

Instalação

Ferramentas de Trabalho

- Java Development Kit (OpenJDK)
 - Eclipse IDE
- Plugin WindowBuilder
- StarUML

Créditos

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Eclipse IDE

- **IDE**

- Integrated Development Environment (Ambiente de Desenvolvimento de Software)
- Há várias IDE's para Java, como NetBeans e IntelliJ, mas vamos trabalhar com o Eclipse.

- **Eclipse**

- Ambiente de Desenvolvimento adotado
- Há várias instalação de “Eclipse”: PHP, C, R, ...
- Endereço: <https://www.eclipse.org/downloads/packages/>
- Baixe a versão Eclipse IDE for Enterprise Java and Web Developers (2a da lista)

Eclipse IDE

The screenshot shows the Eclipse Packages download page on the official website. At the top, there's a summary of downloads:

- Find out more**
- 1,584,262 Installer Downloads**
- 709,538 Package Downloads and Updates**

A note on the right side states: "The Eclipse Installer 2022-12 R now includes a JRE for macOS, Windows and Linux."

The main content area is titled "Eclipse IDE 2022-12 R Packages". It lists three main editions:

- Eclipse IDE for Java Developers** (302 MB, 347,472 DOWNLOADS):
 - Windows x86_64
 - macOS x86_64 | AArch64
 - Linux x86_64 | AArch64
- Eclipse IDE for Enterprise Java and Web Developers** (516 MB, 246,300 DOWNLOADS):
 - Windows x86_64
 - macOS x86_64 | AArch64
 - Linux x86_64 | AArch64
- Eclipse IDE for C/C++ Developers** (1,024 MB, 10,300 DOWNLOADS):
 - Windows x86_64
 - macOS x86_64 | AArch64
 - Linux x86_64 | AArch64

On the right side, there's a "Get Eclipse IDE 2022-12" section with a download button labeled "Download x86_64". Below it are links for "Download Packages" and "Need Help?".

RELATED LINKS

- Compare & Combine Packages
- New and Noteworthy
- Install Guide
- Documentation
- Updating Eclipse
- Forums
- Simultaneous Release

Basta descompactar a pasta para uso. Faça um *shortcut* para `eclipse.exe`

Java SE Development Kit (JDK)

- **JDK (*Java Development Kit*)**

- Composto de uma série de ferramentas básicas para o desenvolvimento com Java
- Engloba:
 - **JRE (Java Runtime Environment)** → Basicamente a Máquina Virtual Java, Arquivos JAR (Java Archives) com o bytecode das classes Standard Edition (Java SE)
 - **Compilador** (Javac) e outros programas acessórios
- Há a várias versões (inclusive da Oracle), mas prefira a **OpenJDK** (<https://jdk.java.net/>)

OpenJDK

The screenshot shows a web browser window with the title "JDK Builds from Oracle" and the URL "jdk.java.net". The page features a large, stylized logo where "jdk" is in red and ".java.net" is in blue. Below the logo, the text "Production and Early-Access OpenJDK Builds, from Oracle" is displayed. Two sections of text are present: "Ready for use: JDK 19, JMC 8" and "Early access: JDK 21, JDK 20, Generational ZGC, JavaFX 20, JavaFX 21, Jextract, Loom, Metropolis, Panama, & Valhalla". At the bottom, there are two paragraphs of text: "Looking to learn more about Java? Visit dev.java for the latest Java developer news and resources." and "Looking for Oracle JDK builds and information about Oracle's enterprise Java products and services? Visit the Oracle JDK Download page." A small Oracle logo is at the bottom left, and a copyright notice is at the bottom right.

JDK Builds from Oracle

jdk.java.net

jdk.java.net

Production and Early-Access OpenJDK Builds, from Oracle

Ready for use: **JDK 19, JMC 8**

Early access: **JDK 21, JDK 20, Generational ZGC, JavaFX 20, JavaFX 21, Jextract, Loom, Metropolis, Panama, & Valhalla**

Looking to learn more about Java? Visit [dev.java](#) for the latest Java developer news and resources.

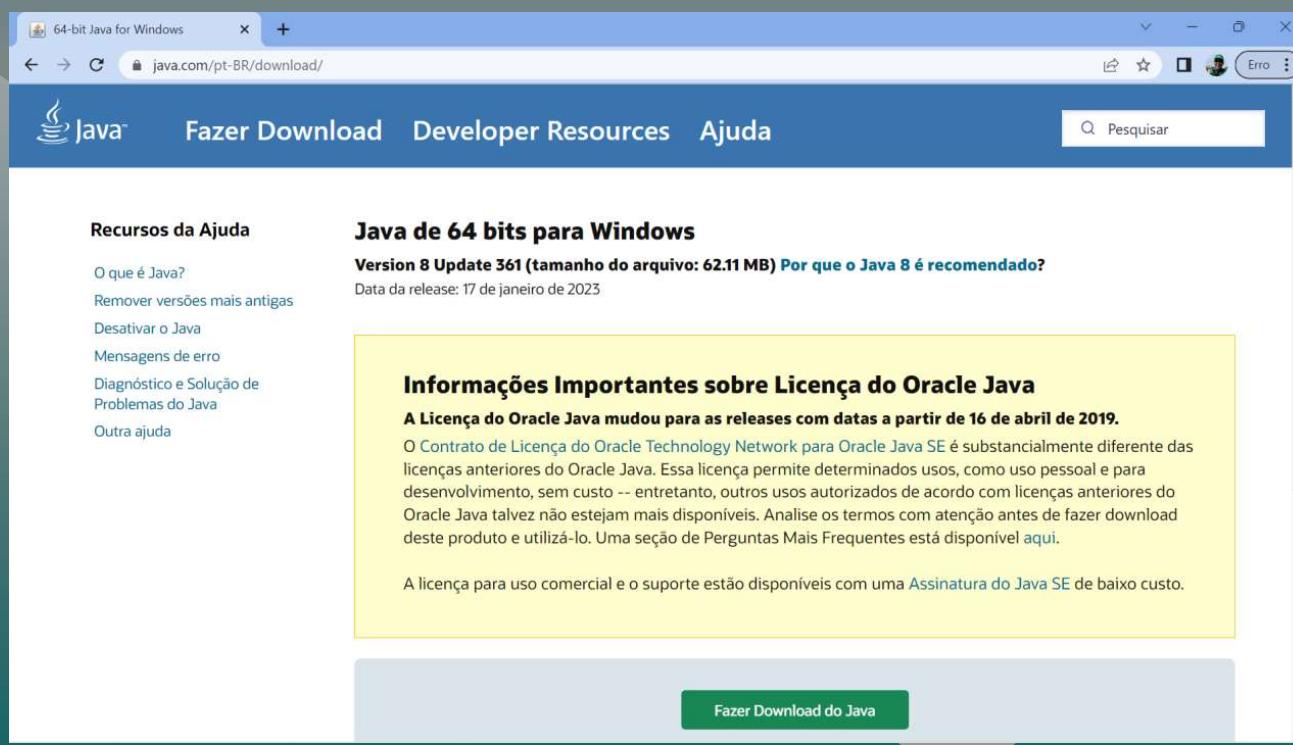
Looking for Oracle JDK builds and information about Oracle's enterprise Java products and services? Visit the [Oracle JDK Download page](#).

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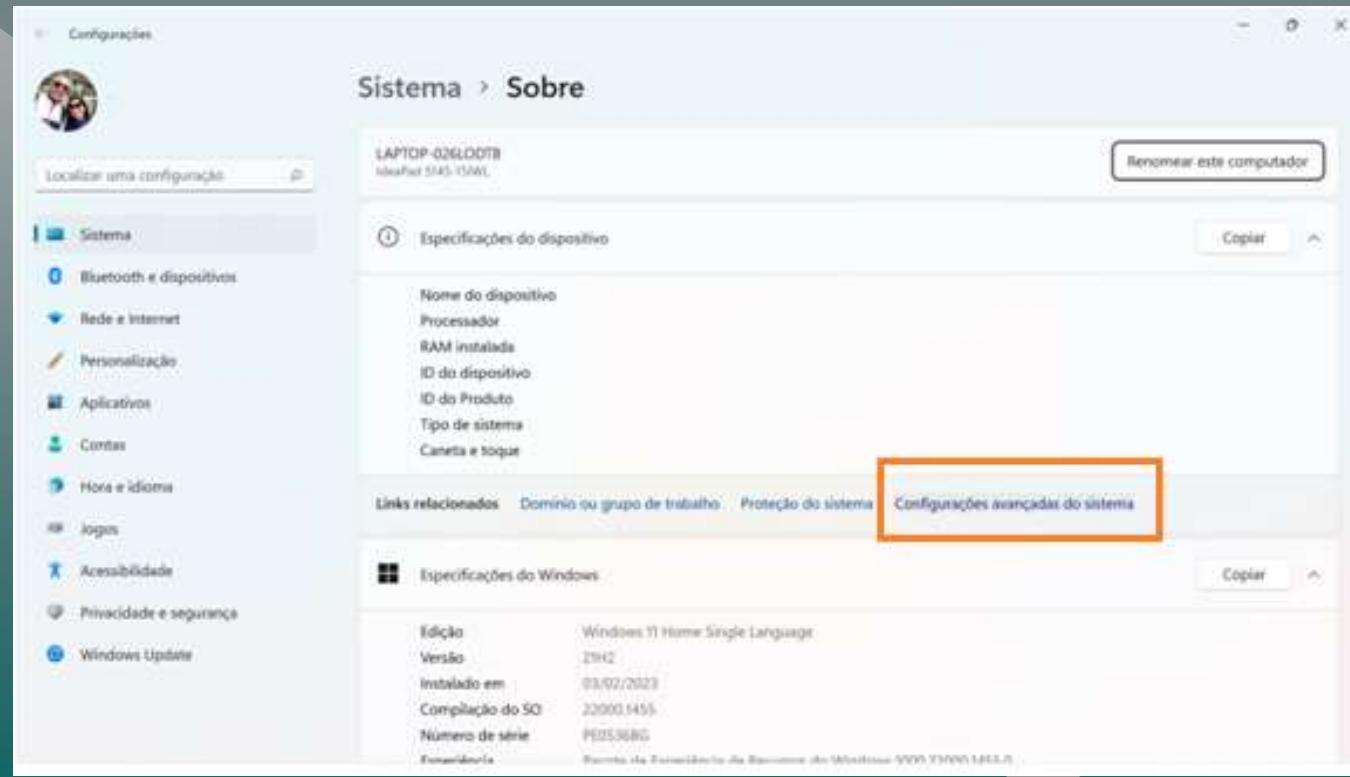
JRE (Java Runtime Environment)

- Recomendo também ter uma versão do **Java 8 Runtime Environment** (<https://www.java.com/pt-BR/download/>)



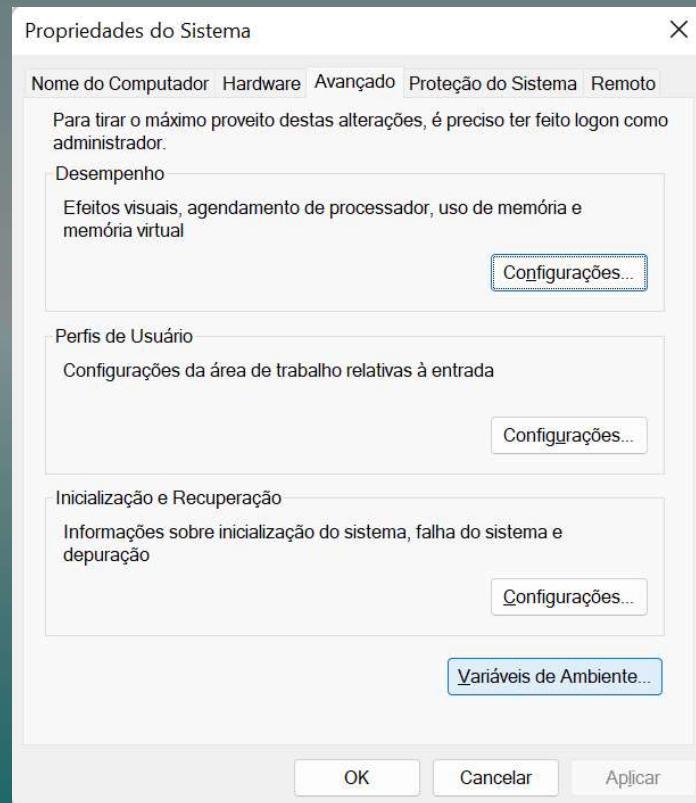
Configuração no Painel de Controle

- Painel de Controle → [Sistema e Segurança] → [Sistema] → [Configurações Avançadas do Sistema]

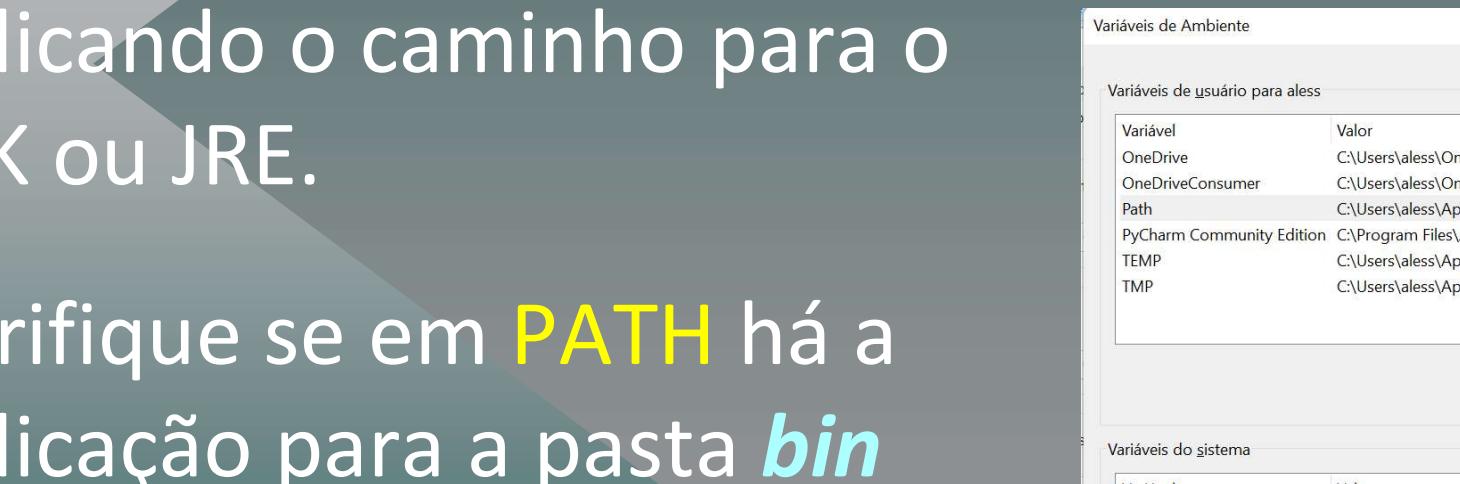


Configuração no Painel de Controle

- Acesse a opção [Variáveis de Ambiente]



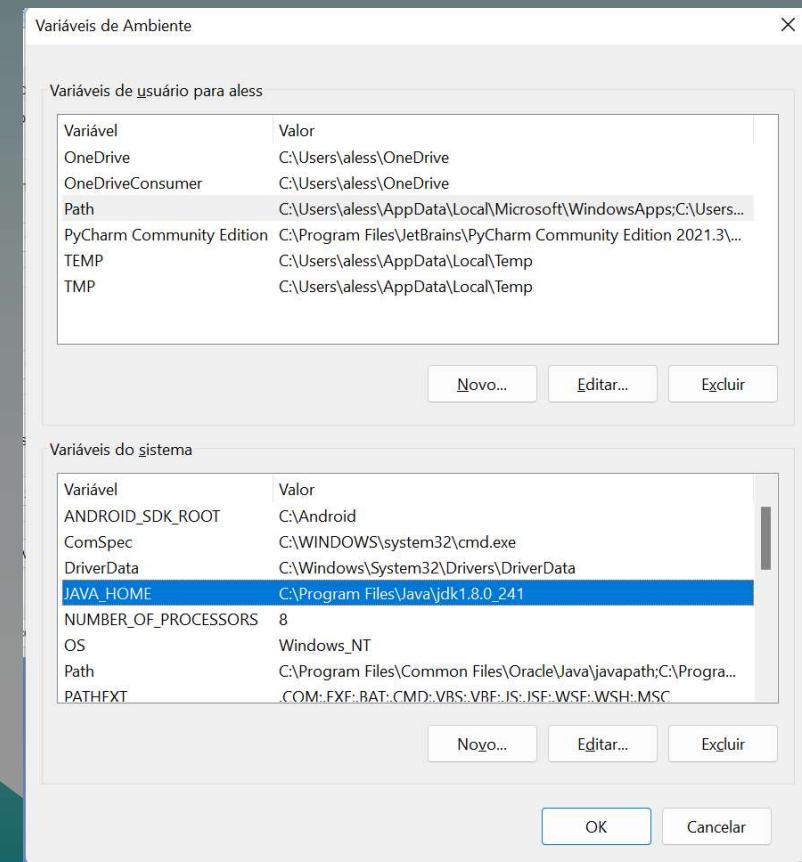
Configuração no Painel de Controle

- Adicionar a variável de ambiente **JAVA_HOME** indicando o caminho para o JDK ou JRE.
 - Verifique se em **PATH** há a indicação para a pasta ***bin*** do seu JDK ou JRE.

The screenshot shows the Windows Control Panel's 'Environment Variables' window. It has two sections: 'Variáveis de Ambiente' (Environment Variables) and 'Variáveis do sistema' (System Variables). In the 'User variables' section, there is a table with columns 'Variável' (Variable) and 'Valor' (Value). A new row for 'JAVA_HOME' has been added, with its value set to 'C:\Program Files\Java\jdk-14.0.2'. The 'System variables' section also contains a table with system variables like ANDROID_SDK_ROOT, ComSpec, DriverData, and JAVA_HOME.

Variável	Valor
OneDrive	C:\Users\aless\OneDrive
OneDriveConsumer	C:\Users\aless\OneDrive
Path	C:\Users\aless\AppData\Local\Microsoft\Windows\CurrentVersion\App Paths
PyCharm Community Edition	C:\Program Files\JetBrains\PyCharm Community Edition\bin
TEMP	C:\Users\aless\AppData\Local\Temp
TMP	C:\Users\aless\AppData\Local\Temp

Variável	Valor
ANDROID_SDK_ROOT	C:\Android
ComSpec	C:\WINDOWS\system32\cmd.exe
DriverData	C:\Windows\System32\Drivers\DriverData
JAVA_HOME	C:\Program Files\Java\jdk-14.0.2

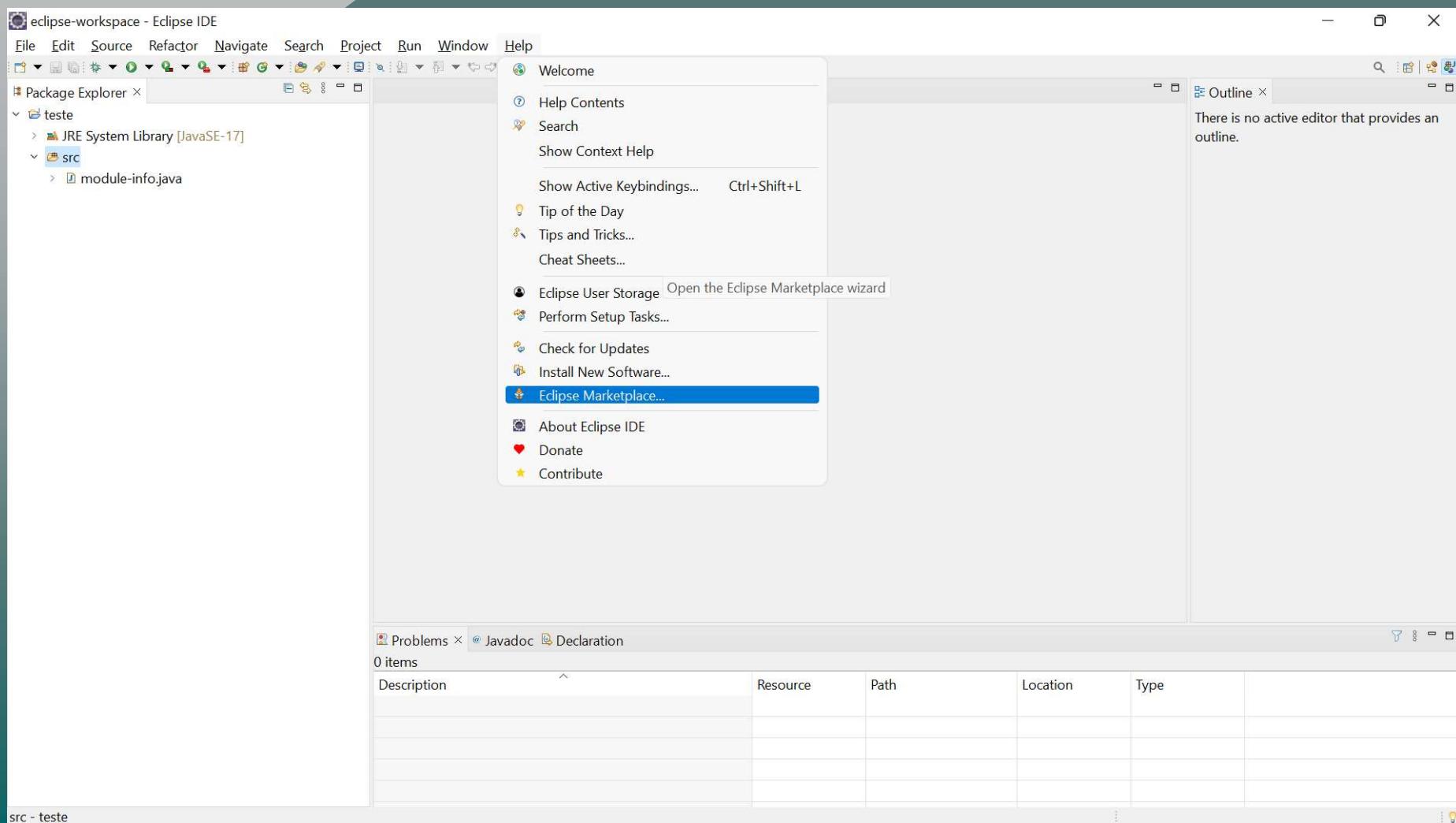


WindowBuilder

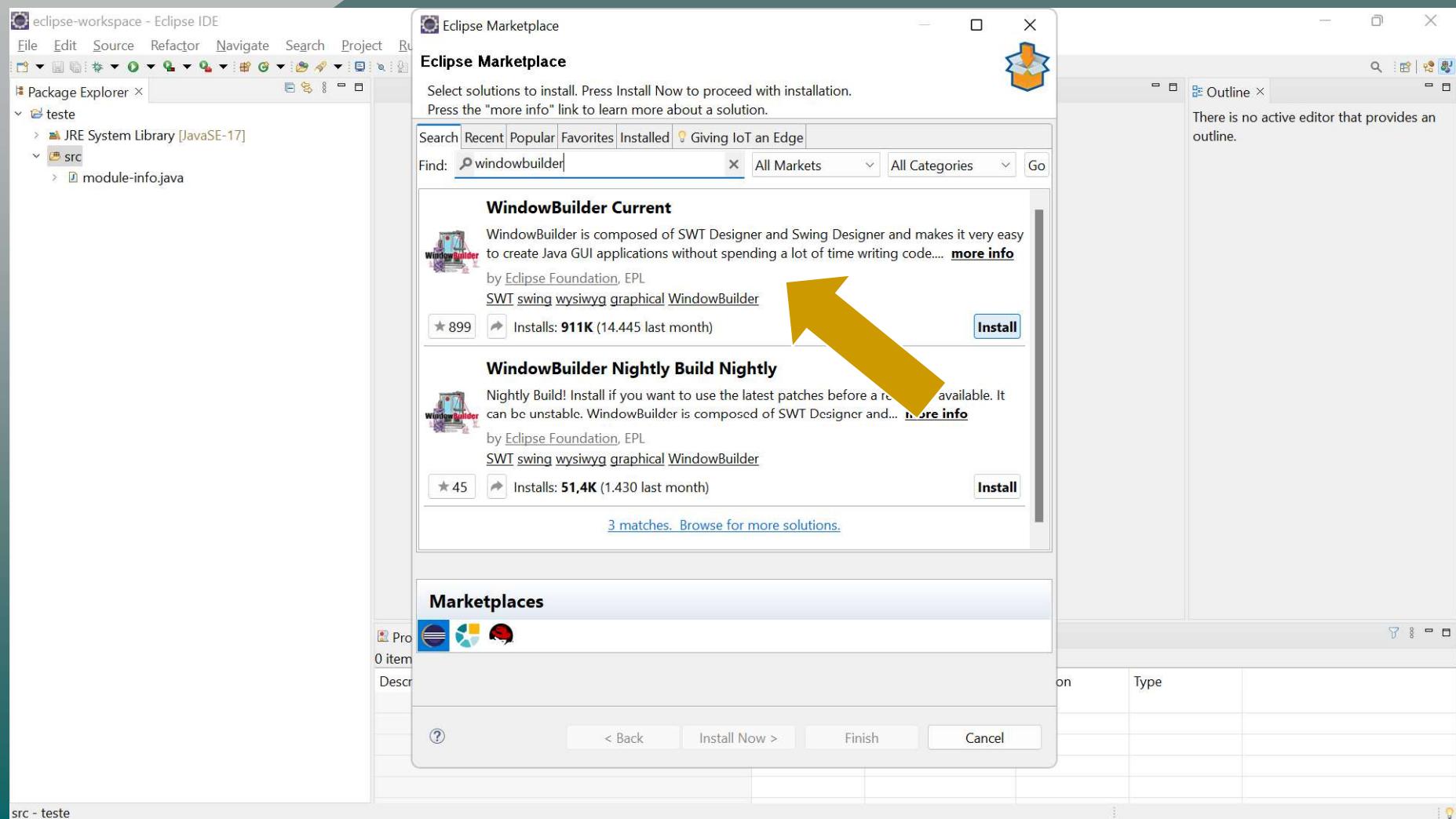
- **Plugin**
 - Extensões que podem ser anexadas em um programa
- **WindowBuilder**
 - Plugin do Eclipse que permite fazer o desenvolvimento de Interfaces Desktop
 - Instalação via *Eclipse Marketplace*

Window Builder

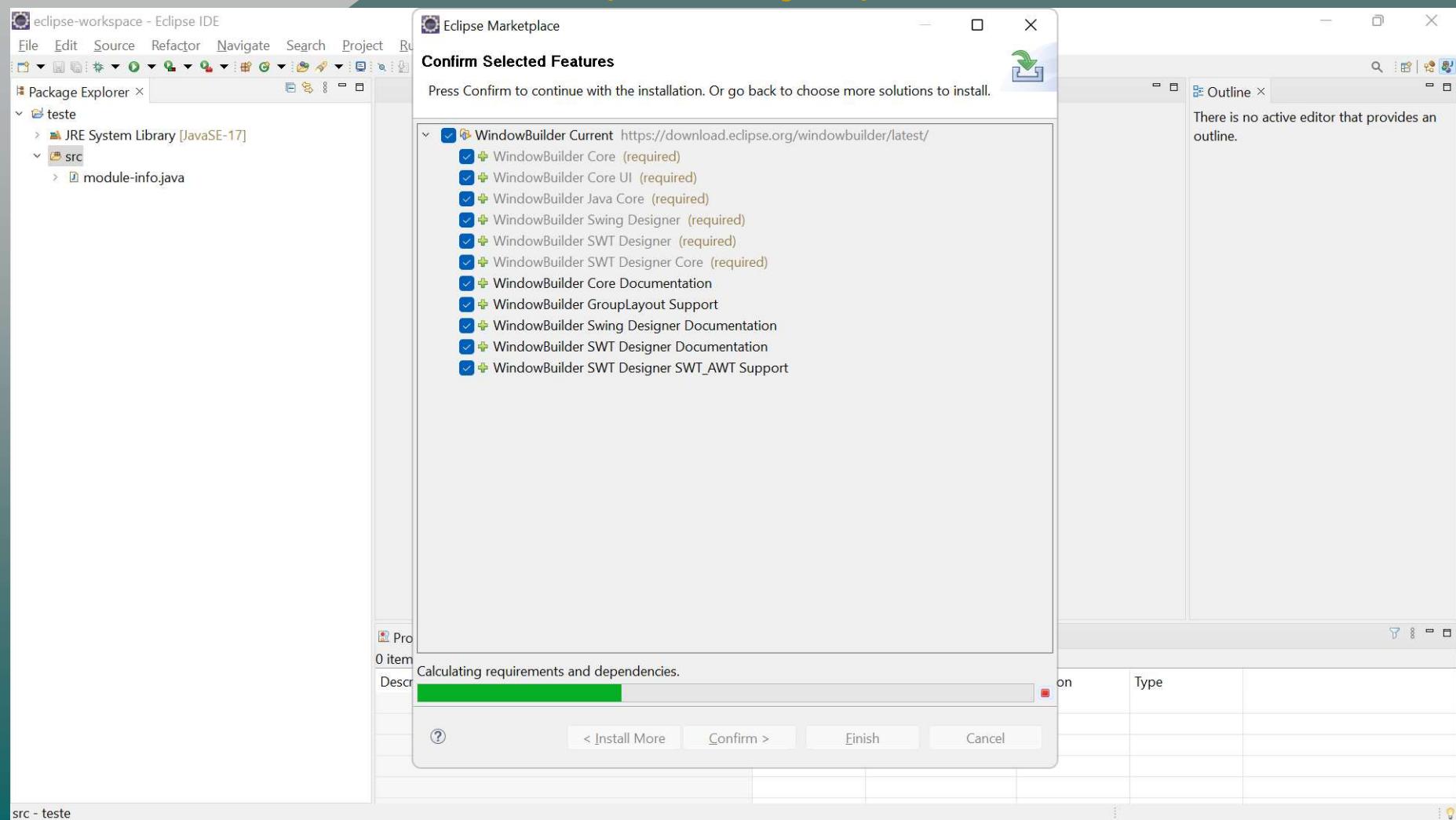
(Instalação)



WindowBuilder (Instalação)

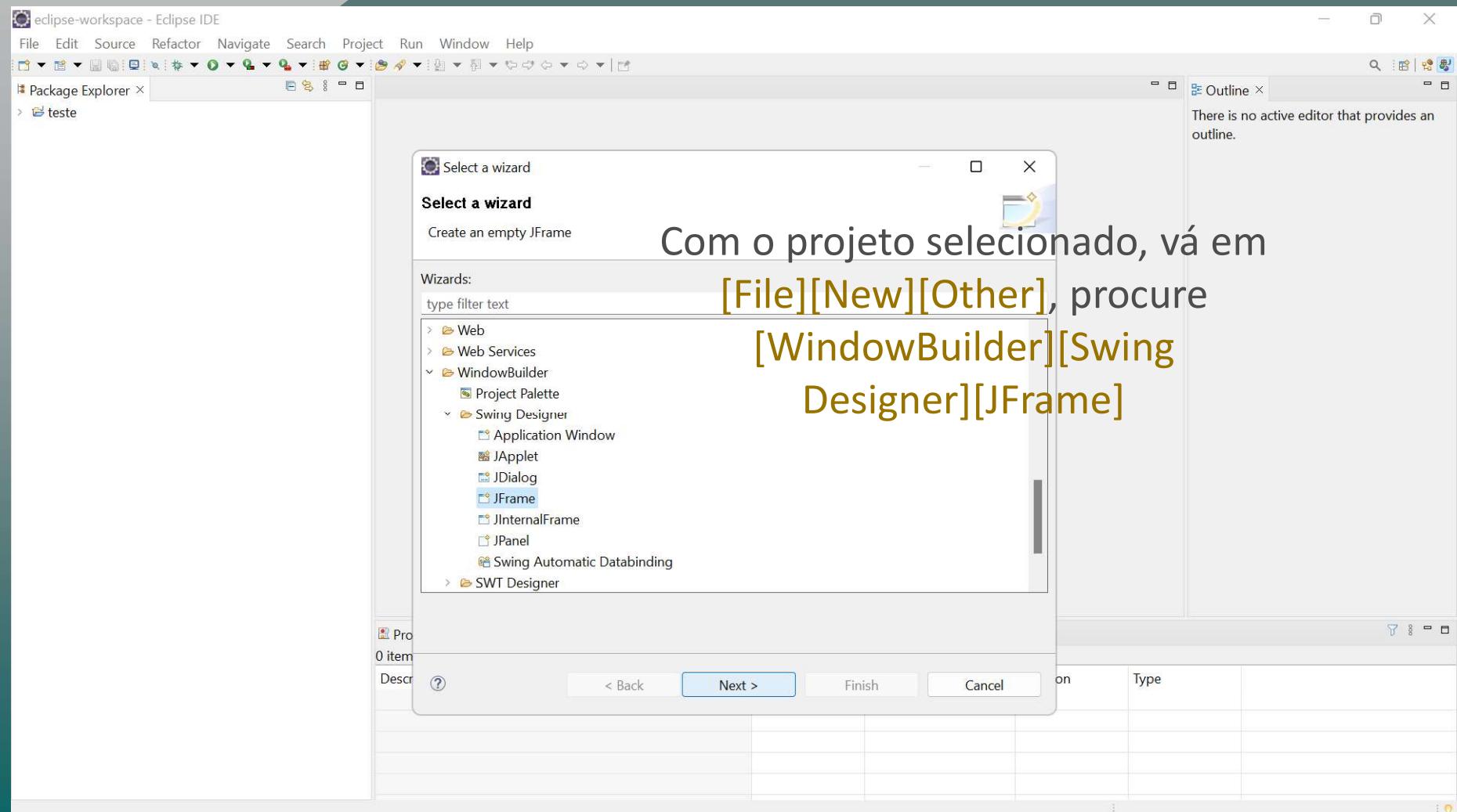


WindowBuilder (Instalação)

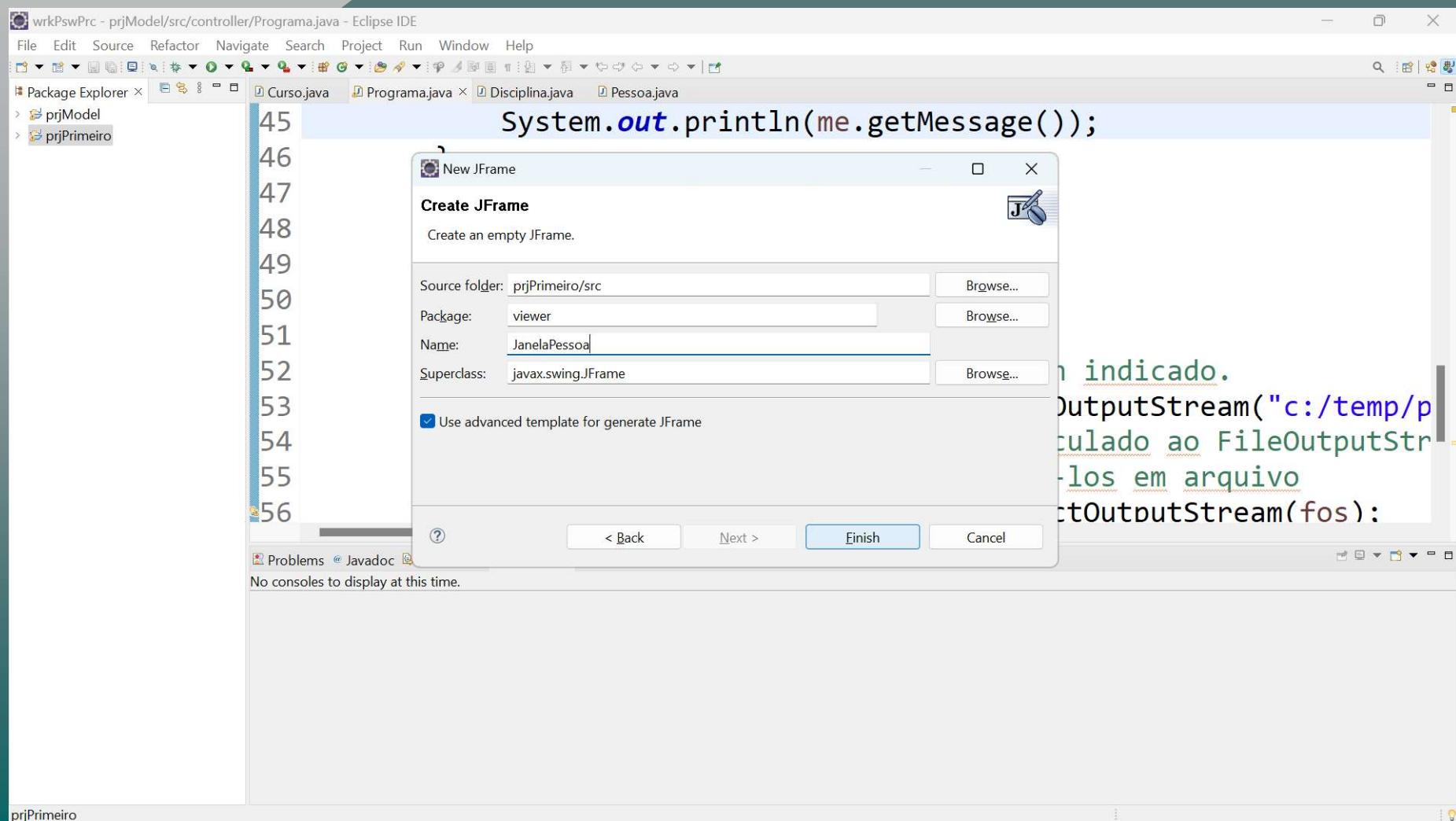


WindowBuilder

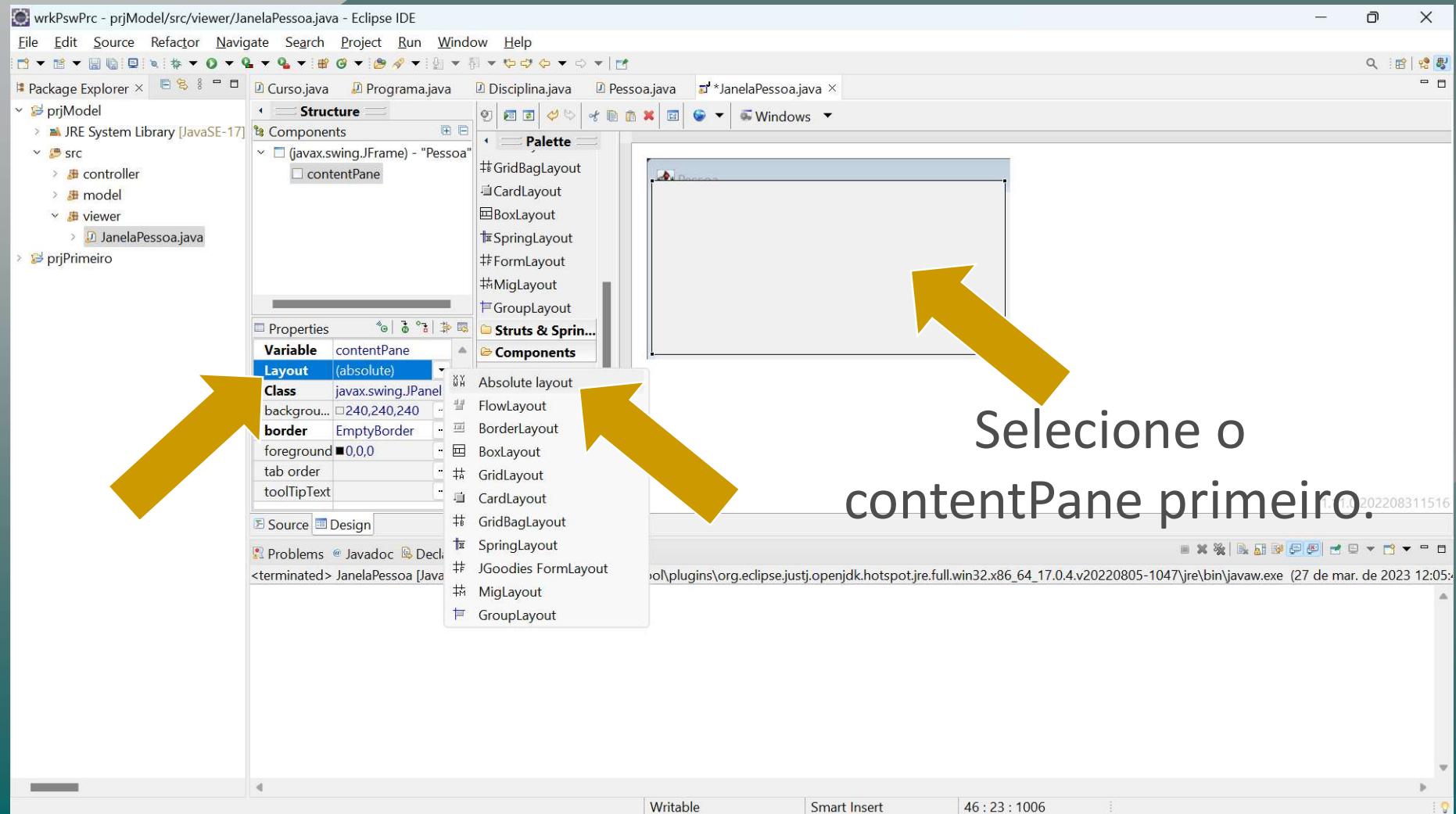
(Uso do Plugin)



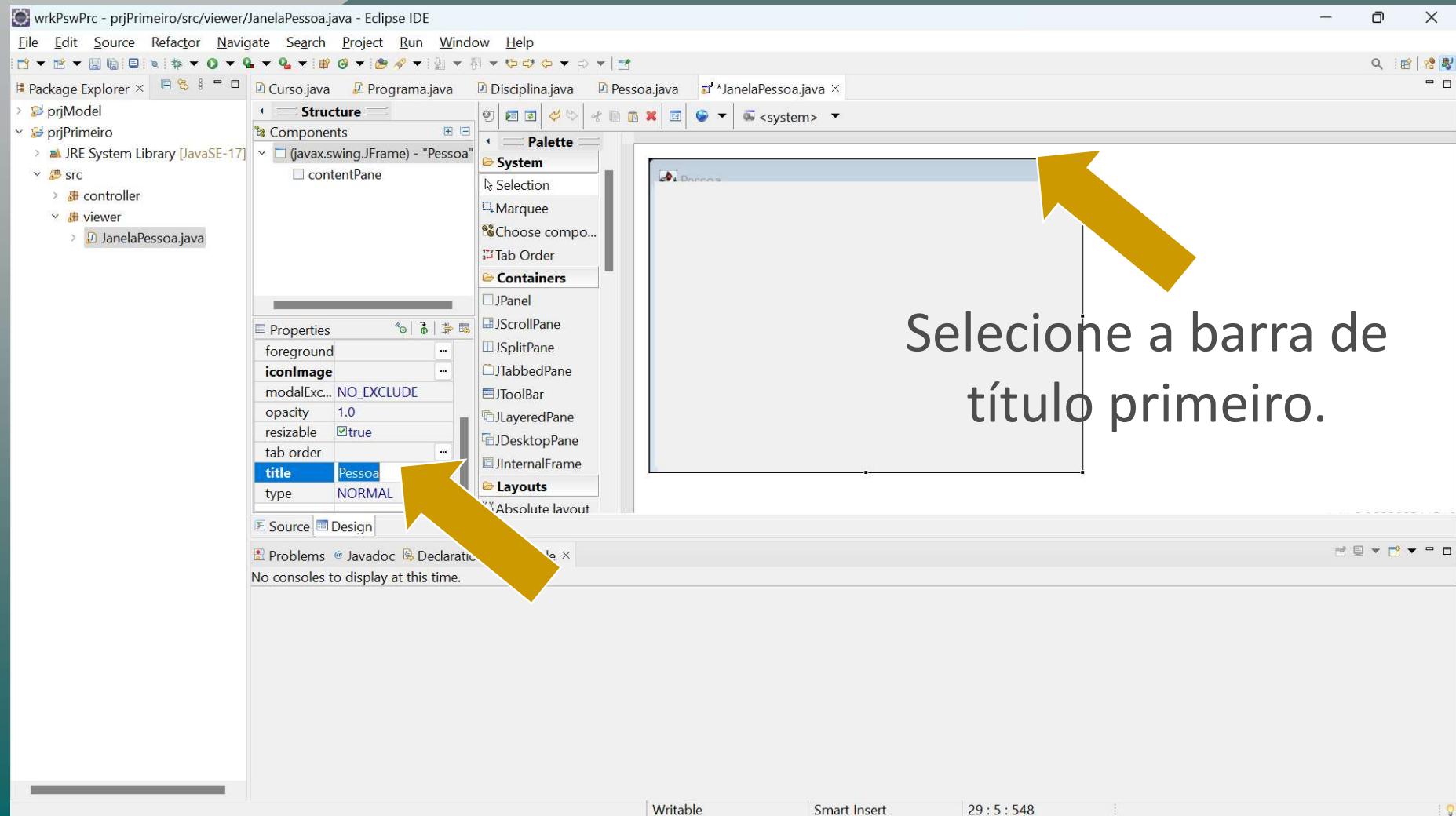
Criando a Classe Viewer



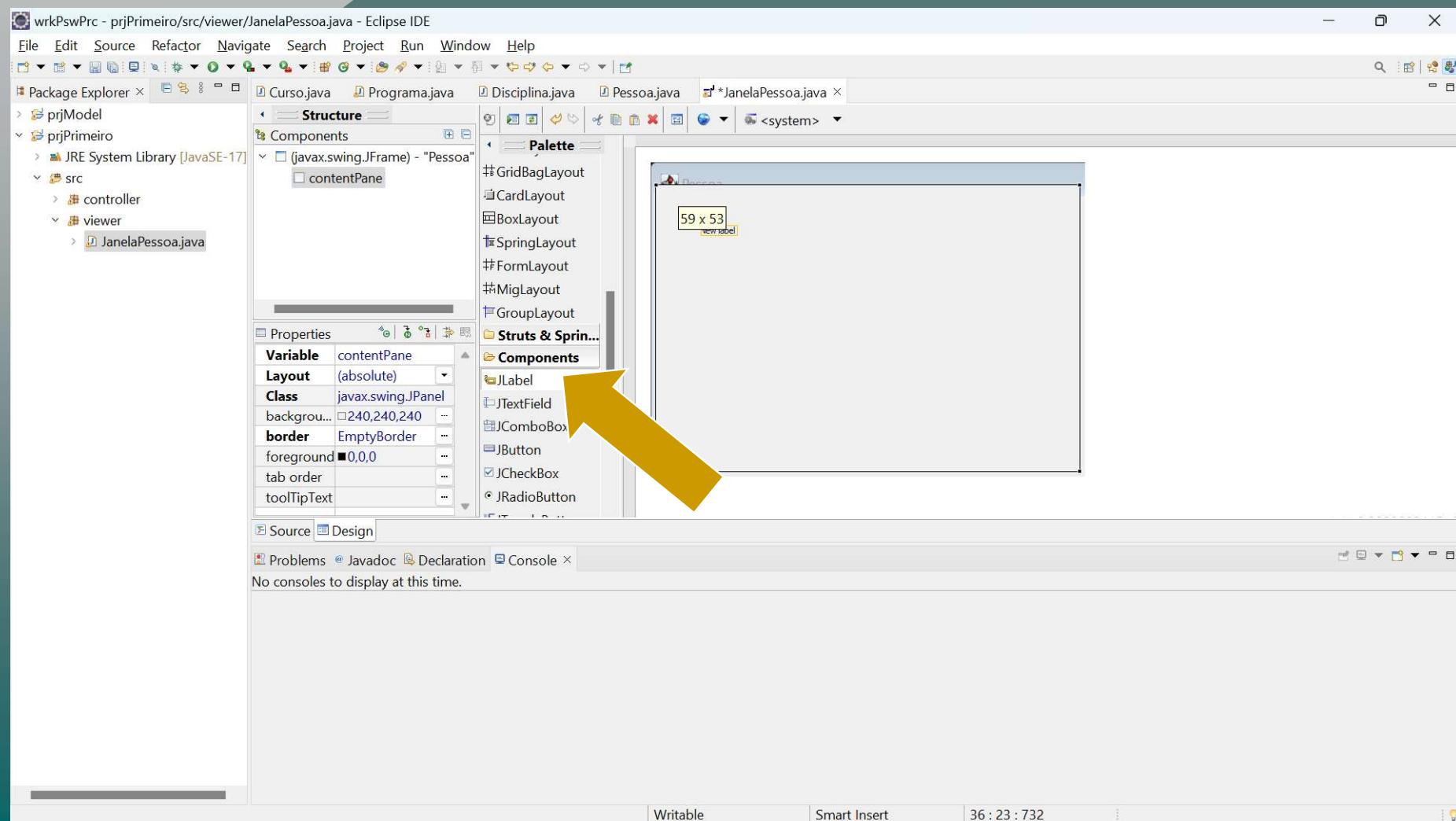
Alterando o Layout Manager da Janela



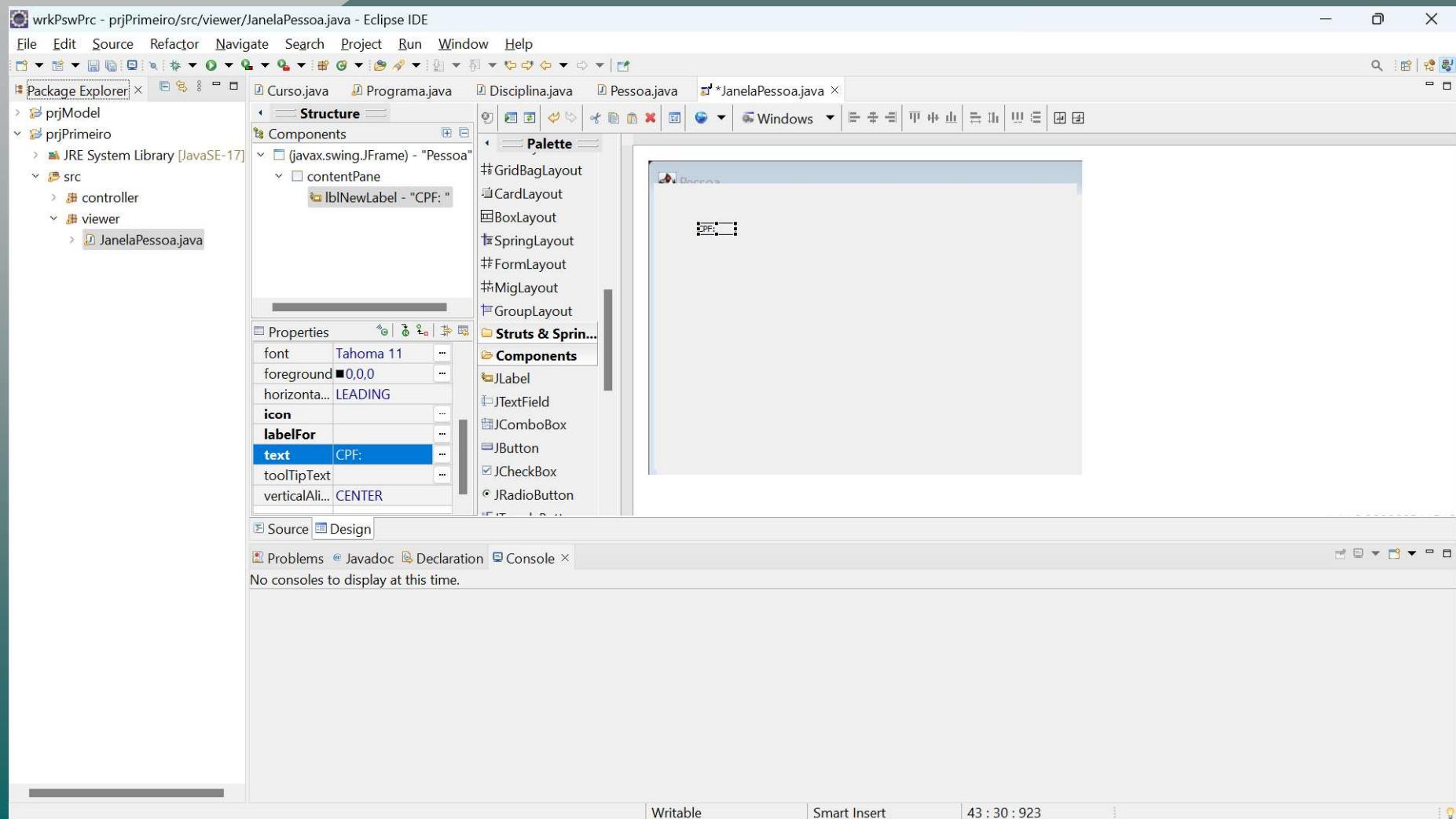
Alterando o Título da Jane



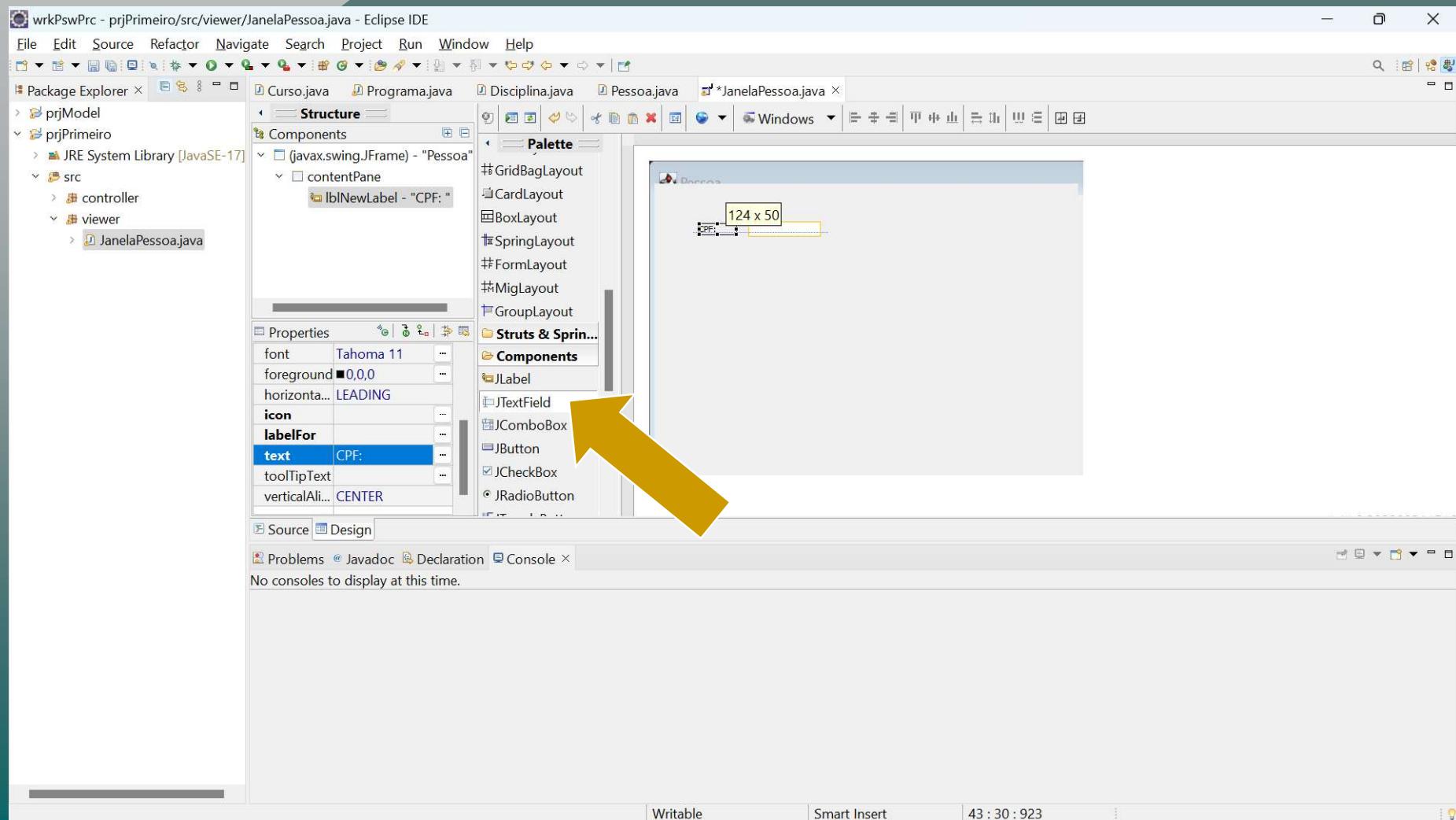
Adicionando Labels



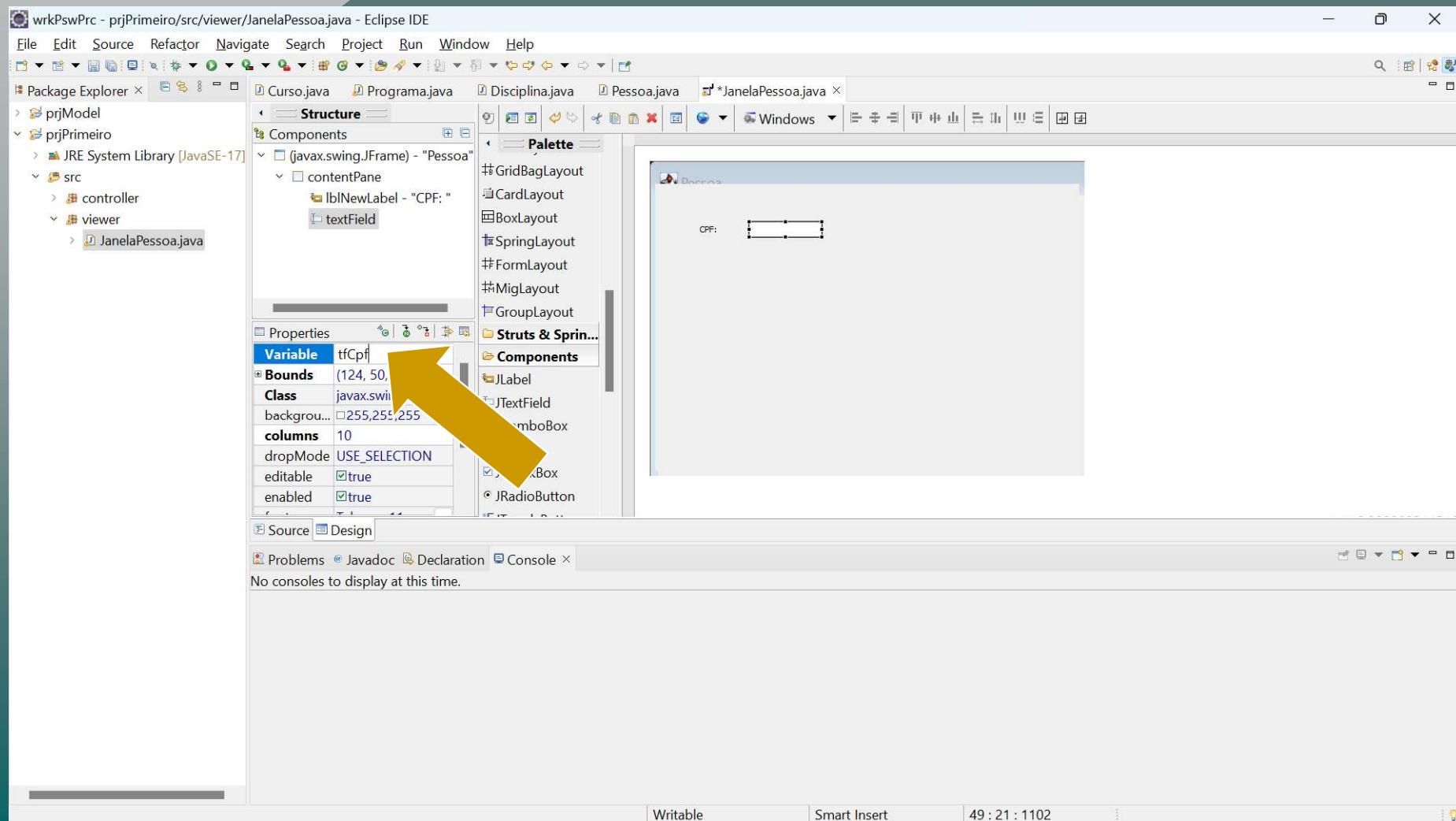
Alterando o Texto do Label



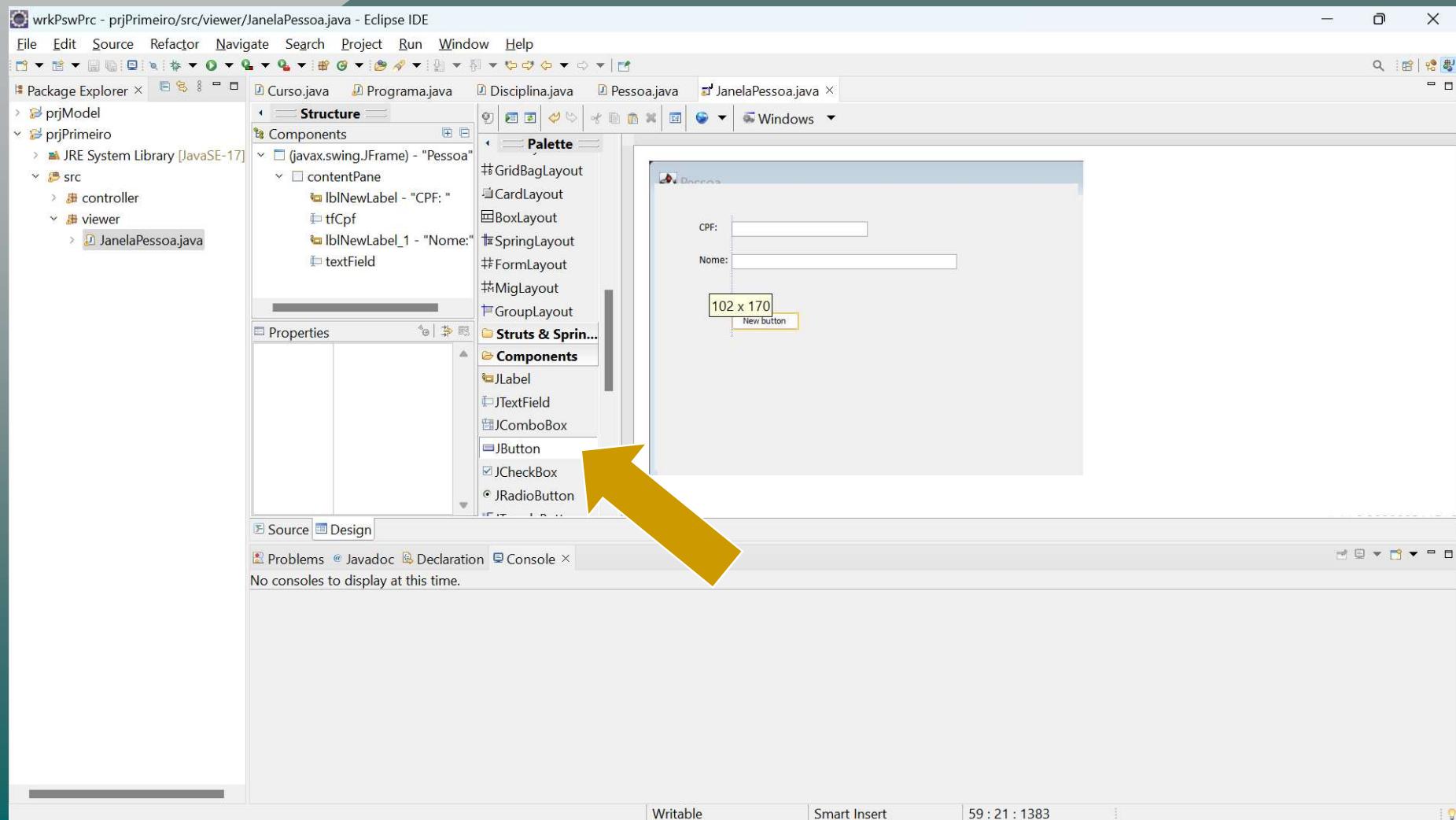
Adicionando TextFields



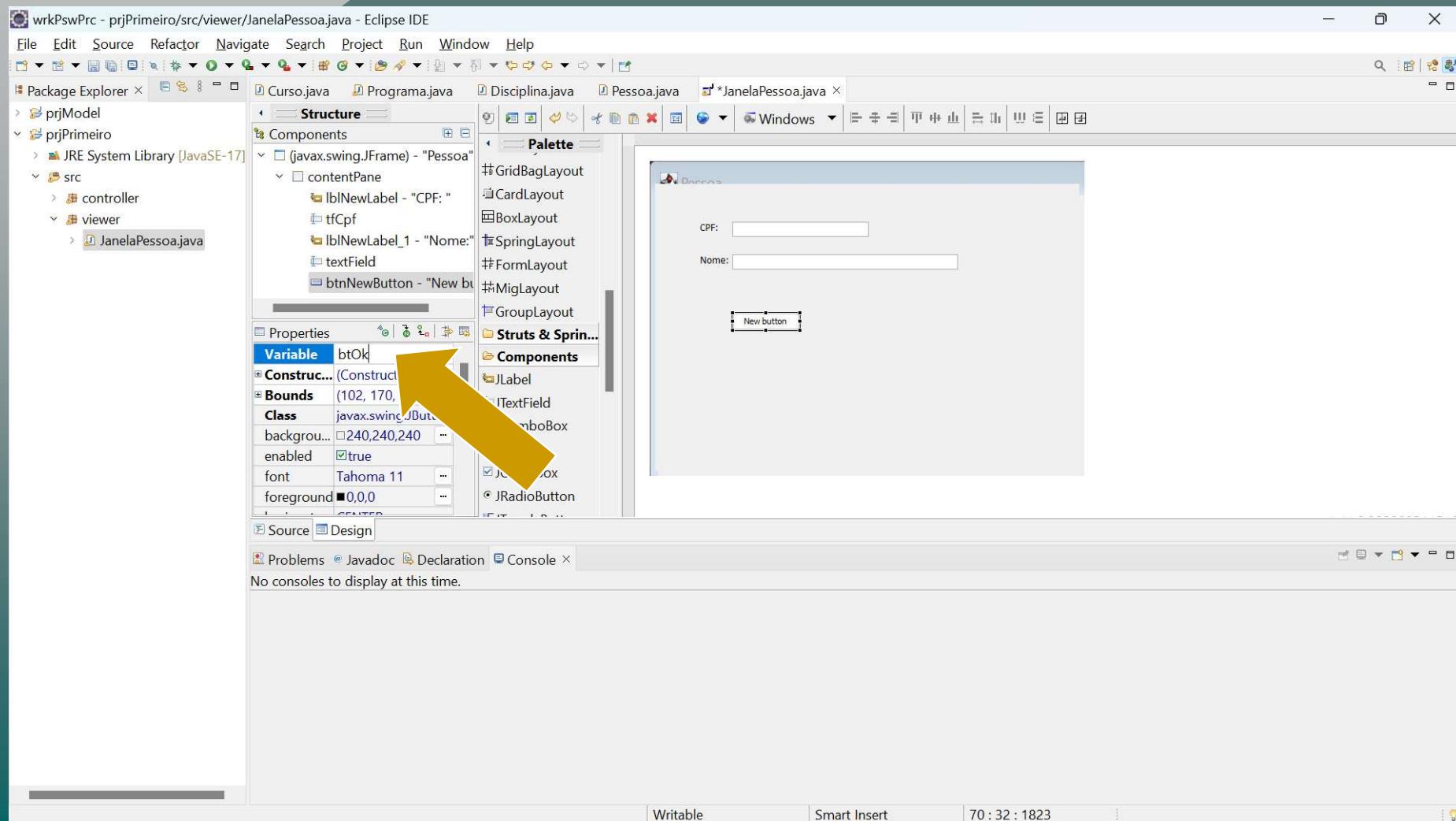
Definindo o nome do TextField



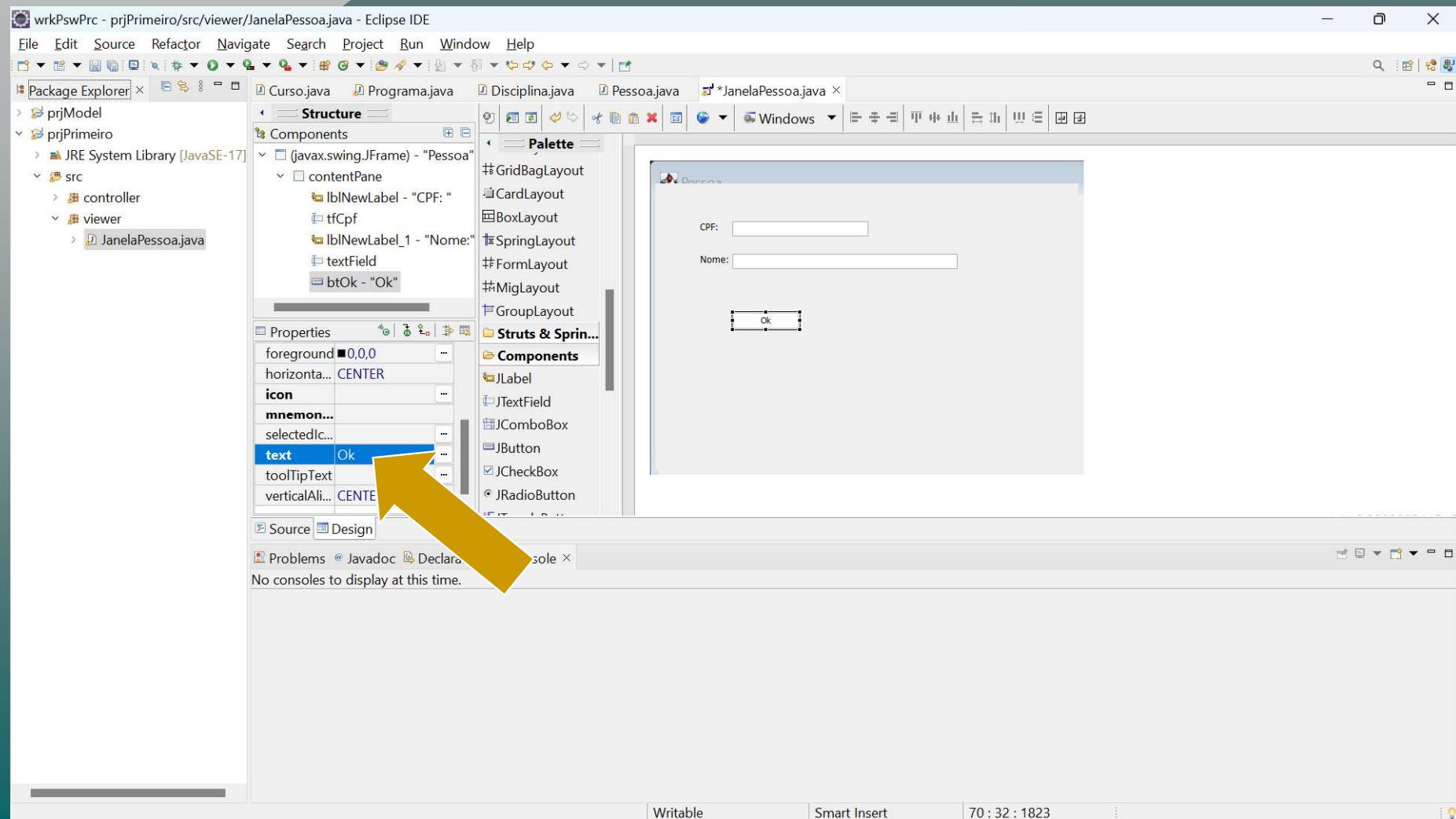
Adicionando Botões



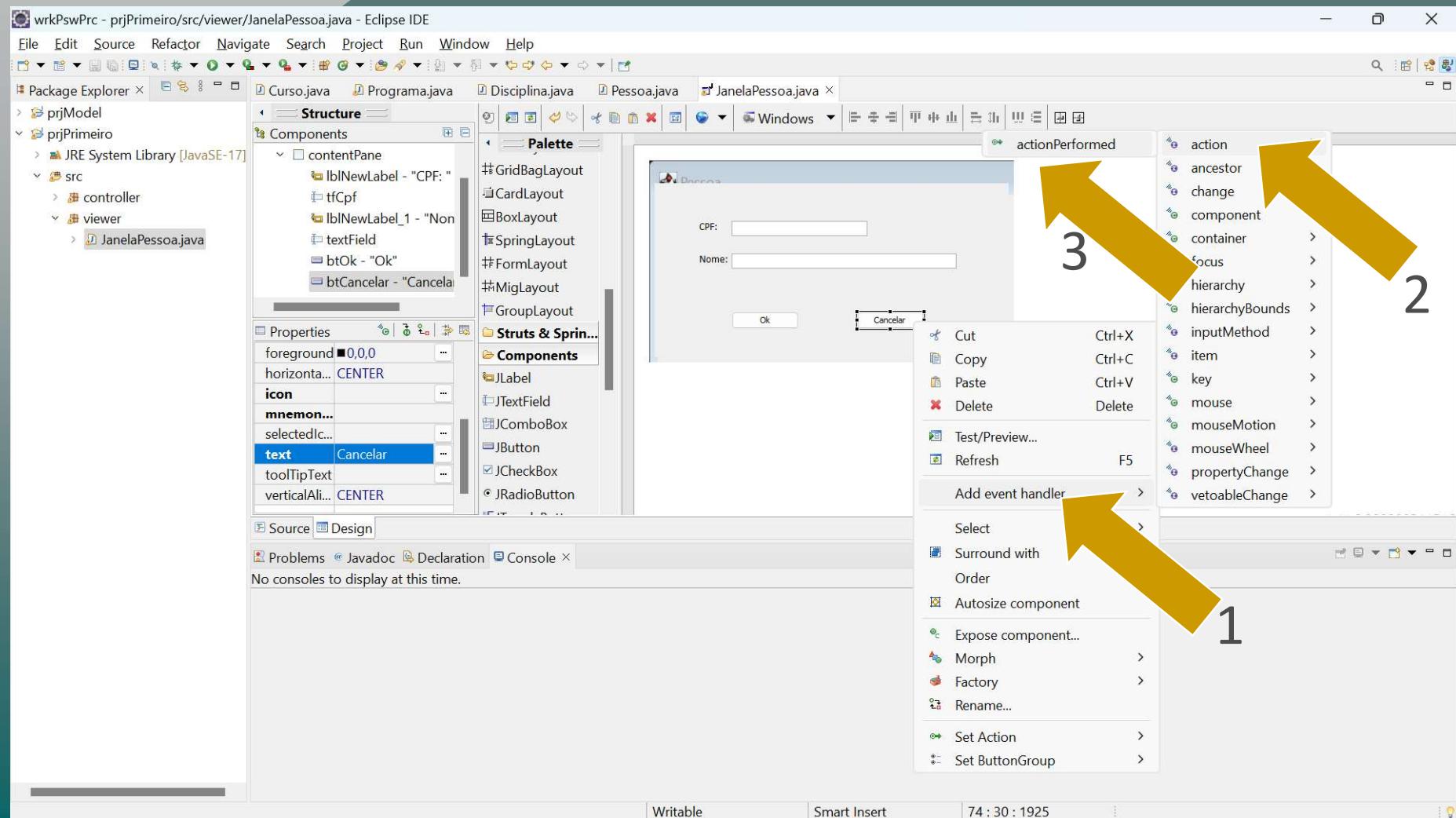
Definindo Nomes para os Botões



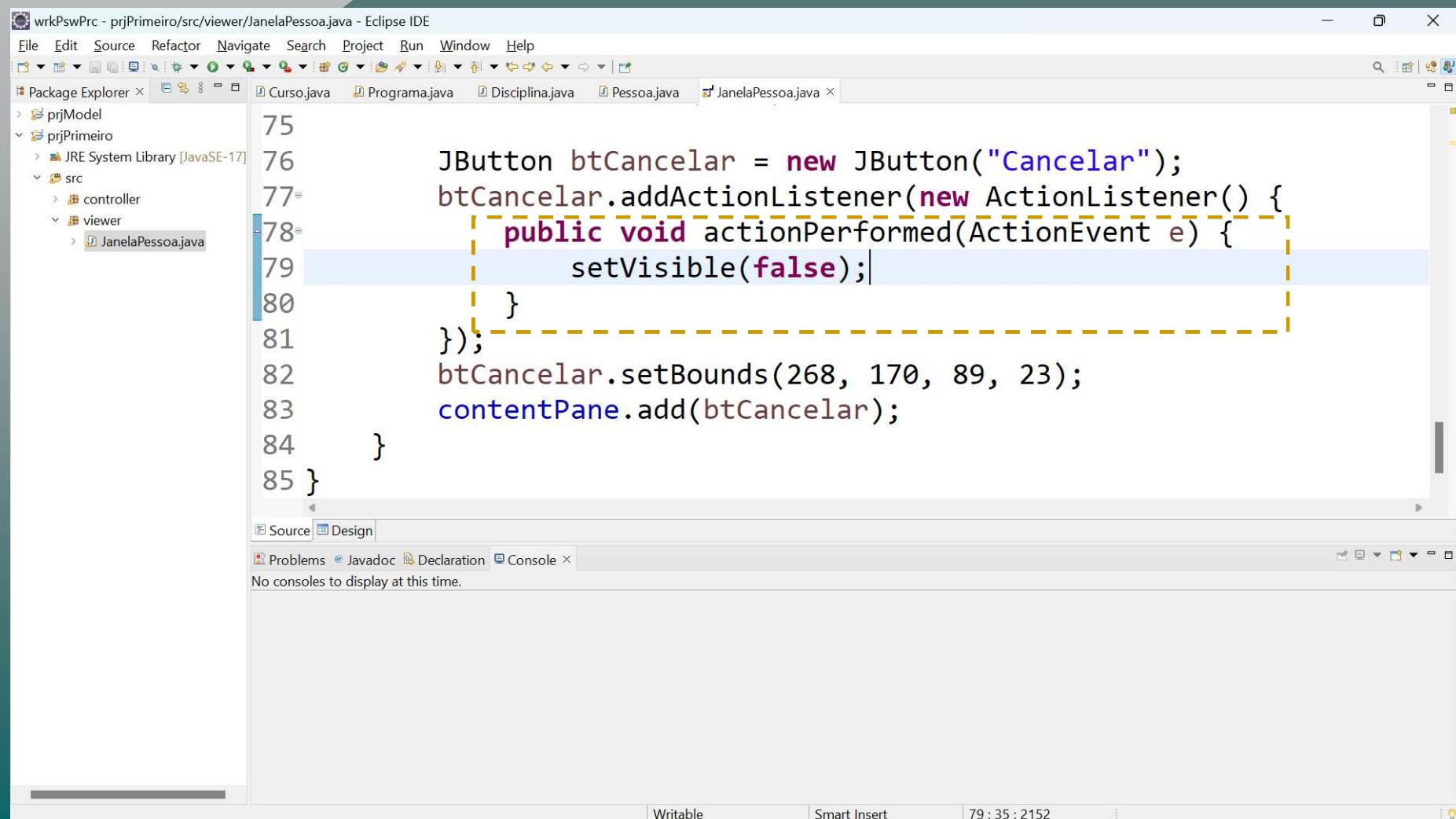
Alterando o Texto dos Botões



Programando Callbacks para os Botões



actionPerformed: Callback do Botão



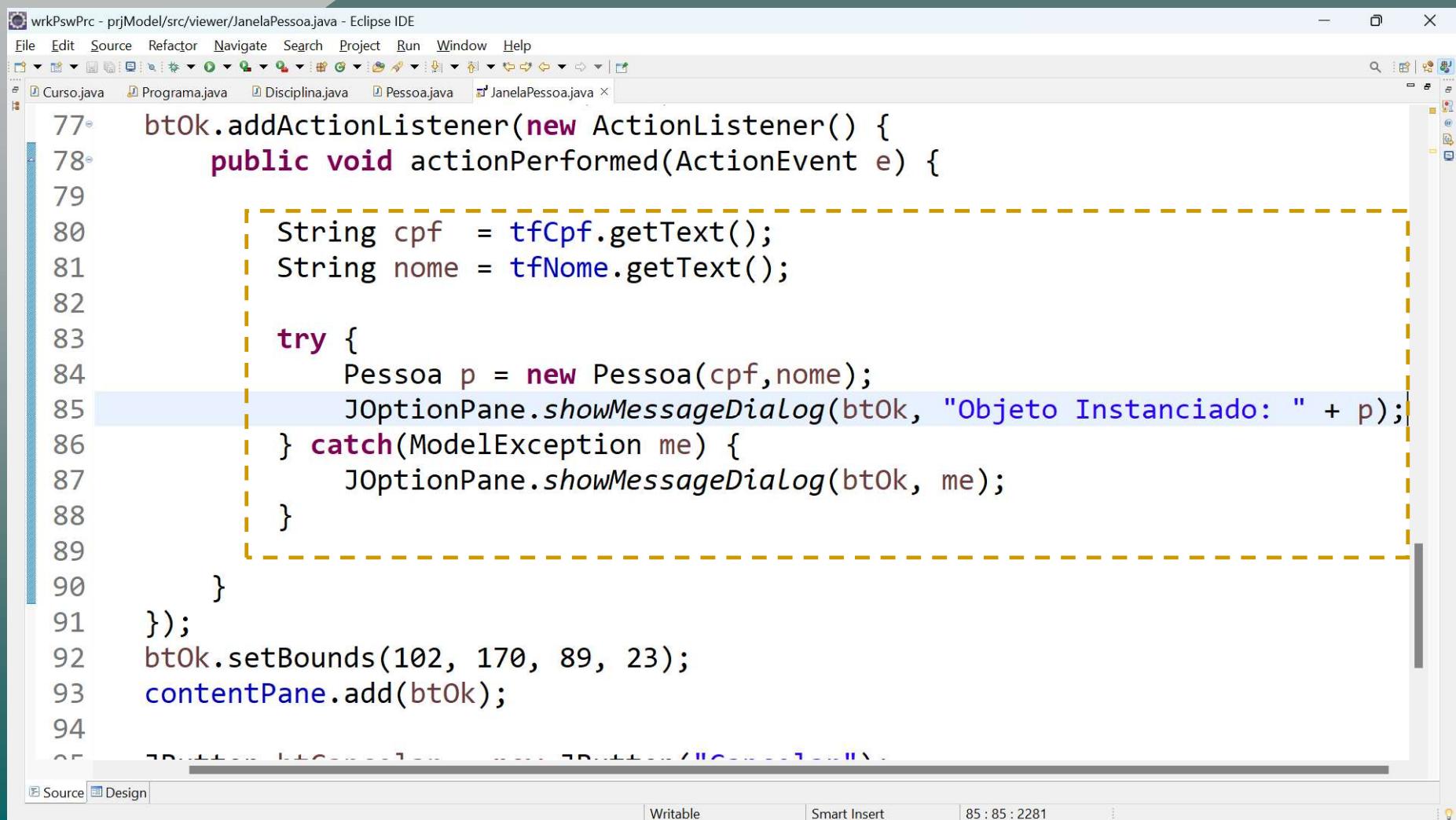
The screenshot shows the Eclipse IDE interface with the following details:

- Title Bar:** wrkPswPrc - prjPrimeiro/src/viewer/JanelaPessoa.java - Eclipse IDE
- Menu Bar:** File Edit Source Refactor Navigate Search Project Run Window Help
- Toolbars:** Standard, Java Development, Java Editor, Java Outline, Java Navigator, Java Problems, Java Javadoc, Java Declaration, Java Console.
- Left Sidebar:** Package Explorer showing project structure: prjModel, prjPrimeiro (JRE System Library [JavaSE-17]), src (controller, viewer, JanelaPessoa.java).
- Central Area:** Code editor for JanelaPessoa.java. The code defines a JButton named btCancelar and adds an ActionListener to it. The actionPerformed method is highlighted with a dashed yellow selection border.

```
75
76     JButton btCancelar = new JButton("Cancelar");
77     btCancelar.addActionListener(new ActionListener() {
78         public void actionPerformed(ActionEvent e) {
79             setVisible(false);
80         }
81     });
82     btCancelar.setBounds(268, 170, 89, 23);
83     contentPane.add(btCancelar);
84 }
85 }
```

- Bottom Status Bar:** Writable, Smart Insert, 79 : 35 : 2152.

actionPerformed: Callback do Botão



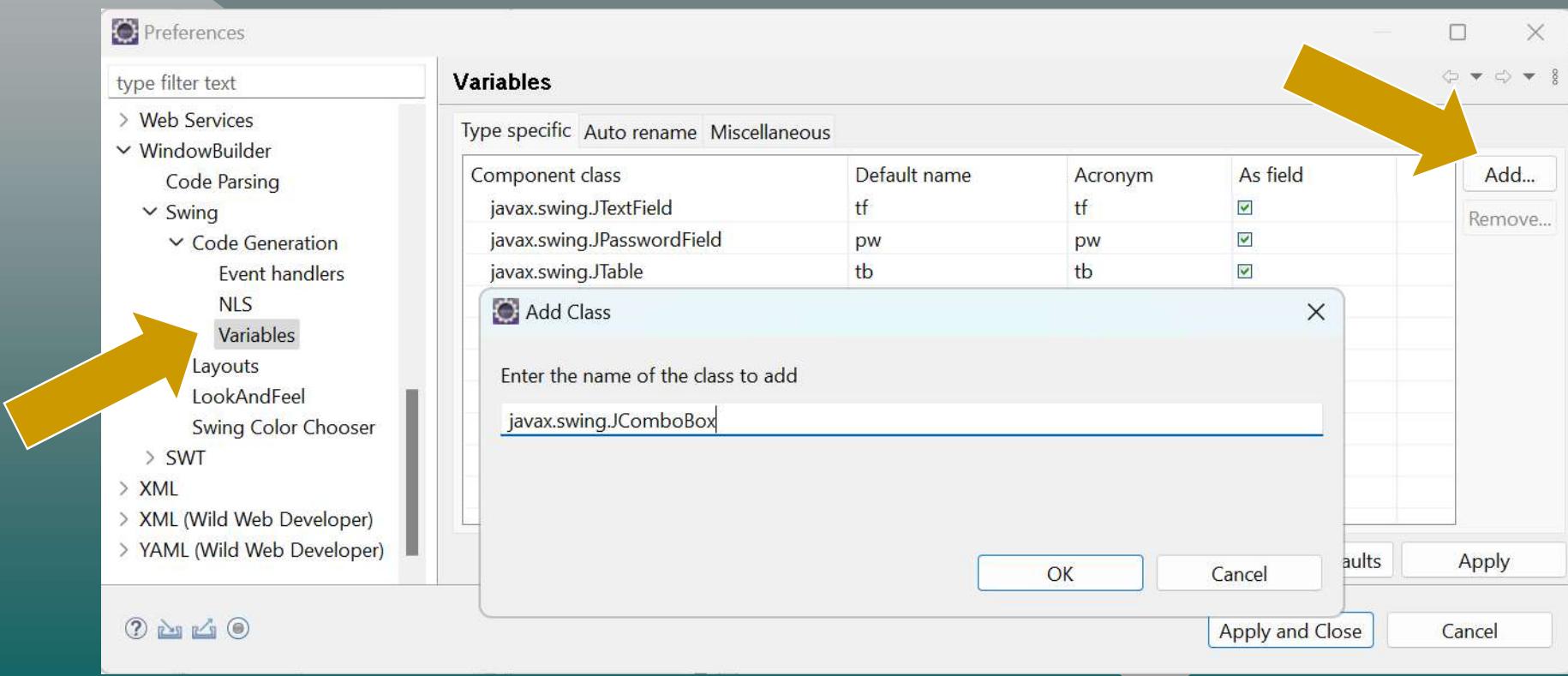
The screenshot shows the Eclipse IDE interface with the title bar "wrkPswPrc - prjModel/src/viewer/JanelaPessoa.java - Eclipse IDE". The menu bar includes File, Edit, Source, Refactor, Navigate, Search, Project, Run, Window, and Help. The toolbar has various icons for file operations. The left sidebar shows project files: Curso.java, Programa.java, Disciplina.java, Pessoa.java, and JanelaPessoa.java. The main editor window displays Java code for a JButton's actionPerformed callback:

```
77  btOk.addActionListener(new ActionListener() {
78      public void actionPerformed(ActionEvent e) {
79          String cpf = tfCpf.getText();
80          String nome = tfNome.getText();
81
82          try {
83              Pessoa p = new Pessoa(cpf,nome);
84              JOptionPane.showMessageDialog(btOk, "Objeto Instaciado: " + p);
85          } catch(ModelException me) {
86              JOptionPane.showMessageDialog(btOk, me);
87          }
88      }
89  });
90  btOk.setBounds(102, 170, 89, 23);
91  contentPane.add(btOk);
92
93
94 }
```

The line "JOptionPane.showMessageDialog(btOk, "Objeto Instaciado: " + p);" is highlighted in blue, indicating it is selected or being edited. A yellow dashed rectangle surrounds the entire actionPerformed method body.

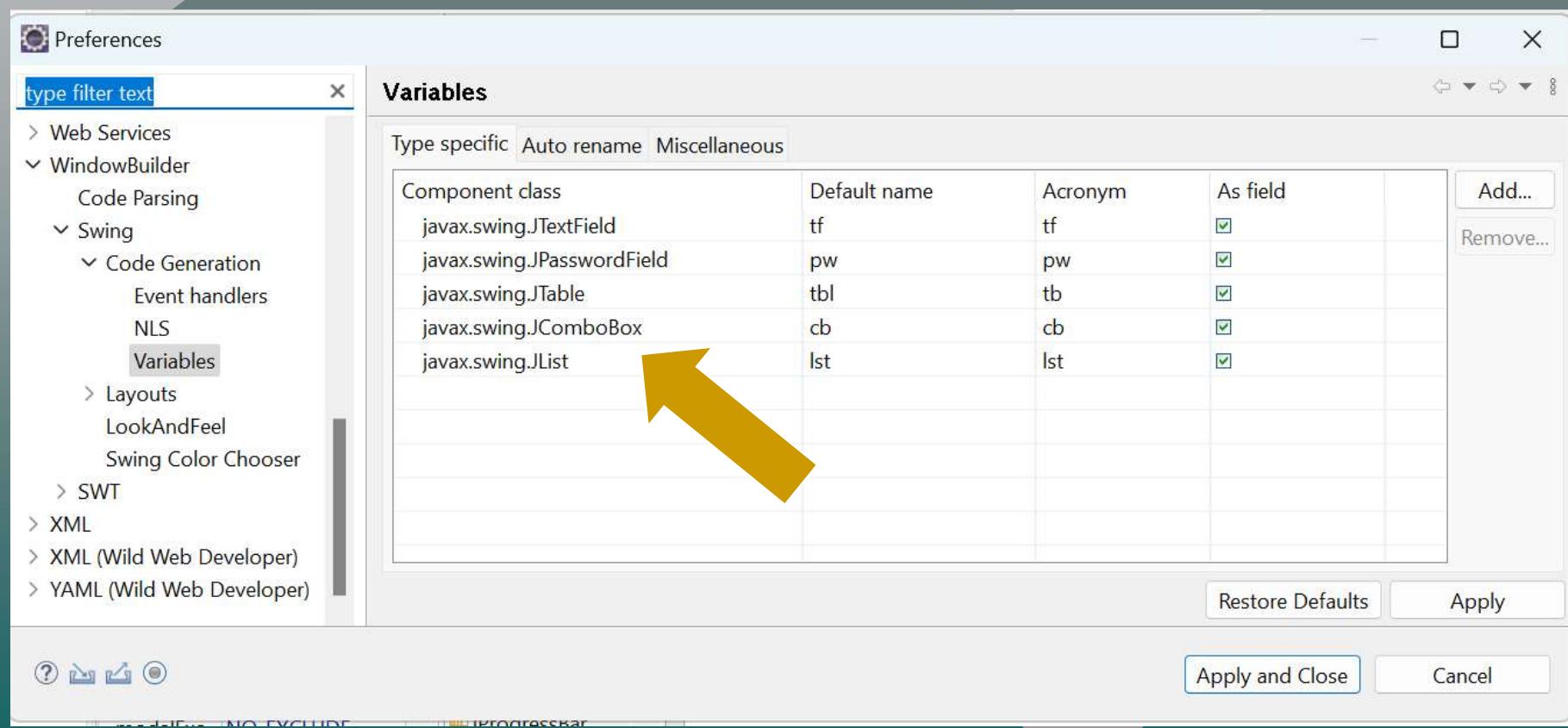
Configurações do WindowBuilder

- Acessar: [Window][Preferences]
- Como indicar quais componentes se tornam atributos?



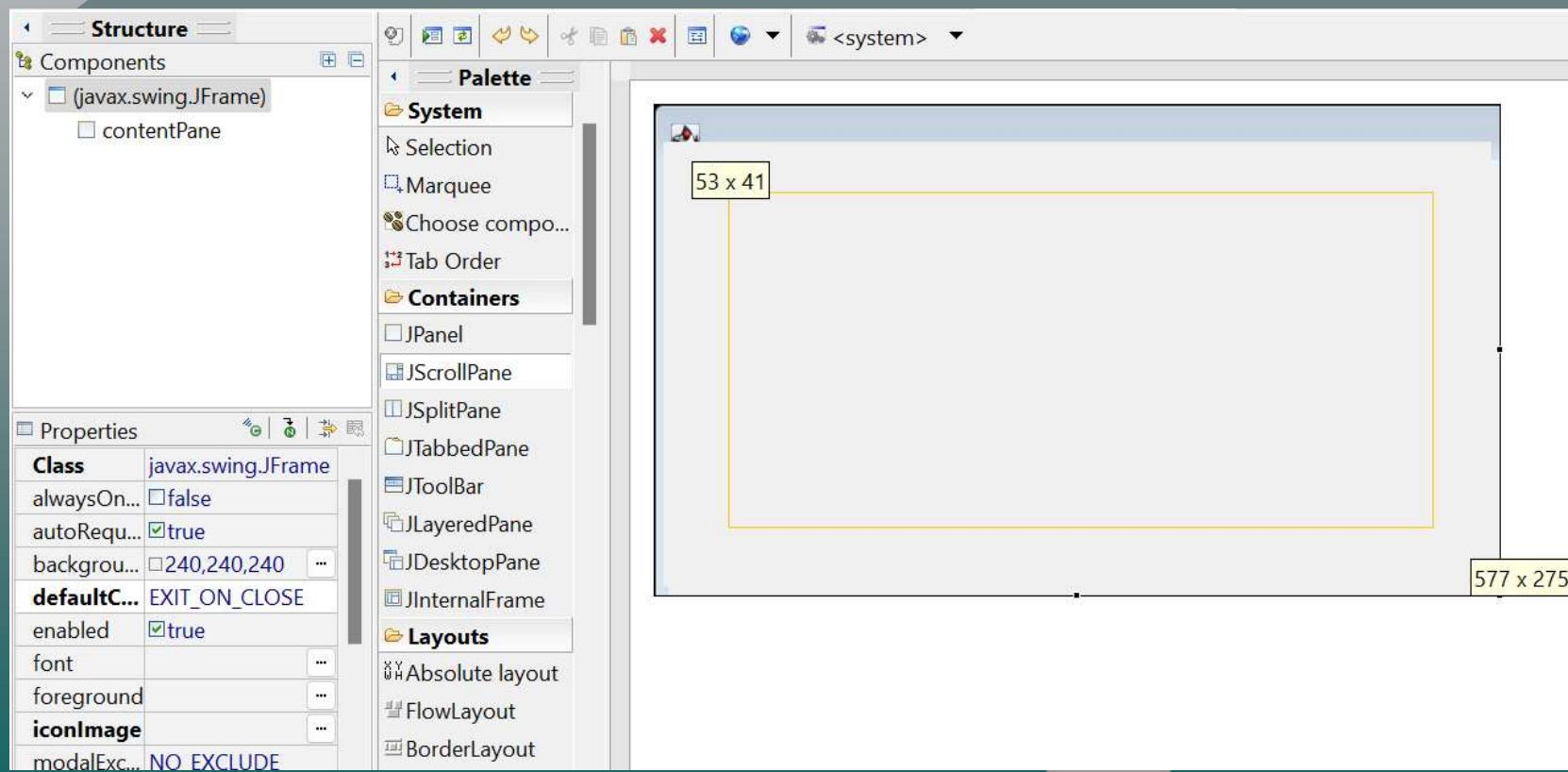
Configurações do WindowBuilder

- Como indicar quais componentes se tornam atributos?



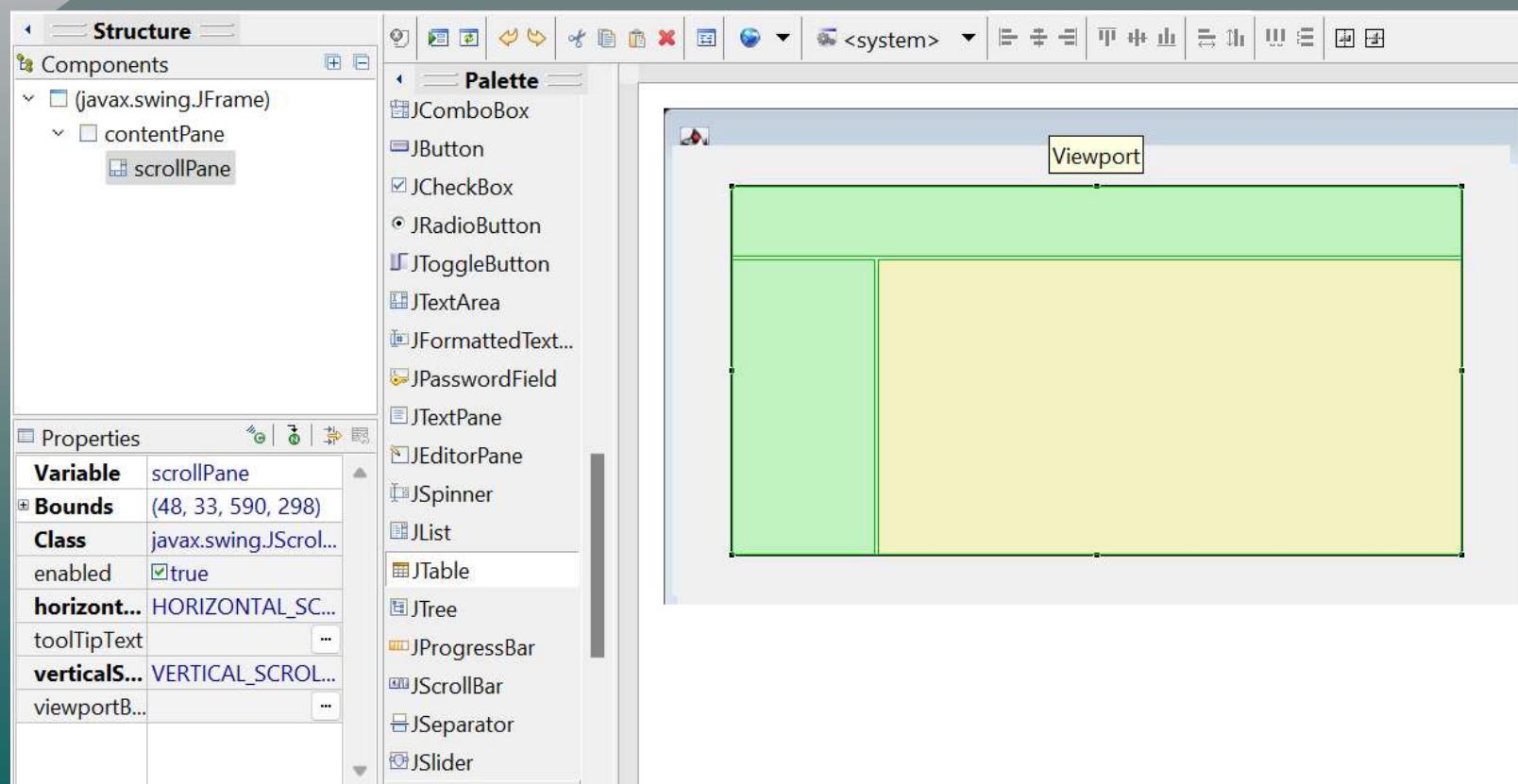
Trabalhando com JTable

- Passo 1) Colocar objeto JScrollPane



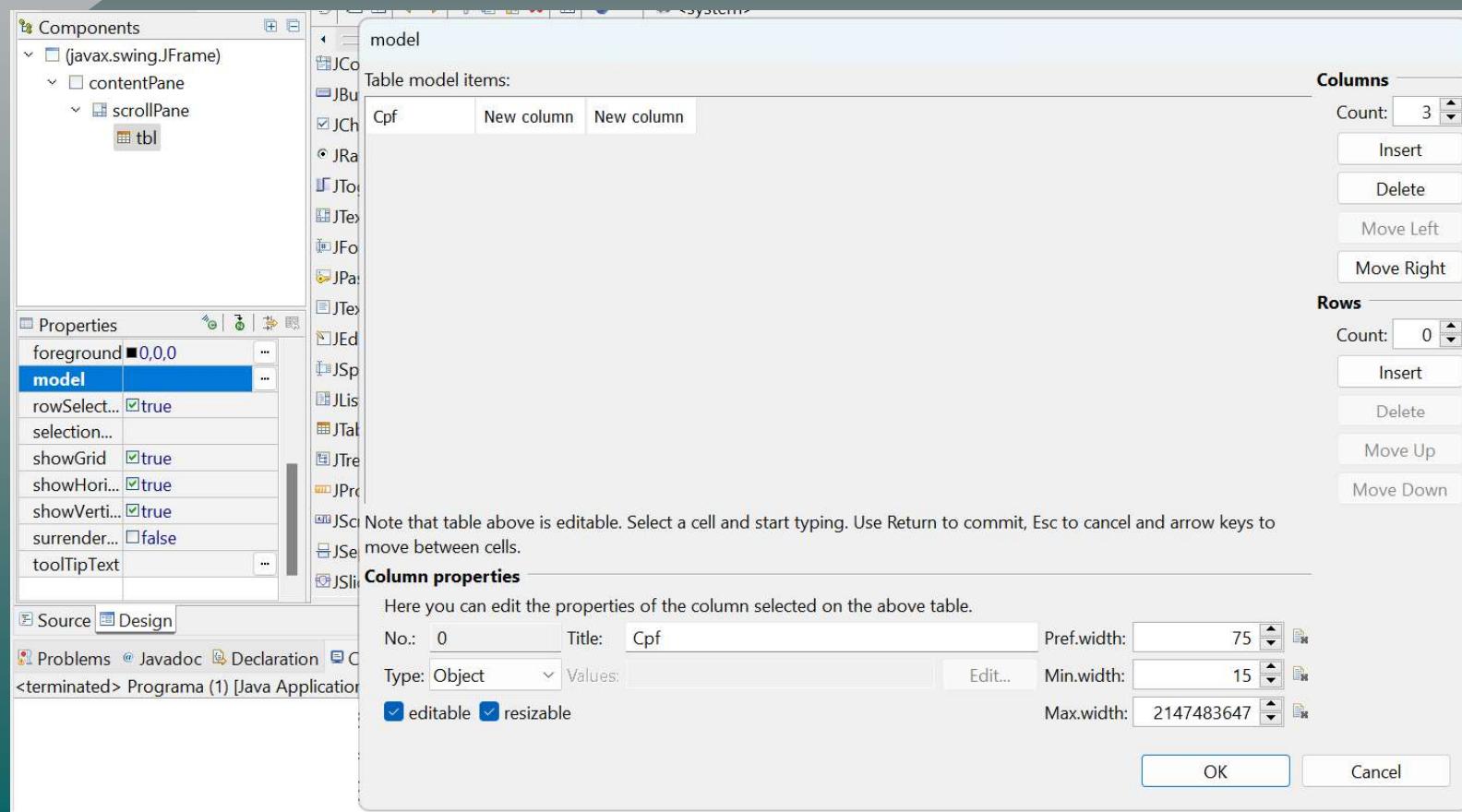
Trabalhando com JTable

- Passo 2) Dentro do JScrollPane colocar o JTable



Trabalhando com JTable

- Passo 3) Ajustando o TableModel



Dicas Finais

- Se o projeto tiver o arquivo “`module-info.java`”, **apague** esse arquivo.
- Apague a implementação do método `main` que o WindowBuilder coloca em todas as janelas que você criar.

Apagar este código!

```
/**  
 * Launch the application.  
 */  
public static void main(String[] args) {  
    EventQueue.invokeLater(new Runnable() {  
        public void run() {  
            try {  
                Janela frame = new Janela();  
                frame.setVisible(true);  
            } catch (Exception e) {  
                e.printStackTrace();  
            }  
        }  
    });  
}
```