| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/JFormattedTextField.AbstractFormatter.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/JFormattedTextField.html)   [**NEXT CLASS**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatterFactory.html) | [**FRAMES**](http://docs.google.com/index.html?javax/swing/JFormattedTextField.AbstractFormatter.html)    [**NO FRAMES**](http://docs.google.com/JFormattedTextField.AbstractFormatter.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#4d34og8) |

## **javax.swing**

Class JFormattedTextField.AbstractFormatter

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

**All Implemented Interfaces:** [Serializable](http://docs.google.com/java/io/Serializable.html) **Direct Known Subclasses:** [DefaultFormatter](http://docs.google.com/javax/swing/text/DefaultFormatter.html) **Enclosing class:**[JFormattedTextField](http://docs.google.com/javax/swing/JFormattedTextField.html)

public abstract static class **JFormattedTextField.AbstractFormatter**extends [Object](http://docs.google.com/java/lang/Object.html)implements [Serializable](http://docs.google.com/java/io/Serializable.html)

Instances of AbstractFormatter are used by JFormattedTextField to handle the conversion both from an Object to a String, and back from a String to an Object. AbstractFormatters can also enfore editing policies, or navigation policies, or manipulate the JFormattedTextField in any way it sees fit to enforce the desired policy.

An AbstractFormatter can only be active in one JFormattedTextField at a time. JFormattedTextField invokes install when it is ready to use it followed by uninstall when done. Subclasses that wish to install additional state should override install and message super appropriately.

Subclasses must override the conversion methods stringToValue and valueToString. Optionally they can override getActions, getNavigationFilter and getDocumentFilter to restrict the JFormattedTextField in a particular way.

Subclasses that allow the JFormattedTextField to be in a temporarily invalid state should invoke setEditValid at the appropriate times.

**Since:** 1.4

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

| **Method Summary** | |
| --- | --- |
| protected  [Object](http://docs.google.com/java/lang/Object.html) | [**clone**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatter.html#clone())()            Clones the AbstractFormatter. |
| protected  [Action](http://docs.google.com/javax/swing/Action.html)[] | [**getActions**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatter.html#getActions())()            Subclass and override if you wish to provide a custom set of Actions. |
| protected  [DocumentFilter](http://docs.google.com/javax/swing/text/DocumentFilter.html) | [**getDocumentFilter**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatter.html#getDocumentFilter())()            Subclass and override if you wish to provide a DocumentFilter to restrict what can be input. |
| protected  [JFormattedTextField](http://docs.google.com/javax/swing/JFormattedTextField.html) | [**getFormattedTextField**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatter.html#getFormattedTextField())()            Returns the current JFormattedTextField the AbstractFormatter is installed on. |
| protected  [NavigationFilter](http://docs.google.com/javax/swing/text/NavigationFilter.html) | [**getNavigationFilter**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatter.html#getNavigationFilter())()            Subclass and override if you wish to provide a filter to restrict where the user can navigate to. |
| void | [**install**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatter.html#install(javax.swing.JFormattedTextField))([JFormattedTextField](http://docs.google.com/javax/swing/JFormattedTextField.html) ftf)            Installs the AbstractFormatter onto a particular JFormattedTextField. |
| protected  void | [**invalidEdit**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatter.html#invalidEdit())()            This should be invoked when the user types an invalid character. |
| protected  void | [**setEditValid**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatter.html#setEditValid(boolean))(boolean valid)            Invoke this to update the editValid property of the JFormattedTextField. |
| abstract  [Object](http://docs.google.com/java/lang/Object.html) | [**stringToValue**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatter.html#stringToValue(java.lang.String))([String](http://docs.google.com/java/lang/String.html) text)            Parses text returning an arbitrary Object. |
| void | [**uninstall**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatter.html#uninstall())()            Uninstalls any state the AbstractFormatter may have installed on the JFormattedTextField. |
| abstract  [String](http://docs.google.com/java/lang/String.html) | [**valueToString**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatter.html#valueToString(java.lang.Object))([Object](http://docs.google.com/java/lang/Object.html) value)            Returns the string value to display for value. |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [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)) |

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

### JFormattedTextField.AbstractFormatter

public **JFormattedTextField.AbstractFormatter**()

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

### install

public void **install**([JFormattedTextField](http://docs.google.com/javax/swing/JFormattedTextField.html) ftf)

Installs the AbstractFormatter onto a particular JFormattedTextField. This will invoke valueToString to convert the current value from the JFormattedTextField to a String. This will then install the Actions from getActions, the DocumentFilter returned from getDocumentFilter and the NavigationFilter returned from getNavigationFilter onto the JFormattedTextField.

Subclasses will typically only need to override this if they wish to install additional listeners on the JFormattedTextField.

If there is a ParseException in converting the current value to a String, this will set the text to an empty String, and mark the JFormattedTextField as being in an invalid state.

While this is a public method, this is typically only useful for subclassers of JFormattedTextField. JFormattedTextField will invoke this method at the appropriate times when the value changes, or its internal state changes. You will only need to invoke this yourself if you are subclassing JFormattedTextField and installing/uninstalling AbstractFormatter at a different time than JFormattedTextField does.

**Parameters:**ftf - JFormattedTextField to format for, may be null indicating uninstall from current JFormattedTextField.

### uninstall

public void **uninstall**()

Uninstalls any state the AbstractFormatter may have installed on the JFormattedTextField. This resets the DocumentFilter, NavigationFilter and additional Actions installed on the JFormattedTextField.

### stringToValue

public abstract [Object](http://docs.google.com/java/lang/Object.html) **stringToValue**([String](http://docs.google.com/java/lang/String.html) text)  
 throws [ParseException](http://docs.google.com/java/text/ParseException.html)

Parses text returning an arbitrary Object. Some formatters may return null.

**Parameters:**text - String to convert **Returns:**Object representation of text **Throws:** [ParseException](http://docs.google.com/java/text/ParseException.html) - if there is an error in the conversion

### valueToString

public abstract [String](http://docs.google.com/java/lang/String.html) **valueToString**([Object](http://docs.google.com/java/lang/Object.html) value)  
 throws [ParseException](http://docs.google.com/java/text/ParseException.html)

Returns the string value to display for value.

**Parameters:**value - Value to convert **Returns:**String representation of value **Throws:** [ParseException](http://docs.google.com/java/text/ParseException.html) - if there is an error in the conversion

### getFormattedTextField

protected [JFormattedTextField](http://docs.google.com/javax/swing/JFormattedTextField.html) **getFormattedTextField**()

Returns the current JFormattedTextField the AbstractFormatter is installed on.

**Returns:**JFormattedTextField formatting for.

### invalidEdit

protected void **invalidEdit**()

This should be invoked when the user types an invalid character. This forwards the call to the current JFormattedTextField.

### setEditValid

protected void **setEditValid**(boolean valid)

Invoke this to update the editValid property of the JFormattedTextField. If you an enforce a policy such that the JFormattedTextField is always in a valid state, you will never need to invoke this.

**Parameters:**valid - Valid state of the JFormattedTextField

### getActions

protected [Action](http://docs.google.com/javax/swing/Action.html)[] **getActions**()

Subclass and override if you wish to provide a custom set of Actions. install will install these on the JFormattedTextField's ActionMap.

**Returns:**Array of Actions to install on JFormattedTextField

### getDocumentFilter

protected [DocumentFilter](http://docs.google.com/javax/swing/text/DocumentFilter.html) **getDocumentFilter**()

Subclass and override if you wish to provide a DocumentFilter to restrict what can be input. install will install the returned value onto the JFormattedTextField.

**Returns:**DocumentFilter to restrict edits

### getNavigationFilter

protected [NavigationFilter](http://docs.google.com/javax/swing/text/NavigationFilter.html) **getNavigationFilter**()

Subclass and override if you wish to provide a filter to restrict where the user can navigate to. install will install the returned value onto the JFormattedTextField.

**Returns:**NavigationFilter to restrict navigation

### clone

protected [Object](http://docs.google.com/java/lang/Object.html) **clone**()  
 throws [CloneNotSupportedException](http://docs.google.com/java/lang/CloneNotSupportedException.html)

Clones the AbstractFormatter. The returned instance is not associated with a JFormattedTextField.

**Overrides:**[clone](http://docs.google.com/java/lang/Object.html#clone()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**Copy of the AbstractFormatter **Throws:** [CloneNotSupportedException](http://docs.google.com/java/lang/CloneNotSupportedException.html) - if the object's class does not support the Cloneable interface. Subclasses that override the clone method can also throw this exception to indicate that an instance cannot be cloned.**See Also:**[Cloneable](http://docs.google.com/java/lang/Cloneable.html)

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/JFormattedTextField.AbstractFormatter.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/JFormattedTextField.html)   [**NEXT CLASS**](http://docs.google.com/javax/swing/JFormattedTextField.AbstractFormatterFactory.html) | [**FRAMES**](http://docs.google.com/index.html?javax/swing/JFormattedTextField.AbstractFormatter.html)    [**NO FRAMES**](http://docs.google.com/JFormattedTextField.AbstractFormatter.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#4d34og8) |

[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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