



INSTITUTO FEDERAL  
DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA  
Bahia

---

# Linguagem de Programação II

Persistência de Dados em Java - Java  
Database Connectivity (JDBC) – Tela de  
Cadastro;



# Roteiro

- Persistência de Dados em Java Java Database Connectivity (JDBC) – Tela de Cadastro;
  - JDBC;
  - Interação entre Aplicações Java e Bancos de Dados;
  - Criação do Banco de Dados e das Tabelas;
  - Criação de um projeto Netbeans;
    - Instalando o Mysql Connector Java (JDBC);
  - Exemplo – Cadastro de Conta;
    - Classe GerenciadorBD;
    - Tela de Cadastro de Conta.



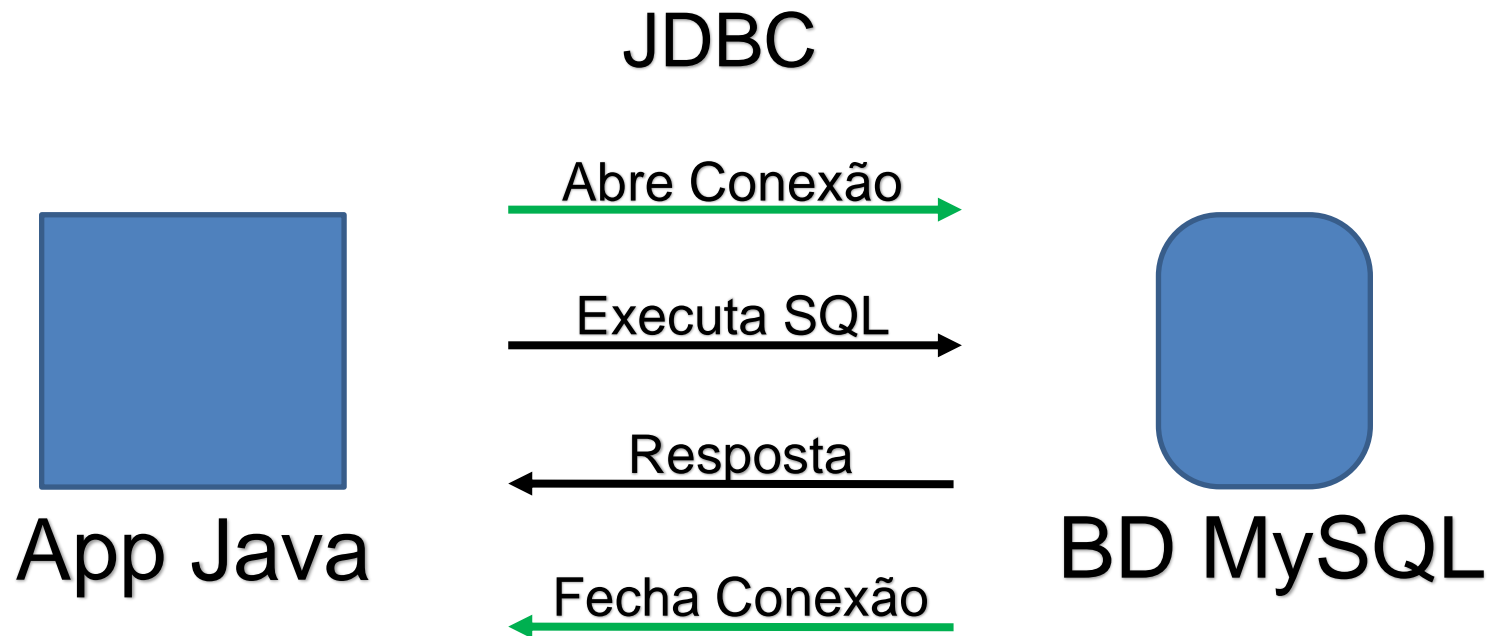
# JDBC

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- **Persistência de Dados** refere-se à capacidade de **armazenar e recuperar informações de maneira durável** (Ex.: Banco de Dados). **Java Database Connectivity (JDBC)** é uma **biblioteca que facilita a conexão e interação com bancos de dados relacionais** por meio de código **Java**, permitindo operações como **consulta e atualização de dados**.



# Interação - App Java e Bancos de Dados

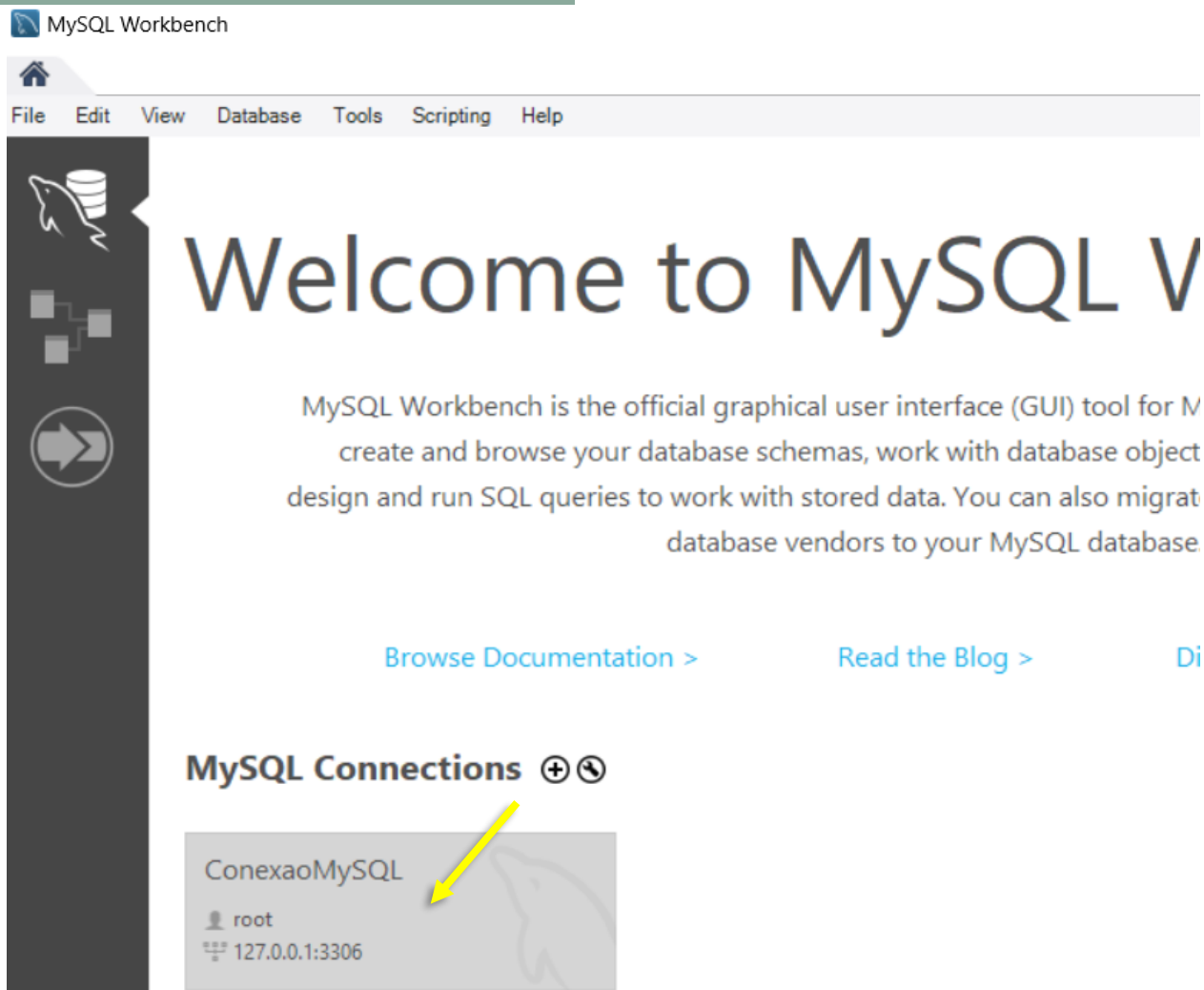


# Criação do BD e das Tabelas - Script

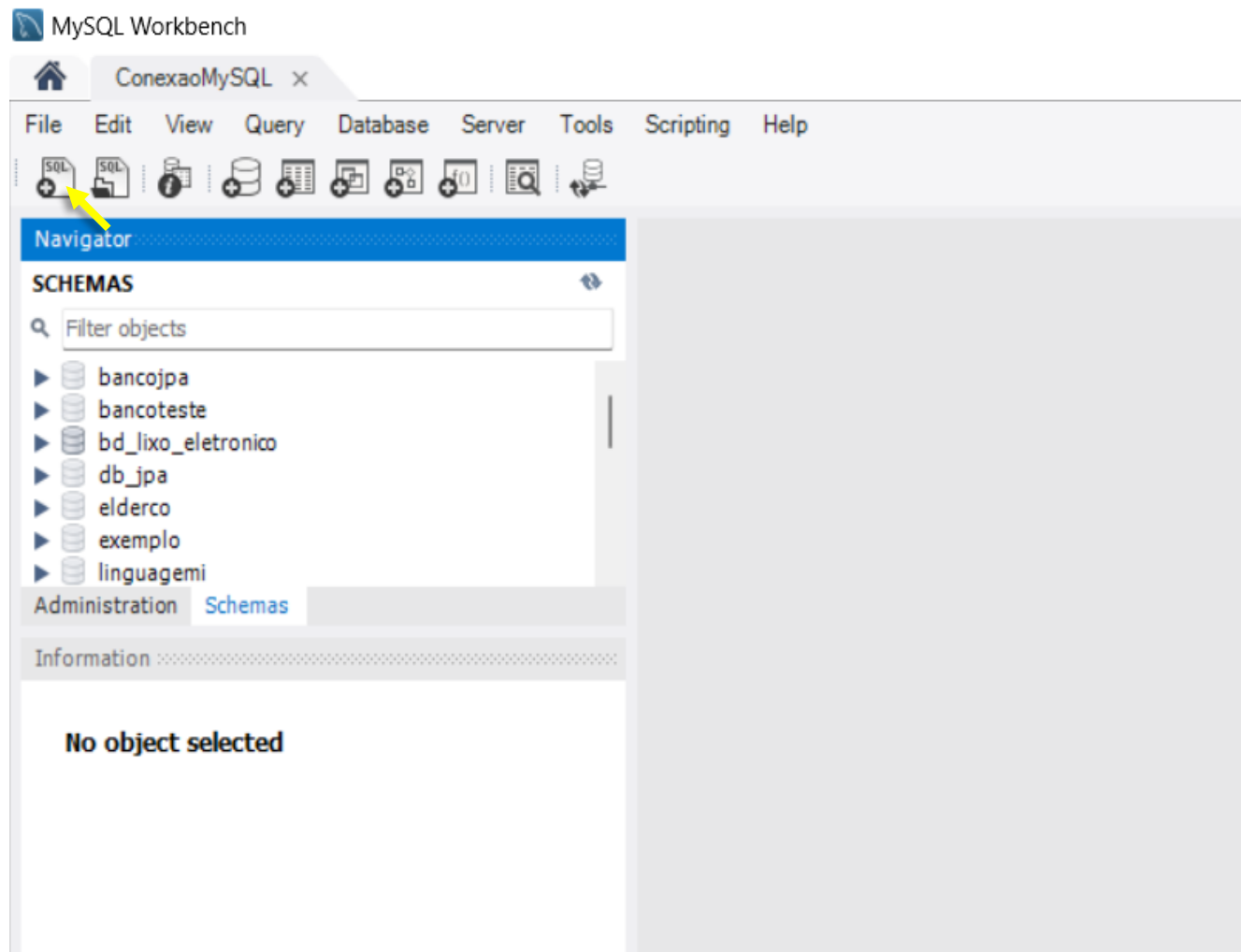
```
1  CREATE SCHEMA IF NOT EXISTS `bancoabc` ;
2
3  USE `bancoabc` ;
4
5  CREATE TABLE IF NOT EXISTS `conta` (
6      `id` int NOT NULL AUTO_INCREMENT,
7      `numero` int NOT NULL,
8      `saldo` double NOT NULL,
9      `limite` double NOT NULL,
10     PRIMARY KEY (`id`)
11 );
```



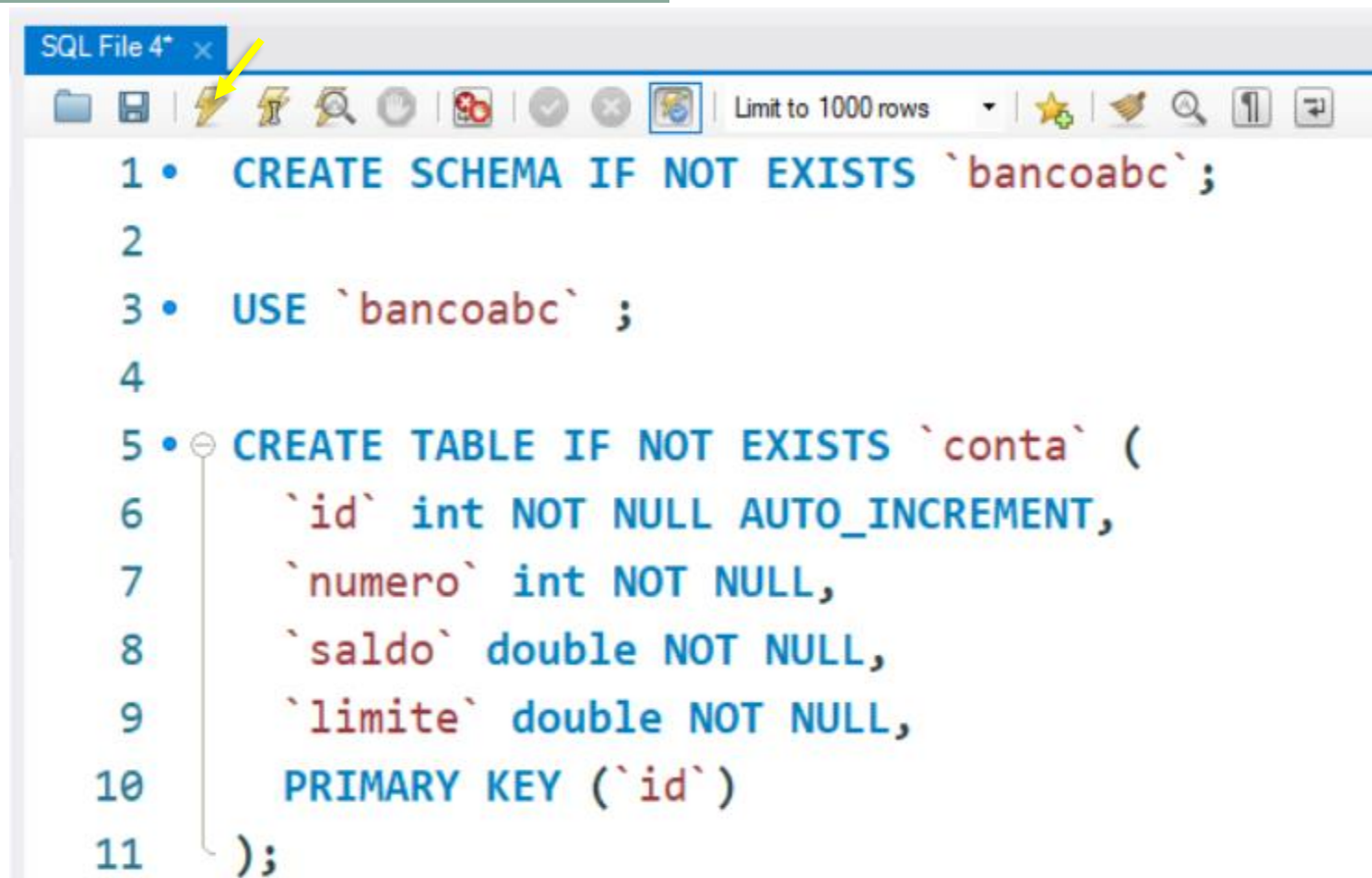
# Criação do BD e das Tabelas - MySQL



# Criação do BD e das Tabelas - MySQL



# Criação do BD e das Tabelas - MySQL



The screenshot shows a MySQL SQL editor window titled "SQL File 4\* x". The toolbar includes icons for file operations, execution, and search. The SQL code is as follows:

```
1 • CREATE SCHEMA IF NOT EXISTS `bancoabc` ;
2
3 • USE `bancoabc` ;
4
5 • CREATE TABLE IF NOT EXISTS `conta` (
6     `id` int NOT NULL AUTO_INCREMENT,
7     `numero` int NOT NULL,
8     `saldo` double NOT NULL,
9     `limite` double NOT NULL,
10    PRIMARY KEY (`id`)
11 );
```

A yellow arrow points to the execution icon (a lightning bolt) in the toolbar. A vertical line with a circle at the top connects the first bullet point of the third line of code to the execution icon.



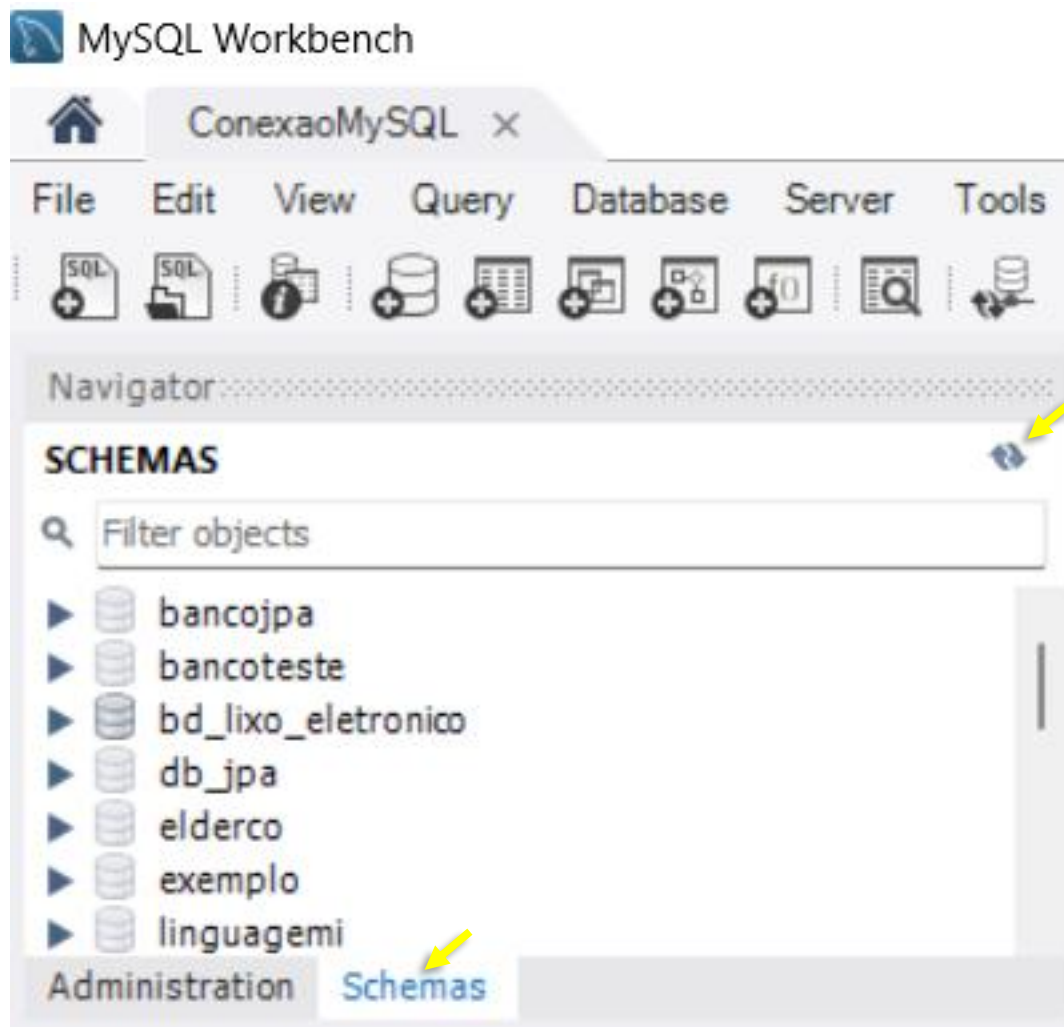


# Criação do BD e das Tabelas - MySQL

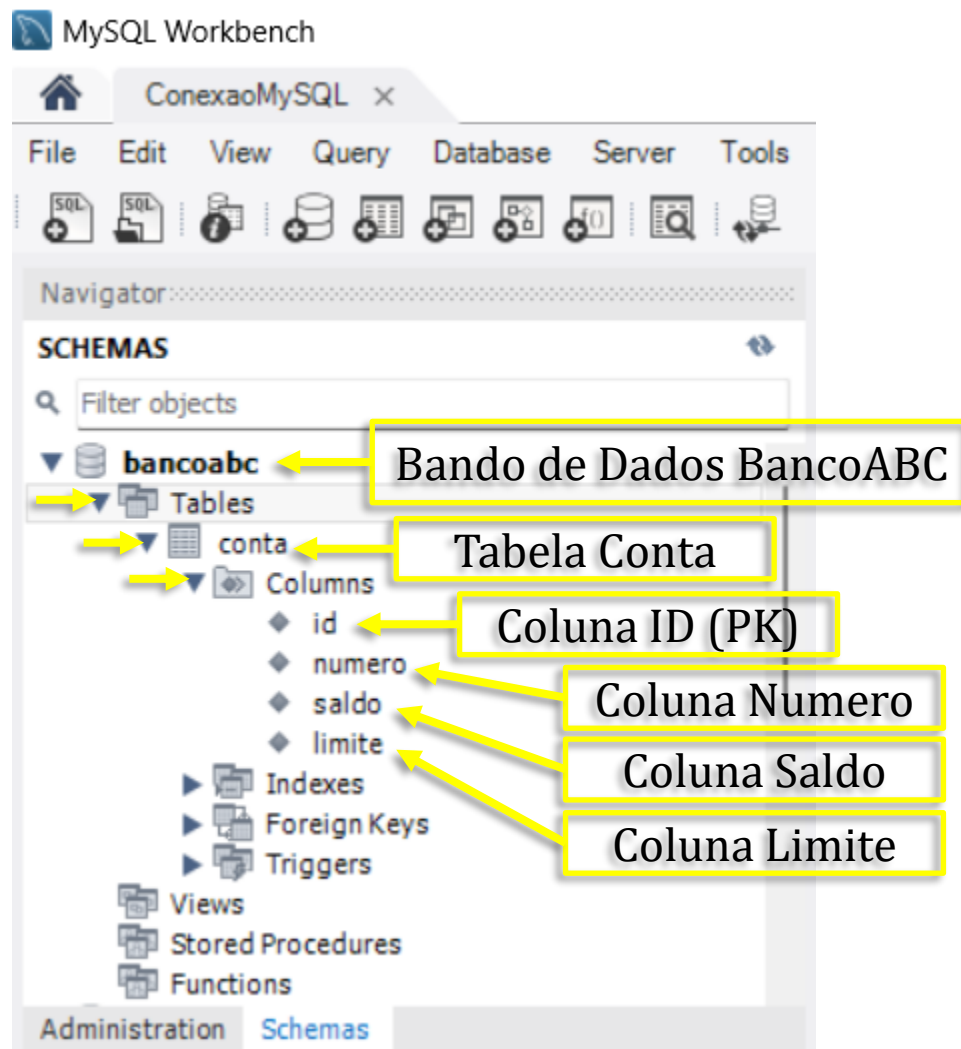
Output				
Action Output				
	#	Time	Action	Message
✓	1	16:51:53	CREATE SCHEMA IF NOT EXISTS 'bancoabc'	1 row(s) affected
✓	2	16:51:53	USE 'bancoabc'	0 row(s) affected
✓	3	16:51:53	CREATE TABLE IF NOT EXISTS 'conta' ( 'id' int NOT NULL AUTO_INCREMENT, 'numero' int N...	0 row(s) affected



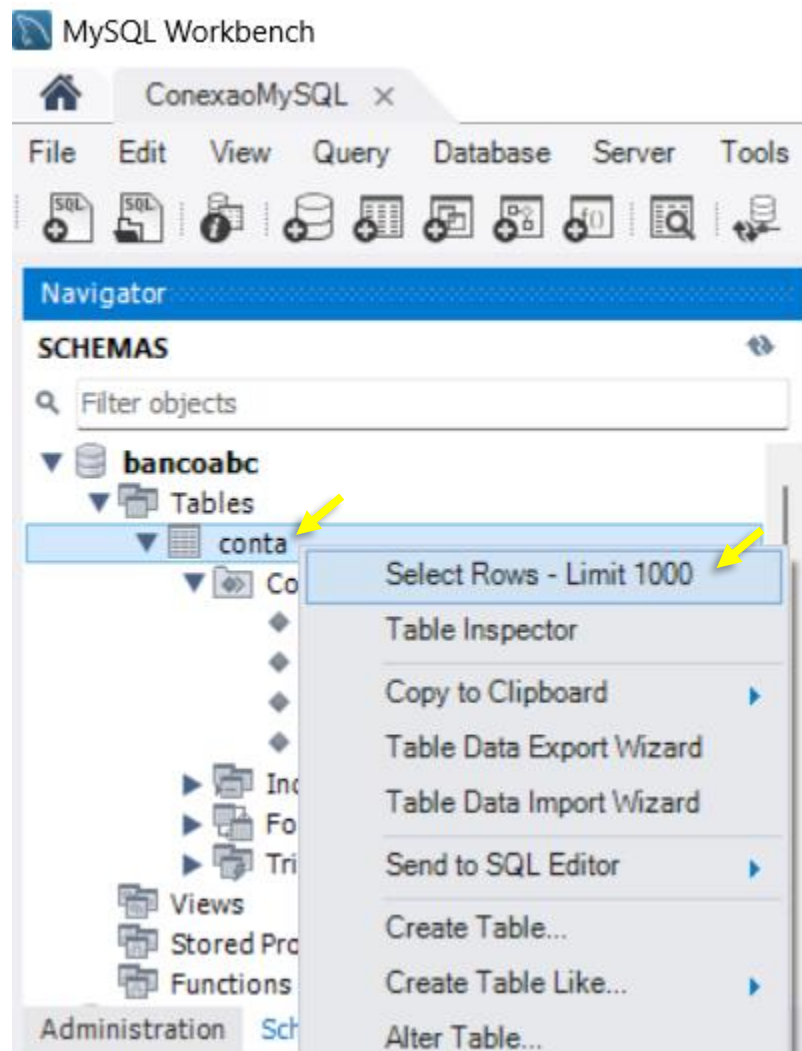
# Criação do BD e das Tabelas - MySQL



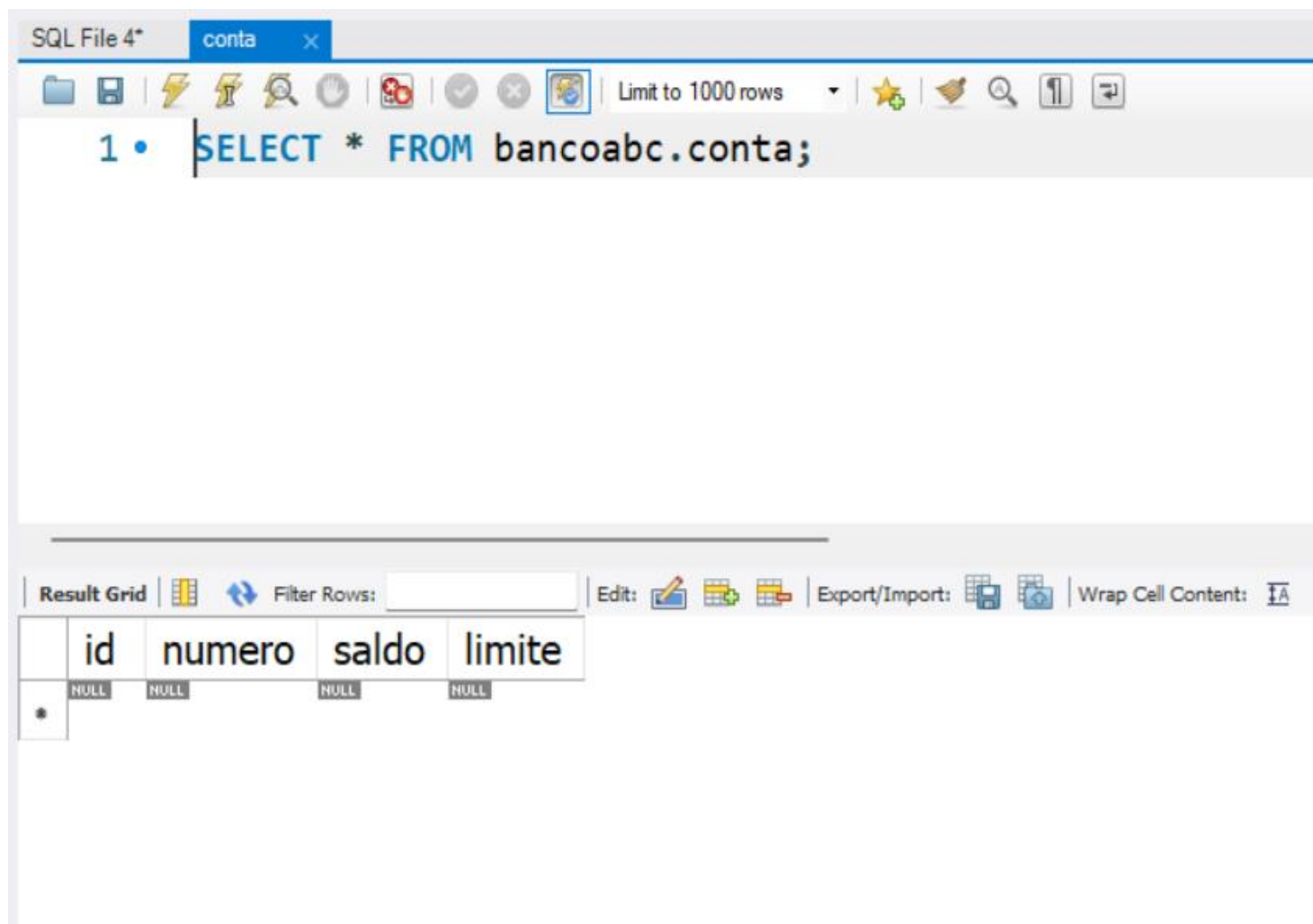
# Criação do BD e das Tabelas - MySQL



# Criação do BD e das Tabelas - MySQL



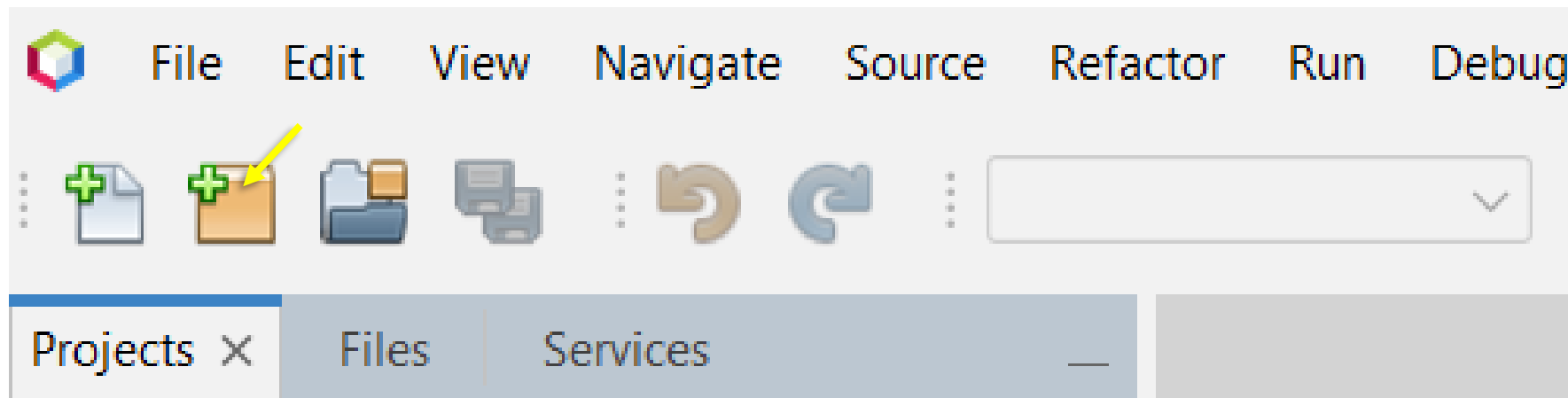
# Criação do BD e das Tabelas - MySQL



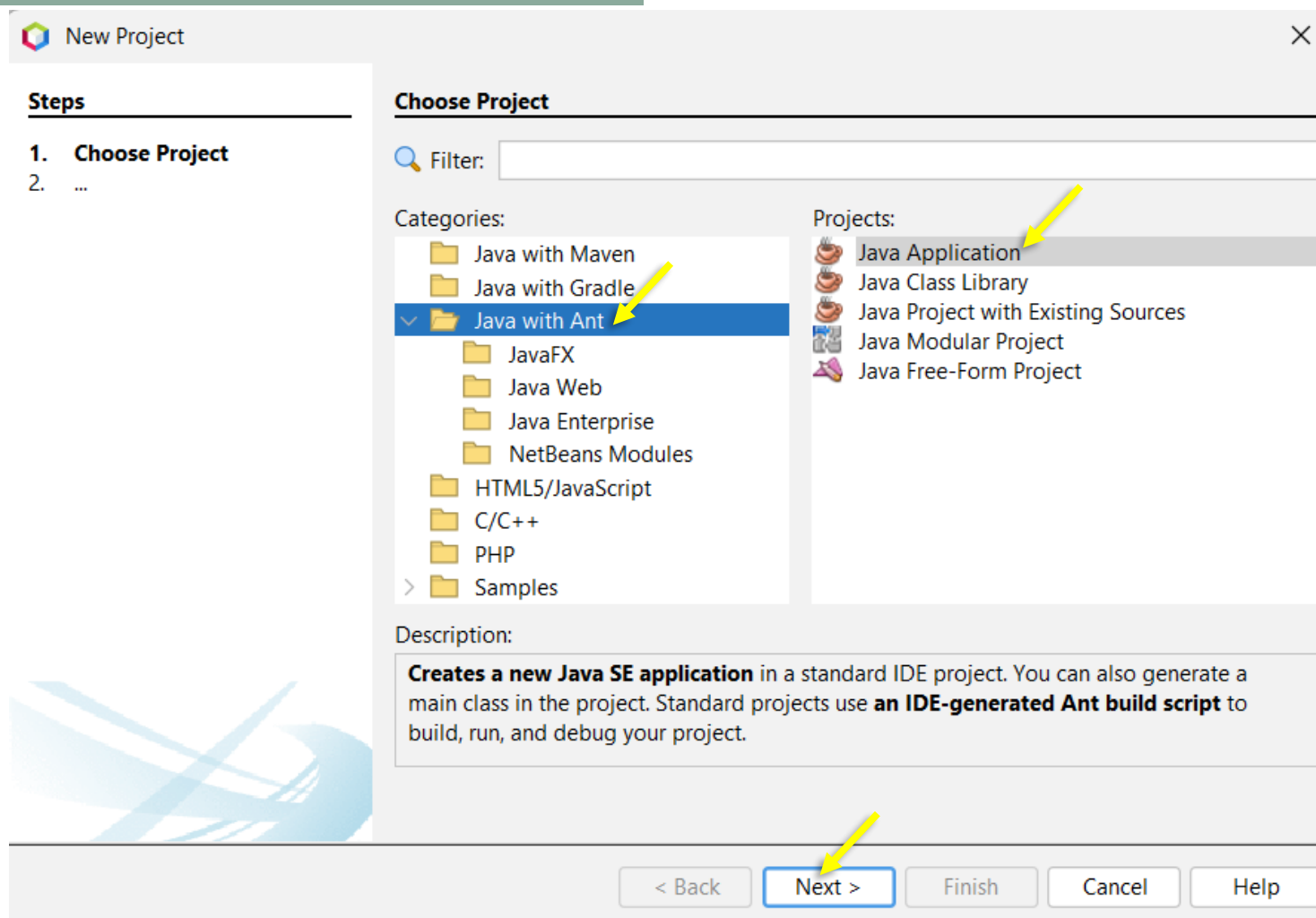
# Criação de Projeto Netbeans



# Criação de Projeto Netbeans



# Criação de Projeto Netbeans





# Criação de Projeto Netbeans

New Java Application

**Steps**

1. Choose Project
2. **Name and Location**

**Name and Location**

Project Name:

Project Location:

Project Folder:

☐ Use Dedicated Folder for Storing Libraries

Libraries Folder:

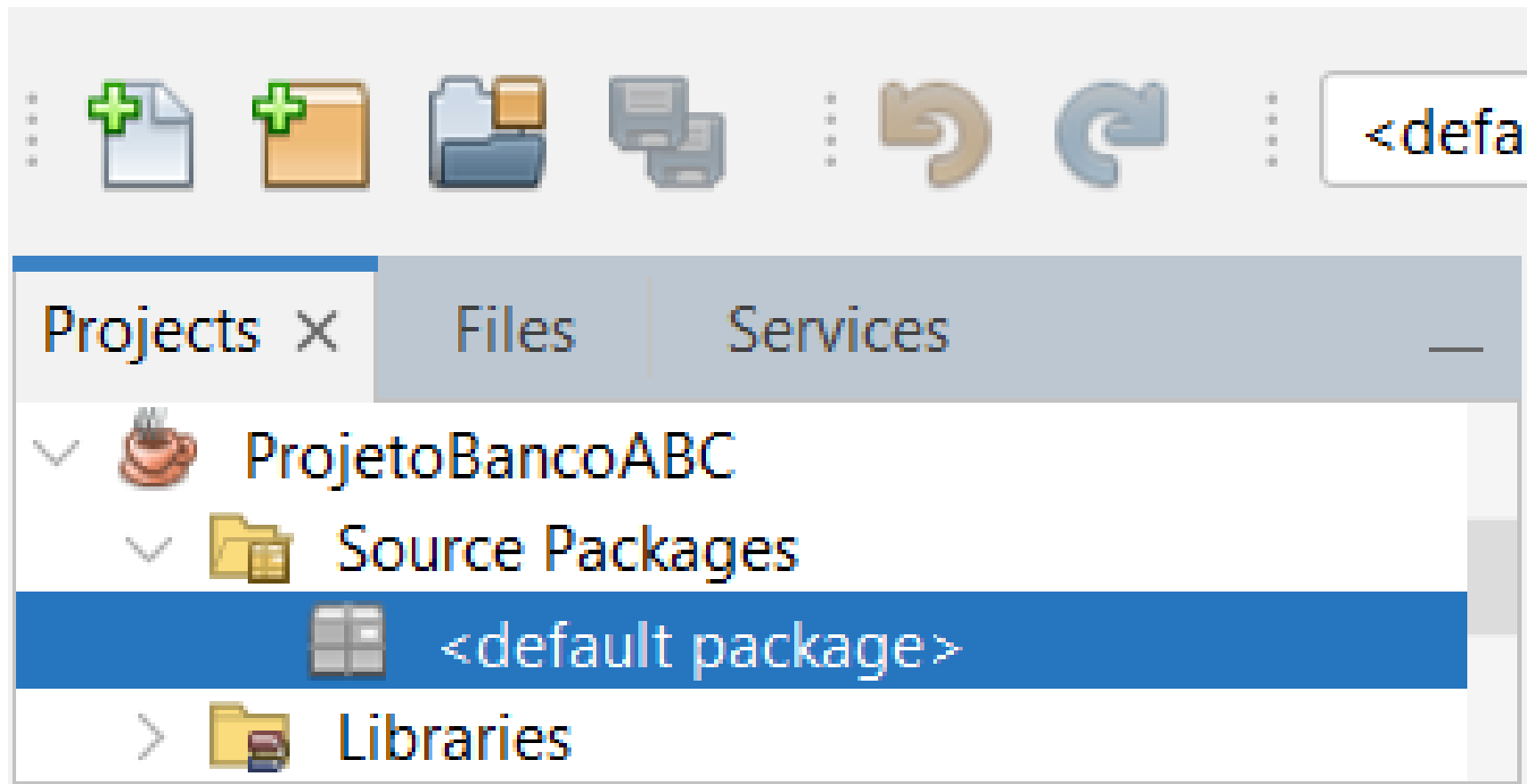
Different users and projects can share the same compilation libraries (see Help for details).

☐ Create Main Class

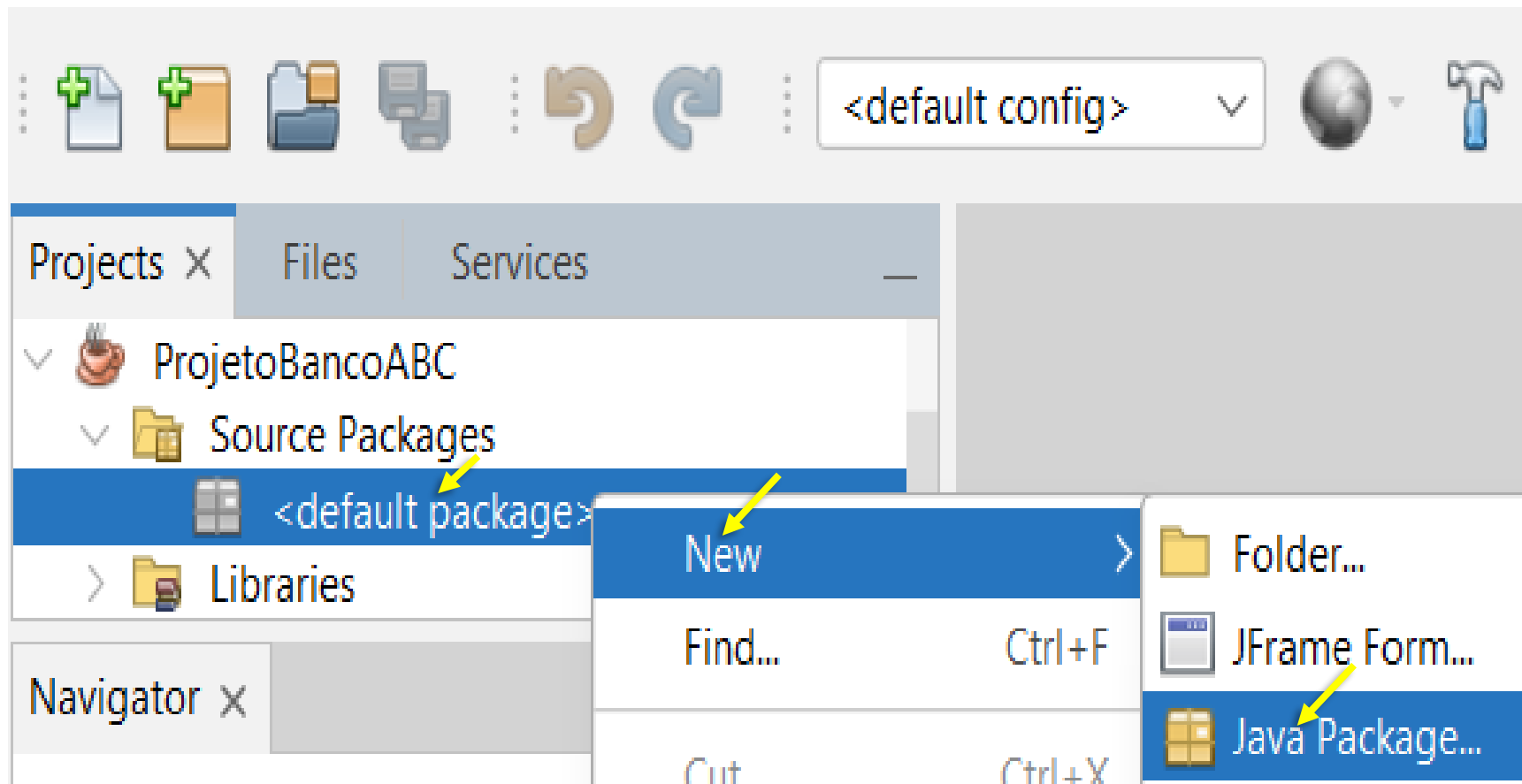
Não marcar esta opção.



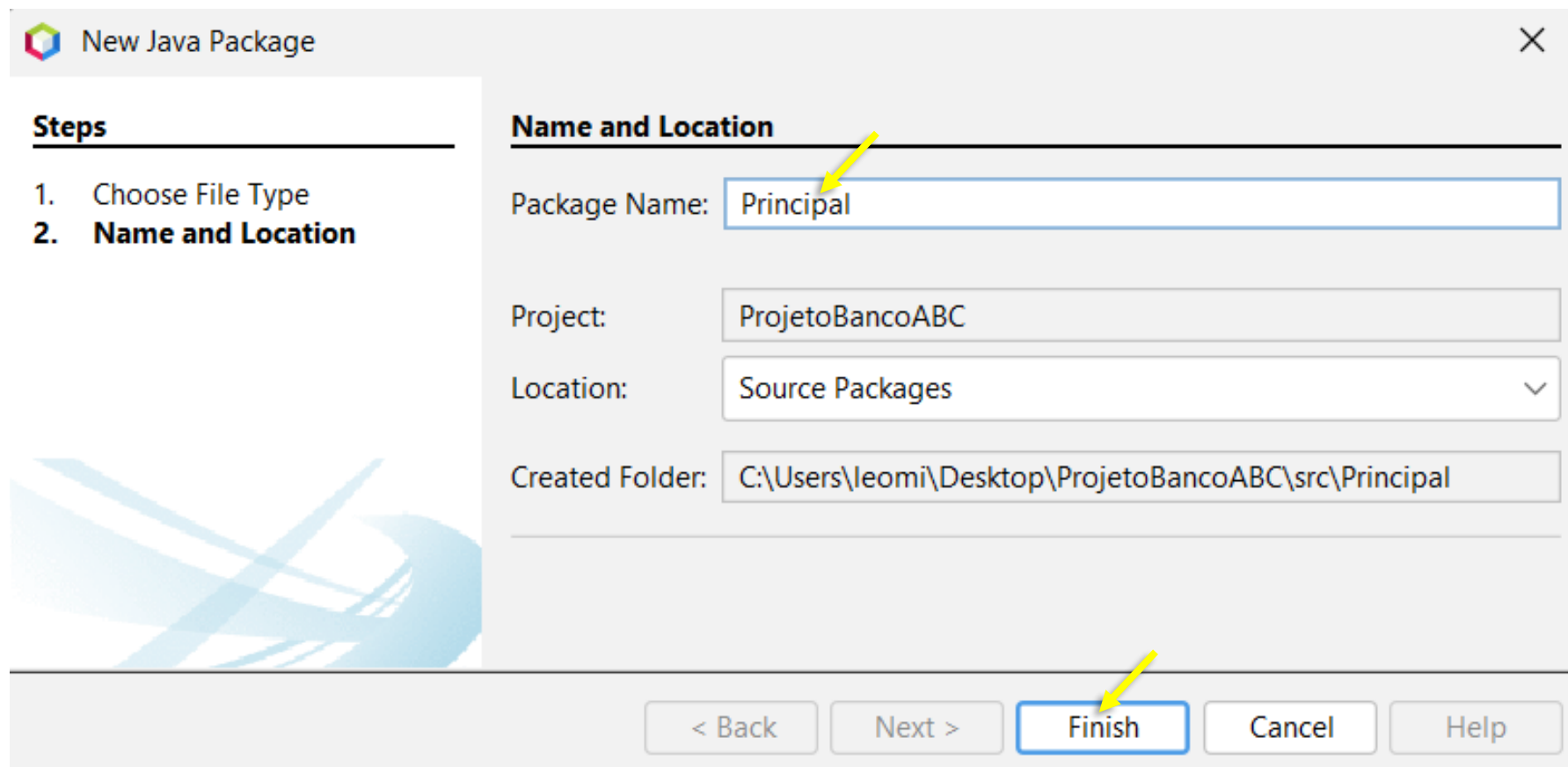
# Criação de Projeto Netbeans



# Criação de Projeto Netbeans



# Criação de Projeto Netbeans



New Java Package

**Steps**

1. Choose File Type
2. **Name and Location**

**Name and Location**

Package Name: Principal

Project: ProjetoBancoABC

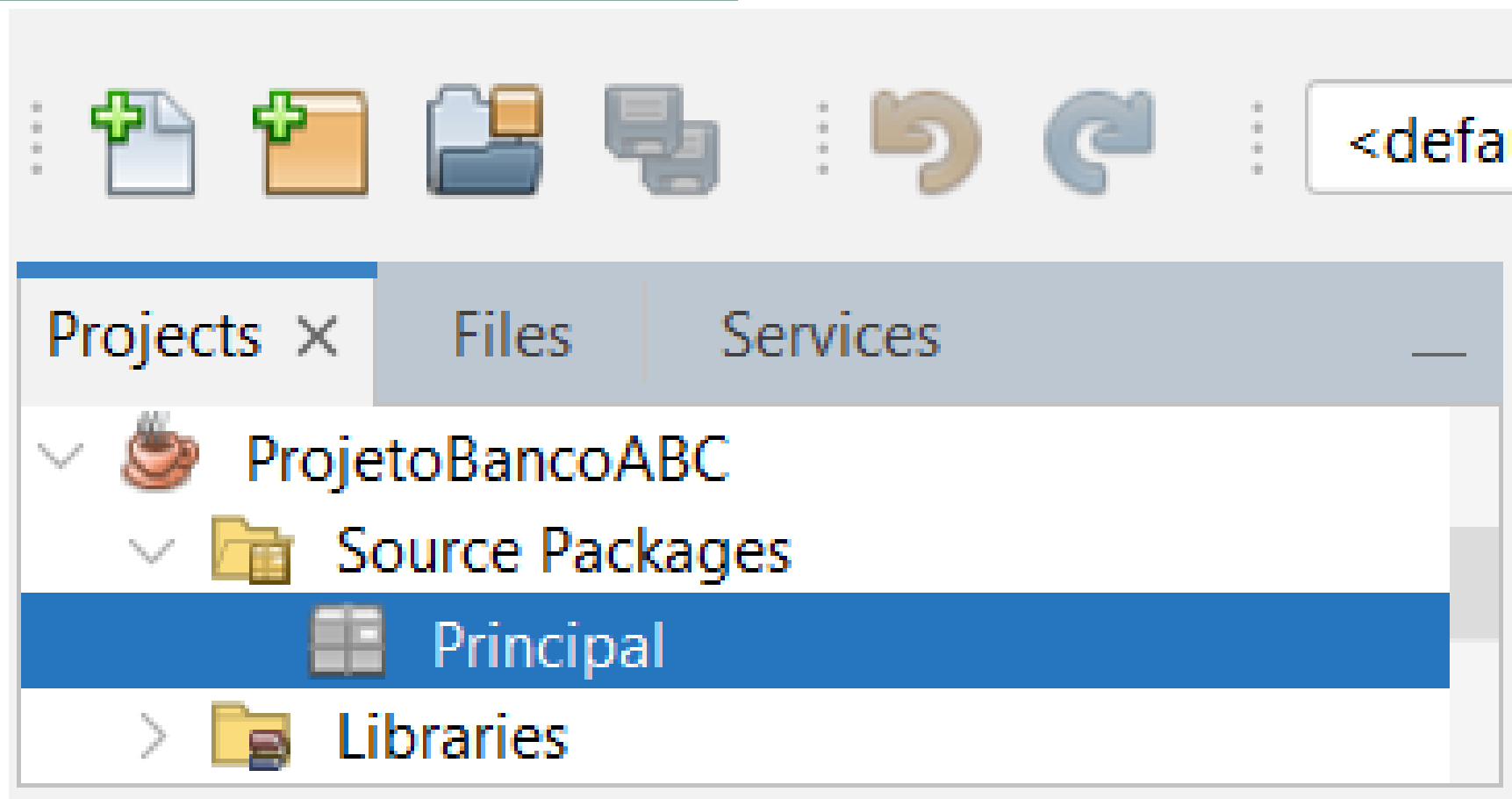
Location: Source Packages

Created Folder: C:\Users\leomi\Desktop\ProjetoBancoABC\src\Principal

< Back   Next >   **Finish**   Cancel   Help



# Criação de Projeto Netbeans



# Instalar MySQL Connector Java (JDBC)

 dev.mysql.com/downloads/connector/j/

## MySQL Community Downloads

← Connector/J

General Availability (GA) Releases

Archives



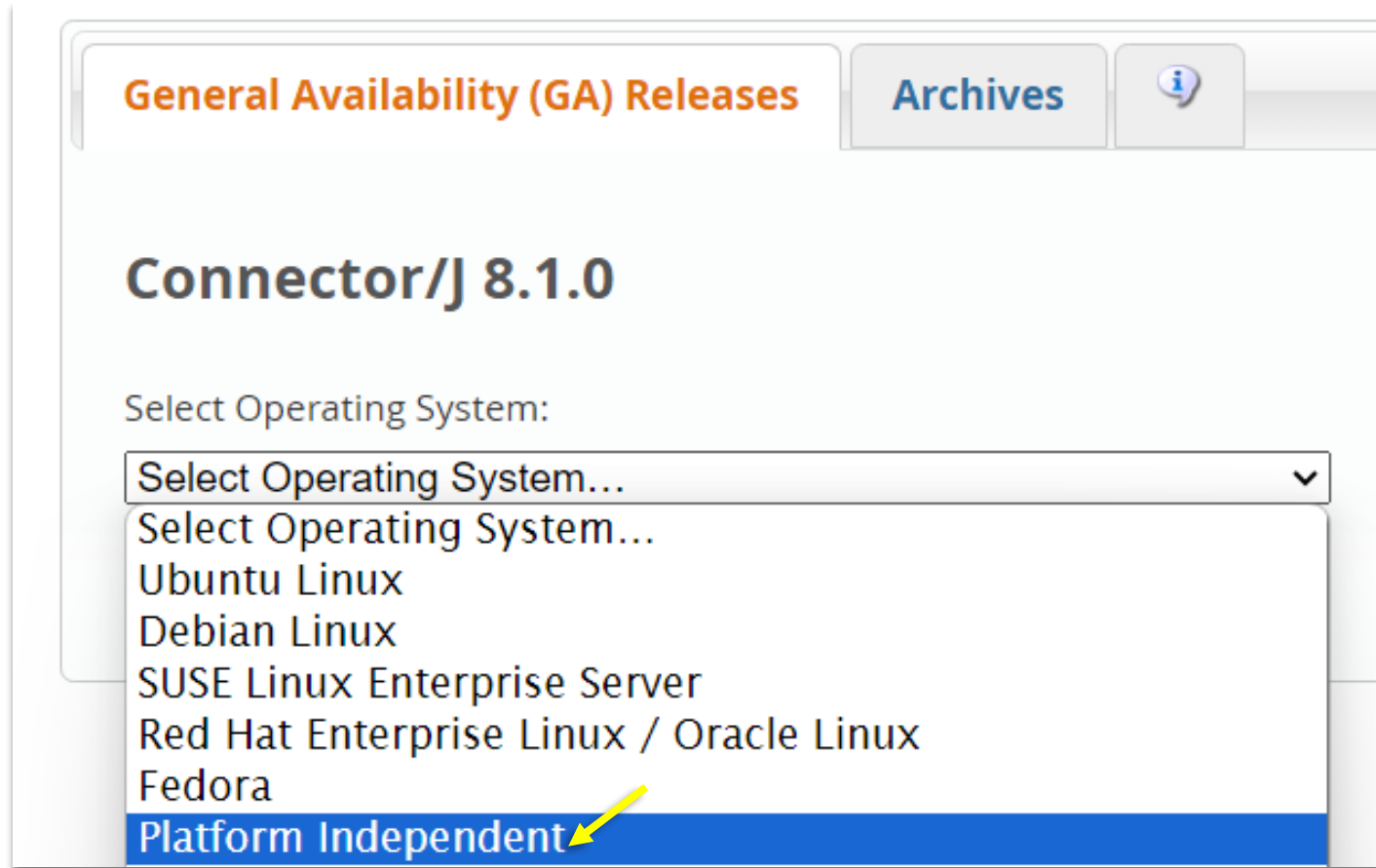
### Connector/J 8.1.0

Select Operating System:

Select Operating System...



# Instalar MySQL Connector Java (JDBC)



# Instalar MySQL Connector Java (JDBC)

General Availability (GA) Releases

Archives



## Connector/J 8.1.0

Select Operating System:

Platform Independent

**Platform Independent (Architecture Independent),  
Compressed TAR Archive**

(mysql-connector-j-8.1.0.tar.gz)

8.1.0

4.0M

[Download](#)

MD5: 4a95d62b0cfbad68b92ffc62ae7ee266 | [Signature](#)

**Platform Independent (Architecture Independent), ZIP  
Archive**

(mysql-connector-j-8.1.0.zip)

8.1.0

4.8M

[Download](#)

MD5: d745362823ec4d37fa0607746d40a1b9 | [Signature](#)



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# Instalar MySQL Connector Java (JDBC)

- Report and track bugs in the MySQL bug system

**Login »**

using my Oracle Web account

**Sign Up »**

for an Oracle Web account

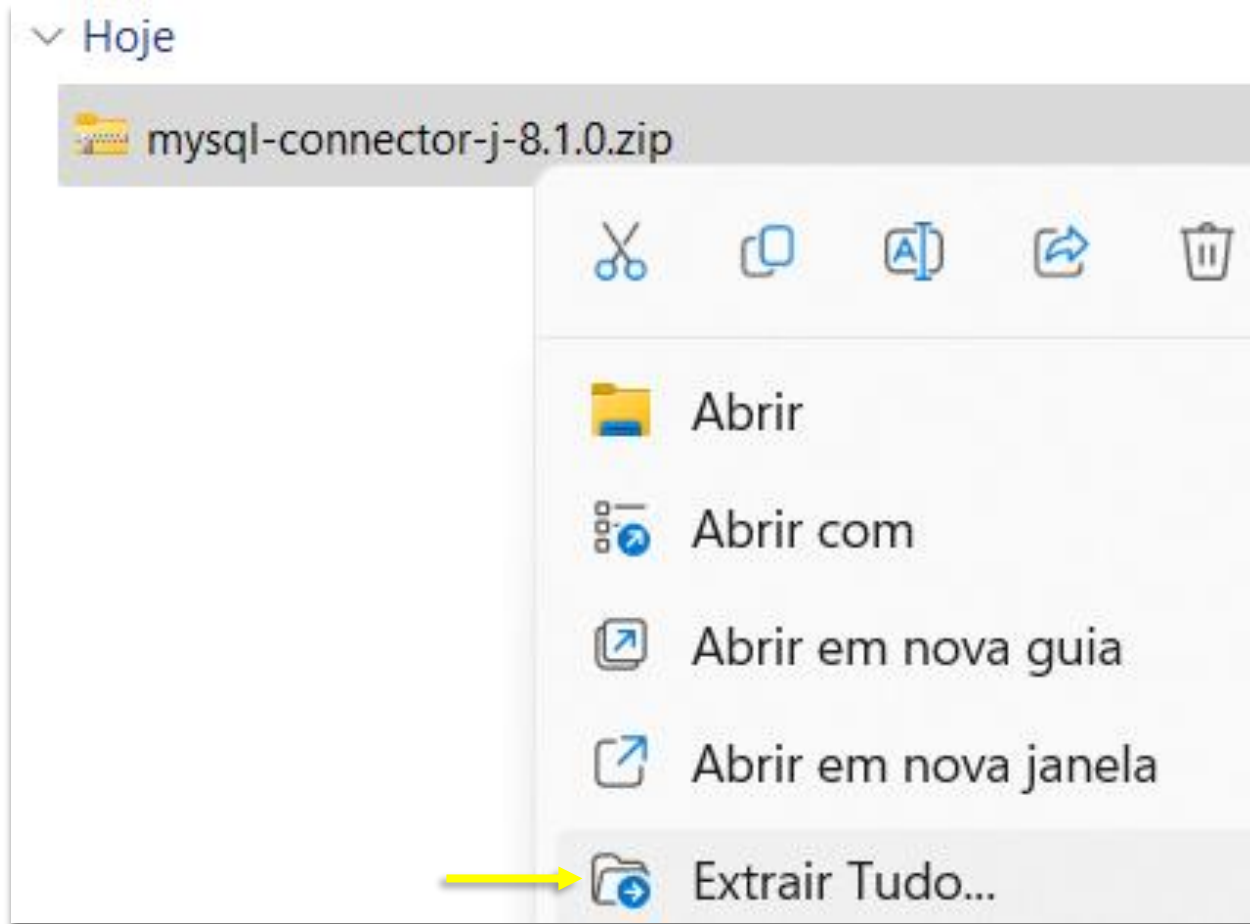
MySQL.com is using Oracle SSO for authentication. If you already have an Oracle Web account, click the Login link. Otherwise, you can signup for a free account by clicking the Sign Up link and following the instructions.

 No thanks, just start my download.

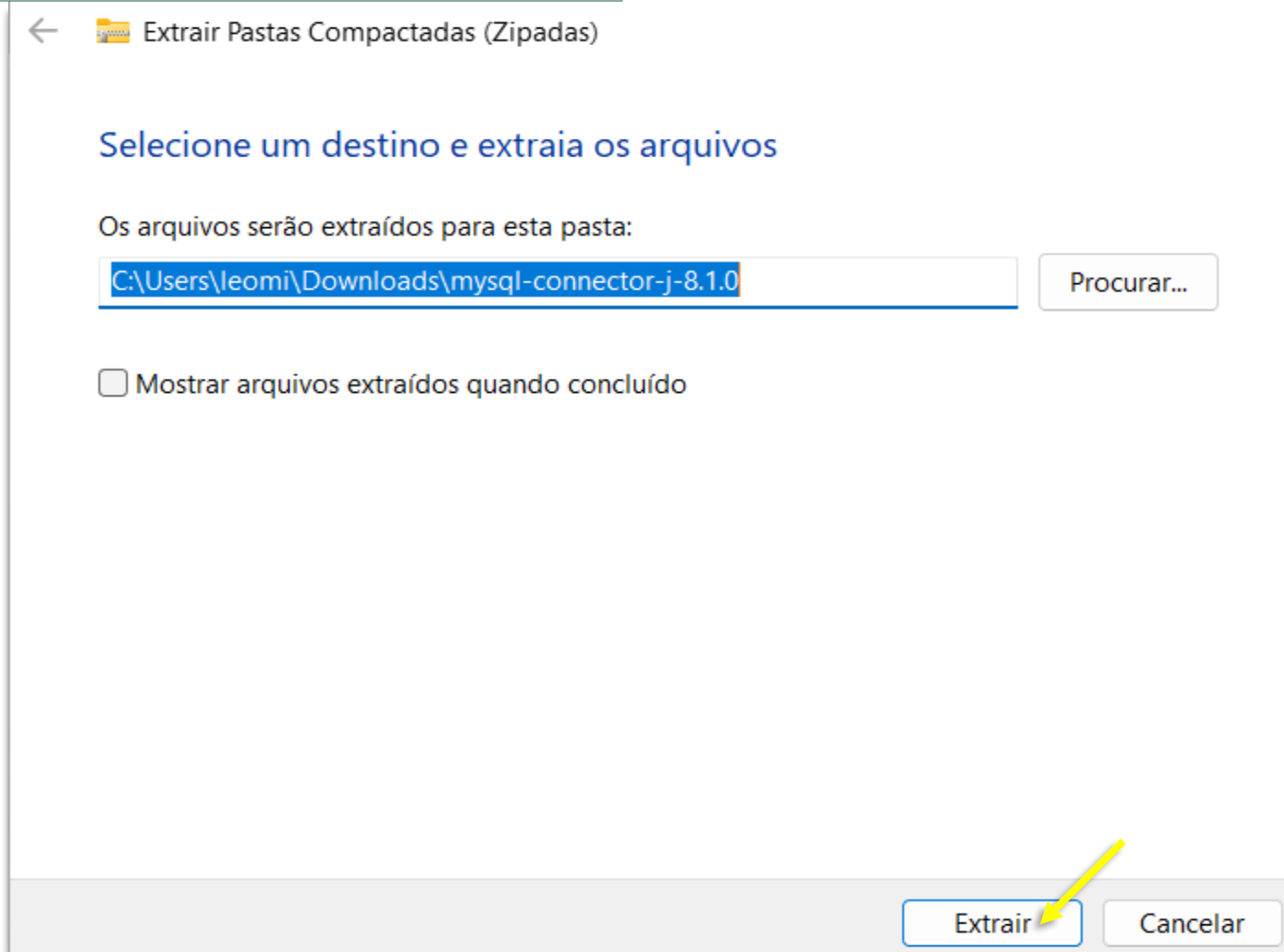


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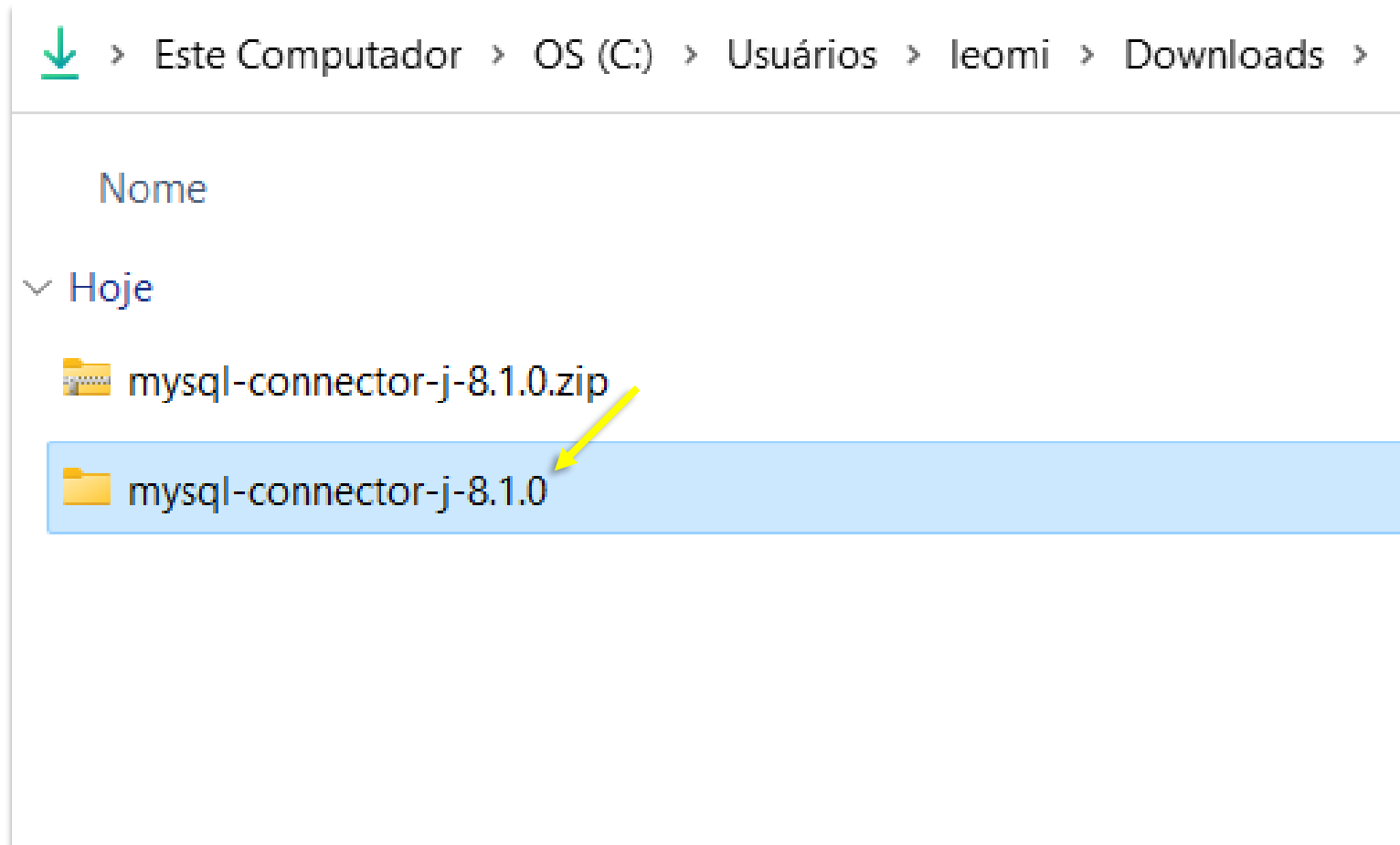
# Instalar MySQL Connector Java (JDBC)



# Instalar MySQL Connector Java (JDBC)











# Instalar MySQL Connector Java (JDBC)



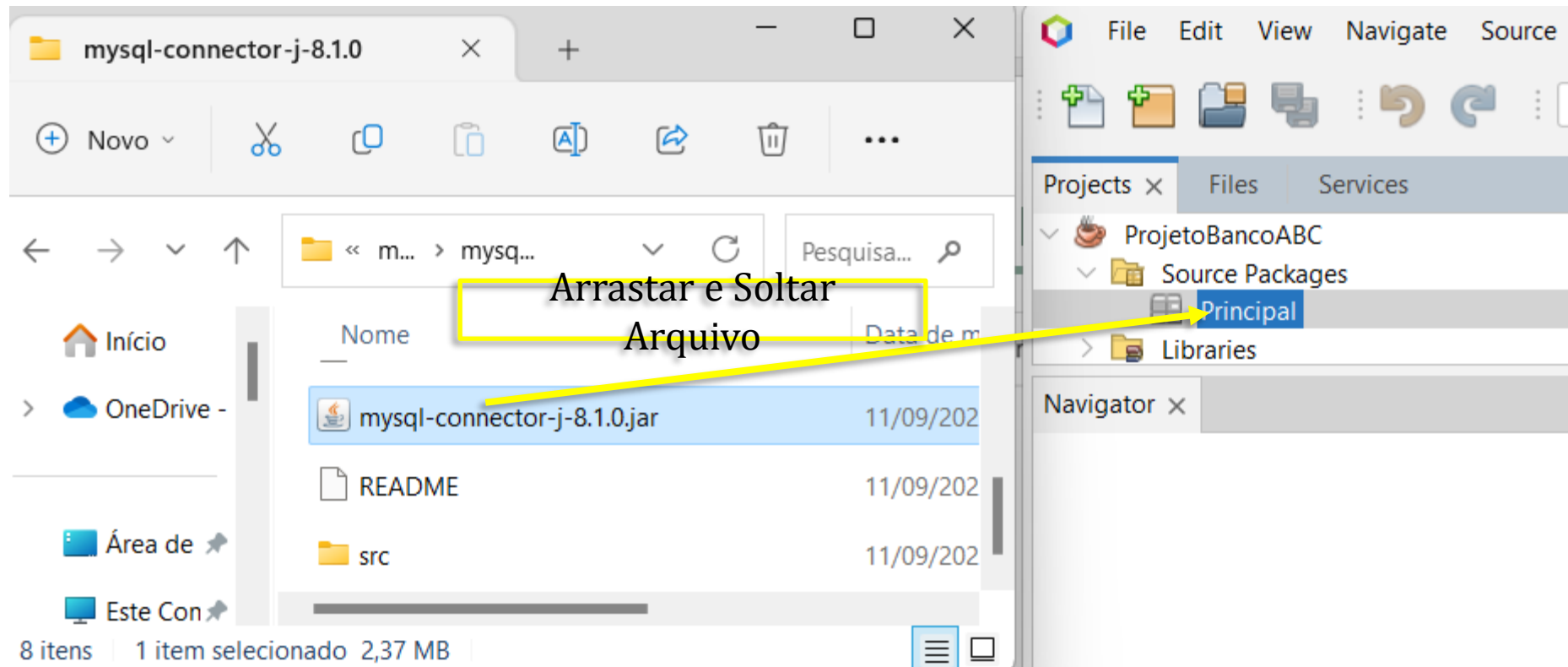
# Instalar MySQL Connector Java (JDBC)

📁 > Este Computador > OS (C:) > Usuários > leomi > Downloads > mysql-connector-j-8.1.0 > mysql-connector-j-8.1.0 >

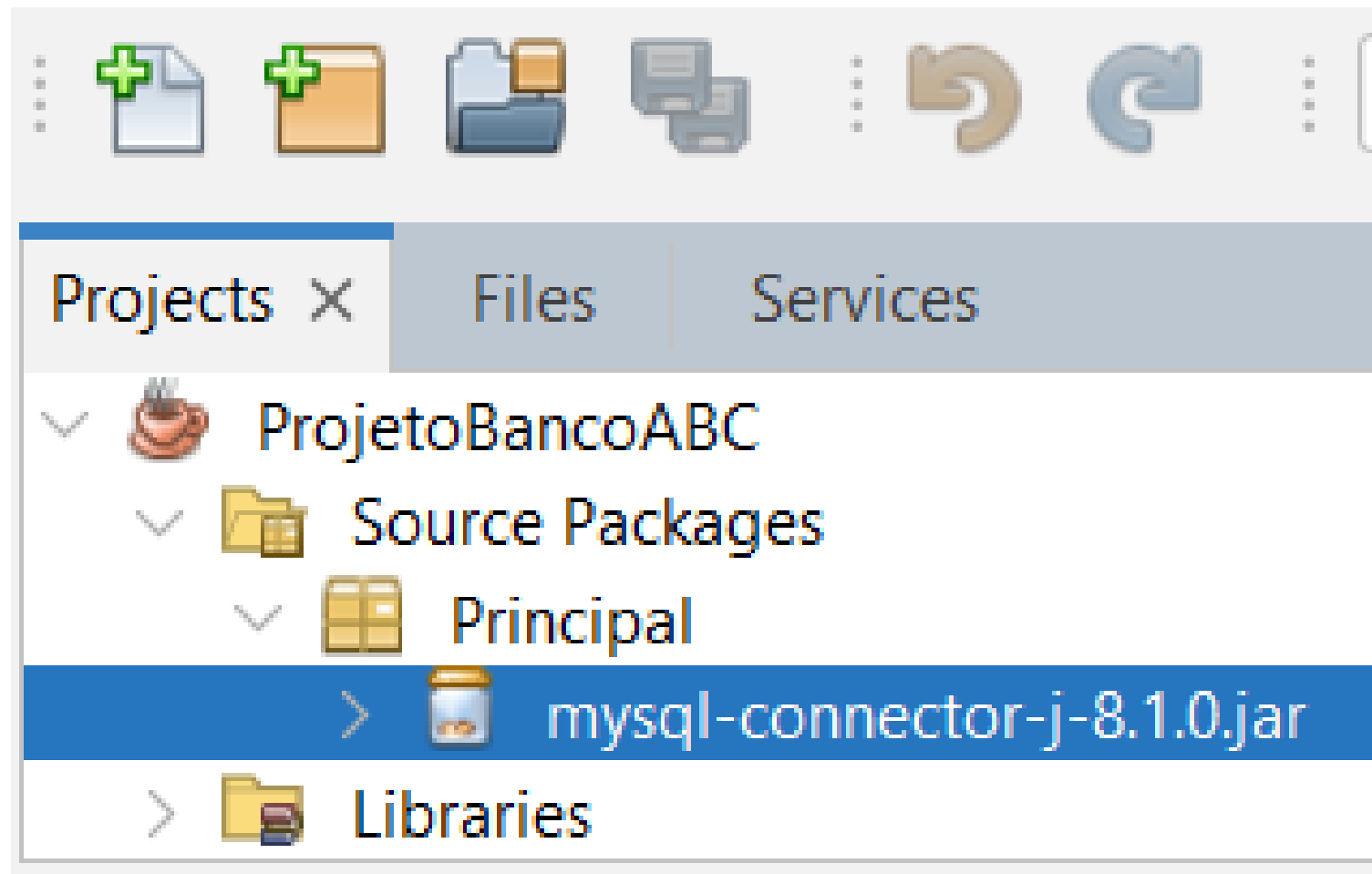
Nome	Data de modificação	Tipo	Tamanho
Hoje			
 build.xml	11/09/2023 01:49	Arquivo Fonte XML	95 KB
 CHANGES	11/09/2023 01:49	Arquivo	275 KB
 INFO_BIN	11/09/2023 01:49	Arquivo	1 KB
 INFO_SRC	11/09/2023 01:49	Arquivo	1 KB
 LICENSE	11/09/2023 01:49	Arquivo	70 KB
 mysql-connector-j-8.1.0.jar	11/09/2023 01:49	Executable Jar File	2.428 KB
 README	11/09/2023 01:49	Arquivo	2 KB
 src	11/09/2023 01:50	Pasta de arquivos	



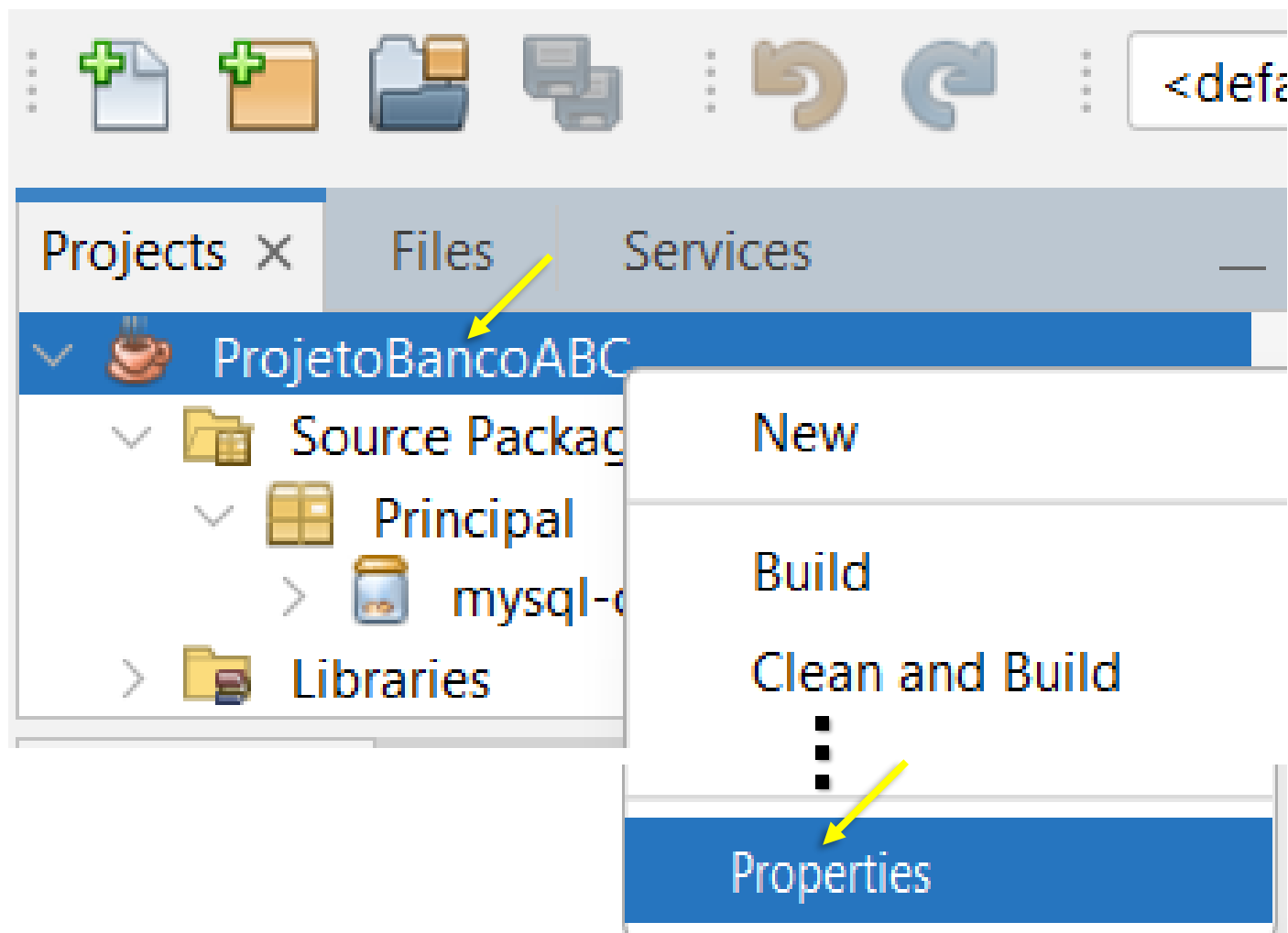
# Instalar MySQL Connector Java (JDBC)



# Instalar MySQL Connector Java (JDBC)

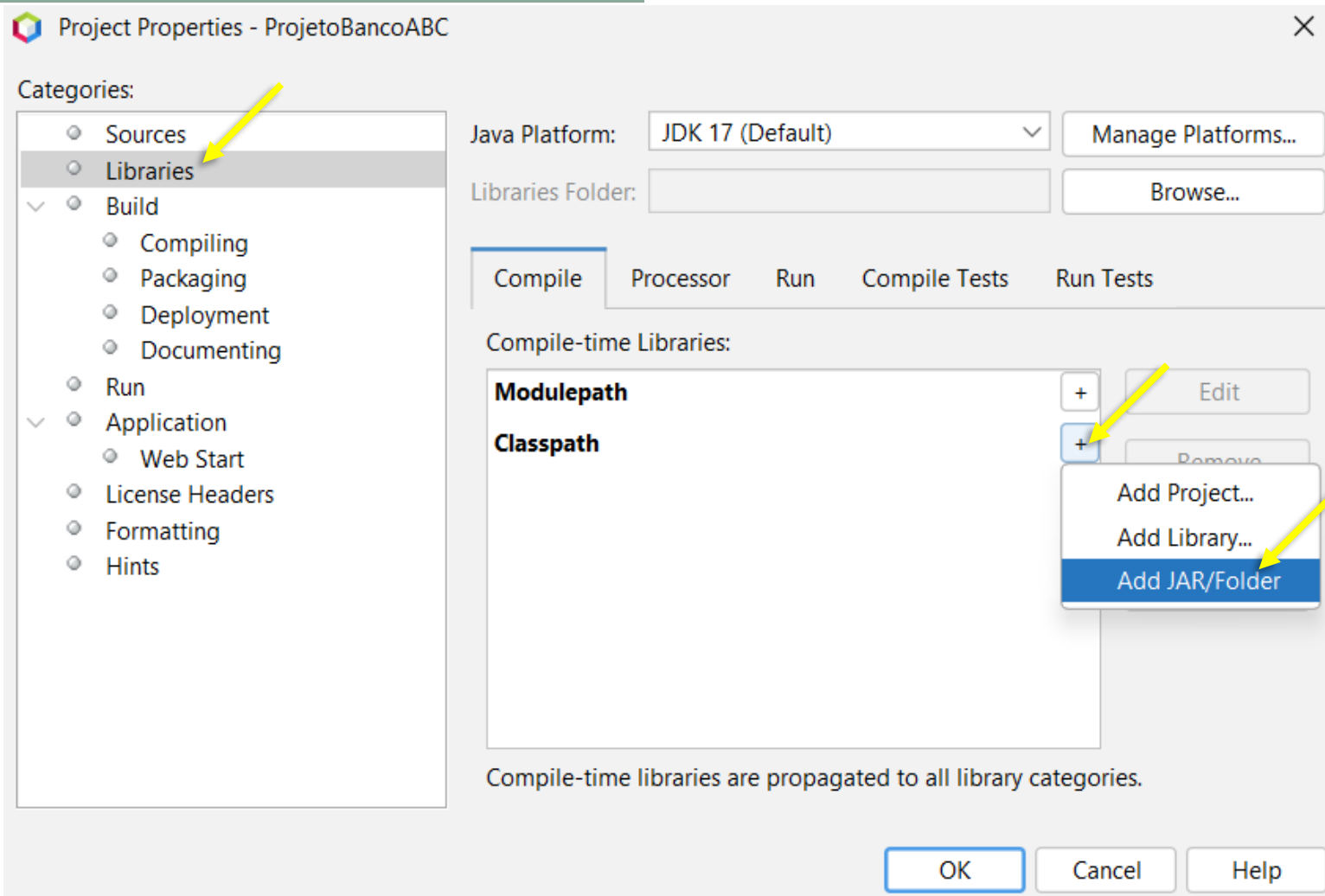


# Instalar MySQL Connector Java (JDBC)

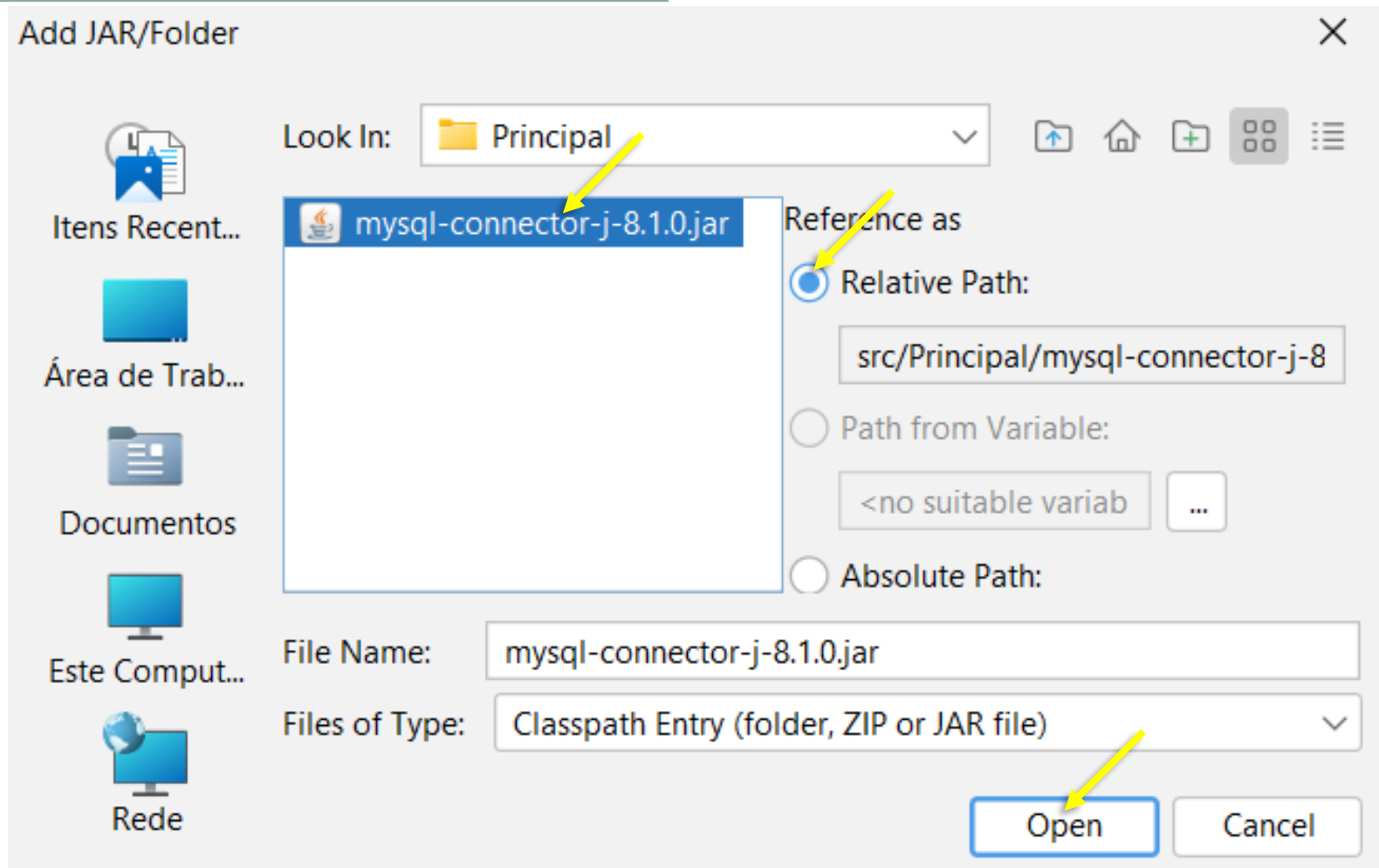




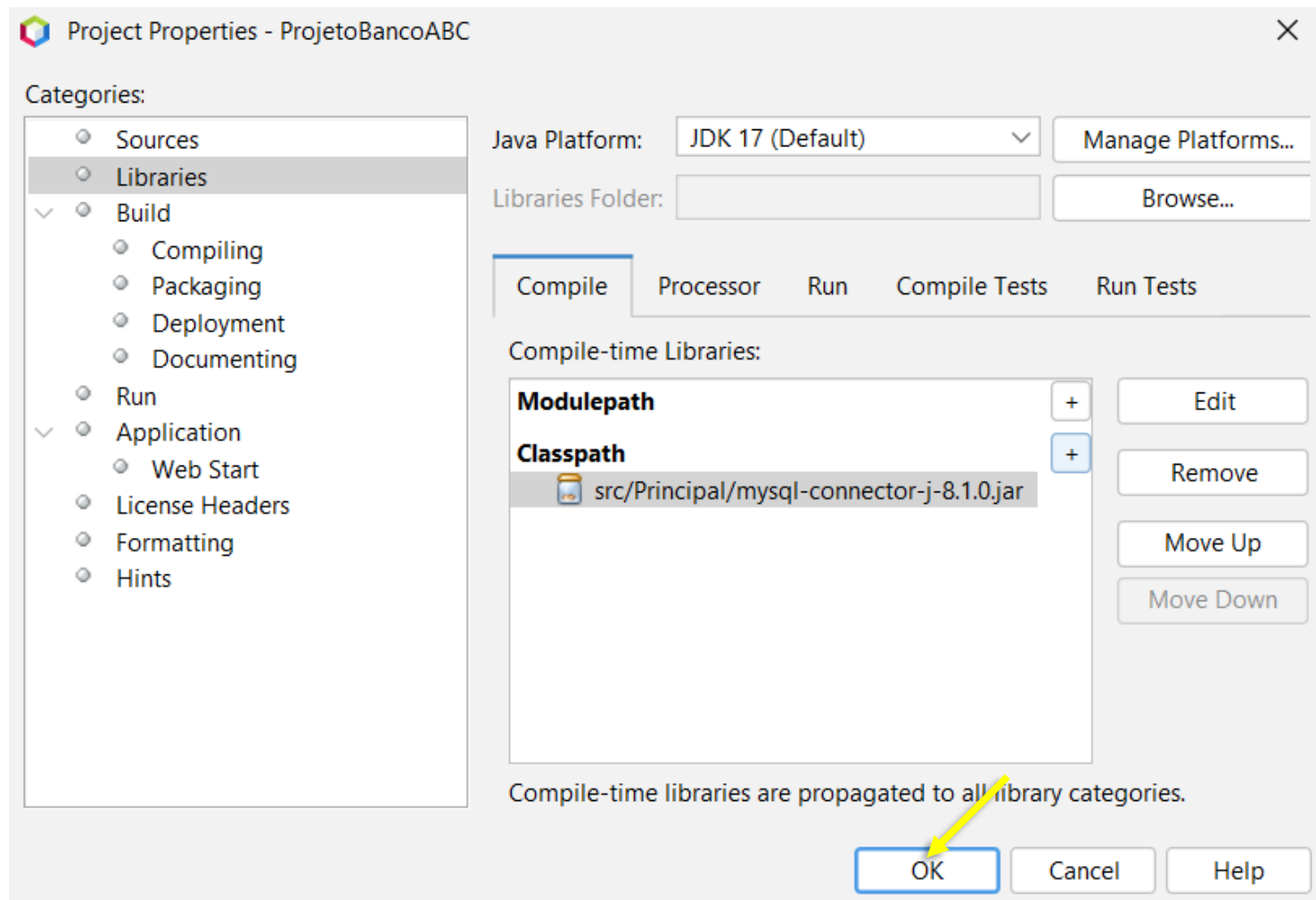
# Instalar MySQL Connector Java (JDBC)



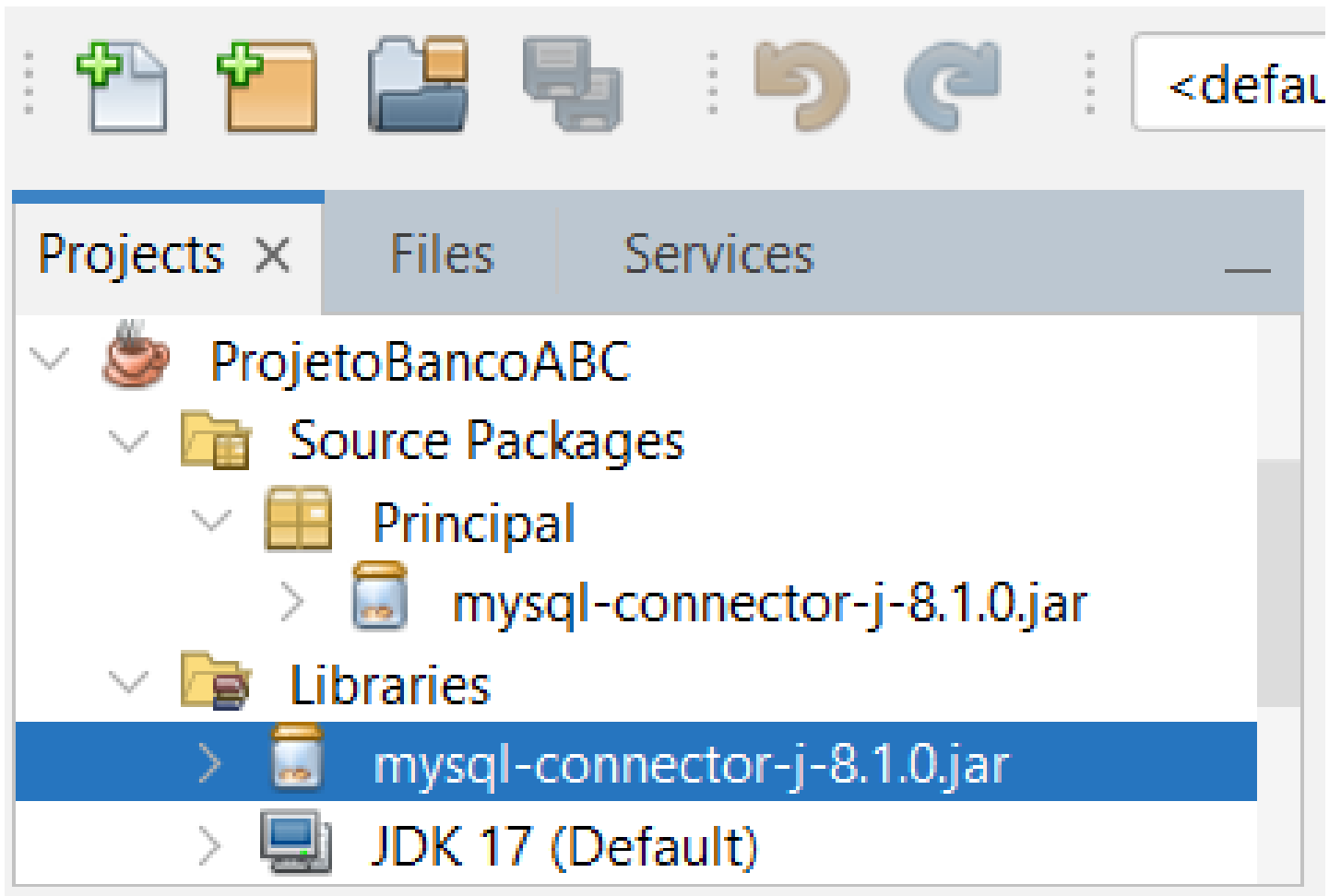
# Instalar MySQL Connector Java (JDBC)



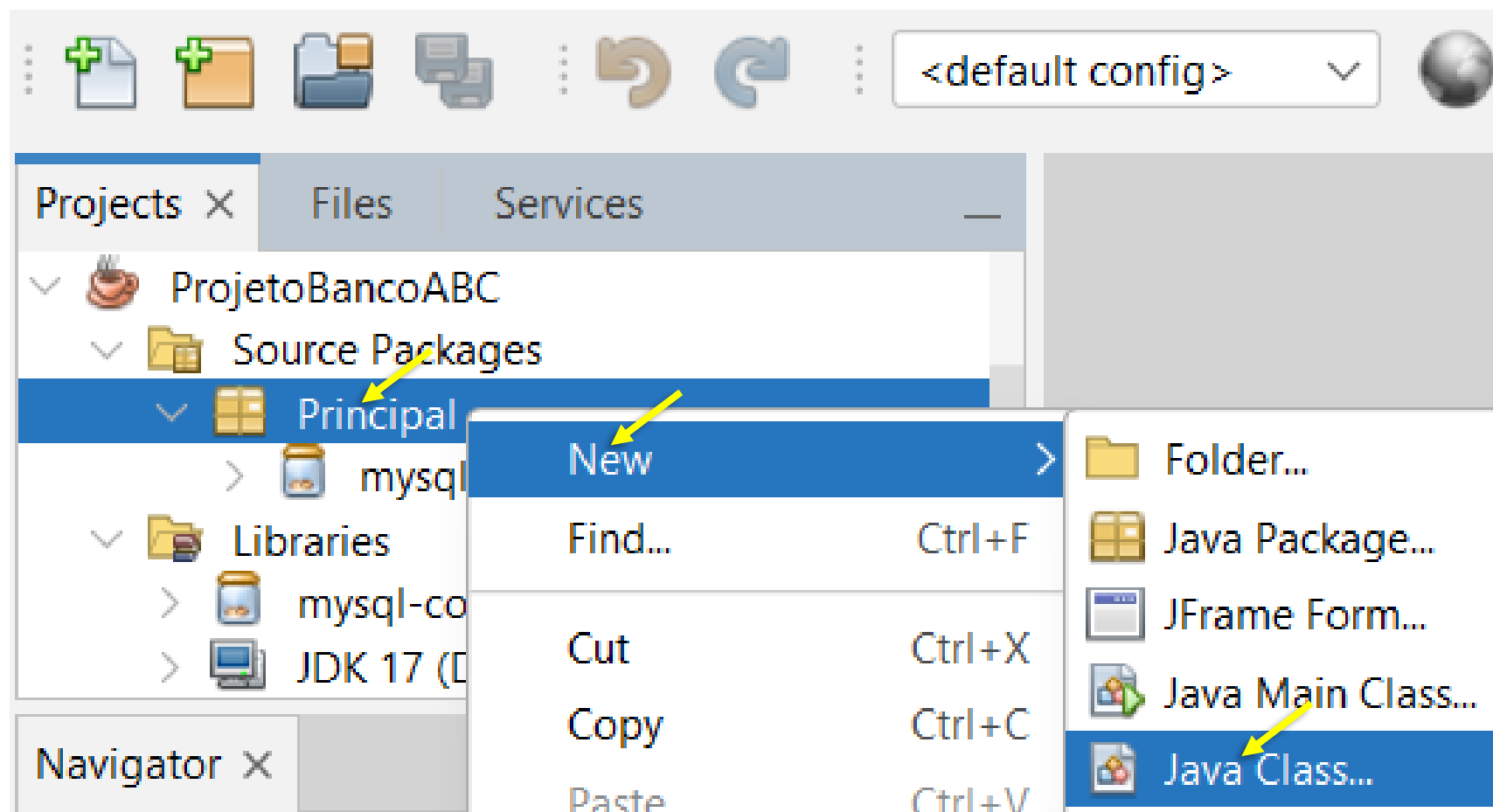
# Instalar MySQL Connector Java (JDBC)



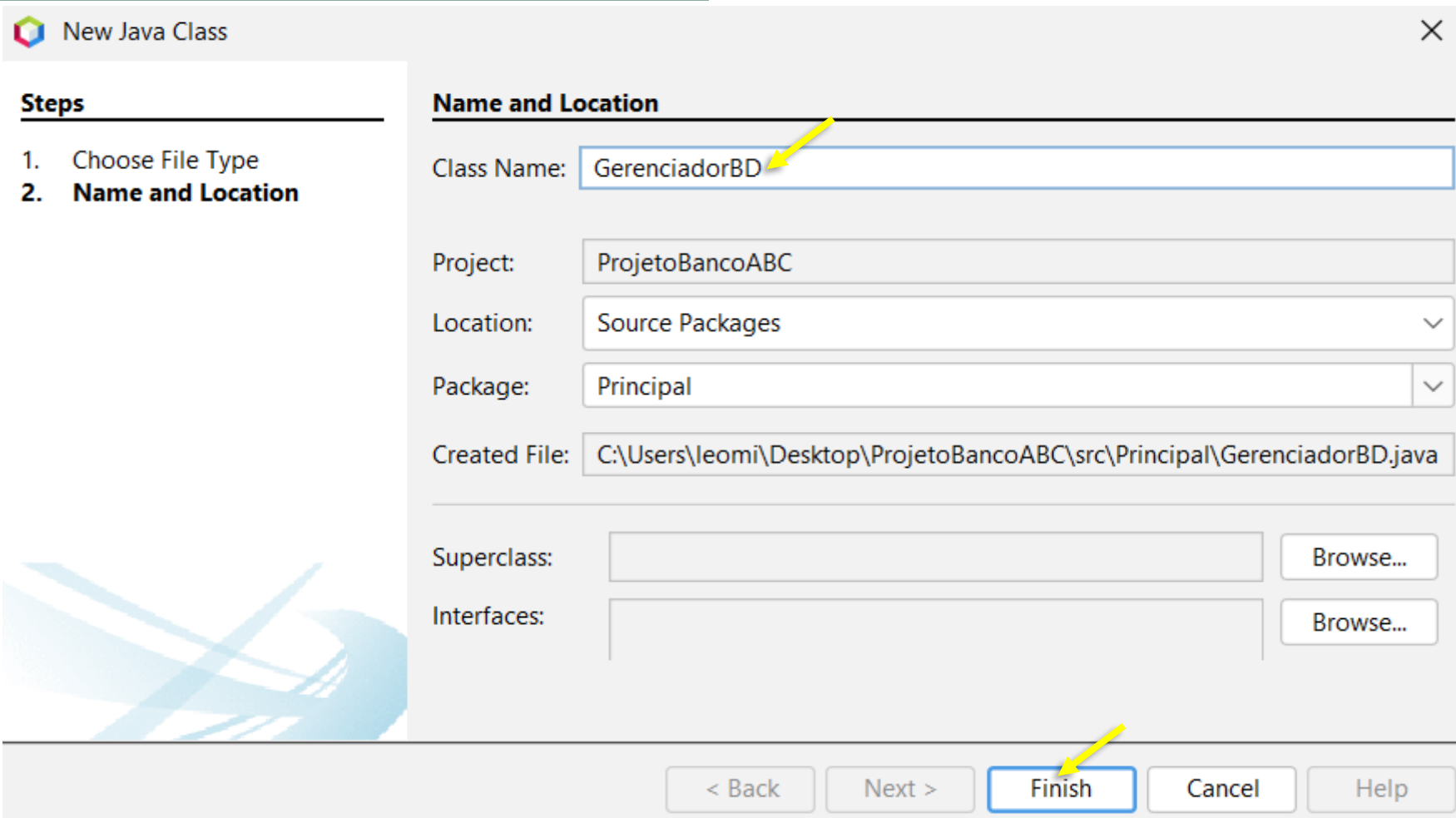
# Instalar MySQL Connector Java (JDBC)



# Classe GerenciadorBD



# Classe GerenciadorBD



The image shows a 'New Java Class' dialog box in an IDE. It has a title bar with a close button. On the left, there's a 'Steps' section with two steps: '1. Choose File Type' and '2. Name and Location'. The main area is titled 'Name and Location' and contains several input fields: 'Class Name' (with 'GerenciadorBD' entered and a yellow arrow pointing to it), 'Project' (with 'ProjetoBancoABC' entered), 'Location' (a dropdown menu showing 'Source Packages'), 'Package' (a dropdown menu showing 'Principal'), and 'Created File' (showing the full path 'C:\Users\leomi\Desktop\ProjetoBancoABC\src\Principal\GerenciadorBD.java'). Below these are 'Superclass' and 'Interfaces' fields, each with a 'Browse...' button. At the bottom, there are four buttons: '< Back', 'Next >', 'Finish' (highlighted with a yellow arrow), and 'Cancel'. A 'Help' button is also present on the right.

New Java Class

**Steps**

1. Choose File Type
2. **Name and Location**

**Name and Location**

Class Name: GerenciadorBD

Project: ProjetoBancoABC

Location: Source Packages

Package: Principal

Created File: C:\Users\leomi\Desktop\ProjetoBancoABC\src\Principal\GerenciadorBD.java

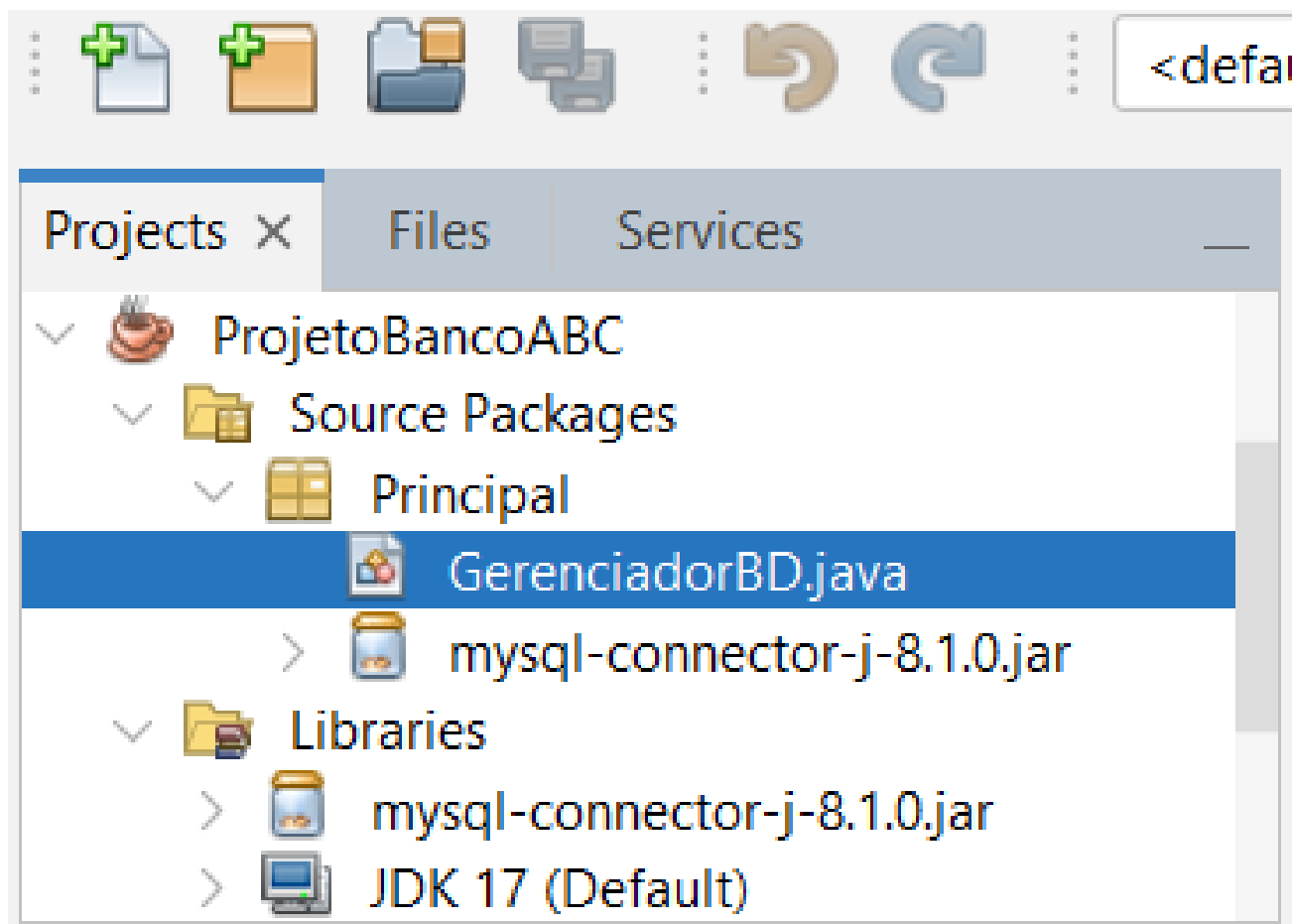
Superclass:  Browse...

Interfaces:  Browse...

< Back Next > Finish Cancel Help



# Classe GerenciadorBD



Colocar apenas uma classe GerenciadorBD por Projeto



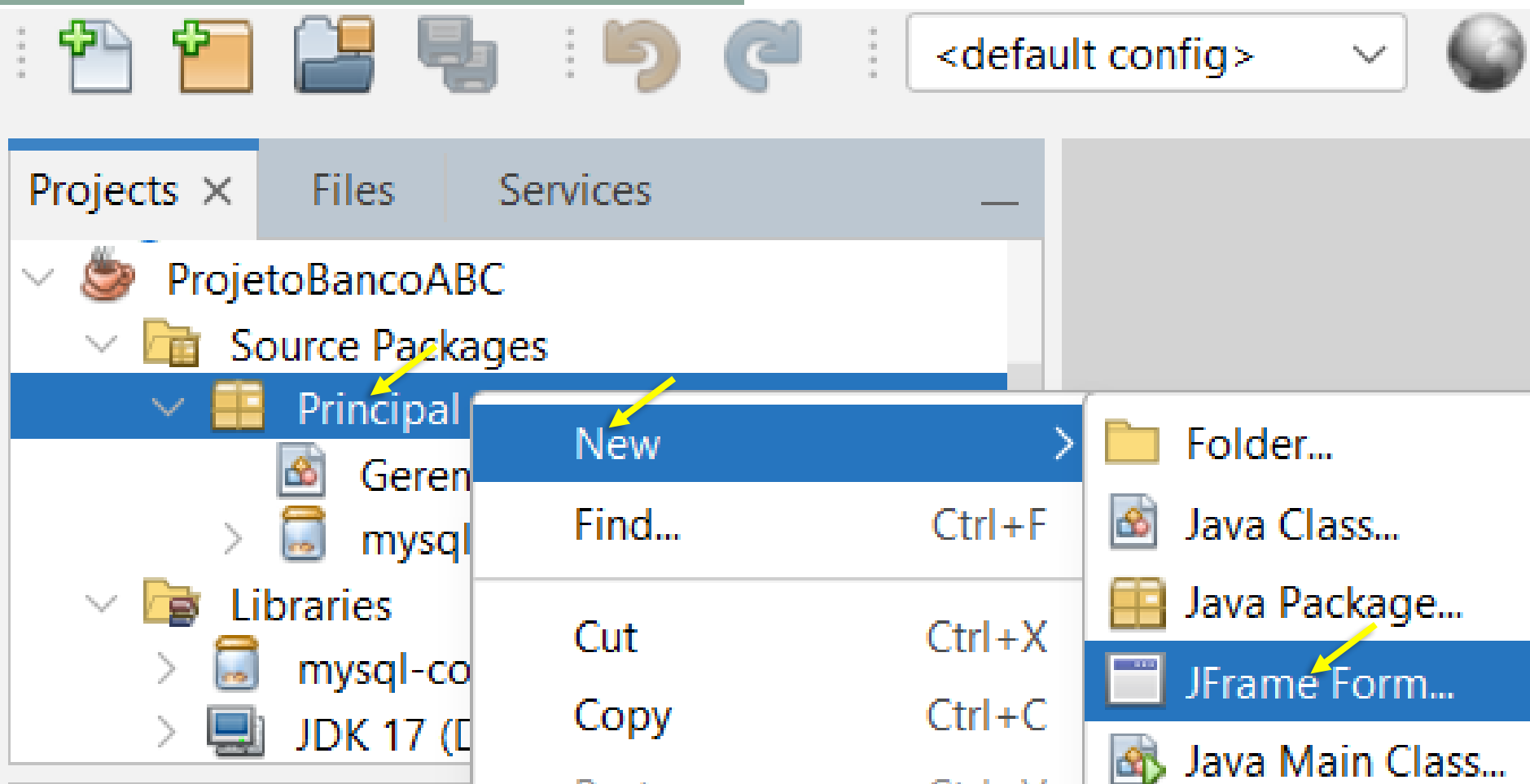
# Classe GerenciadorBD

```
1 package Principal;
2
3 import java.sql.Connection;
4 import java.sql.DriverManager;
5
6 public class GerenciadorBD {
7
8     private String servidor = "127.0.0.1:3306";
9     private String banco = "bancoabc";
10    private String login = "root";
11    private String senha = "1234";
12
13    public Connection conectar() throws Exception
14    {
15        String textoDeConexao = "jdbc:mysql://" + servidor + "/" + banco;
16
17        return DriverManager.getConnection(textoDeConexao, login, senha);
18    }
19 }
```





# Tela de Cadastro de Conta



# Tela de Cadastro de Conta

New JFrame Form

**Steps**

1. Choose File Type
2. **Name and Location**

**Name and Location**

Class Name:

Project:

Location:

Package:

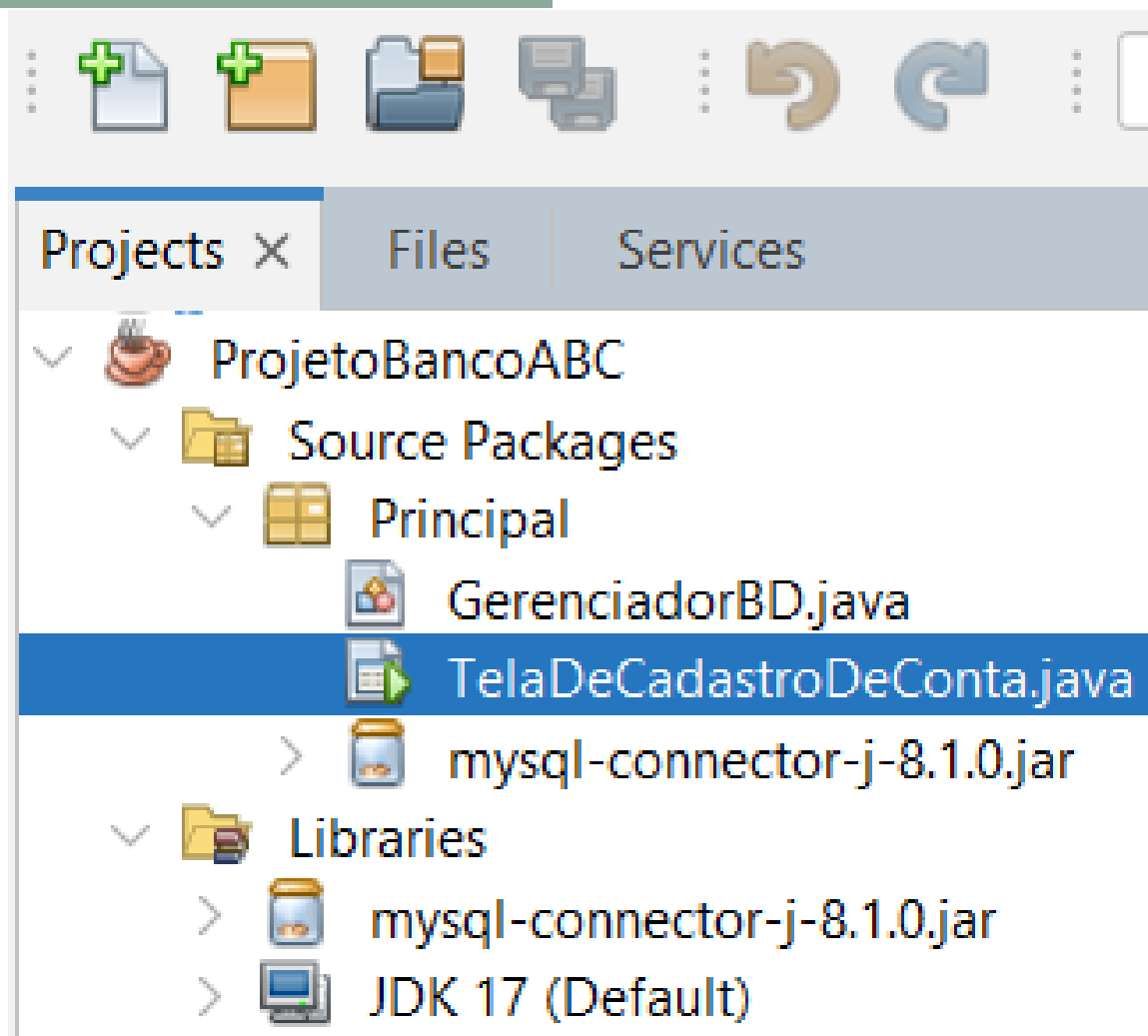
Created File:

Superclass:

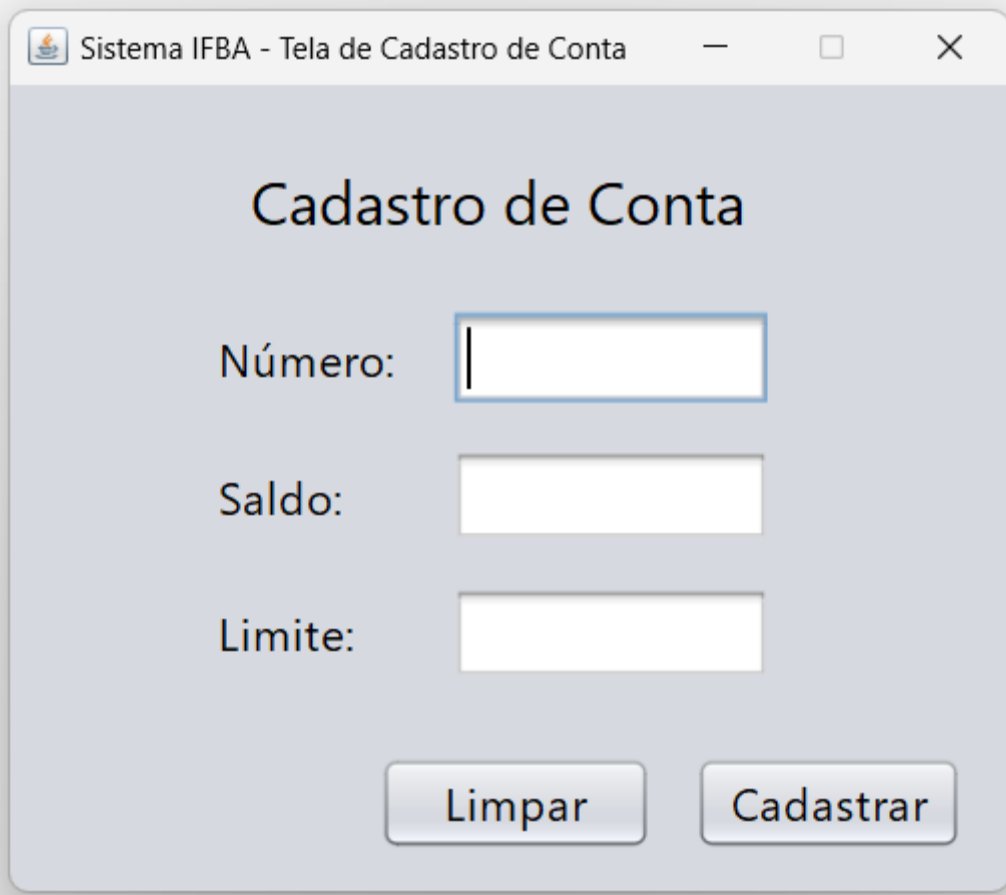
Interfaces:



# Tela de Cadastro de Conta



# Tela de Cadastro de Conta



Sistema IFBA - Tela de Cadastro de Conta

## Cadastro de Conta

Número:

Saldo:

Limite:



# Tela de Cadastro de Conta - Layout

The image shows a Java Swing window titled "Sistema IFBA - Tela de Cadastro de Conta". The window has a title bar with standard OS controls and a close button labeled "resizable: false". The main content area is titled "Cadastro de Conta". It contains three rows of input fields, each preceded by a label. The labels are "Número:", "Saldo:", and "Limite:". The input fields are text boxes. At the bottom, there are two buttons: "Limpar" and "Cadastrar".

Labels and their corresponding UI elements:

- lblTitulo** points to the title "Cadastro de Conta".
- lblNumero** points to the label "Número:".
- txtNumero** points to the text input field for the account number.
- lblSaldo** points to the label "Saldo:".
- txtSaldo** points to the text input field for the account balance.
- lblLimite** points to the label "Limite:".
- txtLimite** points to the text input field for the account limit.
- btnLimpar** points to the "Limpar" button.
- btnCadastrar** points to the "Cadastrar" button.

# Tela de Cadastro de Conta – Import

```
1  package Principal;
2
3  import java.sql.Connection;
4  import java.sql.PreparedStatement;
5  import javax.swing.JOptionPane;
6
7  public class TelaDeCadastroDeConta extends javax.swing.JFrame {
8
9      public TelaDeCadastroDeConta () {
10         initComponents();
11
12         this.setLocationRelativeTo(null);
13     }
```

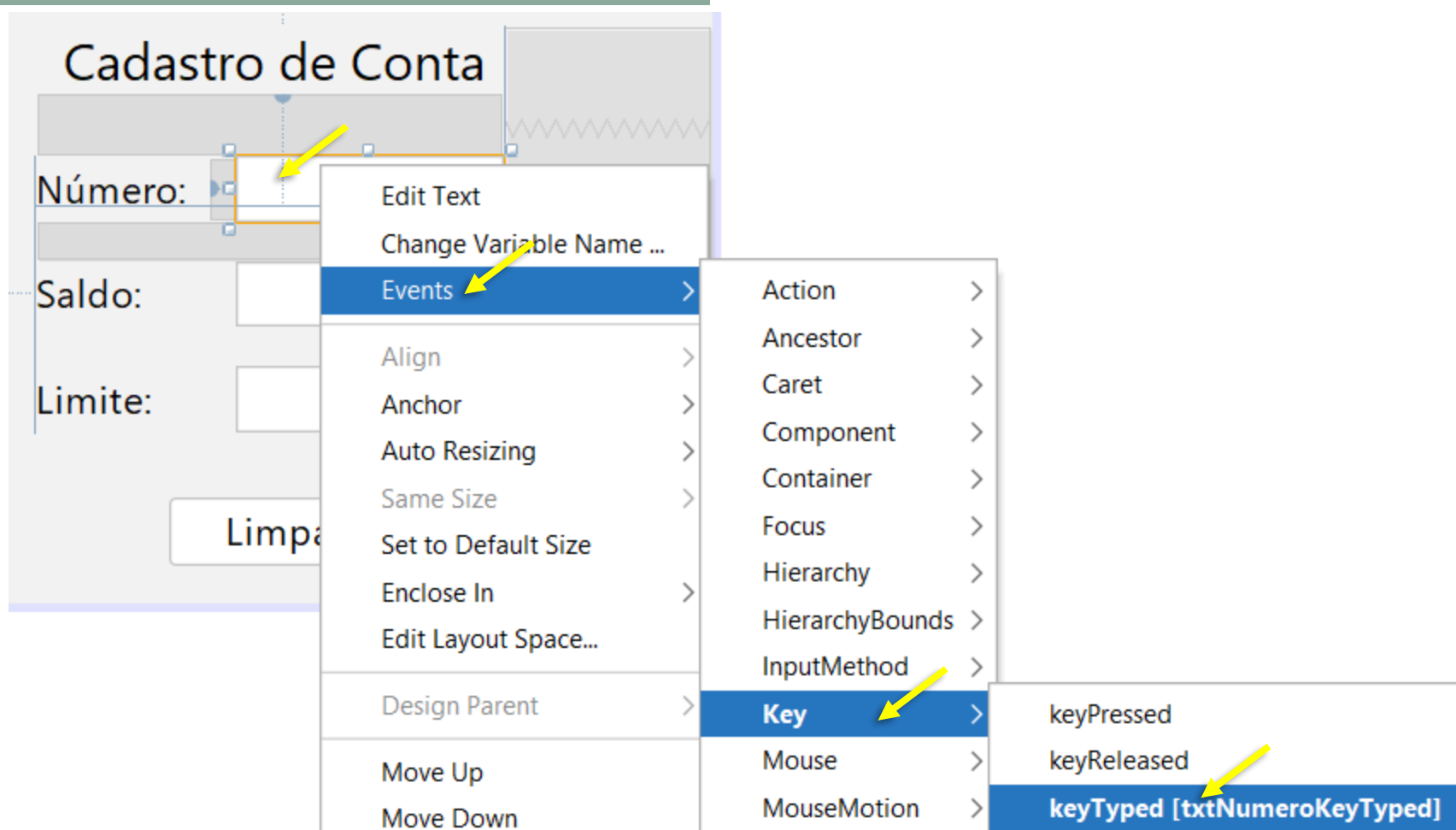


# Tela de Cadastro de Conta – Centralizar

```
1  package Principal;
2
3  import java.sql.Connection;
4  import java.sql.PreparedStatement;
5  import javax.swing.JOptionPane;
6
7  public class TelaDeCadastroDeConta extends javax.swing.JFrame {
8
9      public TelaDeCadastroDeConta () {
10          initComponents();
11
12          this.setLocationRelativeTo(null); ←
13      }
```



# Tela de Cadastro de Conta – Evento 1



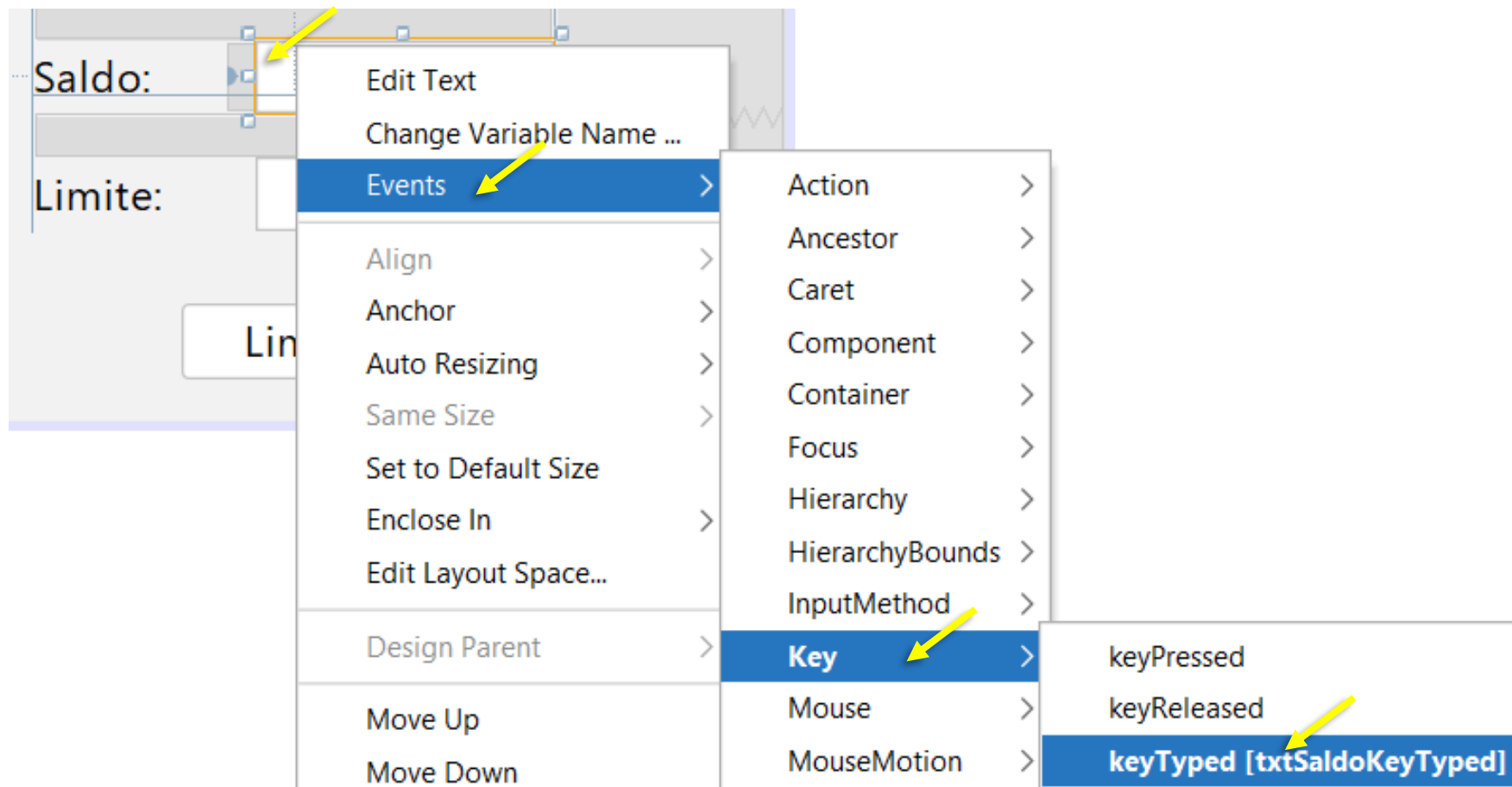


# Tela de Cadastro de Conta – Evento 1

```
private void txtNumeroKeyTyped(java.awt.event.KeyEvent evt) {  
  
    char c = evt.getKeyChar();  
  
    if(!Character.isDigit(c))  
    {  
        evt.consume();  
    }  
  
}
```



# Tela de Cadastro de Conta – Evento 2

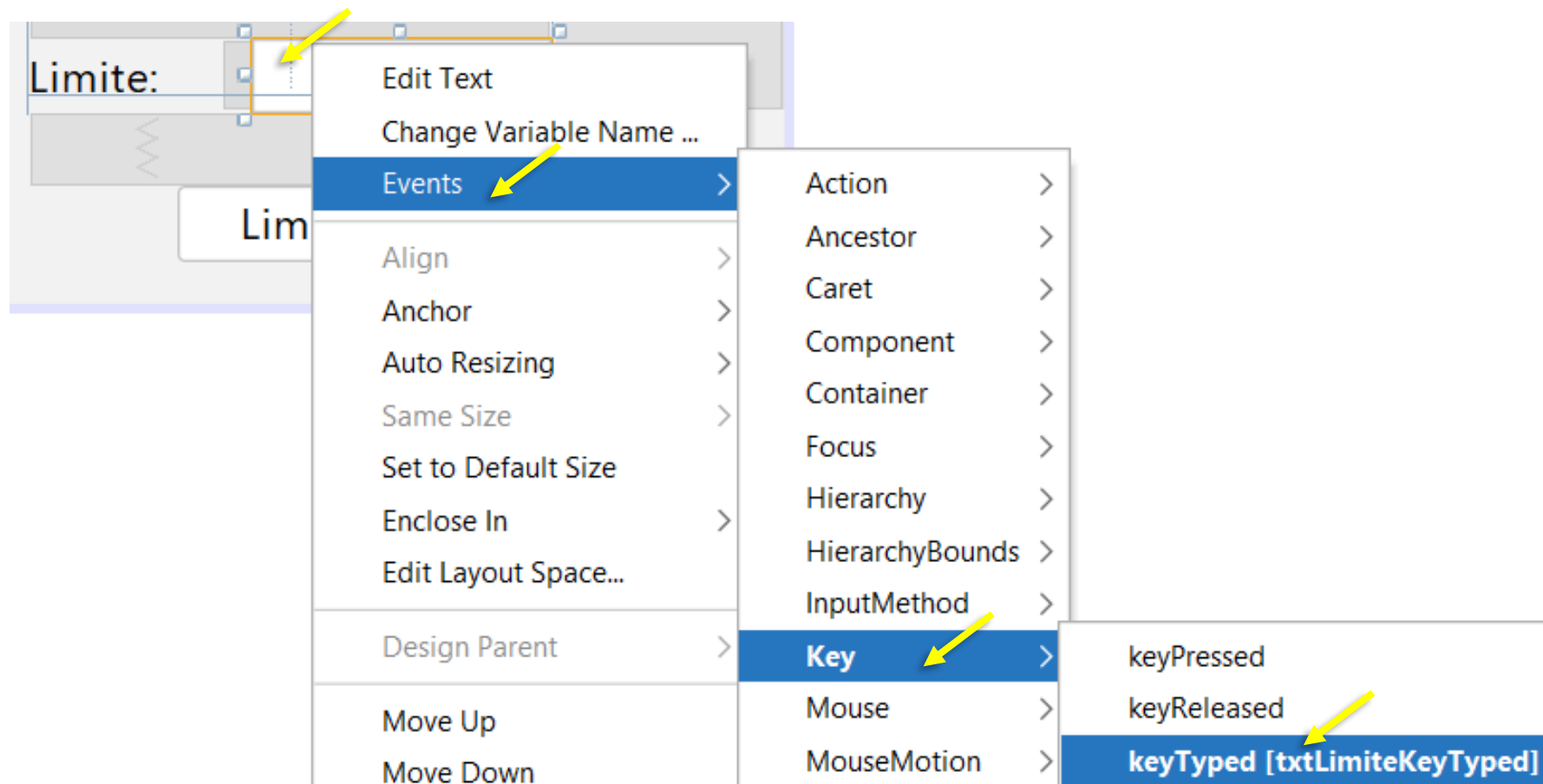


# Tela de Cadastro de Conta – Evento 2

```
private void txtSaldoKeyTyped(java.awt.event.KeyEvent evt) {  
  
    char c = evt.getKeyChar();  
  
    if(!Character.isDigit(c) && c != ',', '.')  
    {  
        evt.consume();  
    }  
  
}
```



# Tela de Cadastro de Conta – Evento 3

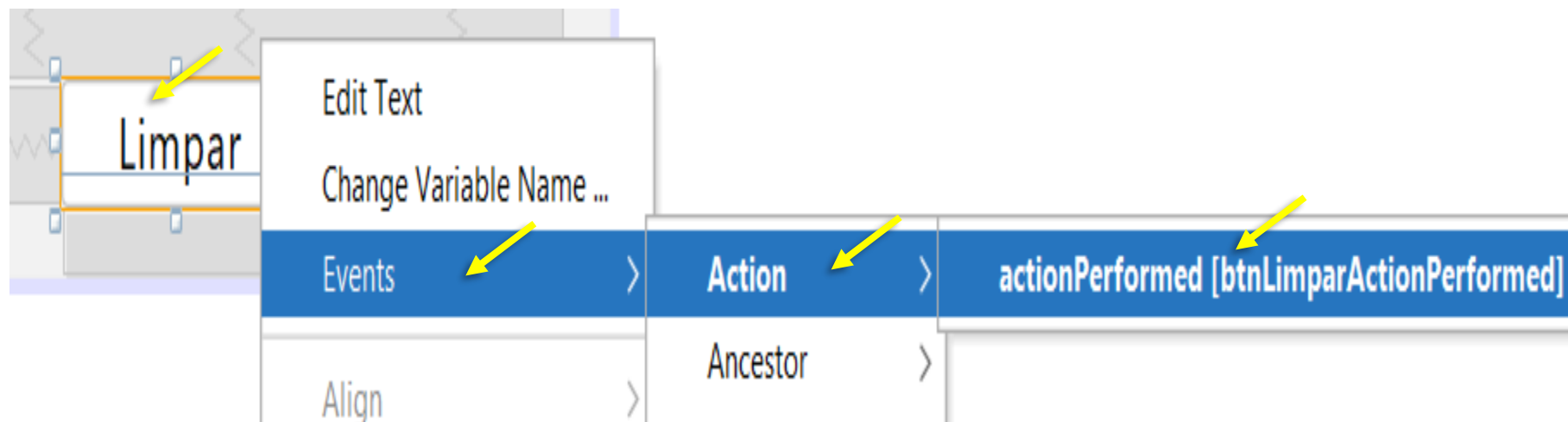


# Tela de Cadastro de Conta – Evento 3

```
private void txtLimiteKeyTyped(java.awt.event.KeyEvent evt) {  
  
    char c = evt.getKeyChar();  
  
    if(!Character.isDigit(c) && c != ',')  
    {  
        evt.consume();  
    }  
  
}
```



# Tela de Cadastro de Conta – Evento 4

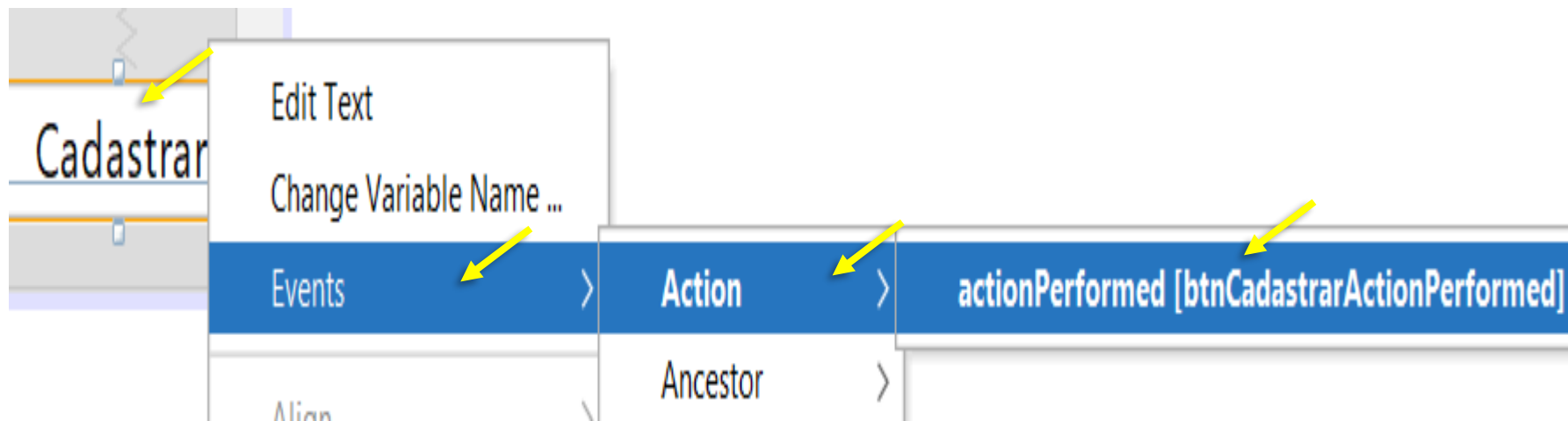


# Tela de Cadastro de Conta – Evento 4

```
private void btnLimparActionPerformed(java.awt.event.ActionEvent evt) {  
    txtNumero.setText("");  
    txtSaldo.setText("");  
    txtLimite.setText("");  
}
```



# Tela de Cadastro de Conta – Evento 5





```
private void btnCadastrarActionPerformed(java.awt.event.ActionEvent evt) {  
    int numero = Integer.parseInt(txtNumero.getText());  
    double saldo = Double.parseDouble(txtSaldo.getText().replace(',', '.', ''));  
    double limite = Double.parseDouble(txtLimite.getText().replace(',', '.', ''));  
  
    GerenciadorBD bd = new GerenciadorBD();  
  
    try (Connection conexao = bd.conectar();  
        PreparedStatement comando = conexao.prepareStatement(  
            "INSERT INTO conta (numero, saldo, limite) VALUES (?, ?, ?)"  
        )  
    ) {  
        comando.setInt(1, numero);  
        comando.setDouble(2, saldo);  
        comando.setDouble(3, limite);  
        comando.execute();  
  
        JOptionPane.showMessageDialog(this, "Cadastro realizado com sucesso!");  
  
        txtNumero.setText("");  
        txtSaldo.setText("");  
        txtLimite.setText("");  
    } catch (Exception e) {  
        JOptionPane.showMessageDialog(this, "Erro ao tentar cadastrar uma nova conta!");  
    }  
}
```

# Java Swing – Exercício – Cadastro Conta

Execução

Sistema IFBA - Tela de Cadastro de Conta

## Cadastro de Conta

Número: 1234

Saldo: 1000,99

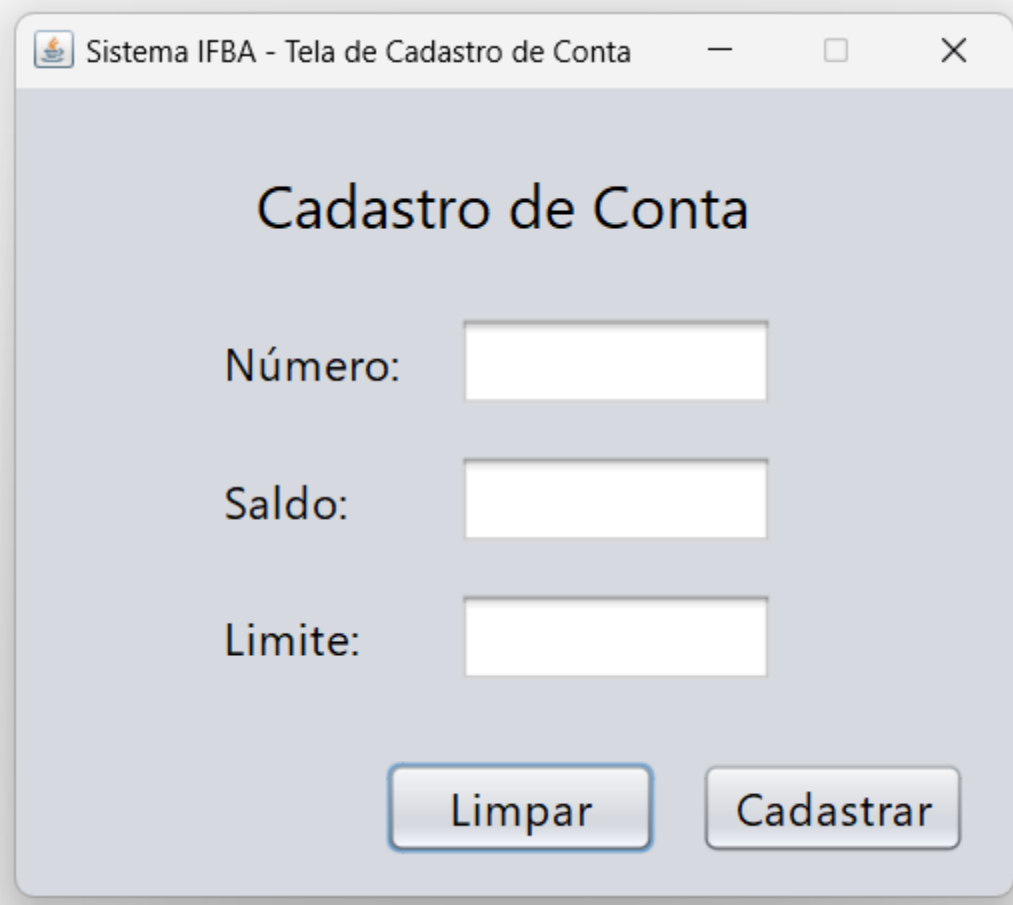
Limite: 200,88

Limpar Cadastrar



# Java Swing – Exercício – Cadastro Conta

Execução



Sistema IFBA - Tela de Cadastro de Conta

## Cadastro de Conta

Número:

Saldo:

Limite:



# Java Swing – Exercício – Cadastro Conta

Execução

Sistema IFBA - Tela de Cadastro de Conta

## Cadastro de Conta

Número: 1234

Saldo: 1000,99

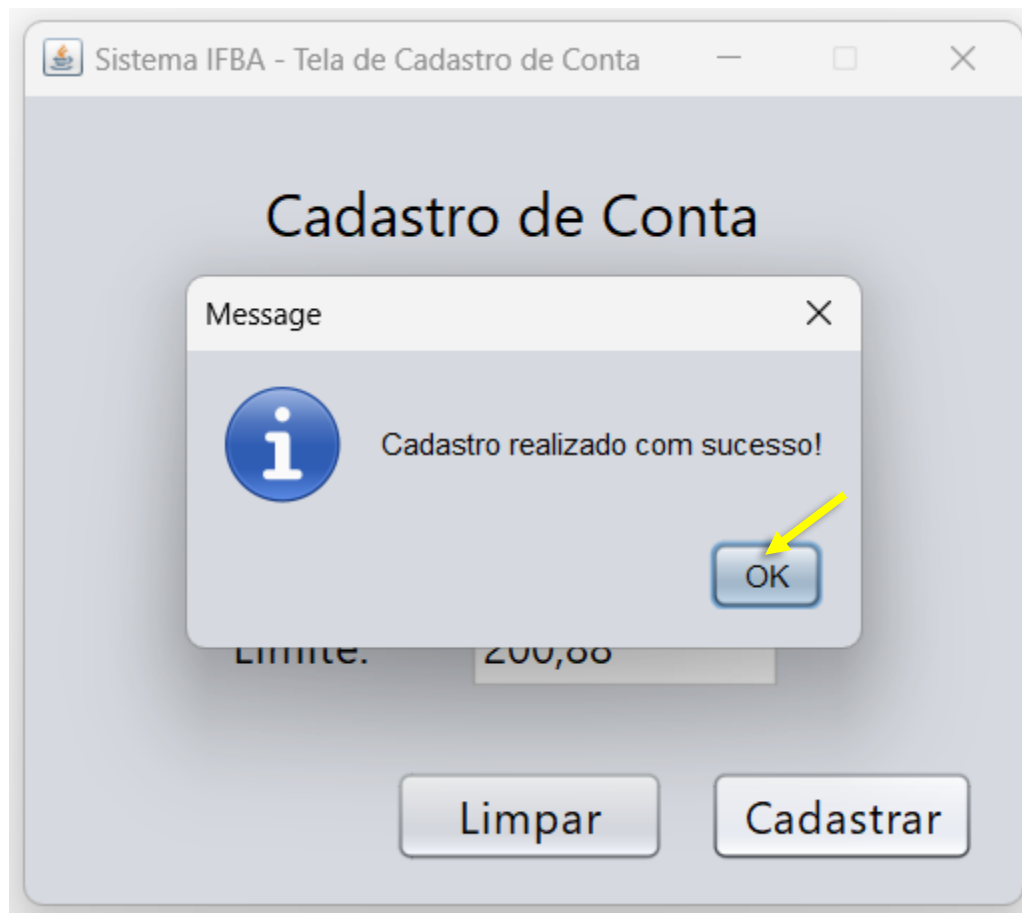
Limite: 200,88

Limpar Cadastrar



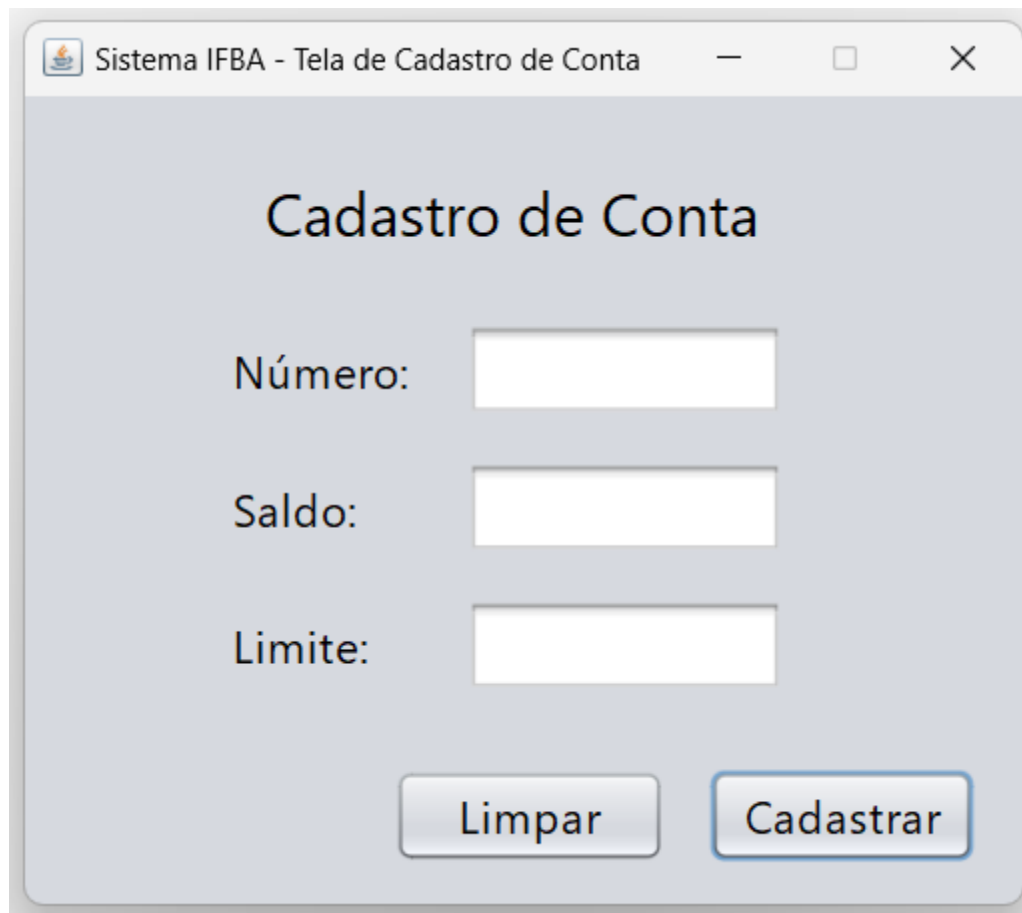
# Java Swing – Exercício – Cadastro Conta

Execução



# Java Swing – Exercício – Cadastro Conta

Execução



Sistema IFBA - Tela de Cadastro de Conta

## Cadastro de Conta

Número:

Saldo:

Limite:



# Java Swing – Exercício – Cadastro Conta

Execução

SQL File 4\* conta x

Limit to 1000 rows

```
1 • SELECT * FROM bancoabc.conta;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap

	id	numero	saldo	limite
▶	1	1234	1000.99	200.88
*	NULL	NULL	NULL	NULL



# Referências

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- SÉRGIO FURGERI. Java Ensino Didático: Desenvolvimento e Implementação de Aplicações. Editora Érica.
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# Obrigado!

- Canais de Comunicação;
- Horário de Atendimento.

