

Event-Driven Programming

- ❑ *Procedural programming* is executed in procedural order.
- ❑ In *event-driven programming*, code is executed upon activation of events.

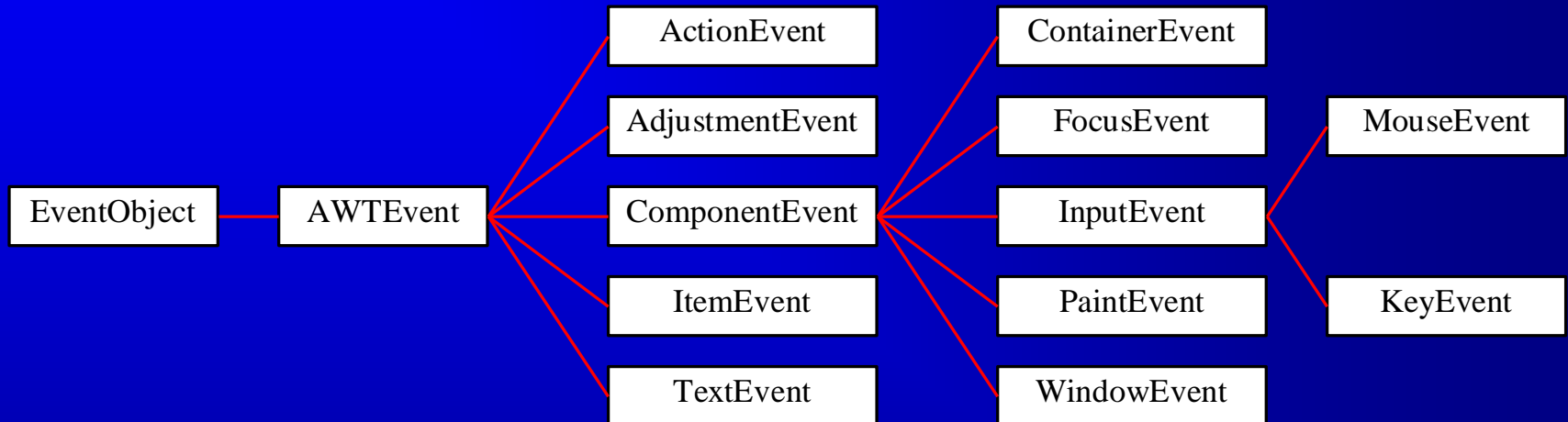


Events

- ❑ An *event* can be defined as a type of signal to the program that something has happened.
- ❑ The event is generated by external user actions such as mouse movements, mouse button clicks, and keystrokes, or by the operating system, such as a timer.



Event Classes



Event Information

- ❑ `id`: A number that identifies the event.
- ❑ `target`: The AWT component upon which the event occurred.
- ❑ `arg`: Additional information about the AWT components.
- ❑ `x`, `y` coordinates: The mouse pointer location when a mouse movement event occurred.
- ❑ `clickCount`: The number of consecutive clicks for the mouse events. For other events, it is zero.
- ❑ `when`: The time stamp of the event.
- ❑ `key`: The key that was pressed or released.



Selected Event Handlers

Event Class

ActionEvent

ItemEvent

WindowEvent

Listener Interface

ActionListener

ItemListener

WindowListener

Listener Methods (Handlers)

actionPerformed(ActionEvent)

itemStateChanged(ItemEvent)

windowClosing(WindowEvent)

windowOpened(WindowEvent)

windowIconified(WindowEvent)

windowDeiconified(WindowEvent)

windowClosed(WindowEvent)

windowActivated(WindowEvent)

windowDeactivated(WindowEvent)

ContainerEvent

ContainerListener

componentAdded(ContainerEvent)

componentRemoved(ContainerEvent)



Selected User Actions

User Action	Source Object	Event Type Generated
Clicked on a button	JButton	ActionEvent
Changed text	JTextComponent	TextEvent
Double-clicked on a list item	JList	ActionEvent
Selected or deselected an item with a single click	JList	ItemEvent
Selected or deselected an item	JComboBox	ItemEvent

