
# SmartGuide® 7.1

.NET DEVELOPER GUIDE

Alphinat SmartGuide® — .Net Developer Guide
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# Introduction

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## About SmartGuide

Whether you wish to guide your clients, partners and employees through complex procedures, tasks or information silos, SmartGuide allows you to provide user experiences in the form of Smartlets® that maximize success and compliance rates. As a developer, you will be using the SmartGuide API to create extension functions that can be included in any number of Smartlets—thus ensuring consistency across your applications and greatly reducing development time.

## Extending SmartGuide

SmartGuide contains many out-of-the-box features that make applications easier to build, test and maintain. For example, manipulating field values, performing calculations, prefilling PDF documents with collected data and connecting to web services, XML, XSD and PDF files can all be achieved through the SmartGuide Designer interfaces. In addition, the SmartGuide API allows developers to create custom functionality such as integrating with external systems, communicating with the .Net context, or sending collected data to back-end systems.

## Guide Contents

This guide contains detailed instructions on creating extension functions using the SmartGuide API. If you are new to SmartGuide, we recommend you read the "Getting Started" and "Creating a function" chapters to quickly familiarize yourself with the API. You can then refer to the table of contents or the index to directly access a specific section.

## Audience

This material is aimed at people with a technical background interested in creating and maintaining .Net-based extension functions using the SmartGuide API. This document assumes the reader has a working knowledge of the .Net framework 2.0 or higher with either VB.Net or C#. If needed, information and tutorials on .Net, VB.Net and C# are listed in the references section.

## References

- http://msdn.microsoft.com/library/default.aspx
- http://msdn.microsoft.com/en-us/vstudio/hh388573
- http://msdn.microsoft.com/en-us/vstudio/hh341490

# Getting Started

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## Required configuration

The development of extension functions in .Net requires the framework 2.0 or higher.

It is possible to develop simple extension functions with a basic editor such as Notepad++ or Crimson Editor and the embedded windows C# compiler. However for more complex functions, an integrated development environment (IDE) like Visual Studio is recommended. In this guide we assume the user has a recent copy of Visual Studio and knows how to create a project of type "Class Library".

**Important :** the .Net framework version used for developing extension functions should not be more recent than the one used by SmartGuide Server.

## Required knowledge

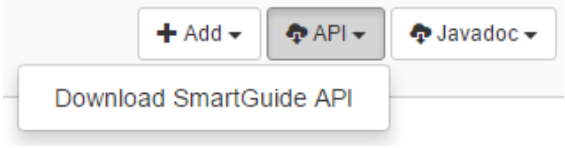
The level of expertise required will vary depending on the complexity of the extension function to be developed. Using the SmartGuide API does not require additional special expertise.

## SmartGuide API installation

To develop extension functions that access the data from a Smartlet or the context in which it is deployed, the SmartGuide API is required.

➤ **To download the API:**

1. Log in to **SmartGuide Designer**.
2. Click on the **connections** tab in the main navigation bar.
3. Click on the API button and select the **Download SmartGuide API** option:




4. Save the file on your disk to a directory you choose.

# Creating a function

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## Introduction

This section will guide you step by step through the creation of your first extension function.

## Class development

If you develop an extension function that uses the SmartGuide API, make sure you have a variable of type IServiceContext as shown in the following example:

```
using System;
using System.Collections.Generic;
using System.Text;
using com.alphinat.sg5;

namespace Mybusiness
  public class Utils {
    public static string toUppercase(IServiceContext context,
        string fieldName) {
      ISmartlet smartlet = context.getSmartlet();
      ISmartletField field = smartlet.findFieldByName(fieldName);
      if (field != null)
        return field.getString().ToUpper();
      return "";
    }
  }
}
```

Please refer to the API reference for a detailed description of the available methods in the SmartGuide API.

## Creating the descriptive XML file

The extension function must contain an XML file with the name apn-extension-function.xml, inserted as an integrated resource in the resulting jar, to expose its methods and parameters in SmartGuide Designer. The XML file should be structured as follows:

```
<classes>
        <class>
                <name>MyBusiness.Utils</name>
                <methods>
```

```
                        <method>
                                <name> toUppercase </name>
                                <parameters>
                                        <parameter>
                                                <name>fieldName</name>
                                        </parameter>
                                </parameters>
                                <return>
                                        <name>value</name>
                                </return>
                        </method>
                </methods>
        </class>
</classes>
```

Please note that the class name and the names of parameters and return values of a function will be presented to users of SmartGuide Designer when importing the function library. It is therefore recommended that you use descriptive names. Note also that it is not necessary to declare the parameter "context" of type IServiceContext.

Once this file has been created in your project, click on it and make sure in the properties window the the file is marked as "Embedded Resource" in the "Build Action".

## Compiling the extension function

Simply build your class library. This should generate a dll file name after the name of your project.

If your extension function uses libraries other than the SmartGuide ones, the suggested method is to place these libraries in the bin directory of SmartGuide Server or alternatively put them in the global assembly cache (GAC).

## Calling the extension function

Thanks to the XML description file, your new extension function can now be used in SmartGuide Designer by non-technical resources. It is sufficient to download the dll file and to make the association of parameters and return values with Smartlet fields.

Please refer to the SmartGuide Designer user's guide for detailed instructions.

# Examples

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## "SetPageFieldsReadOnly" Extension function

The following extension function allows to mark all fields on the current page as read only.

**Downloading the SmartGuide API:**

Make sure you downloaded the SmartGuide API following the instructions found in the section SmartGuide API installation.

**Class development**

- Create the **Utils.cs** class :

```
using System;
using System.Collections.Generic;
using System.Text;
using com.alphinat.sg5;

namespace MyBusiness
  public class Utils {
    public static void SetPageFieldsReadOnly(IServiceContext context) {
      ISmartletPage currentPage = context.getSmartlet().getCurrentPage();

      ISmartletField[] fields = currentPage.findAllFields();
      foreach(ISmartletField f in fields) {
        if (! (f.getTypeConst() == Constants.ElementType.GROUP ||
        f.getTypeConst() == Constants.ElementType.REPEAT ||
         f.getTypeConst() == Constants.ElementType.BUTTON ||
          f.getTypeConst() == Constants.ElementType.STATIC_IMG ||
           f.getTypeConst() == Constants.ElementType.STATIC_TEXT)) {
                f.setReadonly(true);
        }
      }
    }
  }
}
```

**Creating the descriptive XML file**

The file apn-extension-function.xml representing the Utils class exposes the SetPageFieldsReadOnly method in SmartGuide Designer.

- Add a file **apn-extension-function.xml** to your project

```
<?xml version="1.0" encoding="UTF-8"?>
<classes>
  <class>
    <name>MyBusiness.Utils</name>
    <methods>
      <method>
      <name>SetPageFieldsReadOnly</name>
      <parameters>
      </parameters>
      </method>
    </methods>
  </class>
</classes>
```

**Compiling the extension function**

Compile your project to get a dll for your class library.

What remains then is to call the extension function from SmartGuide Designer. Please refer to section 11, Calls for Services, of the SmartGuide Designer User's Guide for detailed instructions.

## "SaveToFile" Extension function

The following extension function can be used to save the data entered by the user in a text file whose name, including the directory path, is passed as a parameter.

**Downloading the SmartGuide API:**

Make sure you downloaded the SmartGuide API following the instructions found in the section SmartGuide API installation.

**Class development**

- Create the **Utils.cs** class :

```
using System;
using System.Collections.Generic;
using System.Collections;
using System.Text;
using com.alphinat.sg5;
using System.IO;
```

```
using com.alphinat.sg5.widget.group;
using com.alphinat.sg5.widget.repeat;

namespace MyBusiness
  public class Utils {
    public static void SaveToFile(IServiceContext context,
                string fileName) {
      // Map that will contain all the fields
      Hashtable mFields = new Hashtable();
      // Get Smartlet
      ISmartlet smartlet = context.getSmartlet();
      // Get all fields through finder
      SmartletFieldFindAll finder = new SmartletFieldFindAll();
      smartlet.accept(finder);

      ArrayList fields = finder.getTarget();
      if (fields == null)
        return;

      for(int i=0;i<fields.Count;i++) {
        ISmartletField f = (ISmartletField)fields[i];
        if (!f.isAvailable())
          continue;
        if (!f.isPersistent())
          continue;

        if (f.getName() != null && f.getName().Length>0)
          mFields.Add(f.getName(), f.getString());
      }

      // Get the stack (visited pages) and save as well
      // into "smartletStack" key
      ISmartletPage[] pages = smartlet.getHistory();
      String stack = "";
      for(int i=0;i<pages.Length;i++) {
      ISmartletPage page = pages[i];
        // Get page id
        stack = stack+ page.getId()+ ":";
      }
                  // Add the current page id on top of that
      stack = stack+ smartlet.getCurrentPage().getId();
      mFields.Add("smartletstack", stack);

      // serialize and save to file
      try {
          Stream s = File.Open(fileName, FileMode.Create,
                FileAccess.ReadWrite);
          BinaryFormatter b = new BinaryFormatter();
          b.Serialize(s, mFields);
      } catch (IOException e) {
          Console.WriteLine(e.Message);
      } finally {
```

```
        try {
            s.Close();
        }
        catch (Exception e) { }
      }
    }
  }
}
```

- Then create the **SmartletFieldFindAll.cs** class :

```
using System;
using System.Collections.Generic;
using System.Text;
using com.alphinat.sg5;
using System.Collections;

namespace Training
{
  public class SmartletFieldFindAll : ISmartletElementVisitor {
    private bool found = false;
    private ArrayList fList = new ArrayList();

    public SmartletFieldFindAll() {
    }

    public ArrayList getTarget()
    {
      return fList;
    }

    public bool visit(ISmartletElement field) {
      return true;
    }

    public bool visitEnter(ISmartletElement element) {
      if (element is ISmartletField){
        ISmartletField field = (ISmartletField)element;
        fList.Add(field);
      }
      return true;
    }

    public bool visitLeave(ISmartletElement field) {
      return !found;
    }
  }
}
```

**Creating the descriptive XML file**

The file apn-extension-function.xml representing the Utils class exposes the SaveToFile method in SmartGuide Designer. Because this method takes a filename as a parameter, it must be declared explicitly in the descriptive file.

- Add to your project a file **apn-extension-function.xml**

```
<?xml version="1.0" encoding="UTF-8"?>
<classes>
  <class>
    <name>MyBusiness.Utils</name>
    <methods>
      <method>
        <name>SaveToFile</name>
        <parameters>
          <parameter>
            <name>FileName</name>
          </parameter>
        </parameters>
      </method>
    </methods>
  </class>
</classes>
```

**Compiling the extension function**

Compile your project to generate the class library dll.

What remains then is to call the extension function from SmartGuide Designer. Please refer to section 11, Calls for Services, of the SmartGuide Designer User's Guide for detailed instructions.

# BeanShell

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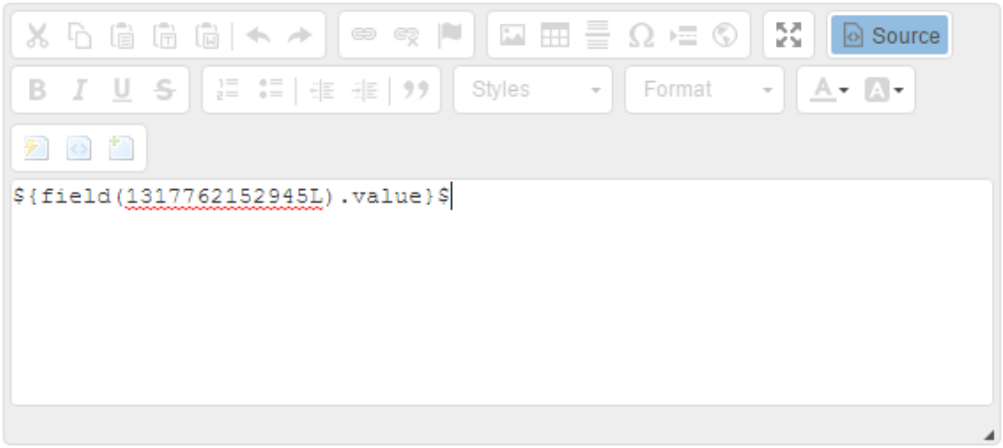
## Introduction

BeanShell (http://www.beanshell.org) is a small Java source interpreter. It is embedded in SmartGuide to provide advanced field value expressions, or advanced page validation rules for example. It is also available when performing field mappings for PDF/XML files or services, and also when performing calculations. It is hidden by default in SmartGuide Designer and can be revealed by clicking on the "source" button of the WYSIWYG editor:




Going into source mode is necessary when you wish to perform more advanced manipulations. This section of the developer's guide covers BeanShell coding, either through the API functions, or through specific functions provided by SmartGuide in the BeanShell execution context.

## Using the V5 API

Coding in BeanShell using the API is essentially equivalent to coding an extension function in plain Java. The main differences are:

- type declaration is not necessary;
- there are supported alternative (shortcut) syntaxes for accessing members, where the "get" prefix is removed and the next letter is made lowercase.

As an example of these differences, consider the following BeanShell function to invoke a service by name (called *Customer List* in the example):

```
${
  ISmartlet smartlet = context.smartlet;
```

```
  ISmartletService[] services = smartlet.getServices();
  ISmartletService service = null;
  for(int i=0;i<services.length;i++) {
    service = services[i];
    if ("Customer List".equals(service.getName())) {
      service.call();
      break;
    }
  }
}$
```

The second point is illustrated on the first line.

As another example, the following piece of code sends the user to another page, called *Page 2* (and adjusts the page history accordingly):

```
${
  ISmartletPage currentPage = smartlet.getCurrentPage();
  ISmartletPage[] history = smartlet.getHistory();
  len = history.length+1;
  ISmartletPage[] newhistory = new ISmartletPage[len];
  for(int i=0;i<history.length;i++) {
    newhistory[i] = history[i];
  }
  newhistory[history.length] = currentPage;
  smartlet.setHistory(newhistory);
  ISmartletPage newPage = smartlet.findPageByName("Page 2");
  smartlet.setCurrentPage(newPage);
}$
```

Type specification, although optional as illustrated on line 3, is helpful especially for better understanding the code.

## SmartGuide provided functions and extensions

There are also predefined objects and functions for performing manipulations which make use of the older API. Here is an example that shows how to get a parameter from the URL and update the current field's value with it, provided it is non null:

```
${
  previd = field("hidCurrentCustomerId").value;
  custid = "";
  if (env.getAttribute(7, "id") != null) {
    custid = (String)((List)env.getAttribute(7, "id")).get(0);
  }
  if (custid != null && custid.length()
```

The field is called *hidCurrentCustomerId*, and the URL parameter is *id*. Note the use of the intrinsic *env* object as well as the *field* command. In the following subsections we provide the list of commands and objects available in BeanShell scripts.

An extension is also provided to support a list syntax as follows,

```
${
        return ["mtl","tor",["or"]];
}$
```

In that example a list with 3 first level elements are provided. The third element itself is also a list, consisting in only one element. This syntax can be useful for example when providing repeated inputs to a web service call.

## Smartlet script reference

Below is a list of intrinsic functions available inside the SmartGuide BeanShell environment.

| Declaration | Description |
|---|---|
| FieldInfo field( string \| long ) | get FieldInfo by field name or field id (long) e.g.<br>`field("text1");`<br>`field(1234567890L);` |
| ServiceInfo service( string \| long ) | get ServiceInfo by service name or service id (long) e.g.<br>`service("web-service1");`<br>`service("ext-function-call");`<br>`service(1234567890L);` |
| int position() | returns the current position when inside a repetitive group. The index is 0-based. |
| APNOption option(string label, string value) | returns an APNOption object with the specified label and value. Can be used in a return mapping to a multivalue field, providing the ability to separately set the label and value of options,<br>`option(service.getOutput("country/name"), service.getOutput("country/code"));` |

### Objects

There are four predefined variables available in the SmartGuide BeanShell environment:

- "env3": corresponds to the V3 API environment (com.alphinat.sg.Environment)
- "context": corresponds to the V5 API service context (com.alphinat.sg5.IServiceContext)
- "smartlet": corresponds to the V5 API Smartlet object (com.alphinat.sg5.ISmartlet)
- "env": corresponds to the V5 API environment (com.alphinat.sg5.ISmartletEnvironment)

Note that the "smartlet" object can act as a function, taking a Smartlet code in parameter. This allows referencing fields in other Smartlets as follows:

```
${
        userid = smartlet("licenseRegistration").field("userid").value;
}$
```

There are also four main objects detailed in the next subsections: FieldInfo, SubSmartlet, APNDate, and ServiceInfo.

**FieldInfo**

| Method | Description |
|---|---|
| getId | String getId(); //get field id as String |
| getName | String getName(); //get field name |
| getType | String getType(); //get field type<br><br>Returned value:<br><br>• "button" - button field<br>• "check" - checkbox<br>• "date" - date field<br>• "drop" - drop down<br>• "group-begin" - begin of group<br>• "group-end" - end of group<br>• "hid" - hidden field<br>• "lbox" - listbox<br>• "num" - numbe field<br>• "pass" - password<br>• "radio" - radio buttons<br>• "staticImg" - static image<br>• "staticText" - static text<br>• "sub-interview" - subsmartlet field<br>• "text" - text input field<br>• "textLong" - text area<br>• "upload" - upload field |

| | |
|---|---|
| getValue | Object getValue(); //get field value<br><br>Depending on the type of field, the returned object can be:<br><br>• String - for field: check, drop, hid, lbox, pass, radio, staticImg, staticText, text, textLong and upload<br>• APNDate - for field: date<br>• Number - for field: num; it can be either Long or Double. If field is empty, it will return Long(0);<br>• SubSmartlet - for field: subsmartlet |
| getString | String getString(); //get field string<br><br>Depending on the type of field, the returned string can be:<br><br>• This method will return the actual string stored in the field.<br>• For date or number field, it returns formatted date or number.<br>• For subsmartlet, it returns xml string representing the subsmartlet.<br>• For upload field, depending on your configuration, it will return either a path to local file or base64 encoded string representing binary content of the file. |
| setValue | void setValue(Object obj); //set field value<br><br>Depending on the type of field, the value can be:<br><br>• For field: check, drop, hid, lbox, pass, radio, staticImg, staticText, text, textLong and upload it will get string by method obj.toString() then set string to the field. If obj is null, it cleans the field.<br>• For field: date, obj can be String, the accept format is "yyyy-MM-dd", or obj is Date. If obj is null, it cleans the field.<br>• For field: number obj must be a Number.<br>• For subsmartlet: not implemented. |
| setString | void setString(String val); //set field string<br><br>This method will set the string of the field.<br><br>EXCEPTION: when applying *setString* to a date field, the format must be consistent with the format defined in the validation tab for that date field. |
| getValues | Object[] getValues(); //get values of repeated field<br><br>This method will return an Object array. Please refer to *getValue* for each object type. If the field is not part of a repeatable group, an array containing one object will be |

| | |
|---|---|
| | returned. |
| getStrings | String[] getStrings(); //get strings content of repeated field<br><br>This method will return a String array. Please refer to *getString* for more details. If the field is not part of a repeatable group, an array containing one String will be returned. |
| getValue(int) | Object getValue(int index); //get value of repeated field at position "index"<br><br>Please refer to *getValue* for each object type. If index is out of boundary, it returns null. |
| getString(int) | String getString(int index); //get String content of repeated field at position "index"<br><br>Please refer to *getString* for more details. If index is out of boundary, returns null. |
| setValues | void setValues(Object[] values); set values of repeated field<br><br>Please refer to *getValue* for more details on each object type. |
| setStrings | void setStrings(Object[] values); set strings of repeated field<br><br>Please refer to *getString* for more details. |

**Methods specific to select type field: checkbox, dropdown, listbox, radio button**

If you call the following methods on a field other than : check, drop, lbox and radio, a "Method/Attribute not found Exception" will be thrown.

| | |
|---|---|
| getOptions | SelectionItem[] getOptions(); //get select options as array<br><br>Please refer to the API reference section for returned type *SelectionItem*. |
| getSelectionItemList | SelectionItemList getSelectionItemList(); //get SelectionItemList<br><br>This method will return *SelectionItemList*. A change in the element list will affect the select options. Please refer to the API reference section for returned type *SelectionItemList*. |
| getOption(int) | SelectionItem getOption(int index); //get SelectionItem based on the index<br><br>An "Index out of bounds Exception" will be thrown if the index if out of the range. |
| getSelectionItem(int) | SelectionItem getSelectionItem(int index); //get SelectionItem based on the index |

| | |
|---|---|
| | This method is the same as *getOption(int)*. |
| getSelectedOptions() | SelectionItem[] getSelectedOptions(); //get selected options as array<br><br>If no option is selected, null will be returned instead of an empty array. For radio or drop, if one option is selected, an array with one option will be returned. For checkbox or select box, the returned array may contain more than one option depending on the user's selection. |
| getSelectedLabels() | String[] getSelectedLabels(); //get selected options labels as String array<br><br>If no option is selected, null will be returned instead of an empty array. For radio or drop, if one option is selected, an array with one option will be returned. For checkbox or select box, the returned array may contain more than one option depending on the user's selection. |
| getSelectedOption() | SelectionItem getSelectedOption(); //get first selected option<br><br>For drop and radio, it will return either null (no selection), or the option selected. For multiple choices select, the first selected option will be returned. |
| getSelectedLabel() | String getSelectedLabel(); //get first selected option label<br><br>For drop and radio, it will return either null (no selection), or the selected option's label. For multiple choices select, the first selected option's label will be returned. |

## Methods specific to upload type field

If you call the following methods on a field other than upload, a "Method/Attribute not found Exception" will be thrown.

| | |
|---|---|
| getFileName() | String getFileName(); //get uploaded file name |
| getFileNames() | String[] getFileNames(); //get uploaded file names for repeated field<br><br>If the field is not part of a repeatable group, an array containing one String will be returned. |
| getFileSize() | long getFileSize(); //get size of uploaded file |
| getFileSizes() | long[] getFileSizes(); //get size of uploaded file as array for repeat field<br><br>If the field is not part of a repeatable group, an array containing one long number will be returned. |

**SubSmartlet**

| Method | Description |
|---|---|
| field(long\|String) | FieldInfo field(long\|String); //Get subsmartlet field by id or name<br><br>This method is the same as the *field* command but under the subsmartlet context. |
| getElement() | Element getElement(); //Get Dom4J element of the subsmartlet field<br><br>Returns null if the field is empty. |
| toString() | String toString(); //Get XML string of the subsmartlet field<br><br>Returns an empty string if the field is empty. |

**APNDate**

This class is a sub class of *java.util.Date* with some helper methods.

| Method | Description |
|---|---|
| getYear() | int getYear(); |
| getMonth() | int getMonth();<br><br>The first month of the year is JANUARY which is 0. |
| getDay() | int getDay();<br><br>The first day of the month has a value of 1. |
| setYear(int) | setYear(int year); |
| setMonth(int) | void setMonth(int month);<br><br>The first month of the year is JANUARY which is 0. |
| setDay(int) | void setDay(int day);<br><br>The first day of the month has a value of 1. |

| | |
|---|---|
| format(String) | String format(String format);<br><br>Returns a formatted string of the date field according to the *format* parameter. Please check the SmartGuide Designer user guide for a sample list of date formats. |
| setDate(int, int, int) | void setDate(int year, int month, int day); |
| setDate(String) | void setDate(string);<br><br>The string needs to follow the format: "yyyy-MM-dd" |

**ServiceInfo**

| Method | Description |
|---|---|
| call() | boolean call() throws Throwable;<br><br>Calls a web service or extension function defined in the Smartlet. |
| getOutput(String xpath) | Object getOutput(String xpath);<br><br>Gets the service call output. For web service calls, it will return the string value based on xpath. If nothing is found, it will return null. Although the web service return may contain namespaces, it's not namespace-aware to simplify the xpath. For extention function calls, it may have one return or no return. The *xpath* parameter is ignored. |
| getError() | String getError();<br><br>Gets the error message returned by the service call. |

# Smartlets as REST web services 6

## Introduction

One of the features of SmartGuide Server 5.1.0 and above is the ability to be driven not only via a web interface (through the normal web rendering of an application) but also programmatically through a REST style web service interface. In other words, the Smartlet URL can be called with specific parameters to provide data to the application, including the ability to move forward through the pages of the application, and receive a JSON rendering of the resulting output pages or fields. This enables for example the development of Rich Internet Applications (RIA) using SmartGuide, and also facilitates the integration of Smartlets with external systems.

This section describes how to configure SmartGuide Server to enable this feature, as well as the list of available URLs and parameters to drive the application in that mode.

## SmartGuide Server configuration

To expose Smartlets as REST web services under the J2EE version of SmartGuide, you must edit the *web.xml* configuration file under **smartlets.war/WEB-INF** and uncomment the following lines:

```
<!--
<servlet>
<servlet-name>ajax-json-provider-servlet</servlet-name>
<servlet-class>com.alphinat.interview.si.xml.servlet.XMLServlet</servlet-class>
<init-param>
<param-name>config</param-name>
<param-value>/WEB-INF/config/ajax-json-provider-config.xml</param-value>
</init-param>
</servlet>
-->
<!-- Expose smartlet as AJAX json -->
<!--
<servlet-mapping>
<servlet-name>ajax-json-provider-servlet</servlet-name>
<url-pattern>/ajax/json/*</url-pattern>
</servlet-mapping>
-->
```

For the .Net version this feature is enabled by default. It can be disabled by removing the *web.config* file under the **ajax\json** directory of SmartGuide Server.

## Usage

There are three object types one can get: the Smartlet, a Smartlet page, and a page field.

### Getting the Smartlet JSON object

You can use the following URL to access a Smartlet:

- **J2EE**
  http://host/smartlets/ajax/json/[process]/smartlet

- **.Net**
  http://host/smartlets/ajax/json/do.aspx/[process]/smartlet

  where the [process] part of the path is optional. If specified, SmartGuide Server will process the posted parameters.

Optional URL parameters:

- ContentType:
  Used to specify the return content type, Eg. 'text/plain'. If omitted, 'application/json' will be returned.
- filters :
  object filters, see "filters" below for details

### Getting the page JSON object

You can use the following URL to access the Smartlet

- **J2EE**
  http://host/smartlets/ajax/json/[process]/page

- **.Net**
  http://host/smartlets/ajax/json/do.aspx/[process]/page

  where the [process] part of the path is optional. If specified, SmartGuide Server will process the posted parameters.

Optional URL parameters:

- ContentType :
  Specify return content type, Eg. 'text/plain'. If omit, use 'application/json'
- filters :
  object filters, see "filters" bellow for details
- name :
  page name
- id :
  page id

If neither the "name" nor the "id" parameter appears, the current page of the Smartlet is returned.

**Getting the field JSON object**

You can use the following URL to access the Smartlet

- **J2EE**
  http://host/smartlets/ajax/json/[process]/field

- **.Net**
  http://host/smartlets/ajax/json/do.aspx/[process]/field

  where the [process] part of the path is optional. If specified, SmartGuide Server will process the posted parameters.

Optional URL parameters:

- ContentType :
  Specify return content type, Eg. 'text/plain'. If omit, use 'application/json'
- filters :
  object filters, see "filters" bellow for details
- name :
  field name
- id :
  field id
- htmlName :
  field html name, eg: d_123456789

## Filters

If no "filters" parameters are given for the ajax call, all the detailed information will be returned. To avoid a huge json object for complex Smartlets, you can choose to filter some unnecessary information.

| Filter | Description |
|---|---|
| "notavailable" | Filter non-available elements.<br>Following scenarios are considered as notavailable:<br>-Field avaibility is calculated and is false.(If field avaibility is not calculated, this field is considered as available.)<br>-Page is neither in history nor is current page<br>Filtered elements are not presented in returnning json object. |
| "subfields" | Filter sub elements of group and repeat.<br>Filtered elements are presented as empty object so the length of |

| | |
|---|---|
| | the array is accurate |
| "subsmartletdetail" | Filter sub smartlet detail information.<br>Filtered elements are presented as empty object or null. So the value can be used to check if subsmrtlet is empty or not. |
| "summarydetail" | Filter summary detail information.<br>Attribute "pages" is presented as simple page object array without fields attributes, so the history pages' basic information is accessable. |

Server side will check the presence of the above string and activate the filter.

Eg.
http://localhost/smartlets/ajax/json/smartlet?filters=subsmartletdetail_summarydetail

## Sample JSON objects

There are three object types one can get: the Smartlet, a Smartlet page, and a page field.

### Smartlet JSON Object:

```
{"smartlet":
 {
 "id" : "1308250108692", //Smartlet ID
 "type" : "smartlet", //Object type is "smartlet"
 "code" : "smartlet_code", //Smartlet code
 "name" : "smartlet name", //Smartlet name
 "subject" : "", //Smartlet subject
 "author" : "", //Smartlet author
 "description" : "", //Smartlet description
 "keywords" : "", //Smartlet keywords
 "currentPageId" : "1308250108693", //ID of current page
 "history" : [...], //Array of history page ID
 "globalNavButtons" : [...], //Global nav buttons
 "pages" : [...], //Array of page json object
 "theme" : "default" //Theme
 "layout" : "bootstrap" //Layout used by the Smartlet for field positioning
 "layoutdefaultsize": "md" //Layout default device size when positioning fields
 "locales" : ["en", "fr"] //Array of locales in use by the Smartlet
 "lastmodification" : "1455831011" //The last modification date for the Smartlet
 }
}
```

### Page JSON object:

```
{"page":
 {
 "id" : "1308250108693", //Page ID
 "type" : "page", //Object type is "page"
 "name" : "page_name", //Page name
 "title" : "Page title", //Page title
 "progress" : "0", //Percentage of progress.
 "template" : "", //Page template
 "state" : "state1", //Page state
 "fields" : [...], //Array of field json object
 "layout" : {...}, //Object composed of rows and columns representing the layout of the fields on the page
 "navNextButton" : {...}|undefined, //If present, nav next button field object
 "navPreviousButton": {...}|undefined,//If present, nav previous button field object
 "navSummaryButton": {...}|undefined, //If present, nav to summary button field object.
 "modifyPageButton": {...}|undefined, //If present, modify button of summary section.
 "returnButton" : {...}|undefined, //Present when current smartlet is subsmartlet, return to main smartlet button.
 "returnWithoutSaveButton" : {...}|undefined, //Present when current smartlet is subsmartlet, return to main smartlet but without save button.
 "errorMessages" : [...]|undefined, //Present when page level validation error occurs, array of page level validation error message string.
 "errorCodes" : [...]|undefined, //Present when page level validation error occurs, array of page level validation error code (integer).
 "smartlet" : {id:"", code:"", name:"", keywords:"", subject"", "type":"", "theme":"" }, //smartlet summary information
 }
}
```

### Field JSON object:

```
{
 "id" : "1308250108694", //field ID
 "type" : "text", //field type,
 //could be: text,textLong,num,pass,date,upload,staticText,staticImg,
 //radio,check,drop,lbox, button,hid,
 //knowledge,sub-smartlet,group,repeat,summary
 "typeDetail" : "", //field detail type, could be:
 // button_subsmartlet_enter,button_subsmartlet_return_save,button_subsmartlet_without_save,
 // button_next_page, button_previous_page, button_repeat_insert,button_repeat_delete,
 // button_goto_summary,button_modify_page,button_refreh_page,button_global_navigation
```

```
// button_gen_pdf,button_gen_xml
"name" : "field_name", //field name
"htmlName" : "d_1308250108694", //field html name
"label" : "field label", //field label
"value" : "", //field string value
"help" : "field contextual help", //contextual help
"isHelpLink" : true|false, //true if help text is link
"tooltip" : "field tooltip", //tooltip
"format" : "", //format
"isValid" : true|false|undefined, //is field valid, not-calculated if undefined
"isAvailable" : true|false|undefined, //is field available, not calculated if undefined
"isRequired" : true|false, //is field required
"maxLength" : -1, //field max length
"minLength" : -1, //field min length
"cssClass" : "", //css class
"cssStyle" : "", //css style
"cssHeight" : "", //css height
"cssWidth" : "", //css width
"isReadonly" : true|false, //readonly flag
"isPersistent" : true|false, //persistent flag
"isEncrypted" : true|false, //encrypt flag
"suffix" : "", //field dsuffix string
"prefix" : "", //field prefix string
"choiceLayout" : "", //choice layout for select type field
"eventtarget" : "", //list of fields ids affected by current field value
"eventsource" : "", //list of fields ids affecting the current field
"layout" : [...], //array of layout properties by device size
////Following atributes are for select type fields : radio,check,drop,lbox
"options" : [{
"isOptionGroup" : true|false, //option has sub options
"label" : "", //option label
"value" : "", //option value
"help" : "", //option help
"isHelpLink" : true|false, //is help a link
"hint" : "", //option hint
"subOptions" : []|undefined //sub options if "isOptionGroup" equals to true
},...], //array of option objects
////Following attributes are for repeat field
"groups" : [...], //repeat groups
"addButton" : {...}, //add repeat instance button
"deleteButton" : {...}, //delete repeat instance button
////Following attributes are for upload field
"fileName" : "", //uploaded file name
```

```
////Following attributes are for button:button_gen_pdf,button_gen_xml
"genFileName" : "", //pdf or xsd file name
////Following attributes are for knowledge
"knowledgeEntries" : [{ //knowledge entries, element is knowledge entry object
"name" : "", //knowledge entry name
"label" : "", //knowledge entry label
"value" : "", //knowledge entry value
"isRepeat" : true|false, //if repeat
"entries" : [...] //sub entries
}...],
////Following attributes are for SessionSummary
"modifyButtonLabel" : {}, //label for modify button
"summaryButtonLabel" : {}, //label for goto summary button
"pages" : [...], //relevant pages array, element is page json object.
//If summarydetail filter presents, element is page summary object with attributes:
id,name,title,type,state,template
////Following attributes are for group field
"fields" : [...], //array of group sub fields, element is field json object.
////Following attributes are fro sub-smartlet field
"subSmartletCode", : "", //subsmartlet code
"enterButton", : {...}, //enter subsmartlet button
"subSmartlet", : {} //sub smartlet json object. Is empty object if subsmartletdetail filter presents
}
```

## Recommended practices and example

### Guidelines

For most cases, you just need to process then render current page of the smartlet. An ajax call to *http://localhost/smartlets/ajax/json/process/page* will return enough information to render the Smartlet.

Usually the first ajax call to the Smartlet is: *http://localhost/smartlets/ajax/json/process/page?interviewID=smartletCode&filters=notavailable*. This call allows the Smartlet to initialize.

If you need to upload a file, the preferred value for the *ContentType* parameter is *ContentType=text/plain*, otherwise, you might have a "Save as" dialog prompt by the browser.

When submitting the form (through ajax), the form action usually is: *http://localhost/smartlets/ajax/json/process/page*.

Always provide parameter *filters=notavailable* if you just need to render current page with all available elements.

**Example**

In this example we assume the existence of a 3 page Smartlet whose code is *Contact*. We will get the Smartlet, populate a *name* field on page 1, go to page 2, populate an *address* field on page 2, and finally reach page 3 where we get the content of the page.

The sequence of calls is as follows:

- Initialize and fetch Smartlet:
  http://localhost/smartlets/ajax/json/process/page?interviewID=Contact&filters=notavailable
- Post name value and trigger fetch for next page:
  http://localhost/smartlets/ajax/json/process/
  page?d_1324588352621=John&t_n1324588352620=t_n1324588352620&filters=notavailable
- Post address value and trigger fetch for next page:
  http://localhost/smartlets/ajax/json/process/
  page?d_1324588352623=123%20main&t_n1324588352622=t_n1324588352622
  &filters=notavailable

In the second and third calls the "Smartlet" name of the fields, be they standard fields like the name, the address or the navigation button, was used. These names are extracted from the JSON response for the first and second calls. You must parse the JSON response and get the "htmlName" property of the fields you want to post. For the navigation button to go to the next page, the field you must parse is "navNextButton".

# Best practices

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## Introduction

In this section we look at the best practices regarding the choice of web services, extension functions, and BeanShell code when developing applications with SmartGuide. More spécifically we expose under which circumstances one should make use one approach or another to execute external functions.

## Using web services

SmartGuide Designer allows to use of web services natively without any coding, except of course if the web service must be developed. And it also allows to easily map multiple return data (e.g. search result list) to existing repeat groups in SmartGuide. It is considered the best way to interact with external services.

More specifically here is a list of circumstances where it is recommended to make direct use of web services from within SmartGuide :

- Web services already exist within the company to perform the required task;
- Web services do not exist within the company, but the required functionality could also be used by other systems within the company that are not based on SmartGuide technology;
- To pre-populate multiple value fields like drop-down lists, radio buttons, check boxes;
- To perform field or page validation;
- To transfer data from one or more fields to an external system (e.g.: data backup, transmitting Smartlet data, etc.);
- To trigger an action in an external system (e.g.: Activate a "workflow", a transaction, etc.);
- To load data into a Smartlet from an external system (e.g.: retrieve personal information about a user, load configuration settings, set the value of some fields);

## Usage of extension functions

In some cases, it may be desirable to make calls to web services via an extension function rather than directly through SmartGuide. Following is a list of circumstances in which the call for services through an extension function is required or desirable:

- The use of the web service call requires several subsequent calls to the same web service according to the values returned by the first call;
- The web service returns a large number of fields (50 and more) and only a few are

needed in the desired response;
- The web service returns complex data types (or takes as input complex types) that can not be interpreted by SmartGuide (e.g.: object types specific to the company);
- To perform field or page validation;
- The web service is called very often like for example to complete a list of cities in a dropdown list in several different pages. In this case, it is often best to call the service in an extension function and use a cache mechanism for the information returned in the "application" or "session" scope to optimize performance;
- When several different web services must be called to perform a specific function. For example, if a validation requires the use of several web services, an extension function is preferable;

There are also some cases where it is absolutely necessary to use an extension function, irrespective of the use of web services, such as:

- When you need to modify the stack of SmartGuide pages (history) directly. For example to redirect to a specific page of a Smartlet;
- When you need to return data in the HTTP stream directly (return a binary stream, redirecting to another web page) or interact with the http context (session, application, etc.);
- When you need to package sequences of calls for more services. For example, if errors were detected in the first call then subsequent services might not be called;
- When handling cases of double-clicking (which necessarily involve an interaction with session variables or http context);
- When you need to generate a PDF or XML (for example if you want to send these documents by email or to an external system);
- When you need to access most or all data in a Smartlet;

### Usage of BeanShell scripts

SmartGuide allows the use of BeanShell code to perform various advanced operations in a web application. The use of BeanShell is possible in the following contexts:

- As field value;
- In services mappings for input and output fields;
- In PDF and XML file mapping;
- When performing an advanced page validation;
- In button actions;
- On Smartlet initialization, or page entry and page exit;
- For the endpoint of a web service call;

In general it is recommended to use BeanShell scripts in the following circumstances:

- When no SmartGuide function allows to perform the desired operation natively;
- To perform simple manipulations on the value of a field;
- To manipulate the value of fields in a PDF file mapping or XSD;
- To manipulate the inputs and outputs of a service call;
- To perform operations specific to a field or a specific context that is not generic;

Although BeanShell allows advanced and complex manipulations, it is recommended to do the more complex operations inside extension functions. Note also that BeanShell allows to use of a service as defined in SmartGuide, so it is possible to perform a call to a web service or an extension function, retrieve the results within the BeanShell script, and perform more advanced treatment.

### Using BeanShell vs. using an extension function

As for web services, the question arises whether we should use the BeanShell or use an extension function to perform a specific task. As a general rule, we advocate the use of an extension function in the following circumstances (without limitation):

- The operation to be performed requires dozens of lines of BeanShell code. It is easier to maintain and debug code in an extension function than inside BeanShell in SmartGuide Designer;
- When the operation to be performed is generic in nature and can be reused in different contexts and in different Smartlets;
- For reasons of performance, since the first function call to a BeanShell script causes a compilation of java code which can impact performance substantially;

Finally, in the following circumstances it is preferable to use BeanShell code rather than extension functions:

- When SmartGuide does not allow a direct call to a service like a field mapping with a PDF, an XSD or another service. Note that if the mapping requires long and complex operations, the BeanShell code mapping may use an extension function as required.

# API reference

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The following pages detail the packages, interfaces and methods within each class along with numerous sample pieces of code.

Here is a summary table of the interfaces. The base class for the SmartGuide API is com.alphinat.sg5.

| Interface | Description |
|---|---|
| IServiceContext | IServiceContext is an interface representing a service call context. This is the entrance point for extension functions using the version 5 API. the user can get the current ISmartlet, ISmartletEnvironment and ISmartletEvent. |
| ISmartletEnvironment | Environment is an interface used to obtain the Smartlet application environment. |
| ISmartlet | ISmartlet is an interface representing a Smartlet. |
| ISmartletPage | ISmartletPage is an interface representing a Smartlet page along with the operations that may be performed on that page. |
| ISmartletField | ISmartletField is an interface representing a Smartlet field along with the operations that may be performed on that field. |
| ISmartletEvent | ISmartletEvent is an interface representing a Smartlet event, like a click on a button. |
| ISmartletService | ISmartletService is an interface representing a Smartlet service and covers extension functions, SOAP and REST web services. |
| ISmartletElementVisitor | Implements the Hierarchical Visitor Pattern to traverse Smartlet elements. |
| ISmartletElement | A Smartlet element can be a ISmartlet, ISmartletPage, ISmartletField, ISmartletService. It is often used in the context of the visitor pattern to filter out elements in a Smartlet for processing. |

| | |
|---|---|
| ISmartletActionError | ISmartletEvent is an interface representing a Smartlet action error object. It is used to wrap information about an error occuring when processing actions. |
| ISmartletSummary | ISmartletSummary is an interface representing a summary element. |
| ISubSmartletField | ISubSmartletField is an interface representing a subSmartlet. |
| ISmartletSelectField | ISmartletField is an interface representing a Smartlet select type field. These can be radio button, dropdown list, checkbox or listbox. |
| ISelectOptionList | ISelectOptionList is an interface representing the single or multiple select option list associated to a select type field. Each list item is an instance of ISelectOption. Manipulating the list directly affects the corresponding field's option item list. A field's option list may be obtained by using the ISmartletSelectField.getSelectOptions() functionality. |
| ISelectOption | ISelectOption is an interface representing a single or multiple selection list item. Individual item attributes may be manipulated. New list item instances can be created using the ISelectOptionList.createOption() functionality. |
| ISmartletRepeat | ISmartletRepeat is an interface representing a Smartlet repeat widget. A repeat widget can be thought of as a table. Each row of the table is a group. And each column of the table is a field in the group. |
| ISmartletKnowledgeEntry | ISmartletKnowledgeEntry is an interface representing a Smartlet knowledge entry. |
| ISmartletKnowledge | ISmartletKnowledge is an interface representing a Smartlet knowledge widget. |
| ISmartletGroup | ISmartletGroup is an interface representing a Smartlet group. |

| | |
|---|---|
| ISmartletDate | ISmartletDate is an interface representing a Smartlet date. |
| ISmartletUpload | ISmartletUpload is an interface representing a Smartlet upload field. |
| Constants | This is an interface representing all constants used in the API. It covers element types, error codes, file type, scope, and Smartlet events. The constant values are available here. |

## com.alphinat.sg5

# Interface IServiceContext

```
public interface IServiceContext
```

`IServiceContext` is an interface representing a service call context.
This is the entrance point for extension functions using the version 5 API. From `IServiceContext` the user can get the current `ISmartlet`, `ISmartletEnvironment` and `ISmartletEvent`.

## Method Summary

| | |
|---|---|
| `Object` | **`getAPI3Environment`**`()`<br>Gets the Environment of API version 3. |
| `ISmartletField` | **`getContextField`**`()`<br>Gets context `field`. |
| `ISmartletEnvironment` | **`getEnvironment`**`()`<br>Gets the Smartlet process `environment`. |
| `ISmartletEvent` | **`getEvent`**`()`<br>Gets the context event. |
| `ISmartlet` | **`getSmartlet`**`()`<br>Gets the current `Smartlet` . |

## Method Detail

### getSmartlet

`ISmartlet` **`getSmartlet`**`()`

Gets the current `Smartlet` .

**Returns:**

current Smartlet

---

## getEvent

ISmartletEvent **getEvent**()

Gets the context event.

Allows to get access to the field that triggered an event.

For example when a button is clicked, the following code will retrieve the button.

```
ISmartletEvent ise = context.getEvent();
ISmartletField button = (ISmartletField)ise.getSource();
```

**Returns:**

current event

**See Also:**

ISmartletEvent.getSource()

---

## getContextField

ISmartletField **getContextField**()

Gets context field.

Is functionally equivalent to getting the event and then getting the source (field) of the event.

**Returns:**

current context field

**See Also:**

getEvent()

---

## getEnvironment

ISmartletEnvironment **getEnvironment**()

Gets the Smartlet process environment.

Allows access to objects related to the execution environment, like Request and Response for the http context, as well as attributes (application, session, configuration, etc).

The following example shows how to get a parameter from the web.xml (or web.config) file using the `CONFIGURATION` attribute,

```
ISmartletEnvironment env = context.getEnvironment();
string dbDriver = (String)env.getAttribute(com.alphinat.sg5.Constants.Scope.CONFIGURATION,
"dbDriver");
```

**Returns:**

current Smartlet process `environment`

---

## getAPI3Environment

`Object` **`getAPI3Environment`**`()`

Gets the Environment of API version 3.

The V3 environment is the entry point that gives access to the Smartlet information. It allows the reuse of legacy code inside a V5 extension function.

The following example provides a map of field/values for the Smartlet,

```
com.alphinat.sg.Environment env3 = (com.alphinat.sg.Environment) context.getAPI3Environment();
Dictionary map = (Dictionary)env3.getData().convertToFieldDictionary();
```

Note that it is also possible to get the V5 API from the V3 API. One can use the following calls on the env (V3) environment

```
env.getConfiguration().get("context5")
```

will return IServiceContext of API5

```
env.getConfiguration().get("smartlet5")
```

will return ISmartlet of API5.

**Returns:**

`com.alphinat.sg.Environment` of version 3.

---

## com.alphinat.sg5

# Interface ISmartletEnvironment

public interface **ISmartletEnvironment**

Environment is an interface used to obtain the Smartlet application environment.

## Method Summary

| | |
|---|---|
| Object | **getAttribute**(int scope, Object key)<br>Obtains the value of the attribute located within the specified environment scope. |
| Object | **getAttributes**(int scope)<br>Obtains the specified environment scope. |
| Object | **getContext**()<br>Gets the context associated to the environment. |
| Object | **getRequest**()<br>Gets the Request object associated to the environment. |
| Object | **getResponse**()<br>Gets the Response object associated to the environment. |
| Object | **getUserPrincipal**()<br>Gets the principal reference containing the name of the current user. |
| bool | **isUserInRole**(string role)<br>Determines whether the current user is included in the specified logical role. |
| void | **redirect**(string location)<br>Sends a temporary redirect response to the client using the specified redirect location URL. |
| void | **removeAttribute**(int scope, Object key)<br>Removes an attribute from the specified environment scope. |
| void | **setAttribute**(int scope, Object key, Object value) |

Associates a value to a specified attribute name within a given environment scope.

# Method Detail

## getContext

```
Object getContext()
```

Gets the context associated to the environment. Within a J2EE Servlet and JSP tag environment, the returned object is an instance of `javax.servlet.ServletContext`. Within a JSR-168 portlet environment, the returned object is an instance of `javax.portlet.PortletContext`. Within a .NET HttpHandler and web Control environment, the returned object is an instance of `System.Web.HttpContext`.

The following example demonstrates how to use the context, under J2EE environments, to get the session ID.

```
ISmartletEnvironment env = context.getEnvironment();
javax.servlet.jsp.PageContext pc = (javax.servlet.jsp.PageContext)env.getContext();
String sessionId = pc.getSession().getId();
```

Under a .Net environment, one would use the following.

```
ISmartletEnvironment env = context.getEnvironment();
System.Web.HttpContext ctx = (System.Web.HttpContext) env.getContext();
string sessionID = ctx.Session.SessionID;
```

**Returns:**

the context associated to the environment.

---

## getRequest

```
Object getRequest()
```

Gets the Request object associated to the environment. Within a J2EE Servlet and JSP tag environment, the returned object is an instance of `javax.servlet.ServletRequest`. Within a JSR-168 portlet environment, the returned object is an instance of `javax.portlet.PortletRequest`. Within a .NET HttpHandler and web Control environment, the returned object is an instance of `System.Web.HttpRequest`.

The following example demonstrates, under a J2EE environment, how to retrieve the query string of the current url from the request object.

```
import javax.servlet.jsp.*;
ISmartletEnvironment env = context.getEnvironment();
HttpServletRequest request = (HttpServletRequest)((PageContext)env.getContext()).getRequest();
String qs = request.getQueryString();
```

Similarly under .Net one would use.

```
ISmartletEnvironment env = context.getEnvironment();
System.Web.HttpRequest request = (System.Web.HttpRequest)env.getRequest();
NameValueCollection qry = request.QueryString;
string[] keys = qry.AllKeys;
for (int i = 0; i < keys.Length; i++)
{
   Console.WriteLine(keys[i] + "->" + qry[keys[i]]);
}
```

**Returns:**

http request object.

---

## getResponse

```
Object getResponse()
```

Gets the Response object associated to the environment. Within a J2EE Servlet and JSP tag environment, the returned object is an instance of `javax.servlet.ServletResponse`. Within a JSR-168 portlet environment, the returned object is an instance of `javax.portlet.PortletResponse`. Within a .NET HttpHandler and web Control evironment, the returned object is an instance of `System.Web.HttpResponse`.

The following example demonstrates how to return a binary stream for a generated PDF document called documentName.

```
ISmartlet smartlet = context.getSmartlet();
byte[] bDoc = smartlet.generateFile(Constants.FileType.PDF, "documentName");
HttpServletResponse response = (HttpServletResponse)context.getEnvironment().getResponse();
response.setContentType("application/octet-stream");
response.setHeader("Content-Disposition","attachment; filename="+"documentName");
response.getOutputStream().write(bDoc);
response.getOutputStream().flush();
```

```
response.getOutputStream().close();
```

Under a .Net environment the code would read as follows.

```
ISmartlet smartlet = context.getSmartlet();
byte[] bDoc = smartlet.generateFile(Constants.FileType.PDF, "documentName");
HttpResponse response = (HttpResponse)context.getEnvironment().getResponse();
response.ContentType = "application/octet-stream";
response.AddHeader("Content-Disposition","attachment; filename="+docName);
response.OutputStream.Write(bDoc,0,bDoc.Length);
response.OutputStream.Flush();
response.OutputStream.Close();
```

**Returns:**

http response object.

---

## getAttribute

```
Object getAttribute(int scope,
                    Object key)
```

Obtains the value of the attribute located within the specified environment scope. The environment returns `null` if the attribute does not exist within the specified scope.

The following example shows how to get a parameter from the web.xml (or web.config) file using the `CONFIGURATION` attribute,

```
ISmartletEnvironment env = context.getEnvironment();
String dbDriver = (String)env.getAttribute(Constants.Scope.CONFIGURATION, "dbDriver");
```

**Parameters:**

`scope` - the scope within which to locate the attribute whose name corresponds to the specified `key`.

`key` - the `String` representing the the name of the attribute whose value is to be obtained.

**Returns:**

the `Object` representing the value of the attribute located within the specified environment scope or `null` if the attribute could not be located.

**See Also:**

`Constants.Scope`

---

## getAttributes

```
Object getAttributes(int scope)
```

Obtains the specified environment scope.

The following example shows how to iterate through all posted data.

```
ISmartletEnvironment env = context.getEnvironment();
Map mParams = (Map)env.getAttributes(Constants.Scope.PARAMETER);
Iterator itrParams = mParams.keySet().iterator();
while(itrParams.hasNext())
{
   String pName = (String)itrParams.next();
   List pValue = (List)mParams.get(pName);
   System.out.println(pName+","+pValue.toString());
}
```

Under a .Net environment the code would read as follows.

```
ISmartletEnvironment env = context.getEnvironment();
Dictionary map = (Dictionary)env.getAttributes(DotnetConstants.Scope.PARAMETER);
foreach(KeyValuePair kvp in map )
{
   Console.WriteLine("Key = {0}, Value = {1}", kvp.Key, kvp.Value);
}
```

**Parameters:**

`scope` - the scope to obtain.

**Returns:**

the `Object` representing the specified environment scope.

**See Also:**

`Constants.Scope`

---

## setAttribute

```
void setAttribute(int scope,
                  Object key,
                  Object value)
```

Associates a value to a specified attribute name within a given environment scope. Specifying a `null` value has the same effect as removing the attribute from the environment scope.

**Parameters:**

`scope` - the scope within which to place the `value` according to the specified `key`.
`key` - the `String` representing the name of the attribute according to which to associate the `value` within the specified `scope`.
`value` - the `Object` representing the value to associate to the `scope` according to the specified `key`.

**See Also:**

`Constants.Scope`

---

## removeAttribute

```
void removeAttribute(int scope,
                     Object key)
```

Removes an attribute from the specified environment scope.

**Parameters:**

`scope` - the scope from which to remove the attribute whose name corresponds to the specified `key`.
`key` - the `String` representing the name of the attribute that is to be removed from the specified `scope`.

**See Also:**

`Constants.Scope`

---

## getUserPrincipal

```
Object getUserPrincipal()
```

Gets the principal reference containing the name of the current user.

**Returns:**

an `Object` containing the name of the user making this request, or `null` if no user information could be determined.

---

## isUserInRole

```
bool isUserInRole(string role)
```

Determines whether the current user is included in the specified logical role. If the current user cannot be determined, false is returned.

**Parameters:**

`role` - the `String` specifying the name of the role.

**Returns:**

`true` if the current user can be determined and is included in the specified logical role, `false` otherwise.

---

## redirect

```
void redirect(string location)
```

Sends a temporary redirect response to the client using the specified redirect location URL. This method can accept relative URLs; The servlet container must convert the relative URL to an absolute URL before sending the response to the client. If the location is relative without a leading '/' the container interprets it as relative to the current request URI. If the location is relative with a leading '/' the container interprets it as relative to the servlet container root. After using this method, the response should be considered to be committed and should not be written to.

**Parameters:**

`location` - -the redirect location URL

---

## com.alphinat.sg5

# Interface ISmartlet

**All Superinterfaces:**

ISmartletElement

---

`public interface` **`ISmartlet`**
extends ISmartletElement

`ISmartlet` is an interface representing a Smartlet.

---

## Method Summary

| | |
|---|---|
| `void` | **`addActionError`**`(ISmartletActionError actionError)`<br>Adds an action error object. |
| `void` | **`addActionError`**`(Object sourceObject, string error, string callStack)`<br>Adds an action error element composed of a source object, the error message and a stack trace. |
| `void` | **`addLocalizedResource`**`(string locale, string key, string value)`<br>Add a key/value pair to the translation resources |
| `ISmartlet` | **`addPageToHistory`**`(ISmartletPage page)`<br>Adds given page to the history. |
| `void` | **`calculate`**`()`<br>Recalculates the page. |
| `void` | **`clear`**`()`<br>Calls clear on every page of this smartlet, recursively. |
| `void` | **`clearActionErrors`**`()`<br>Clears all action error of this smartlet. |
| `ISmartletField` | |

| | |
|---|---|
| | **createField**(ISmartletField anotherField)<br>Create a dynamic field from existing field, a unique ID will be assigned to the new field. |
| ISmartletField | **createField**(string fieldName, int fieldType)<br>Create a dynamic field, a unique ID will be assigned to the new field. |
| ISmartletField | **createField**(string newFieldId, ISmartletField anotherField)<br>Create a dynamic field from existing field. |
| ISmartletField | **createField**(string newFieldId, string fieldName, int fieldType)<br>Create a dynamic field. |
| Object | **evalBSH**(string bsh)<br>Evaluate Beanshell scripts. |
| ISmartletField | **findFieldById**(string id)<br>Finds the first matching field by id |
| ISmartletField | **findFieldByName**(string name)<br>Finds the first matching field by name. |
| ISmartletPage | **findPageById**(string id)<br>Finds a page by id |
| ISmartletPage | **findPageByName**(string name)<br>Finds page by name. |
| ISmartletPage | **findPageByState**(string state)<br>Finds a page by state string. |
| ISmartletService | **findServiceByName**(string name)<br>Finds the service by given name. |
| byte[] | **generateFile**(int type, string name)<br>Generates a XML or pdf file uploaded to the Smartlet. |
| byte[] | **generatePDFWithDictionarypingData**(string pdfFile, Object dataDictionary, bool flatten, bool readonly)<br>Generates a pdf file with the provided pdf mapping data. |

| | |
|---|---|
| ISmartletActionError[] | **getActionErrors**()<br>Gets an array of errors for the current Smartlet. |
| string | **getCode**()<br>Gets the Smartlet code as defined on the properties page of the Smartlet. |
| string | **getCurrentLocale**()<br>Gets the current locale for the Smartlet |
| string | **getCurrentLocaleDescription**()<br>Gets the current language for the Smartlet |
| ISmartletPage | **getCurrentPage**()<br>Gets the current page. |
| ISmartlet | **getCurrentSmartlet**()<br>Gets the current Smartlet. |
| string | **getDomain**()<br>Gets current domain name |
| ISmartletField[] | **getGlobalNavButtons**()<br>Gets the global navigation buttons. |
| ISmartletPage[] | **getHistory**()<br>Gets the history pages navigated by the user. |
| string | **getId**()<br>Obtains the unique internal identifier of the Smartlet. |
| string | **getKeywords**()<br>Gets the Smartlet keywords as defined on the properties page of the Smartlet. |
| string[] | **getLocales**()<br>Gets the array of locales supported by the Smartlet |
| string[] | **getLocalesDescription**()<br>Gets the array of locales description (languages) supported by the Smartlet |
| string | **getLocalizedResource**(string key)<br>Gets value corresponding to a custom key for the resources |
| string | **getName**() |

| | |
|---|---|
| | Gets the Smartlet name as defined on the properties page of the Smartlet. |
| ISmartletPage[] | **getPages**()<br>Gets the pages of a Smartlet as an Array. |
| ISmartletField | **getParentSubSmartletField**()<br>If the current Smartlet is a subSmartlet, gets the parent subSmartlet field. |
| Object | **getPDFDictionarypingData**(string pdfFileName)<br>Gets the PDF mapping data. |
| string | **getProgress**()<br>Returns the current percentage complete, from "0" to "100" |
| ISmartletService[] | **getServices**()<br>Gets the services of the Smartlet. |
| string | **getSubject**()<br>Gets the Smartlet subject as defined on the properties page of the Smartlet. |
| ISmartletField | **getSubSmartletCancelButton**()<br>Gets the button to return from sub smartlet without save. |
| ISmartletField | **getSubSmartletReturnButton**()<br>Gets the button to return from subsmartlet. |
| string | **getTheme**()<br>Gets the theme name of Smartlet as defined on the properties page of the Smartlet. |
| string | **getWorkspace**()<br>Gets current workspace name |
| ISmartletPage | **gotoPage**(long pageId)<br>Navigate to page with given page id and add current page to history. |
| ISmartletPage | **gotoPage**(string pageName)<br>Navigate to page with given page name and add current page to history. |
| ISmartletPage | **gotoPage**(string pageName, bool addCurrentPageToHistory)<br>Navigate to page with given page name and add current page to |

| | |
|---|---|
| | history. |
| ISmartletPage | **gotoPage**(string pageName,<br>bool addCurrentPageToHistory,<br>bool callServicesOnPageExit,<br>bool callServicesOnPageEntry)<br>Navigate to page with given page name and add current page to history. |
| ISmartletPage | **gotoPage**(string pageName, bool preserveHistory,<br>bool callServicesOnPageExit,<br>bool callServicesOnPageEntry,<br>string[] pageNamesToAddToHistory)<br>Navigate to page with given page name. |
| ISmartlet | **gotoSmartlet**(string smartletCode,<br>string destinationPageId,<br>bool preserveHistoryAndData,<br>bool callServicesOnPageExit)<br>Navigate to Smartlet with given code. |
| bool | **hasPage**(string pageName)<br>Check if this smartlet |
| bool | **isSubSmartlet**()<br>Check if we are inside a subSmartlet. |
| void | **sendMail**(string from, string to, string cc,<br>string bcc, string returnTo, string subject,<br>string body, int format,<br>string[] attachmentNames, byte[][] attachements)<br>Send email. |
| void | **sendMail**(string from, string to, string cc,<br>string bcc, string returnTo, string subject,<br>string body, int format,<br>string[] attachmentNames, byte[][] attachements,<br>string serverName, string port, string userName,<br>string password, string useSSL)<br>Send email with server parameters override. |
| void | **setCurrentLocale**(string locale)<br>Sets the current locale for the Smartlet |
| void | **setCurrentPage**(ISmartletPage page) |

Sets the current page.

| | |
|---|---|
| void | **setHistory**(ISmartletPage[] pages)<br>Set the page visit history. |
| ISmartlet | **switchSmartlet**(ISmartlet anotherSmartlet)<br>Switches to another Smartlet. |
| ISmartlet | **switchSmartlet**(string smartletCode)<br>Switches to another Smartlet by the given Smartlet code. |
| void | **triggerEvent**(int eventType)<br>Triggers a specific Smartlet event. |

**Methods inherited from interface com.alphinat.sg5.ISmartletElement**

accept, data, data, getDataNames, getTypeConst

# Method Detail

## getId

```
string getId()
```

Obtains the unique internal identifier of the Smartlet.

**Specified by:**

getId in interface ISmartletElement

**Returns:**

smartlet ID

---

## getName

```
string getName()
```

Gets the Smartlet name as defined on the properties page of the Smartlet.

**Returns:**

smartlet name

---

## getCode

```
string getCode()
```

Gets the Smartlet code as defined on the properties page of the Smartlet.

**Returns:**

smartlet code

---

## getSubject

```
string getSubject()
```

Gets the Smartlet subject as defined on the properties page of the Smartlet.

**Returns:**

smartlet subject

---

## getKeywords

```
string getKeywords()
```

Gets the Smartlet keywords as defined on the properties page of the Smartlet.

**Returns:**

smartlet keywords

---

## getTheme

```
string getTheme()
```

Gets the theme name of Smartlet as defined on the properties page of the Smartlet.

**Returns:**

smartlet theme

---

## findPageByName

`ISmartletPage` **`findPageByName`**`(string name)`

Finds page by name.

The following example shows how to go to a specific page by its name,

```
ISmartlet smartlet = context.getSmartlet();
ISmartletPage newPage = smartlet.findPageByName(pageName);
smartlet.setCurrentPage(newPage);
```

**Parameters:**

`name` - Page name.

**Returns:**

`ISmartletPage`

---

## findPageById

`ISmartletPage` **`findPageById`**`(string id)`

Finds a page by id

**Parameters:**

`id` -

**Returns:**

`page`

---

## findPageByState

`ISmartletPage` **`findPageByState`**`(string state)`

Finds a page by state string.

**Parameters:**

`state` - - State string, for example: state1, state2...

**Returns:**

`page`

---

## findFieldByName

ISmartletField **findFieldByName**(string name)

Finds the first matching field by name.

The following example shows how to reset the value of a field,

```
ISmartlet smartlet = context.getSmartlet();
ISmartletField field = smartlet.findFieldByName(fieldName);
field.setValue("");
```

**Parameters:**

name - - Field name.

**Returns:**

smartlet field

---

## findFieldById

ISmartletField **findFieldById**(string id)

Finds the first matching field by id

**Parameters:**

id -

**Returns:**

smartlet field

---

## getPages

ISmartletPage[] **getPages**()

Gets the pages of a Smartlet as an Array.

The following example recalculates each page of a Smartlet,

```
ISmartlet smartlet = context.getSmartlet();
ISmartletPage[] pages = smartlet.getPages();
for(int i=0;i<pages.Length;i++)
{
   ISmartletPage page = pages[i];
```

```
    page.calculate();
}
```

**Returns:**

pages of smartlet

---

## getCurrentPage

`ISmartletPage` **`getCurrentPage`**`()`

Gets the current page.

The following example shows how to trigger the "next" page button of the current page,

```
ISmartlet smartlet = context.getSmartlet();
ISmartletPage page = smartlet.getCurrentPage();
page.navNext();
```

**Returns:**

current page

---

## setCurrentPage

`void` **`setCurrentPage`**`(ISmartletPage page)`

Sets the current page.

**Parameters:**

`page` -- Smartlet page

---

## getHistory

`ISmartletPage[]` **`getHistory`**`()`

Gets the history pages navigated by the user.

**Returns:**

navigate history

---

## setHistory

```
void setHistory(ISmartletPage[] pages)
```

Set the page visit history.

**Parameters:**

`pages` - - Array of `Smartlet pages`

---

## addPageToHistory

```
ISmartlet addPageToHistory(ISmartletPage page)
```

Adds given page to the history.

**Parameters:**

`page` -

**Returns:**

this

**Since:**

5.8.0

---

## generateFile

```
byte[] generateFile(int type,
                    string name)
```

Generates a XML or pdf file uploaded to the Smartlet.

**Parameters:**

`type` - - File type, See `Constants.FileType`

`name` - - File name.

**Returns:**

generated file bytes.

---

## getPDFDictionarypingData

```
Object getPDFDictionarypingData(string pdfFileName)
```

Gets the PDF mapping data.

**Parameters:**

`pdfFileName` - - PDF file name.

**Returns:**

Dictionary of pdf field name, value pair

---

## generatePDFWithDictionarypingData

```
byte[] generatePDFWithDictionarypingData(string pdfFile,
                                         Object dataDictionary,
                                         bool flatten,
                                         bool readonly)
```

Generates a pdf file with the provided pdf mapping data. The style attribute of each PDF field is ignored.

The following example provides two mappings, for two PDF fields named "fname" and "lname", to be used in generating a PDF file called "reg.pdf",

```
ISmartlet smartlet = context.getSmartlet();
Dictionary map = new Dictionary();
map.Add("fname", "John");
map.Add("lname", "Doe");
byte[] binData = smartlet.generatePDFWithDictionarypingData("reg.pdf", map, true, true);
```

**Parameters:**

`pdfFile` - - Name of PDF file uploaded in SGD.

`dataDictionary` - - Dictionary of pdf field name - value pair.

`flatten` - - PDF is flattened. This means the resulting PDF is not editable, and the fields appear to be part of the form as static text.

`readonly` - - PDF is readonly. This means the resulting PDF is not editable, but the fields appear inside of their original input boxes as readonly.

**Returns:**

generated PDF file bytes.

---

## getServices

```
ISmartletService[] getServices()
```

Gets the services of the Smartlet.

The following example shows how to iterate through the services, perform a call to a specific service, and get the result,

```
ISmartlet smartlet = context.getSmartlet();
ISmartletService[] services = smartlet.getServices();
ISmartletService service = null;
for(int i=0;i<services.Length;i++)
{
   service = services[i];
   if ("CurrencyLookupWS".Equals(service.getName()))
   {
      if (service.call())
      {
         String xmlResponse = (String)service.getResult();
      }
      break;
   }
}
```

**Returns:**

all services

---

## findServiceByName

`ISmartletService` **`findServiceByName`**`(string name)`

Finds the service by given name.

**Parameters:**

`name` - - service name

**Returns:**

- first matching service

**Since:**

5.4.0

---

## getCurrentSmartlet

`ISmartlet` **`getCurrentSmartlet`**`()`

Gets the current `Smartlet`.

**Returns:**

current `Smartlet`

---

## switchSmartlet

`ISmartlet` **`switchSmartlet`**`(ISmartlet anotherSmartlet)`

Switches to another `Smartlet`.

**Parameters:**

`anotherSmartlet` - - The `Smartlet` the user wants to switch to.

**Returns:**

`Smartlet` after switch.

---

## switchSmartlet

`ISmartlet` **`switchSmartlet`**`(string smartletCode)`

Switches to another Smartlet by the given Smartlet code.

**Parameters:**

`smartletCode` - - The Smartlet code the user wants to switch to.

**Returns:**

`Smartlet` after switch.

---

## triggerEvent

`void` **`triggerEvent`**`(int eventType)`

Triggers a specific Smartlet event.

The following example demonstrates how to trigger an event when entering a page.

```
ISmartlet smartlet = context.getSmartlet();
smartlet.triggerEvent();
```

These events are defined in the Actions tab of the Smartlet.

**Parameters:**

`eventType` - - Event type, see `Constants.SmartletEvent`

---

## isSubSmartlet

`bool` **`isSubSmartlet`**`()`

Check if we are inside a subSmartlet.

**Returns:**

true if is inside subSmartlet.

---

## getParentSubSmartletField

`ISmartletField` **`getParentSubSmartletField`**`()`

If the current Smartlet is a subSmartlet, gets the parent subSmartlet field.

The following example demonstrates how to obtain a field value, whose name is "login", from the parent Smartlet. It is assumed that this function is being called while being inside a subSmartlet,

```
ISmartlet subsmartlet = context.getSmartlet();
ISmartletField targetfield = subsmartlet.findFieldByName(fieldName);
ISmartlet parentSmartlet = subsmartlet.getParentSubSmartletField().getSmartlet();
string userId = parentSmartlet.findFieldByName("login").getStringValue();
```

**Returns:**

parent `subSmartlet field` if inside subSmartlet

---

## getGlobalNavButtons

`ISmartletField[]` **`getGlobalNavButtons`**`()`

Gets the global navigation buttons.

For a given Smartlet, there is one global navigation button for each page. Triggering a global navigation button allows to go to that page directly.

**Returns:**

array of `global navigation buttons`.

---

## evalBSH

```
Object evalBSH(string bsh)
```

Evaluate Beanshell scripts.

Beanshell is a java source interpreter, and is supported in many areas of SmartGuide (field values, advanced page validations, etc). It can also be executed directly from an extension function.

However, unlike the Beanshell expression written in the Designer, the expressions here should not include the ${ or }$ symbols.

The following is an example of Beanshell script that can be passed as an argument,

```
import java.util.regex.Matcher;
import java.util.regex.Pattern;
zipcode = field("zip").value;
REGEX = "[0-9]{5}";
pSep = Pattern.compile(REGEX);
mSep = pSep.matcher(zipcode);
if (mSep.matches())
{
   page = context5.smartlet.findPageByName("US_Address");
   context5.smartlet.setCurrentPage(page);
}
else
{
   page = context5.smartlet.findPageByName("Error_Page");
   context5.smartlet.setCurrentPage(page);
}
```

This script gets a field value, matches it against a pattern, and then redirects the user to a different page depending on the outcome of the match. Refer to the Beanshell section of the developer's guide for more information on the Beanshell methods available inside SmartGuide.

**Parameters:**

`bsh` -

**Returns:**

evaluation result.

---

## createField

```
ISmartletField createField(string fieldName,
                           int fieldType)
```

Create a dynamic field, a unique ID will be assigned to the new field.

**Parameters:**

`fieldName` - - name of field to create.

`fieldType` - - type of field to create. See `Constants.FileType`

**Returns:**

**Since:**

5.4.0

---

## createField

```
ISmartletField createField(string newFieldId,
                           string fieldName,
                           int fieldType)
```

Create a dynamic field.

**Parameters:**

`newFieldId` - - ID of field to create. If this parameter is null or empty, a unique ID will be assigned to the new field;

`fieldName` - - name of field to create.

`fieldType` - - type of field to create. See `Constants.FileType`

**Returns:**

**Since:**

5.4.0

---

## createField

```
ISmartletField createField(ISmartletField anotherField)
```

Create a dynamic field from existing field, a unique ID will be assigned to the new field.

**Parameters:**

`anotherField` - - template field to be created from.

**Returns:**

---

## createField

```
ISmartletField createField(string newFieldId,
                           ISmartletField anotherField)
```

Create a dynamic field from existing field.

**Parameters:**

`newFieldId` - - ID of field to create. If this parameter is null or empty, a unique ID will be assigned to the new field;

`anotherField` - - template field to be created from.

**Returns:**

---

## getProgress

```
string getProgress()
```

Returns the current percentage complete, from "0" to "100"

**Returns:**

- string from "0" to "100"

**Since:**

5.4.0

---

## getSubSmartletReturnButton

```
ISmartletField getSubSmartletReturnButton()
```

Gets the button to return from subsmartlet. Returns null if not under sub smartlet.

**Returns:**

- button

**Since:**

5.4.0

---

## getSubSmartletCancelButton

```
ISmartletField getSubSmartletCancelButton()
```

Gets the button to return from sub smartlet without save. Returns null if not under sub smartlet.

**Returns:**

- button

**Since:**

5.4.0

---

## getDomain

```
string getDomain()
```

Gets current domain name

**Returns:**

- domain name

**Since:**

5.4.0

---

## getWorkspace

```
string getWorkspace()
```

Gets current workspace name

**Returns:**

- workspace name

**Since:**

5.4.0

---

## getCurrentLocale

```
string getCurrentLocale()
```

Gets the current locale for the Smartlet

**Returns:**

- locale (e.g. en-US)

**Since:**

5.6.0

---

## getCurrentLocaleDescription

```
string getCurrentLocaleDescription()
```

Gets the current language for the Smartlet

**Returns:**

- language (e.g. English)

**Since:**

5.6.0

---

## setCurrentLocale

```
void setCurrentLocale(string locale)
```

Sets the current locale for the Smartlet

**Parameters:**

`locale` - - locale to set (e.g. en-US).

**Since:**

5.6.0

---

## getLocales

```
string[] getLocales()
```

Gets the array of locales supported by the Smartlet

**Returns:**

- locales array

**Since:**

5.6.0

---

## getLocalesDescription

```
string[] getLocalesDescription()
```

Gets the array of locales description (languages) supported by the Smartlet

**Returns:**

- locales description array

**Since:**

5.6.0

---

## getLocalizedResource

```
string getLocalizedResource(string key)
```

Gets value corresponding to a custom key for the resources

**Parameters:**

`key` - - key as specified in the resources (e.g. theme.text.progress).

**Returns:**

- value corresponding to the translated text for the key

**Since:**

5.6.0

---

## addLocalizedResource

```
void addLocalizedResource(string locale,
                          string key,
                          string value)
```

Add a key/value pair to the translation resources

**Parameters:**

`locale` - - locale to set (e.g. en-US).

`key` - - key for the resources (e.g. theme.text.progress).

`value` - - value corresponding to the specified key. If null, this will remove the key from the resources.

**Since:**

5.6.0

---

## calculate

```
void calculate()
```

Recalculates the page.

**Since:**

5.8.0

---

## clear

```
void clear()
```

Calls clear on every page of this smartlet, recursively.

**Since:**

5.8.0

---

## gotoPage

```
ISmartletPage gotoPage(long pageId)
                       throws java.lang.Exception
```

Navigate to page with given page id and add current page to history. Will throw if page not found. This overload will call services on page entry/exit and add current page to history

**Parameters:**

`pageId` -

**Returns:**

this

**Throws:**

`java.lang.Exception`

**Since:**

6.0.0

---

## gotoPage

```
ISmartletPage gotoPage(string pageName)
                       throws java.lang.Exception
```

Navigate to page with given page name and add current page to history. Will throw if page not found. Use tryGotoPage if unsure. This overload will call services on page entry/exit and add current page to history

**Parameters:**

`pageName` -

**Returns:**

this

**Throws:**

`java.lang.Exception`

**Since:**

5.8.0

---

## gotoPage

```
ISmartletPage gotoPage(string pageName,
                       bool addCurrentPageToHistory)
                       throws java.lang.Exception
```

Navigate to page with given page name and add current page to history. Will throw if page not found. Use tryGotoPage if unsure. This overload will call services on page entry/exit

**Parameters:**

pageName -

addCurrentPageToHistory -

**Returns:**

this

**Throws:**

java.lang.Exception

**Since:**

5.8.0

---

## gotoPage

```
ISmartletPage gotoPage(string pageName,
                       bool addCurrentPageToHistory,
                       bool callServicesOnPageExit,
                       bool callServicesOnPageEntry)
                       throws java.lang.Exception
```

Navigate to page with given page name and add current page to history. Will throw if page not found. Use tryGotoPage if unsure.

**Parameters:**

pageName -

addCurrentPageToHistory -

callServicesOnPageExit -

callServicesOnPageEntry -

**Returns:**

this

**Throws:**

java.lang.Exception

**Since:**

5.8.0

---

## gotoPage

```
ISmartletPage gotoPage(string pageName,
                       bool preserveHistory,
                       bool callServicesOnPageExit,
                       bool callServicesOnPageEntry,
                       string[] pageNamesToAddToHistory)
                       throws java.lang.Exception
```

Navigate to page with given page name. If preserveHistory is true, the existing history will be preserved and the current page will be added to it. If it is false, then the existing history will be cleared and the current page will not be added to the history. If

pageNamesToAddToHistory is specified, and preserveHistory is false, then all pages specified in the array will be put in the history. Will throw if page not found. Use tryGotoPage if unsure.

**Parameters:**

`pageName` -

`preserveHistory` -

`callServicesOnPageExit` -

`callServicesOnPageEntry` -

`pageNamesToAddToHistory` -

**Returns:**

this

**Throws:**

`java.lang.Exception`

**Since:**

6.0.0

---

## gotoSmartlet

```
ISmartlet gotoSmartlet(string smartletCode,
                       string destinationPageId,
                       bool preserveHistoryAndData,
                       bool callServicesOnPageExit)
                       throws java.lang.Exception
```

Navigate to Smartlet with given code. If preserveHistoryAndData is true, the current Smartlet session object will be preserved in session and restored if returning to the current Smartlet. If it is false, then when returning to the current Smartlet everything will be reinitialized. If a destination page id is provided, this will be set as the current page when entering the destination Smartlet. If callServicesOnPageExit is true, the services on page exit will be called. Will throw if page not found. Use tryGotoSmartlet if unsure.

**Parameters:**

`smartletCode` -

`destinationPageId` -

`preserveHistoryAndData` -

`callServicesOnPageExit` -

**Returns:**

destination Smartlet

**Throws:**

`java.lang.Exception`

**Since:**

6.0.0

---

## hasPage

```
bool hasPage(string pageName)
```

Check if this smartlet

**Parameters:**

`pageName` -

**Returns:**

---

## addActionError

```
void addActionError(Object sourceObject,
                    string error,
                    string callStack)
```

Adds an action error element composed of a source object, the error message and a stack trace.

**Parameters:**

`sourceObject` - - normally the class where the error is being logged.

`error` - - error message describing the error.

`callStack` - - the stack trace where the error occured.

**Since:**

6.0.0

---

## addActionError

```
void addActionError(ISmartletActionError actionError)
```

Adds an action error object.

**Parameters:**

`actionError` - - ISmartletActionError object.

**Since:**

6.5.0

---

## clearActionErrors

```
void clearActionErrors()
```

Clears all action error of this smartlet.

**Since:**

6.0.0

---

## getActionErrors

```
ISmartletActionError[] getActionErrors()
```

Gets an array of errors for the current Smartlet.

**Returns:**

errors of smartlet

---

## sendMail

```
void sendMail(string from,
              string to,
              string cc,
              string bcc,
              string returnTo,
              string subject,
              string body,
              int format,
              string[] attachmentNames,
              byte[][] attachements)
              throws java.lang.Exception
```

Send email.

**Parameters:**

`from` - - The sender's email address

`to` - - The recipient's email address

`cc` - - Addresses of recipients who will also receive copies

`bcc` - - Hide the address list from all the recipients

`returnTo` - - The recipient where non-delivery receipts are to be sent.

`subject` - - Subject of the message as specified by the sender.

`body` - - Body of message.

`format` - - email formats

`attachmentNames` - - array of attachement names, array size should be the same as attachements.

`attachements` - - bytes of attachements. Array size should be the same as parameter attachmentNames. Otherwise throws Esxception.

**Throws:**

`java.lang.Exception`

**Since:**

6.5.0

---

## sendMail

```
void sendMail(string from,
              string to,
              string cc,
              string bcc,
              string returnTo,
              string subject,
              string body,
              int format,
              string[] attachmentNames,
              byte[][] attachements,
              string serverName,
              string port,
              string userName,
              string password,
              string useSSL)
              throws java.lang.Exception
```

Send email with server parameters override.

**Parameters:**

`from` - - The sender's email address

`to` - - The recipient's email address

`cc` - - Addresses of recipients who will also receive copies

`bcc` - - Hide the address list from all the recipients

`returnTo` - - The recipient where non-delivery receipts are to be sent.

`subject` - - Subject of the message as specified by the sender.

`body` - - Body of message.

`format` - - email_formats

`attachmentNames` - - array of attachement names, array size should be the same as attachements.

`attachements` - - bytes of attachements. Array size should be the same as parameter attachmentNames. Otherwise throws Esxception.

`serverName` - - address of mail server.

`port` - - port of mail server.

`userName` - - username to connect to server.

`password` - - password to connect to server.

`useSSL` - - can be true of false to specify whether SSL should be used.

**Throws:**

`java.lang.Exception`

**Since:**

6.5.0

---

## com.alphinat.sg5

# Interface ISmartletPage

**All Superinterfaces:**

ISmartletElement

---

`public interface` **`ISmartletPage`**
extends ISmartletElement

`ISmartletPage` is an interface representing a Smartlet page along with the operations that may be performed on that page.

---

## Method Summary

| | |
|---|---|
| `void` | **`calculate`**`()`<br>Recalculates the page. |
| `void` | **`clear`**`()`<br>Calls clear on every field of this page, recursively. |
| `ISmartletField[]` | **`findAllFields`**`()`<br>Returns all fields of the page. |
| `ISmartletField[]` | **`findErrorFields`**`()`<br>Returns fields with error. |
| `ISmartletField` | **`findFieldById`**`(string id)`<br>Finds the first matching field by id |
| `ISmartletField` | **`findFieldByName`**`(string name)`<br>Finds the first matching field by name. |
| `ISmartletField[]` | **`findFieldsByRegex`**`(string regularExpression)`<br>Finds fields by regulation expression of the page. |
| `ISmartletField[]` | **`findFieldsByScript`**`(string script)`<br>Finds fields by matching script of the page. |

| | |
|---|---|
| ISmartletField[] | **findFieldsByTypes**(int[] types)<br>Finds fields by types of the page. |
| string | **getCSSClass**()<br>Gets the css class. |
| string | **getCSSStyle**()<br>Gets the css style. |
| int[] | **getErrorCodes**()<br>Gets the page level validation error codes. |
| string[] | **getErrorMessages**()<br>Gets the page level validation error messages. |
| ISmartletField[] | **getFields**()<br>Gets the page fields. |
| string | **getId**()<br>Obtains the unique internal identifier of the page. |
| ISmartletField | **getModifyPageButton**()<br>Gets the "modify" button under the summary section for this page. |
| string | **getName**()<br>Obtains the user-defined name of the page. |
| ISmartletField | **getNavNextButton**()<br>Gets the next page button |
| ISmartletField | **getNavPreviousButton**()<br>Gets the previous page button |
| ISmartletField | **getNavSummaryButton**()<br>Gets the navigate to summary page button |
| ISmartletField[] | **getShownFields**()<br>Gets the top level of page available fields. |
| ISmartlet | **getSmartlet**()<br>Gets the Smartlet this page belongs to. |
| string | **getState**() |

| | |
|---|---|
| | Gets the page state string. |
| `string` | **`getTemplate`**`()`<br>Gets the page template. |
| `string` | **`getTitle`**`()`<br>Obtains the user-defined title of the page. |
| `bool` | **`isShownInSummarySection`**`()`<br>Returns true if the page is shown under the summary section |
| `bool` | **`isValid`**`()`<br>Is the page valid or not. |
| `void` | **`navNext`**`()`<br>Performs navigation to the next page. |
| `void` | **`navPrevious`**`()`<br>Performs navigation to the previous page. |
| `void` | **`resetValidationResult`**`()`<br>Cleans the validation results and error messages. |
| `void` | **`setCSSClass`**`(string str)`<br>Sets the css class. |
| `void` | **`setCSSStyle`**`(string str)`<br>Sets the css style. |
| `void` | **`setTitle`**`(string title)`<br>Specifies the page title. |
| `void` | **`setTitle`**`(string title, string locale)`<br>Specifies the page title for a specific locale. |
| `bool` | **`validate`**`()`<br>Validates the page. |

**Methods inherited from interface com.alphinat.sg5.ISmartletElement**

`accept`, `data`, `data`, `getDataNames`, `getTypeConst`

# Method Detail

## getId

```
string getId()
```

Obtains the unique internal identifier of the page.

**Specified by:**

getId in interface ISmartletElement

**Returns:**

the string representing the unique internal identifier of the page.

---

## getName

```
string getName()
```

Obtains the user-defined name of the page.

The name of the page is defined on the Properties tab of the Smartlet page.

**Returns:**

the string representing the user-defined name of the page.

---

## getTitle

```
string getTitle()
```

Obtains the user-defined title of the page.

The title of the page is defined on the Properties tab of the Smartlet page.

**Returns:**

the string representing the user-defined title of the page.

---

## setTitle

```
void setTitle(string title)
```

Specifies the page title.

Allows to specify a title for the page.

**Parameters:**

`title` - - title to assign to the page

**Since:**

6.5.0

---

## setTitle

```
void setTitle(string title,
              string locale)
```

Specifies the page title for a specific locale.

Allows to specify a title for the page.

**Parameters:**

`title` - - title to assign to the page

`locale` - - locale for which the title will be set

**Since:**

6.5.0

---

## getCSSClass

```
string getCSSClass()
```

Gets the css class.

The css class is defined on the Appearance tab when editing a page in the Designer.

**Returns:**

css class of page.

---

## setCSSClass

```
void setCSSClass(string str)
```

Sets the css class.

**Parameters:**

`str` - - new css class.

**Since:**

7.0.0

---

## getCSSStyle

```
string getCSSStyle()
```

Gets the css style.

The css style is defined on the Appearance tab when editing a page in the Designer.

**Returns:**

css style of page.

---

## setCSSStyle

```
void setCSSStyle(string str)
```

Sets the css style.

**Parameters:**

`str` - - new css style.

**Since:**

7.0.0

---

## getState

```
string getState()
```

Gets the page state string.

**Returns:**

state of page. Ex. state1, state2...

---

## getTemplate

```
string getTemplate()
```

Gets the page template.

The page template is defined on the Appearance tab when editing a Smartlet page.

**Returns:**

page template.

---

## getSmartlet

`ISmartlet` **`getSmartlet`**`()`

Gets the Smartlet this page belongs to.

**Returns:**

`ISmartlet` the page belongs to.

---

## getFields

`ISmartletField[]` **`getFields`**`()`

Gets the page fields.

**Returns:**

array of `ISmartletField` on the page

---

## getNavNextButton

`ISmartletField` **`getNavNextButton`**`()`

Gets the next page button

**Returns:**

next button.

---

## getNavPreviousButton

`ISmartletField` **`getNavPreviousButton`**`()`

Gets the previous page button

**Returns:**

previous button.

---

## getNavSummaryButton

ISmartletField **getNavSummaryButton**()

Gets the navigate to summary page button

**Returns:**
button to navigate to summary page.

---

## getModifyPageButton

ISmartletField **getModifyPageButton**()

Gets the "modify" button under the summary section for this page.

**Returns:**
button to navigate to page.

---

## validate

bool **validate**()

Validates the page.

**Returns:**
true if page is valid.

---

## isValid

bool **isValid**()

Is the page valid or not. Page is valid if there is no error field and no page level validation error.

**Returns:**
true if no errors on the page.

---

## calculate

```
void calculate()
```

Recalculates the page.

---

## navNext

```
void navNext()
```

Performs navigation to the next page.

This is functionally equivalent to the following call.

```
ISmartletPage page = context.getSmartlet().getCurrentPage();
page.getNavNextButton().triggerEvent();
```

---

## navPrevious

```
void navPrevious()
```

Performs navigation to the previous page.

This is functionally equivalent to the following call.

```
ISmartletPage page = context.getSmartlet().getCurrentPage();
page.getNavPreviousButton().triggerEvent();
```

---

## getErrorMessages

```
string[] getErrorMessages()
```

Gets the page level validation error messages.

**Returns:**

error messages

---

## getErrorCodes

```
int[] getErrorCodes()
```

Gets the page level validation error codes.

**Returns:**

error codes

**See Also:**

{@link Constants.ErrorCode}

---

## findErrorFields

```
ISmartletField[] findErrorFields()
```

Returns fields with error. Returns empty array of no error found.

**Returns:**

array of Smartlet fields

**Since:**

5.4.0

---

## findFieldsByTypes

```
ISmartletField[] findFieldsByTypes(int[] types)
```

Finds fields by types of the page.

**Parameters:**

types - - field types to find

**Returns:**

array of Smartlet fields

**Since:**

5.4.0

---

## findFieldByName

```
ISmartletField findFieldByName(string name)
```

Finds the first matching field by name.

The following example shows how to reset the value of a field,

```
ISmartletPage page = context.getSmartlet().getCurrentPage();
ISmartletField field = page.findFieldByName(fieldName);
field.setValue("");
```

**Parameters:**

`name` - - Field name.

**Returns:**

smartlet field

**Since:**

7.0.0

---

## findFieldById

`ISmartletField` **`findFieldById`**`(string id)`

Finds the first matching field by id

**Parameters:**

`id` -

**Returns:**

smartlet field

**Since:**

7.0.0

---

## findFieldsByRegex

`ISmartletField[]` **`findFieldsByRegex`**`(string regularExpression)`

Finds fields by regulation expression of the page.

**Parameters:**

`regularExpression` - - regulation expression to match the field name

**Returns:**

array of Smartlet fields

**Since:**

5.4.0

---

## findFieldsByScript

`ISmartletField[] findFieldsByScript(string script)`

Finds fields by matching script of the page.

**Parameters:**

`script` - - BSH script

**Returns:**

array of Smartlet fields

**Since:**

5.4.0

---

## findAllFields

`ISmartletField[] findAllFields()`

Returns all fields of the page.

**Returns:**

array of Smartlet fields

---

## getShownFields

`ISmartletField[] getShownFields()`

Gets the top level of page available fields.

**Returns:**

array of `ISmartletField` on the page

**Since:**

5.4.0

---

## isShownInSummarySection

`bool isShownInSummarySection()`

Returns true if the page is shown under the summary section

**Returns:**

- bool

**Since:**

5.4.0

## clear

```
void clear()
```

Calls clear on every field of this page, recursively.

**Since:**

5.8.0

---

## resetValidationResult

```
void resetValidationResult()
```

Cleans the validation results and error messages.

**Since:**

7.0.0

---

## com.alphinat.sg5

# Interface ISmartletField

**All Superinterfaces:**

ISmartletElement

**All Known Subinterfaces:**

ISmartletDate, ISmartletGroup, ISmartletKnowledge, ISmartletRepeat, ISmartletSelectField, ISmartletSummary, ISmartletUpload, ISubSmartletField

---

```
public interface ISmartletField
```
extends ISmartletElement

`ISmartletField` is an interface representing a Smartlet field along with the operations that may be performed on that field.

---

## Method Summary

| | |
|---|---|
| void | **addSourceField**(string fieldId)<br>Add a source field to the current field, for autorefresh purposes. |
| void | **addTargetField**()<br>Add the current field as a target to itself, for autorefresh purposes. |
| void | **addTargetField**(string fieldId)<br>Add a target field to the current field, for autorefresh purposes. |
| void | **addTargetFieldByName**(string fieldName)<br>Add a target field to the current field, for autorefresh purposes. |
| void | **appendAfter**(ISmartletField field)<br>Appends the field after given field. |
| void | **appendBefore**(ISmartletField field)<br>Appends the field before given field. |
| void | **appendTo**(ISmartletField parent, int position)<br>Appends field under the parent field at the specified position . |

| | |
|---|---|
| void | **appendTo**(ISmartletPage page, int position)<br>Appends field to page at given position. |
| void | **applyDefinition**()<br>Changes field definition. |
| void | **calculate**()<br>Recalculates the field value. |
| bool | **calculateAvailability**()<br>Calculates and returns the field availability. |
| void | **clear**()<br>Clears the fields. |
| void | **detach**()<br>Detaches a field. |
| string | **getChoiceLayout**()<br>Gets the layout of choices for select type field. |
| string | **getCSSClass**()<br>Gets the css class. |
| string | **getCSSHeight**()<br>Gets the css height. |
| string | **getCSSStyle**()<br>Gets the css style. |
| string | **getCSSWidth**()<br>Gets the css width. |
| int[] | **getErrorCodes**()<br>Gets the validation error codes of the field. |
| string[] | **getErrorMessages**()<br>Gets the validation error messages of the field. |
| ISmartletField[] | **getEventSource**()<br>Returns an array of ISmartletField which have an impact, through validation rules, dynamic values or visibility conditions on the current field. |
| ISmartletField[] | **getEventTarget**()<br>Returns an array of ISmartletField which are impacted, through validation rules, dynamic values or visibility conditions by the current field. |

| | |
|---|---|
| string | **getFormat**()<br>Obtains the name of the format used during field validation. |
| string | **getHelp**()<br>Gets the help text. |
| string | **getHelpId**()<br>Gets the help id used to render help link. |
| string | **getHtmlName**()<br>Gets the html name. |
| string | **getId**()<br>Obtains the unique internal identifier of the field. |
| string | **getLabel**()<br>Obtains the label of the field. |
| string | **getLayoutAttribute**(string deviceName, string attributeName)<br>Get layout attribute string by device and attribute name. |
| string | **getLayoutAttributes**()<br>Get layout attributes string. |
| int | **getMaxLength**()<br>Gets the maximum length. |
| string | **getMetaData**(string name)<br>Get meta data value by name. |
| string[] | **getMetaDataNames**()<br>Get all meta data names. |
| int | **getMinLength**()<br>Gets the minimum length. |
| string | **getName**()<br>Obtains the user-defined name of the field. |
| ISmartletField | **getNext**()<br>Gets the next sibling field. |
| ISmartletPage | **getPage**()<br>Gets the page that this field belongs to. |
| ISmartletField | |

| | |
|---|---|
| | **getParent**()<br>Gets the parent field. |
| string | **getPlacement**()<br>Gets the field placement definition. |
| string | **getPrefix**()<br>Gets the field prefix text. |
| ISmartletField | **getPrevious**()<br>Gets the previous sibling field. |
| int[] | **getRepeatIndex**()<br>Returns an array of integers representing repeatable group indices. |
| string[] | **getRepeatSelectedStrings**()<br>Returns strings for selected groups in repeated field. |
| Object[] | **getRepeatSelectedValues**()<br>Returns values for selected groups in repeated field. |
| string[] | **getRepeatStrings**()<br>Returns strings for repeated field. |
| Object[] | **getRepeatValues**()<br>Returns values for repeated field. |
| ISmartlet | **getSmartlet**()<br>Gets the Smartlet that this field belongs to. |
| string | **getString**()<br>Gets the `string` value of the field. |
| string | **getSuffix**()<br>Gets the field suffix text. |
| string | **getTooltip**()<br>Gets the tool tip text. |
| int | **getTypeConst**()<br>Gets the type constant. |
| string | **getTypeDetail**()<br>Gets the detailed type information of Smartlet field. |
| Object | **getValue**()<br>Obtains the value of the field. |

| | |
|---|---|
| string | **getValueParseScript**()<br>Gets script to parse the value |
| bool | **isAvailable**()<br>Is the field available. |
| bool | **isEncrypted**()<br>Gets the "encrypt" flag. |
| bool | **isHelpLink**()<br>Is help text a link or not. |
| bool | **isPersistent**()<br>Gets the "persist" flag. |
| bool | **isReadonly**()<br>Determines whether the field is read-only or not. |
| bool | **isRequired**()<br>Is the field mandatory or not. |
| bool | **isRequiredOnSummaryOnly**()<br>Is the field mandatory only on summary or not. |
| bool | **isShownInSummarySection**()<br>Returns true if the field is shown under the summary section |
| bool | **isUnderRepeatDefaultGroup**()<br>Returns true if field is under repeat default group or is default group itself. |
| bool | **isValid**()<br>Is the field valid or not. |
| void | **removeSourceField**(string fieldId)<br>Removes the specified field from the current list of source fields for the current field, for autorefresh purposes. |
| void | **removeTargetField**()<br>Removes the current field from itself as a target, for autorefresh purposes. |
| void | **removeTargetField**(string fieldId)<br>Removes the specified field from the current list of target fields for the current field, for autorefresh purposes. |

| | |
|---|---|
| void | **removeTargetFieldByName**(string fieldName)<br>Removes the specified field from the current list of target fields for the current field, for autorefresh purposes. |
| void | **resetValidationDefinitions**()<br>Resets the validation definitions. |
| void | **resetValidationResult**()<br>Cleans the validation results and error messages. |
| void | **setAvailabilityScript**(string script)<br>Defines script to calculate field availability. |
| void | **setCalculationScript**(string script, bool alwaysCalc)<br>Defines field calculation script. |
| void | **setChoiceLayout**(string str)<br>Sets the layout of choices for select type field. |
| void | **setCSSClass**(string str)<br>Sets the css class. |
| void | **setCSSHeight**(string str)<br>Sets the css height. |
| void | **setCSSStyle**(string str)<br>Sets the css style. |
| void | **setCSSWidth**(string str)<br>Sets the css width. |
| void | **setEncrypted**(bool encrypt)<br>Sets the "encrypt" flag. |
| void | **setError**(string errorMessage)<br>Manually sets field error message. |
| void | **setFormat**(string format, string errorMessage)<br>Set field format validation. |
| void | **setHelp**(string help)<br>Sets the help text of field. |
| void | **setLabel**(string label)<br>Modifies the label of the field. |

| | |
|---|---|
| void | **setLayoutAttributes**(string layoutString)<br>Set layout attributes string. |
| void | **setMetaData**(string name, string value)<br>Set meta data. |
| void | **setPersistent**(bool persitent)<br>Sets the "persist" flag |
| void | **setPlacement**(string str)<br>Sets the field placement definition. |
| void | **setPosition**(int rowPos, int colPos)<br>Set field position to new row, column of current layout (row and column starts with 0). |
| void | **setPrefix**(string str)<br>Sets the field prefix text. |
| ISmartletField | **setReadonly**(bool readonly)<br>Sets the "readonly" flag |
| ISmartletField | **setReadonly**(bool readonly, java.util.Collection<string> exceptions)<br>Sets the "readonly" flag |
| void | **setRepeatStrings**(string[] strings)<br>Sets the repeated field with strings. |
| void | **setRepeatValues**(Object[] values)<br>Sets the repeated field with values. |
| void | **setString**(string val)<br>Sets the string value of the field. |
| void | **setSuffix**(string str)<br>Sets the field suffix text. |
| void | **setTooltip**(string tooltip)<br>Sets the tooltip text of field. |
| void | **setValidateOnSummaryOnly**(bool bool)<br>If sets to true, the validation will happen only on summary section. |
| void | **setValidationRequire**(string isRequiredScript, |

| | |
|---|---|
| | string errorMessage)<br>Defines required validation. |
| void | **setValidationScript**(string validationiScript)<br>Defines script validation |
| void | **setValue**(Object value)<br>Set the field value object. |
| void | **setValueParseScript**(string valueParseScript)<br>Defines script to parse value. |
| void | **triggerEvent**()<br>Triggers the event associated to a field. |
| bool | **validate**()<br>Revalidates the field. |

**Methods inherited from interface com.alphinat.sg5.ISmartletElement**

accept, data, data, getDataNames

# Method Detail

## getId

string **getId**()

Obtains the unique internal identifier of the field.

**Specified by:**

getId in interface ISmartletElement

**Returns:**

the string representing the unique internal identifier of the field.

---

## getTypeConst

int **getTypeConst**()

Gets the type constant. See also Constants.ElementType.

**Specified by:**

getTypeConst in interface ISmartletElement

**Returns:**

the int representing field type.

---

## getTypeDetail

```
string getTypeDetail()
```

Gets the detailed type information of Smartlet field. See also Constants.ElementType.

Type detail for buttons:

```
BUTTON_SUBSMARTLET_ENTER
BUTTON_SUBSMARTLET_RETURN_SAVE
BUTTON_SUBSMARTLET_WITHOUT_SAVE
BUTTON_NEXT_PAGE
BUTTON_PREVIOUS_PAGE
BUTTON_REPEAT_INSERT
BUTTON_REPEAT_DELETE
BUTTON_GOTO_SUMMARY
BUTTON_MODIFY_PAGE
BUTTON_REFRESH_PAGE
BUTTON_GLOBAL_NAVIGATION
```

**Returns:**

the string representing field type details.

---

## getName

```
string getName()
```

Obtains the user-defined name of the field.

**Returns:**

the string representing the user-defined name of the field.

---

## getLabel

```
string getLabel()
```

Obtains the label of the field.

**Returns:**

the `string` representing the label of the field.

---

## setLabel

```
void setLabel(string label)
```

Modifies the label of the field. The modification only affects the session copy of the field.

**Parameters:**

`label` - - the `string` representing the new field label.

---

## getValue

```
Object getValue()
```

Obtains the value of the field.

within JAVA extension function or BeanShell:

Return `string` for text field of select field.
Return `Number` for number field.
Return `Date` for date field.
Return `ISmartlet` for sub smartlet field.
Return `byte[]` for upload field.

within DOTNET extension function:

Return `string` for text field of select field.
Return `long` or `double` for number field.
Return `DateTime` for date field.
Return `ISmartlet` for sub smartlet field.
Return `byte[]` for upload field.

**Returns:**

the `Object` representing the value of the field.

---

## setValue

```
void setValue(Object value)
```

Set the field value object.

within JAVA extension function or BeanShell:

`string` for text field of select field.
`Number` or `string` for number field.
`Date` or `string` (yyyy-mm-dd format) for date field.
`ISmartlet` for subsmartlet field.
`byte[]` for upload field.

within DOTNET extension function:

`string` for text field of select field.
`long`, `double` etc (DOTNET primitive number type) or `string` for number field.
`DateTime` or `string` (yyyy-mm-dd format) for date field.
`ISmartlet` for subsmartlet field.
`byte[]` for upload field.

**Parameters:**

`value` - - field value

---

## getString

```
string getString()
```

Gets the `string` value of the field.

**Returns:**

string value.

---

## setString

```
void setString(string val)
```

Sets the `string` value of the field.

**Parameters:**

`val` -

---

## getFormat

```
string getFormat()
```

Obtains the name of the format used during field validation. If no format has been associated to the field, `null` is returned. If conditional formatting is in effect where multiple formats have been applied to the field, only the first format name is returned.

The following example gets the format of a date field which has been defined as yyyy-mm-dd in the Designer for that field.

```
ISmartletField datefield = context.getSmartlet().findFieldByName("birth date");
string format = datefield.getFormat();
// ...will return yyyy-mm-dd
```

**Returns:**

the `string` representing the name of the format used during field validation.

---

## setFormat

```
void setFormat(string format,
               string errorMessage)
```

Set field format validation. If format is null or empty, the original format definition will be applied.

Format is defined by following pattern strings:

- Date format for date field, e.g. yyyy-mm-dd or aaaa-mm-jj (French format). The following pattern letters are defined:

    1. y/a - Year

2. m - Month digit in year, from 1 to 12
3. d/j - Day in month
4. month/mois - Month text

◊ number format for number format, e.g. ###,###.00. The following pattern letters are defined:

1. # - Digit, zero shows as absent
2. 0 - Digit
3. . - Decimal separator or monetary decimal separator
4. , - Grouping separator

◊ For other type of fields, the format string is the name of format defined in SmartGuideDesigner.

**Parameters:**

`format` - - pattern string

`errorMessage` -

**Since:**

5.4.0

---

## getHelp

```
string getHelp()
```

Gets the help text.

The help text is defined on the Contextual help tab in the Detailed help field in the Designer.

**Returns:**

help text of field.

---

## setHelp

```
void setHelp(string help)
```

Sets the help text of field.

**Parameters:**

`help` - - help text.

---

## getHelpId

```
string getHelpId()
```

Gets the help id used to render help link.

**Returns:**
help id to render link to help.

---

## isHelpLink

```
bool isHelpLink()
```

Is help text a link or not.

This returns true or false depending on whether the Hyperlink checkbox has been checked for that field on the Contextual help tab in the Designer.

**Returns:**
true if help text is a link.

---

## getHtmlName

```
string getHtmlName()
```

Gets the html name.

This name corresponds to the assigned name for the field in the generated html for the page and usually takes the form "d_xyz" for fields and "t_xyz" for buttons, where xyz is the ID of the field.

**Returns:**
html name of field.

---

## getTooltip

```
string getTooltip()
```

Gets the tool tip text.

The tooltip text is defined on the Contextual help tab in the Tooltip field in the Designer.

**Returns:**

field tooltip text.

---

## setTooltip

```
void setTooltip(string tooltip)
```

Sets the tooltip text of field.

**Parameters:**

`tooltip` -

---

## getCSSClass

```
string getCSSClass()
```

Gets the css class.

The css class is defined on the Appearance tab when editing a field in the Designer.

**Returns:**

css class of field.

---

## setCSSClass

```
void setCSSClass(string str)
```

Sets the css class.

**Parameters:**

`str` - - new css class. Reset to original definition if null.

**Since:**

5.4.0

---

## getCSSStyle

```
string getCSSStyle()
```

Gets the css style.

The css style is defined on the Appearance tab when editing a field in the Designer.

**Returns:**

css style of field.

---

## setCSSStyle

```
void setCSSStyle(string str)
```

Sets the css style.

**Parameters:**

`str` - - new css style. Reset to original definition if null.

**Since:**

5.4.0

---

## getCSSWidth

```
string getCSSWidth()
```

Gets the css width.

The css width is defined on the Appearance tab when editing a field in the Designer.

**Returns:**

css width.

---

## setCSSWidth

```
void setCSSWidth(string str)
```

Sets the css width.

**Parameters:**

`str` - - new css width. Reset to original definition if null.

**Since:**

5.4.0

---

## getCSSHeight

```
string getCSSHeight()
```

Gets the css height.

The css height is defined on the Appearance tab when editing a field in the Designer.

**Returns:**

css height

---

## setCSSHeight

```
void setCSSHeight(string str)
```

Sets the css height.

**Parameters:**

`str` - - new css height. Reset to original definition if null.

**Since:**

5.4.0

---

## getPlacement

```
string getPlacement()
```

Gets the field placement definition.

The field placement is defined on the Appearance tab when editing a field in the Designer. It is used to determine whether a field should be displayed next or under the previous field.

**Returns:**

field placement

---

## setPlacement

```
void setPlacement(string str)
```

Sets the field placement definition.

**Parameters:**

`str` - - new field placement. Reset to original definition if null.

**Since:**

5.4.0

---

## getChoiceLayout

```
string getChoiceLayout()
```

Gets the layout of choices for select type field.

The choice layout is defined on the Appearance tab when editing a field in the Designer. It is used to determine, for check box and radio button fields, whether the options should be under each other or one the same line.

**Returns:**

layout of choices for select type field. The values set by Designer are "default", "vertically" and "horizontally".

---

## setChoiceLayout

```
void setChoiceLayout(string str)
```

Sets the layout of choices for select type field.

**Parameters:**

`str` - - new choice layout. Reset to original definition if null. The values used by Designer are "default", "vertically" and "horizontally".

**Since:**

5.4.0

---

## getPrefix

```
string getPrefix()
```

Gets the field prefix text.

The prefix is defined on the Appearance tab when editing a field in the Designer.

**Returns:**

field prefix text.

---

## setPrefix

```
void setPrefix(string str)
```

Sets the field prefix text.

**Parameters:**

`str` - - new field prefix text. Reset to original definition if null.

**Since:**

5.4.0

---

## getSuffix

```
string getSuffix()
```

Gets the field suffix text.

The suffix is defined on the Appearance tab when editing a field in the Designer.

**Returns:**

field suffix text.

---

## setSuffix

```
void setSuffix(string str)
```

Sets the field suffix text.

**Parameters:**

`str` - - new field suffix text. Reset to original definition if null.

**Since:**

5.4.0

---

## getPage

```
ISmartletPage getPage()
```

Gets the page that this field belongs to.

**Returns:**

`ISmartletPage` where the field is located.

---

## getSmartlet

`ISmartlet` **`getSmartlet`**`()`

Gets the Smartlet that this field belongs to.

**Returns:**

`ISmartlet` where the field is located.

---

## getParent

`ISmartletField` **`getParent`**`()`

Gets the parent field.

The new API in version 5 and above gives access to the hierarchical structure of the fields on a page. For example if a group with name "genericInfo" contains a field called "name", the following code example would return the group object given the field name.

```
ISmartlet smartlet = context.getSmartlet();
ISmartletField namefield = smartlet.findFieldByName()("name");
ISmartletGroup parentGroup = namefield.getParent();
```

**Returns:**

parent field.

---

## getNext

`ISmartletField` **`getNext`**`()`

Gets the next sibling field.

**Returns:**

next field.

---

## getPrevious

`ISmartletField` **`getPrevious`**`()`

Gets the previous sibling field.

**Returns:**

previous field.

---

## getRepeatIndex

```
int[] getRepeatIndex()
```

Returns an array of integers representing repeatable group indices. If the field is not under a repeatable group, returns null;

For example suppose one has a repeatable group called "personalInfo". In such a group one can enter information for several persons. One such piece of information could be another repeatable group called "emailAdresses" containing several email addresses for each person. If an event is triggered by one of these email entries, then its indexed position across the two level of groups can be obtained by getRepeatIndex().

**Returns:**

array of repeat index position.

---

## getMaxLength

```
int getMaxLength()
```

Gets the maximum length.

Returns the maximum length of the field as defined on the Appearance tab of the field under the Designer.

**Returns:**

max length.

---

## getMinLength

```
int getMinLength()
```

Gets the minimum length.

Returns the minimum length of the field as defined on the Appearance tab of the field under the Designer.

**Returns:**

min length

---

## isEncrypted

```
bool isEncrypted()
```

Gets the "encrypt" flag.

This flag can be specified on the Properties tab of the field under the Designer.

**Returns:**

true if encrypt flag is set.

---

## setEncrypted

```
void setEncrypted(bool encrypt)
```

Sets the "encrypt" flag. It is a flag that can be used inside extension functions. The user needs to implement the encryption.

**Parameters:**

`encrypt` - - encrypted or not.

---

## isPersistent

```
bool isPersistent()
```

Gets the "persist" flag. It is a flag that can be used inside extension functions. The user needs to implement the persistence.

This flag can be specified on the Properties tab of the field under the Designer.

**Returns:**

true if persist flag is set.

---

## setPersistent

```
void setPersistent(bool persitent)
```

Sets the "persist" flag

**Parameters:**

`persitent` - - persistent or not.

---

## isReadonly

```
bool isReadonly()
```

Determines whether the field is read-only or not. Modifying read-only fields does not have any effect on the Smartlet.

**Returns:**

`true` if the field is read-only, `false` otherwise.

---

## setReadonly

```
ISmartletField setReadonly(bool readonly)
```

Sets the "readonly" flag

This flag can be specified on the Properties tab of the field under the Designer.

**Parameters:**

`readonly` - - readonly or not.

**Returns:**

this

**Since:**

5.8.0 - this call is now recursive.

---

## setReadonly

```
ISmartletField setReadonly(bool readonly,
                           java.util.Collection<string> exceptions)
```

Sets the "readonly" flag

This flag can be specified on the Properties tab of the field under the Designer.

**Parameters:**

`readonly` - - readonly or not.

`exceptions` - - field with those names will be skipped, recursively.

**Returns:**

this

**Since:**

5.8.0

---

## isRequired

`bool` **`isRequired`**`()`

Is the field mandatory or not.

This is defined on the Validations tab of the field under the Designer.

**Returns:**

true if field is required field.

---

## isRequiredOnSummaryOnly

`bool` **`isRequiredOnSummaryOnly`**`()`

Is the field mandatory only on summary or not.

This is defined on the Validations tab of the field under the Designer.

**Returns:**

true if field is required on summary only

---

## calculate

`void` **`calculate`**`()`

Recalculates the field value.

This function has effect only on fields that have a calculated values, either through conditional values or through expressions entered on the Value tab for the field under the

Designer.

---

## validate

```
bool validate()
```

Revalidates the field.

This method performs a revalidation of the rules as defined on the Validations tab of the field under the Designer.

**Returns:**

true if field is valid.

---

## isValid

```
bool isValid()
```

Is the field valid or not.

**Returns:**

true if field is valid.

---

## getErrorMessages

```
string[] getErrorMessages()
```

Gets the validation error messages of the field.

**Returns:**

error messages

---

## getErrorCodes

```
int[] getErrorCodes()
```

Gets the validation error codes of the field. see also Constants.ErrorCode

**Returns:**

error codes

---

## resetValidationResult

```
void resetValidationResult()
```

Cleans the validation results and error messages.

---

## addTargetField

```
void addTargetField()
```

Add the current field as a target to itself, for autorefresh purposes.

**Since:**

7.0.0

---

## addTargetField

```
void addTargetField(string fieldId)
```

Add a target field to the current field, for autorefresh purposes.

**Parameters:**

`fieldId` - - id of the field to be added

**Since:**

7.0.0

---

## removeTargetField

```
void removeTargetField()
```

Removes the current field from itself as a target, for autorefresh purposes.

**Since:**

7.0.0

---

## removeTargetField

```
void removeTargetField(string fieldId)
```

Removes the specified field from the current list of target fields for the current field, for autorefresh purposes.

**Parameters:**

`fieldId` - - id of the field to be removed

**Since:**

7.0.0

---

## addTargetFieldByName

```
void addTargetFieldByName(string fieldName)
```

Add a target field to the current field, for autorefresh purposes.

**Parameters:**

`fieldName` - - name of the field to be added

**Since:**

7.0.0

---

## removeTargetFieldByName

```
void removeTargetFieldByName(string fieldName)
```

Removes the specified field from the current list of target fields for the current field, for autorefresh purposes.

**Parameters:**

`fieldName` - - name of the field to be removed

**Since:**

7.0.0

---

## addSourceField

```
void addSourceField(string fieldId)
```

Add a source field to the current field, for autorefresh purposes.

**Parameters:**

`fieldId` - - id of the field to be added

**Since:**

7.0.0

---

## removeSourceField

```
void removeSourceField(string fieldId)
```

Removes the specified field from the current list of source fields for the current field, for autorefresh purposes.

**Parameters:**

`fieldId` - - id of the field to be removed

**Since:**

7.0.0

---

## isAvailable

```
bool isAvailable()
```

Is the field available.

The concept of availability in SmartGuide refers to whether or not a field is relevant at a given point in the Smartlet. For example if a Smartlet has 4 pages, and a question on page 1 shows either page 2 or 3 depending on the outcome, then when arriving on page 4, the relevant (available) fields will be those which were on the pages visited to reach page 4. Assuming in that example that page 3 was not visited (because of an answer given on page 1), then all fields on page 3 will be considered as unavailable.

This concept extends also inside a given page. For example if a field inside a page has a visibility condition set, and that condition is not met, then it will be considered as non available.

It is also very important to note that a non available field cannot be mapped, for example on a PDF or XML file. Neither can it be mapped to the input of a service call.

**Returns:**

true if field is available

---

## triggerEvent

```
void triggerEvent()
```

Triggers the event associated to a field. If the field is of type Button, the trigger will be a "click" event.

The following example demonstrates how to trigger the enter button for a subSmartlet.

```
ISmartlet smartlet = context.getSmartlet();
ISubSmartletField subsmartletfield = (ISubSmartletField) smartlet.findFieldByName(fieldName);
ISmartletField enterbutton = subsmartletfield.getEnterButton();
enterbutton.triggerEvent();
```

---

## appendTo

```
void appendTo(ISmartletPage page,
              int position)
```

Appends field to page at given position.

**Parameters:**

`page` -

`position` -

**Since:**

5.4.0

---

## appendTo

```
void appendTo(ISmartletField parent,
              int position)
```

Appends field under the parent field at the specified position . The parent field should be type of ISmartletGroup or ISmartletRepeat. A valid operation could be either appending ISmartletField to ISmartletGroup or appending ISmartletGroup to ISmartletRepeat. If current field is under repeat, all fields under repeat with same ID as current field will be moved. If parent field is under repeat, all the fields with the same ID will be moved to the corresponding position.

**Parameters:**

`parent` - - parent field

`position` - - at which the field is to be inserted. if the index is out of range (index < 0 || index > size()), the field will be added to the last.

**Since:**

5.4.0

---

## appendBefore

```
void appendBefore(ISmartletField field)
```

Appends the field before given field. If current field is under repeat, all fields under repeat with same ID as current field will be moved. If parent field is under repeat, all the fields with the same ID will be moved to the corresponding position.

**Parameters:**

`field` -

**Since:**

5.4.0

---

## appendAfter

```
void appendAfter(ISmartletField field)
```

Appends the field after given field. If current field is under repeat, all fields under repeat with same ID as current field will be moved. If parent field is under repeat, all the fields with the same ID will be moved to the corresponding position.

**Parameters:**

`field` -

**Since:**

5.4.0

---

## detach

```
void detach()
```

Detaches a field. The detached field is placed on a special page of the smartlet. If current field is under repeat, all fields under repeat with same ID as current field will be detached.

**Since:**

5.4.0

---

## applyDefinition

```
void applyDefinition()
```

Changes field definition.

Field definition includes:

◊ Field attributes: label, help, hint, css class, css width, css style, choice layout,max length, min length, placement, prefix, suffix, select options
◊ Field validations
◊ Field calculations
◊ Field availability

The change will take effect within users' session.

**Since:**

5.4.0

---

## setValidationRequire

```
void setValidationRequire(string isRequiredScript,
                          string errorMessage)
```

Defines required validation.

**Parameters:**

`isRequiredScript` - - BSH script which returns true or false to determine if the field is required or not.

`errorMessage` - - error message when validations fails.

**Since:**

5.4.0

---

## setValidationScript

```
void setValidationScript(string validationiScript)
```

Defines script validation

**Parameters:**

`validationiScript` - - BSH script to do the validation. If there is an error, the script returns the error message. If no error, script shall return null or empty string.

**Since:**

5.4.0

---

## setValueParseScript

```
void setValueParseScript(string valueParseScript)
```

Defines script to parse value.

**Parameters:**

`valueParseScript` - - BSH script to to be called when getValue() method get

called.

**Since:**

5.4.0

---

## getValueParseScript

```
string getValueParseScript()
```

Gets script to parse the value

**Returns:**

- script used to parse the field value

---

## resetValidationDefinitions

```
void resetValidationDefinitions()
```

Resets the validation definitions.

**Since:**

5.4.0

---

## setValidateOnSummaryOnly

```
void setValidateOnSummaryOnly(bool bool)
```

If sets to true, the validation will happen only on summary section.

**Parameters:**

`bool` - - bool value

**Since:**

5.4.0

---

## setAvailabilityScript

```
void setAvailabilityScript(string script)
```

Defines script to calculate field availability. If script returns bool value "true" or case-insensitive string "true" or 1, the field is available; otherwise the field is not available.

**Parameters:**

`script` - - BSH script to return true or false. If null or empty string, the availability definition is reset to default.

**Since:**

5.4.0

---

## calculateAvailability

```
bool calculateAvailability()
```

Calculates and returns the field availability.

**Returns:**

true or false

**Since:**

5.4.0

---

## setCalculationScript

```
void setCalculationScript(string script,
                          bool alwaysCalc)
```

Defines field calculation script.

**Parameters:**

`script` - - BSH script to do the field calculation

`alwaysCalc` - - if true, the value will always be calculated. If false, the value will be calculated only once.

**Since:**

5.4.0

---

## getRepeatValues

```
Object[] getRepeatValues()
```

Returns values for repeated field. If field is not under repeat, returns array with one element.

**Returns:**

- value array

**Since:**

5.4.0

---

## getRepeatSelectedValues

```
Object[] getRepeatSelectedValues()
```

Returns values for selected groups in repeated field. If field is not under repeat, returns array with one element.

**Returns:**

- value array

**Since:**

7.1.0

---

## setRepeatValues

```
void setRepeatValues(Object[] values)
```

Sets the repeated field with values. The repeat instance number is adjusted according to the length of array.

**Parameters:**

`values` - - repeat field values

**Since:**

5.4.0

---

## getRepeatStrings

```
string[] getRepeatStrings()
```

Returns strings for repeated field. If field is not under repeat, returns array with one element.

**Returns:**

- string array

**Since:**

5.4.0

---

## setRepeatStrings

```
void setRepeatStrings(string[] strings)
```

Sets the repeated field with strings. The repeat instance number is adjusted according to the length of array.

**Parameters:**

`strings` - - repeat field strings

**Since:**

5.4.0

---

## getRepeatSelectedStrings

```
string[] getRepeatSelectedStrings()
```

Returns strings for selected groups in repeated field. If field is not under repeat, returns array with one element.

**Returns:**

- string array

**Since:**

7.1.0

---

## isShownInSummarySection

```
bool isShownInSummarySection()
```

Returns true if the field is shown under the summary section

**Returns:**

- bool

**Since:**

5.4.0

---

## setError

```
void setError(string errorMessage)
```

Manually sets field error message. If errorMessage is null, it is the same as calling method resetValidationResult(). When the error message is not null, the field validation is ignored and field is always invalid until the error message is reset to null.

**Parameters:**

`errorMessage` -

**Since:**

5.4.0

---

## getEventSource

`ISmartletField[] getEventSource()`

Returns an array of ISmartletField which have an impact, through validation rules, dynamic values or visibility conditions on the current field.

**Parameters:**

`errorMessage` -

**Since:**

5.4.1

---

## getEventTarget

`ISmartletField[] getEventTarget()`

Returns an array of ISmartletField which are impacted, through validation rules, dynamic values or visibility conditions by the current field.

**Parameters:**

`errorMessage` -

**Since:**

5.4.1

---

## clear

`void clear()`

Clears the fields. Groups will clear subfields and repeats will empty their rows and leave one empty instance.
If you want to fully empty a repeat, there is an overload on repeats that has an option for that (clear(Boolean))
Note: this method will not clean the uploaded files on the disk.

**Since:**

5.8.0

---

## isUnderRepeatDefaultGroup

`bool isUnderRepeatDefaultGroup()`

Returns true if field is under repeat default group or is default group itself.

**Returns:**

bool

**Since:**

6.5.0

---

## getLayoutAttribute

```
string getLayoutAttribute(string deviceName,
                                    string attributeName)
```

Get layout attribute string by device and attribute name. For bootstrap, the layout attribute names are: hidden, col, offset, push and pull The device names are xs, sm, md, lg For user defined layout, please refer to layout_info.json

**Returns:**

attributeName name of layout attribute

**Since:**

7.0.0

---

## getLayoutAttributes

```
string getLayoutAttributes()
```

Get layout attributes string. For bootstrap, the layout attributes string is grid class string, Eg: "col-sm-12 col-md-6 hidden-xs col-sm-offset-1 col-md-pull-1 col-md-offset-1 col-md-push-1" For user defined layout, please refer to layout_info.json

**Returns:**

layout attribute string

**Since:**

7.0.0

---

## setLayoutAttributes

```
void setLayoutAttributes(string layoutString)
```

Set layout attributes string. For bootstrap, the layout attributes string is grid class string, Eg: "col-sm-12 col-md-6 hidden-xs col-sm-offset-1 col-md-pull-1 col-md-offset-1 col-md-push-1" For user defined layout, please refer to layout_info.json

Note that if you apply this method on a field created dynamically, you must make sure to call the method after the field has been appended to the page or another control otherwise the attributes will be overwritten by the append method.

**Parameters:**

`layoutString` -

**Since:**

7.0.0

---

## setPosition

```
void setPosition(int rowPos,
                 int colPos)
```

Set field position to new row, column of current layout (row and column starts with 0).

Each field takes one cell in the layout grid, the row and column number is the relative position of cell.
Eg: page contain 2 rows, each row has 2 fields, the fields' position value are

field(0,0) field(0,1)
field(1,0) field(1,1)

To position a field under group, need to append the field under the group first, then call this method to position the field within the group layout.
If rowPos is out of range, append new row to the end. If colPos is out of range, append new column to the end.

**Parameters:**

`rowPos` - : new row position starts with 0

`colPos` - : new column position starts with 0

**Since:**

6.6.0

---

## getMetaDataNames

```
string[] getMetaDataNames()
```

Get all meta data names.

**Returns:**

all names of meta data of the field. Returns empty array if there is no meta data.

**Since:**

7.0.0

---

## getMetaData

```
string getMetaData(string name)
```

Get meta data value by name.

**Parameters:**

`name` - IS case sensitive and cannot be null. 'foo', 'Foo' and 'FOO' are referring to different meta data names.

**Returns:**

value of the meta data name. Returns null if meta data is not defined.

**Since:**

7.0.0

---

## setMetaData

```
void setMetaData(string name,
                 string value)
```

Set meta data.

**Parameters:**

`name` - IS case sensitive and cannot be null. 'foo', 'Foo' and 'FOO' are referring to different meta data names.

`value` - meta string value, null value will be replaced by empty string.

---

### com.alphinat.sg5

# Interface ISmartletEvent

```
public interface ISmartletEvent
```

`ISmartletEvent` is an interface representing a Smartlet event, like a click on a button.

## Method Summary

| | |
|---|---|
| `ISmartletEvent` | **`getParent`**`()`<br>Gets the nested parent event |
| `ISmartletElement` | **`getSource`**`()`<br>Gets the source `element` that fires this event. |
| `int` | **`getType`**`()`<br>Gets the event type |

## Method Detail

### getType

```
int getType()
```

Gets the event type

**Returns:**

type of event

**See Also:**

`Constants.SmartletEvent`

## getSource

`ISmartletElement` **`getSource`**`()`

Gets the source `element` that fires this event.

**Returns:**

source element

---

## getParent

`ISmartletEvent` **`getParent`**`()`

Gets the nested parent event

**Returns:**

parent event

---

## com.alphinat.sg5

# Interface ISmartletService

**All Superinterfaces:**

ISmartletElement

---

`public interface` **`ISmartletService`**
extends ISmartletElement

`ISmartletService` is an interface representing a Smartlet service and covers extension functions, SOAP and REST web services.

---

## Method Summary

| | |
|---|---|
| `bool` | **`call`**`()`<br>Calls the service. |
| `bool` | **`call`**`(Object[] parameters)`<br>Call the service with the provided parameters. |
| `void` | **`defineAttributeInputBehaviorOnNull`**`(string key, int level)`<br>Defines the behavior for input attribute mapping on web services. |
| `void` | **`defineInputBehaviorOnNull`**`(string key, int level)`<br>Defines the behavior for optional input mapping on web services. |
| `void` | **`defineInputDictionaryping`**`(string key, string script)`<br>Defines service input mapping dynamically. |
| `void` | **`defineOutputDictionaryping`**`(string key, string script)`<br>Defines service output mapping dynamically. |
| `string` | **`getError`**`()`<br>Gets the error message if an error occured when calling the service. |
| `string` | **`getId`**`()`<br>Obtains the unique internal identifier of the service. |

| | |
|---|---|
| Object[] | **getDictionarypedParameters**()<br>Gets the mapped parameters according to the service input mappings. |
| string | **getName**()<br>Gets the service name. |
| Object | **getResult**()<br>Gets the service call result. |
| Object | **getResult**(string key)<br>For web services, parameter "key" is xpath (namespace ignored). |
| Object[] | **getResults**(string key)<br>For web services, parameter "key" is xpath (namespace ignored). |

**Methods inherited from interface com.alphinat.sg5.ISmartletElement**

accept, data, data, getDataNames, getTypeConst

# Method Detail

## getName

string **getName**()

Gets the service name.

**Returns:**

service name

---

## getId

string **getId**()

Obtains the unique internal identifier of the service.

**Specified by:**

getId in interface ISmartletElement

**Returns:**

service ID

## getDictionarypedParameters

```
Object[] getDictionarypedParameters()
```

Gets the mapped parameters according to the service input mappings. For web services, it returns the XML string of the SOAP request. For extension function services, it returns and Array of parameters.

**Returns:**

input mapping results of service.

---

## call

```
bool call()
```

Calls the service.

The following example shows how to iterate through the services, perform a call to a specific service, and get the result,

```
ISmartlet smartlet = context.getSmartlet();
ISmartletService[] services = smartlet.getServices();
ISmartletService service = null;
for(int i=0;i<services.Length;i++)
{
   service = services[i];
   if ("CurrencyLookupWS".Equals(service.getName()))
   {
      if (service.call())
      {
         String xmlResponse = (String)service.getResult();
      }
      break;
   }
}
```

**Returns:**

returns true if call is successful.

**Throws:**

`Exception`

---

## call

```
bool call(Object[] parameters)
```

Call the service with the provided parameters. For web services, the parameter is a string containing a SOAP request body. For extension function services, the parameters are function parameters. if parameters is null, this function is equivalent to call().

**Returns:**

returns true if call is successful.

**Throws:**

`Exception`

---

## getResult

```
Object getResult()
```

Gets the service call result. For web services, the return response is an XML string. For extension function services, the return is the function call result.

**Returns:**

result of service call.

---

## getResult

```
Object getResult(string key)
```

For web services, parameter "key" is xpath (namespace ignored). Function returns single node value or a xpath evaluation result. For extension function services, the parameter "key" is ignored. Function returns the service call result.

**Parameters:**

`key` - - xpath of web service.

**Returns:**

service result

---

## getResults

```
Object[] getResults(string key)
```

For web services, parameter "key" is xpath (namespace ignored). Function returns node set values or a xpath evaluation results set. For extension function services, the parameter "key" is ignored. Function returns the object array which only has one element - the service call result.

**Parameters:**

`key` - - xpath of web service.

**Returns:**

results array

---

## getError

```
string getError()
```

Gets the error message if an error occured when calling the service.

**Returns:**

error message if error occurs

---

## defineInputDictionaryping

```
void defineInputDictionaryping(string key,
                          string script)
```

Defines service input mapping dynamically. For extension function service, the key will be index "1", "2", ... etc, starting from 1. For web service, the key is the xpath pointing to the response XML without name space. If script is null, the mapping is removed.

**Parameters:**

`key` - - key of mapping

`script` - - BSH script

**Since:**

5.4.0

---

## defineOutputDictionaryping

```
void defineOutputDictionaryping(string key,
                           string script)
```

Defines service output mapping dynamically. If script is null, the mapping is removed.

**Parameters:**

`key` - - key of mapping, it is either field name or field id.

`script` - - BSH script

**Since:**

5.4.0

---

## defineInputBehaviorOnNull

```
void defineInputBehaviorOnNull(string key,
                               int level)
```

Defines the behavior for optional input mapping on web services. The key is the xpath pointing to the response XML without name space. The level specifies at which point the optional node will be sent.

**Parameters:**

`key` - - Key of mapping

`level` - - Level, See `Constants.WSInputBehavior`

**Since:**

5.5.1

---

## defineAttributeInputBehaviorOnNull

```
void defineAttributeInputBehaviorOnNull(string key,
                                        int level)
```

Defines the behavior for input attribute mapping on web services. The key is the xpath pointing to the response XML without name space. The level specifies at which point the null or empty attribute will be sent.

**Parameters:**

`key` - - Key of mapping

`level` - - Level, See `Constants.WSInputBehavior`

**Since:**

5.6.0

---

## com.alphinat.sg5

# Interface ISmartletElementVisitor

```
public interface ISmartletElementVisitor
```

Implements the Hierarchical Visitor Pattern to traverse Smartlet elements. The order of visit of elements within a Smartlet is:

Smartlet.
Page 1
Field 1
Group 2
Field 2-1
...
Repeat 3
Field 3-1
...
Repeat 3 add button.
Repeat 3 delete button.
Page 1 navigation buttons
....
Page 2
....
Page N
Global navigation buttons
Subsmart related buttons
Smartlet services

**Please note that elements under subsmartlet are not visited.**

Compared to the traditional VisitorPattern, the Hierarchical Visitor Pattern improves by:

1. hierarchical navigation -- the traditional VisitorPattern has no concept of depth. As a result, visitor cannot determine if one composite is within another composite or beside
2. conditional navigation -- the traditional VisitorPattern does not allow branches to be skipped. As a result the visitor cannot stop, filter, or optimize traversal based on some condition.

**Hierarchical navigation**

Hierarchical navigation is important for any traversal that needs to know whether one node is the child of another or its sibling. The simplest example of this is tree listings where an indentation level needs to be maintained. With the traditional VisitorPattern, one can only determine when we are entering a node. This tells us that we may want to indent but gives us no clues about outdenting. We don't know if we have left the previous node before we entered the current node.

The HierarchicalVisitorPattern removes this limitation by defining a two method protocol when visiting nodes -- **visitEnter** and **visitLeave**. If we are entering the node *bar* before leaving the node *foo*, we can safely assume that *bar* is a child (and not a sibling) of the composite *foo*.

**Conditional Navigation**

Conditional navigation is required to skip unnecessary branches and all of their children. Consider the second operation of the File System example. The search for a specific file in a particular path can only be performed optimally if we can dispose of branches that have no possibility of providing a match. Consider the following graph:

```
*** Page1.
****** Group1.1
****** Group1.2
********* Field 1.2.1
****** Repeat1.3
********* Field 1.3.1
********* Field 1.3.2

*** Page 2.
****** Group 2.1
****** Group 2.2
```

The traditional VisitorPattern would have to visit each leaf of the entire structure in order to find the Group 2.2. Even though we can see that Page1 does not match the root ancestor of Group2.2;, we would still have no choice but to perform a match for the leaf "1.3.1.1". The only way to avoid this is to abandon the traditional visitor and use another means of traversal. Most programmers violate the encapsulation provided by the traditional visitor when performing tree searches.

HierarchicalVisitorPattern allows us to solve this problem within a single visiting paradigm. It does so by having each invocation of *accept* answer a bool traversal state for its depth of the tree. For example, if *accept* on a composite or leaf answers *false*, traversal immediately stops at that tree depth. In other words, no more of its siblings will be traversed, even if some of those siblings are composites with children of their own. Reconsider the example graph. As we visit the node labeled "1", we can cause its *accept* message to answer *false* like so:

```
bool visitEnter( ISmartletElement ele ){
      if (ele is ISmartletPage){
              ISmartletPage page = (ISmartletPage)ele;
```

```
                return page.getName().Equals("Page 2");
        } else {
                return true;
        }
    }
```

If the page is not "Page 2", we do not enter the node and we do not traverse its children. We then proceed directly to "Page 2".

---

## Method Summary

| | |
|---|---|
| bool | **visit**(ISmartletElement smartletElement)<br>Visit the Smartlet element. |
| bool | **visitEnter**<br>(ISmartletElement smartletElement)<br>Notifies the visitor that it is entering a new element. |
| bool | **visitLeave**<br>(ISmartletElement smartletElement)<br>Notifies the visitor that the element is visited. |

## Method Detail

### visitEnter

bool **visitEnter**(ISmartletElement smartletElement)

Notifies the visitor that it is entering a new element.

**Parameters:**

smartletElement -

**Returns:**

if visitEnter return true, accept is invoked on each of its children or until one of the accept invocations answers false.

---

## visitLeave

```
bool visitLeave(ISmartletElement smartletElement)
```

Notifies the visitor that the element is visited. if visitLeave returns false, this would short-circuit visiting its sibling nodes.

**Parameters:**

`smartletElement` -

**Returns:**

true if continue to visit.

---

## visit

```
bool visit(ISmartletElement smartletElement)
```

Visit the Smartlet element.

**Parameters:**

`smartletElement` -

**Returns:**

true if continue to visit.

---

## com.alphinat.sg5

# Interface ISmartletElement

**All Known Subinterfaces:**

ISmartlet, ISmartletDate, ISmartletField, ISmartletGroup, ISmartletKnowledge, ISmartletPage, ISmartletRepeat, ISmartletSelectField, ISmartletService, ISmartletSummary, ISmartletUpload, ISubSmartletField

---

```
public interface ISmartletElement
```

A Smartlet element can be a `ISmartlet`, `ISmartletPage`, `ISmartletField`, `ISmartletService`.

It is often used in the context of the `visitor pattern` to filter out elements in a Smartlet for processing. Refer to the examples provided in the Developer's guide.

---

## Method Summary

| | |
|---|---|
| `bool` | **`accept`**`(ISmartletElementVisitor visitor)`<br>Implements the visitor's pattern to traverse Smartlet/page/field/services |
| `Object` | **`data`**`(string key)`<br>Returns stored data of smartlet element. |
| `void` | **`data`**`(string key, Object value)`<br>Stores data to smartlet element. |
| `string[]` | **`getDataNames`**`()`<br>Returns names of data stored. |
| `string` | **`getId`**`()`<br>Obtains the unique internal identifier of a Smartlet element. |
| `int` | **`getTypeConst`**`()`<br>Gets the type of Smartlet element. |

# Method Detail

## getId

```
string getId()
```

Obtains the unique internal identifier of a Smartlet element.

**Returns:**

id of Smartlet element.

---

## getTypeConst

```
int getTypeConst()
```

Gets the type of Smartlet element.

**Returns:**

type of Smartlet element.

---

## accept

```
bool accept(ISmartletElementVisitor visitor)
```

Implements the visitor's pattern to traverse Smartlet/page/field/services

**Parameters:**

`visitor` -

**Returns:**

true if continue to visit.

---

## data

```
Object data(string key)
```

Returns stored data of smartlet element.

**Parameters:**

`key` - - Name of the data stored

**Returns:**

stored data

**Since:**

5.4.0

---

## data

```
void data(string key,
          Object value)
```

Stores data to smartlet element.

**Parameters:**

`key` - - Name of the data stored

`value` - - stored data, data removed if it is null.

**Since:**

5.4.0

---

## getDataNames

```
string[] getDataNames()
```

Returns names of data stored.

**Returns:**

- array of name string

**Since:**

5.4.0

---

## com.alphinat.sg5

# Interface ISmartletActionError

```
public interface ISmartletActionError
```

## Method Summary

| | |
|---|---|
| string | **getError**()<br>Obtains the error message. |
| string | **getSource**()<br>Obtains the error source. |
| string | **getStackTrace**()<br>Obtains the stack trace. |

## Method Detail

### getError

```
string getError()
```

Obtains the error message.

**Returns:**

the `string` representing the error message as returned by the action

### getSource

```
string getSource()
```

Obtains the error source.

**Returns:**

the `string` representing the class which, when executed encountered an error

---

## getStackTrace

`string` **`getStackTrace`**`()`

Obtains the stack trace.

**Returns:**

the `string` representing the stack trace where the error was logged.

---

## com.alphinat.sg5.widget.summary

# Interface ISmartletSummary

**All Superinterfaces:**

ISmartletElement, ISmartletField

---

```
public interface ISmartletSummary
```
extends ISmartletField

`ISmartletSummary` is an interface representing a summary section.

---

## Method Summary

| | |
|---|---|
| `ISmartletPage[]` | **`getShownPages`**`()`<br>Gets shown pages undr the summary section. |
| `bool` | **`isElementExcluded`**`(ISmartletElement smartletElement)`<br>Returns true if a page or field is excluded from the summary section. |

**Methods inherited from interface com.alphinat.sg5.ISmartletField**

addSourceField, addTargetField, addTargetField, addTargetFieldByName, appendAfter, appendBefore, appendTo, appendTo, applyDefinition, calculate, calculateAvailability, clear, detach, getChoiceLayout, getCSSClass, getCSSHeight, getCSSStyle, getCSSWidth, getErrorCodes, getErrorMessages, getEventSource, getEventTarget, getFormat, getHelp, getHelpId, getHtmlName, getId, getLabel, getLayoutAttribute, getLayoutAttributes, getMaxLength, getMetaData, getMetaDataNames, getMinLength, getName, getNext, getPage, getParent, getPlacement, getPrefix, getPrevious, getRepeatIndex, getRepeatSelectedStrings, getRepeatSelectedValues, getRepeatStrings, getRepeatValues, getSmartlet, getString, getSuffix, getTooltip, getTypeConst, getTypeDetail, getValue, getValueParseScript, isAvailable, isEncrypted, isHelpLink, isPersistent, isReadonly, isRequired, isRequiredOnSummaryOnly, isShownInSummarySection,

isUnderRepeatDefaultGroup, isValid, removeSourceField, removeTargetField, removeTargetField, removeTargetFieldByName, resetValidationDefinitions, resetValidationResult, setAvailabilityScript, setCalculationScript, setChoiceLayout, setCSSClass, setCSSHeight, setCSSStyle, setCSSWidth, setEncrypted, setError, setFormat, setHelp, setLabel, setLayoutAttributes, setMetaData, setPersistent, setPlacement, setPosition, setPrefix, setReadonly, setReadonly, setRepeatStrings, setRepeatValues, setString, setSuffix, setTooltip, setValidateOnSummaryOnly, setValidationRequire, setValidationScript, setValue, setValueParseScript, triggerEvent, validate

**Methods inherited from interface com.alphinat.sg5.ISmartletElement**

accept, data, data, getDataNames

# Method Detail

## isElementExcluded

```
bool isElementExcluded(ISmartletElement smartletElement)
```

Returns true if a page or field is excluded from the summary section.

**Parameters:**

`smartletElement` - - can be a ISmartletPage of ISmartletField

**Returns:**

- bool value

---

## getShownPages

```
ISmartletPage[] getShownPages()
```

Gets shown pages undr the summary section.

**Returns:**

array of ISmartletField on the page

**Since:**

5.4.0

---

## com.alphinat.sg5.widget.subsmartlet

# Interface ISubSmartletField

**All Superinterfaces:**

ISmartletElement, ISmartletField

---

`public interface` **`ISubSmartletField`**
extends ISmartletField

`ISubSmartletField` is an interface representing a subSmartlet.

---

## Method Summary

| | |
|---|---|
| ISmartletField | **getEnterButton**()<br>Gets a button to enter the subSmartlet. |
| string | **getSubSmartletCode**()<br>Gets the subSmartlet code. |
| void | **init**()<br>Initializes a subSmartlet. |

**Methods inherited from interface com.alphinat.sg5.ISmartletField**

addSourceField, addTargetField, addTargetField, addTargetFieldByName, appendAfter, appendBefore, appendTo, appendTo, applyDefinition, calculate, calculateAvailability, clear, detach, getChoiceLayout, getCSSClass, getCSSHeight, getCSSStyle, getCSSWidth, getErrorCodes, getErrorMessages, getEventSource, getEventTarget, getFormat, getHelp, getHelpId, getHtmlName, getId, getLabel, getLayoutAttribute, getLayoutAttributes, getMaxLength, getMetaData, getMetaDataNames, getMinLength, getName, getNext, getPage, getParent, getPlacement, getPrefix, getPrevious, getRepeatIndex, getRepeatSelectedStrings, getRepeatSelectedValues, getRepeatStrings, getRepeatValues, getSmartlet, getString, getSuffix, getTooltip, getTypeConst, getTypeDetail, getValue, getValueParseScript, isAvailable,

isEncrypted, isHelpLink, isPersistent, isReadonly, isRequired, isRequiredOnSummaryOnly, isShownInSummarySection, isUnderRepeatDefaultGroup, isValid, removeSourceField, removeTargetField, removeTargetField, removeTargetFieldByName, resetValidationDefinitions, resetValidationResult, setAvailabilityScript, setCalculationScript, setChoiceLayout, setCSSClass, setCSSHeight, setCSSStyle, setCSSWidth, setEncrypted, setError, setFormat, setHelp, setLabel, setLayoutAttributes, setMetaData, setPersistent, setPlacement, setPosition, setPrefix, setReadonly, setReadonly, setRepeatStrings, setRepeatValues, setString, setSuffix, setTooltip, setValidateOnSummaryOnly, setValidationRequire, setValidationScript, setValue, setValueParseScript, triggerEvent, validate

**Methods inherited from interface com.alphinat.sg5.ISmartletElement**

accept, data, data, getDataNames

# Method Detail

## init

```
void init()
```

Initializes a subSmartlet.

Before accessing a subSmartlet field's fields, it must be initialized, unless it has already been visited once. The following example shows how to do that. It assumes that a subSmartlet field named "personalInfo" is available.

```
ISubSmartletField subsmartletfield = (ISubSmartletField)smartlet.findFieldByName("personalInfo");
ISmartlet subsmartlet = (ISmartlet)subsmartletfield.getValue();
if (subsmartlet == null)
{
   subsmartletfield.init();
   subsmartlet = (ISmartlet)subsmartletfield.getValue();
}
```

As observed in the example, it is necessary to get the value of the subSmartlet field to access the subSmartlet instance. Because the field itself belongs to the main Smartlet.

## getSubSmartletCode

`string` **`getSubSmartletCode`**`()`

Gets the subSmartlet code.

**Returns:**

subSmartlet code

## getEnterButton

`ISmartletField` **`getEnterButton`**`()`

Gets a button to enter the subSmartlet.

The following example demonstrates how to trigger the enter button for a subSmartlet.

```
ISmartlet smartlet = context.getSmartlet();
ISubSmartletField subsmartletfield = (ISubSmartletField) smartlet.findFieldByName(fieldName);
ISmartletField enterbutton = subsmartletfield.getEnterButton();
enterbutton.triggerEvent();
```

**Returns:**

`button`

## com.alphinat.sg5.widget.select

# Interface ISmartletSelectField

**All Superinterfaces:**

ISmartletElement, ISmartletField

---

`public interface` **`ISmartletSelectField`**
extends ISmartletField

`ISmartletField` is an interface representing a Smartlet select type field. These can be radio button, dropdown list, checkbox or listbox.

---

## Method Summary

| | |
|---|---|
| `string` | **`getSelectedLabel`**`()`<br>Returns label of selected option. |
| `string[]` | **`getSelectedLabels`**`()`<br>Returns labels of selected options. |
| `ISelectOption` | **`getSelectedOption`**`()`<br>Returns selected option. |
| `ISelectOption[]` | **`getSelectedOptions`**`()`<br>Returns array of selected options. |
| `ISelectOptionList` | **`getSelectOptions`**`()`<br>Returns the option list for the select type field. |
| `void` | **`setOptions`**`(Object[] labels, Object[] values)`<br>Sets select options with labels and values. |

### Methods inherited from interface com.alphinat.sg5.ISmartletField

addSourceField, addTargetField, addTargetField, addTargetFieldByName, appendAfter, appendBefore, appendTo, appendTo, applyDefinition, calculate, calculateAvailability,

clear, detach, getChoiceLayout, getCSSClass, getCSSHeight, getCSSStyle, getCSSWidth, getErrorCodes, getErrorMessages, getEventSource, getEventTarget, getFormat, getHelp, getHelpId, getHtmlName, getId, getLabel, getLayoutAttribute, getLayoutAttributes, getMaxLength, getMetaData, getMetaDataNames, getMinLength, getName, getNext, getPage, getParent, getPlacement, getPrefix, getPrevious, getRepeatIndex, getRepeatSelectedStrings, getRepeatSelectedValues, getRepeatStrings, getRepeatValues, getSmartlet, getString, getSuffix, getTooltip, getTypeConst, getTypeDetail, getValue, getValueParseScript, isAvailable, isEncrypted, isHelpLink, isPersistent, isReadonly, isRequired, isRequiredOnSummaryOnly, isShownInSummarySection, isUnderRepeatDefaultGroup, isValid, removeSourceField, removeTargetField, removeTargetField, removeTargetFieldByName, resetValidationDefinitions, resetValidationResult, setAvailabilityScript, setCalculationScript, setChoiceLayout, setCSSClass, setCSSHeight, setCSSStyle, setCSSWidth, setEncrypted, setError, setFormat, setHelp, setLabel, setLayoutAttributes, setMetaData, setPersistent, setPlacement, setPosition, setPrefix, setReadonly, setReadonly, setRepeatStrings, setRepeatValues, setString, setSuffix, setTooltip, setValidateOnSummaryOnly, setValidationRequire, setValidationScript, setValue, setValueParseScript, triggerEvent, validate

**Methods inherited from interface com.alphinat.sg5.ISmartletElement**

accept, data, data, getDataNames

# Method Detail

## getSelectOptions

ISelectOptionList **getSelectOptions**()

Returns the option list for the select type field.

**Returns:**

a new ISelectOptionList

## getSelectedOptions

```
ISelectOption[] getSelectedOptions()
```

Returns array of selected options.

**Returns:**

- ISelectOption[]

**Since:**

5.4.0

---

## getSelectedOption

```
ISelectOption getSelectedOption()
```

Returns selected option.

**Returns:**

- ISelectOption, null if no selected option.

**Since:**

5.4.0

---

## getSelectedLabels

```
string[] getSelectedLabels()
```

Returns labels of selected options.

**Returns:**

- string array, returns empty array if no selected option

**Since:**

5.4.0

---

## getSelectedLabel

```
string getSelectedLabel()
```

Returns label of selected option.

**Returns:**

- string array, null if no selected option.

**Since:**

5.4.0

---

## setOptions

```
void setOptions(Object[] labels,
                Object[] values)
```

Sets select options with labels and values.

**Parameters:**

`labels` -

`values` -

**Since:**

5.4.0

---

## com.alphinat.sg5.widget.select

# Interface ISelectOptionList

public interface **ISelectOptionList**

`ISelectOptionList` is an interface representing the single or multiple select option list associated to a select type field. Each list item is an instance of `ISelectOption`. Manipulating the list directly affects the corresponding field's option item list. A field's option list may be obtained by using the `ISmartletSelectField.getSelectOptions()` functionality.

## Method Summary

| | |
|---|---|
| void | **add**(int index, Object element)<br>Inserts the specified element at the specified position in this list. |
| bool | **add**(Object o)<br>Appends the specified element to the end of this list. |
| void | **clear**()<br>Removes all of the elements from this selection item list. |
| ISelectOption | **createOption**()<br>Creates a new `ISelectOption` instance that can be added to the list. |
| ISelectOption | **createOptionGroup**()<br>Creates an option group. |
| Object | **get**(int index)<br>Returns the item at the specified position in this list. |
| bool | **isEmpty**()<br>Returns `true` if this selection item list contains no elements. |
| Object | **remove**(int index)<br>Removes the element at the specified position in this list. |
| Object | **set**(int index, Object element)<br>Replaces the item at the specified position in this list with the specified |

element.

| | |
|---|---|
| int | **size**()<br>Returns the number of items in this selection item list. |

# Method Detail

## createOption

ISelectOption **createOption**()

Creates a new ISelectOption instance that can be added to the list. It is to be noted that only these instances are allowed to be inserted into the list.

**Returns:**

a new ISelectOption instance that can be added to the list.

---

## createOptionGroup

ISelectOption **createOptionGroup**()

Creates an option group.

**Returns:**

a new ISelectOption instance which isOptionGroup returns true.

**Since:**

6.6.0

---

## size

int **size**()

Returns the number of items in this selection item list.

**Returns:**

the number of items in this selection item list.

---

## isEmpty

```
bool isEmpty()
```

Returns `true` if this selection item list contains no elements.

**Returns:**

`true` if this selection item list contains no elements.

---

## add

```
bool add(Object o)
```

Appends the specified element to the end of this list.

**Parameters:**

`o` - element to be appended to this selection item list.It is to be noted that only `ISelectOption` are allowed to be added.

**Returns:**

`true` if the item is successfully added.

---

## clear

```
void clear()
```

Removes all of the elements from this selection item list. The list will be empty after this call returns.

---

## get

```
Object get(int index)
```

Returns the item at the specified position in this list.

**Parameters:**

`index` - index, 0-based, of item to return.

**Returns:**

the item at the specified position in this list.

---

## set

```
Object set(int index,
                    Object element)
```

Replaces the item at the specified position in this list with the specified element.

**Parameters:**

`index` - index, 0-based, of item to replace.

`element` - item to be stored at the specified position.

**Returns:**

the item previously at the specified position.

---

## add

```
void add(int index,
         Object element)
```

Inserts the specified element at the specified position in this list. Shifts the element currently at that position (if any) and any subsequent elements to the right (adds one to their indices).

**Parameters:**

`index` - index, 0-based, at which the specified element is to be inserted.

`element` - element to be inserted.

---

## remove

```
Object remove(int index)
```

Removes the element at the specified position in this list. Shifts any subsequent elements to the left (subtracts one from their indices). Returns the element that was removed from the list.

**Parameters:**

`index` - the index, 0-based, of the element to removed.

**Returns:**

the element previously at the specified position.

---

## com.alphinat.sg5.widget.select

# Interface ISelectOption

```
public interface ISelectOption
```

`ISelectOption` is an interface representing a single or multiple selection list item. Individual item attributes may be manipulated. New list item instances can be created using the `ISelectOptionList.createOption()` functionality.

## Method Summary

| | |
|---|---|
| `string` | **`getHelp`**`()`<br>Gets the help text of this selection item. |
| `string` | **`getHelpId`**`()`<br>Gets the help id used to render help link |
| `string` | **`getHint`**`()`<br>Gets the hint text of this selection item. |
| `string` | **`getLabel`**`()`<br>Gets the label of this selection item. |
| `ISelectOptionList` | **`getSubOptions`**`()`<br>Gets the sub options if this is an option group. |
| `string` | **`getValue`**`()`<br>Gets the value of this selection item. |
| `bool` | **`isLink`**`()`<br>Returns true if the help is a link. |
| `bool` | **`isOptionGroup`**`()`<br>Returns true if the option is an option group. |
| `void` | **`setHelp`**`(string help)`<br>Sets the help for this selection item to the specified help. |

| | |
|---|---|
| void | **setHint**(string hint)<br>Sets the hint for this selection item to the specified hint. |
| void | **setLabel**(string label)<br>Sets the label for this selection item to the specified label. |
| void | **setLink**(bool isLink)<br>Sets whether the help text is a link. |
| void | **setOptionGroup**(bool isOptionGroup)<br>Sets true if it is option group. |
| void | **setValue**(string value)<br>Sets the value for this selection item to the specified value. |

# Method Detail

## getLabel

```
string getLabel()
```

Gets the label of this selection item.

**Returns:**

the label of this selection item

---

## setLabel

```
void setLabel(string label)
```

Sets the label for this selection item to the specified label.

**Parameters:**

`label` - - option label.

---

## getValue

```
string getValue()
```

Gets the value of this selection item.

**Returns:**

the value of this selection item

---

## setValue

```
void setValue(string value)
```

Sets the value for this selection item to the specified value.

**Parameters:**

`value` - - option value string.

---

## getHelp

```
string getHelp()
```

Gets the help text of this selection item.

**Returns:**

the help of this selection item

---

## getHelpId

```
string getHelpId()
```

Gets the help id used to render help link

**Returns:**

help id to render link to help.

**Since:**

5.4.0

---

## setHelp

```
void setHelp(string help)
```

Sets the help for this selection item to the specified help.

**Parameters:**

`help` - - help text.

---

## getHint

```
string getHint()
```

Gets the hint text of this selection item.

**Returns:**

the hint of this selection item

---

## setHint

```
void setHint(string hint)
```

Sets the hint for this selection item to the specified hint.

---

## isLink

```
bool isLink()
```

Returns true if the help is a link.

**Returns:**

true if the help is a link

---

## setLink

```
void setLink(bool isLink)
```

Sets whether the help text is a link.

**Parameters:**

`isLink` - - if true, the help text is a link.

---

## setOptionGroup

```
void setOptionGroup(bool isOptionGroup)
```

Sets true if it is option group.

**Since:**

6.6.0

---

## isOptionGroup

```
bool isOptionGroup()
```

Returns true if the option is an option group.

**Returns:**

if the option is an option group

---

## getSubOptions

```
ISelectOptionList getSubOptions()
```

Gets the sub options if this is an option group. Return null if this is not an option group.

**Returns:**

ISelectOptionList for option group.

---

## com.alphinat.sg5.widget.repeat

# Interface ISmartletRepeat

**All Superinterfaces:**

ISmartletElement, ISmartletField

---

`public interface` **`ISmartletRepeat`**
extends ISmartletField

`ISmartletRepeat` is an interface representing a Smartlet repeat widget. A repeat widget can be thought of as a table. Each row of the table is a group. And each column of the table is a field in the group.

---

## Method Summary

| | |
|---|---|
| ISmartletGroup | **addGroup**()<br>Creates an empty group and add it to the end. |
| ISmartletGroup | **addGroup**(int position)<br>Create an empty group and insert it to the given position. |
| ISmartletGroup | **addGroup**(int position, ISmartletGroup group)<br>Adds a repeat group to the specified position. |
| ISmartletGroup | **addGroup**(ISmartletGroup group)<br>Adds a repeat group to the end. |
| void | **clear**()<br>Clears the repeat instances, leaves one empty instance. |
| ISmartletRepeat | **clear**(java.lang.Boolean leaveEmptyInstance)<br>**Deprecated.** *since 6.5.0* |
| ISmartletGroup | **createDetachedGroup**()<br>Creates a repeatable group instance. |
| ISmartletRepeat | **filterByColumn**(string columnName, string subString, bool ignoreCase) |

| | |
|---|---|
| | Filter the repeat's groups, keeping only those containing given substring in given column. |
| ISmartletField[] | **findAllFields**()<br>Returns all fields under the repeat. |
| ISmartletField[] | **findFieldsById**(string id)<br>Finds all matching fields by id inside the repeat. |
| ISmartletField[] | **findFieldsByName**(string name)<br>Finds all fields by name inside the repeat. |
| ISmartletField[] | **findFieldsByRegex**(string regularExpression)<br>Finds fields by regulation expression under the repeat. |
| ISmartletField[] | **findFieldsByScript**(string script)<br>Finds fields by matching script under the repeat. |
| ISmartletField[] | **findFieldsByTypes**(int[] types)<br>Finds fields by types under the repeat. |
| int | **getCount**()<br>Gets a count of repeated instances. |
| ISmartletGroup | **getDefaultGroup**()<br>Returns default group as template. |
| ISmartletGroup | **getGroup**(int position)<br>Returns the group at the specified position in the repeat. |
| ISmartletGroup[] | **getGroups**()<br>Returns the groups of fields for the repeat. |
| int[] | **getSelectedGroupIndexes**()<br>Gets an integer array of the selected rows. |
| ISmartletGroup[] | **getSelectedGroups**()<br>Returns the selected groups of fields for the repeat. |
| int[] | **getUnSelectedGroupIndexes**()<br>Gets an integer array of the non selected rows. |
| ISmartletGroup[] | **getUnSelectedGroups**()<br>Returns the non selected groups of fields for the repeat. |
| ISmartletRepeat | **moveDown**(ISmartletGroup group)<br>Move given group down a row. |

| | |
|---|---|
| ISmartletRepeat | **moveFirst**(ISmartletGroup group)<br>Move given group to the top of the repeat. |
| ISmartletRepeat | **moveLast**(ISmartletGroup group)<br>Move given group to the bottom of the repeat. |
| ISmartletRepeat | **moveUp**(ISmartletGroup group)<br>Move given group up a row. |
| ISmartletGroup | **removeGroup**(int position)<br>Removes the group at the specified position in the repeat. |
| ISmartletGroup | **setGroup**(int position, ISmartletGroup group)<br>Sets a group to a specific position in the repeat. |
| ISmartletRepeat | **setReadonly**(bool readonly)<br>Sets the "readonly" flag for all fields in all groups of this repeat. |
| ISmartletRepeat | **sortByColumn**(string columnName)<br>Sorts groups of repeat alphanumerically with given field's string value. |
| ISmartletRepeat | **sortByColumnDescending**(string columnName)<br>Sorts groups of repeat alphanumerically with given field's string value. |

**Methods inherited from interface com.alphinat.sg5.ISmartletField**

addSourceField, addTargetField, addTargetField, addTargetFieldByName, appendAfter, appendBefore, appendTo, appendTo, applyDefinition, calculate, calculateAvailability, detach, getChoiceLayout, getCSSClass, getCSSHeight, getCSSStyle, getCSSWidth, getErrorCodes, getErrorMessages, getEventSource, getEventTarget, getFormat, getHelp, getHelpId, getHtmlName, getId, getLabel, getLayoutAttribute, getLayoutAttributes, getMaxLength, getMetaData, getMetaDataNames, getMinLength, getName, getNext, getPage, getParent, getPlacement, getPrefix, getPrevious, getRepeatIndex, getRepeatSelectedStrings, getRepeatSelectedValues, getRepeatStrings, getRepeatValues, getSmartlet, getString, getSuffix, getTooltip, getTypeConst, getTypeDetail, getValue, getValueParseScript, isAvailable, isEncrypted, isHelpLink, isPersistent, isReadonly, isRequired, isRequiredOnSummaryOnly, isShownInSummarySection, isUnderRepeatDefaultGroup, isValid, removeSourceField, removeTargetField, removeTargetField, removeTargetFieldByName, resetValidationDefinitions, resetValidationResult, setAvailabilityScript,

setCalculationScript, setChoiceLayout, setCSSClass, setCSSHeight, setCSSStyle, setCSSWidth, setEncrypted, setError, setFormat, setHelp, setLabel, setLayoutAttributes, setMetaData, setPersistent, setPlacement, setPosition, setPrefix, setReadonly, setRepeatStrings, setRepeatValues, setString, setSuffix, setTooltip, setValidateOnSummaryOnly, setValidationRequire, setValidationScript, setValue, setValueParseScript, triggerEvent, validate

**Methods inherited from interface com.alphinat.sg5.ISmartletElement**

accept, data, data, getDataNames

# Method Detail

## createDetachedGroup

ISmartletGroup **createDetachedGroup**()

Creates a repeatable group instance. This group is detached from the repeat.

This method can be used to quickly get an instance of the repeatable group, modify its content, and then add it to the repeatable instance via addGroup(ISmartletGroup).

**Returns:**

newly created group which is detached.

---

## addGroup

ISmartletGroup **addGroup**()

Creates an empty group and add it to the end.

**Returns:**

new empty group added to the end.

---

## addGroup

```
ISmartletGroup addGroup(int position)
```

Create an empty group and insert it to the given position.

**Parameters:**

`position` - - position, 0-based, to insert the new group.

**Returns:**

newly created group inserted into the given position.

---

## addGroup

```
ISmartletGroup addGroup(ISmartletGroup group)
```

Adds a repeat group to the end. Only has effect for repeat fields.

**Parameters:**

`group` - - the group to add.

**Returns:**

newly created

---

## addGroup

```
ISmartletGroup addGroup(int position,
                        ISmartletGroup group)
```

Adds a repeat group to the specified position.

**Parameters:**

`position` - - position to insert

`group` - - group to be added.

**Returns:**

the added group.

---

## setGroup

```
ISmartletGroup setGroup(int position,
                        ISmartletGroup group)
```

Sets a group to a specific position in the repeat.

**Parameters:**

`position` - - position, 0-based, to replace

`group` - - group to be placed

**Returns:**

group to replace.

---

## removeGroup

`ISmartletGroup` **`removeGroup`**`(int position)`

Removes the group at the specified position in the repeat.

**Parameters:**

`position` - - position, 0-based, to remove.

**Returns:**

removed group.

---

## getGroups

`ISmartletGroup[]` **`getGroups`**`()`

Returns the groups of fields for the repeat.

**Returns:**

repeat groups.

---

## getSelectedGroups

`ISmartletGroup[]` **`getSelectedGroups`**`()`

Returns the selected groups of fields for the repeat.

**Returns:**

repeat groups.

**Since:**

7.1.0

---

## getUnSelectedGroups

`ISmartletGroup[] getUnSelectedGroups()`

Returns the non selected groups of fields for the repeat.

**Returns:**
repeat groups.
**Since:**
7.1.0

---

## getGroup

`ISmartletGroup getGroup(int position)`

Returns the group at the specified position in the repeat. Position can be negative number, it means that you count from the right instead of the left. getGroup(-1) refers to the last element, getGroup(-2) is the second-last, and so on.

**Parameters:**
`position` - - position, 0-based, can be negative.
**Returns:**
repeat group at position, returns null if position is invalid or out of range.
**Since:**
6.5.0

---

## getDefaultGroup

`ISmartletGroup getDefaultGroup()`

Returns default group as template. This group is read only.
**Returns:**
default group
**Since:**
6.5.0

---

## getCount

`int getCount()`

Gets a count of repeated instances.

**Returns:**

repeat group count.

---

## clear

```
void clear()
```

Clears the repeat instances, leaves one empty instance. Note: this method will not clean the uploaded files on the disk. Unlike clicking the delete button, no validation will be performed.

**Specified by:**

`clear` in interface `ISmartletField`

**Since:**

5.8.0

---

## clear

```
ISmartletRepeat clear(java.lang.Boolean leaveEmptyInstance)
```

**Deprecated.** *since 6.5.0*

Clears the repeat instances. Will leave one empty instance if specified. Note: this method will not clean the uploaded files on the disk. Unlike clicking the delete button, no validation will be performed. This method is @deprecated, Repeat has default group as template instance.

**Parameters:**

`leaveEmptyInstance` -

**Since:**

5.8.0

---

## findFieldsByName

```
ISmartletField[] findFieldsByName(string name)
```

Finds all fields by name inside the repeat.

**Parameters:**

`name` - - Field name.

**Returns:**

`array of Smartlet fields`

---

## findFieldsById

`ISmartletField[] **findFieldsById**(string id)`

Finds all matching fields by id inside the repeat.

**Parameters:**

`id` -

**Returns:**

`array of Smartlet fields`

---

## findFieldsByTypes

`ISmartletField[] **findFieldsByTypes**(int[] types)`

Finds fields by types under the repeat.

**Parameters:**

`types` - - field types to find

**Returns:**

`smartlet fields`

**Since:**

5.4.0

---

## findFieldsByRegex

`ISmartletField[] **findFieldsByRegex**(string regularExpression)`

Finds fields by regulation expression under the repeat.

**Parameters:**

`regularExpression` - - regulation expression to match the field name

**Returns:**

`array of Smartlet fields`

**Since:**

5.4.0

---

## findFieldsByScript

`ISmartletField[] **findFieldsByScript**(string script)`

Finds fields by matching script under the repeat.

**Parameters:**

`script` - - BSH script

**Returns:**

array of Smartlet fields

**Since:**

5.4.0

---

## findAllFields

ISmartletField[] **findAllFields**()

Returns all fields under the repeat.

**Returns:**

array of Smartlet fields

---

## moveUp

ISmartletRepeat **moveUp**(ISmartletGroup group)

Move given group up a row.

**Parameters:**

`group` -

**Returns:**

this

**Since:**

5.8.0

---

## moveDown

ISmartletRepeat **moveDown**(ISmartletGroup group)

Move given group down a row.

**Parameters:**

`group` -

**Returns:**

this

**Since:**

5.8.0

---

## moveFirst

ISmartletRepeat **moveFirst**(ISmartletGroup group)

Move given group to the top of the repeat.

**Parameters:**

group -

**Returns:**

this

**Since:**

5.8.0

---

## moveLast

ISmartletRepeat **moveLast**(ISmartletGroup group)

Move given group to the bottom of the repeat.

**Parameters:**

group -

**Returns:**

this

**Since:**

5.8.0

---

## sortByColumn

ISmartletRepeat **sortByColumn**(string columnName)

Sorts groups of repeat alphanumerically with given field's string value.

**Parameters:**

columnName -

**Returns:**

this

**Since:**

5.8.0

---

## sortByColumnDescending

ISmartletRepeat **sortByColumnDescending**(string columnName)

Sorts groups of repeat alphanumerically with given field's string value.
Descending order version.

**Parameters:**

`columnName` -

**Returns:**

this

**Since:**

5.8.0

---

## filterByColumn

```
ISmartletRepeat filterByColumn(string columnName,
                               string subString,
                               bool ignoreCase)
```

Filter the repeat's groups, keeping only those containing given substring in given column.

**Parameters:**

`columnName` -

`subString` -

**Returns:**

this

**Since:**

5.8.0

---

## setReadonly

```
ISmartletRepeat setReadonly(bool readonly)
```

Sets the "readonly" flag for all fields in all groups of this repeat.

**Specified by:**

`setReadonly` in interface `ISmartletField`

**Parameters:**

`readonly` - - readonly or not.

**Returns:**

this

**Since:**

5.8.0

---

## getSelectedGroupIndexes

```
int[] getSelectedGroupIndexes()
```

Gets an integer array of the selected rows.

**Returns:**

int[] array of groups indices, 0-based

**Since:**

7.1.0

---

## getUnSelectedGroupIndexes

```
int[] getUnSelectedGroupIndexes()
```

Gets an integer array of the non selected rows.

**Returns:**

int[] array of groups indices, 0-based

**Since:**

7.1.0

---

## com.alphinat.sg5.widget.knowledge

# Interface ISmartletKnowledgeEntry

public interface **ISmartletKnowledgeEntry**

ISmartletKnowledgeEntry is an interface representing a Smartlet knowledge entry.

## Method Summary

| | |
|---|---|
| ISmartletKnowledgeEntry[] | **getEntries**()<br>Gets the sub entries. |
| string | **getLabel**()<br>Gets the knowledge entry label. |
| string | **getName**()<br>Gets the entry name. |
| string | **getValue**()<br>Gets the knowledge entry value. |
| bool | **isRepeat**()<br>Is the entry repeated or not. |
| void | **resetEntries**()<br>Reset the entries to the original defined ones. |
| void | **setEntries**(ISmartletKnowledgeEntry[] entries)<br>Sets the sub entries. |

## Method Detail

## getName

```
string getName()
```

Gets the entry name.

**Returns:**

knowledge entry name

---

## getLabel

```
string getLabel()
```

Gets the knowledge entry label.

**Returns:**

knowledge entry label

---

## getValue

```
string getValue()
```

Gets the knowledge entry value.

**Returns:**

knowledge entry value

---

## isRepeat

```
bool isRepeat()
```

Is the entry repeated or not.

**Returns:**

true if the entry is repeated

---

## getEntries

`ISmartletKnowledgeEntry[] getEntries()`

Gets the sub entries.

**Returns:**

sub entries

---

## setEntries

`void setEntries(ISmartletKnowledgeEntry[] entries)`

Sets the sub entries.

**Parameters:**

`entries` - - knowledge entries.

---

## resetEntries

`void resetEntries()`

Reset the entries to the original defined ones.

---

## com.alphinat.sg5.widget.knowledge

# Interface ISmartletKnowledge

**All Superinterfaces:**

ISmartletElement, ISmartletField

---

`public interface` **`ISmartletKnowledge`**
extends ISmartletField

`ISmartletKnowledge` is an interface representing a Smartlet knowledge widget.

---

## Method Summary

| | |
|---|---|
| `ISmartletKnowledgeEntry[]` | **`getKnowledgeEntries`**`()`<br>Gets the knowledge entries. |
| `void` | **`resetEntries`**`()`<br>Reset the entries to their original state. |
| `void` | **`setKnowledgeEntries`**`(ISmartletKnowledgeEntry[] entries)`<br>Sets the knowledge entries |

### Methods inherited from interface com.alphinat.sg5.ISmartletField

addSourceField, addTargetField, addTargetField, addTargetFieldByName, appendAfter, appendBefore, appendTo, appendTo, applyDefinition, calculate, calculateAvailability, clear, detach, getChoiceLayout, getCSSClass, getCSSHeight, getCSSStyle, getCSSWidth, getErrorCodes, getErrorMessages, getEventSource, getEventTarget, getFormat, getHelp, getHelpId, getHtmlName, getId, getLabel, getLayoutAttribute, getLayoutAttributes, getMaxLength, getMetaData, getMetaDataNames, getMinLength, getName, getNext, getPage, getParent, getPlacement, getPrefix, getPrevious, getRepeatIndex, getRepeatSelectedStrings, getRepeatSelectedValues, getRepeatStrings, getRepeatValues,

getSmartlet, getString, getSuffix, getTooltip, getTypeConst, getTypeDetail, getValue, getValueParseScript, isAvailable, isEncrypted, isHelpLink, isPersistent, isReadonly, isRequired, isRequiredOnSummaryOnly, isShownInSummarySection, isUnderRepeatDefaultGroup, isValid, removeSourceField, removeTargetField, removeTargetField, removeTargetFieldByName, resetValidationDefinitions, resetValidationResult, setAvailabilityScript, setCalculationScript, setChoiceLayout, setCSSClass, setCSSHeight, setCSSStyle, setCSSWidth, setEncrypted, setError, setFormat, setHelp, setLabel, setLayoutAttributes, setMetaData, setPersistent, setPlacement, setPosition, setPrefix, setReadonly, setReadonly, setRepeatStrings, setRepeatValues, setString, setSuffix, setTooltip, setValidateOnSummaryOnly, setValidationRequire, setValidationScript, setValue, setValueParseScript, triggerEvent, validate

**Methods inherited from interface com.alphinat.sg5.ISmartletElement**

accept, data, data, getDataNames

# Method Detail

## getKnowledgeEntries

ISmartletKnowledgeEntry[] **getKnowledgeEntries**()

Gets the knowledge entries.

**Returns:**

ISmartletKnowledgeEntry

---

## setKnowledgeEntries

void **setKnowledgeEntries**(ISmartletKnowledgeEntry[] entries)

Sets the knowledge entries

**Parameters:**

`entries` - - array of knowledge entries.

## resetEntries

```
void resetEntries()
```

Reset the entries to their original state.

## com.alphinat.sg5.widget.group

# Interface ISmartletGroup

**All Superinterfaces:**

ISmartletElement, ISmartletField

---

```
public interface ISmartletGroup
```
extends ISmartletField

`ISmartletGroup` is an interface representing a Smartlet group.

---

## Method Summary

| | |
|---|---|
| `void` | **`clear`**`()`<br>Clears subfields. |
| `ISmartletField[]` | **`findAllFields`**`()`<br>Returns all fields under the group. |
| `ISmartletField` | **`findFieldById`**`(string id)`<br>Finds the first matching field by id inside the group. |
| `ISmartletField` | **`findFieldByName`**`(string name)`<br>Finds the first matching field by name inside the group. |
| `ISmartletField[]` | **`findFieldsByRegex`**`(string regularExpression)`<br>Finds fields by regulation expression under the group. |
| `ISmartletField[]` | **`findFieldsByScript`**`(string script)`<br>Finds fields by matching script under the group. |
| `ISmartletField[]` | **`findFieldsByTypes`**`(int[] types)`<br>Finds fields by types under the group. |
| `ISmartletField[]` | **`getFields`**`()`<br>Gets the top level fields of the group. |
| `ISmartletField[]` | **`getShownFields`**`()` |

Gets the available fields directly under the group.

| | |
|---|---|
| bool | **isGroupSelected**()<br>Verify is a group is selected, when in the context of a repeat field. |
| void | **selectGroup**()<br>Select a group, when in the context of a repeat field. |
| void | **unSelectGroup**()<br>Un-select a group, when in the context of a repeat field. |

**Methods inherited from interface com.alphinat.sg5.ISmartletField**

addSourceField, addTargetField, addTargetField, addTargetFieldByName, appendAfter, appendBefore, appendTo, appendTo, applyDefinition, calculate, calculateAvailability, detach, getChoiceLayout, getCSSClass, getCSSHeight, getCSSStyle, getCSSWidth, getErrorCodes, getErrorMessages, getEventSource, getEventTarget, getFormat, getHelp, getHelpId, getHtmlName, getId, getLabel, getLayoutAttribute, getLayoutAttributes, getMaxLength, getMetaData, getMetaDataNames, getMinLength, getName, getNext, getPage, getParent, getPlacement, getPrefix, getPrevious, getRepeatIndex, getRepeatSelectedStrings, getRepeatSelectedValues, getRepeatStrings, getRepeatValues, getSmartlet, getString, getSuffix, getTooltip, getTypeConst, getTypeDetail, getValue, getValueParseScript, isAvailable, isEncrypted, isHelpLink, isPersistent, isReadonly, isRequired, isRequiredOnSummaryOnly, isShownInSummarySection, isUnderRepeatDefaultGroup, isValid, removeSourceField, removeTargetField, removeTargetField, removeTargetFieldByName, resetValidationDefinitions, resetValidationResult, setAvailabilityScript, setCalculationScript, setChoiceLayout, setCSSClass, setCSSHeight, setCSSStyle, setCSSWidth, setEncrypted, setError, setFormat, setHelp, setLabel, setLayoutAttributes, setMetaData, setPersistent, setPlacement, setPosition, setPrefix, setReadonly, setReadonly, setRepeatStrings, setRepeatValues, setString, setSuffix, setTooltip, setValidateOnSummaryOnly, setValidationRequire, setValidationScript, setValue, setValueParseScript, triggerEvent, validate

**Methods inherited from interface com.alphinat.sg5.ISmartletElement**

accept, data, data, getDataNames

# Method Detail

## getFields

`ISmartletField[] getFields()`

Gets the top level fields of the group.

**Returns:**
top level fields inside the group.

---

## findFieldByName

`ISmartletField findFieldByName(string name)`

Finds the first matching field by name inside the group.

**Parameters:**
`name` - - Field name.
**Returns:**
`Smartlet field`

---

## findFieldById

`ISmartletField findFieldById(string id)`

Finds the first matching field by id inside the group.

**Parameters:**
`id` -
**Returns:**
`Smartlet field`

---

## findFieldsByTypes

`ISmartletField[] findFieldsByTypes(int[] types)`

Finds fields by types under the group.
**Parameters:**

`types` - - field types to find

**Returns:**

array of Smartlet fields

**Since:**

5.4.0

---

## findFieldsByRegex

`ISmartletField[] findFieldsByRegex(string regularExpression)`

Finds fields by regulation expression under the group.

**Parameters:**

`regularExpression` - - regulation expression to match the field name

**Returns:**

array of Smartlet fields

**Since:**

5.4.0

---

## findFieldsByScript

`ISmartletField[] findFieldsByScript(string script)`

Finds fields by matching script under the group.

**Parameters:**

`script` - - BSH script

**Returns:**

array of Smartlet fields

**Since:**

5.4.0

---

## findAllFields

`ISmartletField[] findAllFields()`

Returns all fields under the group.

**Returns:**

array of Smartlet fields

---

## getShownFields

`ISmartletField[] **getShownFields**()`

Gets the available fields directly under the group.

**Returns:**
array of `ISmartletField` on the page

**Since:**
5.4.0

---

## clear

`void **clear**()`

Clears subfields.
Note: this method will not clean the uploaded files on the disk.

**Specified by:**
`clear` in interface `ISmartletField`

**Since:**
5.8.0

---

## selectGroup

`void **selectGroup**()`

Select a group, when in the context of a repeat field.

**Since:**
7.1.0

---

## unSelectGroup

`void **unSelectGroup**()`

Un-select a group, when in the context of a repeat field.

**Since:**
7.1.0

---

## isGroupSelected

```
bool isGroupSelected()
```

Verify is a group is selected, when in the context of a repeat field.

**Since:**

7.1.0

---

## com.alphinat.sg5.widget.date

# Interface ISmartletDate

**All Superinterfaces:**

ISmartletElement, ISmartletField

---

```
public interface ISmartletDate
```
extends ISmartletField

`ISmartletDate` is an interface representing a Smartlet date field.

---

## Method Summary

| | |
|---|---|
| `int` | **`getDay`**`()`<br>Gets day of month field, starting from 1. |
| `int` | **`getEndYear`**`()`<br>Returns end year. |
| `int` | **`getMonth`**`()`<br>Gets month of the date field, starting from 1. |
| `string` | **`getMonthString`**`()`<br>Get month string of date field. |
| `int` | **`getStartYear`**`()`<br>Returns starting year. |
| `ISmartletField[]` | **`getSubControls`**`()`<br>Returns array of controls. |
| `int` | **`getYear`**`()`<br>Gets year of the date field. |
| `bool` | **`isMultipleControls`**`()`<br>Returns true if date field is shown as multiple controls. |
| `void` | **`setDay`**`(int day)` |

Sets day of date field.

| | |
|---|---|
| void | **setMonth**(int month)<br>Sets month of date field |
| void | **setMonthString**(string month)<br>Set month string of date field. |
| void | **setYear**(int year)<br>Sets year of date field. |

**Methods inherited from interface com.alphinat.sg5.ISmartletField**

addSourceField, addTargetField, addTargetField, addTargetFieldByName, appendAfter, appendBefore, appendTo, appendTo, applyDefinition, calculate, calculateAvailability, clear, detach, getChoiceLayout, getCSSClass, getCSSHeight, getCSSStyle, getCSSWidth, getErrorCodes, getErrorMessages, getEventSource, getEventTarget, getFormat, getHelp, getHelpId, getHtmlName, getId, getLabel, getLayoutAttribute, getLayoutAttributes, getMaxLength, getMetaData, getMetaDataNames, getMinLength, getName, getNext, getPage, getParent, getPlacement, getPrefix, getPrevious, getRepeatIndex, getRepeatSelectedStrings, getRepeatSelectedValues, getRepeatStrings, getRepeatValues, getSmartlet, getString, getSuffix, getTooltip, getTypeConst, getTypeDetail, getValue, getValueParseScript, isAvailable, isEncrypted, isHelpLink, isPersistent, isReadonly, isRequired, isRequiredOnSummaryOnly, isShownInSummarySection, isUnderRepeatDefaultGroup, isValid, removeSourceField, removeTargetField, removeTargetField, removeTargetFieldByName, resetValidationDefinitions, resetValidationResult, setAvailabilityScript, setCalculationScript, setChoiceLayout, setCSSClass, setCSSHeight, setCSSStyle, setCSSWidth, setEncrypted, setError, setFormat, setHelp, setLabel, setLayoutAttributes, setMetaData, setPersistent, setPlacement, setPosition, setPrefix, setReadonly, setReadonly, setRepeatStrings, setRepeatValues, setString, setSuffix, setTooltip, setValidateOnSummaryOnly, setValidationRequire, setValidationScript, setValue, setValueParseScript, triggerEvent, validate

**Methods inherited from interface com.alphinat.sg5.ISmartletElement**

accept, data, data, getDataNames

# Method Detail

## isMultipleControls

```
bool isMultipleControls()
```

Returns true if date field is shown as multiple controls.

**Returns:**

bool

**Since:**

5.4.0

---

## getSubControls

```
ISmartletField[] getSubControls()
```

Returns array of controls. If date field is shown as multiple controls, the array contains year control, month control, day control and separators. If date field is shown as one control, the arry only contain the ISmartletDate itself.

**Returns:**

array of controls

**Since:**

5.4.0

---

## getStartYear

```
int getStartYear()
```

Returns starting year. 1900 is returned if starting year is not specified.

**Returns:**

**Since:**

5.4.0

---

## getEndYear

```
int getEndYear()
```

Returns end year. 2100 is returned if end year is not specified.

**Returns:**

**Since:**

5.4.0

---

## getYear

```
int getYear()
```

Gets year of the date field.

**Returns:**

year of date

---

## setYear

```
void setYear(int year)
```

Sets year of date field.

**Parameters:**

`year` -

---

## getMonth

```
int getMonth()
```

Gets month of the date field, starting from 1.

**Returns:**

month of date

---

## setMonth

```
void setMonth(int month)
```

Sets month of date field

**Parameters:**

`month` -

---

## getDay

```
int getDay()
```

Gets day of month field, starting from 1.

**Returns:**

day of month

---

## setDay

```
void setDay(int day)
```

Sets day of date field.

**Parameters:**

`day` -

---

## getMonthString

```
string getMonthString()
```

Get month string of date field.

**Returns:**

month string

---

## setMonthString

```
void setMonthString(string month)
```

Set month string of date field.

**Parameters:**

`month` -

---

## com.alphinat.sg5.widget.upload

# Interface ISmartletUpload

**All Superinterfaces:**

ISmartletElement, ISmartletField

---

`public interface` **`ISmartletUpload`**
extends ISmartletField

`ISmartletUpload` is an interface representing a Smartlet upload field.

**Since:**

SGS V7.0.0

---

## Method Summary

| | |
|---|---|
| `void` | **`deleteFile`**`()`<br>Deletes uploaded file. |
| `string` | **`getBase64EncodedValue`**`()`<br>Return the base64 encoded file content |
| `byte[]` | **`getBytes`**`()`<br>Gets file bytes. |
| `string` | **`getFileExtension`**`()`<br>Return the file extension |
| `string` | **`getFileName`**`()`<br>Gets uploaded file name. |
| `string` | **`getFilePath`**`()`<br>Gets uploaded file path when in disk mode for upload files. |
| `long` | **`getFileSize`**`()`<br>Get size of uploaded file. |
| `string` | |

| | |
|---|---|
| | **getMimeType**()<br>Return the mime type for the file based on the extension |
| bool | **isFileEmpty**()<br>Return true if file is empty |

**Methods inherited from interface com.alphinat.sg5.ISmartletField**

addSourceField, addTargetField, addTargetField, addTargetFieldByName, appendAfter, appendBefore, appendTo, appendTo, applyDefinition, calculate, calculateAvailability, clear, detach, getChoiceLayout, getCSSClass, getCSSHeight, getCSSStyle, getCSSWidth, getErrorCodes, getErrorMessages, getEventSource, getEventTarget, getFormat, getHelp, getHelpId, getHtmlName, getId, getLabel, getLayoutAttribute, getLayoutAttributes, getMaxLength, getMetaData, getMetaDataNames, getMinLength, getName, getNext, getPage, getParent, getPlacement, getPrefix, getPrevious, getRepeatIndex, getRepeatSelectedStrings, getRepeatSelectedValues, getRepeatStrings, getRepeatValues, getSmartlet, getString, getSuffix, getTooltip, getTypeConst, getTypeDetail, getValue, getValueParseScript, isAvailable, isEncrypted, isHelpLink, isPersistent, isReadonly, isRequired, isRequiredOnSummaryOnly, isShownInSummarySection, isUnderRepeatDefaultGroup, isValid, removeSourceField, removeTargetField, removeTargetField, removeTargetFieldByName, resetValidationDefinitions, resetValidationResult, setAvailabilityScript, setCalculationScript, setChoiceLayout, setCSSClass, setCSSHeight, setCSSStyle, setCSSWidth, setEncrypted, setError, setFormat, setHelp, setLabel, setLayoutAttributes, setMetaData, setPersistent, setPlacement, setPosition, setPrefix, setReadonly, setReadonly, setRepeatStrings, setRepeatValues, setString, setSuffix, setTooltip, setValidateOnSummaryOnly, setValidationRequire, setValidationScript, setValue, setValueParseScript, triggerEvent, validate

**Methods inherited from interface com.alphinat.sg5.ISmartletElement**

accept, data, data, getDataNames

# Method Detail

## getFileName

```
string getFileName()
```

Gets uploaded file name. Returns empty string if no uploaded file.

**Returns:**

file name

---

## getFilePath

```
string getFilePath()
```

Gets uploaded file path when in disk mode for upload files. Returns empty string if using memory mode.

**Returns:**

file name

---

## getFileSize

```
long getFileSize()
```

Get size of uploaded file. Returns 0 if no uploaded file.

**Returns:**

long value

---

## getBytes

```
byte[] getBytes()
```

Gets file bytes. Returns null if no uploaded file.

**Returns:**

bytes

---

## deleteFile

```
void deleteFile()
```

Deletes uploaded file. If file is stored in file system. The file is deleted.

---

## isFileEmpty

```
bool isFileEmpty()
```

Return true if file is empty

**Returns:**

bool

---

## getMimeType

```
string getMimeType()
```

Return the mime type for the file based on the extension

**Returns:**

string

**Since:**

V7.1.0

---

## getBase64EncodedValue

```
string getBase64EncodedValue()
```

Return the base64 encoded file content

**Returns:**

string

**Since:**

V7.1.0

---

## getFileExtension

```
string getFileExtension()
```

Return the file extension

**Returns:**

string

**Since:**

V7.1.0

---

## com.alphinat.sg5

# Interface Constants

```
public interface Constants
```

## Nested Class Summary

| | |
|---|---|
| static interface | **Constants.ElementType**<br>Smartlet element type constant. |
| static interface | **Constants.EmailFormat**<br>Email formats supported for sendmail API |
| static interface | **Constants.ErrorCode**<br>Error Code constant. |
| static interface | **Constants.FileType**<br>Smartlet file type constant. |
| static interface | **Constants.Scope** |
| static interface | **Constants.SmartletEvent**<br>Smartlet event type constant. |
| static interface | **Constants.WSInputBehavior**<br>Dynamic input behavior on null. |

## com.alphinat.sg5

# Interface Constants.SmartletEvent

**Enclosing interface:**

Constants

---

```
public static interface Constants.SmartletEvent
```

Smartlet event type constant.

---

## Field Summary

| | |
|---|---|
| static int | **EVENT_BLUR**<br>Field events - on blur |
| static int | **EVENT_BUTTON_CLICK**<br>Event triggered when click button. |
| static int | **EVENT_BUTTON_DBLCLICK**<br>Event triggered when double click button. |
| static int | **EVENT_CHANGE**<br>Field events - on change |
| static int | **EVENT_CLICK**<br>Field events - on click |
| static int | **EVENT_FIELD_INIT**<br>Field events - on field initialization |
| static int | **EVENT_FIELD_RENDER**<br>Field events - on rendering field |
| static int | **EVENT_FOCUS**<br>Field events - on focus |
| static int | **EVENT_INPUT**<br>Field events - on input |

| | |
|---|---|
| static int | **EVENT_KEYDOWN**<br>Field events - on key down |
| static int | **EVENT_KEYPRESS**<br>Field events - on key press |
| static int | **EVENT_KEYUP**<br>Field events - on key up |
| static int | **EVENT_MOUSEOUT**<br>Event triggered when double click button. |
| static int | **EVENT_MOUSEOVER**<br>Event triggered when double click button. |
| static int | **EVENT_ON_ENTER_PAGE**<br>Event triggered on entering a smartlet page. |
| static int | **EVENT_ON_EXIT_PAGE**<br>Event triggered on leaving a smartlet page. |
| static int | **EVENT_ON_INIT_SMARTLET**<br>Smartlet initialization event. |
| static int | **EVENT_PAGE_INIT**<br>Page events - on page initialization |
| static int | **EVENT_PAGE_RENDER**<br>Page events - on rendering page |
| static int | **EVENT_SELECT**<br>Field events - on select |

# Field Detail

## EVENT_ON_INIT_SMARTLET

```
static final int EVENT_ON_INIT_SMARTLET
```

Smartlet initialization event.

**See Also:**

Constant Field Values

## EVENT_ON_ENTER_PAGE

```
static final int EVENT_ON_ENTER_PAGE
```

Event triggered on entering a smartlet page.

**See Also:**

Constant Field Values

## EVENT_ON_EXIT_PAGE

```
static final int EVENT_ON_EXIT_PAGE
```

Event triggered on leaving a smartlet page.

**See Also:**

Constant Field Values

## EVENT_BUTTON_CLICK

```
static final int EVENT_BUTTON_CLICK
```

Event triggered when click button.

**See Also:**

Constant Field Values

## EVENT_CLICK

```
static final int EVENT_CLICK
```

Field events - on click

**Since:**

7.0.0

**See Also:**

Constant Field Values

## EVENT_BLUR

```
static final int EVENT_BLUR
```

Field events - on blur

**Since:**
7.0.0
**See Also:**
Constant Field Values

---

## EVENT_CHANGE

```
static final int EVENT_CHANGE
```

Field events - on change

**Since:**
7.0.0
**See Also:**
Constant Field Values

---

## EVENT_FOCUS

```
static final int EVENT_FOCUS
```

Field events - on focus

**Since:**
7.0.0
**See Also:**
Constant Field Values

---

## EVENT_INPUT

```
static final int EVENT_INPUT
```

Field events - on input

**Since:**

7.0.0

**See Also:**

Constant Field Values

---

## EVENT_KEYDOWN

```
static final int EVENT_KEYDOWN
```

Field events - on key down

**Since:**

7.0.0

**See Also:**

Constant Field Values

---

## EVENT_KEYPRESS

```
static final int EVENT_KEYPRESS
```

Field events - on key press

**Since:**

7.0.0

**See Also:**

Constant Field Values

---

## EVENT_KEYUP

```
static final int EVENT_KEYUP
```

Field events - on key up

**Since:**

7.0.0

**See Also:**

Constant Field Values

---

## EVENT_SELECT

```
static final int EVENT_SELECT
```

Field events - on select

**Since:**

7.0.0

**See Also:**

Constant Field Values

---

## EVENT_FIELD_RENDER

```
static final int EVENT_FIELD_RENDER
```

Field events - on rendering field

**Since:**

7.0.0

**See Also:**

Constant Field Values

---

## EVENT_FIELD_INIT

```
static final int EVENT_FIELD_INIT
```

Field events - on field initialization

**Since:**

7.0.0

**See Also:**

Constant Field Values

---

## EVENT_PAGE_RENDER

```
static final int EVENT_PAGE_RENDER
```

Page events - on rendering page

**Since:**

7.0.0

**See Also:**

Constant Field Values

---

## EVENT_PAGE_INIT

```
static final int EVENT_PAGE_INIT
```

Page events - on page initialization

**Since:**

7.0.0

**See Also:**

Constant Field Values

---

## EVENT_BUTTON_DBLCLICK

```
static final int EVENT_BUTTON_DBLCLICK
```

Event triggered when double click button.

**See Also:**

Constant Field Values

---

## EVENT_MOUSEOVER

```
static final int EVENT_MOUSEOVER
```

Event triggered when double click button.

**See Also:**

Constant Field Values

---

## EVENT_MOUSEOUT

```
static final int EVENT_MOUSEOUT
```

Event triggered when double click button.

**See Also:**

Constant Field Values

---

com.alphinat.sg5

# Interface Constants.Scope

**Enclosing interface:**

Constants

```
public static interface Constants.Scope
```

## Field Summary

| | |
|---|---|
| static int | **APPLICATION**<br>The environment scope whose `string` representation is: `application`. |
| static int | **CONFIGURATION**<br>The environment scope whose `string` representation is: `configuration`. |
| static int | **PARAMETER**<br>The environment scope whose `string` representation is: `parameter`. |
| static int | **PREFERENCE**<br>The environment scope whose `string` representation is: `portlet_preference`. |
| static int | **REQUEST**<br>The environment scope whose `string` representation is: `request`. |
| static int | **SESSION**<br>The environment scope whose `string` representation is: `session`. |

## Field Detail

## REQUEST

```
static final int REQUEST
```

The environment scope whose `string` representation is: `request`.

**See Also:**

Constant Field Values

---

## SESSION

```
static final int SESSION
```

The environment scope whose `string` representation is: `session`.

**See Also:**

Constant Field Values

---

## APPLICATION

```
static final int APPLICATION
```

The environment scope whose `string` representation is: `application`.

**See Also:**

Constant Field Values

---

## PREFERENCE

```
static final int PREFERENCE
```

The environment scope whose `string` representation is: `portlet_preference`.

**See Also:**

Constant Field Values

---

## PARAMETER

```
static final int PARAMETER
```

The environment scope whose `string` representation is: `parameter`. Each value within the scope is wrapped in a `ArrayList`.

**See Also:**

Constant Field Values

---

## CONFIGURATION

```
static final int CONFIGURATION
```

The environment scope whose `string` representation is: `configuration`.

**See Also:**

Constant Field Values

---

## com.alphinat.sg5

# Interface Constants.FileType

**Enclosing interface:**

Constants

---

```
public static interface Constants.FileType
```

Smartlet file type constant.

---

## Field Summary

| | |
|---|---|
| `static int` | **PDF**<br>PDF file |
| `static int` | **XML**<br>XML file |

## Field Detail

### PDF

```
static final int PDF
```

PDF file

**See Also:**

Constant Field Values

---

## XML

```
static final int XML
```

XML file

**See Also:**

Constant Field Values

---

## com.alphinat.sg5

# Interface Constants.ErrorCode

**Enclosing interface:**

Constants

---

```
public static interface Constants.ErrorCode
```

Error Code constant.

---

## Field Summary

| | |
|---|---|
| static int | **Error_Adv_Rule**<br>Rule based validation error. |
| static int | **Error_Adv_Script**<br>Advanced script validation error. |
| static int | **Error_Date_Format**<br>Date field format error. |
| static int | **Error_Date_Invalid**<br>Invalid date. |
| static int | **Error_Ext_Validation**<br>External validation error. |
| static int | **Error_FileType_Format**<br>File type field format error. |
| static int | **Error_Format**<br>Field format error. |
| static int | **Error_Goto_Summary**<br>Cannot goto summary section because of changed branching. |
| static int | **Error_Mandatory**<br>Mandatory field validation error. |

| | |
|---|---|
| static int | **Error_Maxlength**<br>Field maximum length validation error. |
| static int | **Error_Minlength**<br>Field minimum length validation error. |
| static int | **Error_Number_Format**<br>Number field format error. |
| static int | **Error_Other**<br>Unclassified error. |
| static int | **Error_Regexp_Validation**<br>Field format regular expression validation error. |

# Field Detail

## Error_Mandatory

```
static final int Error_Mandatory
```

Mandatory field validation error.

**See Also:**

Constant Field Values

---

## Error_Minlength

```
static final int Error_Minlength
```

Field minimum length validation error.

**See Also:**

Constant Field Values

---

## Error_Maxlength

```
static final int Error_Maxlength
```

Field maximum length validation error.

**See Also:**

Constant Field Values

---

## Error_Regexp_Validation

```
static final int Error_Regexp_Validation
```

Field format regular expression validation error.

**See Also:**

Constant Field Values

---

## Error_Number_Format

```
static final int Error_Number_Format
```

Number field format error.

**See Also:**

Constant Field Values

---

## Error_Date_Format

```
static final int Error_Date_Format
```

Date field format error.

**See Also:**

Constant Field Values

---

## Error_Format

```
static final int Error_Format
```

Field format error.

**Since:**

5.4.0

**See Also:**

Constant Field Values

---

## Error_Date_Invalid

```
static final int Error_Date_Invalid
```

Invalid date.

**See Also:**

Constant Field Values

---

## Error_FileType_Format

```
static final int Error_FileType_Format
```

File type field format error.

**See Also:**

Constant Field Values

---

## Error_Adv_Rule

```
static final int Error_Adv_Rule
```

Rule based validation error.

**See Also:**

Constant Field Values

---

## Error_Adv_Script

```
static final int Error_Adv_Script
```

Advanced script validation error.

**See Also:**

Constant Field Values

## Error_Ext_Validation

```
static final int Error_Ext_Validation
```

External validation error.

**See Also:**

Constant Field Values

## Error_Goto_Summary

```
static final int Error_Goto_Summary
```

Cannot goto summary section because of changed branching.

**See Also:**

Constant Field Values

## Error_Other

```
static final int Error_Other
```

Unclassified error.

**See Also:**

Constant Field Values

## com.alphinat.sg5

# Interface Constants.ElementType

**Enclosing interface:**

Constants

---

```
public static interface Constants.ElementType
```

Smartlet element type constant.

---

## Field Summary

| | |
|---|---|
| static int | **BUTTON**<br>The element is a button field. |
| static string | **BUTTON_GLOBAL_NAVIGATION**<br>The element is a global navigation button. |
| static string | **BUTTON_GOTO_SUMMARY**<br>The element is a button to navigate to summary page. |
| static string | **BUTTON_MODIFY_PAGE**<br>The element is a button to modify a page from summary section. |
| static string | **BUTTON_NEXT_PAGE**<br>The element is a button to navigate to next page. |
| static string | **BUTTON_PREVIOUS_PAGE**<br>The element is a button to navigate to previous page. |
| static string | **BUTTON_REFRESH_PAGE**<br>The element is a button to refresh current page. |
| static string | **BUTTON_REPEAT_DELETE**<br>The element is a button to remove an instance for repeat. |
| static string | **BUTTON_REPEAT_INSERT**<br>The element is a button to insert an instance for repeat. |

| | |
|---|---|
| static string | **BUTTON_SUBSMARTLET_ENTER**<br>The element is a button to enter sub smartlet. |
| static string | **BUTTON_SUBSMARTLET_RETURN_SAVE**<br>The element is a button to return from sub smartlet. |
| static string | **BUTTON_SUBSMARTLET_WITHOUT_SAVE**<br>The element is a button to return from sub smartlet without save. |
| static int | **CHECK**<br>The element is a checkbox field. |
| static int | **COL**<br>The element is a smartlet service. |
| static int | **DATE**<br>The element is a date field. |
| static int | **DROP**<br>The element is a dropdown field. |
| static int | **GROUP**<br>The element is a group widget. |
| static int | **HIDDEN**<br>The element is a hidden field. |
| static int | **KNOWLEDGE**<br>The element is a knowledge widget. |
| static int | **KNOWLEDGE_ENTRY**<br>The element is a knowledge entry of a knowledge widget. |
| static int | **LBOX**<br>The element is a listbox field. |
| static int | **NUMBER**<br>The element is a number field. |
| static int | **OPTION**<br>The element is an option. |
| static int | **OPTION_GROUP**<br>The element is an option group. |
| static int | **PAGE**<br>The element is a smartlet page. |

| | |
|---|---|
| static int | **PASSWORD**<br>The element is a password field. |
| static int | **RADIO**<br>The element is a radio button field. |
| static int | **REPEAT**<br>The element is a repeat widget. |
| static int | **ROW**<br>The element is a smartlet service. |
| static int | **SERVICE**<br>The element is a smartlet service. |
| static int | **SMARTLET**<br>The element is a smartlet. |
| static int | **STATIC_IMG**<br>The element is a static image field. |
| static int | **STATIC_TEXT**<br>The element is a static text field. |
| static int | **SUB_SMARTLET**<br>The element is a subsmartlet widget. |
| static int | **SUMMARY**<br>The element is a summary section. |
| static int | **TEXT**<br>The element is a text field. |
| static int | **TEXTAREA**<br>The element is a textarea field. |
| static int | **UPLOAD**<br>The element is an upload field. |

## Field Detail

## SMARTLET

```
static final int SMARTLET
```

The element is a smartlet.

**See Also:**

Constant Field Values

---

## PAGE

```
static final int PAGE
```

The element is a smartlet page.

**See Also:**

Constant Field Values

---

## GROUP

```
static final int GROUP
```

The element is a group widget.

**See Also:**

Constant Field Values

---

## REPEAT

```
static final int REPEAT
```

The element is a repeat widget.

**See Also:**

Constant Field Values

---

## TEXT

```
static final int TEXT
```

The element is a text field.

**See Also:**

Constant Field Values

---

## TEXTAREA

```
static final int TEXTAREA
```

The element is a textarea field.

**See Also:**

Constant Field Values

---

## PASSWORD

```
static final int PASSWORD
```

The element is a password field.

**See Also:**

Constant Field Values

---

## HIDDEN

```
static final int HIDDEN
```

The element is a hidden field.

**See Also:**

Constant Field Values

---

## DATE

```
static final int DATE
```

The element is a date field.

**See Also:**

Constant Field Values

---

## NUMBER

```
static final int NUMBER
```

The element is a number field.

**See Also:**

Constant Field Values

---

## CHECK

```
static final int CHECK
```

The element is a checkbox field.

**See Also:**

Constant Field Values

---

## DROP

```
static final int DROP
```

The element is a dropdown field.

**See Also:**

Constant Field Values

---

## LBOX

```
static final int LBOX
```

The element is a listbox field.

**See Also:**

Constant Field Values

---

## RADIO

```
static final int RADIO
```

The element is a radio button field.

**See Also:**

Constant Field Values

---

## OPTION

```
static final int OPTION
```

The element is an option.

**See Also:**

Constant Field Values

---

## OPTION_GROUP

```
static final int OPTION_GROUP
```

The element is an option group.

**See Also:**

Constant Field Values

---

## STATIC_TEXT

```
static final int STATIC_TEXT
```

The element is a static text field.

**See Also:**

Constant Field Values

---

## STATIC_IMG

```
static final int STATIC_IMG
```

The element is a static image field.

**See Also:**

Constant Field Values

---

## UPLOAD

```
static final int UPLOAD
```

The element is an upload field.

**See Also:**

Constant Field Values

---

## BUTTON

```
static final int BUTTON
```

The element is a button field.

**See Also:**

Constant Field Values

---

## KNOWLEDGE

```
static final int KNOWLEDGE
```

The element is a knowledge widget.

**See Also:**

Constant Field Values

---

## KNOWLEDGE_ENTRY

```
static final int KNOWLEDGE_ENTRY
```

The element is a knowledge entry of a knowledge widget.

**See Also:**

Constant Field Values

---

## SUB_SMARTLET

```
static final int SUB_SMARTLET
```

The element is a subsmartlet widget.

**See Also:**

Constant Field Values

---

## SUMMARY

```
static final int SUMMARY
```

The element is a summary section.

**See Also:**

Constant Field Values

---

## SERVICE

```
static final int SERVICE
```

The element is a smartlet service.

**See Also:**

Constant Field Values

---

## ROW

```
static final int ROW
```

The element is a smartlet service.

**See Also:**

Constant Field Values

---

## COL

```
static final int COL
```

The element is a smartlet service.

**See Also:**

Constant Field Values

---

## BUTTON_SUBSMARTLET_ENTER

```
static final string BUTTON_SUBSMARTLET_ENTER
```

The element is a button to enter sub smartlet.

**See Also:**

Constant Field Values

---

## BUTTON_SUBSMARTLET_RETURN_SAVE

```
static final string BUTTON_SUBSMARTLET_RETURN_SAVE
```

The element is a button to return from sub smartlet.

**See Also:**

Constant Field Values

---

## BUTTON_SUBSMARTLET_WITHOUT_SAVE

```
static final string BUTTON_SUBSMARTLET_WITHOUT_SAVE
```

The element is a button to return from sub smartlet without save.

**See Also:**

Constant Field Values

---

## BUTTON_NEXT_PAGE

```
static final string BUTTON_NEXT_PAGE
```

The element is a button to navigate to next page.

**See Also:**

Constant Field Values

---

## BUTTON_PREVIOUS_PAGE

```
static final string BUTTON_PREVIOUS_PAGE
```

The element is a button to navigate to previous page.

**See Also:**

Constant Field Values

---

## BUTTON_REPEAT_INSERT

```
static final string BUTTON_REPEAT_INSERT
```

The element is a button to insert an instance for repeat.

**See Also:**

Constant Field Values

---

## BUTTON_REPEAT_DELETE

```
static final string BUTTON_REPEAT_DELETE
```

The element is a button to remove an instance for repeat.

**See Also:**

Constant Field Values

---

## BUTTON_GOTO_SUMMARY

```
static final string BUTTON_GOTO_SUMMARY
```

The element is a button to navigate to summary page.

**See Also:**

Constant Field Values

---

## BUTTON_MODIFY_PAGE

```
static final string BUTTON_MODIFY_PAGE
```

The element is a button to modify a page from summary section.

**See Also:**

Constant Field Values

---

## BUTTON_REFRESH_PAGE

```
static final string BUTTON_REFRESH_PAGE
```

The element is a button to refresh current page.

**See Also:**

Constant Field Values

---

## BUTTON_GLOBAL_NAVIGATION

```
static final string BUTTON_GLOBAL_NAVIGATION
```

The element is a global navigation button.

**See Also:**

Constant Field Values

---

com.alphinat.sg5

# Interface Constants.EmailFormat

**Enclosing interface:**

Constants

---

```
public static interface Constants.EmailFormat
```

Email formats supported for sendmail API

---

## Field Summary

| | |
|---|---|
| static int | **DEFAULT** |
| static int | **HTMLONLY**<br>Sends as HTML only. |
| static int | **TEXTHTML**<br>Sends as text and HTML. |
| static int | **TEXTONLY**<br>Sends as text only. |

## Field Detail

### DEFAULT

```
static final int DEFAULT
```

**See Also:**

Constant Field Values

---

## TEXTHTML

```
static final int TEXTHTML
```

Sends as text and HTML. This is the default.

**See Also:**

Constant Field Values

---

## TEXTONLY

```
static final int TEXTONLY
```

Sends as text only.

**See Also:**

Constant Field Values

---

## HTMLONLY

```
static final int HTMLONLY
```

Sends as HTML only.

**See Also:**

Constant Field Values

---

### com.alphinat.sg5

# Interface Constants.WSInputBehavior

**Enclosing interface:**

Constants

---

```
public static interface Constants.WSInputBehavior
```

Dynamic input behavior on null.

---

## Field Summary

| | |
|---|---|
| `static int` | **DEFAULT**<br>Default, which trims optional node that are empty or null. |
| `static int` | **EMPTY**<br>Empty, which means optional nodes returning empty string will be sent, while null will be trimmed. |
| `static int` | **NULL**<br>Null, which means the node will be sent. |

## Field Detail

### DEFAULT

```
static final int DEFAULT
```

Default, which trims optional node that are empty or null. For attributes the default is to keep it even if it is empty or null.

**See Also:**

Constant Field Values

---

## EMPTY

```
static final int EMPTY
```

Empty, which means optional nodes returning empty string will be sent, while null will be trimmed. For attributes, means we don't keep it if the mapped value is null or empty.

**See Also:**

Constant Field Values

---

## NULL

```
static final int NULL
```

Null, which means the node will be sent. For attributes, means we don't keep it if the mapped value is null.

**See Also:**

Constant Field Values

---

# Constant Field Values

**Contents**



## com.alphinat.*

| com.alphinat.sg5.Constants.ElementType | | |
|---|---|---|
| int | BUTTON | 190000 |
| string | BUTTON_GLOBAL_NAVIGATION | "button_global_navigation" |
| string | BUTTON_GOTO_SUMMARY | "button_goto_summary" |
| string | BUTTON_MODIFY_PAGE | "button_modify_page" |
| string | BUTTON_NEXT_PAGE | "button_next_page" |
| string | BUTTON_PREVIOUS_PAGE | "button_previous_page" |
| string | BUTTON_REFRESH_PAGE | "button_refresh_page" |
| string | BUTTON_REPEAT_DELETE | "button_repeat_delete" |
| string | BUTTON_REPEAT_INSERT | "button_repeat_insert" |
| string | BUTTON_SUBSMARTLET_ENTER | "button_subsmartlet_enter" |
| string | BUTTON_SUBSMARTLET_RETURN_SAVE | "button_subsmartlet_return_save" |
| string | BUTTON_SUBSMARTLET_WITHOUT_SAVE | "button_subsmartlet_without_save" |
| int | CHECK | 110000 |
| int | COL | 250000 |
| int | DATE | 90000 |
| int | DROP | 120000 |
| int | GROUP | 30000 |
| int | HIDDEN | 80000 |
| int | KNOWLEDGE | 200000 |
| int | KNOWLEDGE_ENTRY | 201000 |
| int | LBOX | 130000 |

| | | |
|---|---|---|
| int | NUMBER | 100000 |
| int | OPTION | 150000 |
| int | OPTION_GROUP | 151000 |
| int | PAGE | 20000 |
| int | PASSWORD | 70000 |
| int | RADIO | 140000 |
| int | REPEAT | 40000 |
| int | ROW | 240000 |
| int | SERVICE | 230000 |
| int | SMARTLET | 10000 |
| int | STATIC_IMG | 170000 |
| int | STATIC_TEXT | 160000 |
| int | SUB_SMARTLET | 210000 |
| int | SUMMARY | 220000 |
| int | TEXT | 50000 |
| int | TEXTAREA | 60000 |
| int | UPLOAD | 180000 |

| com.alphinat.sg5.Constants.EmailFormat | | |
|---|---|---|
| int | DEFAULT | 1 |
| int | HTMLONLY | 3 |
| int | TEXTHTML | 1 |
| int | TEXTONLY | 2 |

| com.alphinat.sg5.Constants.ErrorCode | | |
|---|---|---|
| int | Error_Adv_Rule | -1301 |
| int | Error_Adv_Script | -1302 |
| int | Error_Date_Format | -1203 |
| int | Error_Date_Invalid | -1204 |
| int | Error_Ext_Validation | -1401 |
| int | Error_FileType_Format | -1206 |
| int | Error_Format | -1205 |
| int | Error_Goto_Summary | -1501 |

| | | |
|---|---|---|
| int | Error_Mandatory | -1001 |
| int | Error_Maxlength | -1102 |
| int | Error_Minlength | -1101 |
| int | Error_Number_Format | -1202 |
| int | Error_Other | -9000 |
| int | Error_Regexp_Validation | -1201 |

| com.alphinat.sg5.Constants.FileType | | |
|---|---|---|
| int | PDF | 1 |
| int | XML | 2 |

| com.alphinat.sg5.Constants.Scope | | |
|---|---|---|
| int | APPLICATION | 4 |
| int | CONFIGURATION | 8 |
| int | PARAMETER | 7 |
| int | PREFERENCE | 6 |
| int | REQUEST | 2 |
| int | SESSION | 3 |

| com.alphinat.sg5.Constants.SmartletEvent | | |
|---|---|---|
| int | EVENT_BLUR | 9 |
| int | EVENT_BUTTON_CLICK | 4 |
| int | EVENT_BUTTON_DBLCLICK | 21 |
| int | EVENT_CHANGE | 10 |
| int | EVENT_CLICK | 4 |
| int | EVENT_FIELD_INIT | 18 |
| int | EVENT_FIELD_RENDER | 17 |
| int | EVENT_FOCUS | 11 |
| int | EVENT_INPUT | 12 |
| int | EVENT_KEYDOWN | 13 |
| int | EVENT_KEYPRESS | 14 |
| int | EVENT_KEYUP | 15 |
| int | EVENT_MOUSEOUT | 23 |

| | | |
|---|---|---|
| int | EVENT_MOUSEOVER | 22 |
| int | EVENT_ON_ENTER_PAGE | 2 |
| int | EVENT_ON_EXIT_PAGE | 3 |
| int | EVENT_ON_INIT_SMARTLET | 1 |
| int | EVENT_PAGE_INIT | 20 |
| int | EVENT_PAGE_RENDER | 19 |
| int | EVENT_SELECT | 16 |

| com.alphinat.sg5.Constants.WSInputBehavior | | |
|---|---|---|
| int | DEFAULT | 0 |
| int | EMPTY | 1 |
| int | NULL | 2 |

# A

**accept(ISmartletElementVisitor)** - Method in interface com.alphinat.sg5.ISmartletElement
Implements the visitor's pattern to traverse Smartlet/page/field/services

**add(Object)** - Method in interface com.alphinat.sg5.widget.select.ISelectOptionList
Appends the specified element to the end of this list.
**add(int, Object)** - Method in interface com.alphinat.sg5.widget.select.ISelectOptionList
Inserts the specified element at the specified position in this list.
**addActionError(Object, string, string)** - Method in interface com.alphinat.sg5.ISmartlet
Adds an action error element composed of a source object, the error message and a stack trace.
**addActionError(ISmartletActionError)** - Method in interface com.alphinat.sg5.ISmartlet
Adds an action error object.
**addGroup()** - Method in interface com.alphinat.sg5.widget.repeat.ISmartletRepeat
Creates an empty group and add it to the end.
**addGroup(int)** - Method in interface com.alphinat.sg5.widget.repeat.ISmartletRepeat
Create an empty group and insert it to the given position.
**addGroup(ISmartletGroup)** - Method in interface com.alphinat.sg5.widget.repeat.ISmartletRepeat
Adds a repeat group to the end.
**addGroup(int, ISmartletGroup)** - Method in interface com.alphinat.sg5.widget.repeat.ISmartletRepeat
Adds a repeat group to the specified position.
**addLocalizedResource(String, string, string)** - Method in interface com.alphinat.sg5.ISmartlet
Add a key/value pair to the translation resources
**addPageToHistory(ISmartletPage)** - Method in interface com.alphinat.sg5.ISmartlet
Adds given page to the history.
**addSourceField(String)** - Method in interface com.alphinat.sg5.ISmartletField
Add a source field to the current field, for autorefresh purposes.
**addTargetField()** - Method in interface com.alphinat.sg5.ISmartletField
Add the current field as a target to itself, for autorefresh purposes.
**addTargetField(String)** - Method in interface com.alphinat.sg5.ISmartletField
Add a target field to the current field, for autorefresh purposes.
**addTargetFieldByName(String)** - Method in interface com.alphinat.sg5.ISmartletField
Add a target field to the current field, for autorefresh purposes.
**appendAfter(ISmartletField)** - Method in interface com.alphinat.sg5.ISmartletField
Appends the field after given field.
**appendBefore(ISmartletField)** - Method in interface com.alphinat.sg5.ISmartletField

Appends the field before given field.

**appendTo(ISmartletPage, int)** - Method in interface com.alphinat.sg5.ISmartletField

Appends field to page at given position.

**appendTo(ISmartletField, int)** - Method in interface com.alphinat.sg5.ISmartletField

Appends field under the parent field at the specified position .

**APPLICATION** - Static variable in interface com.alphinat.sg5.Constants.Scope

The environment scope whose `string` representation is: `application`.

**applyDefinition()** - Method in interface com.alphinat.sg5.ISmartletField

Changes field definition.

---

## B

**BUTTON** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a button field.

**BUTTON_GLOBAL_NAVIGATION** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a global navigation button.

**BUTTON_GOTO_SUMMARY** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a button to navigate to summary page.

**BUTTON_MODIFY_PAGE** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a button to modify a page from summary section.

**BUTTON_NEXT_PAGE** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a button to navigate to next page.

**BUTTON_PREVIOUS_PAGE** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a button to navigate to previous page.

**BUTTON_REFRESH_PAGE** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a button to refresh current page.

**BUTTON_REPEAT_DELETE** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a button to remove an instance for repeat.

**BUTTON_REPEAT_INSERT** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a button to insert an instance for repeat.

**BUTTON_SUBSMARTLET_ENTER** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a button to enter sub smartlet.

**BUTTON_SUBSMARTLET_RETURN_SAVE** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a button to return from sub smartlet.

**BUTTON_SUBSMARTLET_WITHOUT_SAVE** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a button to return from sub smartlet without save.

---

## C

**calculate()** - Method in interface com.alphinat.sg5.ISmartlet

Recalculates the page.

**calculate()** - Method in interface com.alphinat.sg5.ISmartletField

Recalculates the field value.

**calculate()** - Method in interface com.alphinat.sg5.ISmartletPage

Recalculates the page.

**calculateAvailability()** - Method in interface com.alphinat.sg5.ISmartletField

Calculates and returns the field availability.

**call()** - Method in interface com.alphinat.sg5.ISmartletService

Calls the service.

**call(Object[])** - Method in interface com.alphinat.sg5.ISmartletService

Call the service with the provided parameters.

**CHECK** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a checkbox field.

**clear()** - Method in interface com.alphinat.sg5.ISmartlet

Calls clear on every page of this smartlet, recursively.

**clear()** - Method in interface com.alphinat.sg5.ISmartletField

Clears the fields.

**clear()** - Method in interface com.alphinat.sg5.ISmartletPage

Calls clear on every field of this page, recursively.

**clear()** - Method in interface com.alphinat.sg5.widget.group.ISmartletGroup

Clears subfields.

**clear()** - Method in interface com.alphinat.sg5.widget.repeat.ISmartletRepeat

Clears the repeat instances, leaves one empty instance.

**clear(Boolean)** - Method in interface com.alphinat.sg5.widget.repeat.ISmartletRepeat

**Deprecated.** *since 6.5.0*

**clear()** - Method in interface com.alphinat.sg5.widget.select.ISelectOptionList

Removes all of the elements from this selection item list.

**clearActionErrors()** - Method in interface com.alphinat.sg5.ISmartlet

Clears all action error of this smartlet.

**COL** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a smartlet service.

**com.alphinat.sg5** - package com.alphinat.sg5

**com.alphinat.sg5.widget.date** - package com.alphinat.sg5.widget.date

Creates a new `ISelectOption` instance that can be added to the list.

**createOptionGroup()** - Method in interface com.alphinat.sg5.widget.select.ISelectOptionList

Creates an option group.

---

# D

**data(String)** - Method in interface com.alphinat.sg5.ISmartletElement

Returns stored data of smartlet element.

**data(String, Object)** - Method in interface com.alphinat.sg5.ISmartletElement

Stores data to smartlet element.

**DATE** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a date field.

**DEFAULT** - Static variable in interface com.alphinat.sg5.Constants.EmailFormat

**DEFAULT** - Static variable in interface com.alphinat.sg5.Constants.WSInputBehavior

Default, which trims optional node that are empty or null.

**defineAttributeInputBehaviorOnNull(String, int)** - Method in interface com.alphinat.sg5.ISmartletService

Defines the behavior for input attribute mapping on web services.

**defineInputBehaviorOnNull(String, int)** - Method in interface com.alphinat.sg5.ISmartletService

Defines the behavior for optional input mapping on web services.

**defineInputDictionaryping(String, string)** - Method in interface com.alphinat.sg5.ISmartletService

Defines service input mapping dynamically.

**defineOutputDictionaryping(String, string)** - Method in interface com.alphinat.sg5.ISmartletService

Defines service output mapping dynamically.

**deleteFile()** - Method in interface com.alphinat.sg5.widget.upload.ISmartletUpload

Deletes uploaded file.

**detach()** - Method in interface com.alphinat.sg5.ISmartletField

Detaches a field.

**DROP** - Static variable in interface com.alphinat.sg5.Constants.ElementType

The element is a dropdown field.

---

# E

**EMPTY** - Static variable in interface com.alphinat.sg5.Constants.WSInputBehavior

Empty, which means optional nodes returning empty string will be sent, while null will be trimmed.

**Error_Adv_Rule** - Static variable in interface com.alphinat.sg5.Constants.ErrorCode

Rule based validation error.

---

# F

**findServiceByName(String)** - Method in interface com.alphinat.sg5.ISmartlet
Finds the service by given name.

---

# G

**generateFile(int, string)** - Method in interface com.alphinat.sg5.ISmartlet
Generates a XML or pdf file uploaded to the Smartlet.
**generatePDFWithDictionarypingData(String, Object, bool, bool)** - Method in interface com.alphinat.sg5.ISmartlet
Generates a pdf file with the provided pdf mapping data.
**get(int)** - Method in interface com.alphinat.sg5.widget.select.ISelectOptionList
Returns the item at the specified position in this list.
**getActionErrors()** - Method in interface com.alphinat.sg5.ISmartlet
Gets an array of `errors` for the current Smartlet.
**getAPI3Environment()** - Method in interface com.alphinat.sg5.IServiceContext
Gets the Environment of API version 3.
**getAttribute(int, Object)** - Method in interface com.alphinat.sg5.ISmartletEnvironment
Obtains the value of the attribute located within the specified environment scope.
**getAttributes(int)** - Method in interface com.alphinat.sg5.ISmartletEnvironment
Obtains the specified environment scope.
**getBase64EncodedValue()** - Method in interface com.alphinat.sg5.widget.upload.ISmartletUpload
Return the base64 encoded file content
**getBytes()** - Method in interface com.alphinat.sg5.widget.upload.ISmartletUpload
Gets file bytes.
**getChoiceLayout()** - Method in interface com.alphinat.sg5.ISmartletField
Gets the layout of choices for select type field.
**getCode()** - Method in interface com.alphinat.sg5.ISmartlet
Gets the Smartlet code as defined on the properties page of the Smartlet.
**getContext()** - Method in interface com.alphinat.sg5.ISmartletEnvironment
Gets the context associated to the environment.
**getContextField()** - Method in interface com.alphinat.sg5.IServiceContext
Gets context `field`.
**getCount()** - Method in interface com.alphinat.sg5.widget.repeat.ISmartletRepeat
Gets a count of repeated instances.
**getCSSClass()** - Method in interface com.alphinat.sg5.ISmartletField
Gets the css class.
**getCSSClass()** - Method in interface com.alphinat.sg5.ISmartletPage
Gets the css class.
**getCSSHeight()** - Method in interface com.alphinat.sg5.ISmartletField
Gets the css height.
**getCSSStyle()** - Method in interface com.alphinat.sg5.ISmartletField
Gets the css style.

# H

**hasPage(String)** - Method in interface com.alphinat.sg5.ISmartlet
Check if this smartlet
**HIDDEN** - Static variable in interface com.alphinat.sg5.Constants.ElementType
The element is a hidden field.
**HTMLONLY** - Static variable in interface com.alphinat.sg5.Constants.EmailFormat
Sends as HTML only.

---

# I

**init()** - Method in interface com.alphinat.sg5.widget.subsmartlet.ISubSmartletField
Initializes a subSmartlet.
**isAvailable()** - Method in interface com.alphinat.sg5.ISmartletField
Is the field available.
**ISelectOption** - Interface in com.alphinat.sg5.widget.select
`ISelectOption` is an interface representing a single or multiple selection list item.
**ISelectOptionList** - Interface in com.alphinat.sg5.widget.select
`ISelectOptionList` is an interface representing the single or multiple select option list associated to a select type field.
**isElementExcluded(ISmartletElement)** - Method in interface com.alphinat.sg5.widget.summary.ISmartletSummary
Returns true if a page or field is excluded from the summary section.
**isEmpty()** - Method in interface com.alphinat.sg5.widget.select.ISelectOptionList
Returns `true` if this selection item list contains no elements.
**isEncrypted()** - Method in interface com.alphinat.sg5.ISmartletField
Gets the "encrypt" flag.
**IServiceContext** - Interface in com.alphinat.sg5
`IServiceContext` is an interface representing a service call context.
This is the entrance point for extension functions using the version 5 API.
**isFileEmpty()** - Method in interface com.alphinat.sg5.widget.upload.ISmartletUpload
Return true if file is empty
**isGroupSelected()** - Method in interface com.alphinat.sg5.widget.group.ISmartletGroup
Verify is a group is selected, when in the context of a repeat field.
**isHelpLink()** - Method in interface com.alphinat.sg5.ISmartletField
Is help text a link or not.
**isLink()** - Method in interface com.alphinat.sg5.widget.select.ISelectOption
Returns true if the help is a link.
**ISmartlet** - Interface in com.alphinat.sg5
`ISmartlet` is an interface representing a Smartlet.
**ISmartletActionError** - Interface in com.alphinat.sg5

---

## K



---

## L



---

## M

---

## N



---

## O



---

## P



---

# R



---

# S

Sets the "encrypt" flag.

**setEntries(ISmartletKnowledgeEntry[])** - Method in interface com.alphinat.sg5.widget.knowledge.ISmartletKnowledgeEntry

Sets the sub entries.

**setError(String)** - Method in interface com.alphinat.sg5.ISmartletField

Manually sets field error message.

**setFormat(String, string)** - Method in interface com.alphinat.sg5.ISmartletField

Set field format validation.

**setGroup(int, ISmartletGroup)** - Method in interface com.alphinat.sg5.widget.repeat.ISmartletRepeat

Sets a group to a specific position in the repeat.

**setHelp(String)** - Method in interface com.alphinat.sg5.ISmartletField

Sets the help text of field.

**setHelp(String)** - Method in interface com.alphinat.sg5.widget.select.ISelectOption

Sets the help for this selection item to the specified help.

**setHint(String)** - Method in interface com.alphinat.sg5.widget.select.ISelectOption

Sets the hint for this selection item to the specified hint.

**setHistory(ISmartletPage[])** - Method in interface com.alphinat.sg5.ISmartlet

Set the page visit history.

**setKnowledgeEntries(ISmartletKnowledgeEntry[])** - Method in interface com.alphinat.sg5.widget.knowledge.ISmartletKnowledge

Sets the knowledge entries

**setLabel(String)** - Method in interface com.alphinat.sg5.ISmartletField

Modifies the label of the field.

**setLabel(String)** - Method in interface com.alphinat.sg5.widget.select.ISelectOption

Sets the label for this selection item to the specified label.

**setLayoutAttributes(String)** - Method in interface com.alphinat.sg5.ISmartletField

Set layout attributes string.

**setLink(bool)** - Method in interface com.alphinat.sg5.widget.select.ISelectOption

Sets whether the help text is a link.

**setMetaData(String, string)** - Method in interface com.alphinat.sg5.ISmartletField

Set meta data.

**setMonth(int)** - Method in interface com.alphinat.sg5.widget.date.ISmartletDate

Sets month of date field

**setMonthString(String)** - Method in interface com.alphinat.sg5.widget.date.ISmartletDate

Set month string of date field.

**setOptionGroup(bool)** - Method in interface com.alphinat.sg5.widget.select.ISelectOption

Sets true if it is option group.

**setOptions(Object[], Object[])** - Method in interface com.alphinat.sg5.widget.select.ISmartletSelectField

Sets select options with labels and values.

**setPersistent(bool)** - Method in interface com.alphinat.sg5.ISmartletField

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## T



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## U

**UPLOAD** - Static variable in interface com.alphinat.sg5.Constants.ElementType
The element is an upload field.

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## V

**validate()** - Method in interface com.alphinat.sg5.ISmartletField
Revalidates the field.
**validate()** - Method in interface com.alphinat.sg5.ISmartletPage
Validates the page.
**visit(ISmartletElement)** - Method in interface com.alphinat.sg5.ISmartletElementVisitor
Visit the Smartlet element.
**visitEnter(ISmartletElement)** - Method in interface com.alphinat.sg5.ISmartletElementVisitor
Notifies the visitor that it is entering a new element.
**visitLeave(ISmartletElement)** - Method in interface com.alphinat.sg5.ISmartletElementVisitor
Notifies the visitor that the element is visited.

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## X

**XML** - Static variable in interface com.alphinat.sg5.Constants.FileType
XML file

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