Java SWING

MATA55 - Programação Orientada a Objetos

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Agenda I

- Swing é uma API Java para interfaces gráficas.
- Faz parte da JFC (Java Foundation Classes) que encapsula um grupo de 'features' para GUIs (Graphical User Interfaces).

Introdução

Por que estudar Java Swing

Swing vs. others

- Editor convencional.
- Plugins Drop & Drag.

Codificando no Editor convencional

```
package br.ufba.mata55;

import javax.swing.JFrame;
import javax.swing.JPanel;
import javax.swing.SwingUtilities;


public class HelloWorldSwing extends JFrame {

        public HelloWorldSwing() {
        initUI();
    }

    private void initUI() {

       JPanel panel = new JPanel();
       getContentPane().add(panel);
```

```
        panel.setLayout(null);

        setTitle("Hello World!");
        setSize(300, 200);
        setLocationRelativeTo(null);
        setDefaultCloseOperation(EXIT_ON_CLOSE);
    }

    public static void main(String[] args) {

        SwingUtilities.invokeLater(new Runnable() {
            @Override
            public void run() {
                HelloWorldSwing ex = new HelloWorldSwing();
                ex.setVisible(true);
            }
        });
    }
```

```
}
```

Figura: HelloWordSwing.java

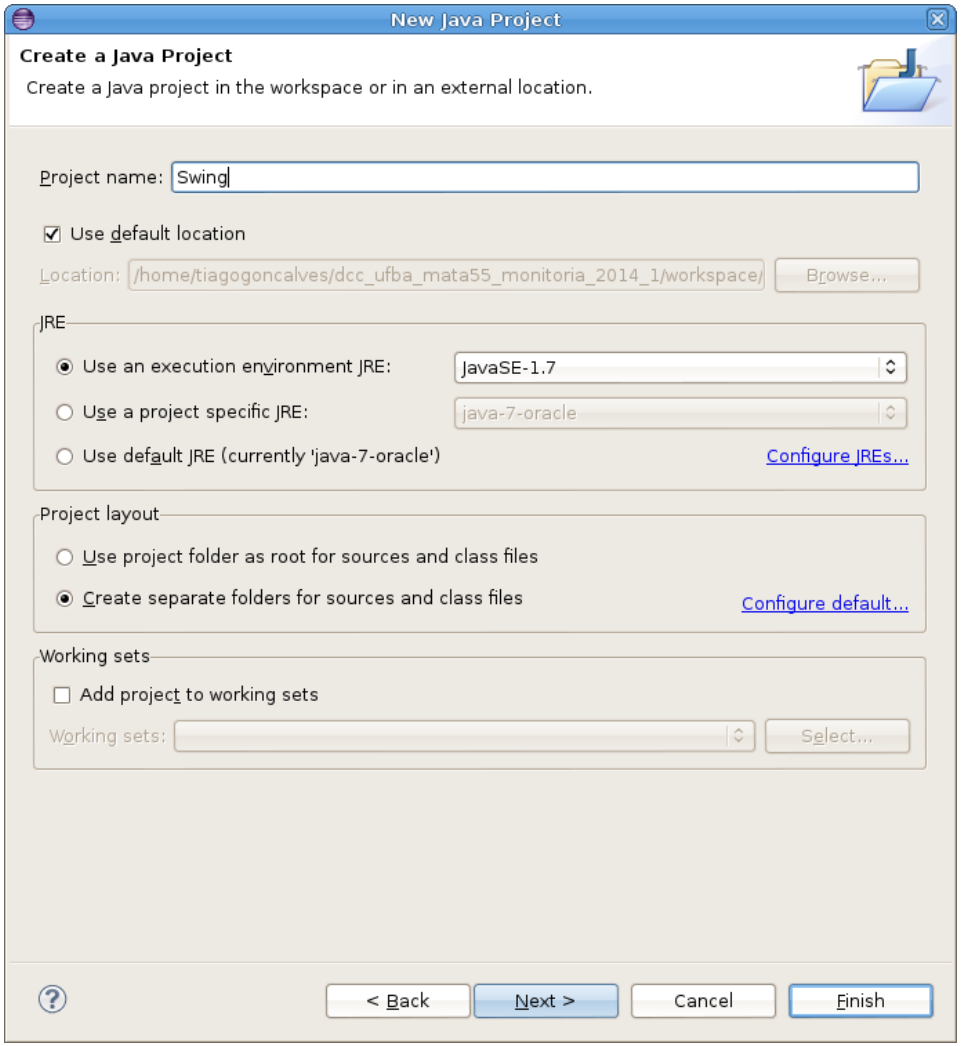

Figura: Projeto Java

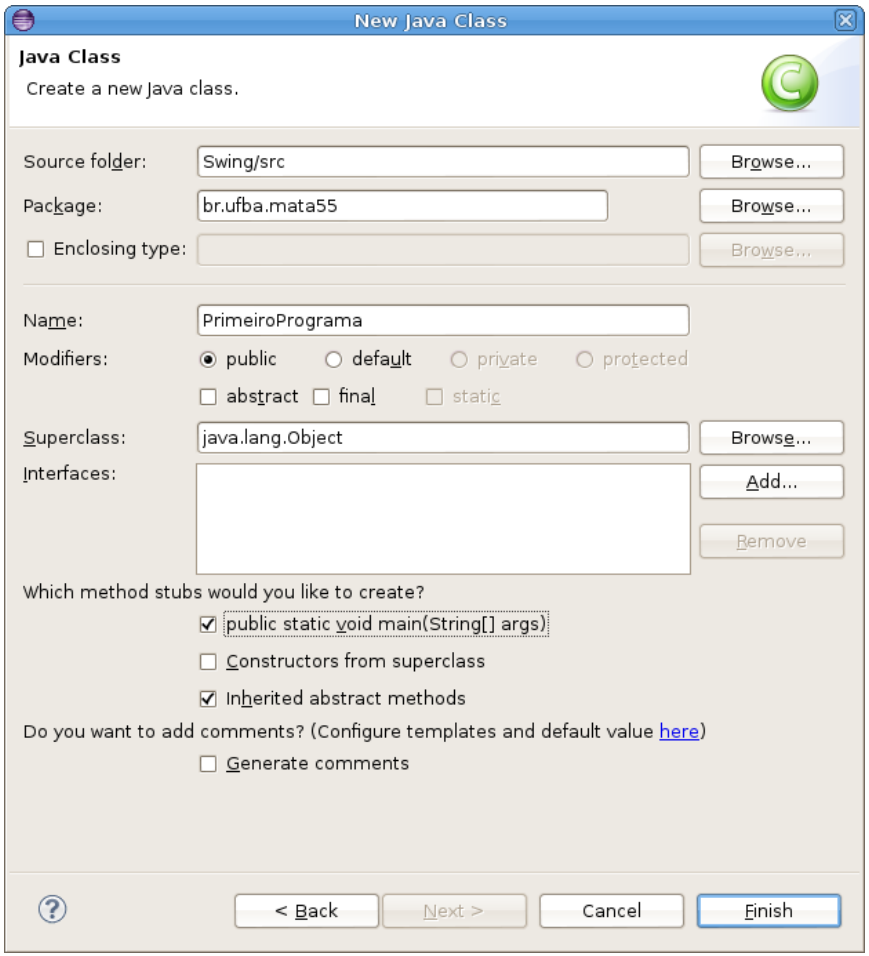

Figura: PrimeiroPrograma.java

Página principal do Window Builder para Eclipse

https://www.eclipse.org/windowbuilder/

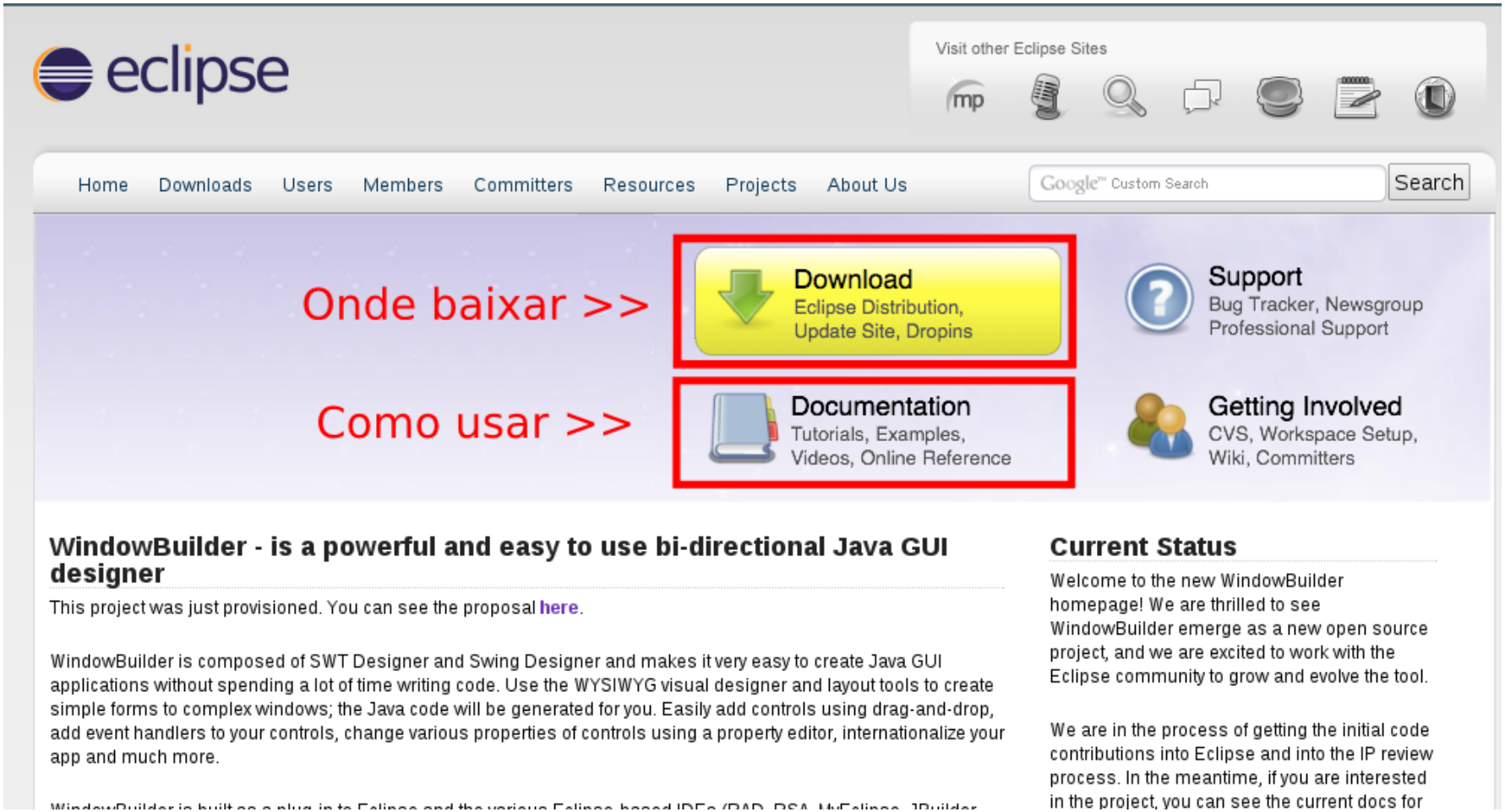

Figura: Página principal do Window Builder

WindowBuilder - Instalando

Help > Instal New Software

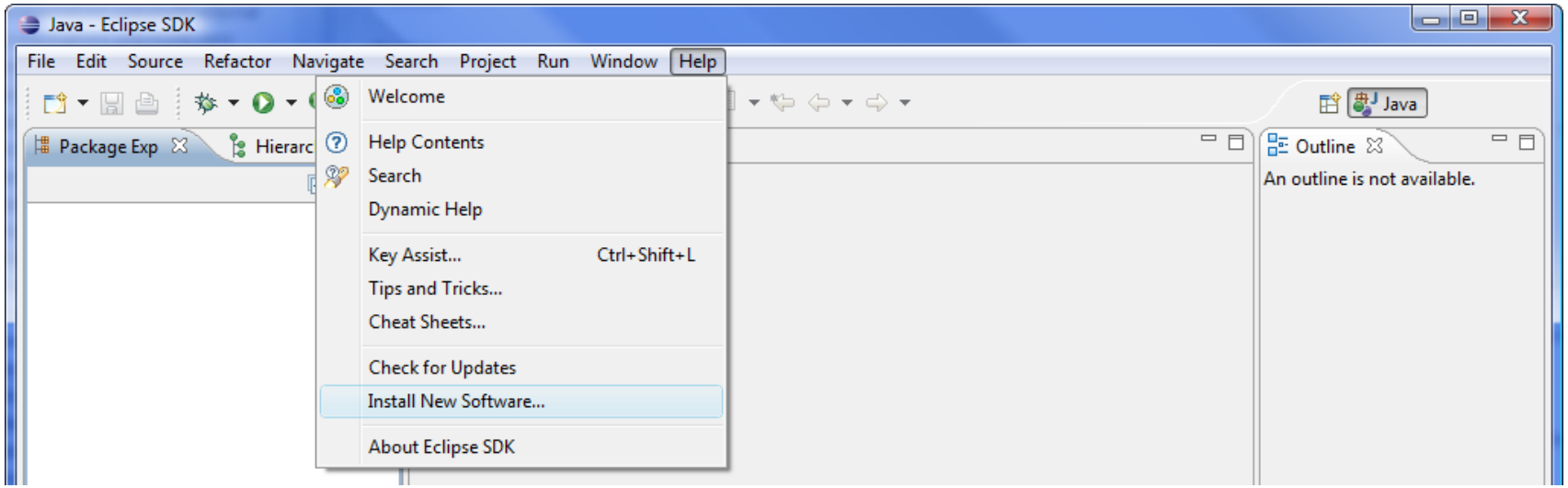

Figura: Instalando Window Builder

WindowBuilder - Instalando

Clique em **Add**.

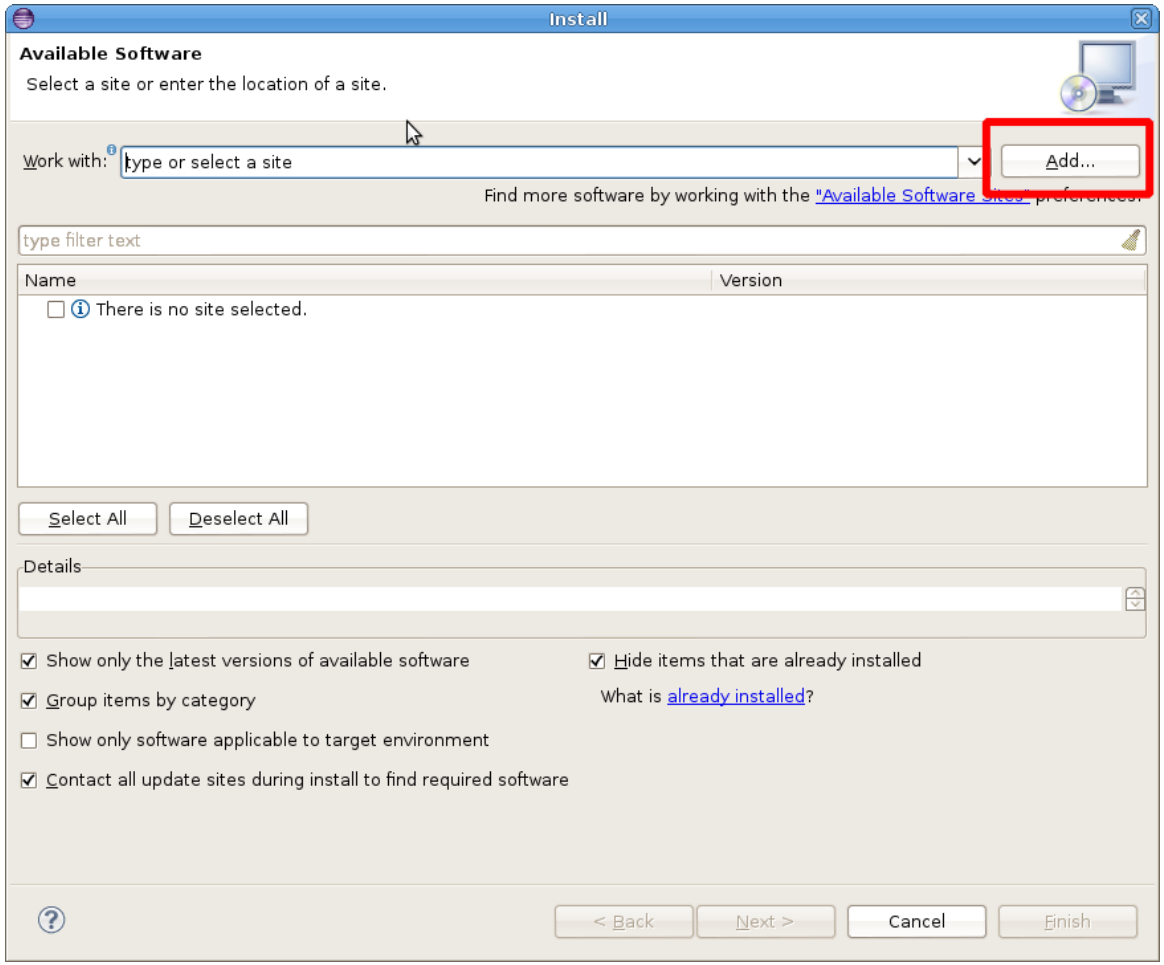

Figura: Instalando Window Builder

WindowBuilder - Instalando

Em **Name** digite **WindowBuilder** (pode ser qualquer nome).
Em **Location** digite a url
http://download.eclipse.org/windowbuilder/WB/release/R201309271200/4.3/

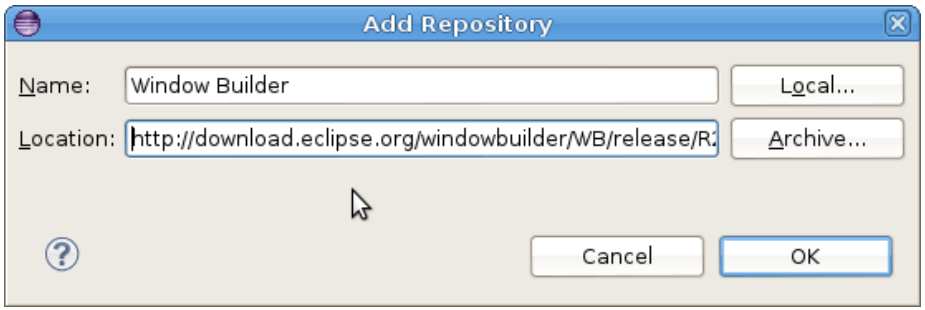

Figura: Instalando Window Builder

Abrindo Editor do Window Builder

Clique com o botão direito na classe PrimeiroPrograma.java . Selecione **Open with** e depois **WindowBuilder Editor**.

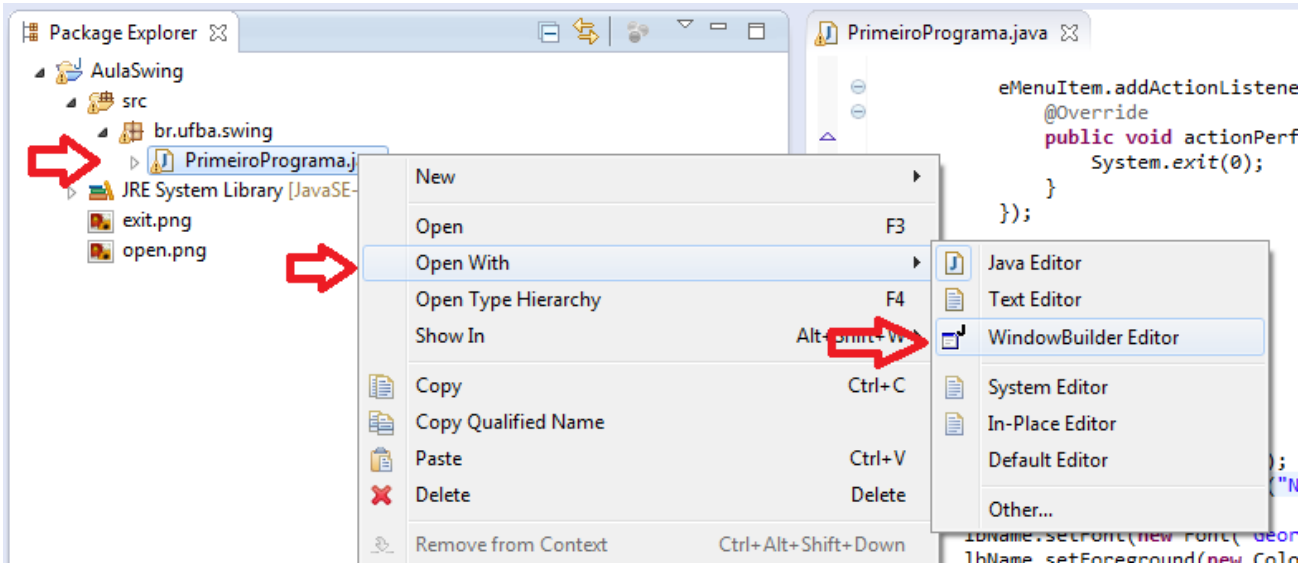

Figura: Abrindo Editor do Window Builder

Abrindo Editor do Window Builder

- **Source** - Como o Editor padrão do Eclipse.
- **Design** - Editor gráfico do Window Builder.

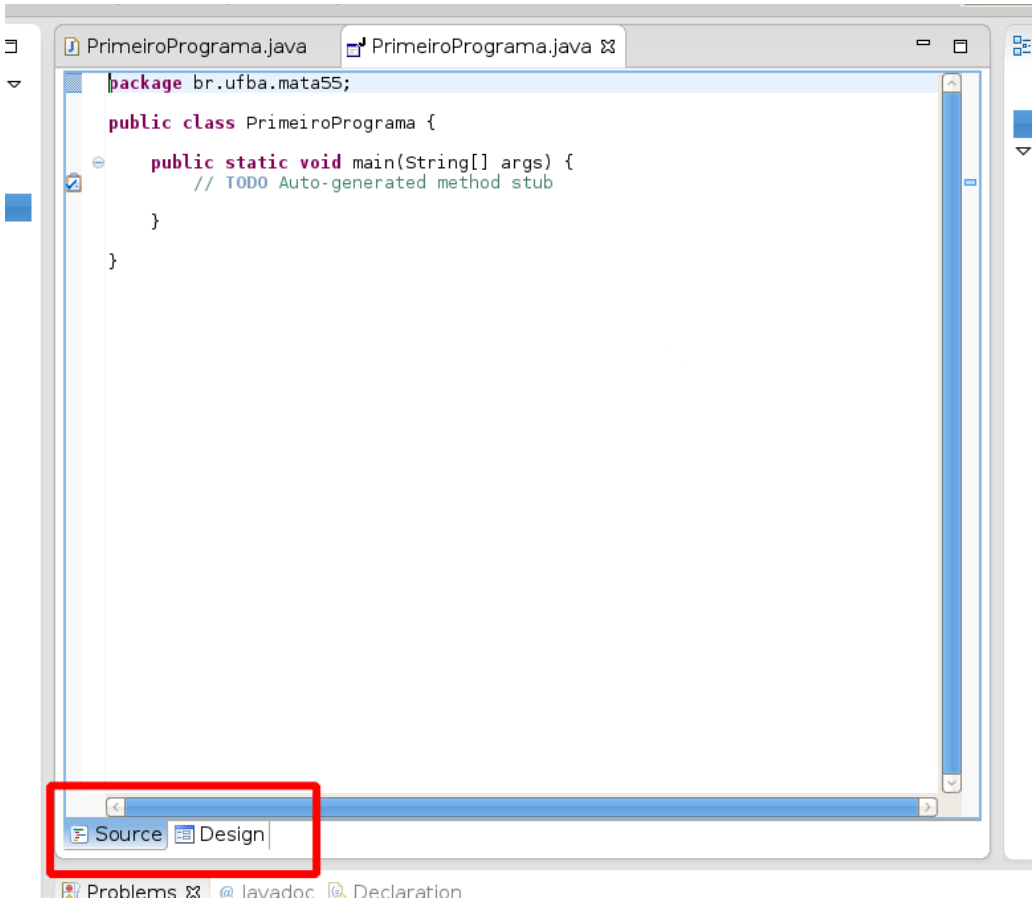

Figura: Editor do Windows Builder

Aba Design do Editor do Window Builder

- Visualizador gráfico.

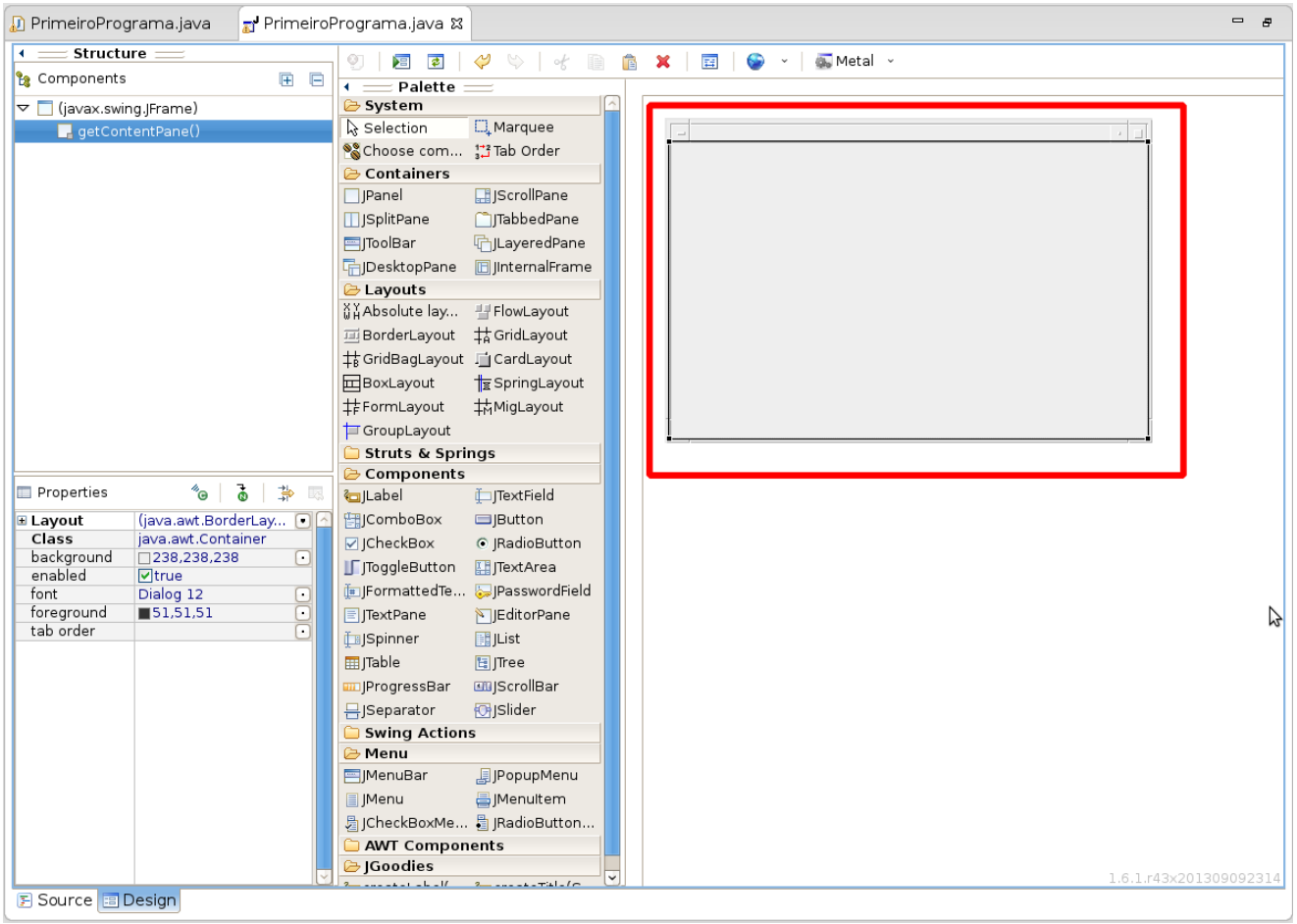

Figura: Aba Design

Aba Design do Editor do Window Builder

- **Structure** - estrutura da tela com seus componentes.
- **Properties** - propriedades do componente selecionado.

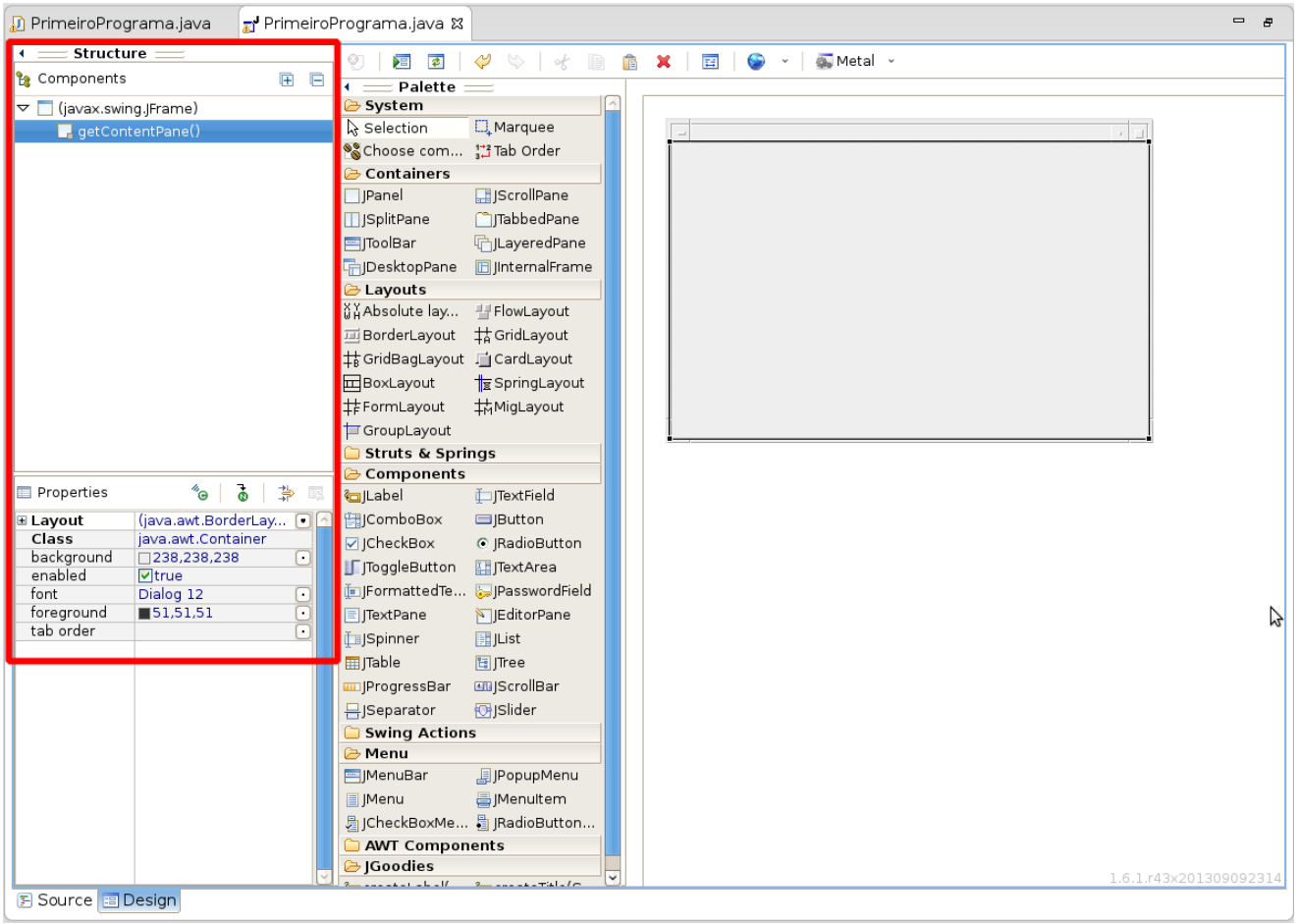

Figura: Estrutura e propriedades

Construindo a janela

Inserindo um título à janela.
Selecione a janela e insira em **Title** na aba **Properties**.

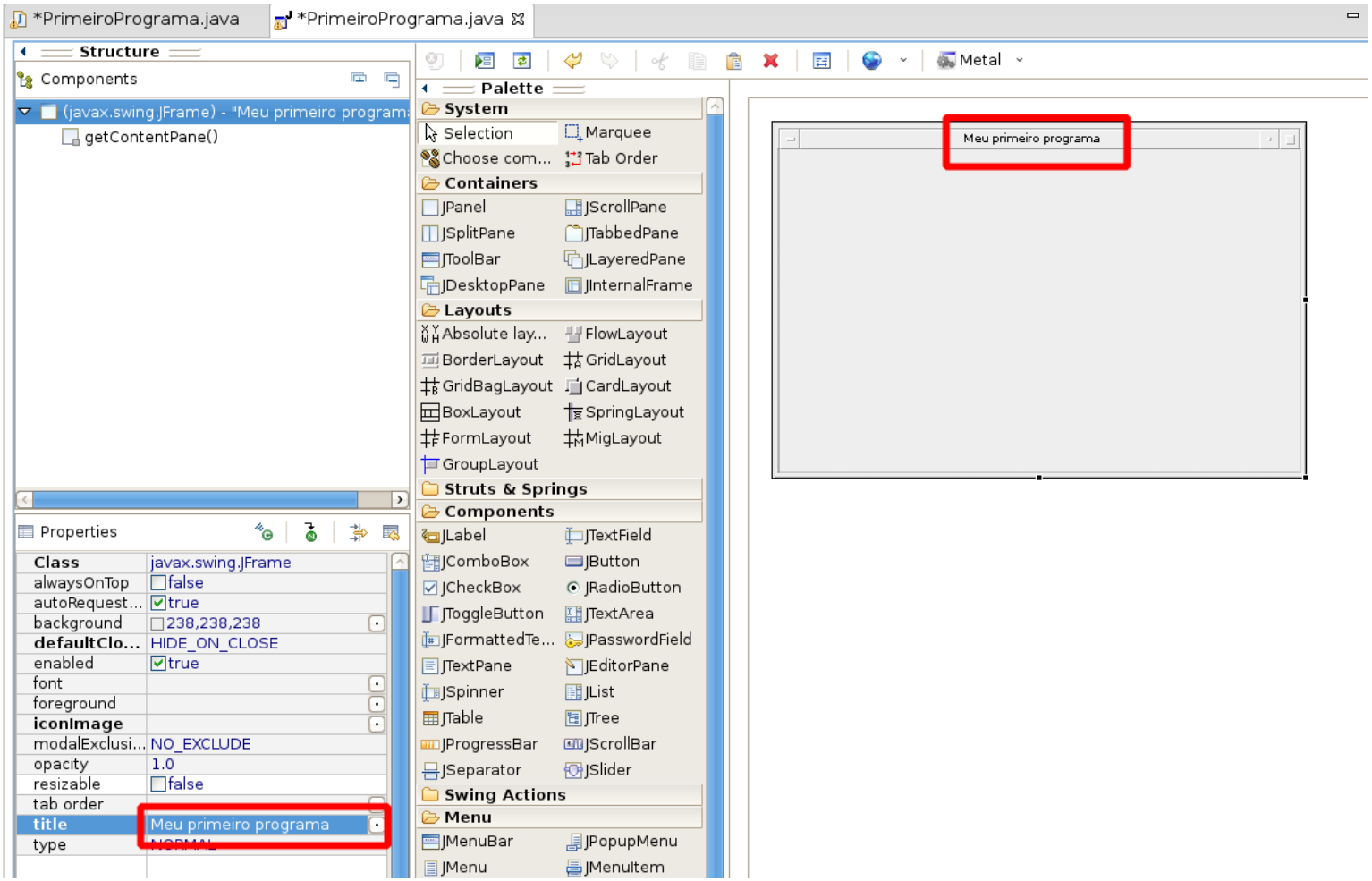

Figura: Estrutura e propriedades

Construindo a janela

O equivalente em código seria.

```
public PrimeiroPrograma() {
        setTitle("Meu primeiro programa");
```

Construindo a janela - **JPanel**

Construindo a janela - **JPanel**

- O Window Builder utiliza o método **Drag & Drop** (clica e solta)
- As áreas verdes são os locais onde o componente pode ser inserido
- As divisões entre as áreas verdes são ditadas pelo **layout** escolhido
- Por padrão o layout é o **BorderLayout** que divide a tela em **NORTH**, **SOUTH**,**WEST**, **CENTER** e **EAST**.

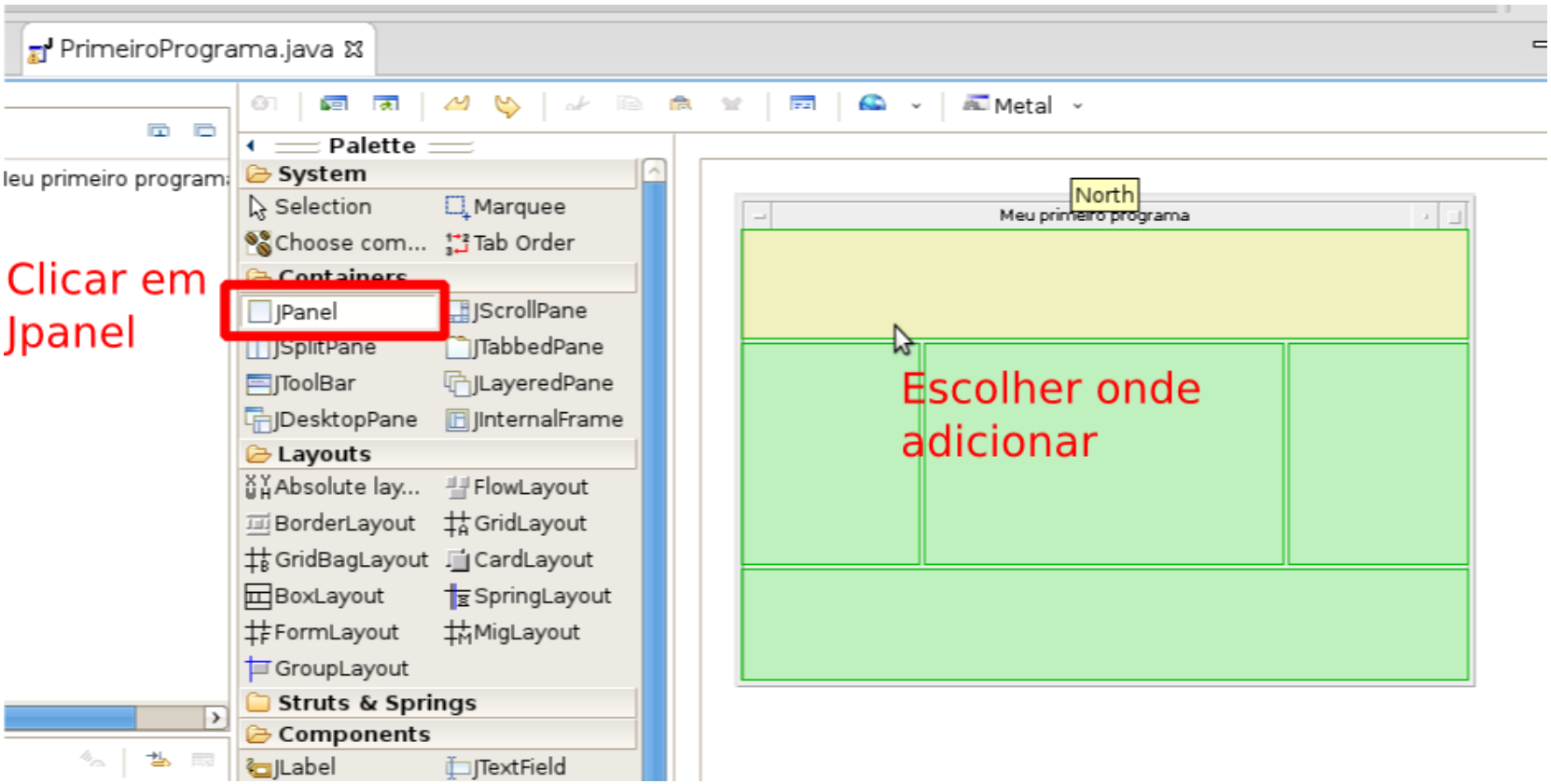

Figura: JPanel

Construindo a janela - **JPanel**

Em código:

```
package br.ufba.mata55;

import javax.swing.JFrame;
import javax.swing.JPanel;
import java.awt.BorderLayout;

public class PrimeiroProgramaPura extends JFrame {
        public PrimeiroProgramaPura() {

                JPanel panel = new JPanel();
                getContentPane().add(panel, BorderLayout.NORTH);
        }
}
```

Construindo a janela - **JLabel**

Construindo a janela - **JLabel**

- Ao inserir o JLabel já defina o nome!

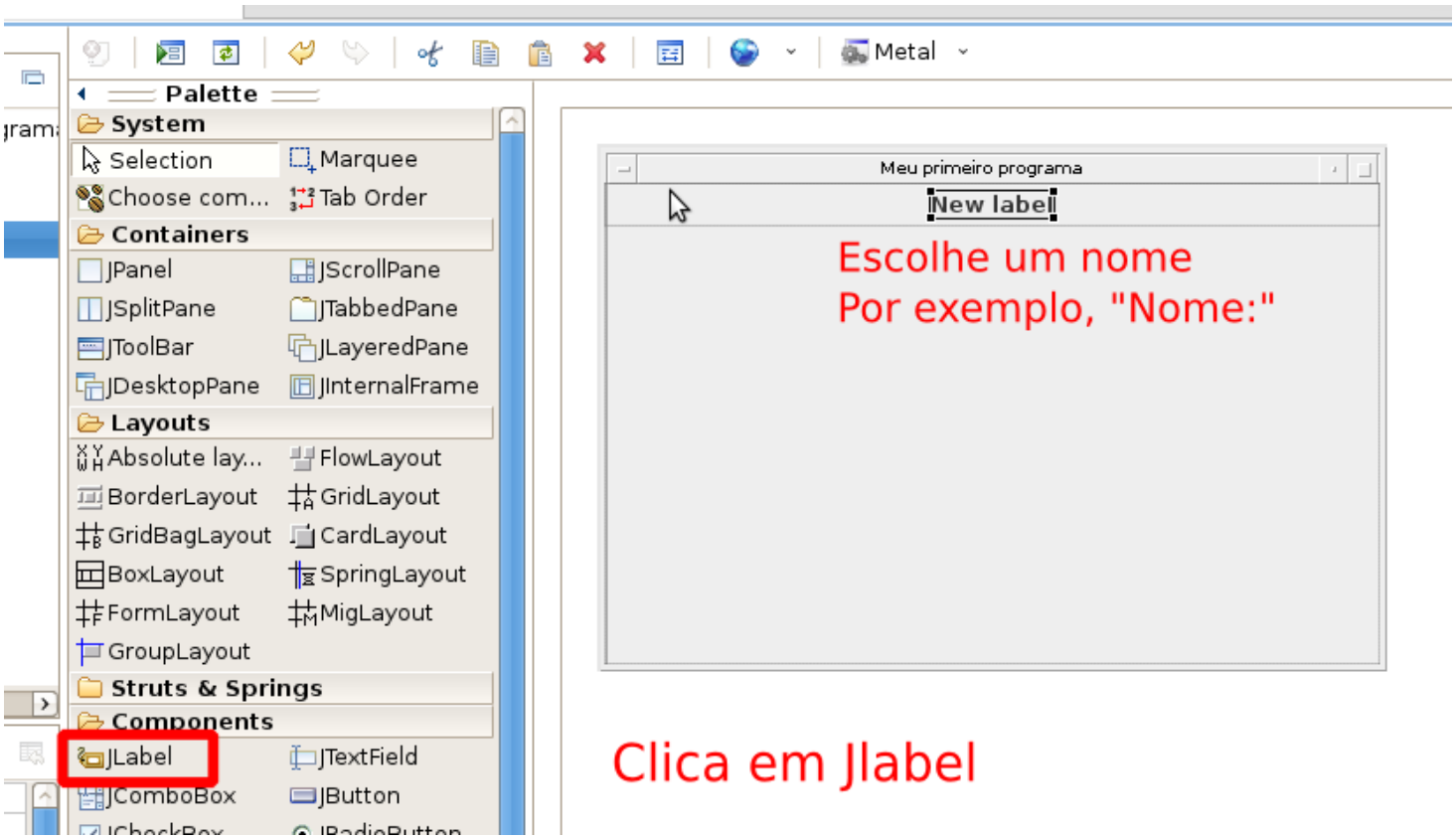

Figura: JLabel

Construindo a janela - **JTextField**

Construindo a janela - **JTextField**

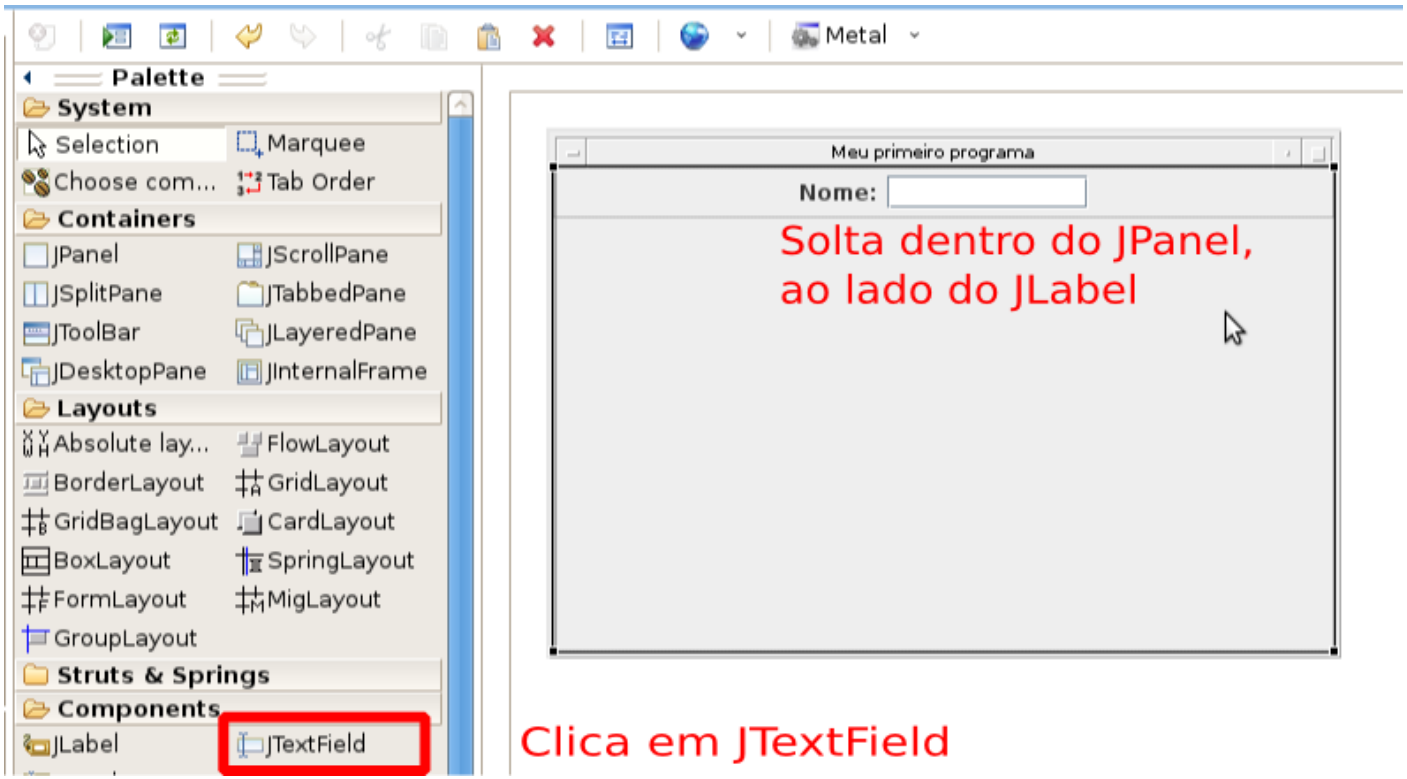

Figura: JTextField

Construindo a janela - Alinhando os componentes

- Os tipos de alinhamento disponíveis são : **LEFT**, **RIGHT**, **CENTER**, **LEADING**(bottom) e **TRAILING** (top)

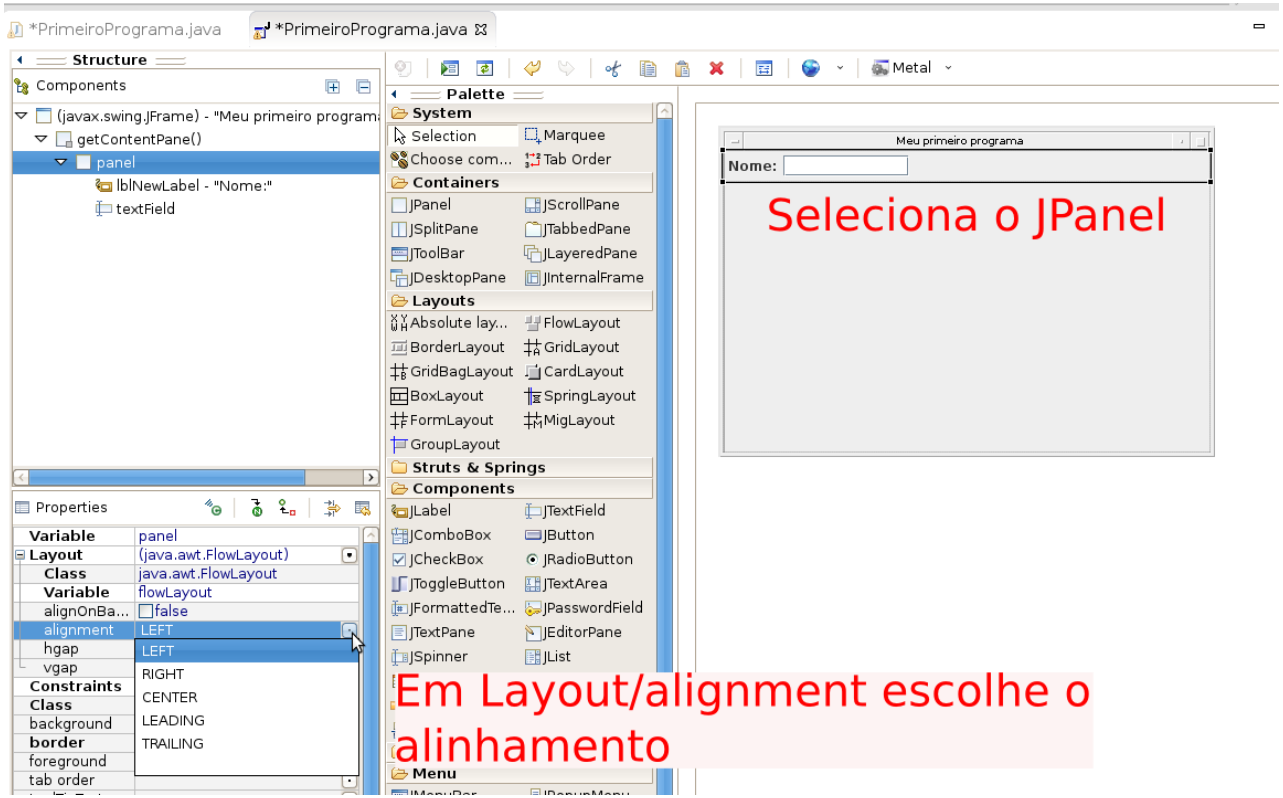

Figura: Alinhando componentes

Construindo a janela - **Alinhamento**

Em código:

```
JPanel panel = new JPanel();
FlowLayout flowLayout = (FlowLayout) panel.getLayout();
flowLayout.setAlignment(FlowLayout.LEFT);
getContentPane().add(panel, "1, 1, fill, top");

JLabel lblNewLabel = new JLabel("Nome:");
panel.add(lblNewLabel);

textField = new JTextField();
panel.add(textField);
textField.setColumns(10);
```

Referências

- Window Builder - https://www.eclipse.org/windowbuilder/
- Swing tutorial - http://www.tutorialspoint.com/swing/
- Swing tutorial(verboso) - http://www.wikihow.com/Create-a-Swing-GUI-in-Java
- Swing tuto mais completo - http://zetcode.com/tutorials/javaswingtutorial/
- Swing oficial - http://docs.oracle.com/javase/tutorial/uiswing/components/
- Swing oficial - http://docs.oracle.com/javase/tutorial/uiswing/
- Swing javadoc - http://docs.oracle.com/javase/7/docs/api/javax/swing/package-summary.html