

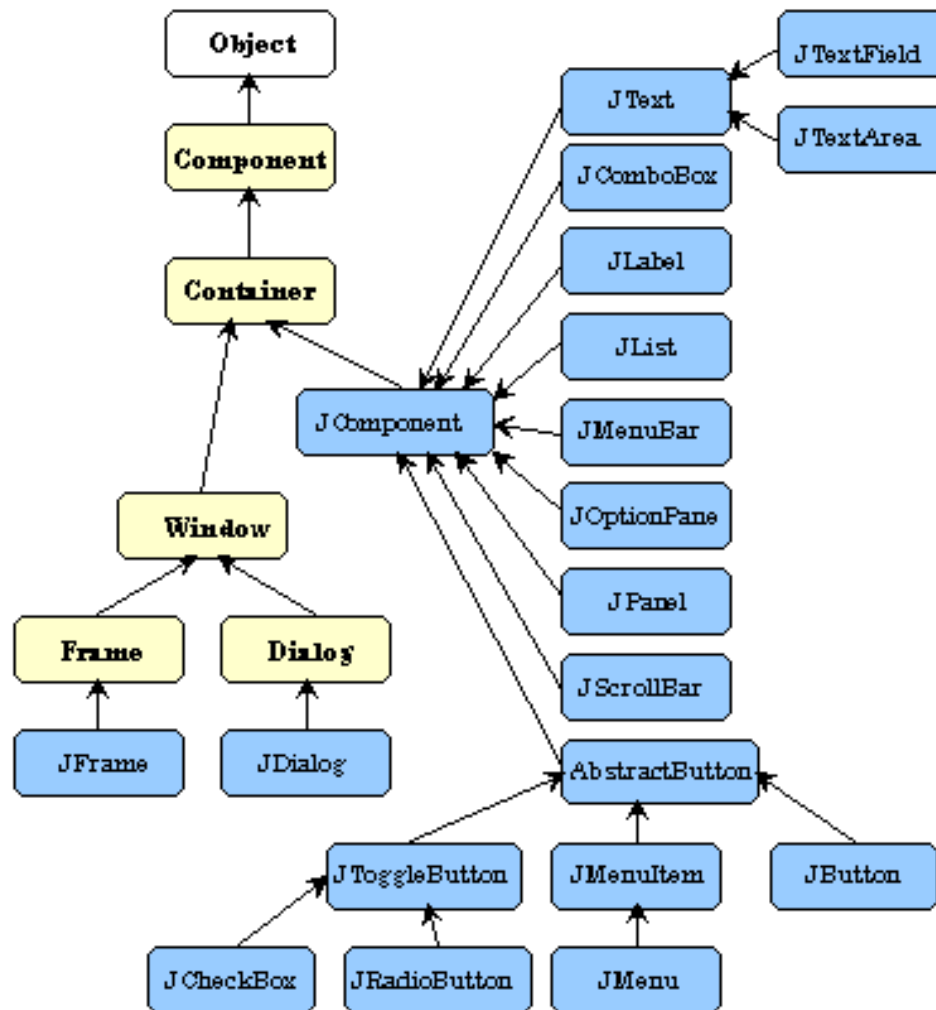
# **CHAPITRE 03**

## **GUI & PROGRAMMATION**

### **ÉVÉNEMENTIELLE**

<https://bit.ly/2FAwpvd>

# Swing and AWT



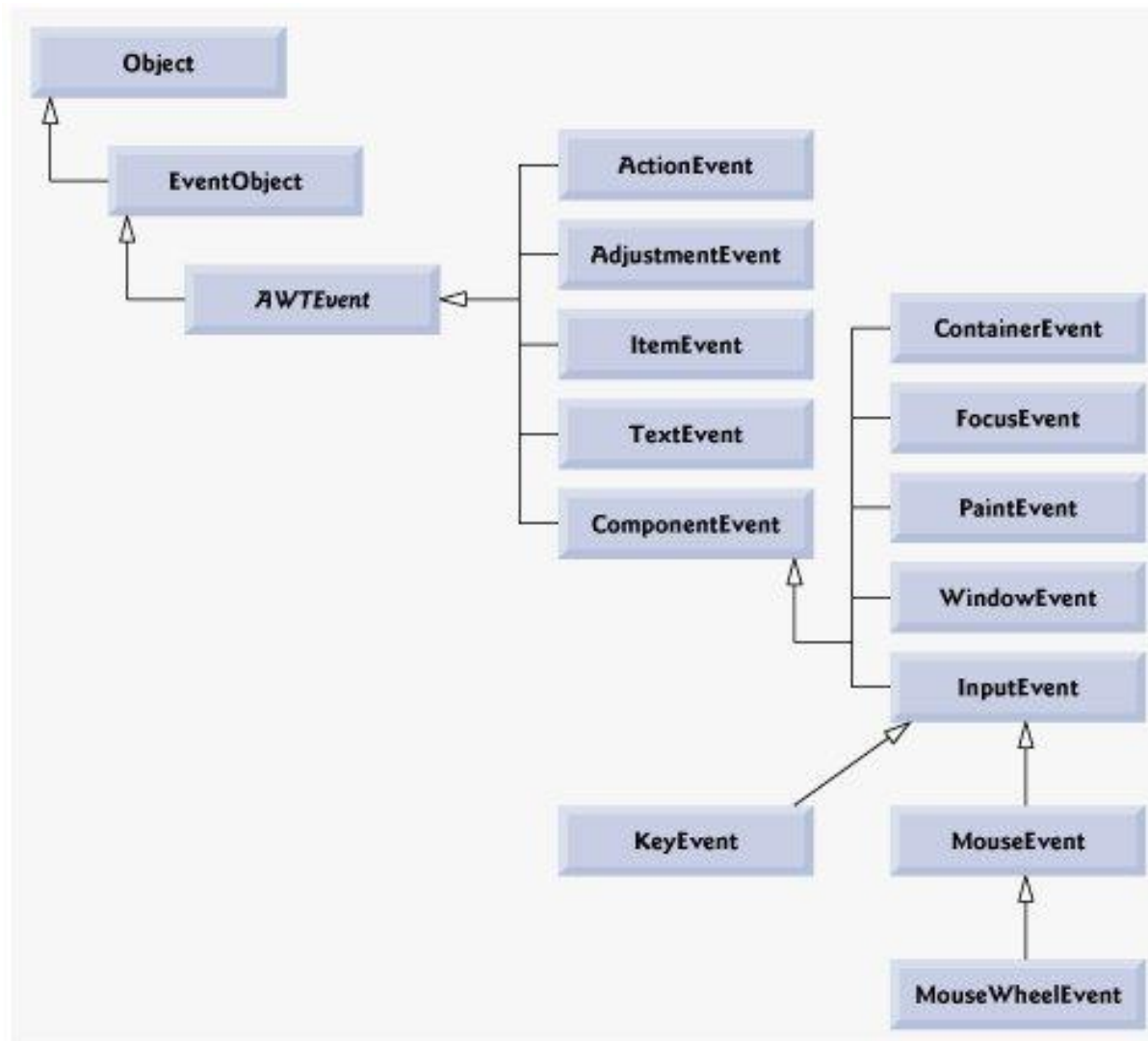
# Exemple : JFrame

```
import javax.swing.JFrame;

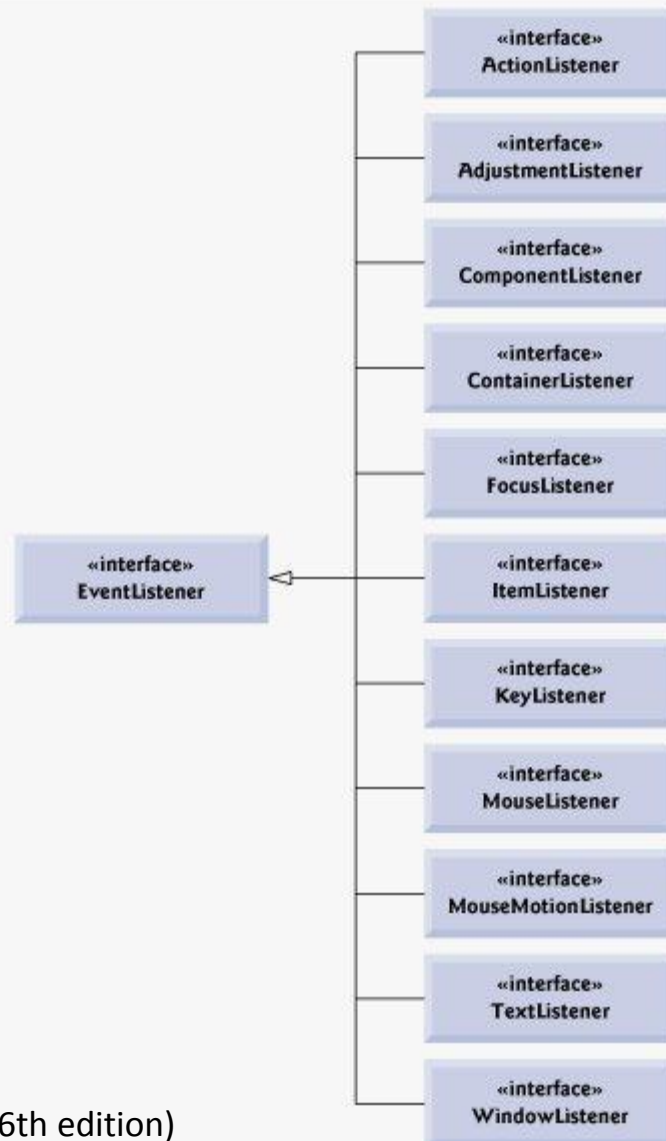
public class FrameExample {

    public static void main(String[] args) {
        JFrame f = new JFrame();
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        f.setTitle("Télécom Physique Strasbourg");
        f.setSize(500, 250);
        f.setVisible(true);
    }
}
```

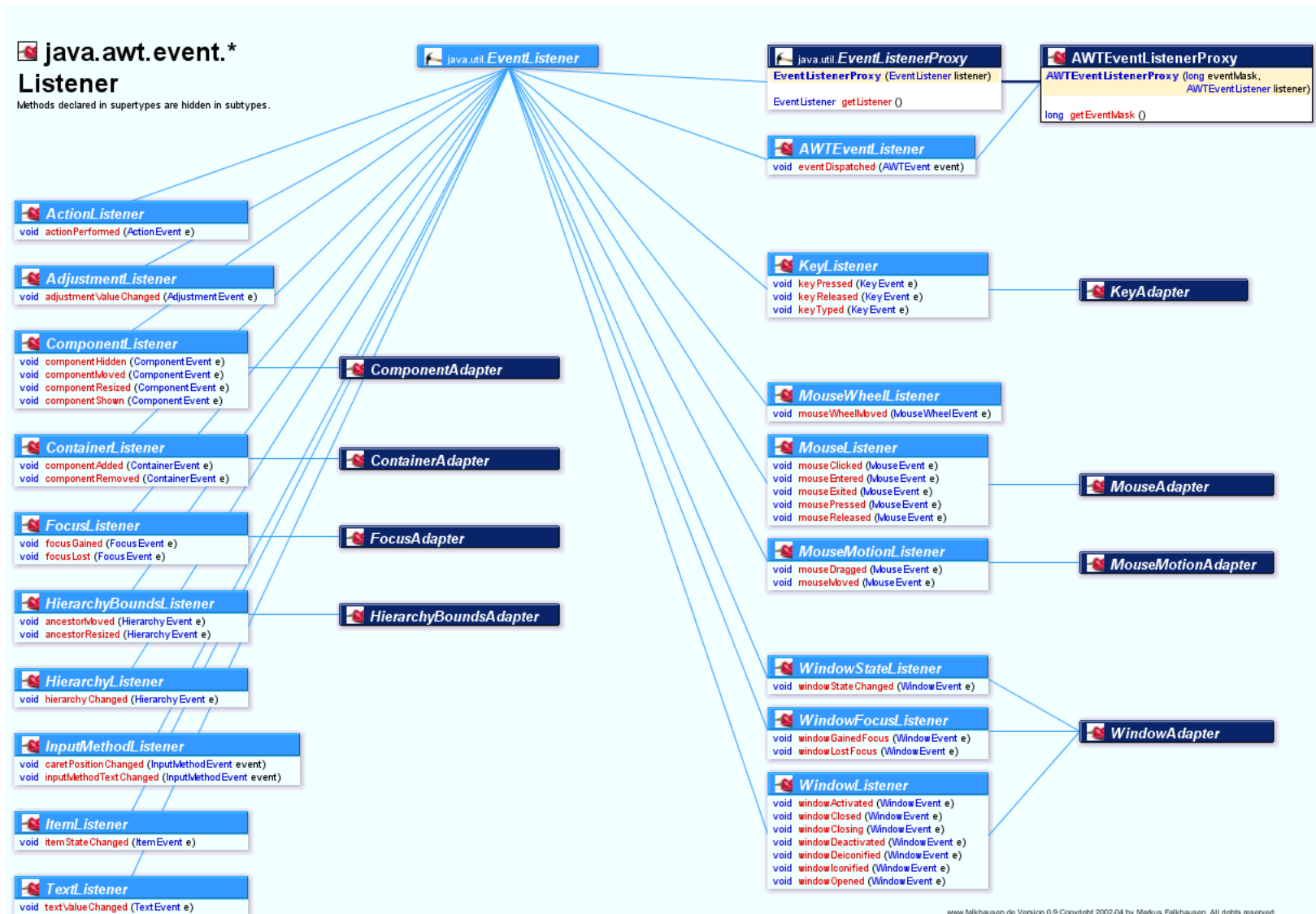
# Events



# Listener interfaces



# Listener interfaces



# JFrame

```
import javax.swing.JFrame;
```

```
public static void main(String[] args) {
```

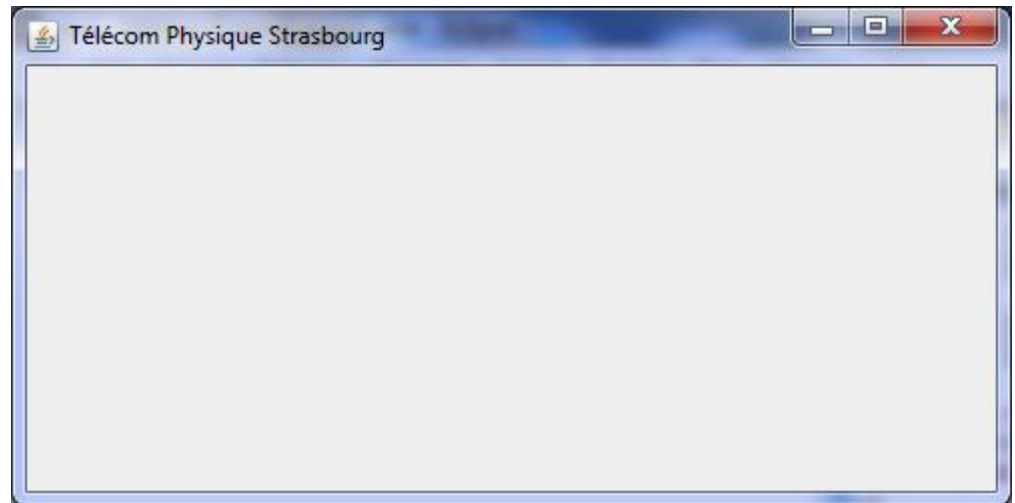
```
    JFrame f = new JFrame("Télécom Physique Strasbourg");
```

```
    f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

```
    f.setSize(500, 250);
```

```
    f.setVisible(true);
```

```
}
```



# Exemple KeyListeners

```
import java.awt.event.KeyEvent;
import java.awt.event.KeyListener;
import javax.swing.JFrame;
import javax.swing.JOptionPane;

public class FrameExample {

    public static void main(String[] args) {
        JFrame f = new JFrame();
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        f.addKeyListener(new MyListener());

        f.setTitle("Télécom Physique Strasbourg");
        f.setSize(500, 250);
        f.setVisible(true);
    }
}

class MyListener implements KeyListener{
    String s="";
    public void keyPressed(KeyEvent e){}
    public void keyReleased(KeyEvent e){}
    public void keyTyped(KeyEvent e){
        char ch = e.getKeyChar();
        if (ch != 'x')s+=ch;
        else JOptionPane.showMessageDialog(null, s, "Votre saisie :",
            JOptionPane.INFORMATION_MESSAGE);
    }
}
```



# Avec classes imbriquées

```
import java.awt.event.KeyEvent;
import java.awt.event.KeyListener;
import javax.swing.JFrame;
import javax.swing.JOptionPane;

public class FrameExample {

    public static void main(String[] args) {
        JFrame f = new JFrame();
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        f.addKeyListener(new FrameExample.MyListener());

        f.setTitle("Télécom Physique Strasbourg");
        f.setSize(500, 250);
        f.setVisible(true);
    }

    static class MyListener implements KeyListener{
        String s="";
        public void keyPressed(KeyEvent e){}
        public void keyReleased(KeyEvent e){}
        public void keyTyped(KeyEvent e){
            char ch = e.getKeyChar();
            if (ch != 'x')
                s+=ch;
            else JOptionPane.showMessageDialog(null, s, "Votre saisie :",
                JOptionPane.INFORMATION_MESSAGE);
        }
    }
}
```

# Avec classe anonyme

```
import java.awt.event.KeyEvent;
import java.awt.event.KeyListener;
import javax.swing.JFrame;
import javax.swing.JOptionPane;

public class FrameExample {

    public static void main(String[] args) {
        JFrame f = new JFrame();
        f.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        f.addKeyListener(new KeyListener(){

            String s="";
            public void keyPressed(KeyEvent e){}
            public void keyReleased(KeyEvent e){}
            public void keyTyped(KeyEvent e){
                char ch = e.getKeyChar();
                if (ch != 'x') s+=ch;
                else JOptionPane.showMessageDialog(null, s, "Votre saisie :",
                    JOptionPane.INFORMATION_MESSAGE);
            }

        });

        f.setTitle("Télécom Physique Strasbourg");
        f.setSize(500, 250);
        f.setVisible(true);
    }
}
```

# Exploiter l'héritage

```
import ...
public class FrameExample extends JFrame implements KeyListener{
    String s="";
    public FrameExample(String s){
        super(s);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        addKeyListener(this);
        setSize(500, 250);
        setVisible(true);
    }
    public void keyPressed(KeyEvent e){}
    public void keyReleased(KeyEvent e){}
    public void keyTyped(KeyEvent e){
        char ch = e.getKeyChar();
        if (ch != 'x') s+=ch;
        else JOptionPane.showMessageDialog(null, s, "Votre saisie :",
JOptionPane.INFORMATION_MESSAGE);
    }
}
```

```
public class MyApp {
    public static void main(String[] args) {
        FrameExample f = new FrameExample("Télécom Physique Strasbourg");
    }
}
```

# Buttons

```
public class MyFrame extends JFrame implements ActionListener{
    JButton bleu, rouge;
    Container cont;
    public MyFrame(){

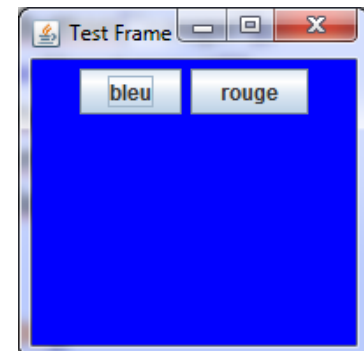
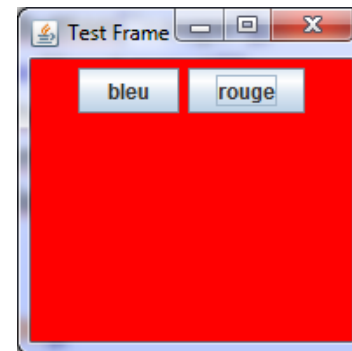
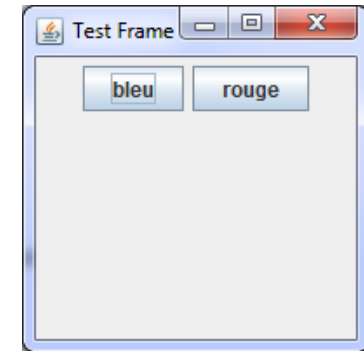
        setTitle("Test Frame");
        bleu = new JButton("bleu");
        rouge = new JButton("rouge");
        setLayout(new FlowLayout());
        cont = getContentPane();
        bleu.addActionListener(this);
        rouge.addActionListener(this);
        add(bleu);
        add(rouge);
        setSize(200,200);
        setVisible(true);

    }

    public void actionPerformed(ActionEvent e){
        if (e.getSource()==bleu) cont.setBackground(Color.BLUE);
        else cont.setBackground(Color.RED);

    }

}
```



# BorderLayout

```
public class MyFrame extends JFrame implements ActionListener{
    public MyFrame(){
        setTitle("Border Layout Example");
        setLayout(new BorderLayout());
        JButton button = new JButton("Button 1 (PAGE_START)");
        button.addActionListener(this);
        add(button, BorderLayout.PAGE_START);

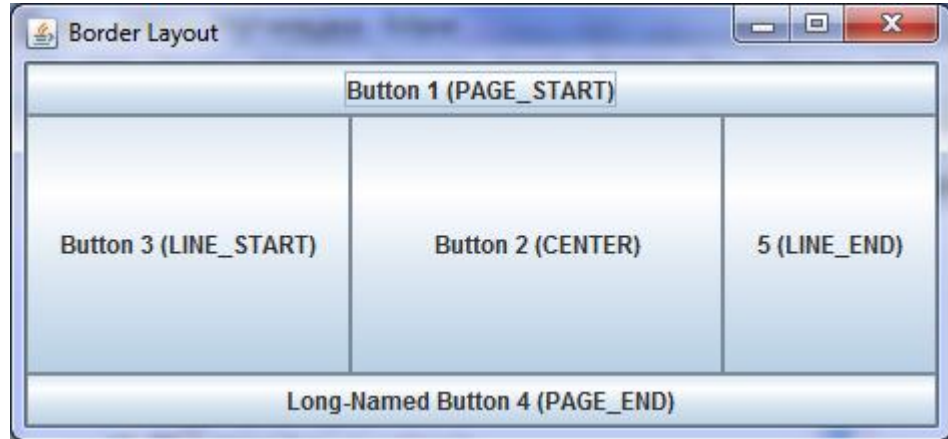
        button = new JButton("Button 2 (CENTER)");
        button.addActionListener(this);
        add(button, BorderLayout.CENTER);

        button = new JButton("Button 3 (LINE_START)");
        button.addActionListener(this);
        add(button, BorderLayout.LINE_START);

        button = new JButton("Long-Named Button 4 (PAGE_END)");
        button.addActionListener(this);
        add(button, BorderLayout.PAGE_END);

        button = new JButton("5 (LINE_END)");
        button.addActionListener(this);
        add(button, BorderLayout.LINE_END);
        setSize(200,200);
        setVisible(true);
    }
    public void actionPerformed(ActionEvent e){ System.out.println(e.getActionCommand()); }
}
```

# BorderLayout



## Autres Layouts

CardLayout

BoxLayout

GridLayout

GridBagLayout

GroupLayout

SpringLayout

FlowLayout

<http://docs.oracle.com/javase/tutorial/uiswing/layout/layoutlist.html>

# JPanel

```
public class MyFrame extends JFrame {  
    public MyFrame(){  
        setTitle("BorderLayout in a JPanel");  
        setLayout(new GridLayout());
```

```
JPanel pan1 = new JPanel();  
pan1.setBackground(Color.BLUE);  
pan1.setLayout(new FlowLayout());
```

```
JPanel pan2 = new JPanel();  
pan2.setLayout(new GridLayout());
```

```
JButton button = new JButton("Button 1");  
pan1.add(button);
```

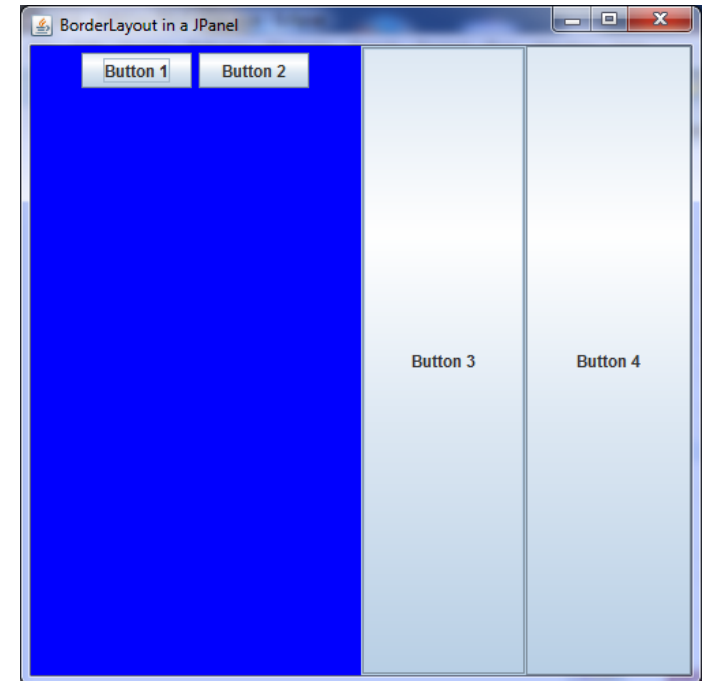
```
button = new JButton("Button 2");  
pan1.add(button);
```

```
button = new JButton("Button 3");  
pan2.add(button);
```

```
button = new JButton("Button 4");  
pan2.add(button);
```

```
add(pan1);  
add(pan2);
```

```
}
```



```
public class MyFrame extends JFrame implements MouseListener{
```

```
    JLabel label;
```

```
    public MyFrame(){
```

```
        label = new JLabel("Click!");
```

```
        addMouseListener(this);
```

```
        add(label);
```

```
        setSize(200,200);
```

```
        setVisible(true);
```

```
    }
```

```
    public void mouseClicked(MouseEvent e) {
```

```
        JOptionPane.showMessageDialog(this, "Mouse clicked");
```

```
    }
```

```
    public void mouseEntered(MouseEvent e) {
```

```
        label.setForeground(Color.GREEN);
```

```
    }
```

```
    public void mouseExited(MouseEvent e) {
```

```
        label.setForeground(Color.RED);
```

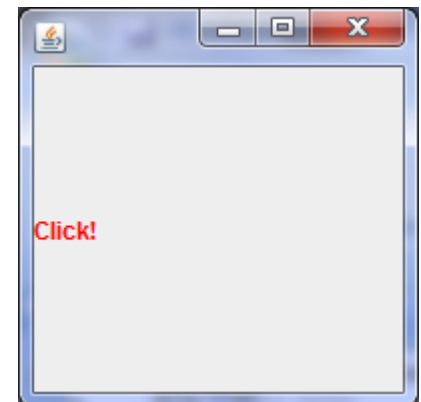
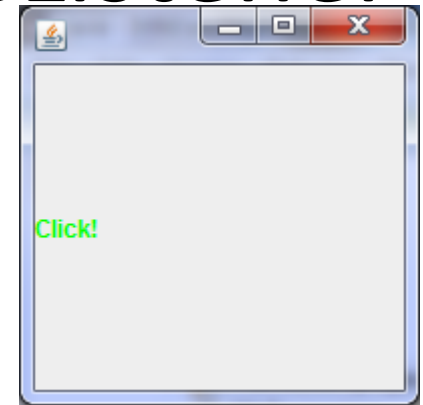
```
    }
```

```
    public void mousePressed(MouseEvent arg0) {}
```

```
    public void mouseReleased(MouseEvent e) {}
```

```
}
```

# MouseListener





```

public class MyFrame extends JFrame implements ActionListener{
    public MyFrame(){
        JMenuBar nb = new JMenuBar();
        setLayout(new GridLayout());
        JMenu fichier = new JMenu("Fichier");
        JMenu edition = new JMenu("Edition");
        JMenuItem nouveau = new JMenuItem("Nouveau");
        JMenuItem ouvrir = new JMenuItem("Ouvrir");

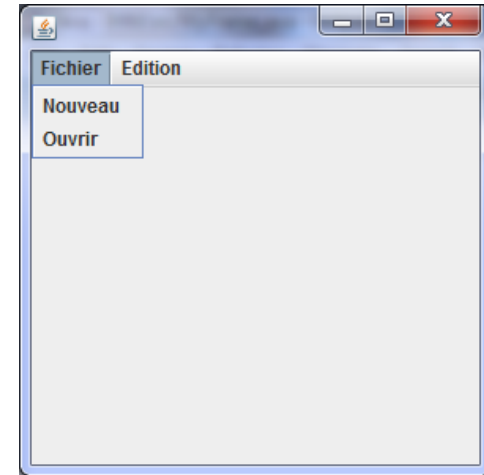
        fichier.add(nouveau);
        fichier.add(ouvrir);
        nouveau.addActionListener(this);
        ouvrir.addActionListener(this);

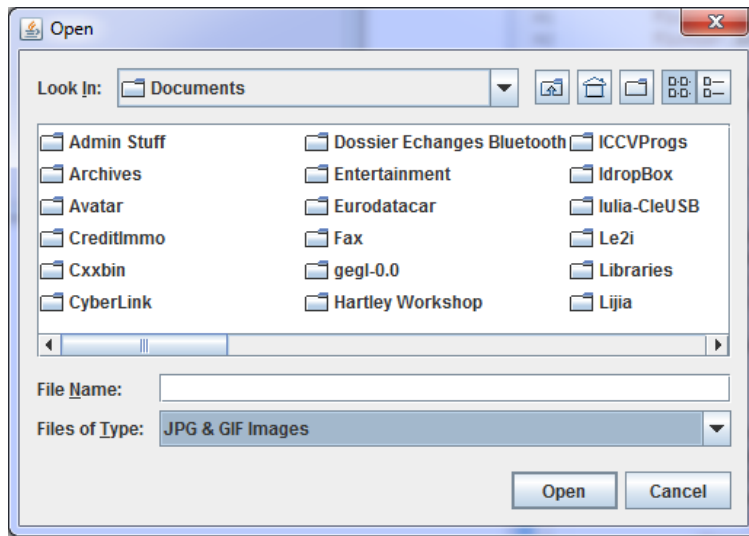
        JMenuItem recherche = new JMenuItem("Recherche");
        JMenuItem indentation = new JMenuItem("Indentation");
        edition.add(recherche);
        edition.add(indentation);
        nb.add(fichier);
        nb.add(edition);

        setJMenuBar(nb);
    }
    public void actionPerformed(ActionEvent arg0) {
        System.out.println(arg0.getActionCommand());
    }
}

```

# JMenu





# JFileChooser

```

public void actionPerformed(ActionEvent arg0) {
    if (arg0.getActionCommand().equals("Ouvrir")){
        JFileChooser chooser = new JFileChooser();
        FileNameExtensionFilter filter = new FileNameExtensionFilter(
            "JPG & GIF Images", "jpg", "gif");
        chooser.setFileFilter(filter);
        int returnVal = chooser.showOpenDialog(this);
        if(returnVal == JFileChooser.APPROVE_OPTION) {
            System.out.println("You chose to open this file: " +
                chooser.getSelectedFile().getName());
        }
    }
}

```

# Component (Dessin)

```
public class MyFrame extends JFrame {  
  
    public MyFrame(){  
        setLayout(new GridLayout());  
  
        add(new Component(){  
  
            public void paint(Graphics g){  
                g.drawRect(20,20,100,100);  
                repaint();  
            }  
        });  
    }  
}
```

