSE), or it will create a newline symbol inside the current field (if the value is TRUE). It is typically applied for the TextArea element. |

## 28 Calendar Not-referenced

### 28.1 Diagram


### 28.2 Description

**Name**: Calendar

It is a concrete UI element that serves for displaying and inputting dates and has a drop-down lookup calendar for graphical date selection.

**Parent:** AbstractTextField - It is an abstract UI element, which unites a subset of AbstractStringField elements with the exception of TextArea , ComboBox , and Button . Typically it includes the UI elements which allow entering values, like normal text fields, and usually are only one line wide.

It is a concrete UI element that serves for displaying and inputting dates and has a drop-down lookup calendar for graphical date selection.

### 28.3 Fields

| Name | Type | Description |
|---|---|---|
| LabelText | optional String | No information |
| HelperText | optional String | No information |
| PlaceholderText | optional String | No information |

## 29 Canvas Not-referenced

### 29.1 Diagram


### 29.2 Description

**Name**: Canvas

It is a concrete UI element that serves as a container for SVG images and allows interactions with such images.

**Parent:** AbstractField - This UI element represents an abstract field from which all the form widgets inherit their properties. This abstract UI element unites all form fields - the form elements that can accept and display data - as opposed tp form containers - elements that determine the form layout.

It is a concrete UI element that serves as a container for SVG images and allows interactions with such images.

### 29.3 Fields

| Name | Type | Description |
|---|---|---|
| Image | optional Image | It specifies the SVG image that should be displayed to the canvas area. |

## 30 Century Not-referenced

### 30.1 Diagram


### 30.2 Description

**Name**: Century

This enum defines how the year value in dated should be extended, if it has fewer than 4 numbers. It is applied to form elements of the DATE date type.

No parents.

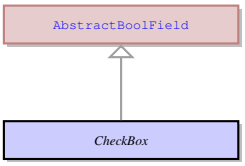
This enum defines how the year value in dated should be extended, if it has fewer than 4 numbers. It is applied to form elements of the DATE date type.

### 30.3 Options

| Name | Description |
|---|---|
| Closest | It means that a year value with fewer than 4 digits will be expanded with the digits from the century which is closest to the current date. E.g. 25 would be expanded as 2025, but 75 would be expanded as 1975. |
| Past | It means that a year value with fewer than 4 digits will be expanded with the digits from the century which is closest to the current date in the past. E.g. 25 would be expanded as 1925, but 75 would be expanded as 1975. |
| Future | It means that a year value with fewer than 4 digits will be expanded with the digits from the century which is closest to the current date in the future. E.g. 25 would be expanded as 2025, but 75 would be expanded as 2075. |
| Current | It means that a year value with fewer than 4 digits will be expanded with the digits from the current century. E.g. 25 would be expanded as 2025, but 75 would be expanded as 2075. |

## 31 CheckBox Not-referenced

### 31.1 Diagram




### 31.2 Description

**Name**: CheckBox

It is a concrete UI element that consists of a single check box and a label attached to it. It can be in only one of 2 states at a time - either checked or unchecked. Changing of the state can either change the value that will be written to the underlying variable, or trigger an event handler.

**Parent:** AbstractBoolField - It is an abstract UI element, which unites the concrete UI elements that can be in one of the two states: enabled (TRUE) or disabled (FALSE). The concrete UI elements that inherit their properties from the AbstractBoolField are CheckBox .

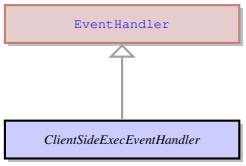
It is a concrete UI element that consists of a single check box and a label attached to it. It can be in only one of 2 states at a time - either checked or unchecked. Changing of the state can either change the value that will be written to the underlying variable, or trigger an event handler.

### 31.3 Fields

| Name | Type | Description |
|---|---|---|
| Required | Bool | No information |

## 32 ClientSideExecEventHandler Not-referenced

### 32.1 Diagram




### 32.2 Description

**Name**: ClientSideExecEventHandler
No information
**Parent:** EventHandler - This is common class for all the specific event handler types.
No information

### 32.3 Fields

| Name | Type | Description |
|---|---|---|
| ExecCommand | optional String | No information |
| ExecParam | optional String | No information |

## 33 Color Not-referenced

### 33.1 Diagram


### 33.2 Description

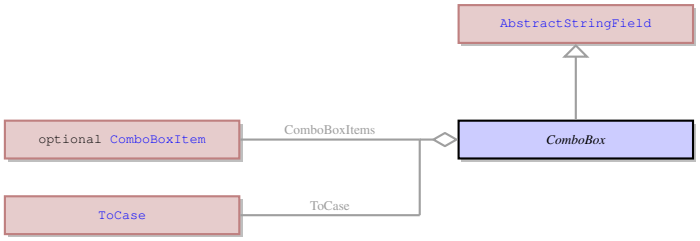
**Name**: Color
It is the root element to all color properties that can be applied to any UI element.
No parents.
It is the root element to all color properties that can be applied to any UI element.

### 33.3 Children

- CustomizedColor - This enum defines a custom color in the RGB encoding plus the transparency.
- SystemColor - The system color defines a list of preset colours that can be applied to widgets, as opposed to the custom colour where the user needs to specify RGB of the color.

## 34 ComboBox Not-referenced

### 34.1 Diagram



### 34.2 Description

**Name**: ComboBox

It is a concrete UI element that has a form of a text field with a drop-down list. It can be restricted to accepting only values from this drop-down list, or it can be set to accept values from the list and the custom values entered by the user. Only one item from the drop-down combobox list can be selected at a time.

**Parent:** AbstractStringField - It is an abstract UI element, which unites the concrete UI elements that accept a character string as their value. Most of the concrete UI elements that are not containers inherit their properties from this element.

It is a concrete UI element that has a form of a text field with a drop-down list. It can be restricted to accepting only values from this drop-down list, or it can be set to accept values from the list and the custom values entered by the user. Only one item from the drop-down combobox list can be selected at a time.

### 34.3 Fields

| Name | Type | Description |
|---|---|---|
| ComboBoxItems | list of ComboBoxItem | The set values that should be present in the drop-down list of a combo box. |
| Editable | optional Bool | It indicates that the combo box accepts values that are not in its drop-down list. |
| ToCase | ToCase | This property specifies the case of a UI element. It can be applied to any UI element that allows entering text from keyboard. By default its value is None, meaning that the case of the letters does not change and remains as they were inputted. |
| MaxLength | optional Int | It specifies the maximum length in bytes allowed for entering into the filed. Its value is normally taken from the data type and size of the variable linked to the field. |
| Autonext | Bool | If enabled, moves the cursor to the next field during input automatically, when the MaxLength of the current field is met. |
| Required | Bool | No information |
| LabelText | optional String | No information |
| HelperText | optional String | No information |

## 35 ComboBoxItem Not-referenced

### 35.1 Diagram


### 35.2 Description

**Name**: ComboBoxItem

It is single item in a combo box drop-down list. If it is selected during input, its value is recorded into the variable linked to the combo box.

No parents.

It is single item in a combo box drop-down list. If it is selected during input, its value is recorded into the variable linked to the combo box.

### 35.3 Fields

| Name | Type | Description |
|---|---|---|
| Text | optional String | This is the value of the combobox item, which is recorded to the variable linked to it after the input. |

## 36 ComponentProperty Not-referenced

### 36.1 Diagram

### 36.2 Description

**Name**: ComponentProperty

This is the property of a WebComponent UI element. Each property is defined by the HTML file that describes the web component.

No parents.

This is the property of a WebComponent UI element. Each property is defined by the HTML file that describes the web component.

### 36.3 Fields

| Name | Type | Description |
|---|---|---|
| PName | optional String | It specifies the name of a web component property. |
| PValue | optional String | It specifies the value of a web component property. |

## 37 ContentFilter Not-referenced

### 37.1 Diagram


### 37.2 Description

**Name**: ContentFilter

No information

No parents.

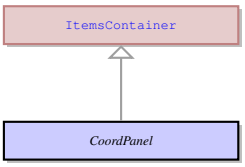
No information

### 37.3 Fields

| Name | Type | Description |
|---|---|---|
| ContentFilterTable | optional String | No information |
| ContentFilterField | optional String | No information |

## 38 CoordPanel Not-referenced

### 38.1 Diagram




### 38.2 Description

**Name**: CoordPanel

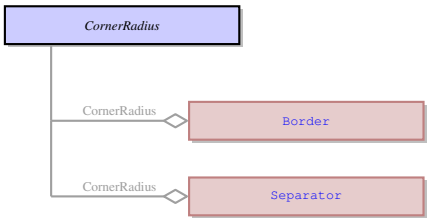
This is a container the location of the elements inside which is determined by the coordinates of the component. The coordinates are stored in pixels and specify the Location on the coord panel where the top left corner of the child element is placed.

**Parent:** ItemsContainer - The containers that can contain any number of UI elements inherit their properties from the ItemsContainer UI element. These are the containers that can contain any number of form fields and other containers, as opposed to the containers belonging to ElementContainer class.

This is a container the location of the elements inside which is determined by the coordinates of the component. The coordinates are stored in pixels and specify the Location on the coord panel where the top left corner of the child element is placed.

# 39 CornerRadius

## 39.1 Diagram




## 39.2 Description

**Name**: CornerRadius

This enum specifies the radius of a corner of a custom border around the UI element. It is used to make the border corners rounded. It can be applied only to LineBorder border type. All four corners can have different corner radius.

No parents.

This enum specifies the radius of a corner of a custom border around the UI element. It is used to make the border corners rounded. It can be applied only to LineBorder border type. All four corners can have different corner radius.

## 39.3 Fields

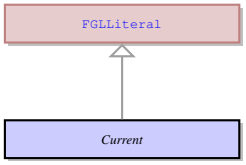
| Name | Type | Description |
|---|---|---|
| BottomLeft | Float | The bottom left corner of the border frame. |
| BottomRight | Float | The bottom right corner of the border frame. |
| TopLeft | Float | The top left corner of the border frame. |
| TopRight | Float | The top right corner of the border frame. |

## 39.4 Referenced in

- CornerRadius field in optional Border - This enum specifies the radius of a corner of a custom border around the UI element. It is used to make the border corners rounded. It can be applied only to LineBorder border type. All four corners can have different corner radius.
- CornerRadius field in optional Separator - This enum specifies the radius of a corner of a custom border around the UI element. It is used to make the border corners rounded. It can be applied only to LineBorder border type. All four corners can have different corner radius.

# 40 Current Not-referenced

## 40.1 Diagram




## 40.2 Description

**Name**: Current

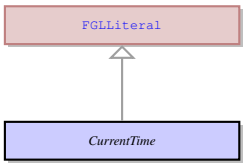
It is a part of the conditional 4GL display attributes - CURRENT(). The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

It is a part of the conditional 4GL display attributes - CURRENT(). The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals.

# 41 CurrentTime Not-referenced

## 41.1 Diagram




## 41.2 Description

**Name**: CurrentTime

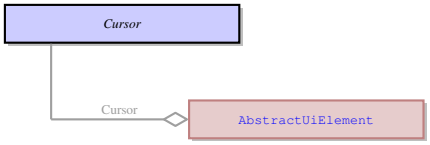
It is a part of the conditional 4GL display attributes - TIME(). The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

It is a part of the conditional 4GL display attributes - TIME(). The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals.

# 42 Cursor

## 42.1 Diagram




## 42.2 Description

**Name**: Cursor

It defines the animation the mouse cursor should have when hovering over the UI element for which this enum is specified. The cursor animation at runtime is selected on the basis of the cursors available for the system or for the browser, if the web client is used.

No parents.

It defines the animation the mouse cursor should have when hovering over the UI element for which this enum is specified. The cursor animation at runtime is selected on the basis of the cursors available for the system or for the browser, if the web client is used.

## 42.3 Options

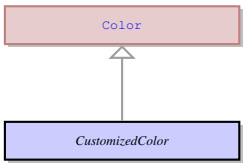
| Name | Description |
|---|---|
| Arrow | The default arrow cursor. |
| Cross | The cursor in a form of a cross. |
| IBeam | The cursor in a form of a vertical line. |
| SizeAll | The cursor in a form of a cross with arrows at all 4 ends. |
| SizeNESW | The cursor in a form of a diagonal line in direction from top right to bottom left with arrows on both ends . |
| SizeNS | The cursor in a form of a vertical line with arrows on both ends . |
| SizeNWSE | The cursor in a form of a diagonal line in direction from top left to bottom right with arrows on both ends . |
| SizeWE | The cursor in a form of a horizontal line with arrows on both ends . |
| UpArrow | The cursor in a form of a vertical line with an arrow pointing upwards . |
| WaitCursor | The default waiting cursor of the system (e.g. in Windows XP - glass clock, in Windows 7 - a blue ring). |
| Help | The default help cursor of the system (normally in a form of a question mark). |
| HSplit | The default cursor that appears when the mouse is positioned over a horizontal splitter bar. |
| VSplit | The default cursor that appears when the mouse is positioned over a vertical splitter bar. |
| Hand | The default hand cursor. |

## 42.4 Referenced in

- Cursor field in optional AbstractUiElement - It defines the animation the mouse cursor should have when hovering over the UI element for which this enum is specified. The cursor animation at runtime is selected on the basis of the cursors available for the system or for the browser, if the web client is used.

# 43 CustomizedColor Not-referenced

## 43.1 Diagram




## 43.2 Description

**Name**: CustomizedColor

This enum defines a custom color in the RGB encoding plus the transparency.

**Parent:** Color - It is the root element to all color properties that can be applied to any UI element.

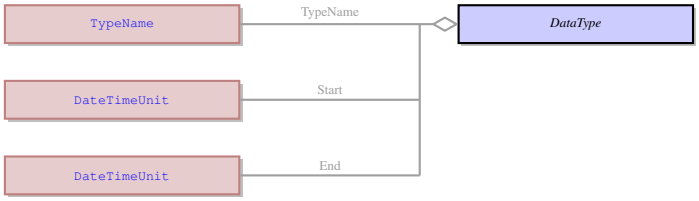
This enum defines a custom color in the RGB encoding plus the transparency.

## 43.3 Fields

| Name | Type | Description |
|---|---|---|
| RedColor | Int | The value of the red colour in the RGB color model (0-255). |
| GreenColor | Int | The value of the green colour in the RGB color model (0-255). |
| BlueColor | Int | The value of the blue colour in the RGB color model (0-255). |
| Alpha | Int | The value of the transparency applied to the color. 0 - completely transparent. 255 - completely solid color. |

# 44 DataType Not-referenced

## 44.1 Diagram




## 44.2 Description

**Name**: DataType

This is the data type of a form element. It contains all the required information about a datatype - its name, precision, scale, etc.

No parents.

This is the data type of a form element. It contains all the required information about a datatype - its name, precision, scale, etc.

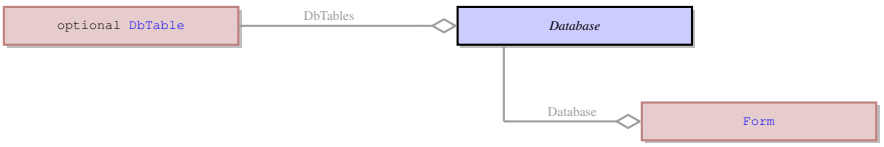
## 44.3 Fields

| Name | Type | Description |
|---|---|---|
| TypeName | TypeName | The name of the datatype of the field. |
| Start | optional DateTimeUnit | This is the first part of the DATETIME or INTERVAL qualifier. It should have the form of a time unit - YEAR, DAY, HOUR, etc. - this is the first qualifier in a pair of qualifiers that usually look like this: YEAR (first qualifier) to SECOND. It must be a bigger or the same time unit than the End qualifier. In the INTERVAL data type there can be only two separate sets of qualifiers - an interval may only be from YEAR to MONTH (or a subset of these values, e.g. YEAR to YEAR), or DAY to FRACTION (or a subset of these values, e.g. HOUR to SECOND). |

| | | |
|---|---|---|
| End | optional DateTimeUnit | This is the second part of the DATETIME or INTERVAL qualifier. It should have the form of a time unit - YEAR, DAY, HOUR, etc. - this is the first qualifier in a pair of qualifiers that usually look like this: YEAR to HOUR (second qualifier). It must be a smaller or the same time unit than the Start qualifier. In the INTERVAL data type there can be only two separate sets of qualifiers - an interval may only be from YEAR to MONTH (or a subset of these values, e.g. YEAR to YEAR), or DAY to FRACTION (or a subset of these values, e.g. HOUR to SECOND). |
| Scale | optional Int | It specifies the scale (the number of decimal places) for the fixed point decimal data types. It is used to specify the precision of the FRACTION time unit specicied as the End qualifier in the DATE-TIME datatype specification. It is also used as the precision of the End qualifier in the INTERVAL data type. |
| Precision | optional Int | It specifies the precision for the fixed point decimal data types. It is also used to specify the precision of the Start qualifier of the IN-TERVAL data type specification. |

# 45 Database

## 45.1 Diagram




## 45.2 Description

**Name**: Database

It the database to which the current form is linked. The form only needs the information about the data types of the columns to set the data types of the fields linked to the columns. It also gets the NOT NULL attribute from the database column properties.

No parents.

It the database to which the current form is linked. The form only needs the information about the data types of the columns to set the data types of the fields linked to the columns. It also gets the NOT NULL attribute from the database column properties.

## 45.3 Fields

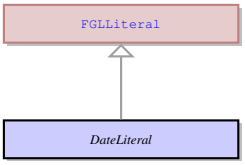
| Name | Type | Description |
|---|---|---|
| Name | Name | This is the name of a database linked to a form. |
| Alias | optional String | This is an alias of a database linked to a form. |
| DbTables | list of DbTable | No information |

## 45.4 Referenced in

- Database field in optional Form - It the database to which the current form is linked. The form only needs the information about the data types of the columns to set the data types of the fields linked to the columns. It also gets the NOT NULL attribute from the database column properties.

# 46 DateLiteral Not-referenced

## 46.1 Diagram



## 46.2 Description

**Name**: DateLiteral

This a 4GL literal whose value is date-formatted. It corresponds in the format to the requirements of the DATE 4GL data type. E.g. ”12/23/2012”.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

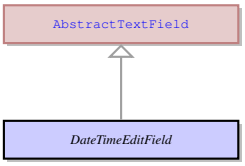
This a 4GL literal whose value is date-formatted. It corresponds in the format to the requirements of the DATE 4GL data type. E.g. ”12/23/2012”.

## 46.3 Fields

| Name | Type | Description |
|---|---|---|
| YearVal | Int | This value represents the year in the DATE value, e.g. 1975. |
| MonthVal | Int | This value represents the number of months in the DATE value. Shaould be integers from 1 to 12. |
| DayVal | Int | This value represents the number of days in the DATE value. Should be integers from 1 to 31. |

# 47 DateTimeEditField Not-referenced

## 47.1 Diagram




## 47.2 Description

**Name**: DateTimeEditField

This is a concrete UI element that accepts a limited range of datetime values.

**Parent:** AbstractTextField - It is an abstract UI element, which unites a subset of AbstractStringField elements with the exception of TextArea , ComboBox , and Button . Typically it includes the UI elements which allow entering values, like normal text fields, and usually are only one line wide.

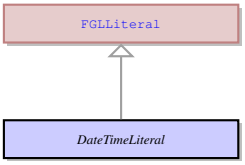
This is a concrete UI element that accepts a limited range of datetime values.

## 47.3 Fields

| Name | Type | Description |
|---|---|---|
| LabelText | optional String | No information |
| HelperText | optional String | No information |
| PlaceholderText | optional String | No information |

# 48 DateTimeLiteral Not-referenced

## 48.1 Diagram




## 48.2 Description

**Name**: DateTimeLiteral

This a 4GL literal whose value presented in the format of date and time. It corresponds in the format to the requirements of the DATETIME 4GL data type. E.g. ”DATETIME (2012-10-30 07:45:32.150) YEAR TO FRACTION(3)”.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

This a 4GL literal whose value presented in the format of date and time. It corresponds in the format to the requirements of the DATETIME 4GL data type. E.g. ”DATETIME (2012-10-30 07:45:32.150) YEAR TO FRACTION(3)”.

### 48.3 Fields

| Name | Type | Description |
|---|---|---|
| YearValOpt | optional Int | This value represents the year in the DATETIME or INTERVAL VALUE. This value is optional and may be present or absent depending on the Start and End qualifiers. |
| MonthValOpt | optional Int | This value represents the number of months in the DATETIME or INTERVAL value. This value is optional and may be present or absent depending on the Start and End qualifiers. It includes integers from 1 to 12. |
| DayValOpt | optional Int | This value represents the number of days in the datetime or interval value. This value is optional and may be present or absent depending on the Start and End qualifiers. It includes integers from 1 to 31. |
| HourValOpt | optional Int | This value represents the number of hours in the DATETIME or INTERVAL value. This value is optional and may be present or absent depending on the Start and End qualifiers. It includes integers from 0 to 23. |
| MinuteValOpt | optional Int | This value represents the number of minutes in the DATETIME or INTERVAL value. This value is optional and may be present or absent depending on the Start and End qualifiers. It includes integers from 0 to 59. |
| SecondValOpt | optional Int | This value represents the number of seconds in the DATETIME or INTERVAL value. This value is optional and may be present or absent depending on the Start and End qualifiers. It includes integers from 0 to 59. |
| FractionValOpt | optional Int | This value represents the number of fractions of second in the DATETIME or INTERVAL value. This value is optional and may be present or absent depending on the Start and End qualifiers. |
| FromValOpt | optional String | It represents the first part of the qualifier. |
| ToValOpt | optional String | It represents the second part of the qualifier. |
| ScaleValOpt | optional Int | It represents scale of the End qualifier. |

## 49 DateTimeUnit Not-referenced

### 49.1 Diagram


### 49.2 Description

**Name**: DateTimeUnit

This enum defines the units of time which are used in DATETIME and INTERVAL values. The largest time unit is a year, the smallest - a fraction of second.

No parents.

This enum defines the units of time which are used in DATETIME and INTERVAL values. The largest time unit is a year, the smallest - a fraction of second.

### 49.3 Options

| Name | Description |
|---|---|
| Year | This is the YEAR time unit of a DATETIME or INTERVAL qualifier. |
| Month | This is the MONTH time unit of a DATETIME or INTERVAL qualifier. |
| Day | This is the DAY time unit of a DATETIME or INTERVAL qualifier. |
| Hour | This is the HOUR time unit of a DATETIME or INTERVAL qualifier. |
| Minute | This is the MINUTE time unit of a DATETIME or INTERVAL qualifier. |
| Second | This is the SECOND time unit of a DATETIME or INTERVAL qualifier. |
| Fraction | This is the FRACTION time unit of a DATETIME or INTERVAL qualifier. |

# 50 DbTable Not-referenced

## 50.1 Diagram


## 50.2 Description

**Name**: DbTable

This is a valid name of a table in the database to which the form is linked.

No parents.

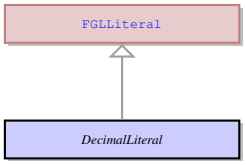
This is a valid name of a table in the database to which the form is linked.

## 50.3 Fields

| Name | Type | Description |
|---|---|---|
| TableName | optional String | This is the name of the table in a database to which the form is linked. |
| Alias | optional String | This is a alias of a database column linked to a form. |
| Owner | optional String | No information |

# 51 DecimalLiteral Not-referenced

## 51.1 Diagram




## 51.2 Description

**Name**: DecimalLiteral

These are decimal values with fixed decimal point. It corresponds in the format to the requirements of the DECIMAL and MONEY 4GL data types. E.g. 123.5436.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

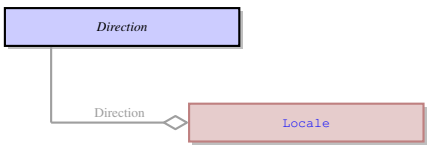
These are decimal values with fixed decimal point. It corresponds in the format to the requirements of the DECIMAL and MONEY 4GL data types. E.g. 123.5436.

## 51.3 Fields

| Name | Type | Description |
|---|---|---|
| DecimalValue | Decimal | This is a value that consists of the integer part, decimal part and the decimal separator. |

# 52 Direction

## 52.1 Diagram




## 52.2 Description

**Name**: Direction

This enum defines the direction of the text: left to right or right to left.

No parents.

This enum defines the direction of the text: left to right or right to left.

### 52.3 Options

| Name | Description |
|---|---|
| LTR | The text is written and displayed in the direction from left to right. |
| RTL | The text is written and displayed in the direction from right to left. |

### 52.4 Referenced in

- Direction field in Locale - This enum defines the direction of the text: left to right or right to left.

## 53 DisplayMode Not-referenced

### 53.1 Diagram


### 53.2 Description

**Name**: DisplayMode

This is a set of conditional 4GL display attributes. One field can have several attributes, e.g. RED and GREEN. And the conditions will define that the value in the field will be red if it is ¡=100 and green when it is ¿=101. Typically the display mode consists of a display attribute and a logical expression the left operand of which is the tag of a form filed.

No parents.

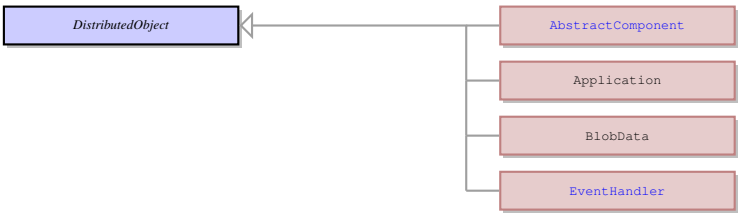
This is a set of conditional 4GL display attributes. One field can have several attributes, e.g. RED and GREEN. And the conditions will define that the value in the field will be red if it is ¡=100 and green when it is ¿=101. Typically the display mode consists of a display attribute and a logical expression the left operand of which is the tag of a form filed.

### 53.3 Fields

| Name | Type | Description |
|---|---|---|
| Condition | optional FGLLiteral | It is a boolean expression that represents the condition under which the attribute will be applied. E.g. f001 = 100 AND f003 ¿= 10. The condition typically consists of logical and membership operators, some literal values and field tags. |
| Appearance | String | It is the name of the 4GL display attribute which will be applied to the form field if the condition is met. E.g. it can be a color attribute (YELLOW, etc.), intensity attribute (BOLD, etc.) and others. |

## 54 DistributedObject Not-referenced

### 54.1 Diagram




### 54.2 Description

**Name**: DistributedObject

This is the root of the UI element hierarchy.

No parents.

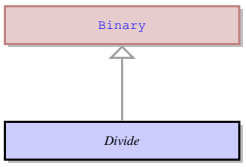
This is the root of the UI element hierarchy.

### 54.3 Children

- AbstractComponent - This is the common parent of all UI elements.
- EventHandler - This is common class for all the specific event handler types.

# 55 Divide Not-referenced

## 55.1 Diagram




## 55.2 Description

**Name**: Divide

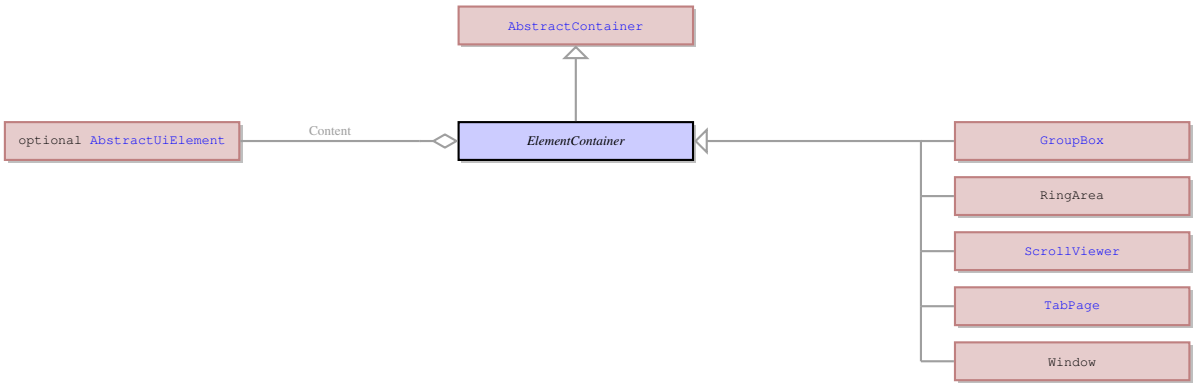
It is a part of the conditional 4GL display attributes - /. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator /.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - /. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator /.

# 56 ElementContainer Not-referenced

## 56.1 Diagram




## 56.2 Description

**Name**: ElementContainer

This UI element unites all the containers which can contain exactly one element. The containers that derive from ElementContainer UI element can be logically opposed to containers derived from ItemsContainer UI element that can contain any number of elements of any type. The elements that inherit their properties from ElementContainer can encompass such elements as ring menu area or any other container. They can also contain an element belonging to ui.AbstractFiled class, but only one such element.

**Parent:** AbstractContainer - This UI element represents an abstract container from which all the form containers their properties. This abstract UI element unites all form containers - elements that determine the form layout.

This UI element unites all the containers which can contain exactly one element. The containers that derive from ElementContainer UI element can be logically opposed to containers derived from ItemsContainer UI element that can contain any number of elements of any type. The elements that inherit their properties from ElementContainer can encompass such elements as ring menu area or any other container. They can also contain an element belonging to ui.AbstractFiled class, but only one such element.

## 56.3 Children

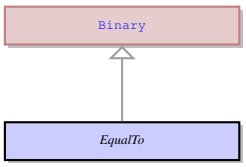
- GroupBox - It is a container that groups the UI elements inside a visible border with an optional title at the top. It can contain only one other UI element. It can be another container or a form widget. Thus though it can encompass UI elements of the AbstractField group, having only one element of this group in a container makes little sense. So it should include one of the other containers first.
- ScrollViewer - It is a container the content of which can be bigger than the container. The scrollbars are used to view the content that does not fit. It can contain exactly one element. E.g. it can contain a stack panel container, the number of elements inside which can be bigger than fit the size of the Scroll Viewer.
- TabPage - This is a container that can only be placed inside the Tab container. A tab page can contain a single element of any type. Each tab page has a tab with the page title which is used to bring the page forward from the stack of other tab pages at runtime or during form modification.

### 56.4 Fields

| Name | Type | Description |
|---|---|---|
| Content | AbstractUiElement | It specifies the UI element that is located inside the ElementContainer. |

## 57 EqualTo Not-referenced

### 57.1 Diagram




### 57.2 Description

**Name**: EqualTo

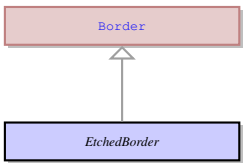
It is a part of the conditional 4GL display attributes - =. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator =.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - =. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator =.

## 58 EtchedBorder Not-referenced

### 58.1 Diagram




### 58.2 Description

**Name**: EtchedBorder

It sets a custom etched border around the UI element. The border can be raised and lowered, its colour can be changed.

**Parent:** Border - It defines the properties of a custom border around a concrete UI element. The properties border can be applied to one of the three border types: BevelBorder , EtchedBorder , and LineBorder .

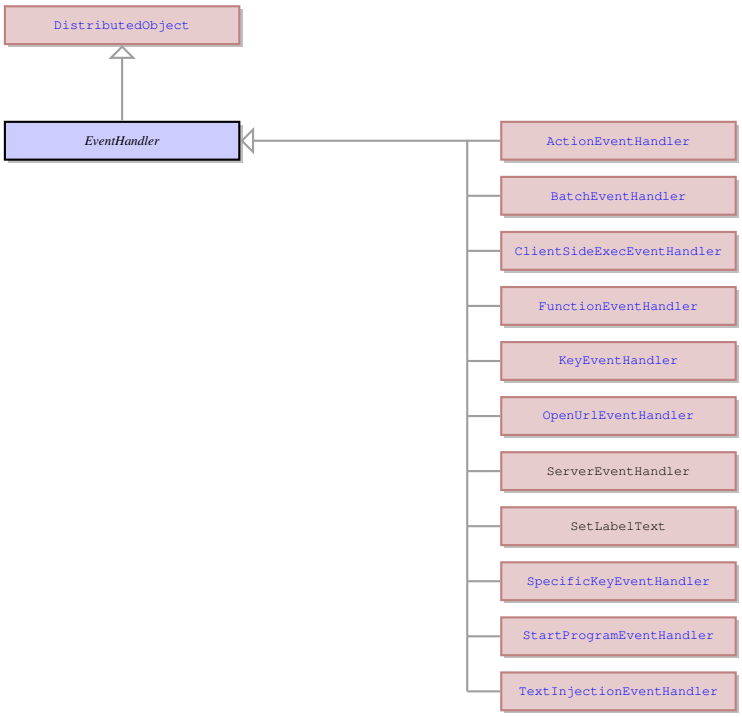
It sets a custom etched border around the UI element. The border can be raised and lowered, its colour can be changed.

### 58.3 Fields

| Name | Type | Description |
|---|---|---|
| IsRaised | Bool | This property specifies whether custom the bevel or etched border should be raised or lowered. |

# 59 EventHandler Not-referenced

## 59.1 Diagram




## 59.2 Description

**Name**: EventHandler

This is common class for all the specific event handler types.

**Parent:** DistributedObject - This is the root of the UI element hierarchy.

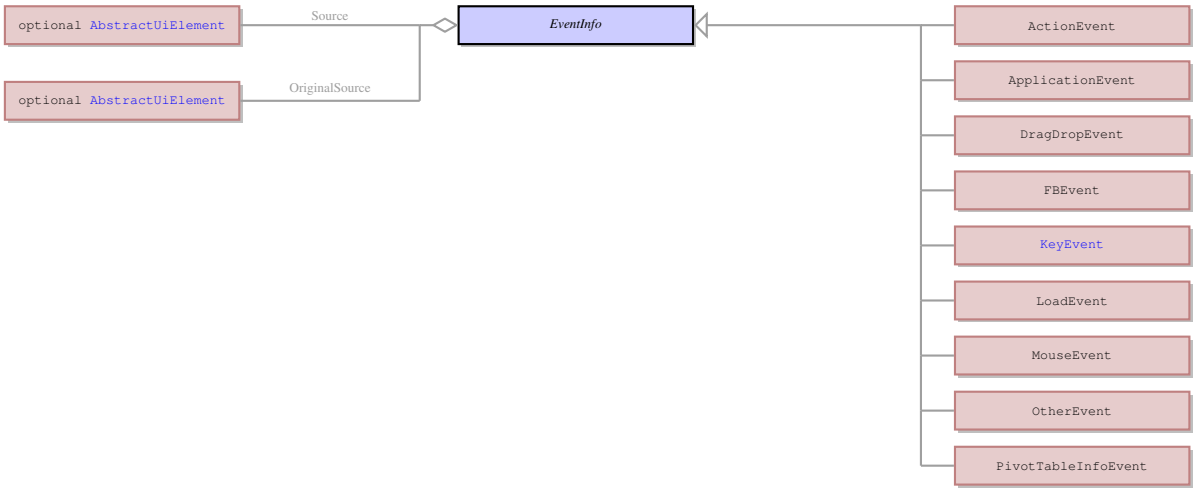
This is common class for all the specific event handler types.

## 59.3 Children

- ActionEventHandler - This is an event handler that triggers the specified 4GL action. A 4GL action is identified by its name. This event handler can be assigned to any of the available events, like OnInvoke. When this event handler is invoked, the action is triggered and the 4GL code that references this action name is executed.
- BatchEventHandler - This is an event handler which allows a UI element to have more than one event handler assigned to one event.
- ClientSideExecEventHandler - No information
- FunctionEventHandler - This event handler triggers the function specified in it, when the even to which it is assigned is invoked.
- KeyEventHandler - This is an event handler that is invoked when the KeyEvent is triggered.
- OpenUrlEventHandler - This is an event handler that can be assigned to any event. This handler opens the URL specified in the default system web browser.
- SpecificKeyEventHandler - This event handler specifies what event handler should be triggered when a specific key is pressed. It links the keypress with a 4GL event.
- StartProgramEventHandler - This event handler specifies the child 4GL program that should be launched and the parameters of this program. It is normally used for the MDI mode, but can be used in other cases.
- TextInjectionEventHandler - This event handler injects the text specified as its parameter into the current input widget. It can be assigned to any event.

# 60 EventInfo Not-referenced

## 60.1 Diagram




## 60.2 Description

**Name**: EventInfo

It is an abstract UI entity which is the root class for the KeyEvent . It is used to send the information to the server about the event triggered on the client side.

No parents.

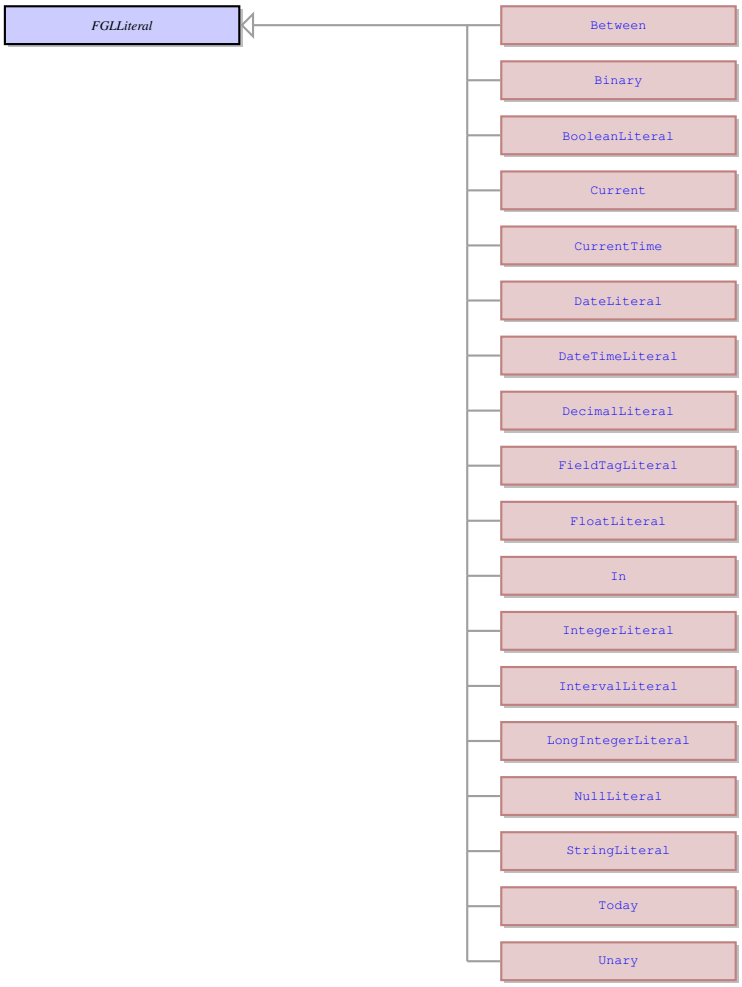
It is an abstract UI entity which is the root class for the KeyEvent . It is used to send the information to the server about the event triggered on the client side.

## 60.3 Children

- KeyEvent - It is an event that is triggered when the specified key on the keyboard is pressed. This event is sent to the Application server on the keypress.

# 61 FGLLiteral Not-referenced

## 61.1 Diagram




## 61.2 Description

**Name**: FGLLiteral

This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

No parents.

This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

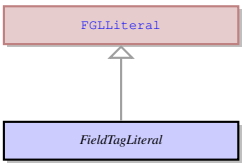
## 61.3 Children

- Between - It is a part of the conditional 4GL display attributes - BETWEEN...AND. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of membership, e.g.: field_tag BETWEEN 1 AND 100.
- Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.
- BooleanLiteral - It is a literal that can have values 'true' and 'false' only.
- Current - It is a part of the conditional 4GL display attributes - CURRENT(). The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals.
- CurrentTime - It is a part of the conditional 4GL display attributes - TIME(). The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals.
- DateLiteral - This a 4GL literal whose value is date-formatted. It corresponds in the format to the requirements of the DATE 4GL data type. E.g. "12/23/2012".
- DateTimeLiteral - This a 4GL literal whose value presented in the format of date and time. It corresponds in the format to the requirements of the DATETIME 4GL data type. E.g. "DATETIME (2012-10-30 07:45:32.150) YEAR TO FRACTION(3)".

- DecimalLiteral - These are decimal values with fixed decimal point. It corresponds in the format to the requirements of the DECIMAL and MONEY 4GL data types. E.g. 123.5436.
- FieldTagLiteral - This is a literal storing the tag of a field - normally in a form of a string. Field tags are introduced for the compatibility with the old text form format and are not actually used in the graphical forms.
- FloatLiteral - These are decimal values with floating decimal point taking up to 8 bytes maximum. It corresponds in the format to the requirements of the FLOAT and SMALLFLOAT 4GL data type. E.g. 123.5436.
- In - It is a part of the conditional 4GL display attributes - IN(). The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. Here is an example of the operator of membership IN(): filed_tag IN(”mother”, ”father”, ”aunt”).
- IntegerLiteral - These are integer values taking up to 4 bytes maximum. It corresponds in the format to the requirements of the INTEGER, SMALLINT and TINYINT 4GL data types. E.g. 1234.
- IntervalLiteral - These are interval values in different time units, e.g. INTERVAL (10-11) YEAR TO MONTH - means 10 years and 11 months. It corresponds in the format to the requirements of the INTERVAL 4GL data type.
- LongIntegerLiteral - These are integer values taking up to 8 bytes maximum. It corresponds in the format to the requirements of the INTEGER 4GL data type. E.g. 123456.
- NullLiteral - This is a 4GL literal that contains no value. This means the value of this literal is displayed as NULL or an empty space.
- StringLiteral - These are character strings enclosed in quotation marks. It corresponds in the format to the requirements of the STRING, CHAR, VARCHAR 4GL data types. E.g. ”abcde”.
- Today - It is a part of the conditional 4GL display attributes - TODAY(). The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals.
- Unary - These are binary operators. This class includes plus and minus operators that specify whether a number is positive or negative.

# 62 FieldTagLiteral Not-referenced

## 62.1 Diagram




## 62.2 Description

**Name**: FieldTagLiteral

This is a literal storing the tag of a field - normally in a form of a string. Field tags are introduced for the compatibility with the old text form format and are not actually used in the graphical forms.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

This is a literal storing the tag of a field - normally in a form of a string. Field tags are introduced for the compatibility with the old text form format and are not actually used in the graphical forms.

## 62.3 Fields

| Name | Type | Description |
|---|---|---|
| FieldTagValue | optional String | It is a string that contains the text of the field tag. In text forms it could be different from the field identifier, in XML forms its value is typically the same as the element identifier. |

# 63 FieldType Not-referenced

## 63.1 Diagram

## 63.2 Description

**Name**: FieldType

This enum defines whether the field is linked to a database column. It defines the column name, if it is, and whether the name of the field should be tha same as the name of the column, or only the data type should be the same.

No parents.

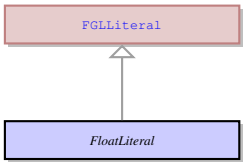
This enum defines whether the field is linked to a database column. It defines the column name, if it is, and whether the name of the field should be tha same as the name of the column, or only the data type should be the same.

## 63.3 Options

| Name | Description |
|---|---|
| FORM_ONLY | It means that the form element is not linked to a database column in any way, even if the form itself is linked to a database. |
| COLUMN_LIKE | It means that the form widget is linked to a table column, but it can have a name different from that of the column. It must only have the same data type as the linked column. |
| TABLE_COLUMN | It means that the form widget is linked to a table column, it has the same name as the database column and the same data type. |
| TABLE_ALIAS | It means that the form widget is linked to a table column, it has the same name as the alias assigned to the database column and the same data type. |

# 64 FloatLiteral Not-referenced

## 64.1 Diagram




## 64.2 Description

**Name**: FloatLiteral

These are decimal values with floating decimal point taking up to 8 bytes maximum. It corresponds in the format to the requirements of the FLOAT and SMALLFLOAT 4GL data type. E.g. 123.5436.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

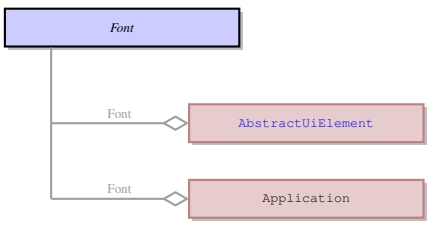
These are decimal values with floating decimal point taking up to 8 bytes maximum. It corresponds in the format to the requirements of the FLOAT and SMALLFLOAT 4GL data type. E.g. 123.5436.

## 64.3 Fields

| Name | Type | Description |
|---|---|---|
| FloatValue | Float | This is a value that consists of the integer part, decimal part and the floating decimal separator. |

# 65 Font

## 65.1 Diagram



## 65.2 Description

**Name**: Font

The font to be used for any text that is a part of the UI element - either label ot inputted text.

No parents.

The font to be used for any text that is a part of the UI element - either label ot inputted text.

## 65.3 Fields

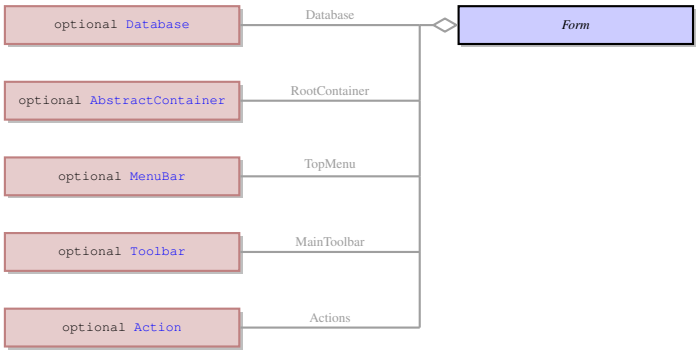
| Name | Type | Description |
|---|---|---|
| Family | non-empty list of Name | This is the name of the font. E.g. Arial or Tahoma. |
| Bold | optional Bool | It indicates whether the text should be bold. |
| Italic | optional Bool | It indicates whether the text should be in italics. |
| Underline | optional Bool | It indicates whether the text should be underlined. |
| FontSize | optional Int | It specifies the font size. |

## 65.4 Referenced in

- Font field in optional AbstractUiElement - The font to be used for any text that is a part of the UI element - either label ot inputted text.
- Font field in optional Application - The font to be used for any text that is a part of the UI element - either label ot inputted text.

# 66 Form Not-referenced

## 66.1 Diagram




## 66.2 Description

**Name**: Form

This is an abstract element that serves as the root tag for the form XML code.

No parents.

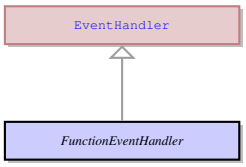
This is an abstract element that serves as the root tag for the form XML code.

## 66.3 Fields

| Name | Type | Description |
|---|---|---|
| Database | optional Database | This is the database to which the form is linked. |
| RootContainer | optional AbstractContainer | This is the root container of the form, all the other containers and widgets are placed inside it. In the XML everything is placed inside the root container tag, except fot Toolbar , MenuBar and ScreenRecord tags. |
| TopMenu | optional MenuBar | This is the main menu of the form. |
| MainToolbar | optional Toolbar | This is the toobar of the form. |
| Actions | list of Action | No information |
| ClassNames | list of ClassName | The name of a class that is applied to the UI element. There can be a customly created class or one of the default classes. The default classes depend on the 4GL attributes applied to the element by means of the 4GL code or form file and usually specify the colour or intensity attribute. |
| InteractSettings | optional String | No information |

# 67 FunctionEventHandler Not-referenced

## 67.1 Diagram




## 67.2 Description

**Name**: FunctionEventHandler

This event handler triggers the function specified in it, when the even to which it is assigned is invoked.

**Parent:** EventHandler - This is common class for all the specific event handler types.

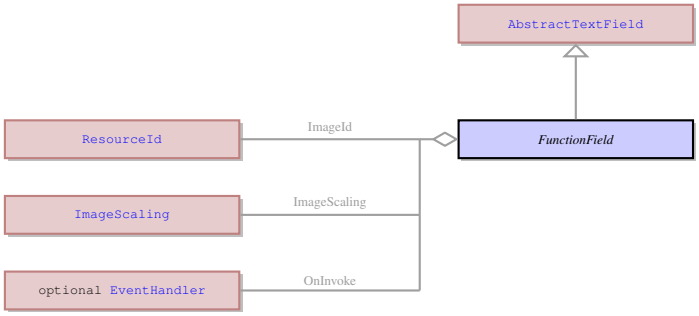
This event handler triggers the function specified in it, when the even to which it is assigned is invoked.

## 67.3 Fields

| Name | Type | Description |
|---|---|---|
| FunctionName | optional String | This is the form of a 4GL function without parentheses. |

# 68 FunctionField Not-referenced

## 68.1 Diagram




## 68.2 Description

**Name**: FunctionField

This is a form widget in a form of a text field with a button attached to its right side.

**Parent:** AbstractTextField - It is an abstract UI element, which unites a subset of AbstractStringField elements with the exception of TextArea , ComboBox , and Button . Typically it includes the UI elements which allow entering values, like normal text fields, and usually are only one line wide.

This is a form widget in a form of a text field with a button attached to its right side.

## 68.3 Fields

| Name | Type | Description |
|---|---|---|
| ImageId | ResourceId | A reference to an image file. |
| ImageScaling | ImageScaling | It specifies whether the image should be scaled to fit the UI element it is applied to. |
| OnInvoke | optional EventHandler | The event which is triggered when the UI element is invoked. It can be invoked by mouse click, by pressing Enter, or in some cases Space, when the cursor is in the element. |
| InvisibleValue | optional Bool | If enabled, the value displayed to the field will be invisible. During input the value will be masked with *. |
| LabelText | optional String | No information |
| HelperText | optional String | No information |
| Completer | Bool | No information |

# 69 GlobalContentFilter Not-referenced

## 69.1 Diagram


## 69.2 Description

**Name**: GlobalContentFilter

No information

No parents.

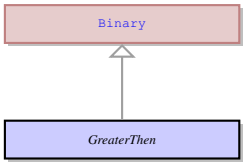
No information

## 69.3 Fields

| Name | Type | Description |
|---|---|---|
| ApplicationName | optional String | No information |
| WindowName | optional String | No information |
| FormName | optional String | No information |

# 70 GreaterThen Not-referenced

## 70.1 Diagram




## 70.2 Description

**Name**: GreaterThen

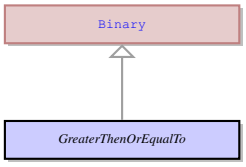
It is a part of the conditional 4GL display attributes - ¿. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator ¿.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - ¿. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator ¿.

# 71 GreaterThenOrEqualTo Not-referenced

## 71.1 Diagram




## 71.2 Description

**Name**: GreaterThenOrEqualTo

It is a part of the conditional 4GL display attributes - ¿=. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator ¿=.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - ¿=. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator ¿=.

# 72 GridColumnDefinition Not-referenced

## 72.1 Diagram


## 72.2 Description

**Name**: GridColumnDefinition

This UI element defines the properties of a columns in a GridPanel container and their properties.

No parents.

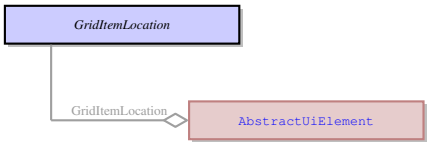
This UI element defines the properties of a columns in a GridPanel container and their properties.

## 72.3 Fields

| Name | Type | Description |
|---|---|---|
| GridLengthValue | String | The width of the grid column or row in the units specified by the length type. |
| GridMinLength | optional String | This the minimum size of a grid column or row to which it can be resized. |
| GridMaxLength | optional String | This the maximum size of a grid column or row to which it can be resized. |

# 73 GridItemLocation

## 73.1 Diagram




## 73.2 Description

**Name**: GridItemLocation

This property defines the position of an element located within a GridPanel in relation to this grid panel. The grid panel is divided into cells which are created by means of grid rows and columns. Each element placed inside the grid panel must occupy at least one cell. It can occupy more than one cell, but two elements cannot occupy one and the same cell. Each element inside a grid panel is located inside the cells, it cannot occupy half of a cell.

No parents.

This property defines the position of an element located within a GridPanel in relation to this grid panel. The grid panel is divided into cells which are created by means of grid rows and columns. Each element placed inside the grid panel must occupy at least one cell. It can occupy more than one cell, but two elements cannot occupy one and the same cell. Each element inside a grid panel is located inside the cells, it cannot occupy half of a cell.

## 73.3 Fields

| Name | Type | Description |
|---|---|---|
| GridX | optional Int | It is the number of column in which the grid cell with the UI element is located. It is treated as the X coordinate of an element within the grid panel. |
| GridY | optional Int | It is the number of row in which the grid cell with the UI element is located. It is treated as the Y coordinate of an element within the grid panel. |
| GridWidth | optional Int | It specifies the number of horizontal cells that the element occupies. It cannot be less than 1. |
| GridHeight | optional Int | It specifies the number of vertical cells that the element occupies. It cannot be less than 1. |

### 73.4 Referenced in

- GridItemLocation field in optional AbstractUiElement - This property defines the position of an element located within a GridPanel in relation to this grid panel. The grid panel is divided into cells which are created by means of grid rows and columns. Each element placed inside the grid panel must occupy at least one cell. It can occupy more than one cell, but two elements cannot occupy one and the same cell. Each element inside a grid panel is located inside the cells, it cannot occupy half of a cell.

## 74 GridLength Not-referenced

### 74.1 Diagram


### 74.2 Description

**Name**: GridLength

This UI element defines the length of the grid columns and width of the rows. Thus it can define the size of the GridPanel cells. The size can be absolute or relative. It can also define the length of the table columns.

No parents.

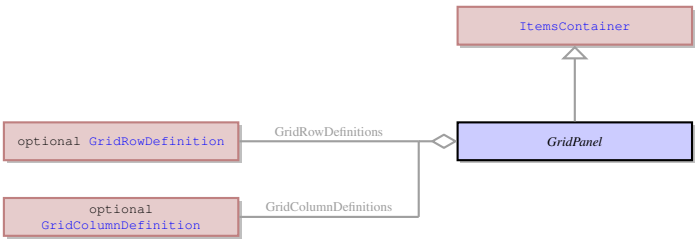
This UI element defines the length of the grid columns and width of the rows. Thus it can define the size of the GridPanel cells. The size can be absolute or relative. It can also define the length of the table columns.

### 74.3 Fields

| Name | Type | Description |
|---|---|---|
| GridLengthValue | String | The width of the grid column or row in the units specified by the length type. |
| GridMinLength | optional String | This the minimum size of a grid column or row to which it can be resized. |
| GridMaxLength | optional String | This the maximum size of a grid column or row to which it can be resized. |

## 75 GridPanel Not-referenced

### 75.1 Diagram




### 75.2 Description

**Name**: GridPanel

It is a container that is used to arrange the layout of other UI elements placed inside. The elements inside the grid panel are placed inside the grid cells that are formed by the grid rows and columns. Each element must occupy at least 1 grid cell, two elements cannot occupy one and the same grid cell. The number of the grid cells can be defined by the user.

**Parent:** ItemsContainer - The containers that can contain any number of UI elements inherit their properties from the ItemsContainer UI element. These are the containers that can contain any number of form fields and other containers, as opposed to the containers belonging to ElementContainer class.

It is a container that is used to arrange the layout of other UI elements placed inside. The elements inside the grid panel are placed inside the grid cells that are formed by the grid rows and columns. Each element must occupy at least 1 grid cell, two elements cannot occupy one and the same grid cell. The number of the grid cells can be defined by the user.

### 75.3 Fields

| Name | Type | Description |
|---|---|---|
| GridRowDefinitions | list of GridRowDefinition | This UI element defines the number of rows in a grid panel container and their properties. |

| | | |
|---|---|---|
| GridColumnDefinitions | list of GridColumnDefinition | This UI element defines the number of rows in a grid panel container and their properties. |

# 76 GridRowDefinition Not-referenced

## 76.1 Diagram


## 76.2 Description

**Name**: GridRowDefinition

This UI element defines the properties of a row in a GridPanel container.

No parents.

This UI element defines the properties of a row in a GridPanel container.

## 76.3 Fields

| Name | Type | Description |
|---|---|---|
| GridLengthValue | String | The width of the grid column or row in the units specified by the length type. |
| GridMinLength | optional String | This the minimum size of a grid column or row to which it can be resized. |
| GridMaxLength | optional String | This the maximum size of a grid column or row to which it can be resized. |

# 77 GroupBox Not-referenced

## 77.1 Diagram


## 77.2 Description

**Name**: GroupBox

It is a container that groups the UI elements inside a visible border with an optional title at the top. It can contain only one other UI element. It can be another container or a form widget. Thus though it can encompass UI elements of the AbstractField group, having only one element of this group in a container makes little sense. So it should include one of the other containers first.

**Parent:** ElementContainer - This UI element unites all the containers which can contain exactly one element. The containers that derive from ElementContainer UI element can be logically opposed to containers derived from ItemsContainer UI element that can contain any number of elements of any type. The elements that inherit their properties from ElementContainer can encompass such elements as ring menu area or any other container. They can also contain an element belonging to ui.AbstractFiled class, but only one such element.

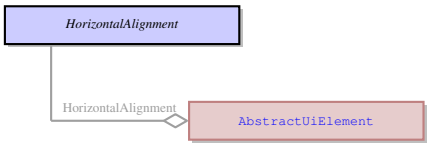
It is a container that groups the UI elements inside a visible border with an optional title at the top. It can contain only one other UI element. It can be another container or a form widget. Thus though it can encompass UI elements of the AbstractField group, having only one element of this group in a container makes little sense. So it should include one of the other containers first.

## 77.3 Fields

| Name | Type | Description |
|---|---|---|
| Title | optional String | This is the inscription attached to the UI element. Usually this is the text of all sorts of labels. |
| TitleJustification | TitleJustification | It specifies the horizontal alignment of the text of the title. |

# 78 HorizontalAlignment

## 78.1 Diagram




## 78.2 Description

**Name**: HorizontalAlignment

This enum specifies the horizontal alignment of a UI element inside a container. It is applicable to UI elements inside any container except coord panel. It defines to which border of the container (or container cell) - left or right - the element must adjoin.

No parents.

This enum specifies the horizontal alignment of a UI element inside a container. It is applicable to UI elements inside any container except coord panel. It defines to which border of the container (or container cell) - left or right - the element must adjoin.

## 78.3 Options

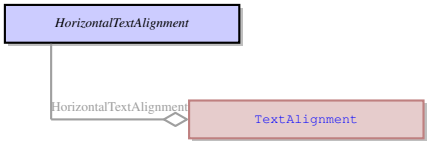
| Name | Description |
|---|---|
| Default | The window size is the size with which it was opened or which was set after opening by 4GL or graphical theme means. |
| Stretch | The UI element will be stretched to fit the container (or container cell) without preserving the aspect ratio. |
| Left | The UI element will be aligned to the left side of the container (or container cell). |
| Center | The UI element will be equidistant from both sides. |
| Right | The UI element will be aligned to the right side of the container (or container cell). |

## 78.4 Referenced in

- HorizontalAlignment field in optional AbstractUiElement - This enum specifies the horizontal alignment of a UI element inside a container. It is applicable to UI elements inside any container except coord panel. It defines to which border of the container (or container cell) - left or right - the element must adjoin.

# 79 HorizontalTextAlignment

## 79.1 Diagram




## 79.2 Description

**Name**: HorizontalTextAlignment

No parents.

## 79.3 Options

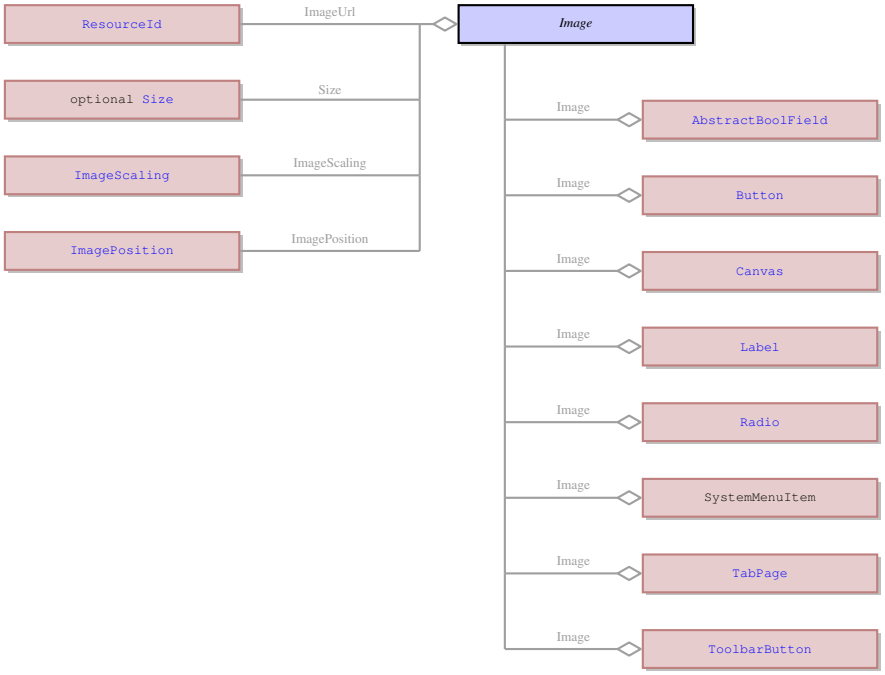
| Name | Description |
|---|---|
| Default | The window size is the size with which it was opened or which was set after opening by 4GL or graphical theme means. |
| Left | The UI element will be aligned to the left side of the container (or container cell). |
| Center | The UI element will be equidistant from both sides. |
| Right | The UI element will be aligned to the right side of the container (or container cell). |

## 79.4 Referenced in

- HorizontalTextAlignment field in optional TextAlignment -

# 80 Image

## 80.1 Diagram




## 80.2 Description

**Name**: Image

It is an image that can be applied to other UI elements, e.g. to a button.

No parents.

It is an image that can be applied to other UI elements, e.g. to a button.

## 80.3 Fields

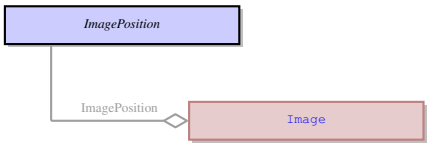
| Name | Type | Description |
|---|---|---|
| ImageUrl | ResourceId | It specifies the URI of an image file. The image should be located on the application server and inside the folder into which the application is deployed. The URL should begin with: qx://application/... . |
| Size | optional Size | The size of the UI element in pixels that. |
| ImageScaling | ImageScaling | It specifies whether the image should be scaled to fit the UI element it is applied to. |
| ImagePosition | ImagePosition | No information |

## 80.4 Referenced in

- Image field in optional AbstractBoolField - It is an image that can be applied to other UI elements, e.g. to a button.
- Image field in optional Button - It is an image that can be applied to other UI elements, e.g. to a button.
- Image field in optional Canvas - It is an image that can be applied to other UI elements, e.g. to a button.
- Image field in optional Label - It is an image that can be applied to other UI elements, e.g. to a button.
- Image field in optional Radio - It is an image that can be applied to other UI elements, e.g. to a button.
- Image field in optional SystemMenuItem - It is an image that can be applied to other UI elements, e.g. to a button.
- Image field in optional TabPage - It is an image that can be applied to other UI elements, e.g. to a button.
- Image field in optional ToolbarButton - It is an image that can be applied to other UI elements, e.g. to a button.

# 81 ImagePosition

## 81.1 Diagram




## 81.2 Description

**Name**: ImagePosition
No information
No parents.
No information

## 81.3 Options

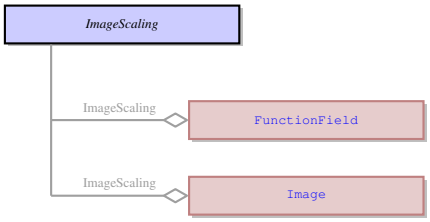
| Name | Description |
|---|---|
| Left | The UI element will be aligned to the left side of the container (or container cell). |
| Right | The UI element will be aligned to the right side of the container (or container cell). |
| Top | The UI element will be aligned to the top of the container (or container cell). |
| Bottom | The UI element will be aligned to the bottom of the container (or container cell). |

## 81.4 Referenced in

- ImagePosition field in optional Image - No information

# 82 ImageScaling

## 82.1 Diagram




## 82.2 Description

**Name**: ImageScaling
It specifies whether the image should be scaled (resized) to fit the UI element it is applied to. The scaling preserves the aspect ratio of an image, so in case the image is scaled by the larger side of the UI element, a part of it might be cut off.
No parents.
It specifies whether the image should be scaled (resized) to fit the UI element it is applied to. The scaling preserves the aspect ratio of an image, so in case the image is scaled by the larger side of the UI element, a part of it might be cut off.

## 82.3 Options

| Name | Description |
|---|---|
| None | The property is not applied and the default behaviour is used. |
| Horizontal | The image will be scaled to fit the width of the UI element. |
| Vertical | The image will be scaled to fit the height of the UI element. |
| Both | The image will be scaled to fit the smallest dimension (either height or width) of the UI element. |

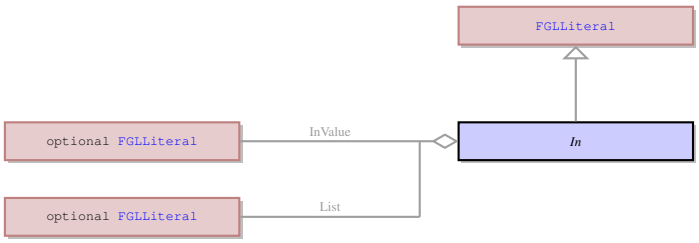
## 82.4 Referenced in

- ImageScaling field in optional FunctionField - It specifies whether the image should be scaled (resized) to fit the UI element it is applied to. The scaling preserves the aspect ratio of an image, so in case the image is scaled by the larger side of the UI element, a part of it might be cut off.

- ImageScaling field in optional Image - It specifies whether the image should be scaled (resized) to fit the UI element it is applied to. The scaling preserves the aspect ratio of an image, so in case the image is scaled by the larger side of the UI element, a part of it might be cut off.

# 83 In Not-referenced

## 83.1 Diagram




## 83.2 Description

**Name**: In

It is a part of the conditional 4GL display attributes - IN(). The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. Here is an example of the operator of membership IN(): filed_tag IN(”mother”, ”father”, ”aunt”).

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

It is a part of the conditional 4GL display attributes - IN(). The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. Here is an example of the operator of membership IN(): filed_tag IN(”mother”, ”father”, ”aunt”).

## 83.3 Fields

| Name | Type | Description |
|---|---|---|
| InValue | optional FGLLiteral | No information |
| List | list of FGLLiteral | This a list of 4GL literals. |

# 84 Include Not-referenced

## 84.1 Diagram


## 84.2 Description

**Name**: Include

This class defines what literal values are allowed for input into a form field. It can be either individual literals or a range of values.
No parents.

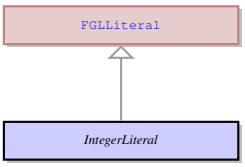
This class defines what literal values are allowed for input into a form field. It can be either individual literals or a range of values.

## 84.3 Children

- RangeInclude - This class defines the range of values that are allowed for being entered into a field. These are normally numeric values or letters, e.g. from a to z, or any other values that can form a range.
- ValueInclude - This class defines individual literals included into a list of allowed values for a field.

# 85 IntegerLiteral Not-referenced

## 85.1 Diagram




## 85.2 Description

**Name**: IntegerLiteral

These are integer values taking up to 4 bytes maximum. It corresponds in the format to the requirements of the INTEGER, SMALLINT and TINYINT 4GL data types. E.g. 1234.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

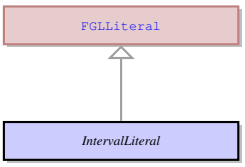
These are integer values taking up to 4 bytes maximum. It corresponds in the format to the requirements of the INTEGER, SMALLINT and TINYINT 4GL data types. E.g. 1234.

## 85.3 Fields

| Name | Type | Description |
|---|---|---|
| IntegerValue | Int | This is an integer number. |

# 86 IntervalLiteral Not-referenced

## 86.1 Diagram




## 86.2 Description

**Name**: IntervalLiteral

These are interval values in different time units, e.g. INTERVAL (10-11) YEAR TO MONTH - means 10 years and 11 months. It corresponds in the format to the requirements of the INTERVAL 4GL data type.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

These are interval values in different time units, e.g. INTERVAL (10-11) YEAR TO MONTH - means 10 years and 11 months. It corresponds in the format to the requirements of the INTERVAL 4GL data type.

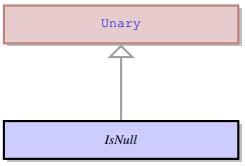
## 86.3 Fields

| Name | Type | Description |
|---|---|---|
| YearValOpt | optional Int | This value represents the year in the DATETIME or INTERVAL VALUE. This value is optional and may be present or absent depending on the Start and End qualifiers. |
| MonthValOpt | optional Int | This value represents the number of months in the DATETIME or INTERVAL value. This value is optional and may be present or absent depending on the Start and End qualifiers. It includes integers from 1 to 12. |
| DayValOpt | optional Int | This value represents the number of days in the datetime or interval value. This value is optional and may be present or absent depending on the Start and End qualifiers. It includes integers from 1 to 31. |
| HourValOpt | optional Int | This value represents the number of hours in the DATETIME or INTERVAL value. This value is optional and may be present or absent depending on the Start and End qualifiers. It includes integers from 0 to 23. |

| | | |
|---|---|---|
| MinuteValOpt | optional Int | This value represents the number of minutes in the DATETIME or INTERVAL value. This value is optional and may be present or absent depending on the Start and End qualifiers. It includes integers from 0 to 59. |
| SecondValOpt | optional Int | This value represents the number of seconds in the DATETIME or INTERVAL value. This value is optional and may be present or absent depending on the Start and End qualifiers. It includes integers from 0 to 59. |
| FractionValOpt | optional Int | This value represents the number of fractions of second in the DATETIME or INTERVAL value. This value is optional and may be present or absent depending on the Start and End qualifiers. |
| FromValOpt | optional String | It represents the first part of the qualifier. |
| ToValOpt | optional String | It represents the second part of the qualifier. |
| PrecisionValOpt | optional Int | No information |
| ScaleValOpt | optional Int | It represents scale of the End qualifier. |

# 87 IsNull Not-referenced

## 87.1 Diagram




## 87.2 Description

**Name**: IsNull

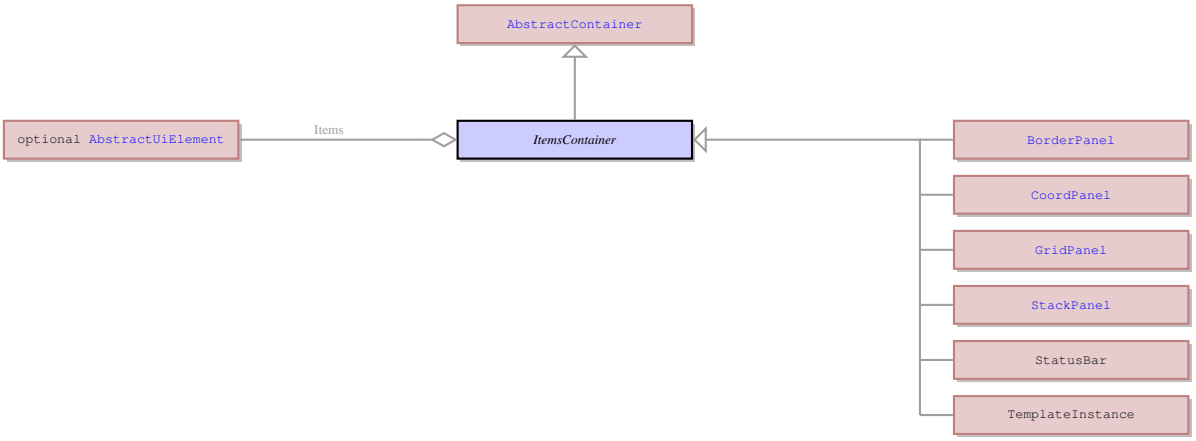
It defines whether the field is allowed to accept NULL values.

**Parent:** Unary - These are binary operators. This class includes plus and minus operators that specify whether a number is positive or negative.

It defines whether the field is allowed to accept NULL values.

# 88 ItemsContainer Not-referenced

## 88.1 Diagram




## 88.2 Description

**Name**: ItemsContainer

The containers that can contain any number of UI elements inherit their properties from the ItemsContainer UI element. These are the containers that can contain any number of form fields and other containers, as opposed to the containers belonging to ElementContainer class.

**Parent:** AbstractContainer - This UI element represents an abstract container from which all the form containers their properties. This abstract UI element unites all form containers - elements that determine the form layout.

The containers that can contain any number of UI elements inherit their properties from the ItemsContainer UI element. These are the containers that can contain any number of form fields and other containers, as opposed to the containers belonging to ElementContainer class.

### 88.3 Children

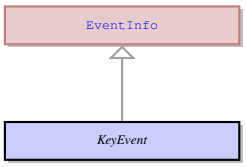
- BorderPanel - It is a concrete UI element - a container for arranging the layout of other UI elements. Other UI elements can be located either alongside the panel borders or in its center, thus this panel can incorporate up to 5 elements - 1 for each side and 1 in the center. The elements are stretched by default, one element can take up more than one position cell. The position of an element inside the Border panel (that is which of the ) is defined by the BorderPanelItemLocation property of this element.
- CoordPanel - This is a container the location of the elements inside which is determined by the coordinates of the component. The coordinates are stored in pixels and specify the Location on the coord panel where the top left corner of the child element is placed.
- GridPanel - It is a container that is used to arrange the layout of other UI elements placed inside. The elements inside the grid panel are placed inside the grid cells that are formed by the grid rows and columns. Each element must occupy at least 1 grid cell, two elements cannot occupy one and the same grid cell. The number of the grid cells can be defined by the user.
- StackPanel - This is a container which arranges the elements in horizontal or vertical stacks. Any number of elements can be placed inside this container one next to the other. At runtime the contents of the stack panel can be resized only in the direction opposite to the orientation of the container.

### 88.4 Fields

| Name | Type | Description |
|---|---|---|
| Items | list of AbstractUiElement | A set of UI elements that are placed inside the container. |

## 89 KeyEvent Not-referenced

### 89.1 Diagram




### 89.2 Description

**Name**: KeyEvent

It is an event that is triggered when the specified key on the keyboard is pressed. This event is sent to the Application server on the keypress.

**Parent:** EventInfo - It is an abstract UI entity which is the root class for the KeyEvent . It is used to send the information to the server about the event triggered on the client side.

It is an event that is triggered when the specified key on the keyboard is pressed. This event is sent to the Application server on the keypress.

### 89.3 Fields

| Name | Type | Description |
|---|---|---|
| KeyValue | optional String | The name of the key pressed. The key name is the name written on the key, e.g. F12 or A. |
| ControlModifier | Bool | It indicates whether the Ctrl key should be held down when the key is pressed. |
| AltModifier | Bool | It indicates whether the Alt key should be held down when the key is pressed. |
| ShiftModifier | Bool | It indicates whether the Shift key should be held down when the key is pressed. |

## 90 KeyEventHandler Not-referenced

### 90.1 Diagram

## 90.2 Description

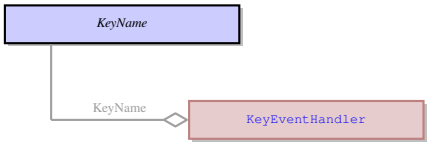
**Name**: KeyEventHandler
This is an event handler that is invoked when the KeyEvent is triggered.
**Parent:** EventHandler - This is common class for all the specific event handler types.
This is an event handler that is invoked when the KeyEvent is triggered.

## 90.3 Fields

| Name | Type | Description |
|---|---|---|
| KeyName | optional KeyName | This is a keyboard key or key combination that triggers the handler. |

# 91 KeyName

## 91.1 Diagram




## 91.2 Description

**Name**: KeyName
No information
No parents.
No information

## 91.3 Fields

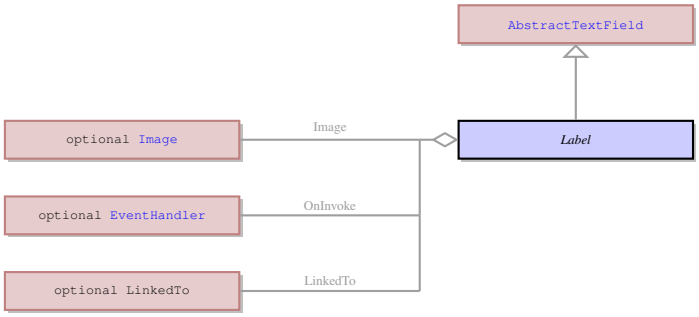
| Name | Type | Description |
|---|---|---|
| KeyValue | optional String | The name of the key pressed. The key name is the name written on the key, e.g. F12 or A. |
| ControlModifier | Bool | It indicates whether the Ctrl key should be held down when the key is pressed. |
| AltModifier | Bool | It indicates whether the Alt key should be held down when the key is pressed. |
| ShiftModifier | Bool | It indicates whether the Shift key should be held down when the key is pressed. |

## 91.4 Referenced in

- KeyName field in optional KeyEventHandler - No information

# 92 Label Not-referenced

## 92.1 Diagram



## 92.2 Description

**Name**: Label

It is a concrete UI element that has the form of a label with some text, image or both. The label is not an interactive widget and cannot be used for input, but the information displayed by it can be changed dynamically.

**Parent:** AbstractTextField - It is an abstract UI element, which unites a subset of AbstractStringField elements with the exception of TextArea , ComboBox , and Button . Typically it includes the UI elements which allow entering values, like normal text fields, and usually are only one line wide.

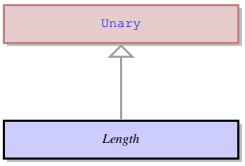
It is a concrete UI element that has the form of a label with some text, image or both. The label is not an interactive widget and cannot be used for input, but the information displayed by it can be changed dynamically.

## 92.3 Fields

| Name | Type | Description |
|---|---|---|
| Image | optional Image | The image that is displayed to a label. |
| IsDynamic | Bool | It specifies whether the information displayed by the label can be changed dynamically by means of the DISPLAY TO statement. |
| OnInvoke | optional EventHandler | The event which is triggered when the UI element is invoked. It can be invoked by mouse click, by pressing Enter, or in some cases Space, when the cursor is in the element. |
| AllowNewlines | Bool | This property specifies whether the Enter key will be used to move to another form element at runtime (if the value is FALSE), or it will create a newline symbol inside the current field (if the value is TRUE). It is typically applied for the TextArea element. |

# 93 Length Not-referenced

## 93.1 Diagram




## 93.2 Description

**Name**: Length

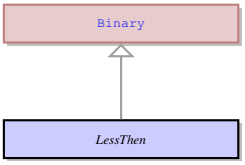
No information

**Parent:** Unary - These are binary operators. This class includes plus and minus operators that specify whether a number is positive or negative.

No information

# 94 LessThen Not-referenced

## 94.1 Diagram




## 94.2 Description

**Name**: LessThen

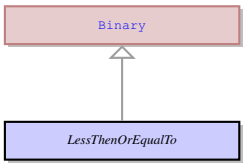
It is a part of the conditional 4GL display attributes - ¡. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator ¡.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - ¡. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator ¡.

# 95 LessThenOrEqualTo Not-referenced

## 95.1 Diagram




## 95.2 Description

**Name**: LessThenOrEqualTo

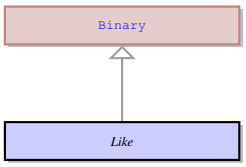
It is a part of the conditional 4GL display attributes - ¡=. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator ¡=.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - ¡=. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator ¡=.

# 96 Like Not-referenced

## 96.1 Diagram




## 96.2 Description

**Name**: Like

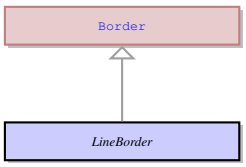
It is a part of the conditional 4GL display attributes - LIKE. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of string comparison LIKE.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - LIKE. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of string comparison LIKE.

# 97 LineBorder Not-referenced

## 97.1 Diagram




## 97.2 Description

**Name**: LineBorder

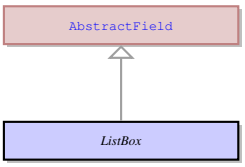
This UI element is used to apply a custom line border to any concrete UI element. A line border is just a line of the defined thickness and colour that surrounds the element. The line border allows the CornerRadius to be set to round the corners.

**Parent:** Border - It defines the properties of a custom border around a concrete UI element. The properties border can be applied to one of the three border types: BevelBorder , EtchedBorder , and LineBorder .

This UI element is used to apply a custom line border to any concrete UI element. A line border is just a line of the defined thickness and colour that surrounds the element. The line border allows the CornerRadius to be set to round the corners.

# 98 ListBox Not-referenced

## 98.1 Diagram




## 98.2 Description

**Name**: ListBox

It is a concrete UI element that has the form of a form field with a list of values inside available for selection. It does not accept values entered from the keyboard, but can participate in the input and records into the underlying variable the value that was selected from the list.

**Parent:** AbstractField - This UI element represents an abstract field from which all the form widgets inherit their properties. This abstract UI element unites all form fields - the form elements that can accept and display data - as opposed tp form containers - elements that determine the form layout.

It is a concrete UI element that has the form of a form field with a list of values inside available for selection. It does not accept values entered from the keyboard, but can participate in the input and records into the underlying variable the value that was selected from the list.

## 98.3 Fields

| Name | Type | Description |
|---|---|---|
| EnableMultiSelection | Bool | It specifies how many items can be simultaneously selected inside a list box widget. If set to FALSE, only one item cal be selected at a time. |
| HelperText | optional String | No information |

# 99 ListBoxItem Not-referenced

## 99.1 Diagram


## 99.2 Description

**Name**: ListBoxItem

It is an individual item that is a part of the list box list of values.

No parents.

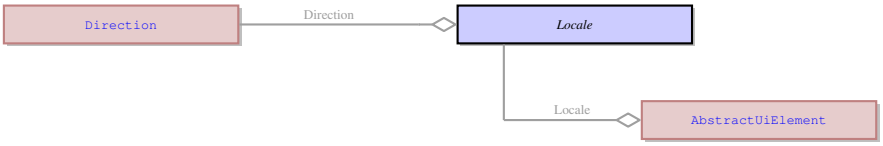
It is an individual item that is a part of the list box list of values.

## 99.3 Fields

| Name | Type | Description |
|---|---|---|
| Text | optional String | This is the value of the list box list item, which is recorded to the underlying variable after the input. |
| Value | FGLLiteral | This is any 4GL literal usually specifying the default value of a widget. |

# 100 Locale

## 100.1 Diagram



### 100.2 Description

**Name**: Locale

It specifies a custom locate of a UI element that can be different from the default application locale. It can mainly be used for to make a form fir the requirements of several locales at once.

No parents.

It specifies a custom locate of a UI element that can be different from the default application locale. It can mainly be used for to make a form fir the requirements of several locales at once.

### 100.3 Fields

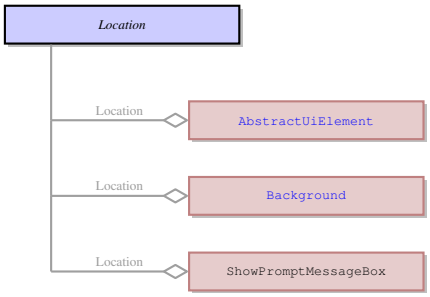
| Name | Type | Description |
|---|---|---|
| Language | optional String | The language of the locale, e.g. FR for French. |
| Country | optional String | The territory where the specified locale language is used. E.g. CA - for French language in Canada. |
| Variant | optional String | The code set of the selected locale. E.g. ISO-8859-1 or UTF-8. |
| Direction | Direction | The direction of the text: from left to right or from right to left. |

### 100.4 Referenced in

- Locale field in optional AbstractUiElement - It specifies a custom locate of a UI element that can be different from the default application locale. It can mainly be used for to make a form fir the requirements of several locales at once.

## 101 Location

### 101.1 Diagram




### 101.2 Description

**Name**: Location

This is the coordinates of the position of a UI element inside a coordinate panel in pixels.

No parents.

This is the coordinates of the position of a UI element inside a coordinate panel in pixels.

### 101.3 Fields

| Name | Type | Description |
|---|---|---|
| XCoord | String | The coordinate of the top left corner of the element on X axis of the coord panel. |
| YCoord | String | The coordinate of the top left corner of the element on Y axis of the coord panel. |

### 101.4 Referenced in

- Location field in optional AbstractUiElement - This is the coordinates of the position of a UI element inside a coordinate panel in pixels.
- Location field in optional Background - This is the coordinates of the position of a UI element inside a coordinate panel in pixels.
- Location field in optional ShowPromptMessageBox - This is the coordinates of the position of a UI element inside a coordinate panel in pixels.

# 102 LongIntegerLiteral Not-referenced

## 102.1 Diagram


## 102.2 Description

**Name**: LongIntegerLiteral

These are integer values taking up to 8 bytes maximum. It corresponds in the format to the requirements of the INTEGER 4GL data type. E.g. 123456.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

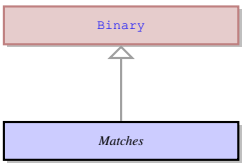
These are integer values taking up to 8 bytes maximum. It corresponds in the format to the requirements of the INTEGER 4GL data type. E.g. 123456.

## 102.3 Fields

| Name | Type | Description |
|---|---|---|
| LongIntegerValue | Integer64 | This is an integer number. |

# 103 Matches Not-referenced

## 103.1 Diagram




## 103.2 Description

**Name**: Matches

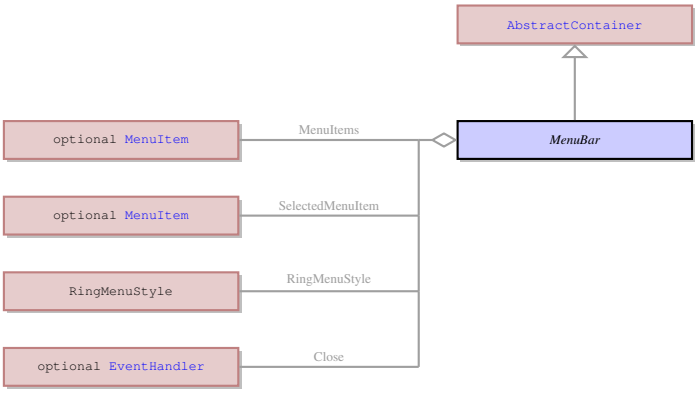
It is a part of the conditional 4GL display attributes - MATCHES. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of string comparison MATCHES.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - MATCHES. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of string comparison MATCHES.

# 104 MenuBar Not-referenced

## 104.1 Diagram



### 104.2 Description

**Name**: MenuBar

This is the area for the top menu (is not applied to ring menus). It includes menu options and menu option groups.

**Parent:** AbstractContainer - This UI element represents an abstract container from which all the form containers their properties. This abstract UI element unites all form containers - elements that determine the form layout.

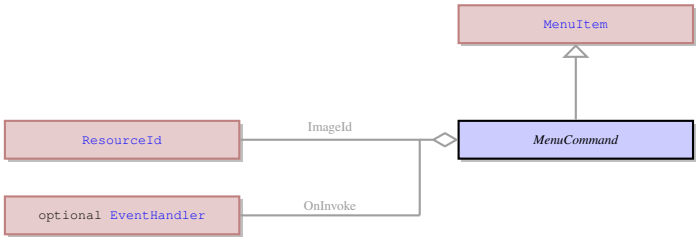
This is the area for the top menu (is not applied to ring menus). It includes menu options and menu option groups.

### 104.3 Fields

| Name | Type | Description |
|---|---|---|
| MenuItems | list of MenuItem | A set of menu options belonging to the same menu. |

## 105 MenuCommand Not-referenced

### 105.1 Diagram




### 105.2 Description

**Name**: MenuCommand

This is the menu option that can be invoked by the user. It has a label and/or icon and an even attached.

**Parent:** MenuItem - This UI element serves as the base class for all menu items: menu commands, menu groups, and menu separators.

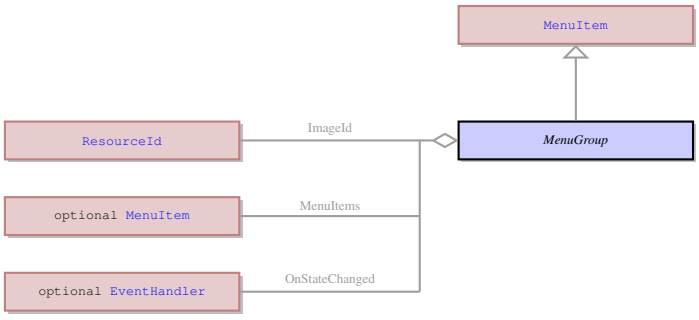
This is the menu option that can be invoked by the user. It has a label and/or icon and an even attached.

### 105.3 Fields

| Name | Type | Description |
|---|---|---|
| Text | optional String | This is the label of the menu option. |
| ImageId | ResourceId | The image that will be used as the icon on the menu option button. |
| OnInvoke | optional EventHandler | The event which is triggered when the UI element is invoked. It can be invoked by mouse click, by pressing Enter, or in some cases Space, when the cursor is in the element. |

## 106 MenuGroup Not-referenced

### 106.1 Diagram




### 106.2 Description

**Name**: MenuGroup

It is a group that unites several menu options and possibly menu separators. It offers a drop-down menu containing these options and separators, when the mouse cursor hovers over its label.

**Parent:** MenuItem - This UI element serves as the base class for all menu items: menu commands, menu groups, and menu separators.

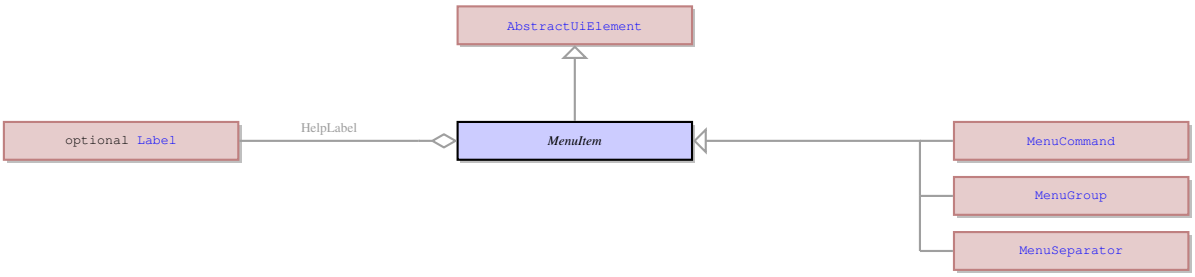
It is a group that unites several menu options and possibly menu separators. It offers a drop-down menu containing these options and separators, when the mouse cursor hovers over its label.

### 106.3 Fields

| Name | Type | Description |
|---|---|---|
| Text | optional String | This is the of the menu group. |
| ImageId | ResourceId | A reference to an image file. |
| MenuItems | list of MenuItem | A set of menu options belonging to the same menu. |
| IsExpanded | Bool | No information |
| OnStateChanged | optional EventHandler | No information |

## 107 MenuItem Not-referenced

### 107.1 Diagram




### 107.2 Description

**Name**: MenuItem

This UI element serves as the base class for all menu items: menu commands, menu groups, and menu separators.

**Parent:** AbstractUiElement - AbstractUiElement is the base class for UI widgets. It is a generic UI element that can accept user actions. Most of concrete UI elements must inherit the properties and action types from the AbstractUIElement.

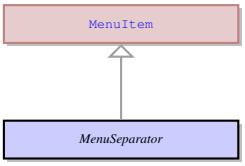
This UI element serves as the base class for all menu items: menu commands, menu groups, and menu separators.

### 107.3 Children

- MenuCommand - This is the menu option that can be invoked by the user. It has a label and/or icon and an even attached.
- MenuGroup - It is a group that unites several menu options and possibly menu separators. It offers a drop-down menu containing these options and separators, when the mouse cursor hovers over its label.
- MenuSeparator - It is a horizontal line that visually separates menu options in the drop-down list of the menu group.

## 108 MenuSeparator Not-referenced

### 108.1 Diagram




### 108.2 Description

**Name**: MenuSeparator

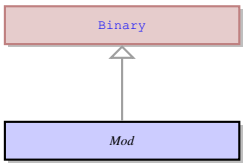
It is a horizontal line that visually separates menu options in the drop-down list of the menu group.

**Parent:** MenuItem - This UI element serves as the base class for all menu items: menu commands, menu groups, and menu separators.

It is a horizontal line that visually separates menu options in the drop-down list of the menu group.

# 109 Mod Not-referenced

## 109.1 Diagram




## 109.2 Description

**Name**: Mod

It is a part of the conditional 4GL display attributes - MOD. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of module MOD.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - MOD. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of module MOD.

# 110 ModelItem Not-referenced

## 110.1 Diagram


## 110.2 Description

**Name**: ModelItem

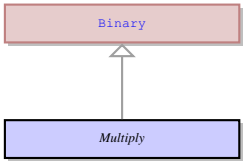
EMPTY.

No parents.

EMPTY.

# 111 Multiply Not-referenced

## 111.1 Diagram




## 111.2 Description

**Name**: Multiply

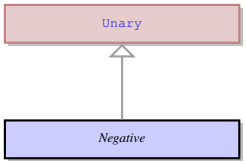
It is a part of the conditional 4GL display attributes - *. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator *.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - *. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator *.

# 112 Negative Not-referenced

## 112.1 Diagram



### 112.2 Description

**Name**: Negative

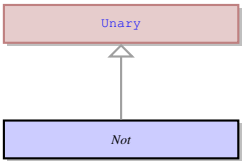
It is a part of the conditional 4GL display attributes - -. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic unary operator - used to differentiate negative numbers from positive.

**Parent:** Unary - These are binary operators. This class includes plus and minus operators that specify whether a number is positive or negative.

It is a part of the conditional 4GL display attributes - -. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic unary operator - used to differentiate negative numbers from positive.

## 113 Not Not-referenced

### 113.1 Diagram




### 113.2 Description

**Name**: Not

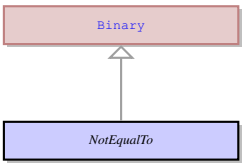
It is a part of the conditional 4GL display attributes - NOT. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator NOT.

**Parent:** Unary - These are binary operators. This class includes plus and minus operators that specify whether a number is positive or negative.

It is a part of the conditional 4GL display attributes - NOT. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator NOT.

## 114 NotEqualTo Not-referenced

### 114.1 Diagram




### 114.2 Description

**Name**: NotEqualTo

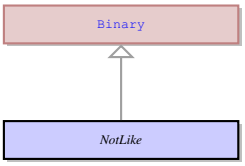
It is a part of the conditional 4GL display attributes - !=. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator !=.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - !=. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is one of these operator !=.

## 115 NotLike Not-referenced

### 115.1 Diagram



### 115.2 Description

**Name**: NotLike

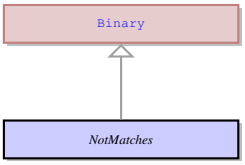
It is a part of the conditional 4GL display attributes - NOT LIKE. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of string comparison NOT LIKE.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - NOT LIKE. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of string comparison NOT LIKE.

## 116 NotMatches Not-referenced

### 116.1 Diagram




### 116.2 Description

**Name**: NotMatches

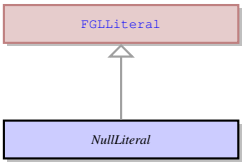
It is a part of the conditional 4GL display attributes - NOT MATCHES. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of string comparison NOT MATCHES.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - NOT MATCHES. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of string comparison NOT MATCHES.

## 117 NullLiteral Not-referenced

### 117.1 Diagram




### 117.2 Description

**Name**: NullLiteral

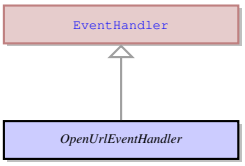
This is a 4GL literal that contains no value. This means the value of this literal is displayed as NULL or an empty space.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

This is a 4GL literal that contains no value. This means the value of this literal is displayed as NULL or an empty space.

## 118 OpenUrlEventHandler Not-referenced

### 118.1 Diagram



### 118.2 Description

**Name**: OpenUrlEventHandler

This is an event handler that can be assigned to any event. This handler opens the URL specified in the default system web browser.

**Parent:** EventHandler - This is common class for all the specific event handler types.

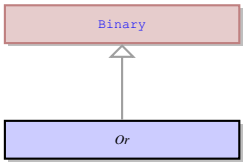
This is an event handler that can be assigned to any event. This handler opens the URL specified in the default system web browser.

### 118.3 Fields

| Name | Type | Description |
|---|---|---|
| Url | optional String | An URL, generally it requires the explicit specification of the protocol: http, ftp, etc.. |

## 119 Or Not-referenced

### 119.1 Diagram




### 119.2 Description

**Name**: Or

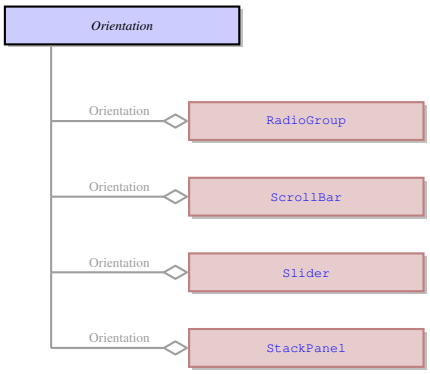
It is a part of the conditional 4GL display attributes - OR. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of logical intersection OR.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - OR. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of logical intersection OR.

## 120 Orientation

### 120.1 Diagram




### 120.2 Description

**Name**: Orientation

This enum specifies whether the UI element should have vertical or horizontal layout. The horizontal layout is the default one. It is applied to some containers which defines the layout of the elements inside the container. It is also applied to Slider , ProgressBar and ScrollBar UI elements.

No parents.

This enum specifies whether the UI element should have vertical or horizontal layout. The horizontal layout is the default one. It is applied to some containers which defines the layout of the elements inside the container. It is also applied to Slider , ProgressBar and ScrollBar UI elements.

### 120.3 Options

| Name | Description |
|---|---|
| Horizontal | The UI element will be placed horizontally and directed from left to right. |
| Vertical | The UI element will be placed vertically and directed from top to bottom. |

### 120.4 Referenced in

- Orientation field in optional RadioGroup - This enum specifies whether the UI element should have vertical or horizontal layout. The horizontal layout is the default one. It is applied to some containers which defines the layout of the elements inside the container. It is also applied to Slider , ProgressBar and ScrollBar UI elements.
- Orientation field in optional ScrollBar - This enum specifies whether the UI element should have vertical or horizontal layout. The horizontal layout is the default one. It is applied to some containers which defines the layout of the elements inside the container. It is also applied to Slider , ProgressBar and ScrollBar UI elements.
- Orientation field in optional Slider - This enum specifies whether the UI element should have vertical or horizontal layout. The horizontal layout is the default one. It is applied to some containers which defines the layout of the elements inside the container. It is also applied to Slider , ProgressBar and ScrollBar UI elements.
- Orientation field in optional StackPanel - This enum specifies whether the UI element should have vertical or horizontal layout. The horizontal layout is the default one. It is applied to some containers which defines the layout of the elements inside the container. It is also applied to Slider , ProgressBar and ScrollBar UI elements.

## 121 PivotTable Not-referenced

### 121.1 Diagram


### 121.2 Description

**Name**: PivotTable

No information

**Parent:** AbstractUiElement - AbstractUiElement is the base class for UI widgets. It is a generic UI element that can accept user actions. Most of concrete UI elements must inherit the properties and action types from the AbstractUIElement.

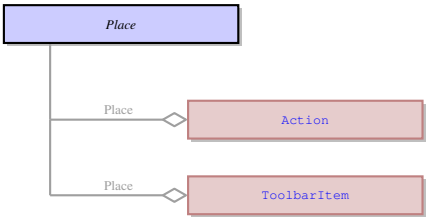
No information

### 121.3 Fields

| Name | Type | Description |
|---|---|---|
| PivotTableData | optional String | No information |
| PivotTableDataType | optional String | No information |
| PivotTableConfig | optional String | No information |
| OnPivotTableUpdate | optional EventHandler | No information |

## 122 Place

### 122.1 Diagram



### 122.2 Description

**Name**: Place
No information
No parents.
No information

### 122.3 Options

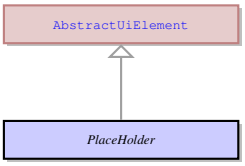
| Name | Description |
|---|---|
| Auto | This is the Auto value. |
| Top | The UI element will be aligned to the top of the container (or container cell). |
| Popup | Not described yet |

### 122.4 Referenced in

- Place field in optional Action - No information
- Place field in optional ToolbarItem - No information

## 123 PlaceHolder Not-referenced

### 123.1 Diagram

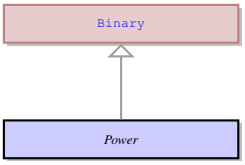



### 123.2 Description

**Name**: PlaceHolder
No information
**Parent:** AbstractUiElement - AbstractUiElement is the base class for UI widgets. It is a generic UI element that can accept user actions. Most of concrete UI elements must inherit the properties and action types from the AbstractUIElement.
No information

## 124 Power Not-referenced

### 124.1 Diagram

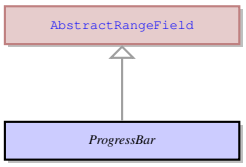



### 124.2 Description

**Name**: Power
It is a part of the conditional 4GL display attributes - **. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of exponentiation **.
**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.
It is a part of the conditional 4GL display attributes - **. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator of exponentiation **.

# 125 ProgressBar Not-referenced

## 125.1 Diagram




## 125.2 Description

**Name**: ProgressBar

This is a concrete UI element that has a form of a rectangular bar that can show the progress of the application execution by means of being filled with colour background gradually. For it to reflect the progress, the DISPLAY TO statement should be used to indicate the degree to which it must be filled after each stage. The progress bar should have the maximum value (when it is displayed to the progress bar it becomes 100 percent filled) and minimum value (when displayed makes the progress bar 0 percent filled).

**Parent:** AbstractRangeField - It is an abstract UI element, which unites the concrete UI elements which accept only the values included into the specified range. It is typically a range or numeric values, for example from 1 to 100. The concrete UI elements that inherit their properties from the AbstractRangeField are Slider , ProgressBar , Spinner , and ScrollBar .

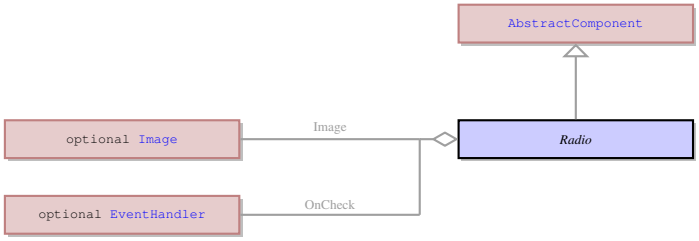
This is a concrete UI element that has a form of a rectangular bar that can show the progress of the application execution by means of being filled with colour background gradually. For it to reflect the progress, the DISPLAY TO statement should be used to indicate the degree to which it must be filled after each stage. The progress bar should have the maximum value (when it is displayed to the progress bar it becomes 100 percent filled) and minimum value (when displayed makes the progress bar 0 percent filled).

## 125.3 Fields

| Name | Type | Description |
|---|---|---|
| Step | Int | This is a number by which the value of the UI element can be increased or decreased at a time. It must be within the maximum and minimum value range. It prevents floating value changing. |

# 126 Radio Not-referenced

## 126.1 Diagram




## 126.2 Description

**Name**: Radio

A Radio is a UI element that can only occur inside a RadioGroup . It can be in either of the two states at a time - checked or unchecked. The state of one Radio in a list influences and depends on the state of other items in the same list.

**Parent:** AbstractComponent - This is the common parent of all UI elements.

A Radio is a UI element that can only occur inside a RadioGroup . It can be in either of the two states at a time - checked or unchecked. The state of one Radio in a list influences and depends on the state of other items in the same list.

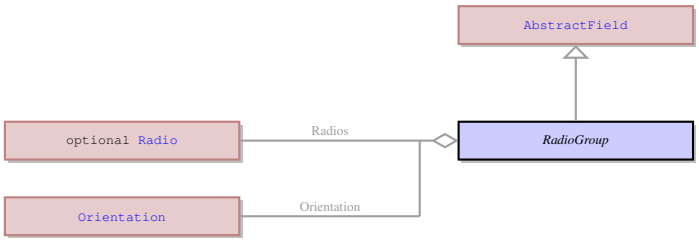
## 126.3 Fields

| Name | Type | Description |
|---|---|---|
| Title | optional String | This is the inscription attached to the UI element. Usually this is the text of all sorts of labels. |
| Image | optional Image | It is an image that can be applied to other UI elements, e.g. to a button. |
| OnCheck | optional EventHandler | The OnCheck field defines the event which will be triggered if the IsChecked field of the UI element is changed to TRUE. |

| | | |
|---|---|---|
| AllowNewlines | Bool | This property specifies whether the Enter key will be used to move to another form element at runtime (if the value is FALSE), or it will create a newline symbol inside the current field (if the value is TRUE). It is typically applied for the TextArea element. |

# 127 RadioGroup Not-referenced

## 127.1 Diagram




## 127.2 Description

**Name**: RadioGroup

The Radio is a UI element - a form widget - that contains a set of Radio which are either in selected or deselected state. The user can select only one Radio belonging to the same RadioGroup at a time, selecting a new item from the set deselects the previously selected element.

**Parent:** AbstractField - This UI element represents an abstract field from which all the form widgets inherit their properties. This abstract UI element unites all form fields - the form elements that can accept and display data - as opposed tp form containers - elements that determine the form layout.

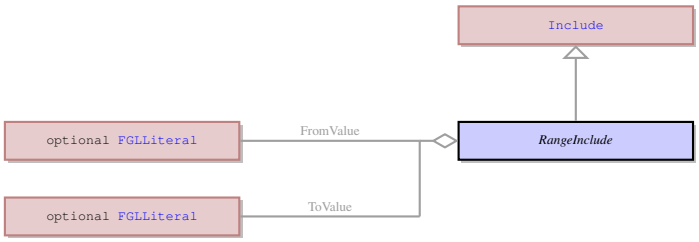
The Radio is a UI element - a form widget - that contains a set of Radio which are either in selected or deselected state. The user can select only one Radio belonging to the same RadioGroup at a time, selecting a new item from the set deselects the previously selected element.

## 127.3 Fields

| Name | Type | Description |
|---|---|---|
| Radios | list of Radio | This is the list of Radios that belong to the specified RadioGroup element. |
| Orientation | Orientation | This enum specifies whether the UI element should have vertical or horizontal layout. |
| Required | Bool | No information |

# 128 RangeInclude Not-referenced

## 128.1 Diagram




## 128.2 Description

**Name**: RangeInclude

This class defines the range of values that are allowed for being entered into a field. These are normally numeric values or letters, e.g. from a to z, or any other values that can form a range.

**Parent:** Include - This class defines what literal values are allowed for input into a form field. It can be either individual literals or a range of values.

This class defines the range of values that are allowed for being entered into a field. These are normally numeric values or letters, e.g. from a to z, or any other values that can form a range.

### 128.3 Fields

| Name | Type | Description |
|---|---|---|
| FromValue | FGLLiteral | This is the minimum value of the range of values. |
| ToValue | FGLLiteral | This is the maximum value of the range of values. |

## 129 ResourceId Not-referenced

### 129.1 Diagram


### 129.2 Description

**Name**: ResourceId

This is the specification of a media resource that is to be applied to the UI element, normally of an image or an icon. It specifies the media file, the path to it and other information about this media file.

No parents.

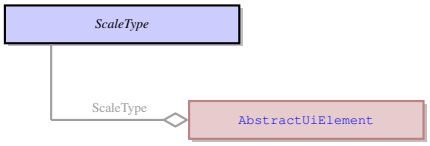
This is the specification of a media resource that is to be applied to the UI element, normally of an image or an icon. It specifies the media file, the path to it and other information about this media file.

### 129.3 Fields

| Name | Type | Description |
|---|---|---|
| Uri | String | It is the URI of a media resource. The resource should be located on the application server and the URI should begin with qx://application/... . |

## 130 ScaleType

### 130.1 Diagram




### 130.2 Description

**Name**: ScaleType

It indicates whether the UI element contents will be scaled, when the element is resized. The element resizing depends on the layout of the form and is predefined by the container. The scaling does not influence whether or not the physical size of the element will be changed by the attempt to resize it, it only influences the element contents. during the resizing.

No parents.

It indicates whether the UI element contents will be scaled, when the element is resized. The element resizing depends on the layout of the form and is predefined by the container. The scaling does not influence whether or not the physical size of the element will be changed by the attempt to resize it, it only influences the element contents. during the resizing.

### 130.3 Options

| Name | Description |
|---|---|
| NoScale | The scaling is not applied when the element is resized. It will be resized only according to its layout position; e.g. the button will be enlarged, but the text on it will remain unchanged. |
| Both | When an element is resized, its contents is also resized: if a button gets bigger, the text in it also gets the bigger font. |

### 130.4 Referenced in

- ScaleType field in optional AbstractUiElement - It indicates whether the UI element contents will be scaled, when the element is resized. The element resizing depends on the layout of the form and is predefined by the container. The scaling does not influence whether or not the physical size of the element will be changed by the attempt to resize it, it only influences the element contents. during the resizing.

# 131 ScreenRecord Not-referenced

## 131.1 Diagram


## 131.2 Description

**Name**: ScreenRecord

This class specifies a list of widgets present on the form. They are united into a record that can be referenced from within the 4GL code.

No parents.

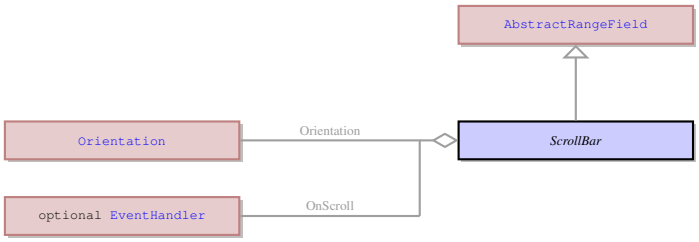
This class specifies a list of widgets present on the form. They are united into a record that can be referenced from within the 4GL code.

## 131.3 Fields

| Name | Type | Description |
|---|---|---|
| Identifier | String | It is a unique name of a UI element by which it can be referenced. |
| Fields | non-empty list of Field | No information |
| ScrollId | optional String | No information |

# 132 ScrollBar Not-referenced

## 132.1 Diagram




## 132.2 Description

**Name**: ScrollBar

It is a concrete UI element that is represented by a scrollbar. It as the maximum and minimum values and the slider can be moved by the user at runtime or by displaying values to the element.

**Parent:** AbstractRangeField - It is an abstract UI element, which unites the concrete UI elements which accept only the values included into the specified range. It is typically a range or numeric values, for example from 1 to 100. The concrete UI elements that inherit their properties from the AbstractRangeField are Slider , ProgressBar , Spinner , and ScrollBar .

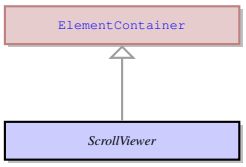
It is a concrete UI element that is represented by a scrollbar. It as the maximum and minimum values and the slider can be moved by the user at runtime or by displaying values to the element.

## 132.3 Fields

| Name | Type | Description |
|---|---|---|
| Orientation | Orientation | This enum specifies whether the UI element should have vertical or horizontal layout. |
| LargeStep | Int | It indicates the value by which the slider will be moved at a time, if the user moves it by holding down the arrow key. |
| SmallStep | Int | It indicates the smallest value by which the slider can be moved at a time. The slider cannot move smoothly and stop at values that won't make a complete step. E.g.: if the step is 2, the slider cannot stop at values 1, 3, 5, etc., it can stop at values 0,2,4,6 and so on. The small step is used when the user moves the slider by a single press of the arrow key on the keyboard. |
| OnScroll | optional EventHandler | This is the event invoked when the slider of the UI element moves. |

# 133 ScrollViewer Not-referenced

## 133.1 Diagram




## 133.2 Description

**Name**: ScrollViewer

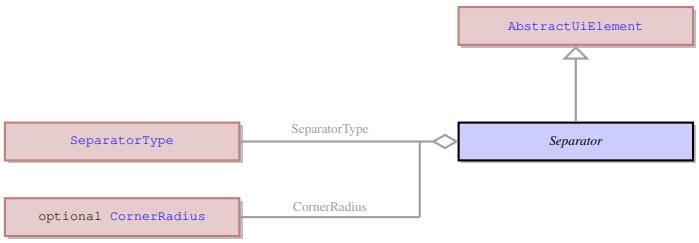
It is a container the content of which can be bigger than the container. The scrollbars are used to view the content that does not fit. It can contain exactly one element. E.g. it can contain a stack panel container, the number of elements inside which can be bigger than fit the size of the Scroll Viewer.

**Parent:** ElementContainer - This UI element unites all the containers which can contain exactly one element. The containers that derive from ElementContainer UI element can be logically opposed to containers derived from ItemsContainer UI element that can contain any number of elements of any type. The elements that inherit their properties from ElementContainer can encompass such elements as ring menu area or any other container. They can also contain an element belonging to ui.AbstractFiled class, but only one such element.

It is a container the content of which can be bigger than the container. The scrollbars are used to view the content that does not fit. It can contain exactly one element. E.g. it can contain a stack panel container, the number of elements inside which can be bigger than fit the size of the Scroll Viewer.

# 134 Separator Not-referenced

## 134.1 Diagram




## 134.2 Description

**Name**: Separator

Any kind of separator, e.g. the status bar separator.

**Parent:** AbstractUiElement - AbstractUiElement is the base class for UI widgets. It is a generic UI element that can accept user actions. Most of concrete UI elements must inherit the properties and action types from the AbstractUIElement.

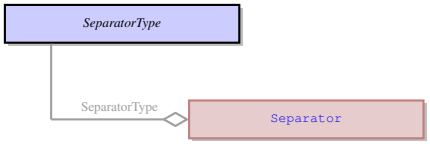
Any kind of separator, e.g. the status bar separator.

## 134.3 Fields

| Name | Type | Description |
|---|---|---|
| SeparatorType | SeparatorType | This is the type of the separator to be displayed |
| CornerRadius | optional CornerRadius | The radius of a corner of a custom border around the UI element. It is used to make the border corners rounded. |

# 135 SeparatorType

## 135.1 Diagram



### 135.2 Description

**Name**: SeparatorType
This is the type of the separator to be displayed
No parents.
This is the type of the separator to be displayed

### 135.3 Options

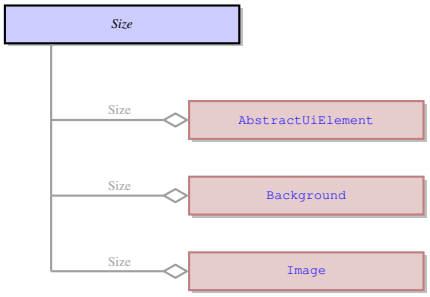
| Name | Description |
|---|---|
| Horizontal | Separator in the form of a single horizontal line |
| Vertical | Separator in the form of a single vertical line. |
| LeftTop | Separator in the form of two short lines adjoining orthogonally and forming a left top corner of a rectangle. |
| RightTop | Separator in the form of two short lines adjoining orthogonally and forming a right top corner of a rectangle. |
| LeftBottom | Separator in the form of two short lines adjoining orthogonally and forming a left bottom corner of a rectangle. |
| RightBottom | Separator in the form of two short lines adjoining orthogonally and forming a right bottom corner of a rectangle. |
| Cross | Separator in the form of two short lines intersecting orthogonally and forming an equilateral cross. Serves for connecting vertical and horizontal separators that overlap separators. |
| LeftJunction | Separator in the form of one longer vertical and one shorter horizontal line with the shorter line adjoining the longer one orthogonally at the middle from its left side. Serves for connecting a horizontal separator to the middle of vertical one. |
| RightJunction | LeftJunction - Separator in the form of one longer vertical and one shorter horizontal line with the shorter line adjoining the longer one orthogonally at the middle from its right side. Serves for connecting a horizontal separator to the middle of vertical one. |
| TopJunction | Separator in the form of one longer horizontal and one shorter vertical line with the shorter line adjoining the longer one orthogonally at the middle from the top. Serves for connecting a vertical separator to the middle of horizontal one. |
| BottomJunction | Separator in the form of one longer horizontal and one shorter vertical line with the shorter line adjoining the longer one orthogonally at the middle from the bottom. Serves for connecting a vertical separator to the middle of horizontal one. |

### 135.4 Referenced in

- SeparatorType field in optional Separator - This is the type of the separator to be displayed

## 136 Size

### 136.1 Diagram




### 136.2 Description

**Name**: Size
The size of a UI element in pixels.
No parents.
The size of a UI element in pixels.

### 136.3 Fields

| Name | Type | Description |
|---|---|---|

| | | |
|---|---|---|
| Width | optional String | The width of the UI element in pixels. |
| Height | optional String | The height of the UI element in pixels. |

### 136.4 Referenced in

- Size field in optional AbstractUiElement - The size of a UI element in pixels.
- Size field in optional Background - The size of a UI element in pixels.
- Size field in optional Image - The size of a UI element in pixels.

## 137 Slider Not-referenced

### 137.1 Diagram


### 137.2 Description

**Name**: Slider

This is a concrete UI element that consists of a scale and a slider that can move across this scale. The slider widget has the minimum and maximum value which present the start and the end of the scale. It can be moved directly by the user during the input, or it can be moved if a value within its values range is displayed to it by the 4GL means.

**Parent:** AbstractRangeField - It is an abstract UI element, which unites the concrete UI elements which accept only the values included into the specified range. It is typically a range or numeric values, for example from 1 to 100. The concrete UI elements that inherit their properties from the AbstractRangeField are Slider , ProgressBar , Spinner , and ScrollBar .

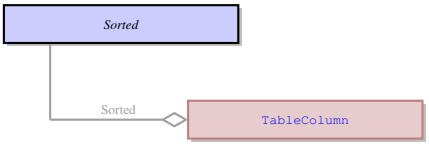
This is a concrete UI element that consists of a scale and a slider that can move across this scale. The slider widget has the minimum and maximum value which present the start and the end of the scale. It can be moved directly by the user during the input, or it can be moved if a value within its values range is displayed to it by the 4GL means.

### 137.3 Fields

| Name | Type | Description |
|---|---|---|
| Step | Int | This is a number by which the value of the UI element can be increased or decreased at a time. It must be within the maximum and minimum value range. It prevents floating value changing. |
| Orientation | Orientation | This enum specifies whether the UI element should have vertical or horizontal layout. |

## 138 Sorted

### 138.1 Diagram




### 138.2 Description

**Name**: Sorted

No information

No parents.

No information

### 138.3 Options

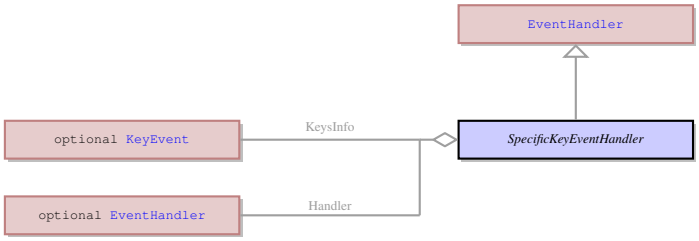
| Name | Description |
|---|---|
| None | The property is not applied and the default behaviour is used. |
| Asc | Not described yet |
| Desc | Not described yet |

### 138.4 Referenced in

- Sorted field in optional TableColumn - No information

## 139 SpecificKeyEventHandler Not-referenced

### 139.1 Diagram




### 139.2 Description

**Name**: SpecificKeyEventHandler

This event handler specifies what event handler should be triggered when a specific key is pressed. It links the keypress with a 4GL event.

**Parent:** EventHandler - This is common class for all the specific event handler types.

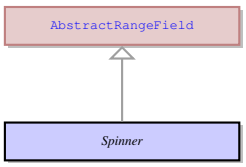
This event handler specifies what event handler should be triggered when a specific key is pressed. It links the keypress with a 4GL event.

### 139.3 Fields

| Name | Type | Description |
|---|---|---|
| KeysInfo | list of KeyEvent | It specifies the concrete keys that must be pressed to trigger the event. |
| Handler | optional EventHandler | It specifies the event handler that should be invoked on the keypress. |

## 140 Spinner Not-referenced

### 140.1 Diagram




### 140.2 Description

**Name**: Spinner

This is a concrete UI element that has a form of a field available for inputting and displaying data that accepts only values inside the allowed range of values. It has the up and down arrows on the right that allow the user to scroll through the acceptable values and prevents the user from entering values from keyboard.

**Parent:** AbstractRangeField - It is an abstract UI element, which unites the concrete UI elements which accept only the values included into the specified range. It is typically a range or numeric values, for example from 1 to 100. The concrete UI elements that inherit their properties from the AbstractRangeField are Slider , ProgressBar , Spinner , and ScrollBar .

This is a concrete UI element that has a form of a field available for inputting and displaying data that accepts only values inside the allowed range of values. It has the up and down arrows on the right that allow the user to scroll through the acceptable values and prevents the user from entering values from keyboard.

### 140.3 Fields

| Name | Type | Description |
|---|---|---|
| Step | Int | This is a number by which the value of the UI element can be increased or decreased at a time. It must be within the maximum and minimum value range. It prevents floating value changing. |

## 141 StackPanel Not-referenced

### 141.1 Diagram


### 141.2 Description

**Name**: StackPanel

This is a container which arranges the elements in horizontal or vertical stacks. Any number of elements can be placed inside this container one next to the other. At runtime the contents of the stack panel can be resized only in the direction opposite to the orientation of the container.

**Parent:** ItemsContainer - The containers that can contain any number of UI elements inherit their properties from the ItemsContainer UI element. These are the containers that can contain any number of form fields and other containers, as opposed to the containers belonging to ElementContainer class.

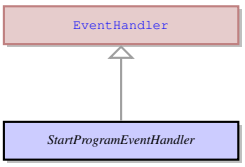
This is a container which arranges the elements in horizontal or vertical stacks. Any number of elements can be placed inside this container one next to the other. At runtime the contents of the stack panel can be resized only in the direction opposite to the orientation of the container.

### 141.3 Fields

| Name | Type | Description |
|---|---|---|
| Orientation | Orientation | This enum specifies whether the UI element should have vertical or horizontal layout. |
| Reverse | Bool | No information |

## 142 StartProgramEventHandler Not-referenced

### 142.1 Diagram




### 142.2 Description

**Name**: StartProgramEventHandler

This event handler specifies the child 4GL program that should be launched and the parameters of this program. It is normally used for the MDI mode, but can be used in other cases.

**Parent:** EventHandler - This is common class for all the specific event handler types.

This event handler specifies the child 4GL program that should be launched and the parameters of this program. It is normally used for the MDI mode, but can be used in other cases.

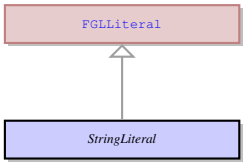
### 142.3 Fields

| Name | Type | Description |
|---|---|---|
| ProgramName | optional String | The name of the child program. |
| ProgramParameters | optional String | The parameters of the child program. |

| | | |
|---|---|---|
| ProgramServer | optional String | The name of the host - the application server on which the program is deployed and should run. |
| ProgramPort | optional String | The port on the application server. |
| UserId | optional String | The name of the user who runs the application. |
| Waiting | Bool | It indicates whether the parent program should be suspended until the child program is closed. |

# 143 StringLiteral Not-referenced

## 143.1 Diagram




## 143.2 Description

**Name**: StringLiteral

These are character strings enclosed in quotation marks. It corresponds in the format to the requirements of the STRING, CHAR, VARCHAR 4GL data types. E.g. ”abcde”.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

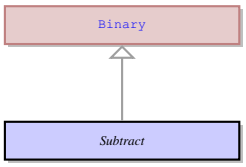
These are character strings enclosed in quotation marks. It corresponds in the format to the requirements of the STRING, CHAR, VARCHAR 4GL data types. E.g. ”abcde”.

## 143.3 Fields

| Name | Type | Description |
|---|---|---|
| StringValue | String | This is one or more printable characters or white space characters enclosed in quotation marks. |

# 144 Subtract Not-referenced

## 144.1 Diagram




## 144.2 Description

**Name**: Subtract

It is a part of the conditional 4GL display attributes - -. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator -.

**Parent:** Binary - These are binary operators which have two operands - left operand and right operand. This class includes all the arithmetic and logical operators for the conditional properties.

It is a part of the conditional 4GL display attributes - -. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic operator -.

# 145 SystemColor Not-referenced

## 145.1 Diagram

### 145.2 Description

**Name**: SystemColor

The system color defines a list of preset colours that can be applied to widgets, as opposed to the custom colour where the user needs to specify RGB of the color.

**Parent:** Color - It is the root element to all color properties that can be applied to any UI element.

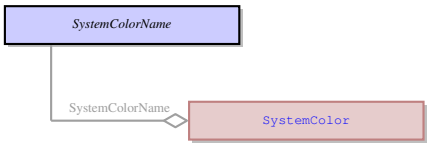
The system color defines a list of preset colours that can be applied to widgets, as opposed to the custom colour where the user needs to specify RGB of the color.

### 145.3 Fields

| Name | Type | Description |
|---|---|---|
| SystemColorName | SystemColorName | It is the name of one of the predefined system colors. |

## 146 SystemColorName

### 146.1 Diagram




### 146.2 Description

**Name**: SystemColorName

It is a name of a preset system color the color code for which is hard-coded and associated with this name.

No parents.

It is a name of a preset system color the color code for which is hard-coded and associated with this name.

### 146.3 Options

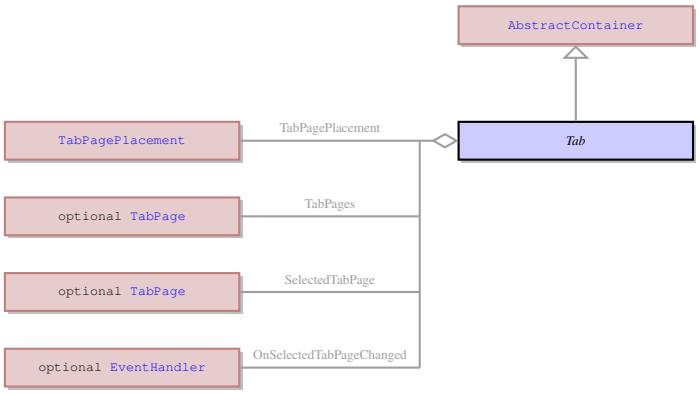
| Name | Description |
|---|---|
| None | The property is not applied and the default behaviour is used. |
| Black | RGB 0 0 0. |
| Gray | RGB 230 230 230. |
| DarkGray | RGB 75 75 75. |
| LightGray | RGB 217 217 217. |
| White | RGB 255 255 255. |
| Red | RGB 156 0 6. |
| LightRed | RGB 255 183 186. |
| Magenta | RGB 197 28 90. |
| LightMagenta | RGB 250 207 221. |
| Green | RGB 0 97 0. |
| LightGreen | RGB 190 240 200. |
| Blue | RGB 31 73 125. |
| LightBlue | RGB 190 210 240. |
| Cyan | RGB 49 134 155. |
| LightCyan | RGB 205 235 235. |
| Yellow | RGB 156 101 0. |
| LightYellow | RGB 255 235 156. |
| Purple | RGB 172 5 76. |
| LightPurple | RGB 228 186 232. |
| Orange | RGB 226 107 10. |
| LightOrange | RGB 253 233 217. |

### 146.4 Referenced in

- SystemColorName field in optional SystemColor - It is a name of a preset system color the color code for which is hard-coded and associated with this name.

# 147 Tab Not-referenced

## 147.1 Diagram




## 147.2 Description

**Name**: Tab

This is a special type of container which can contain any number of elements, but these elements can only be of TabPage . The Tab serves as the container for a stack of tab pages with only one page visible at a time. Other pages can be brought forward by clicking on their tabs.

**Parent:** AbstractContainer - This UI element represents an abstract container from which all the form containers their properties. This abstract UI element unites all form containers - elements that determine the form layout.

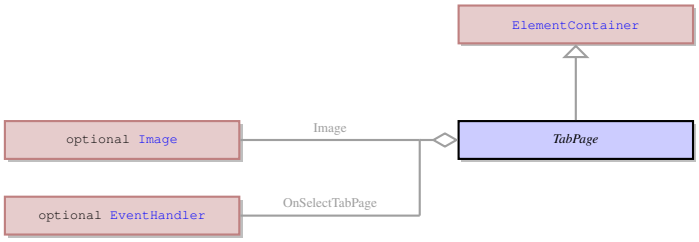
This is a special type of container which can contain any number of elements, but these elements can only be of TabPage . The Tab serves as the container for a stack of tab pages with only one page visible at a time. Other pages can be brought forward by clicking on their tabs.

## 147.3 Fields

| Name | Type | Description |
|---|---|---|
| TabPagePlacement | TabPagePlacement | It defines where the tabs should be located - to which side of the tab panel should they adjoin. |
| TabPages | list of TabPage | This is the set of tab pages that belong to the same tab container. |
| OnSelectedTabPageChanged | optional EventHandler | This is an event that is triggered every time the current tab page is changed. |

# 148 TabPage Not-referenced

## 148.1 Diagram




## 148.2 Description

**Name**: TabPage

This is a container that can only be placed inside the Tab container. A tab page can contain a single element of any type. Each tab page has a tab with the page title which is used to bring the page forward from the stack of other tab pages at runtime or during form modification.

**Parent:** ElementContainer - This UI element unites all the containers which can contain exactly one element. The containers that derive from ElementContainer UI element can be logically opposed to containers derived from ItemsContainer UI element that can contain any number of elements of any type. The elements that inherit their properties from ElementContainer can encompass such elements as ring menu area or any other container. They can also contain an element belonging to ui.AbstractFiled class, but only one such element.

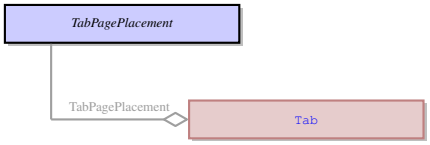
This is a container that can only be placed inside the Tab container. A tab page can contain a single element of any type. Each tab page has a tab with the page title which is used to bring the page forward from the stack of other tab pages at runtime or during form modification.

### 148.3 Fields

| Name | Type | Description |
|---|---|---|
| Title | optional String | This is the inscription attached to the UI element. Usually this is the text of all sorts of labels. |
| Image | optional Image | This is an icon that can be displayed to the tab of the page with or instead of the page title. |
| OnSelectTabPage | optional EventHandler | This is an event that is triggered every time the tab page becomes the current tab page of the tab container and its contents is brought forward. |

## 149 TabPagePlacement

### 149.1 Diagram




### 149.2 Description

**Name**: TabPagePlacement

This enum defined where th list of tabs should be located. By default it is located horizontally below the top border of the tab container. They can also be located horizontally at the bottom of the container or vertically at its either side.

No parents.

This enum defined where th list of tabs should be located. By default it is located horizontally below the top border of the tab container. They can also be located horizontally at the bottom of the container or vertically at its either side.

### 149.3 Options

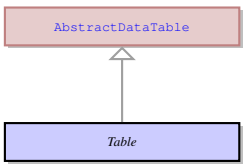
| Name | Description |
|---|---|
| Top | The UI element will be aligned to the top of the container (or container cell). |
| Left | The UI element will be aligned to the left side of the container (or container cell). |
| Right | The UI element will be aligned to the right side of the container (or container cell). |
| Bottom | The UI element will be aligned to the bottom of the container (or container cell). |

### 149.4 Referenced in

- TabPagePlacement field in optional Tab - This enum defined where th list of tabs should be located. By default it is located horizontally below the top border of the tab container. They can also be located horizontally at the bottom of the container or vertically at its either side.

## 150 Table Not-referenced

### 150.1 Diagram




### 150.2 Description

**Name**: Table

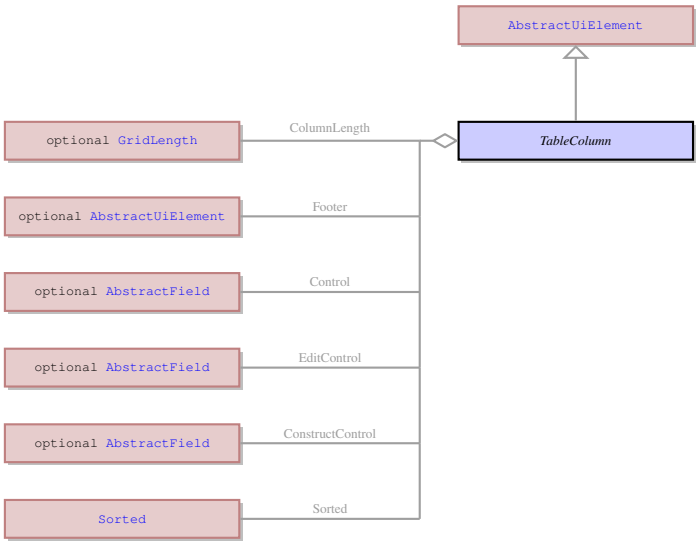
This is a container that can only contain a specific type of element - TableColumn . It serves as the root container of a table with rows and columns of widgets used to display and input data.

**Parent:** AbstractDataTable - This UI element is used to display and edit data in a customized two-dimensional table of cells. The data in the cell therefore can be retrieved by specifying the row and column identifier of that cell in the table. AbstractDataTable UI element manages the overall appearance and behavior of the table, but does not have direct influence on the columns and rows.

This is a container that can only contain a specific type of element - TableColumn . It serves as the root container of a table with rows and columns of widgets used to display and input data.

# 151 TableColumn Not-referenced

## 151.1 Diagram




## 151.2 Description

**Name**: TableColumn

This is a container that can only be placed inside the Table container or TreeTable container. It can contain only one element belonging to the AbstractField class. Though only one element can be placed into a column, this element will be repeated till the bottom of the column, creating table row together with the elements in other columns, if any. All the duplicates of the element will have the same identifier and will be treated as a single element by th e form designer. The 4GL can differentiate between the instances of the element belonging to different rows by means of using the element identifier together with the number of the table row. The table row numbers start at number 1 at the top of the table.

**Parent:** AbstractUiElement - AbstractUiElement is the base class for UI widgets. It is a generic UI element that can accept user actions. Most of concrete UI elements must inherit the properties and action types from the AbstractUIElement.

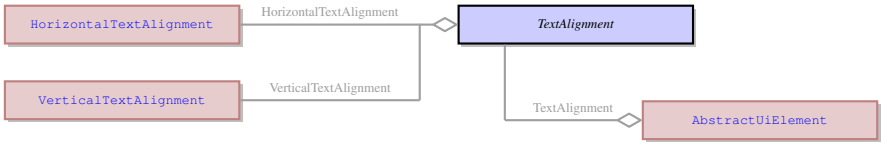
This is a container that can only be placed inside the Table container or TreeTable container. It can contain only one element belonging to the AbstractField class. Though only one element can be placed into a column, this element will be repeated till the bottom of the column, creating table row together with the elements in other columns, if any. All the duplicates of the element will have the same identifier and will be treated as a single element by th e form designer. The 4GL can differentiate between the instances of the element belonging to different rows by means of using the element identifier together with the number of the table row. The table row numbers start at number 1 at the top of the table.

## 151.3 Fields

| Name | Type | Description |
|---|---|---|
| Text | optional String | This is the text used as the header of the column. |
| ColumnLength | optional GridLength | It specifies the length of a column. The column length determines how many rows of widgets the table will have. |
| Resizable | Bool | It indicates whether the user is allowed to resize the column at run-time using the mouse cursor. |
| AllowNewlines | Bool | This property specifies whether the Enter key will be used to move to another form element at runtime (if the value is FALSE), or it will create a newline symbol inside the current field (if the value is TRUE). It is typically applied for the TextArea element. |
| Control | optional AbstractField | No information |
| Unsortable | Bool | No information |
| Sorted | Sorted | No information |

# 152 TextAlignment

## 152.1 Diagram



### 152.2 Description

**Name**: TextAlignment

It defines the alignment of the text inside the UI element to which it belongs. For example, it can define the alignment of the text inside a table cell or inside a text area.

No parents.

It defines the alignment of the text inside the UI element to which it belongs. For example, it can define the alignment of the text inside a table cell or inside a text area.

### 152.3 Fields

| Name | Type | Description |
|---|---|---|
| HorizontalTextAlignment | HorizontalTextAlignment | |
| VerticalTextAlignment | VerticalTextAlignment | |

### 152.4 Referenced in

- TextAlignment field in optional AbstractUiElement - It defines the alignment of the text inside the UI element to which it belongs. For example, it can define the alignment of the text inside a table cell or inside a text area.

## 153 TextArea Not-referenced

### 153.1 Diagram


### 153.2 Description

**Name**: TextArea

This is a concrete UI element that has the form of a text field and shares many features with TextField , but is designed for working with multiline text instead of single lines of text. It does not have some features of the text field that deal with the navigation between fields, but instead it had improved facilities for navigating inside the field.

**Parent:** AbstractStringField - It is an abstract UI element, which unites the concrete UI elements that accept a character string as their value. Most of the concrete UI elements that are not containers inherit their properties from this element.

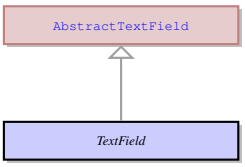
This is a concrete UI element that has the form of a text field and shares many features with TextField , but is designed for working with multiline text instead of single lines of text. It does not have some features of the text field that deal with the navigation between fields, but instead it had improved facilities for navigating inside the field.

### 153.3 Fields

| Name | Type | Description |
|---|---|---|
| ToCase | ToCase | This property specifies the case of a UI element. It can be applied to any UI element that allows entering text from keyboard. By default its value is None, meaning that the case of the letters does not change and remains as they were inputted. |
| MaxLength | optional Int | It specifies the maximum length in bytes allowed for entering into the filed. Its value is normally taken from the data type and size of the variable linked to the field. |
| AllowTabulation | Bool | It indicates whether the Tab key will move the cursor to the next field (FALSE - default value) or create a TAB symbol inside the field. |
| Editor | optional String | Specifies the program to be used for opening and editing the BYTE or TEXT value. |
| Autonext | Bool | If enabled, moves the cursor to the next field during input automatically, when the MaxLength of the current field is met. |
| Required | Bool | No information |
| PlaceholderText | optional String | No information |
| LabelText | optional String | No information |
| HelperText | optional String | No information |

# 154 TextField Not-referenced

## 154.1 Diagram




## 154.2 Description

**Name**: TextField

This is a concrete UI element that is commonly used for input and displaying information. Normally it is used to process a single line of data.

**Parent:** AbstractTextField - It is an abstract UI element, which unites a subset of AbstractStringField elements with the exception of TextArea , ComboBox , and Button . Typically it includes the UI elements which allow entering values, like normal text fields, and usually are only one line wide.

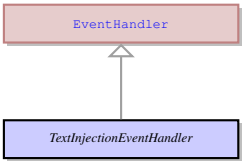
This is a concrete UI element that is commonly used for input and displaying information. Normally it is used to process a single line of data.

## 154.3 Fields

| Name | Type | Description |
|---|---|---|
| AllowNewlines | Bool | This property specifies whether the Enter key will be used to move to another form element at runtime (if the value is FALSE), or it will create a newline symbol inside the current field (if the value is TRUE). It is typically applied for the TextArea element. |
| InvisibleValue | optional Bool | If enabled, the value displayed to the field will be invisible. During input the value will be masked with *. |
| PlaceholderText | optional String | No information |
| LabelText | optional String | No information |
| HelperText | optional String | No information |
| Completer | Bool | No information |

# 155 TextInjectionEventHandler Not-referenced

## 155.1 Diagram




## 155.2 Description

**Name**: TextInjectionEventHandler

This event handler injects the text specified as its parameter into the current input widget. It can be assigned to any event.

**Parent:** EventHandler - This is common class for all the specific event handler types.

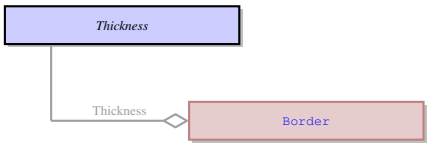
This event handler injects the text specified as its parameter into the current input widget. It can be assigned to any event.

## 155.3 Fields

| Name | Type | Description |
|---|---|---|
| Text | optional String | A character string. |

# 156 Thickness

## 156.1 Diagram




## 156.2 Description

**Name**: Thickness

This is a property which defines the thickness of elements or their parts. It is use to define the thickness of the border, the width or padding and margin offsets. The parts of the same object (e.g. border) can have different thickness in its different parts - for example a border can be 1 pixel wide at the top and 2 pixels wide at the bottom. If the thickness of any side is set to 0 - this side of the element absent.

No parents.

This is a property which defines the thickness of elements or their parts. It is use to define the thickness of the border, the width or padding and margin offsets. The parts of the same object (e.g. border) can have different thickness in its different parts - for example a border can be 1 pixel wide at the top and 2 pixels wide at the bottom. If the thickness of any side is set to 0 - this side of the element absent.

## 156.3 Fields

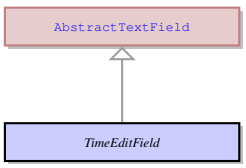
| Name | Type | Description |
|---|---|---|
| Left | Int | The size of the left standoff in pixels. |
| Top | Int | The size of the top standoff in pixels. |
| Right | Int | The size of the right standoff in pixels. |
| Bottom | Int | The size of the bottom standoff in pixels. |

## 156.4 Referenced in

- Thickness field in optional Border - This is a property which defines the thickness of elements or their parts. It is use to define the thickness of the border, the width or padding and margin offsets. The parts of the same object (e.g. border) can have different thickness in its different parts - for example a border can be 1 pixel wide at the top and 2 pixels wide at the bottom. If the thickness of any side is set to 0 - this side of the element absent.

# 157 TimeEditField Not-referenced

## 157.1 Diagram




## 157.2 Description

**Name**: TimeEditField

This is a concrete UI element that accepts a limited range of time values. The value inside the field is formatted into hh:mm:ss format. It also has up and down arrows that can scroll the data in the field - whether hours, minutes or seconds are scrolled depends on there inside the field the cursor is located.

**Parent:** AbstractTextField - It is an abstract UI element, which unites a subset of AbstractStringField elements with the exception of TextArea , ComboBox , and Button . Typically it includes the UI elements which allow entering values, like normal text fields, and usually are only one line wide.

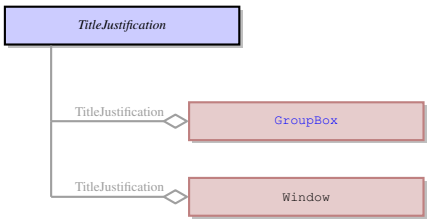
This is a concrete UI element that accepts a limited range of time values. The value inside the field is formatted into hh:mm:ss format. It also has up and down arrows that can scroll the data in the field - whether hours, minutes or seconds are scrolled depends on there inside the field the cursor is located.

### 157.3 Fields

| Name | Type | Description |
|---|---|---|
| LabelText | optional String | No information |
| HelperText | optional String | No information |
| PlaceholderText | optional String | No information |

## 158 TitleJustification

### 158.1 Diagram




### 158.2 Description

**Name**: TitleJustification

This enum defines the horizontal justification of the title text. It is typically is applied to window titles, column header titles, tab page titles, etc..

No parents.

This enum defines the horizontal justification of the title text. It is typically is applied to window titles, column header titles, tab page titles, etc..

### 158.3 Options

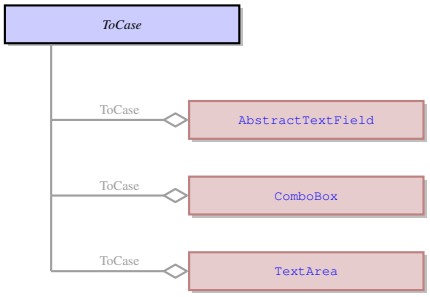
| Name | Description |
|---|---|
| Left | The UI element will be aligned to the left side of the container (or container cell). |
| Center | The UI element will be equidistant from both sides. |
| Right | The UI element will be aligned to the right side of the container (or container cell). |

### 158.4 Referenced in

- TitleJustification field in optional GroupBox - This enum defines the horizontal justification of the title text. It is typically is applied to window titles, column header titles, tab page titles, etc..
- TitleJustification field in optional Window - This enum defines the horizontal justification of the title text. It is typically is applied to window titles, column header titles, tab page titles, etc..

## 159 ToCase

### 159.1 Diagram




### 159.2 Description

**Name**: ToCase

This is the case (lower case or upper case) to be applied to the text in the UI element.

No parents.

This is the case (lower case or upper case) to be applied to the text in the UI element.

### 159.3 Options

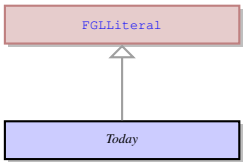
| Name | Description |
|---|---|
| None | The property is not applied and the default behaviour is used. |
| Up | All the letters entered into the UI element will be uppercase letters regardless of their original case. |
| Down | All the letters entered into the UI element will be lowercase letters regardless of their original case. |

### 159.4 Referenced in

- ToCase field in optional AbstractTextField - This is the case (lower case or upper case) to be applied to the text in the UI element.
- ToCase field in optional ComboBox - This is the case (lower case or upper case) to be applied to the text in the UI element.
- ToCase field in optional TextArea - This is the case (lower case or upper case) to be applied to the text in the UI element.

## 160 Today Not-referenced

### 160.1 Diagram




### 160.2 Description

**Name**: Today

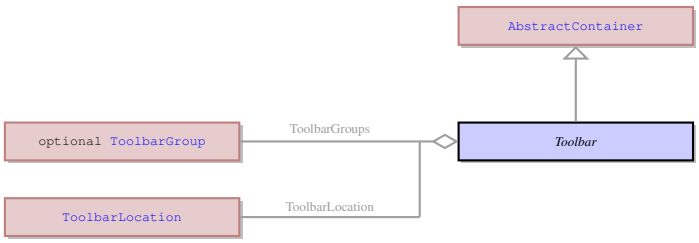
It is a part of the conditional 4GL display attributes - TODAY(). The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

It is a part of the conditional 4GL display attributes - TODAY(). The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals.

## 161 Toolbar Not-referenced

### 161.1 Diagram




### 161.2 Description

**Name**: Toolbar

This is the container that incorporates toolbar buttons.

**Parent:** AbstractContainer - This UI element represents an abstract container from which all the form containers their properties. This abstract UI element unites all form containers - elements that determine the form layout.

This is the container that incorporates toolbar buttons.

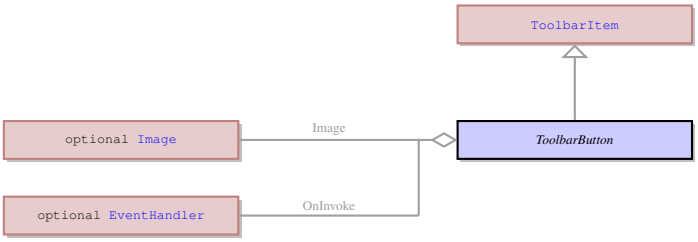
### 161.3 Fields

| Name | Type | Description |
|---|---|---|
| ToolbarGroups | list of ToolbarGroup | A set of all toolbar groups that belong to the toolbar. |
| HideLabels | Bool | It specifies whether the text on the toolbar buttons should be visible or not. If set to true - only the icons will be visible. |

| | | |
|---|---|---|
| ToolbarLocation | ToolbarLocation | No information |

# 162 ToolbarButton Not-referenced

## 162.1 Diagram




## 162.2 Description

**Name**: ToolbarButton

This is an individual toolbar button that belongs to the toolbar.

**Parent:** ToolbarItem - This is an abstract element that unites the toolbar buttons and toolbar separators.

This is an individual toolbar button that belongs to the toolbar.

## 162.3 Fields

| Name | Type | Description |
|---|---|---|
| Text | optional String | This is the label of the toolbar button. |
| AllowNewlines | Bool | This property specifies whether the Enter key will be used to move to another form element at runtime (if the value is FALSE), or it will create a newline symbol inside the current field (if the value is TRUE). It is typically applied for the TextArea element. |
| Image | optional Image | It specifies the icon that should be displayed to the toolbar button. The button is resized to the size of the icon applied. |
| OnInvoke | optional EventHandler | The event which is triggered when the UI element is invoked. It can be invoked by mouse click, by pressing Enter, or in some cases Space, when the cursor is in the element. |

# 163 ToolbarGroup Not-referenced

## 163.1 Diagram


## 163.2 Description

**Name**: ToolbarGroup

This is a set of toolbar buttons that are united into a single group. The group unites the toolbar buttons that have the same conditions for being displayed. It was designed to make the toolbar more dynamic - to display or hide the toolbar groups depending on what widgets are active and to combine different groups freely.

**Parent:** AbstractContainer - This UI element represents an abstract container from which all the form containers their properties. This abstract UI element unites all form containers - elements that determine the form layout.

This is a set of toolbar buttons that are united into a single group. The group unites the toolbar buttons that have the same conditions for being displayed. It was designed to make the toolbar more dynamic - to display or hide the toolbar groups depending on what widgets are active and to combine different groups freely.

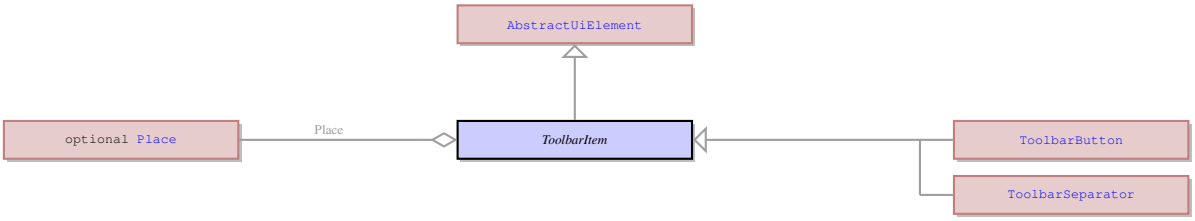
## 163.3 Fields

| Name | Type | Description |
|---|---|---|

| | | |
|---|---|---|
| ToolbarItems | list of ToolbarItem | This is the list of Toolbar elements - toolbar buttons, toolbar separators - present in the toolbar UI element. |

# 164 ToolbarItem Not-referenced

## 164.1 Diagram




## 164.2 Description

**Name**: ToolbarItem

This is an abstract element that unites the toolbar buttons and toolbar separators.

**Parent:** AbstractUiElement - AbstractUiElement is the base class for UI widgets. It is a generic UI element that can accept user actions. Most of concrete UI elements must inherit the properties and action types from the AbstractUIElement.

This is an abstract element that unites the toolbar buttons and toolbar separators.

## 164.3 Children

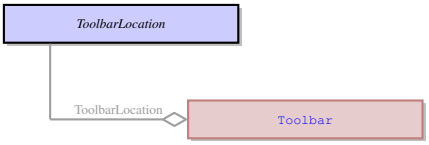
- ToolbarButton - This is an individual toolbar button that belongs to the toolbar.
- ToolbarSeparator - This is a visual separator that can visually divide the toolbar into logical sets of buttons.

## 164.4 Fields

| Name | Type | Description |
|---|---|---|
| Place | optional Place | No information |

# 165 ToolbarLocation

## 165.1 Diagram




## 165.2 Description

**Name**: ToolbarLocation

No information

No parents.

No information

## 165.3 Options

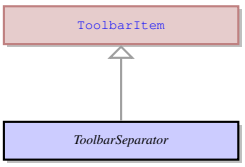
| Name | Description |
|---|---|
| Top | The UI element will be aligned to the top of the container (or container cell). |
| Right | The UI element will be aligned to the right side of the container (or container cell). |

## 165.4 Referenced in

- ToolbarLocation field in optional Toolbar - No information

# 166 ToolbarSeparator Not-referenced

## 166.1 Diagram




## 166.2 Description

**Name**: ToolbarSeparator

This is a visual separator that can visually divide the toolbar into logical sets of buttons.

**Parent:** ToolbarItem - This is an abstract element that unites the toolbar buttons and toolbar separators.

This is a visual separator that can visually divide the toolbar into logical sets of buttons.

# 167 TotalAggregateType Not-referenced

## 167.1 Diagram


## 167.2 Description

**Name**: TotalAggregateType

It defines the type of the calculations that should be performed on the values of the whole column.

No parents.

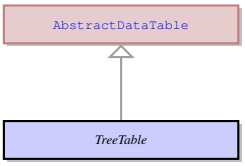
It defines the type of the calculations that should be performed on the values of the whole column.

## 167.3 Options

| Name | Description |
|---|---|
| Sum | An aggregate type that calculates the total sum of all the values in a column. |
| Program | This aggregate does not calculate anything automatically and indicates that the aggregate values will be calculated by 4GL and then displayed to the aggregate field by the programmer. |
| Avg | An aggregate type that calculates the average value among all the values in a column. |
| Min | An aggregate type that calculates the minimum value among all the values in a column. |
| Max | An aggregate type that calculates the maximum value among all the values in a column. |
| Count | An aggregate type that calculates how many values there are in a column. |

# 168 TreeTable Not-referenced

## 168.1 Diagram




## 168.2 Description

**Name**: TreeTable

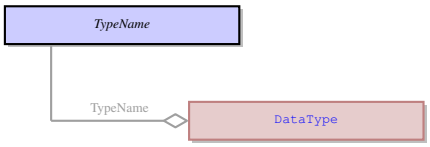
This is a special container that can contain only TableColumn elements. It is similar to a table, but arranges the items in a hierarchical order and allows to fold and unfold rows.

**Parent:** AbstractDataTable - This UI element is used to display and edit data in a customized two-dimensional table of cells. The data in the cell therefore can be retrieved by specifying the row and column identifier of that cell in the table. AbstractDataTable UI element manages the overall appearance and behavior of the table, but does not have direct influence on the columns and rows.

This is a special container that can contain only TableColumn elements. It is similar to a table, but arranges the items in a hierarchical order and allows to fold and unfold rows.

# 169 TypeName

## 169.1 Diagram




## 169.2 Description

**Name**: TypeName

This is the data type of the form widget. It restricts the type of data that can be entered into this widget, e.g. Integer field type does not allow other characters besides digits.

No parents.

This is the data type of the form widget. It restricts the type of data that can be entered into this widget, e.g. Integer field type does not allow other characters besides digits.

## 169.3 Options

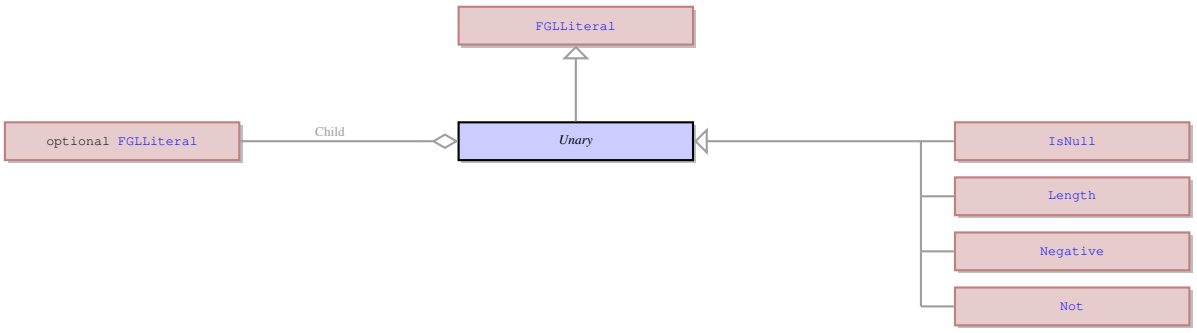
| Name | Description |
|---|---|
| BigInt | Integer numbers taking up to 8 bytes. |
| Boolean | Boolean values represented by TRUE, FALSE, or NULL. |
| Byte | Large binary data (e.g. images). |
| Char | A fixed size character string. |
| Date | Calendar dates whose formatting depends on the locale. |
| DateTime | Data that contain calendar date and/or time. |
| Decimal | Decimal numbers with fixed decimal point. |
| Float | Floating point decimal numbers taking up to 8 bytes. |
| Integer | Integer numbers taking up to 4 bytes. |
| Interval | Time range with time units from years to fractions of second. |
| Money | Decimal values with the automatically added currency symbol. |
| SmallFloat | Floating point decimal numbers taking up to 4 bytes. |
| SmallInt | Integer numbers taking up to 2 bytes. |
| Text | Large binary data (e.g. plain text). |
| VarChar | A variable size character string. |
| String | A dynamic character string. |

## 169.4 Referenced in

- TypeName field in optional DataType - This is the data type of the form widget. It restricts the type of data that can be entered into this widget, e.g. Integer field type does not allow other characters besides digits.

# 170 Unary Not-referenced

## 170.1 Diagram




## 170.2 Description

**Name**: Unary

These are binary operators. This class includes plus and minus operators that specify whether a number is positive or negative.

**Parent:** FGLLiteral - This is common class for all the specific literals that can be accepted by the fields. The 4GL literals are typically applied to the default and included values of the form fields.

These are binary operators. This class includes plus and minus operators that specify whether a number is positive or negative.

### 170.3 Children

- IsNull - It defines whether the field is allowed to accept NULL values.
- Length - No information
- Negative - It is a part of the conditional 4GL display attributes - -. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This an arithmetic unary operator - used to differentiate negative numbers from positive.
- Not - It is a part of the conditional 4GL display attributes - NOT. The condition of the attribute is specified as a string which is later parsed and turned into a set of relational operators, boolean operators and 4GL literals. This is the operator NOT.

### 170.4 Fields

| Name | Type | Description |
|---|---|---|
| Child | optional FGLLiteral | This the right operand of an unary operator. |

## 171 ValueInclude Not-referenced

### 171.1 Diagram


### 171.2 Description

**Name**: ValueInclude

This class defines individual literals included into a list of allowed values for a field.

**Parent:** Include - This class defines what literal values are allowed for input into a form field. It can be either individual literals or a range of values.

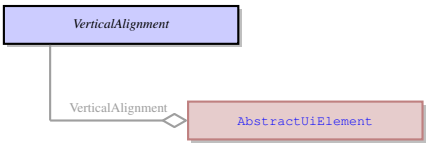
This class defines individual literals included into a list of allowed values for a field.

### 171.3 Fields

| Name | Type | Description |
|---|---|---|
| Value | FGLLiteral | This is any 4GL literal usually specifying the default value of a widget. |

## 172 VerticalAlignment

### 172.1 Diagram




### 172.2 Description

**Name**: VerticalAlignment

This enum specifies the vertical alignment of a UI element inside a container. It is applicable to UI elements inside any container except coord panel. It defines to which border of the container (or container cell) - top or bottom - the element must adjoin.

No parents.

This enum specifies the vertical alignment of a UI element inside a container. It is applicable to UI elements inside any container except coord panel. It defines to which border of the container (or container cell) - top or bottom - the element must adjoin.

### 172.3 Options

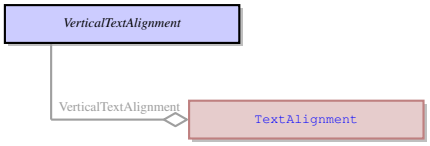
| Name | Description |
|---|---|
| Default | The window size is the size with which it was opened or which was set after opening by 4GL or graphical theme means. |
| Stretch | The UI element will be stretched to fit the container (or container cell) without preserving the aspect ratio. |
| Top | The UI element will be aligned to the top of the container (or container cell). |
| Center | The UI element will be equidistant from both sides. |
| Bottom | The UI element will be aligned to the bottom of the container (or container cell). |

### 172.4 Referenced in

- VerticalAlignment field in optional AbstractUiElement - This enum specifies the vertical alignment of a UI element inside a container. It is applicable to UI elements inside any container except coord panel. It defines to which border of the container (or container cell) - top or bottom - the element must adjoin.

## 173 VerticalTextAlignment

### 173.1 Diagram




### 173.2 Description

**Name**: VerticalTextAlignment
No parents.

### 173.3 Options

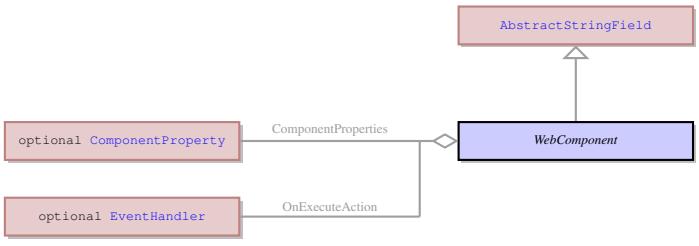
| Name | Description |
|---|---|
| Default | The window size is the size with which it was opened or which was set after opening by 4GL or graphical theme means. |
| Top | The UI element will be aligned to the top of the container (or container cell). |
| Center | The UI element will be equidistant from both sides. |
| Bottom | The UI element will be aligned to the bottom of the container (or container cell). |

### 173.4 Referenced in

- VerticalTextAlignment field in optional TextAlignment -

## 174 WebComponent Not-referenced

### 174.1 Diagram




### 174.2 Description

**Name**: WebComponent
It is a concrete UI element that serves as a container for third party web components. It is basically just the space which is filled by the web component at runtime.

**Parent:** AbstractStringField - It is an abstract UI element, which unites the concrete UI elements that accept a character string as their value. Most of the concrete UI elements that are not containers inherit their properties from this element.

It is a concrete UI element that serves as a container for third party web components. It is basically just the space which is filled by the web component at runtime.

### 174.3 Fields

| Name | Type | Description |
|---|---|---|
| ComponentType | optional String | This is the name of a web component. The web component folder should be located in the components directory on the application server. The HTML file describing the component should be located in the same folder as the component sources and have the same name as the component folder. For example: C:/ProgramDat/Querix/Lycia 6/components/Charts/charts.html - in this case the component type will be 'charts'. |
| ComponentProperties | list of ComponentProperty | These are specific properties. Their types and number are defines by the HTML file describing the web component. |

## 175 YesNoAuto Not-referenced

### 175.1 Diagram


### 175.2 Description

**Name**: YesNoAuto

This enum is used by the fields that accept values Yes, No and Auto. It was introduced for compatibility reasons.

No parents.

This enum is used by the fields that accept values Yes, No and Auto. It was introduced for compatibility reasons.

### 175.3 Options

| Name | Description |
|---|---|
| Auto | This is the Auto value. |
| Yes | This is the Yes value.. |
| No | This is the No value. |