| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/AbstractSpinnerModel.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/javax/swing/AbstractListModel.html)   [**NEXT CLASS**](http://docs.google.com/javax/swing/Action.html) | [**FRAMES**](http://docs.google.com/index.html?javax/swing/AbstractSpinnerModel.html)    [**NO FRAMES**](http://docs.google.com/AbstractSpinnerModel.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#3znysh7) | [CONSTR](#2et92p0) | [METHOD](#tyjcwt) | DETAIL: [FIELD](#4d34og8) | [CONSTR](#17dp8vu) | [METHOD](#26in1rg) |

## **javax.swing**

Class AbstractSpinnerModel

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **javax.swing.AbstractSpinnerModel**

**All Implemented Interfaces:** [SpinnerModel](http://docs.google.com/javax/swing/SpinnerModel.html) **Direct Known Subclasses:** [SpinnerDateModel](http://docs.google.com/javax/swing/SpinnerDateModel.html), [SpinnerListModel](http://docs.google.com/javax/swing/SpinnerListModel.html), [SpinnerNumberModel](http://docs.google.com/javax/swing/SpinnerNumberModel.html)

public abstract class **AbstractSpinnerModel**extends [Object](http://docs.google.com/java/lang/Object.html)implements [SpinnerModel](http://docs.google.com/javax/swing/SpinnerModel.html)

This class provides the ChangeListener part of the SpinnerModel interface that should be suitable for most concrete SpinnerModel implementations. Subclasses must provide an implementation of the setValue, getValue, getNextValue and getPreviousValue methods.

**Since:** 1.4 **See Also:**[JSpinner](http://docs.google.com/javax/swing/JSpinner.html), [SpinnerModel](http://docs.google.com/javax/swing/SpinnerModel.html), [SpinnerListModel](http://docs.google.com/javax/swing/SpinnerListModel.html), [SpinnerNumberModel](http://docs.google.com/javax/swing/SpinnerNumberModel.html), [SpinnerDateModel](http://docs.google.com/javax/swing/SpinnerDateModel.html)

| **Field Summary** | |
| --- | --- |
| protected  [EventListenerList](http://docs.google.com/javax/swing/event/EventListenerList.html) | [**listenerList**](http://docs.google.com/javax/swing/AbstractSpinnerModel.html#listenerList)            The list of ChangeListeners for this model. |

| **Constructor Summary** | |
| --- | --- |
| [**AbstractSpinnerModel**](http://docs.google.com/javax/swing/AbstractSpinnerModel.html#AbstractSpinnerModel())() |

| **Method Summary** | |
| --- | --- |
| void | [**addChangeListener**](http://docs.google.com/javax/swing/AbstractSpinnerModel.html#addChangeListener(javax.swing.event.ChangeListener))([ChangeListener](http://docs.google.com/javax/swing/event/ChangeListener.html) l)            Adds a ChangeListener to the model's listener list. |
| protected  void | [**fireStateChanged**](http://docs.google.com/javax/swing/AbstractSpinnerModel.html#fireStateChanged())()            Run each ChangeListeners stateChanged() method. |
| [ChangeListener](http://docs.google.com/javax/swing/event/ChangeListener.html)[] | [**getChangeListeners**](http://docs.google.com/javax/swing/AbstractSpinnerModel.html#getChangeListeners())()            Returns an array of all the ChangeListeners added to this AbstractSpinnerModel with addChangeListener(). |
| | <T extends [EventListener](http://docs.google.com/java/util/EventListener.html)>  T[] | | --- | | [**getListeners**](http://docs.google.com/javax/swing/AbstractSpinnerModel.html#getListeners(java.lang.Class))([Class](http://docs.google.com/java/lang/Class.html)<T> listenerType)            Return an array of all the listeners of the given type that were added to this model. |
| void | [**removeChangeListener**](http://docs.google.com/javax/swing/AbstractSpinnerModel.html#removeChangeListener(javax.swing.event.ChangeListener))([ChangeListener](http://docs.google.com/javax/swing/event/ChangeListener.html) l)            Removes a ChangeListener from the model's listener list. |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [clone](http://docs.google.com/java/lang/Object.html#clone()), [equals](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)), [finalize](http://docs.google.com/java/lang/Object.html#finalize()), [getClass](http://docs.google.com/java/lang/Object.html#getClass()), [hashCode](http://docs.google.com/java/lang/Object.html#hashCode()), [notify](http://docs.google.com/java/lang/Object.html#notify()), [notifyAll](http://docs.google.com/java/lang/Object.html#notifyAll()), [toString](http://docs.google.com/java/lang/Object.html#toString()), [wait](http://docs.google.com/java/lang/Object.html#wait()), [wait](http://docs.google.com/java/lang/Object.html#wait(long)), [wait](http://docs.google.com/java/lang/Object.html#wait(long,%20int)) |

| **Methods inherited from interface javax.swing.**[**SpinnerModel**](http://docs.google.com/javax/swing/SpinnerModel.html) |
| --- |
| [getNextValue](http://docs.google.com/javax/swing/SpinnerModel.html#getNextValue()), [getPreviousValue](http://docs.google.com/javax/swing/SpinnerModel.html#getPreviousValue()), [getValue](http://docs.google.com/javax/swing/SpinnerModel.html#getValue()), [setValue](http://docs.google.com/javax/swing/SpinnerModel.html#setValue(java.lang.Object)) |

| **Field Detail** |
| --- |

### listenerList

protected [EventListenerList](http://docs.google.com/javax/swing/event/EventListenerList.html) **listenerList**

The list of ChangeListeners for this model. Subclasses may store their own listeners here.

| **Constructor Detail** |
| --- |

### AbstractSpinnerModel

public **AbstractSpinnerModel**()

| **Method Detail** |
| --- |

### addChangeListener

public void **addChangeListener**([ChangeListener](http://docs.google.com/javax/swing/event/ChangeListener.html) l)

Adds a ChangeListener to the model's listener list. The ChangeListeners must be notified when the models value changes.

**Specified by:**[addChangeListener](http://docs.google.com/javax/swing/SpinnerModel.html#addChangeListener(javax.swing.event.ChangeListener)) in interface [SpinnerModel](http://docs.google.com/javax/swing/SpinnerModel.html) **Parameters:**l - the ChangeListener to add**See Also:**[removeChangeListener(javax.swing.event.ChangeListener)](http://docs.google.com/javax/swing/AbstractSpinnerModel.html#removeChangeListener(javax.swing.event.ChangeListener)), [SpinnerModel.addChangeListener(javax.swing.event.ChangeListener)](http://docs.google.com/javax/swing/SpinnerModel.html#addChangeListener(javax.swing.event.ChangeListener))

### removeChangeListener

public void **removeChangeListener**([ChangeListener](http://docs.google.com/javax/swing/event/ChangeListener.html) l)

Removes a ChangeListener from the model's listener list.

**Specified by:**[removeChangeListener](http://docs.google.com/javax/swing/SpinnerModel.html#removeChangeListener(javax.swing.event.ChangeListener)) in interface [SpinnerModel](http://docs.google.com/javax/swing/SpinnerModel.html) **Parameters:**l - the ChangeListener to remove**See Also:**[addChangeListener(javax.swing.event.ChangeListener)](http://docs.google.com/javax/swing/AbstractSpinnerModel.html#addChangeListener(javax.swing.event.ChangeListener)), [SpinnerModel.removeChangeListener(javax.swing.event.ChangeListener)](http://docs.google.com/javax/swing/SpinnerModel.html#removeChangeListener(javax.swing.event.ChangeListener))

### getChangeListeners

public [ChangeListener](http://docs.google.com/javax/swing/event/ChangeListener.html)[] **getChangeListeners**()

Returns an array of all the ChangeListeners added to this AbstractSpinnerModel with addChangeListener().

**Returns:**all of the ChangeListeners added or an empty array if no listeners have been added**Since:** 1.4

### fireStateChanged

protected void **fireStateChanged**()

Run each ChangeListeners stateChanged() method.

**See Also:**[SpinnerModel.setValue(java.lang.Object)](http://docs.google.com/javax/swing/SpinnerModel.html#setValue(java.lang.Object)), [EventListenerList](http://docs.google.com/javax/swing/event/EventListenerList.html)

### getListeners

public <T extends [EventListener](http://docs.google.com/java/util/EventListener.html)> T[] **getListeners**([Class](http://docs.google.com/java/lang/Class.html)<T> listenerType)

Return an array of all the listeners of the given type that were added to this model. For example to find all of the ChangeListeners added to this model:

myAbstractSpinnerModel.getListeners(ChangeListener.class);

**Parameters:**listenerType - the type of listeners to return, e.g. ChangeListener.class **Returns:**all of the objects receiving *listenerType* notifications from this model

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/AbstractSpinnerModel.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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[Submit a bug or feature](http://bugs.sun.com/services/bugreport/index.jsp)

For further API reference and developer documentation, see [Java SE Developer Documentation](http://docs.google.com/webnotes/devdocs-vs-specs.html). That documentation contains more detailed, developer-targeted descriptions, with conceptual overviews, definitions of terms, workarounds, and working code examples.

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