FIELD

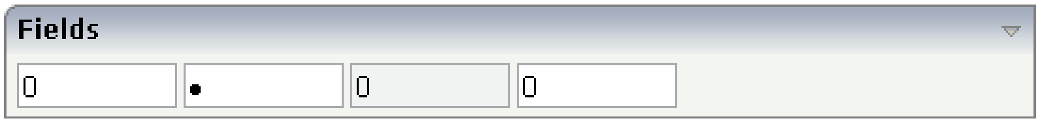
The FIELD control is used for entering data. It provides the following features:

- Normal input/output of text.
- Password input.
- Dynamic control if input is allowed.
- Dynamic highlighting of field in case of errors.
- Flush the input directly to the server when leaving the field.
- Start a server method on pressing F4 or F7 or on click - useful for value help pop-up dialogs
- Adapt the output to a data type (e.g. transfer "YYYYMMDD" to a visible date field)

The following topics are covered below:

- Example
- Dynamically Defining the Input Status
- Client Side Validation
- Decimal Number Input
- Value Help
- Value Help - Predefined Reaction Methods
- Input-Sensitive Value Help
- Touch Screen Support
- Properties

Example



The XML layout definition is:

```
<rowarea name="Fields">
    <itr>
        <field valueprop="factor4" flush="screen" length="10">
        </field>
        <hdist>
        </hdist>
        <field valueprop="factor4" flush="screen" length="10" password="true">
        </field>
        <hdist>
        </hdist>
        <field valueprop="factor4" flush="screen" length="10" displayonly="true">
        </field>
        <hdist>
        </hdist>
        <field valueprop="factor4" flush="screen" length="10">
        </field>
        <hdist>
        </hdist>
    </itr>
</rowarea>
```

For better visibility, distance controls were added between the FIELD controls.

Dynamically Defining the Input Status

As mentioned previously, you can dynamically control the input status of a FIELD by a property of the adapter class. The following example shows how to do this.

The XML layout looks as follows:

```
<rowarea name="Dynamic Field">
    <itr>
        <field valueprop="factor1" flush="server" length="10">
        </field>
        <hdist>
        </hdist>
        <field valueprop="factor1" flush="server" statusprop="factor1status" length="10">
        </field>
    </itr>
</rowarea>
```

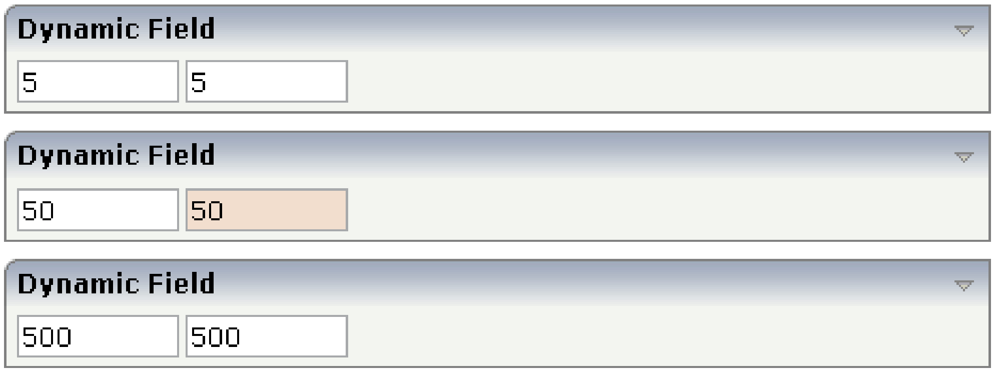
There are two fields that show the same adapter property `factor1`. The first field definition is without any restrictions, the second one depends on the input status of the property `factor1Status`.

The adapter program looks as follows:

```
// property >factor1<
int m_factor1=5;
public int getFactor1() {return m_factor1;}
public void setFactor1(int value) { m_factor1 = value; }

//  property >factor1status<
String m_factor1status;
public String getFactor1status()
{
    if (m_factor1 > 100)     return "DISPLAY";
    else if (m_factor1 > 10)    return "ERROR";
    else                    return "EDIT";
}
public void setFactor1status(String value) { m_factor1status = value; }
```

Now let us see what happens if different numbers are entered:



The right field changes its input status according to the value of the property `factor1Status`. There are four different values that can be returned as status information:

- **EDIT**
  The field is displayed as a normal field.

- **ERROR**
  The field indicates an error with its value.

- **DISPLAY**
  The field is only displayed.

- **FOCUS**
  The field is displayed as a normal field; it requests the focus.

Client Side Validation

By using regular expressions, you can check the user's input into a field in a very powerful way. Regular expressions are a standardized way (W3C) of describing the format of strings. You can use it, for example, to check whether the user entered an article number correctly - following some conventions that are defined inside your application.

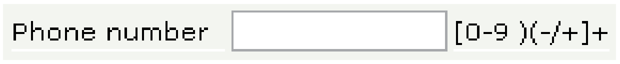
Regular expressions can be plugged to a field control so that it checks the input of the user against the expression. The check is done when the user has left the field. If the check is successful, nothing happens - if it fails, an error message pops up indicating to the user that the input did not match the field's requirements.

There are two ways of plugging regular expressions to the field:

- **Static Definition**
  The regular expression is directly defined inside the control's definition.

- **Dynamic Definition**
  Inside the control, you specify a property that passes the expression at runtime.

The following example shows a field in which you enter a telephone number. A regular expression checks whether the number is entered in the right format:


Phone number [0-9)(-/+]+

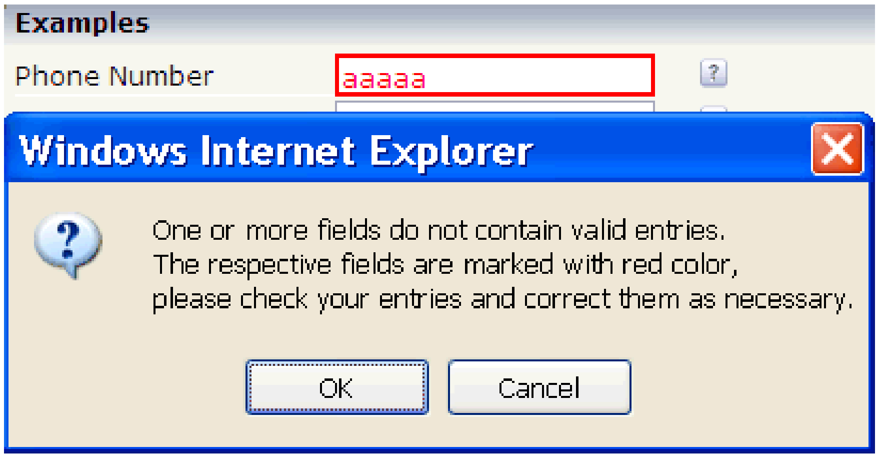
The field is defined in the following way:

```
<field valueprop="phone" width="100" validation="[0-9 )(-/+]+">
</field>
```

The regular expression "[0-9)(-/+]+" indicates that the following can be entered

- A string that has any number of characters: "[]+".
- A string that has only characters which are "0-9)(-/+".

If the user enter a wrong value, the following message appears:


Examples
Phone Number aaaaa

Windows Internet Explorer

One or more fields do not contain valid entries.
The respective fields are marked with red color,
please check your entries and correct them as necessary.

Decimal Number Input

In the field, you can specify the float value for the `datatype` property. Consequently, the field's input will automatically be interpreted as float input - and e.g. decimal separators will be added.

In addition, you can specify the number of valid decimal digits: the number is not defined in a fixed way inside the control but is derived from a server side property (`decimaldigitsprop` property). Maybe you have an application that inputs and outputs amounts with a certain currency reference. Depending on the currency, the number of decimal digits behind the comma may be different.

Value Help

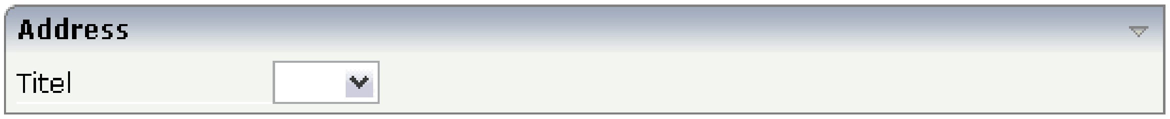
The FIELD control supports a value help - i.e. you can offer the user a support pop-up for a field that e.g. lets the user select valid values instead of typing them manually. The value help bases on a generic mechanism that allows you to define any kind of your own value help pop-ups - but there are also two predefined ways to quickly create a simple value help that lets the user select values from a list.

First, the description of the generic framework: The FIELD control has a property `popupmethod`. If you fill this property, then there are two consequences:

- The field shows a little icon on the very right.
- The field is value help-sensitive: if the user clicks on the icon or clicks with the right mouse button into the field, then the method on server side that is referenced by the `popupmethod` property is called.

You see that the value help is triggered in the client, but the actual value help processing is launched from the server adapter method that is referenced. What the method does is completely up to you - in most cases, it shows a certain pop-up.

Have a look at the following example:



The XML layout definition is:

```
<rowarea name="Address">
    <itr>
        <label name="Titel" width="120">
        </label>
        <field valueprop="titel" width="50" popupmethod="openIdValueHelp">
        </field>
    </itr>
</rowarea>
```

The implementation in the adapter is:

```
// property >titel<
String m_titel;
public String getTitel() { return m_titel; }
public void setTitel(String value) { m_titel = value; }

public void onValueHelpTitel()
{
   openPopup("/HTMLBasedGUI/empty.html");
}
```

When the user chooses the icon in the title field, `onValueHelpTitle()` is called. The method itself opens a certain pop-up. It is completely up to you to specify the reaction - maybe you do not want to open a pop-up but want to navigate to another page.

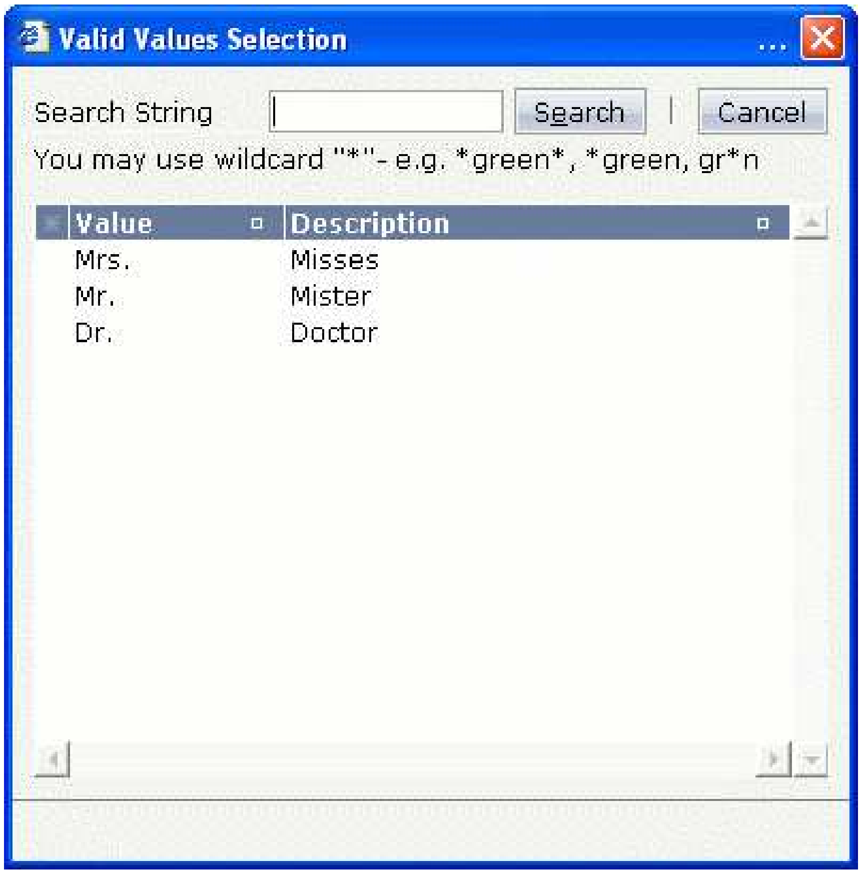
See *Working with Page Navigation* in the *Working with Pages* documentation for more details on pop-up management. Be aware of the fact that - just as with any other method which is, for example, called by a button - all the data of the screen is first transferred into your adapter before the method is called. For example, if the user enters "M" into the title field and then invokes the value help, then `setTitle()` is invoked first and after this `onValueHelpTitle()` is invoked. The same happens to any other data that was modified on the screen prior to the help request.

Sometimes you want to define a generic way of reacting to value requests - you do not want to have one explicit method per field to be called - but you want to define one method referenced by all fields. For this purpose, there is a method `findValueRequestProperty()` that you inherit from the Adapter class. This method returns the name of the property that is referenced as `valueprop` inside the corresponding field.

Value Help - Predefined Reaction Methods

Based on the `popupmethod` mechanism that is explained in the previous section, there are simple ways of providing a standard value help for field inputs:

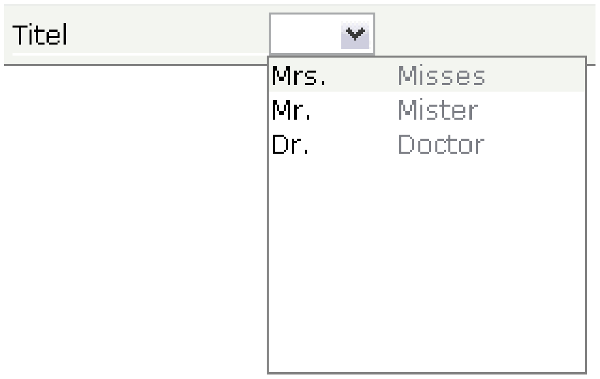
- The predefined pop-up method `openIdValueHelp` requests a list of valid values from the adapter and displays the list in a pop-up from which the user can select a value. The list is fetched by following a certain naming convention: the adapter must provide for a method with the name `findValidValuesForXxx()` where "Xxx" is the name of the property.



You may use wildcard "*"- e.g. *green*, *green, gr*n

Value	Description
Mrs.	Misses
Mr.	Mister
Dr.	Doctor

- The predefined pop-up method `openIdValueCombo` uses the same `findValidValuesForXxx()` method, but displays the result similar to a combo box:



Mrs.	Misses
Mr.	Mister
Dr.	Doctor

- The predefined pop-up method `openIdValueComboOrPopup` is a mixture of the methods described above. For performance reasons, small lists are displayed in a combo box and large lists are displayed in a pop-up. By default, lists containing up to 100 entries are shown in a combo box. Using the parameter `maxitemsinfieldcombo` of the configuration file *cisconfig.xml*, you can control the maximum number of entries that are to be shown in the combo box.

The corresponding adapter code is:

```
// property >titel<
String m_titel;
public String getTitel() { return m_titel; }
public void setTitel(String value) { m_titel = value; }

public ValidValueLine[] findValidValuesForTitel()
{
    ValidValueLine[] result = new ValidValueLine[3];
    result[0] = new ValidValueLine("Mrs.","Misses");
    result[1] = new ValidValueLine("Mr.","Mister");
    result[2] = new ValidValueLine("Dr.","Doctor");
    return result;
}
```

Note that the method is called at the point of time when the user requests value help.

The `ValidValueLine` also supports a constructor in which only the value of the field is passed - without further description.

Input-Sensitive Value Help

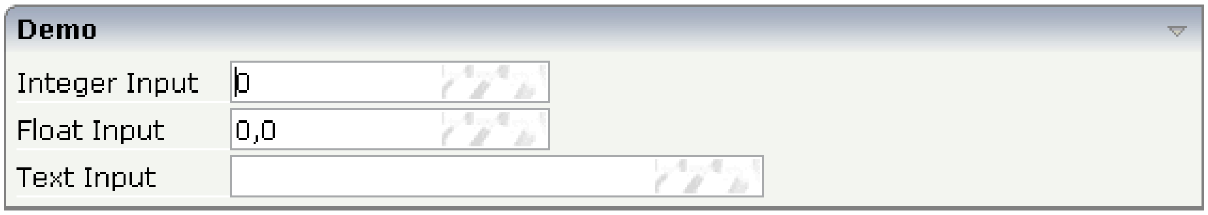
When having read the previous sections on value help, be aware that at the point in time when the value help is called (e.g. when `findValidValuesFor...()` is called), all data input that was done on the browser client has already been transferred into your adapter object.

This means: you already have access to the property that a user entered before invoking the value help.

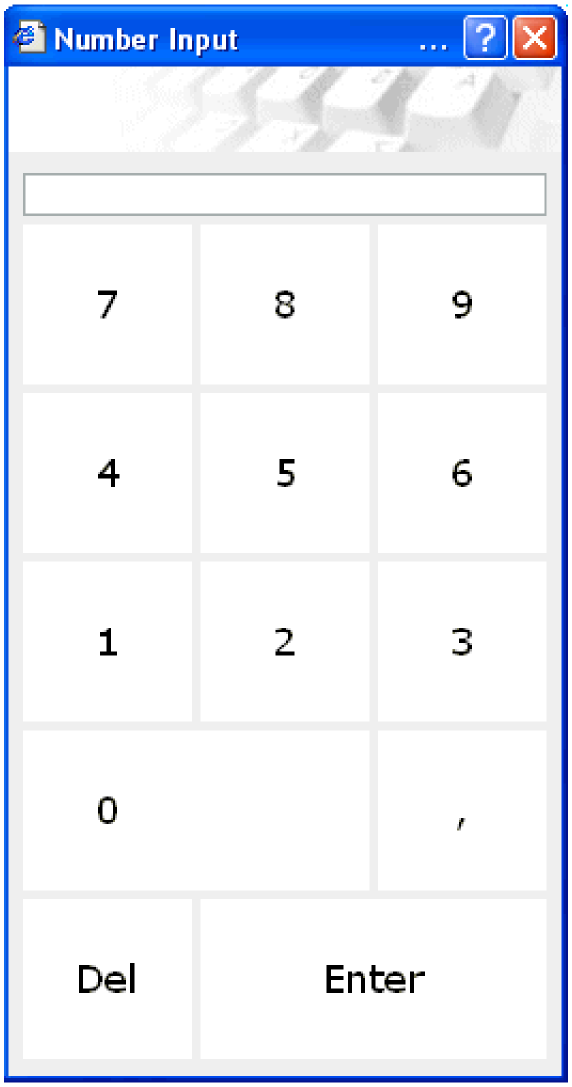
Consequence: inside your reaction on the value help request (e.g. in your implementation of `findValidValuesFor...()`), you can already filter the valid values against what the user has already entered.

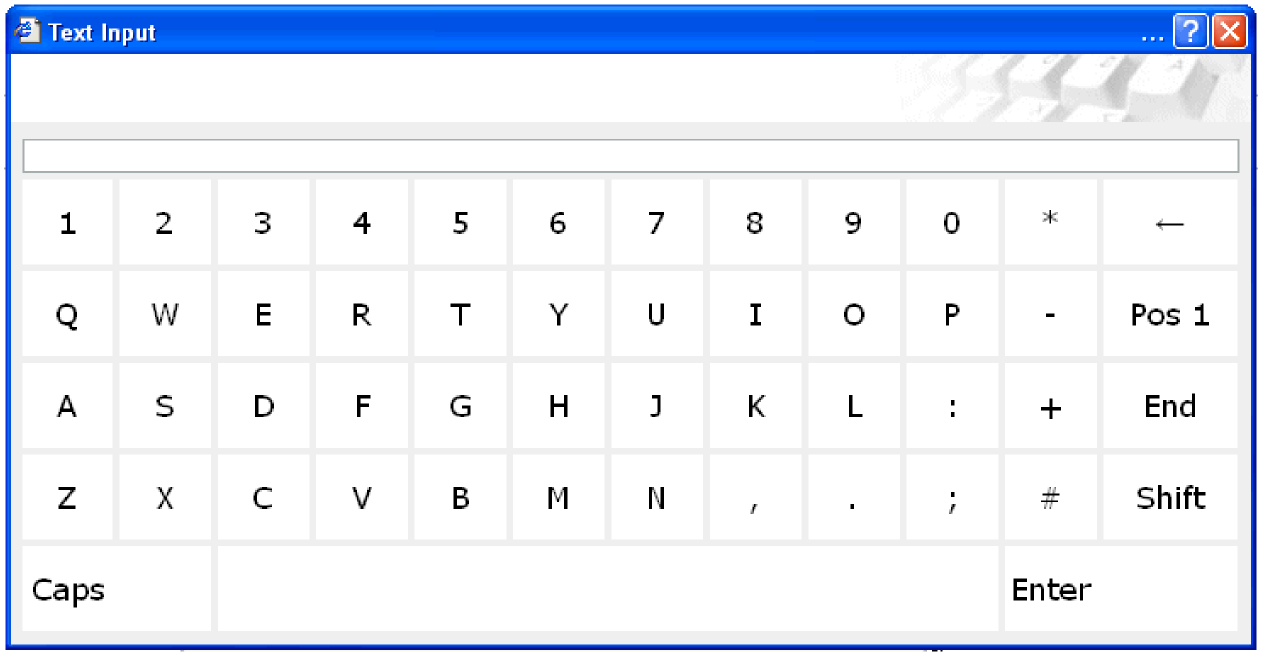
Touch Screen Support

As mentioned in the property list, the field is able to offer touch screen support. Have a look at the following example:



If the user clicks into the area in which you can see a keyboard shining through as background, the user will get one of the following pop-ups - depending on the data type assigned to the FIELD control.




Text Input
1 2 3 4 5 6 7 8 9 0 * ←
Q W E R T Y U I O P - Pos 1
A S D F G H J K L : + End
Z X C V B M N , . ; # Shift
Caps Enter

The XML layout definition is:

```
<rowarea name="Demo">
    <itr>
        <label name="Integer Input" width="100">
        </label>
        <field valueprop="intValue" width="150" touchpadinput="true" datatype="int">
        </field>
    </itr>
    <itr>
        <label name="Float Input" width="100">
        </label>
        <field valueprop="floatValue" width="150" touchpadinput="true" datatype="float">
        </field>
    </itr>
    <itr>
        <label name="Text Input" width="100">
        </label>
        <field valueprop="stringValue" width="250" touchpadinput="true">
        </field>
    </itr>
</rowarea>
```

In all FIELD controls, the property `touchpadinput` is set to "true". The server side adapter processing does not differ in any way from the normal adapter processing.

Properties

Basic			
valueprop	Server side property representation of the control.	Obligatory	

width	Width of the control. There are three possibilities to define the width: (A) You do not define a width at all. In this case the width of the control will either be a default width or - in case of container controls - it will follow the width that is occupied by its content. (B) Pixel sizing: just input a number value (e.g. "100"). (C) Percentage sizing: input a percantage value (e.g. "50%"). Pay attention: percentage sizing will only bring up correct results if the parent element of the control properly defines a width this control can reference. If you specify this control to have a width of 50% then the parent element (e.g. an ITR-row) may itself define a width of "100%". If the parent element does not specify a width then the rendering result may not represent what you expect.	Sometimes obligatory	100 120 140 160 180 200 50% 100%
comment	Comment without any effect on rendering and behaviour. The comment is shown in the layout editor’s tree view.	Optional	
Appearance			
width	(already explained above)		
length	Width of FIELD in amount of characters. WIDTH and LENGTH should not be used together. Note that the actual size of the control depends on the font definition if using the LENGTH property.	Optional	5 10 15 20 int-value
maxlength	Maximum number of characters that a user may enter into this FIELD. This property is not depending on the LENGTH property - please do not get confused by the similar naming. MAXLENGTH has nothing to do with the optical sizing of the control but only with the number of characters you may input.	Optional	5 10 15 20 int-value
textalign	Alignment of text inside the control.	Optional	left center right
password	If set to "true", each entered character is displayed as a ’*’.	Optional	true false

displayonly	If set to true, the FIELD will not be accessible for input. It is just used as an output field.	Optional	true false
uppercase	If "true" then all input is automatically transferred to upper case characters.	Optional	true false
align	Horizontal alignment of control in its column. Each control is "packaged" into a column. The column itself is part of a row (e.g. ITR or TR). Sometimes the size of the column is bigger than the size of the control itself. In this case the "align" property specifies the position of the control inside the column. In most cases you do not require the align control to be explicitly defined because the size of the column around the controls exactly is sized in the same way as the contained control. If you want to directly control the alignment of text: in most text based controls there is an explicit property "textalign" in which you align the control’s contained text.	Optional	left center right
valign	Vertical alignment of control in its column. Each control is "packaged" into a column. The column itself is part of a row (e.g. ITR or TR). Sometimtes the size of the column is bigger than the size of the control. In this case the "align" property specify the position of the control inside the column.	Optional	top middle bottom
colspan	Column spanning of control. If you use TR table rows then you may sometimes want to control the number of columns your control occupies. By default it is "1" - but you may want to define the control to span over more than one columns. The property only makes sense in table rows that are snychronized within one container (i.e. TR, STR table rows). It does not make sense in ITR rows, because these rows are explicitly not synched.	Optional	1 2 3 4 5 50 int-value

rowspan	Row spanning of control. If you use TR table rows then you may sometimes want to control the number of rows your control occupies. By default it is "1" - but you may want to define the control two span over more than one columns. The property only makes sense in table rows that are snychronized within one container (i.e. TR, STR table rows). It does not make sense in ITR rows, because these rows are explicitly not synched.	Optional	1 2 3 4 5 50 int-value
fieldstyle	CSS style definition that is directly passed into this control. With the style you can individually influence the rendering of the control. You can specify any style sheet expressions. Examples are: border: 1px solid #FF0000 background-color: #808080 You can combine expressions by appending and separating them with a semicolon. Sometimes it is useful to have a look into the generated HTML code in order to know where direct style definitions are applied. Press right mouse-button in your browser and select the "View source" or "View frame’s source" function.	Optional	background-color: #FF0000 color: #0000FF font-weight: bold
noborder	Boolean value defining if the control has a border. Default is "false".	Optional	true false
transparentbackground	Boolean value defining if the control is rendered with a transparent background. Default is "false".	Optional	true false
bgcolorprop	Property of the adapter object to provide the background color of the control.	Optional	
fgcolorprop	Name of adapter property that passes back a color value (e.g. "#FF0000" for red color). The color value is used as text color in the control. - The background color is automatically chosen dependent from the text color: for light text colors the background color is black, for dark text colors the color is default. Use BGCOLORPROP to choose both - text and background color.	Optional	

invisiblemode	If the visibility of the control is determined dynamically by an adapter property then there are two rendering modes if the visibility is "false": (1) "invisible": the control is not visible. (2) "disabled": the control is deactivated: it is "grayed" and does not show any roll over effects any more.	Optional	invisible cleared
tabindex	Index that defines the tab order of the control. Controls are selected in increasing index order and in source order to resolve duplicates.	Optional	-1 0 1 2 5 10 32767
Binding			
valueprop	(already explained above)		
alwaysflush	If set to TRUE then a specified server flushmethod is also called in case the value has not changed. The default is FALSE, meaning that a server flushmethod is only called for a changed value.	Optional	true false

flush	Flushing behaviour of the input control. By default an input into the control is registered within the browser client - and communicated to the server adapter object when a user e.g. presses a button. By using the FLUSH property you can change this behaviour. Setting FLUSH to "server" means that directly after changing the input a synchronization with the server adapter is triggered. As consequence you directly can react inside your adapter logic onto the change of the corresponding value. - Please be aware of that during the synchronization always all changed properties - also the ones that were changed before - are transferred to the adapter object, not only the one that triggered the synchonization. Setting FLUSH to "screen" means that the changed value is populated inside the page. You use this option if you have redundant usage of the same property inside one page and if you want to pass one changed value to all its representaion directly after changing the value.	Optional	screen server
flushmethod	When the data synchronization of the control is set to FLUSH="server" then you can specify an explicit method to be called when the user updates the content of the control. By doing so you can distinguish on the server side from which control the flush of data was triggered.	Optional	
displayprop	Name of adapter property that controls whether the field is displayonly(true) or not (false). By using this property you can dynamically control the "display"-status of the control by your adapter object.	Optional	
statusprop	Name of the adapter property that dynamically passes information how the field should be rendered and how it should act.	Optional	
valuetextprop	Name of the adapter property that provides a "human understandable" description for the value: in some cases you enter an id into a FIELD but want to display the id and a description to the user. At runtime, the values provided by the VALUEPROP- and the VALUETEXTPROP-property are combined into one text (string) that is returned into the FIELD.	Optional	

textidmode	If using property "valuetextprop" then a field knows an id and a text for a certain value. There are three types of display: either both are shown together, separated by an "-" (e.g. "id - text"). Or only text is shown or only the id is shown. If not defined at all then the system's default text id-mode will be chosen. The default mode can be defined as part of the CIS session context.	Optional	0 1 2
titleprop	Property of adapter that dynamically defines the title of the control. The title is displayed as tool tip when ther user moves the mouse onto the control.	Optional	
bgcolorprop	(already explained above)		
fgcolorprop	(already explained above)		
autocallpopupmethod	Use property AUTOCALLPOPUPMETHOD to invoke the field's value help method with a certain offset (milliseconds) after last key down event	Optional	true false
maxlengthprop	Name of adapter property that passes back the maximum number of characters that a user may enter into this FIELD. Consider to use MAXLENGTH to define this number in a static way.	Optional	
Validation			

datatype	By default, the FIELD control is managing its content as string. By explicitly setting a datatype you can define that the control... ...will check the user input if it reflects the datatype. E.g. if the user inputs "abc" into a field with datatype "int" then a corresponding error message will popup when the user leaves the field. ...will format the data coming from the server or coming form the user input: if the field has datatype "date" and the user inputs "010304" then the input will be translated into "01.03.2004" (or other representation, dependent on date format settings). In addition valeu popups are offered for the user automatically for some datatypes: e.g. when specifying datatype "date" the automatically the field provides a calendar input popup. Please note: the datatype "float" is named a bit misleading - it represents any decimal format number. The server side representation may be a float value, but also can be a double or a BigDecimal property.	Optional	date float int long time timestamp color xs:decimal xs:double xs:date xs:dateTime xs:time ------------------------ N n.n P n.n string n xs:byte xs:short
validationrules	Contains information used for Data Validation. Use the Validation Rules Editor to make changes!	Optional	
validation	Regular expression against which the content of the field is checked on client side when the user changes the field. If the validation fails then an error message popup up and informs the user about the wrong input.	Optional	[a-zA-Z0-9_.-] {1,}\\@[a-zA-Z0-9_.-] {1,}\\.\\w{2,}\\d{5} [0-9)(-/+]+
validationprop	Property out of which the regular expression is dynamically read. Works the same way as VALIDATION but in a dynamic way.	Optional	
validationuserhint	If a client side validation fails due to wrong user input then an error popup is opened. If you define a hint inside this property then the hint is output to the user in order to tell in which way to input the value. The hint is not language dependent.	Optional	

validationuserhintprop	If using validation expressions (either property "validation" or "validationprop") then a popup comes up if the user inputs wrong values into a field. Inside this popup a certain text may be added in order to explain to the user what he/she did not correctly input. This text can be either statically defined or dynamically - by using this property reference.	Optional	
digits	Number that specifiies how many digits are to be displayed (ie digits before the comma). If using this feature then the DATATYPE property must be set to ’float’. See also DECIMALDIGITS.	Optional	1 2 3 int-value
digitsprop	Property of the adapter that passes back information how many digits are to be displayed (ie digits before the comma). If using this feature then the DATATYPE property must be set to ’float’.	Optional	
decimaldigits	Number that specifiies how many decimal digits are to be displayed. If using this feature then the DATATYPE property must be set to ’float’.	Optional	1 2 3 int-value
decimaldigitsprop	Property of the adapter that passes back information how many decimal digits are to be displayed. If using this feature then the DATATYPE property must be set to ’float’.	Optional	
spinrangemin	An integer value which defines the lower bound of the value range.	Optional	1 2 3 int-value
spinrangemax	An integer value which defines the upper bound of the value range.	Optional	1 2 3 int-value
Valuehelp			
popupmethod	Name of the adapter’s method that is called when the user requests value help by pressing F4 or F7 or by clicking into the FIELD with the right mouse button. See at chapter ’Popup Dialog Management’ for more details. If the POPUPMETHOD is defined, a small icon is shown inside the field to indicate to the user that there is some value help available.	Optional	openIdValueCombo openIdValueHelp openIdValueComboOrPopup

popupinputonly	Boolean property that control if a field with POPUPMETHOD defined is still usable for keyboard input. If "false" (= default) then the user can input a value either directly via keyboard or by using the popupmethod’s help. If set to "true" then no keyboard input is possible - but only selection from the popup-method’s help.	Optional	true false
popupprop	Name of an adapter’s boolean property to provide information whether a POPUPMETHOD is available (true) or not (false). This feature is used in scenarios in which a FIELD offers e.g. value help or not, depending on business logic inside the adapter.	Optional	
popuponalt40	Value help in a field is triggered either by clicking with the mouse or by pressing a certain key inside the field. The "traditional" keys are "cusrsor-down", "F7" or "F4". Sometimes you do not want to mix other "cursor-down" behaviour (e.g. scrolling in lists) with the value help behaviour. In this case switch this property to "true" - and the value help will only come up anymore when "alt-cursor-down" is pressed.	Optional	true false
popupcombowidth	Pixel width of the standard "openIdValueCombo" popup dialog. Default is field width or at least 150 pixel.	Optional	1 2 3 int-value
popupicon	URL of image that is displayed inside the right corner of the field to indicate to the user that there is some value help available.. Any image type (.gif, .jpg, ...) that your browser does understand is valid. Use the following options to specify the URL: (A) Define the URL relative to your page. Your page is generated directly into your project’s folder. Specifiying "images/xyz.gif" will point into a directory parallel to your page. Specifying "../HTMLBasedGUI/images/new.gif" will point to an image of a neighbour project. (B) Define a complete URL, like "http://www.softwareag.com/images/logo.gif".	Optional	gif jpg jpeg

touchpadinput	Boolean property that decides if touch pad support is offered for the FIELD control. The default is "false". If switched to "true" then you can input data into the field via a touch pad. As consequence you can use this control for making inputs through a touch terminal.	Optional	true false
onlinehelp			
helpid	Help id that is passed to the online help management in case the user presses F1 on the control.	Optional	
title	Text that is shown as tooltip for the control. Either specify the text "hard" by using this TITLE property - or use the TITLETEXTID in order to define a language dependent literal.	Optional	
titletextid	Text ID that is passed to the multi lanaguage management - representing the tooltip text that is used for the control.	Optional	
formula	Contains information used by the Formula Editor. Use the Formula Editor to make changes!	Optional	
Hot Keys			
hotkeys	Comma separated list of hot keys. A hotkey consists of a list of keys and a method name. Separate the keys by "-" and the method name again with a comma Example: ctrl-alt-65;onCtrlAltA;13;onEnter ...defines two hot keys. Method onCtrlAltA is invoked if the user presses Ctrl-Alt-A. Method "onEnter" is called if the user presses the ENTER key. Use the popup help within the Layout Painter to input hot keys.	Optional	
Miscellaneous			
testtoolid	Use this attribute to assign a fixed control identifier that can be later on used within your test tool in order to do the object identification	Optional	
autocallpopupmethodoffset	The offset (milliseconds) after the last key down event for calling the AUTOCALLPOPUPMETHOD. Makes only sense if an AUTOCALLPOPUPMETHOD is specified.	Optional	1 2 3 int-value