

EIF206 - Programación 3

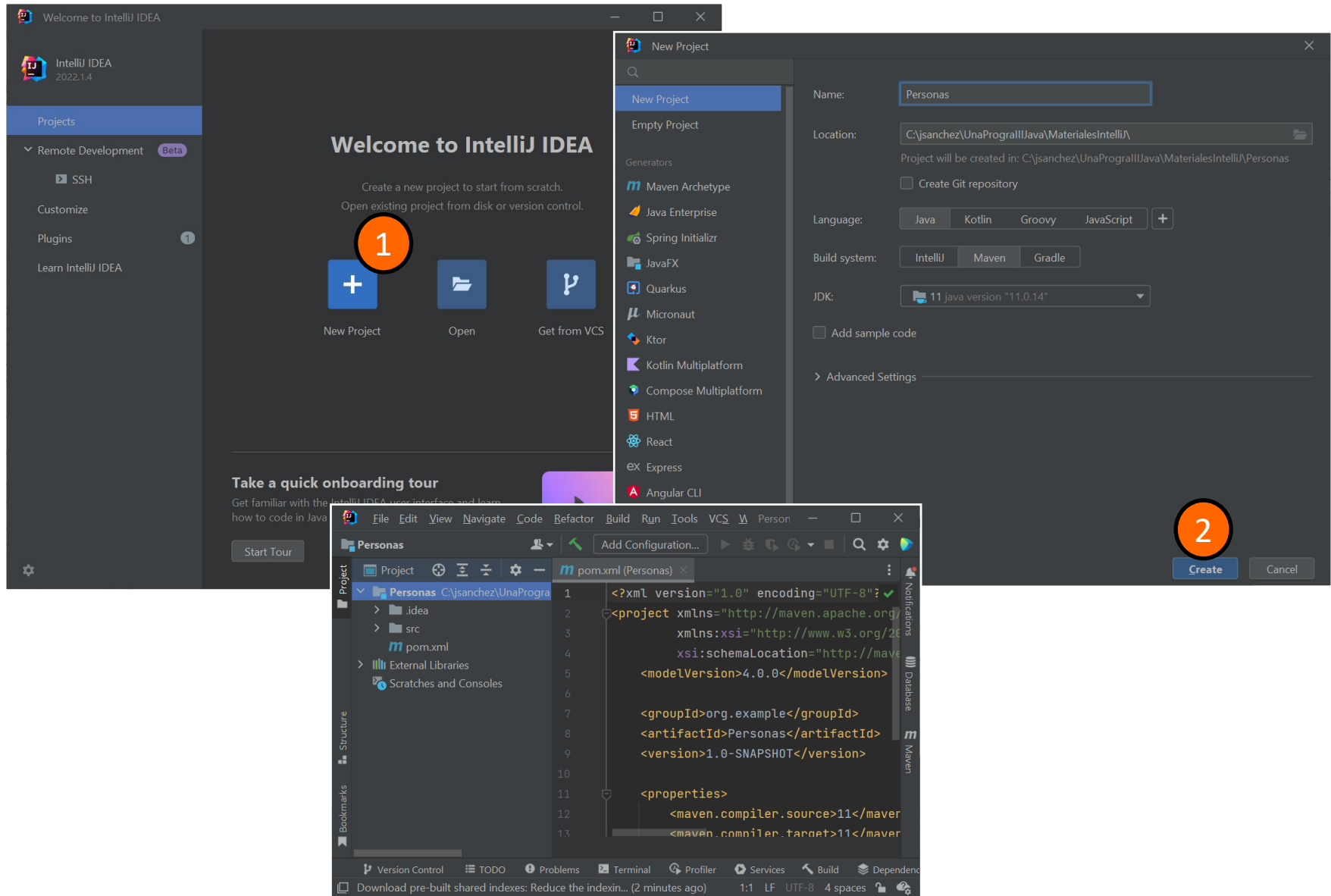
3 - Interfaces de Usuario

(Prof. José Sánchez, Ph.D.)

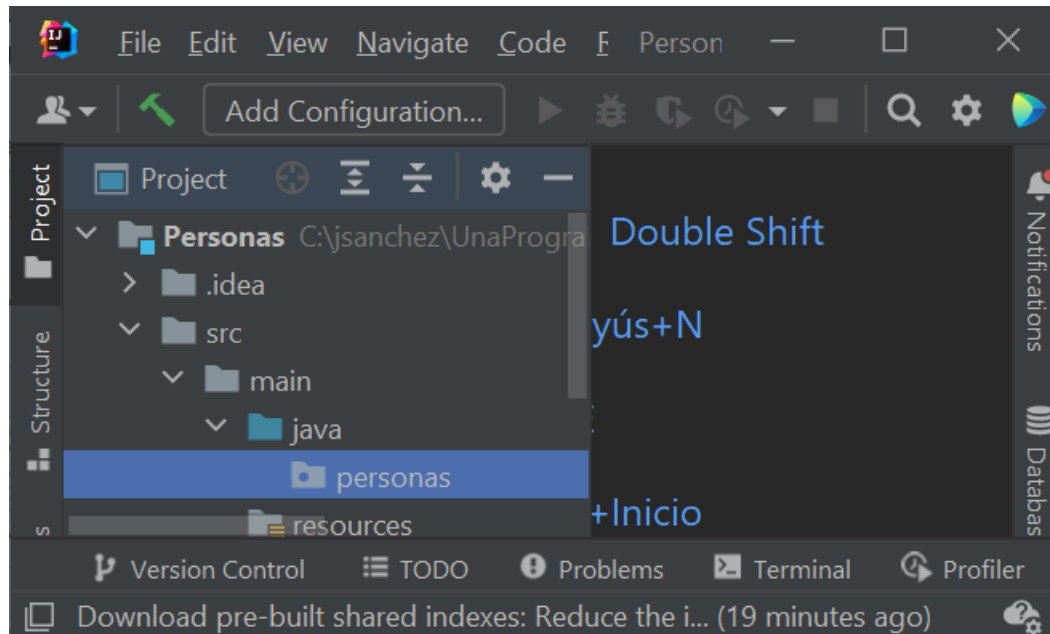
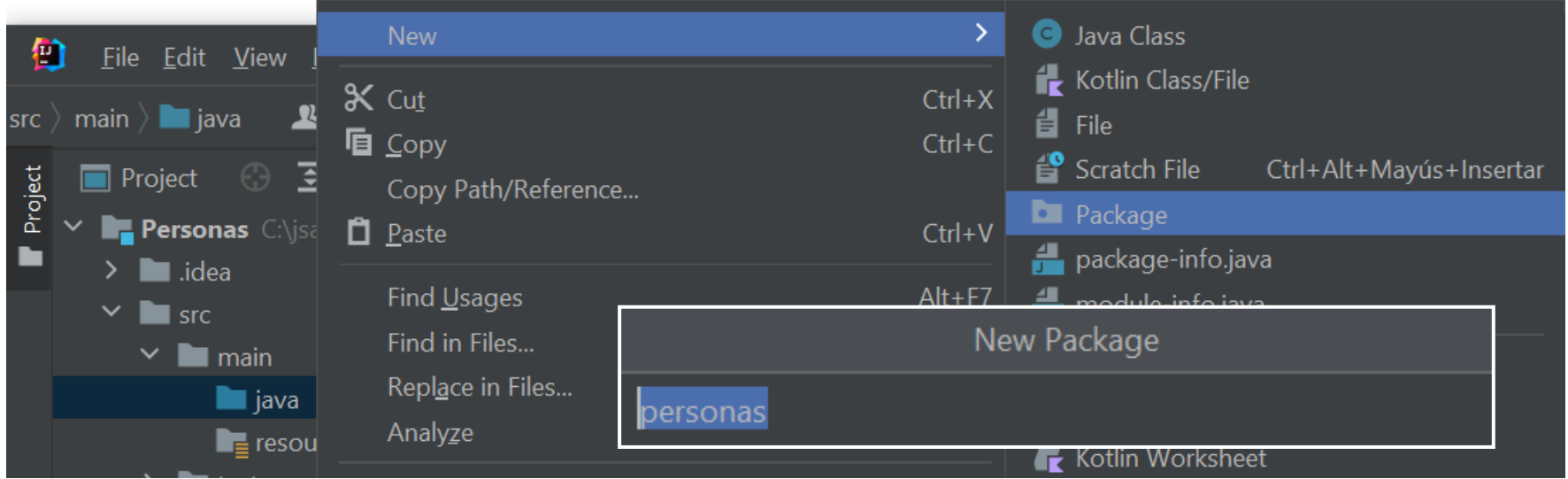
Creación y Diseño de Formularios

- Para crear formularios complejos es usual usar un IDE, como IntelliJ.
- IDE: Integrated Development Environment
- El editor de pantallas del IDE permite “arrastrar-y-soltar” (*drag-and-drop*) los componentes que formarán la interface de Usuario (Panel o pantalla)
- El IDE va generando “automáticamente” el código de la clase que forma la interface de usuario.

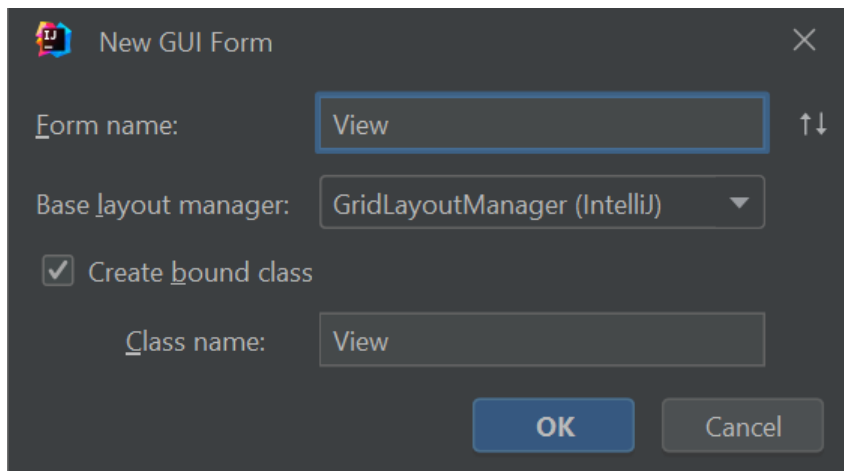
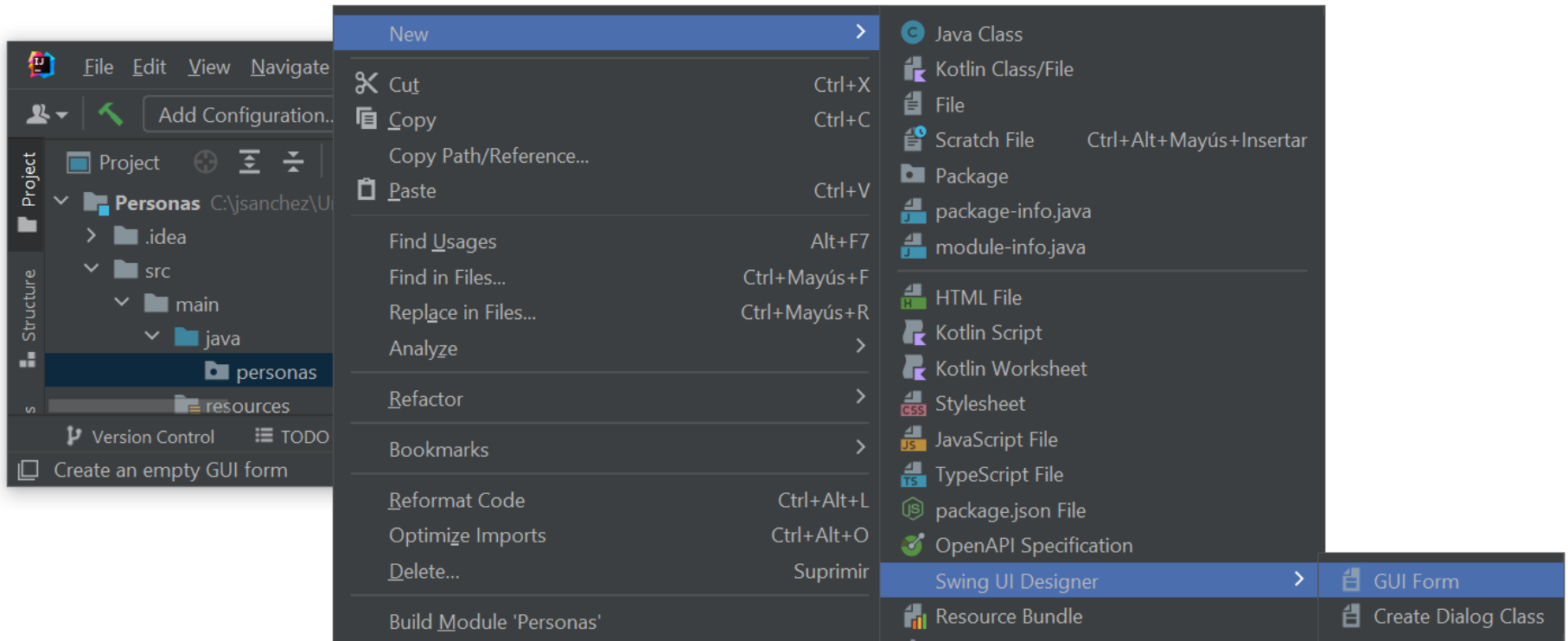
IntelliJ: Creando un Proyecto



Creando paquetes



Creando Formulario (GUI)



El formulario y sus Propiedades

The screenshot shows the IntelliJ IDEA IDE with the 'Personas - View.form' file open in the Design view. The interface is divided into several panels:

- Project Structure:** Shows the project hierarchy: `src/main/java/personas/View`.
- Component Tree:** Displays the hierarchy of the GUI component: `Form (personas.View)` containing `JPanel`.
- Properties:** A table showing the properties of the selected `JPanel` component.
- Palette:** A list of Swing components available for design, with `Swing` checked.
- Design View:** The central area where the GUI is visualized, currently showing a blank white space.

Overlaid on the Design View is a list of bullet points:

- Formulario (Jpanel)
- GridLayout (una fila y una columna, inicialmente)

| Property | Value |
|---|--------------------------|
| field name | panel |
| Custom Cr | <input type="checkbox"/> |
| Layout Ma | GridLayout... |
| border | None |
| margins | [0, 0, 0, 0] |
| Horizontal | -1 |
| Vertical Ga | -1 |
| Same Size | <input type="checkbox"/> |
| <input type="checkbox"/> Show expert properties | |

At the bottom of the IDE, there is a status bar with various toolbars (Version Control, TODO, Problems, Terminal, Profiler, Services, Build, Dependencies) and a message: "Download pre-built shared indexes: Reduce the indexing time and CPU load with pre-built JDK shared indexes // Always downl... (33 minutes ago)".

Formulario y su Diseño

Form Preview

Preview Look and Feel

Id

Nombre

Sexo ☐ Masculino ☐ Femenino

Estado Civil

Pasatiempos ☐ Música ☐ Cine ☐ Deporte

☐ Video Juegos ☐ Cocina ☐ Otro

Form Preview

Preview Look and Feel

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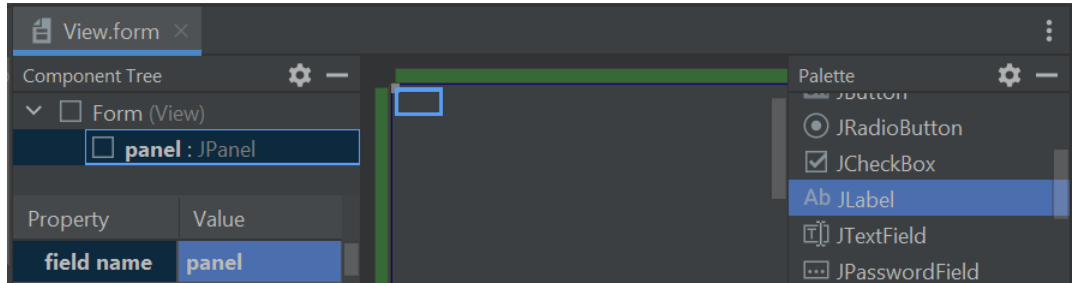
Diseño GridLayout

- Panel (*Jpanel*) principal con grid de 6 filas y 2 columnas
- Paneles (*Jpanel*) anidados en algunas celdas también con diseño tipo grid.

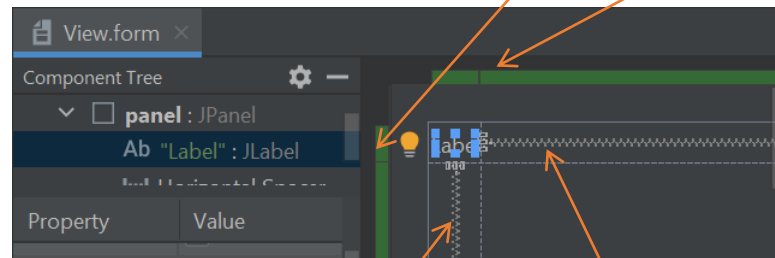
The image shows a Java Swing window with a dark gray background. The window contains a form with a 6x2 grid layout. The first four rows each have a label on the left and a single input field on the right. The fifth row has a label on the left and a 2x2 grid of checkboxes on the right. The sixth row has two buttons, 'Guardar' and 'Cancelar', each in its own cell. The 'Guardar' button is highlighted with a green border, and the 'Cancelar' button is highlighted with a red border. The form is titled 'Id', 'Nombre', 'Sexo', 'Estado Civil', 'Pasatiempos', and 'Id'.

| | |
|--------------|---|
| Id | <input type="text"/> |
| Nombre | <input type="text"/> |
| Sexo | <input type="radio"/> Masculino <input type="radio"/> Femenino |
| Estado Civil | <input type="text" value="Soltero"/> |
| Pasatiempos | <div><input type="checkbox"/> Música <input type="checkbox"/> Cine <input type="checkbox"/> Deporte</div> <div><input type="checkbox"/> Video Juegos <input type="checkbox"/> Cocina <input type="checkbox"/> Otro <input type="text"/></div> |
| | <div><input type="button" value="Guardar"/> <input type="button" value="Cancelar"/></div> |

Agregando Componentes (label)

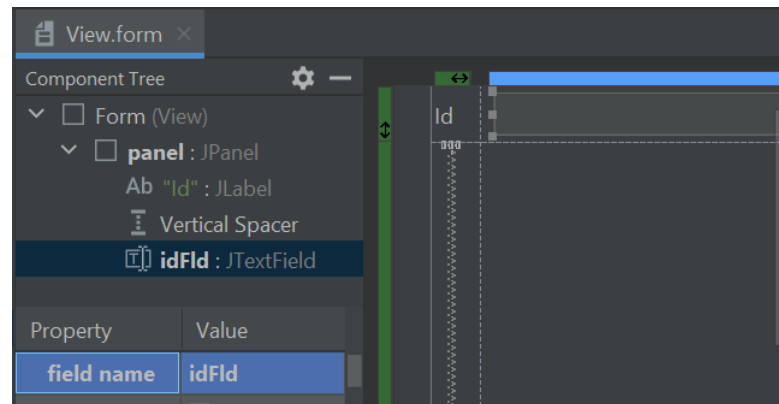
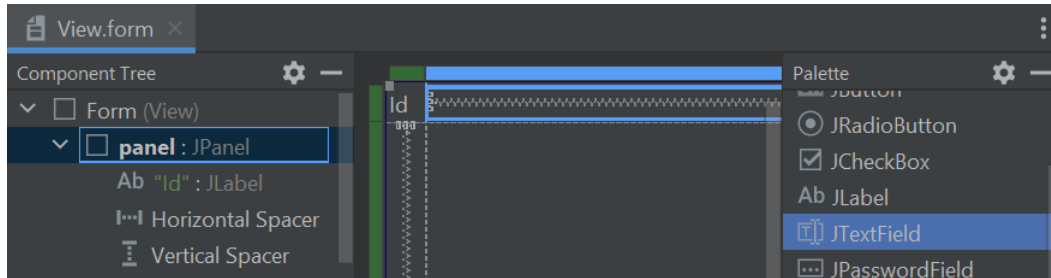


Dos filas y dos columnas

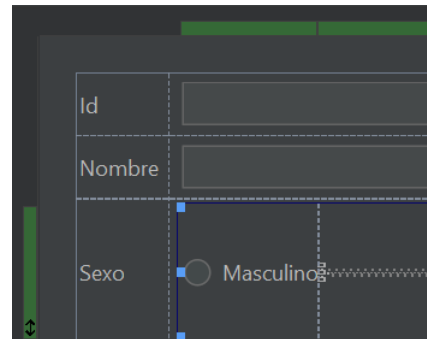
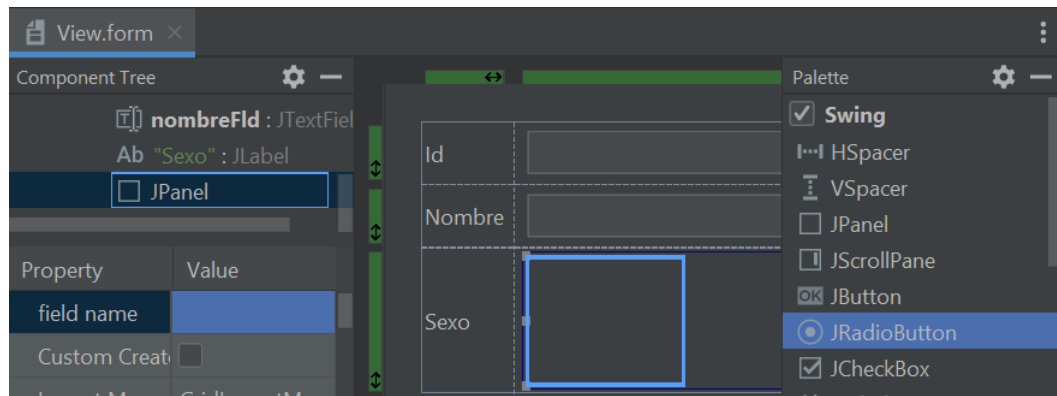
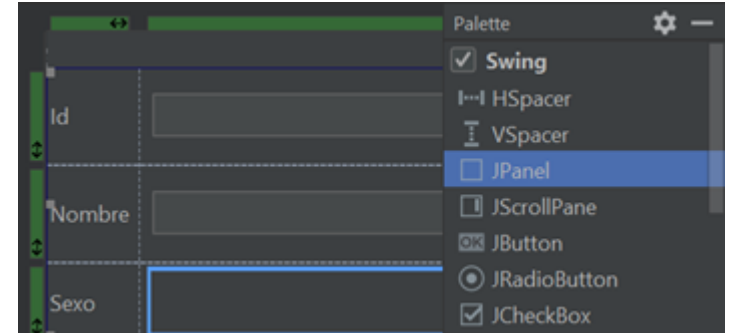
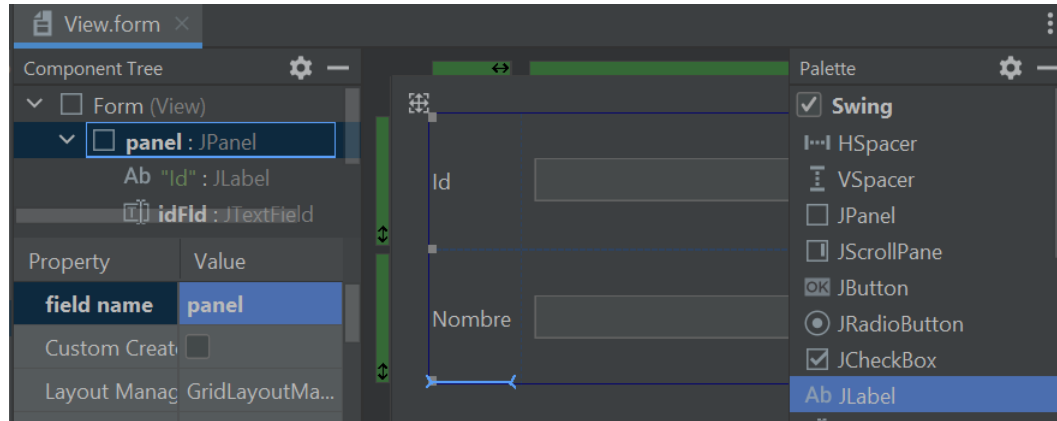


Vertical Spacer y Horizontal Spacer
que serán sustituidos por otros componentes

Agregando Componentes (textfield)



Agregando Componentes (label y panel)



Formulario final y “preview”

The image shows a form builder interface with a dark background. The form is composed of several fields and controls:

- Id:** A text input field.
- Nombre:** A text input field.
- Sexo:** Two radio buttons labeled "Masculino" and "Femenino".
- Estado Civil:** A dropdown menu with "Soltero" selected.
- Pasatiempos:** A grid of checkboxes for "Música", "Cine", "Deporte", "Video Juegos", "Cocina", and "Otro".
- Buttons:** Two buttons at the bottom, "Guardar" (highlighted with a green border) and "Cancelar" (highlighted with a red border).

The image shows a "Form Preview" window with a light gray background. The form is rendered with the same fields and controls as the builder interface:

- Id:** A text input field.
- Nombre:** A text input field.
- Sexo:** Two radio buttons labeled "Masculino" and "Femenino".
- Estado Civil:** A dropdown menu with "Soltero" selected.
- Pasatiempos:** A grid of checkboxes for "Música", "Cine", "Deporte", "Video Juegos", "Cocina", and "Otro".
- Buttons:** Two buttons at the bottom, "Guardar" (green) and "Cancelar" (red).

Formulario: “fuente”

```
Form - View.form
1 |<?xml version="1.0" encoding="UTF-8"?>
2 |<form xmlns="http://www.intellij.com/uidesigner/form/" version="1" bind-to-class="personas.View">
3 |   <grid id="27dc6" binding="panel" layout-manager="GridLayoutManager" row-count="6" column-count="2"
4 |     <margin top="10" left="10" bottom="10" right="10"/>
5 |     <constraints>
6 |       <xy x="20" y="20" width="549" height="400"/>
7 |     </constraints>
8 |     <properties/>
9 |     <border type="none"/>
10 |    <children>
11 |      <component id="cb118" class="javax.swing.JTextField" binding="idFld">
12 |        <constraints>
13 |          <grid row="0" column="1" row-span="1" col-span="1" vsize-policy="0" hsize-policy="6" anchor
14 |            <preferred-size width="75" height="-1"/>
15 |          </grid>
16 |        </constraints>
17 |        <properties/>
18 |      </component>
19 |      <component id="cdc34" class="javax.swing.JLabel">
20 |        <constraints>
21 |          <grid row="1" column="0" row-span="1" col-span="1" vsize-policy="0" hsize-policy="0" anchor
22 |        </constraints>
```

Formulario: código generado

(File | Settings | Editor | GUI Designer -> Generate GUI into: Binary/Java , Build )

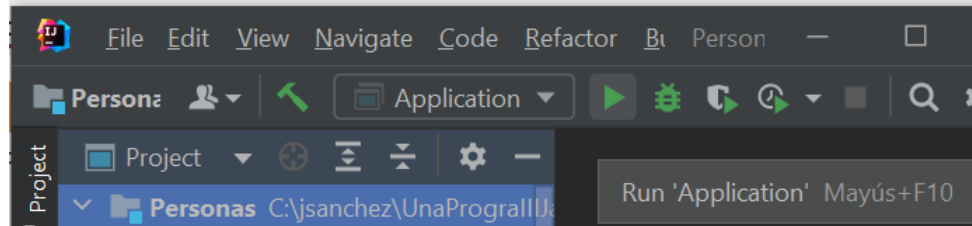
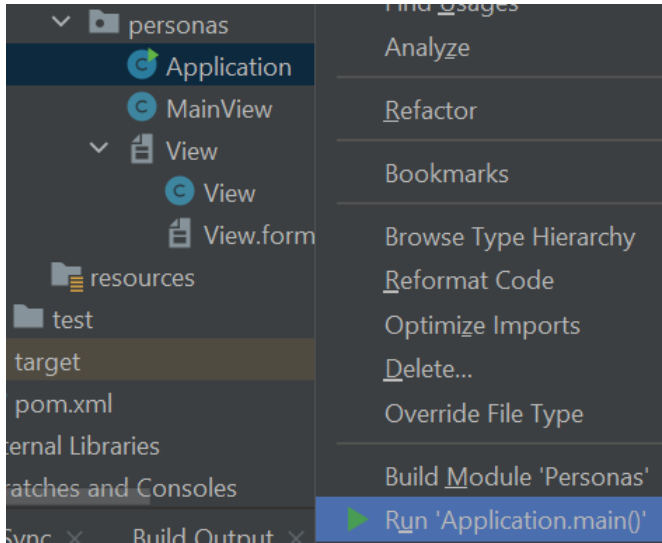
```
View.java x
2
3 import ...
5
6 public class View {
7     private JPanel panel;
8     private JTextField idFld;
9     private JTextField nombreFld;
10    private JRadioButton sexoFldMasc;
11    private JRadioButton sexoFldFem;
12    private JComboBox estadoFld;
13    private JCheckBox pasatiempoFldMusica;
14    private JCheckBox pasatiempoFldCine;
15    private JCheckBox pasatiempoFldDeporte;
16    private JCheckBox pasatiempoFldVideoJuegos;
17    private JCheckBox pasatiempoFldCocina;
18    private JCheckBox pasatiempoFldOtro;
19    private JTextField pasatiempoFldOtroDescripcion;
20    private JButton guardarFld;
21    private JButton cancelarFld;
22
23    UI Designer generated code
110 }
```

```
View.java x
27 {
28     // GUI initializer generated by IntelliJ IDEA GUI Designer
29     // >>> IMPORTANT!! <<<
30     // DO NOT EDIT OR ADD ANY CODE HERE!
31     $$$setupUI$$$();
32 }
33
34 /**
35  * Method generated by IntelliJ IDEA GUI Designer
36  * >>> IMPORTANT!! <<<
37  * DO NOT edit this method OR call it in your code!
38  *
39  * @noinspection ALL
40  */
41 private void $$$setupUI$$$() {
42     panel = new JPanel();
43     panel.setLayout(new com.intellij.uiDesigner.core.GridLayoutManager(6, 2,
44     idFld = new JTextField();
45     panel.add(idFld, new com.intellij.uiDesigner.core.GridConstraints(0, 1, 1,
46     final JLabel label1 = new JLabel();
47     label1.setText("Nombre");
```

El programa principal (Application)

```
© Application.java ×
1 package personas;
2
3 import javax.swing.*;
4
5 ▶ public class Application {
6 ▶     public static void main(String[] args) {
7         try {UIManager.setLookAndFeel("javax.swing.plaf.nimbus.NimbusLookAndFeel");}
8         catch (Exception ex) {};
9
10        View view = new View();
11
12        JFrame window = new JFrame();
13        window.setSize(width: 600, height: 300);
14        window.setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
15        window.setTitle("Personas");
16        window.setContentPane(view.getPanel());
17        window.setVisible(true);
18    }
19 }
```

Ejecución



Personas

Id

Nombre

Sexo ☐ Masculino ☐ Femenino

Estado Civil

Pasatiempos ☐ Música ☐ Cine ☐ Deporte ☐ Video Juegos ☐ Cocina ☐ Otro