| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/EventListenerList.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/event/DocumentListener.html)   [**NEXT CLASS**](http://docs.google.com/javax/swing/event/HyperlinkEvent.html) | [**FRAMES**](http://docs.google.com/index.html?javax/swing/event/EventListenerList.html)    [**NO FRAMES**](http://docs.google.com/EventListenerList.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#3znysh7) | [CONSTR](#2et92p0) | [METHOD](#tyjcwt) | DETAIL: [FIELD](#1t3h5sf) | [CONSTR](#2s8eyo1) | [METHOD](#3rdcrjn) |

## **javax.swing.event**

Class EventListenerList

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

**All Implemented Interfaces:** [Serializable](http://docs.google.com/java/io/Serializable.html)

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

A class that holds a list of EventListeners. A single instance can be used to hold all listeners (of all types) for the instance using the list. It is the responsiblity of the class using the EventListenerList to provide type-safe API (preferably conforming to the JavaBeans spec) and methods which dispatch event notification methods to appropriate Event Listeners on the list. The main benefits that this class provides are that it is relatively cheap in the case of no listeners, and it provides serialization for event-listener lists in a single place, as well as a degree of MT safety (when used correctly). Usage example: Say one is defining a class that sends out FooEvents, and one wants to allow users of the class to register FooListeners and receive notification when FooEvents occur. The following should be added to the class definition:

EventListenerList listenerList = new EventListenerList();  
 FooEvent fooEvent = null;  
  
 public void addFooListener(FooListener l) {  
 listenerList.add(FooListener.class, l);  
 }  
  
 public void removeFooListener(FooListener l) {  
 listenerList.remove(FooListener.class, l);  
 }  
  
  
 // Notify all listeners that have registered interest for  
 // notification on this event type. The event instance   
 // is lazily created using the parameters passed into   
 // the fire method.  
  
 protected void fireFooXXX() {  
 // Guaranteed to return a non-null array  
 Object[] listeners = listenerList.getListenerList();  
 // Process the listeners last to first, notifying  
 // those that are interested in this event  
 for (int i = listeners.length-2; i>=0; i-=2) {  
 if (listeners[i]==FooListener.class) {  
 // Lazily create the event:  
 if (fooEvent == null)  
 fooEvent = new FooEvent(this);  
 ((FooListener)listeners[i+1]).fooXXX(fooEvent);  
 }  
 }  
 }

foo should be changed to the appropriate name, and fireFooXxx to the appropriate method name. One fire method should exist for each notification method in the FooListener interface.

**Warning:** Serialized objects of this class will not be compatible with future Swing releases. The current serialization support is appropriate for short term storage or RMI between applications running the same version of Swing. As of 1.4, support for long term storage of all JavaBeansTM has been added to the java.beans package. Please see [XMLEncoder](http://docs.google.com/java/beans/XMLEncoder.html).

| **Field Summary** | |
| --- | --- |
| protected  [Object](http://docs.google.com/java/lang/Object.html)[] | [**listenerList**](http://docs.google.com/javax/swing/event/EventListenerList.html#listenerList) |

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

| **Method Summary** | |
| --- | --- |
| | <T extends [EventListener](http://docs.google.com/java/util/EventListener.html)>  void | | --- | | [**add**](http://docs.google.com/javax/swing/event/EventListenerList.html#add(java.lang.Class,%20T))([Class](http://docs.google.com/java/lang/Class.html)<T> t, T l)            Adds the listener as a listener of the specified type. |
| int | [**getListenerCount**](http://docs.google.com/javax/swing/event/EventListenerList.html#getListenerCount())()            Returns the total number of listeners for this listener list. |
| int | [**getListenerCount**](http://docs.google.com/javax/swing/event/EventListenerList.html#getListenerCount(java.lang.Class))([Class](http://docs.google.com/java/lang/Class.html)<?> t)            Returns the total number of listeners of the supplied type for this listener list. |
| [Object](http://docs.google.com/java/lang/Object.html)[] | [**getListenerList**](http://docs.google.com/javax/swing/event/EventListenerList.html#getListenerList())()            Passes back the event listener list as an array of ListenerType-listener pairs. |
| | <T extends [EventListener](http://docs.google.com/java/util/EventListener.html)>  T[] | | --- | | [**getListeners**](http://docs.google.com/javax/swing/event/EventListenerList.html#getListeners(java.lang.Class))([Class](http://docs.google.com/java/lang/Class.html)<T> t)            Return an array of all the listeners of the given type. |
| | <T extends [EventListener](http://docs.google.com/java/util/EventListener.html)>  void | | --- | | [**remove**](http://docs.google.com/javax/swing/event/EventListenerList.html#remove(java.lang.Class,%20T))([Class](http://docs.google.com/java/lang/Class.html)<T> t, T l)            Removes the listener as a listener of the specified type. |
| [String](http://docs.google.com/java/lang/String.html) | [**toString**](http://docs.google.com/javax/swing/event/EventListenerList.html#toString())()            Returns a string representation of the EventListenerList. |

| **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()), [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)) |

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

### listenerList

protected transient [Object](http://docs.google.com/java/lang/Object.html)[] **listenerList**

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

### EventListenerList

public **EventListenerList**()

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

### getListenerList

public [Object](http://docs.google.com/java/lang/Object.html)[] **getListenerList**()

Passes back the event listener list as an array of ListenerType-listener pairs. Note that for performance reasons, this implementation passes back the actual data structure in which the listener data is stored internally! This method is guaranteed to pass back a non-null array, so that no null-checking is required in fire methods. A zero-length array of Object should be returned if there are currently no listeners. WARNING!!! Absolutely NO modification of the data contained in this array should be made -- if any such manipulation is necessary, it should be done on a copy of the array returned rather than the array itself.

### 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> t)

Return an array of all the listeners of the given type.

**Returns:**all of the listeners of the specified type. **Throws:** [ClassCastException](http://docs.google.com/java/lang/ClassCastException.html) - if the supplied class is not assignable to EventListener**Since:** 1.3

### getListenerCount

public int **getListenerCount**()

Returns the total number of listeners for this listener list.

### getListenerCount

public int **getListenerCount**([Class](http://docs.google.com/java/lang/Class.html)<?> t)

Returns the total number of listeners of the supplied type for this listener list.

### add

public <T extends [EventListener](http://docs.google.com/java/util/EventListener.html)> void **add**([Class](http://docs.google.com/java/lang/Class.html)<T> t,  
 T l)

Adds the listener as a listener of the specified type.

**Parameters:**t - the type of the listener to be addedl - the listener to be added

### remove

public <T extends [EventListener](http://docs.google.com/java/util/EventListener.html)> void **remove**([Class](http://docs.google.com/java/lang/Class.html)<T> t,  
 T l)

Removes the listener as a listener of the specified type.

**Parameters:**t - the type of the listener to be removedl - the listener to be removed

### toString

public [String](http://docs.google.com/java/lang/String.html) **toString**()

Returns a string representation of the EventListenerList.

**Overrides:**[toString](http://docs.google.com/java/lang/Object.html#toString()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**a string representation of the object.

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/EventListenerList.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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