

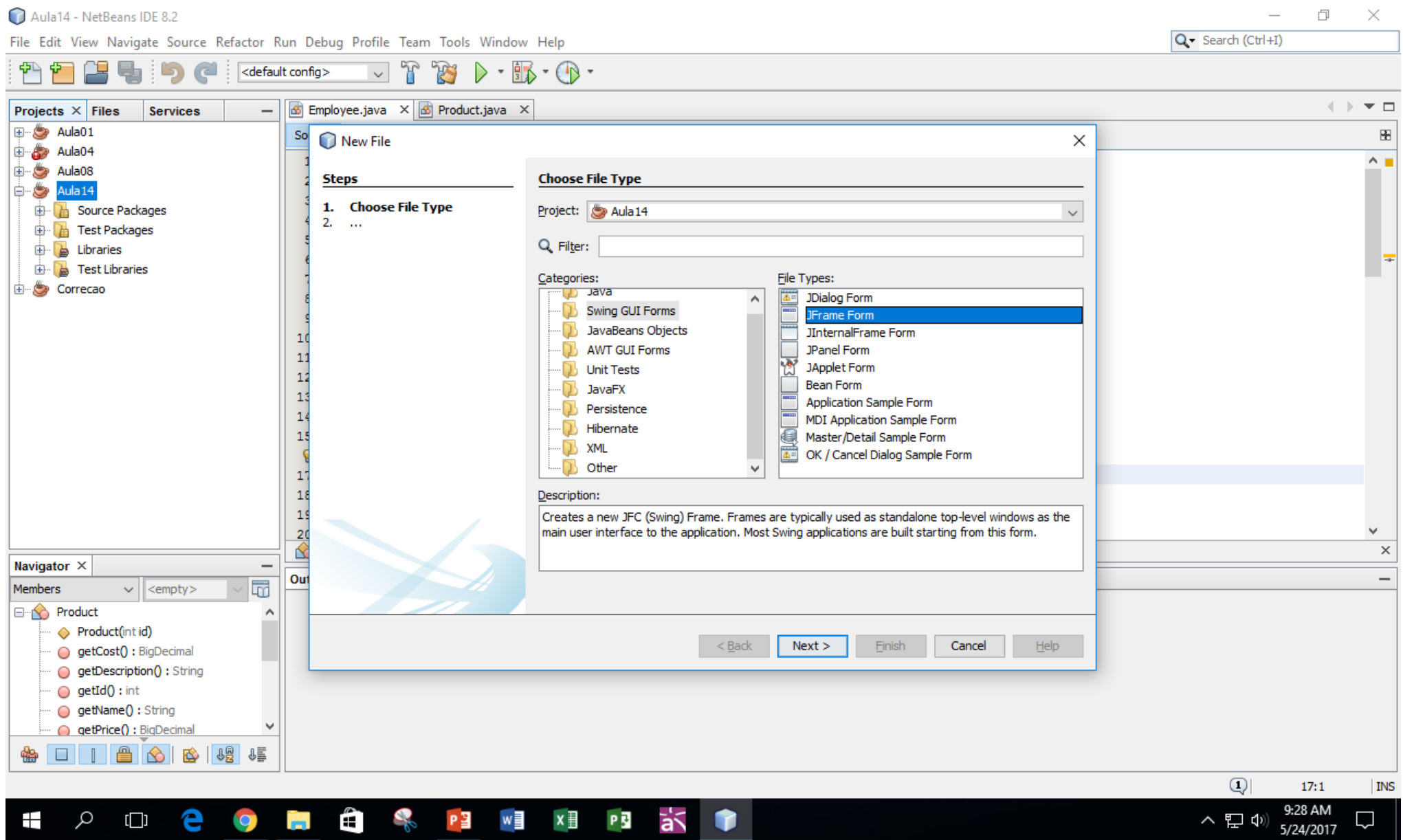
# Interface Gráfica do Usuário (GUI) em Java

## Capítulo XIII

### Plano de aulas

Nº Aula	Data	Conteúdo	Reposições		
1	06 de Fevereiro	Boas Vindas e Brainstorm com os alunos	Nº Aula	Data	Conteúdo
	13 de Fevereiro	Feriado - Carnaval	16	13 de Junho	Auxílio ao Projeto Final (Debbuging)
2	20 de Fevereiro	Introdução Java	17	25 de Junho	Auxílio ao Projeto Final
3	27 de Fevereiro	Variáveis Primitivas e Controle de Fluxo			
4	06 de Março	Introdução a Orientação a Objetos			
5	13 de Março	Arrays			
6	20 de Março	AV1			
7	27 de Março	Modificadores de Acesso e Atributos de Classe			
8	03 de Abril	Herança. Reescrita e Polimorfismo			
9	10 de Abril	Classes Abstratas e Interfaces			
10	17 de Abril	AV2			
11	24 de Abril	Exceções e Controle de Erros			
	01 de Maio	Feriado - Dia do Trabalho			
12	08 de Maio	O pacote java.io			
13	15 de Maio	Coleções			
	22 de Maio	Feriado - Dia do Padroeira			
	29 de Maio	Greve Caminhoneiros			
14	05 de Junho	Interface Gráfica com Usuário - GUI			
15	12 de Junho	AV3			
17	19 de Junho	Auxílio ao Projeto Final			
18	26 de Junho	Auxílio ao Projeto Final			
20	03 de Julho	NP3(L1) e Revisão da NP3			

### Janela Principal usando JFrame



### Adicionando o painel (container)

Aula14 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Search (Ctrl+I)

Projects Files Services

Source Packages

- br.inatel.ec203.projeto.controller
- br.inatel.ec203.projeto.main
- SampleGUI.java
- br.inatel.ec203.projeto.utils
- LookAndFeelConfig.java
- br.inatel.ec203.projetos.main.view
- FrameDemo2.java
- LookAndFeelDemo.java
- LookAndFeelGUI.java
- TestTheme.java

Test Packages

Libraries

Test Libraries

Correcao

LookAndFeelConfig.java SampleGUI.java LookAndFeelGUI.java

Source Design History

Use the Design This Container action from the context menu to focus on this container.

Palette x JPanelLookAndFeel [JPanel] - ...

Swing Containers

- Panel
- Tabbed Pane
- Split Pane
- Scroll Pane
- Tool Bar
- Internal Frame
- Layered Pane

Swing Controls

- label Label
- Toggle Button
- Radio Button
- Combo Box
- Text Field
- Scroll Bar
- Progress Bar
- Password Field
- Separator
- Editor Pane
- Table
- OK Button
- Check Box
- Button Group
- List
- Text Area
- Slider
- Formatted Field
- Spinner
- Text Pane
- Tree

Swing Menus

Swing Windows

jPanelLookAndFeel [JPanel] - Navigator

Form LookAndFeelGUI

Other Components

[JFrame]

jPanelLookAndFeel [JPanel]

Output - Aula14 (run)

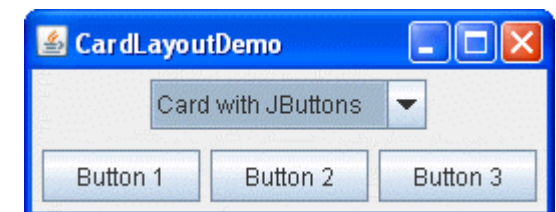
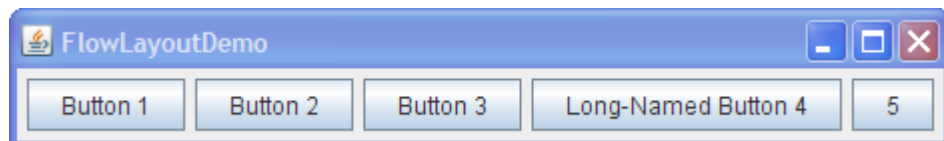
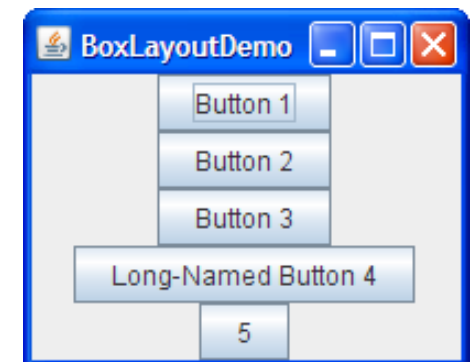
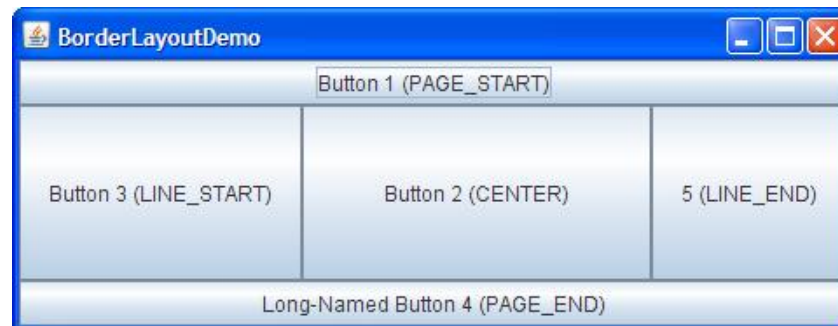
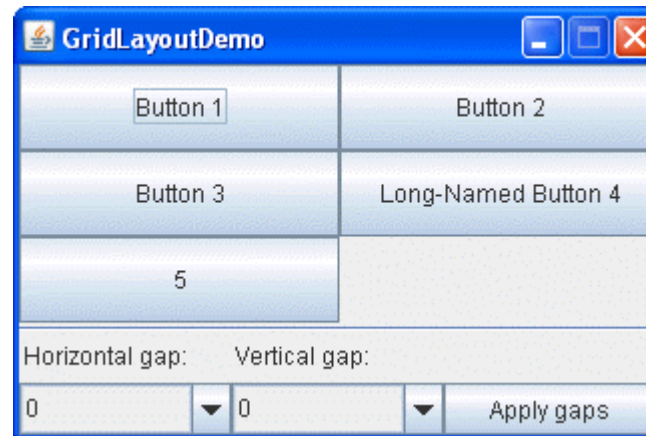
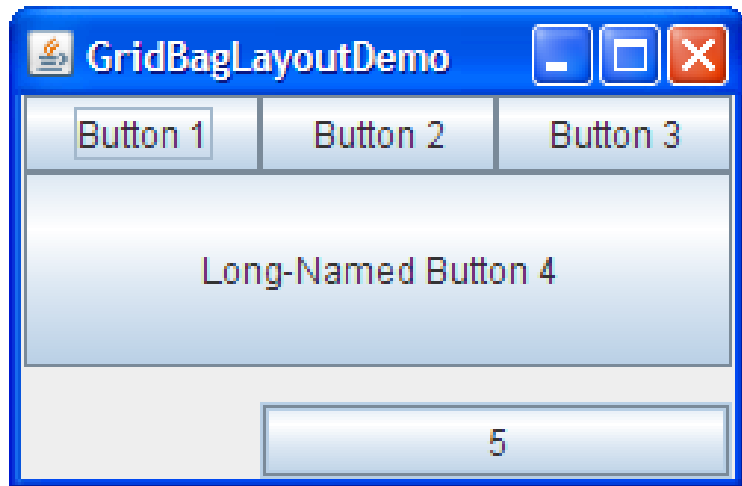
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## Layout Manager



# Adicionando o ButtonGroup

Aula14 - NetBeans IDE 8.2

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Search (Ctrl+I)

Projects Files Services

Source Packages

- br.inatel.ec203.projeto.controller
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- LookAndFeelGUI.java
- TestTheme.java

Test Packages

Libraries

Test Libraries

Correcao

buttonGroup1 [ButtonGroup] - Navigator

- Form LookAndFeelGUI
- Other Components
- buttonGroupLookAndFeel [ButtonGroup]
- [JFrame]
- JPanelLookAndFeels [JPanel]

LookAndFeelConfig.java

SampleGUI.java

LookAndFeelGUI.java

Design

The Tools>Palette>Swing/AWT Components menu item allows you to modify the content of the Palette.

Palette

Swing Containers

- Panel
- Split Pane
- Tool Bar
- Internal Frame
- Tabbed Pane
- Scroll Pane
- Desktop Pane
- Layered Pane

Swing Controls

- Label
- Toggle Button
- Radio Button
- OK Button
- Check Box
- Button Group

Cor

Text

Scroll Bar

Progress Bar

Password Field

Separator

Editor Pane

Table

Formatted Field

Spinner

Text Pane

Tree

Swing Menus

Swing Windows

Output - Aula14 (run)

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### Adicionando o JRadioButton

Aula14 - NetBeans IDE 8.2

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Search (Ctrl+I)

Projects Files Services

Source Packages

- br.inatel.ec203.projeto.controller
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- TestTheme.java

Test Packages

- Libraries
- Test Libraries
- Correcao

LookAndFeelConfig.java SampleGUI.java LookAndFeelGUI.java

Source Design History

Use the ButtonGroup component and the buttonGroup property to create a group of exclusive JRadioButtons.

Default

Palette jRadioButtonLookAndFeelDefau...

Swing Containers

- Panel
- Split Pane
- Tool Bar
- Internal Frame
- Tabbed Pane
- Scroll Pane
- Desktop Pane
- Layered Pane

Swing Controls

- Label
- Toggle Button
- Radio Button
- Combobox
- Text Field
- Scrollbar
- ProgressBar
- Password Field
- Separator
- Editor Pane
- Table
- OK Button
- Check Box
- Button Group
- Spinner
- Text Pane
- Tree

javax.swing.JRadioButton

An item that can be selected or deselected. Used with a ButtonGroup object to create a group of buttons in which only one button at a time can be selected.

jRadioButton1 [JRadioButton] - Navigator

Form LookAndFeelGUI

- Other Components
- buttonGroupLookAndFeel [ButtonGroup]
- [JFrame]
- jPanelLookAndFeel [JPanel]
- jRadioButtonLookAndFeelDefault [JRadioBu]

Output - Aula14 (run)

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### Incluindo o JRadioButton no ButtonGroup

Aula14 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

<default config>

Projects Files Services

Aula01  
Aula04  
Aula08  
Aula14

Source Packages

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- TestTheme.java

Test Packages

Libraries

Test Libraries

Correcao

jRadioButtonLookAndFeelDefault [JRadi... x

Form LookAndFeelGUI

Other Components

- buttonGroupLookAndFeel [ButtonGroup]
- [JFrame]
- JPanelLookAndFeel [JPanel]
- ... jRadioButtonLookAndFeelDefault [JRadioButt

Output - Aula14 (run)

jRadioButtonLookAndFeelDefault [JRadioButton] - Properties

Properties Binding Events Code

Use the ButtonGroup

Properties

action	<none>
background	[240,240,240]
model	<default>
buttonGroup	<none>
font	<none>
foreground	buttonGroupLookAndFeel
mnemonic	
selected	
text	Default
toolTipText	

Other Properties

UIClassID	RadioButtonUI
actionCommand	Default
alignmentX	0.0
alignmentY	0.5
autoscrolls	
baselineResizeBehavior	CENTER_OFFSET
border	[CompoundBorderUIResource]
borderPainted	
componentPopupMenu	<none>
contentAreaFilled	

buttonGroup

Group of buttons in which this button belongs

Close Help

Palette x jRadioButtonLookAndFeelDefau...

Swing Containers

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Swing Controls

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- Tree

Swing Menus

Swing Windows

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### Adicionando a borda no painel

Aula14 - NetBeans IDE 8.2

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Search (Ctrl+I)

Projects Files Services

Aula01  
Aula04  
Aula08  
Aula14

Source Packages

- br.inatel.ec203.projeto.controller
- br.inatel.ec203.projeto.main
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- LookAndFeelGUI.java
- TestTheme.java

Test Packages

Libraries

Test Libraries

Correcao

jPanelLookAndFeel [JPanel] - Navigator

- Form LookAndFeelGUI
- Other Components
- buttonGroupLookAndFeel [ButtonGroup]
- [JFrame]
- jPanelLookAndFeel [JPanel]
- jRadioButtonLookAndFeelDefault [JRadioButton]

jPanelLookAndFeel [JPanel] - Properties

Source Design Properties Binding Events Code

The Tools>Palette

Default

Properties

background	[240,240,240]
border	(No Border)
foreground	[0,0,0]
toolTipText	

Other Properties

UIClassID	PanelUI
alignmentX	0.5
alignmentY	0.5
autoscrolls	
baselineResizeBehavior	OTHER
componentPopupMenu	<none>
cursor	Default Cursor
debugGraphicsOptions	NO_CHANGES
doubleBuffered	<input checked="" type="checkbox"/>
enabled	<input checked="" type="checkbox"/>
focusCycleRoot	
focusTraversalPolicy	<none>
focusTraversalPolicyProvider	
focusable	<input checked="" type="checkbox"/>
font	Tahoma 11 Plain
inheritsPopupMenu	

border  
(javax.swing.border.Border) The component's border.

Close Help

Palette jPanelLookAndFeel [JPanel... x

Properties Binding Events Code

Properties

background	[240,240,240]
border	(No Border)
foreground	[0,0,0]
toolTipText	

Other Properties

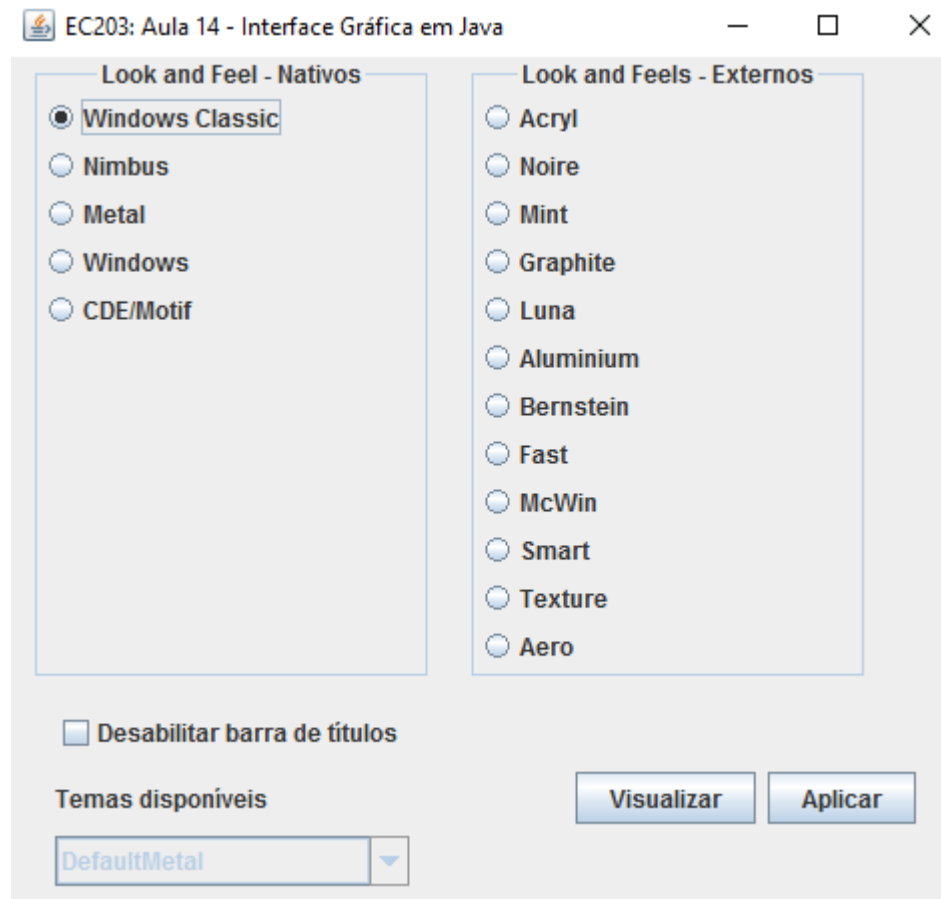
UIClassID	PanelUI
alignmentX	0.5
alignmentY	0.5
autoscrolls	
baselineResizeBehavior	OTHER
componentPopupMenu	<none>
cursor	Default Cursor
debugGraphicsOptions	NO_CHANGES
doubleBuffered	<input checked="" type="checkbox"/>
enabled	<input checked="" type="checkbox"/>
focusCycleRoot	
focusTraversalPolicy	<none>

jPanelLookAndFeel [JPanel]

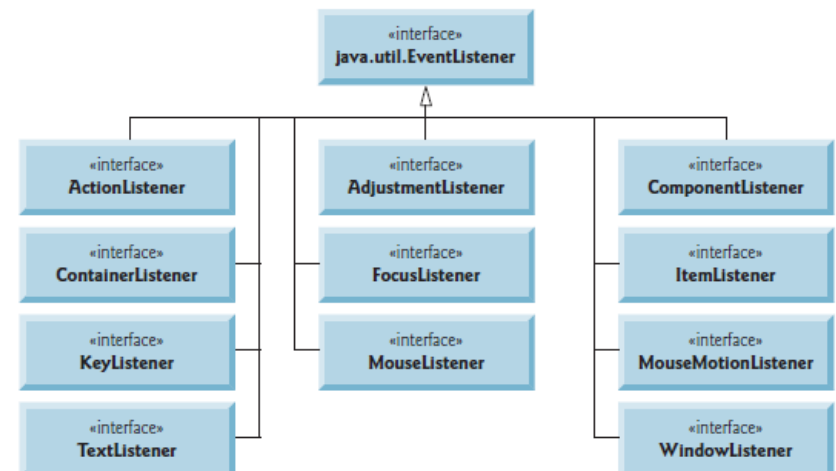
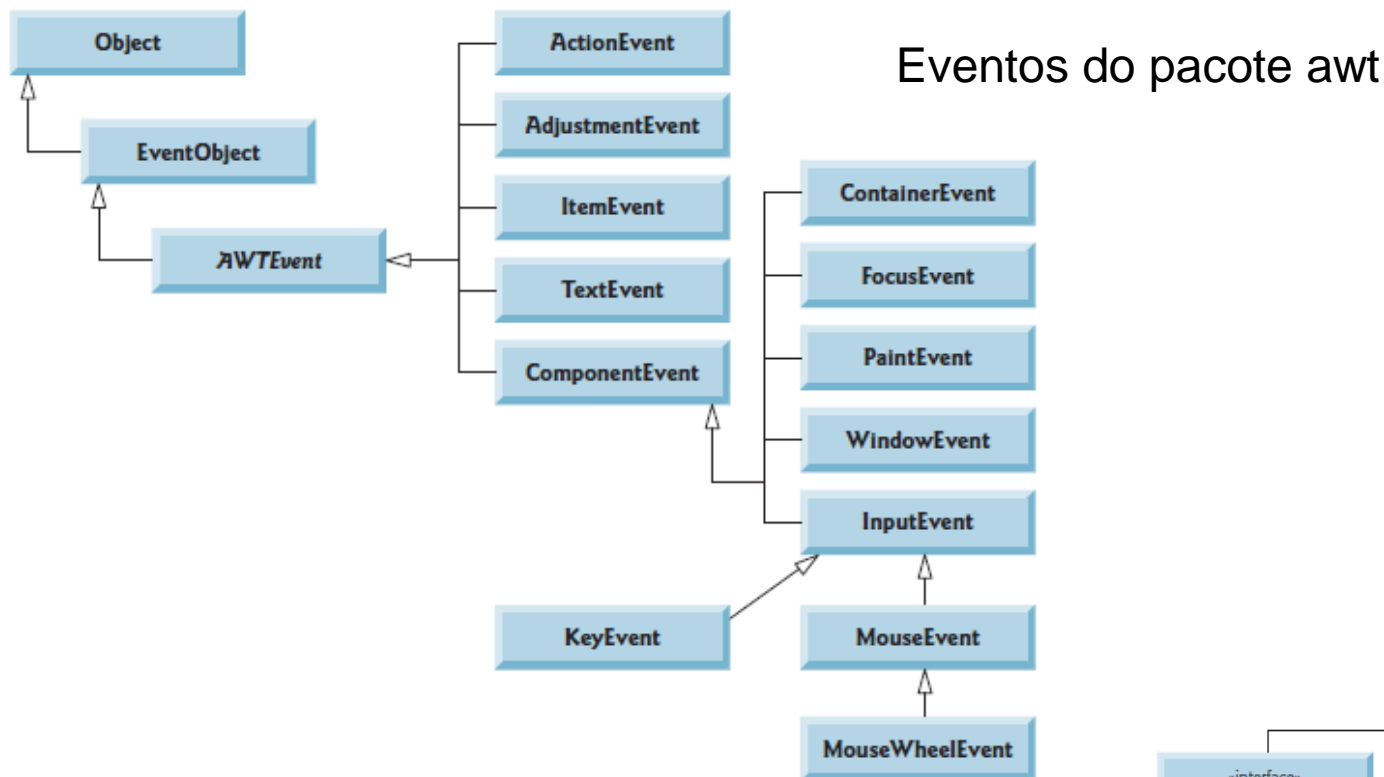
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### Exemplo de interface



## Tratamento de eventos



Interfaces para tratamento de eventos do pacote awt

## Tratamento de eventos

```
public void setButtonApplyEvent(LookAndFeelApplyButtonHandler event) {
    jButtonApplication.addActionListener(event);
}

public void setButtonPreviewEvent(LookAndFeelPreviewButtonHandler event) {
    jButtonPreview.addActionListener(event);
}

public void setRadioButtonEvent(LookAndFeelRadioButtonHandler event) {
    for(JRadioButton jRadio : jRadioButtonsLookAndFeelList)
        jRadio.addActionListener(event);
}
```

Registrando os eventos nos componentes

```
import br.inatel.ec203.projeto.controller.MainController;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

/**
 *
 * @author Felipe Miranda
 */
public class LookAndFeelApplyButtonHandler implements ActionListener {

    @Override
    public void actionPerformed(ActionEvent e) {
        MainController control = MainController.getInstance();
        control.displayGUIComponents();
    }
}
```

Exemplo do tratamento de um evento

## Aplicando Look And Feels e o tema Metal

```
public void applyLookAndFeel(String name) throws LookAndFeelException {  
    try {  
        String className = getAvailableLookAndFeels().get(name);  
        if (className.isEmpty()) {  
            UIManager.setLookAndFeel(UIManager.getCrossPlatformLookAndFeelClassName());  
        } else {  
            UIManager.setLookAndFeel(className);  
        }  
    } catch (ClassNotFoundException | InstantiationException  
            | IllegalAccessException | UnsupportedLookAndFeelException ex) {  
        throw new LookAndFeelException();  
    }  
}
```

```
public void applyMetalTheme(String name) {  
    switch (name) {  
        case "Ocean":  
            MetalLookAndFeel.setCurrentTheme(new OceanTheme());  
            break;  
        default:  
            MetalLookAndFeel.setCurrentTheme(new DefaultMetalTheme());  
            break;  
    }  
}
```

### Exercícios

#### Faça crítica das entradas de dados

1. Implemente um programa para o controle de inventário de equipamentos da sua empresa. Neste primeiro momento serão levantados notebooks e smartphones
    - i. Notebooks: Marca, modelo, matrícula do responsável e número de série do aparelho
    - ii. Smartphone: Marca, modelo, IMEI, Centro de Custo e matrícula do responsável
  
  2. O departamento de Relações com os Investidores da sua empresa gostaria de controlar os relatórios enviados e as comunicações com a imprensa que foram realizados. Para isso a TI foi contata e você o designado para desenvolver um sistema que automatize esse cadastro. As informações que deverão ser inseridas/exibidas são:
    - i. Relatórios: tema, funcionário responsável, funcionário revisor e data do envio
    - ii. Comunicações: tema, funcionário responsável, tipo de mídia e veículo (nome do jornal ou site)
- Obs.: para os funcionários armazenar nome e matrícula