Exemples sur les interfaces graphiques

Exemple 1 Création d'une première fenêtre

```
package TG1;
import javax.swing.JFrame;
public class InterfaceG1 {

private JFrame fenetre;

public InterfaceG1()
{
fenetre = new JFrame("premiere_fenetre");
fenetre.setSize(300,300);

fenetre.setLocation (100,100);
        fenetre.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        fenetre.setVisible(true);

}
    public static void main (String[]  argv) {
    InterfaceG1  monInterface = new InterfaceG1();

}

}
```

Exemple 2 Création d'un premier bouton

```
package TG1;
import java.awt.BorderLayout;
import java.awt.GridLayout;
import javax.swing.JButton;
import javax.swing.JFrame;
import javax.swing.JPanel;
public class InterfaceG3  extends JFrame{
private JFrame fenetre;
private JButton bouton;
private JPanel panel;

public InterfaceG3()
{
fenetre = new JFrame (" Fenetre Bouton ");
fenetre.setSize(500,500);

// fenetre.setLocation(100,100);

setDefaultCloseOperation (JFrame.EXIT_ON_CLOSE);
panel = new  JPanel();
    bouton = new JButton ("bouton");
    panel.add(bouton);
    getContentPane().add(bouton);
pack();
setVisible(true);
}

public static void main (String[]  argv) {
InterfaceG3  monInterface = new InterfaceG3();


}

}
```

Exemple 3 FlowLayout

```
package TG1;
import java.awt.FlowLayout;
import javax.swing.JButton;
import javax.swing.JFrame;
import java.awt.event.WindowAdapter;
import java.awt.event.WindowEvent;

public class InterfaceG4  extends JFrame {
public InterfaceG4()
{

JFrame fenetre = new JFrame (" Exemple de FlowLayout ");


/* Ajouter un listener pour intercepter des événements
 sur la fenetre
addWindowListener ( new WindowAdapter ()
{

 public void windowClosing (WindowEvent event)
  {
 setVisible(false);
 dispose();
 System.exit(0);
  } }

) ;   */

// Définir  le flowLayout
setLayout (new FlowLayout (FlowLayout.LEFT, 20, 20));
add(new JButton ("Bouton1"));
add(new JButton ("Bouton2"));
add(new JButton ("Bouton3"));
add(new JButton ("Bouton4"));
 add(new JButton ("Bouton5"));
add(new JButton ("Bouton6"));
 add(new JButton ("Bouton7"));

pack();
}


 public static void main (String[]  argv) {
InterfaceG4  Interface = new InterfaceG4();
```

```
 Interface.setVisible(true);


}
}
```

Exemple 4 GridLayout

```
package TG1;
import java.awt.GridLayout;
import javax.swing.JButton;
import javax.swing.JFrame;
import java.awt.event.WindowAdapter;
import java.awt.event.WindowEvent;

public class InterfaceG5  extends JFrame {
public InterfaceG5()
{


JFrame fenetre = new JFrame (" Exemple de Grid Layout ");




// Définir  le GridLayout

setLayout (new GridLayout (4,2));
add(new JButton ("Bouton1"));
add(new JButton ("Bouton2"));
add(new JButton ("Bouton3"));
add(new JButton ("Bouton4"));
add(new JButton ("Bouton5"));
add(new JButton ("Bouton6"));
 add(new JButton ("Bouton7"));

pack();
}


public static void main (String[]  argv) {
InterfaceG5  Interface = new InterfaceG5();
Interface.setVisible(true);


}
}
```

Exemple 5 BorderLayout

```
package TG1;
import java.awt.BorderLayout;
import javax.swing.JButton;
import javax.swing.JFrame;
import java.awt.event.WindowAdapter;
import java.awt.event.WindowEvent;

public class InterfaceG6  extends JFrame {
public InterfaceG6()
{


JFrame fenetre = new JFrame (" Exemple de Border Layout ");



// Définir  le flowLayout

setLayout (new BorderLayout());
add("North", new JButton ("Bouton1"));
add("South", new JButton ("Bouton2"));
add( "West", new JButton ("Bouton3"));
add("East", new JButton ("Bouton4"));
add("Center", new JButton ("Bouton5"));


pack();
}


public static void main (String[]  argv) {
InterfaceG6 Interface = new InterfaceG6();
Interface.setVisible(true);


}
}
```

bf Exemple de boutons

Exemple 6 Ecouteurs de clics d'une fenetre : Plusieurs approches

1. **Approche 1**

```
// La fenetre
package EXO1;
import javax.swing.*;
import java.awt.event.*;
public class Fenetre1  extends JFrame implements MouseListener {

public Fenetre1()
    {
setTitle("Gestion des clics sur fenetre");
             setBounds (10, 20, 300, 200);
             addMouseListener (this);
    }

 public void mousePressed (MouseEvent ev )
  {  System.out.println( " Clic appuyé en " + ev.getX() + " " + ev.getY());
  }

  public void mouseReleased (MouseEvent ev)
  {  System.out.println( " Clic relache  en " + ev.getX() + " " + ev.getY());
  }
 public void mouseClicked (MouseEvent ev )  { }
 public void mouseEntered (MouseEvent ev )  { }
 public void mouseExited (MouseEvent ev )  { }
}
```

```
// Le main
//package EXO1;
import javax.swing.*;

public class Clic1 {
public static void main(String[] args) {
   Fenetre1 fen = new Fenetre1();
fen.setVisible(true);
}

}
```

2. **Approche 2**

```
// La fenetre
package EXO2;
import javax.swing.*;
public class Fenetre2  extends JFrame{
    public Fenetre2()
    {
setTitle("Gestion des clics sur fenetre");
               setBounds (10, 20, 300, 200);
               addMouseListener (new Ecoute());}

}


// L'écouteur ou controleur

ackage EXO2;
import javax.swing.*;
public class Ecoute  implements MouseListener
{
    public void mousePressed (MouseEvent ev )
  {  System.out.println( " Clic appuyé en " + ev.getX() + " " + ev.getY());
    }

  public void mouseReleased (MouseEvent ev )
  {  System.out.println( " Clic relache  en " + ev.getX() + " " + ev.getY());
    }
  public void mouseClicked (MouseEvent ev )  { }
  public void mouseEntered (MouseEvent ev )  { }
  public void mouseExited (MouseEvent ev )  { }
}




//  Le main
package EXO2;
import javax.swing.*;

public class Clic2 {
 public static void main(String[] args) {
  Fenetre2 fen = new Fenetre2();
fen.setVisible(true);
    }
}
```

3. **Approche 3**

```
// La fenetre

package EXO3;
import javax.swing.*;
import java.awt.event.*;
public class Fenetre3 extends JFrame  {

 public Fenetre3()

    {
setTitle("Gestion des clics sur fenetre");
             setBounds (10, 20, 300, 200);
             addMouseListener (new Ecoute());}

}


// L'ecoute

package EXO3;
import javax.swing.*;
import java.awt.event.*;

public class Ecoute extends  MouseAdapter  {
 public void mousePressed (MouseEvent ev )
  {  System.out.println( " Clic appuyé en " + ev.getX() + " " + ev.getY());
 }

  public void mouseReleased (MouseEvent ev )
 {  System.out.println( " Clic relache  en " + ev.getX() + " " + ev.getY());
   }

}


// Le main
package EXO3;
import javax.swing.*;
import java.awt.event.*;
public class Clic3 {
public static void main(String[] args)

 { Fenetre3 fen = new Fenetre3();
fen.setVisible(true);
    }
}
```

4. **Approche 4**

```
//  La fenetre
package EXO4;
import javax.swing.*;
public class Fenetre4

extends JFrame{
    public Fenetre4()

 {  setTitle("Gestion des clics sur fenetre");
        setBounds (10, 20, 300, 200);
         addMouseListener (new MouseAdapter()

{
   public void mousePressed (MouseEvent ev )
 {  System.out.println( " Clic appuyé en " + ev.getX() + " " + ev.getY());
 }

 public void mouseReleased (MouseEvent ev )
{  System.out.println( " Clic relache  en " + ev.getX() + " " + ev.getY());
}

   });
    }
}



// Le main
package EXO4;
import javax.swing.*;

public class Clic4 {
public static void main(String[] args) {
  Fenetre4 fen = new Fenetre4();
fen.setVisible(true);
    }
}
```

Exemple 7 Ecouteurs de clics sur plusieurs fenetres

```
// La fenetre

package EXO5;
import javax.swing.*;
import java.awt.event.*;
public class Fenetre5

extends JFrame implements MouseListener {
    private static int nbFen =0;
    private int num;
     public Fenetre5()


    {           nbFen++;
            num = nbFen;

setTitle("Fenetre de numero" + num);
                setBounds (10, 20, 300, 200);
                addMouseListener (this);
    }


    public void mousePressed (MouseEvent ev )
    {  System.out.println( " Clic appuyé dans fenetre " + num +"en"  + ev.getX() + "
    }

  public void mouseReleased (MouseEvent ev )
    {  System.out.println( " Clic relache dans fenetre" + num + " en " + ev.getX() +
    }

   public void mouseClicked (MouseEvent ev ) { }
   public void mouseEntered (MouseEvent ev ) { }
    public void mouseExited (MouseEvent ev ) { }


    }



// Le main

package EXO5;
import javax.swing.*;
```

```
public class Clic5 {

public static void main(String[] args) {
final int nbFen =3;
        for (int i=0; i < nbFen; i++)
    {
 Fenetre5 fen = new Fenetre5();
fen.setVisible(true);
    }
    }
}
```

Exemple 8 Idem avec un écouteur séparé

```
// La fenetre
package EXO6;
import javax.swing.*;
public class Fenetre6 extends JFrame{

 private static int nbFen =0;
    private int num;

     public Fenetre6()


    {   nbFen++;
         num = nbFen;

setTitle("Fenetre de numero" + num);
         setBounds (10, 20, 300, 200);
                addMouseListener (new Ecoute(num));
    }
}
```

```
// L'ecoute

package EXO6;
import javax.swing.*;
public class Ecoute  extends  MouseAdapter
{
     private int num;
    public Ecoute (int num)
    {this.num = num;}

 public void mousePressed (MouseEvent ev )
    {  System.out.println( " Clic appuyé dans fenetre " + num +"en"  + ev.getX() + "
    }

  public void mouseReleased (MouseEvent ev )
    {  System.out.println( " Clic relache dans fenetre" + num + " en " + ev.getX() +
    }



}
```

```
// Le main
package EXO6;
import javax.swing.*;

public class Clic6 {

public static void main (String[] argv)
    {

final int nbFen =3;
        for (int i=0; i < nbFen; i++)
    {    Fenetre6 fen = new Fenetre6();
        fen.setVisible(true);
    }
    }


}
```

Exemple 9 Création de bouton et choix d'un gestionnaire FloyaLaout

```
// La fenetre
package EXO7;
import javax.swing.JButton;

public class Fenetre7  extends JFrame implements ActionListener
  private static int nBout;
 private JButton[] boutons;
 public Fenetre7(int nBout)
{ this.nBout = nBout;
setTitle(" Gestion de boutons");
 setSize (300,400);
Container contenu = getContentPane();
contenu.setLayout(new FlowLayout());
boutons = new JButton[nBout];
 for (int i= 0; i < nBout; i++)
 { boutons[i] = new JButton ("Bouton" + (i+1));
contenu.add(boutons[i]);
boutons[i].addActionListener (this);
    }
} public void actionPerformed (ActionEvent e)
 { Object source = e.getSource();
for (int i =0; i < nBout; i++)
  if (source == boutons[i]) System.out.println("Action sur bouton" + (i+1));
    }

}



// Le main

package EXO7;
import javax.swing.*;
public class Clic7 {

public static void main(String[] args) {

System.out.println("Combien de boutons");
Scanner sc = new Scanner (System.in);
        int nBoutons = sc.nextInt();
         Fenetre7 fen = new Fenetre7 (nBoutons);
fen.setVisible(true);
    }
    }
```

Exemple 10 Gestion de boutons autre exemple

```
// La fenetre
package EX08;
import java.awt.BorderLayout;

public class Fenetre8  extends JFrame  implements ActionListener{


private JButton Bouton1;
private JButton Bouton2;
private JButton Bouton3;
private JPanel panel;
private JLabel titre;
private JLabel message;
public Fenetre8()
{   super(" Exemple de boutons interactifs ");

 setLocation(500, 500);
 setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

                 // Définir un border Layout

getContentPane().setLayout(new BorderLayout(5,5));

Bouton1 = new JButton(" Bouton 1");
Bouton2 = new JButton(" Bouton 2");
Bouton3 = new JButton(" Bouton 3");

   panel = new JPanel (new GridLayout (3,1));

   panel.add(Bouton1);
   panel.add(Bouton2);
   panel.add(Bouton3);

   Bouton1.addActionListener(this);
   Bouton2.addActionListener(this);
   Bouton3.addActionListener(this);
    titre = new JLabel ("Mon Canevas");
     message = new JLabel ("Cliquez sur un des boutons");

     getContentPane().add (BorderLayout.NORTH, panel);
     getContentPane().add (message);
     getContentPane().add (BorderLayout.WEST, panel);

    pack();
```

```
}

     public void actionPerformed(ActionEvent e)
     {
      System.out.println(e.getActionCommand());
      message.setText(e.getActionCommand()); }
}

// Le main

ackage EX08;

public class Clic8 {


public static void main(String[] args) {

      Fenetre8  fenetre = new Fenetre8();
     fenetre.setVisible(true);
}

}
```

Exemple 11 Creation de boutons dynamiques

```
//package EX09;

import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

public class BoutonDynamique  extends JFrame implements ActionListener {


private JButton creation, suppression;
     private JPanel panel;
private static int nBout =0;
private JButton[] boutons;
private boolean[] boutSelec;

public  BoutonDynamique(int nBoutMax)
{
setTitle ("Creation et suppresion de boutons max =  " + nBoutMax );

setSize (500, 200);
```

```
Container contenu = getContentPane();


//  Création de BOUTON
creation = new JButton("CREATION");
    contenu.add(creation, "North");
    creation.addActionListener(this);


// Création de SUPPRESSION
suppression = new JButton("SUPPRESSION");
contenu.add(suppression, "South");
 suppression.addActionListener(this);

  // Associer les boutons au panel
 panel = new JPanel();
 contenu.add(panel);

 // Création d'un tableau de boutons vide
 boutons = new JButton[nBoutMax];

 // Création d'un tableau de booléens
 boutSelec = new   boolean[nBoutMax];
    }

 public void actionPerformed (ActionEvent e)
 {
 Object source =  e.getSource();
 // Créer un nouveau bouton de taille jaune
 if (source == creation)
   { boutons[nBout] = new JButton ( "BOUTON"+(nBout+1));
   boutons[nBout].setBackground(Color.yellow)  ;
   boutSelec[nBout] = false;
   panel.add(boutons[nBout]);
   boutons[nBout].addActionListener(this);
   panel.validate();
   nBout ++;
   }


 if (source == suppression)
 {  for (int i =0; i < nBout; i++ )
 if (boutSelec[i]) panel.remove(boutons[i]);
 panel.validate();
   }
 for (int i =0; i < nBout; i++ )
```

```
  if  (source == boutons[i] )
 if (boutSelec[i])
 { boutSelec[i]  = false;
   boutons[i].setBackground(Color.yellow)  ;
 }
 else
 { boutSelec[i]  = true;
   boutons[i].setBackground(Color.red)  ;
  }
 }
 }
```

Classe main

```
public class Clic9 {

/**
 * @param args
 */
public static void main(String[] args) {

BoutonDynamique fenetre  = new BoutonDynamique (30);
fenetre.setVisible(true);
}
}
```