Java Delegation Event Model DB

11 unread reply.88 replies.

What is the difference between implementing the event handler using a "Listener" vs. an "Adaptor"? Choose a unique(i.e., different from classmate's entries)  listener type and describe the event that causes the methods of the listener to be invoked.  In addition, describe a scenario where that listener type will be used in an application.

The following Java Tutorial link provides information related to listener.

[http://java.sun.com/docs/books/tutorial/uiswing/events/eventsandcomponents.html (Links to an external site.)](http://java.sun.com/docs/books/tutorial/uiswing/events/eventsandcomponents.html)

**What is the difference between implementing the event handler**

**using a "Listener" vs. an "Adaptor"?**

Some Listeners have more than one method so there is also an adaptor class:

The following classes show examples of listener and adapter pairs:

[package java.awt.event (Links to an external site.)](http://java.sun.com/javase/6/docs/api/java/awt/event/package-summary.html)

- ComponentListener/ComponentAdapter

- ContainerListener/ContainerAdapter

- FocusListener/FocusAdapter

- HierarchyBoundsListener/HierarchyBoundsAdapter

- KeyListener/KeyAdapter

- MouseListener/MouseAdapter

- MouseMotionListener/MouseMotionAdapter

- WindowListener/WindowAdapter

[package java.awt.dnd (Links to an external site.)](http://java.sun.com/javase/6/docs/api/java/awt/dnd/package-summary.html)

- DragSourceListener/DragSourceAdapter

- DragTargetListener/DragTargetAdapter

[package javax.swing.event (Links to an external site.)](http://java.sun.com/javase/6/docs/api/javax/swing/event/package-summary.html)

- InternalFrameListener/InternalFrameAdapter

- MouseInputListener/MouseInputAdapter

From: [https://blogs.oracle.com/CoreJavaTechTips/entry/listeners\_vs\_adapters (Links to an external site.)](https://docs.oracle.com/javase/7/docs/api/java/awt/event/FocusListener.html)

If your class implements one of the interfaces with multiple methods, it must override all the methods.

If you do not use all of the methods, the result is unused methods and extra code which is  harder to maintain.

The adaptor class for the listener enables you to just override the methods you need to use when you create a sublass of the adaptor class.(The adapter class implements empty versions of all its interface's methods.)

**Choose a unique(i.e., different from classmate's entries)**

**listener type and describe the event that causes the methods of the listener to be invoked**.

**Listener type**: FocusListener

From: [https://docs.oracle.com/javase/7/docs/api/java/awt/event/FocusListener.html (Links to an external site.)](https://docs.oracle.com/javase/7/docs/api/java/awt/event/FocusListener.html)

public interface FocusListener

extends [EventListener (Links to an external site.)](https://docs.oracle.com/javase/7/docs/api/java/util/EventListener.html)  
  
The listener interface for receiving keyboard focus events on a component. The class that is interested in processing a focus event either implements this interface (and all the methods it contains) or extends the abstract FocusAdapter class (overriding only the methods of interest). The listener object created from that class is then registered with a component using the component's addFocusListener method. When the component gains or loses the keyboard focus, the relevant method in the listener object is invoked, and the FocusEvent is passed to it.

From: [https://docs.oracle.com/javase/tutorial/uiswing/events/focuslistener.html (Links to an external site.)](https://docs.oracle.com/javase/7/docs/api/java/awt/event/FocusListener.html)

A focus listener, registered on each component, reports every   
focus-gained and focus-lost event.   
For each event, the other component involved in the focus change,   
the*opposite component*, is reported.   
For example, when the focus goes from a button to a text field, a focus-lost event is fired by the button (with the text field as the opposite component) and   
then a focus-gained event is fired by the text field (with the button as the opposite component).   
Focus-lost as well as focus-gained events can be temporary.   
For example, a temporary focus-lost event occurs when the window loses the focus.   
A temporary focus-gained event occurs on popup menus.

**Describe the Event that causes the methods of the Focus listener to be invoked:**

The focus listener methods are:

1. focusGaned:

void focusGained([FocusEvent (Links to an external site.)](https://docs.oracle.com/javase/7/docs/api/java/awt/event/FocusEvent.html" \o "class in java.awt.event" \t "_blank) e)  
Invoked when a component gains the keyboard focus.

2. focusLost:

void focusLost([FocusEvent (Links to an external site.)](https://docs.oracle.com/javase/7/docs/api/java/awt/event/FocusEvent.html" \o "class in java.awt.event" \t "_blank) e)  
  
Invoked when a component loses the keyboard focus.

An example of losing & gaining focus is when you click on another window, or tab or click inside a window to a different text field, menu, etc.

From the course text-book:

You can type in a TextField only if it’s “in focus”—that is, it’s the control that the user is interacting with. When you click an interactive control, it receives the focus.

Similarly, when you press the *Tab* key, the focus transfers from the current focusable control to the next one—this occurs in the order the controls were added to the GUI.

**In addition, describe a scenario where that listener type will be used in an application.**

I found some examples of the focusListener on the [oracle website (Links to an external site.)](https://docs.oracle.com/javase/7/docs/api/java/awt/event/FocusListener.html) that I downloaded and ran:

These let me test how the focus listener works.

You would use a focus listener when:

In some situations an application may need to track which component has   
the focus. This information might be used to dynamically update menus or   
perhaps a status bar. If you need to track the focus only on specific   
components, it may make sense to implement a [focus event listener (Links to an external site.)](https://docs.oracle.com/javase/tutorial/uiswing/events/focuslistener.html).  
  
From: [https://docs.oracle.com/javase/tutorial/uiswing/misc/focus.html (Links to an external site.)](https://docs.oracle.com/javase/7/docs/api/java/awt/event/FocusListener.html)

On example of using the Focus Listener  is to display information about a picture when the picture is clicked. This information changes when different pictures are clicked.