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

## **java.awt.event**

Class WindowAdapter

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **java.awt.event.WindowAdapter**

**All Implemented Interfaces:** [WindowFocusListener](http://docs.google.com/java/awt/event/WindowFocusListener.html), [WindowListener](http://docs.google.com/java/awt/event/WindowListener.html), [WindowStateListener](http://docs.google.com/java/awt/event/WindowStateListener.html), [EventListener](http://docs.google.com/java/util/EventListener.html) **Direct Known Subclasses:** [BasicToolBarUI.FrameListener](http://docs.google.com/javax/swing/plaf/basic/BasicToolBarUI.FrameListener.html), [JMenu.WinListener](http://docs.google.com/javax/swing/JMenu.WinListener.html)

public abstract class **WindowAdapter**extends [Object](http://docs.google.com/java/lang/Object.html)implements [WindowListener](http://docs.google.com/java/awt/event/WindowListener.html), [WindowStateListener](http://docs.google.com/java/awt/event/WindowStateListener.html), [WindowFocusListener](http://docs.google.com/java/awt/event/WindowFocusListener.html)

An abstract adapter class for receiving window events. The methods in this class are empty. This class exists as convenience for creating listener objects.

Extend this class to create a WindowEvent listener and override the methods for the events of interest. (If you implement the WindowListener interface, you have to define all of the methods in it. This abstract class defines null methods for them all, so you can only have to define methods for events you care about.)

Create a listener object using the extended class and then register it with a Window using the window's addWindowListener method. When the window's status changes by virtue of being opened, closed, activated or deactivated, iconified or deiconified, the relevant method in the listener object is invoked, and the WindowEvent is passed to it.

**Since:** 1.1 **See Also:**[WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html), [WindowListener](http://docs.google.com/java/awt/event/WindowListener.html), [Tutorial: Writing a Window Listener](http://java.sun.com/docs/books/tutorial/post1.0/ui/windowlistener.html)

| **Constructor Summary** | |
| --- | --- |
| [**WindowAdapter**](http://docs.google.com/java/awt/event/WindowAdapter.html#WindowAdapter())() |

| **Method Summary** | |
| --- | --- |
| void | [**windowActivated**](http://docs.google.com/java/awt/event/WindowAdapter.html#windowActivated(java.awt.event.WindowEvent))([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)            Invoked when a window is activated. |
| void | [**windowClosed**](http://docs.google.com/java/awt/event/WindowAdapter.html#windowClosed(java.awt.event.WindowEvent))([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)            Invoked when a window has been closed. |
| void | [**windowClosing**](http://docs.google.com/java/awt/event/WindowAdapter.html#windowClosing(java.awt.event.WindowEvent))([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)            Invoked when a window is in the process of being closed. |
| void | [**windowDeactivated**](http://docs.google.com/java/awt/event/WindowAdapter.html#windowDeactivated(java.awt.event.WindowEvent))([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)            Invoked when a window is de-activated. |
| void | [**windowDeiconified**](http://docs.google.com/java/awt/event/WindowAdapter.html#windowDeiconified(java.awt.event.WindowEvent))([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)            Invoked when a window is de-iconified. |
| void | [**windowGainedFocus**](http://docs.google.com/java/awt/event/WindowAdapter.html#windowGainedFocus(java.awt.event.WindowEvent))([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)            Invoked when the Window is set to be the focused Window, which means that the Window, or one of its subcomponents, will receive keyboard events. |
| void | [**windowIconified**](http://docs.google.com/java/awt/event/WindowAdapter.html#windowIconified(java.awt.event.WindowEvent))([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)            Invoked when a window is iconified. |
| void | [**windowLostFocus**](http://docs.google.com/java/awt/event/WindowAdapter.html#windowLostFocus(java.awt.event.WindowEvent))([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)            Invoked when the Window is no longer the focused Window, which means that keyboard events will no longer be delivered to the Window or any of its subcomponents. |
| void | [**windowOpened**](http://docs.google.com/java/awt/event/WindowAdapter.html#windowOpened(java.awt.event.WindowEvent))([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)            Invoked when a window has been opened. |
| void | [**windowStateChanged**](http://docs.google.com/java/awt/event/WindowAdapter.html#windowStateChanged(java.awt.event.WindowEvent))([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)            Invoked when a window state is changed. |

| **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)) |

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

### WindowAdapter

public **WindowAdapter**()

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

### windowOpened

public void **windowOpened**([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)

Invoked when a window has been opened.

**Specified by:**[windowOpened](http://docs.google.com/java/awt/event/WindowListener.html#windowOpened(java.awt.event.WindowEvent)) in interface [WindowListener](http://docs.google.com/java/awt/event/WindowListener.html)

### windowClosing

public void **windowClosing**([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)

Invoked when a window is in the process of being closed. The close operation can be overridden at this point.

**Specified by:**[windowClosing](http://docs.google.com/java/awt/event/WindowListener.html#windowClosing(java.awt.event.WindowEvent)) in interface [WindowListener](http://docs.google.com/java/awt/event/WindowListener.html)

### windowClosed

public void **windowClosed**([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)

Invoked when a window has been closed.

**Specified by:**[windowClosed](http://docs.google.com/java/awt/event/WindowListener.html#windowClosed(java.awt.event.WindowEvent)) in interface [WindowListener](http://docs.google.com/java/awt/event/WindowListener.html)

### windowIconified

public void **windowIconified**([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)

Invoked when a window is iconified.

**Specified by:**[windowIconified](http://docs.google.com/java/awt/event/WindowListener.html#windowIconified(java.awt.event.WindowEvent)) in interface [WindowListener](http://docs.google.com/java/awt/event/WindowListener.html) **See Also:**[Frame.setIconImage(java.awt.Image)](http://docs.google.com/java/awt/Frame.html#setIconImage(java.awt.Image))

### windowDeiconified

public void **windowDeiconified**([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)

Invoked when a window is de-iconified.

**Specified by:**[windowDeiconified](http://docs.google.com/java/awt/event/WindowListener.html#windowDeiconified(java.awt.event.WindowEvent)) in interface [WindowListener](http://docs.google.com/java/awt/event/WindowListener.html)

### windowActivated

public void **windowActivated**([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)

Invoked when a window is activated.

**Specified by:**[windowActivated](http://docs.google.com/java/awt/event/WindowListener.html#windowActivated(java.awt.event.WindowEvent)) in interface [WindowListener](http://docs.google.com/java/awt/event/WindowListener.html)

### windowDeactivated

public void **windowDeactivated**([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)

Invoked when a window is de-activated.

**Specified by:**[windowDeactivated](http://docs.google.com/java/awt/event/WindowListener.html#windowDeactivated(java.awt.event.WindowEvent)) in interface [WindowListener](http://docs.google.com/java/awt/event/WindowListener.html)

### windowStateChanged

public void **windowStateChanged**([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)

Invoked when a window state is changed.

**Specified by:**[windowStateChanged](http://docs.google.com/java/awt/event/WindowStateListener.html#windowStateChanged(java.awt.event.WindowEvent)) in interface [WindowStateListener](http://docs.google.com/java/awt/event/WindowStateListener.html) **Since:** 1.4

### windowGainedFocus

public void **windowGainedFocus**([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)

Invoked when the Window is set to be the focused Window, which means that the Window, or one of its subcomponents, will receive keyboard events.

**Specified by:**[windowGainedFocus](http://docs.google.com/java/awt/event/WindowFocusListener.html#windowGainedFocus(java.awt.event.WindowEvent)) in interface [WindowFocusListener](http://docs.google.com/java/awt/event/WindowFocusListener.html) **Since:** 1.4

### windowLostFocus

public void **windowLostFocus**([WindowEvent](http://docs.google.com/java/awt/event/WindowEvent.html) e)

Invoked when the Window is no longer the focused Window, which means that keyboard events will no longer be delivered to the Window or any of its subcomponents.

**Specified by:**[windowLostFocus](http://docs.google.com/java/awt/event/WindowFocusListener.html#windowLostFocus(java.awt.event.WindowEvent)) in interface [WindowFocusListener](http://docs.google.com/java/awt/event/WindowFocusListener.html) **Since:** 1.4

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/WindowAdapter.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/java/awt/event/TextListener.html)   [**NEXT CLASS**](http://docs.google.com/java/awt/event/WindowEvent.html) | [**FRAMES**](http://docs.google.com/index.html?java/awt/event/WindowAdapter.html)    [**NO FRAMES**](http://docs.google.com/WindowAdapter.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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