

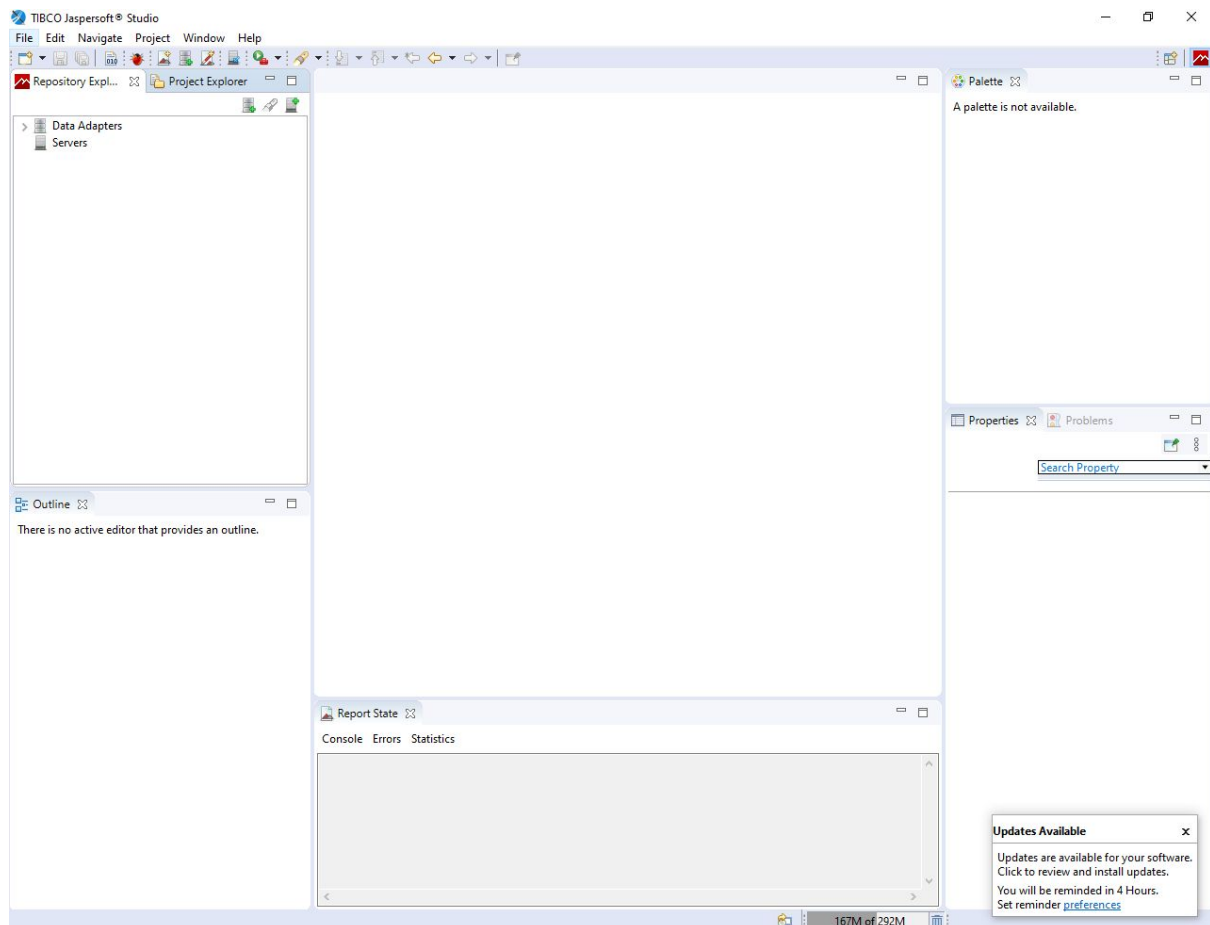
Relatórios com JasperReports

Sobre: <https://en.wikipedia.org/wiki/JasperReports>

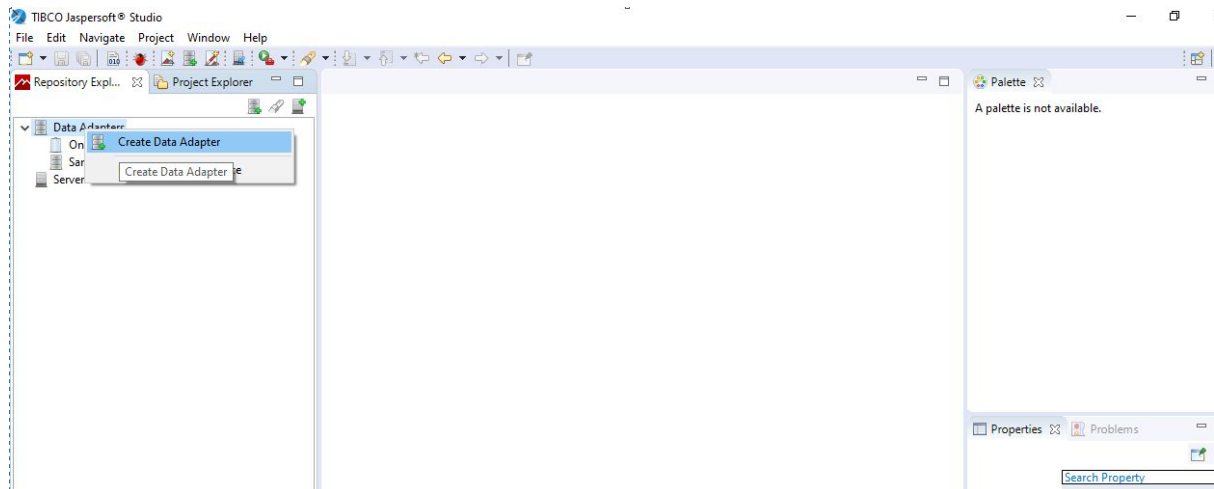
Ferramentas: <https://community.jaspersoft.com/community-download>

JasperSoft Studio Community Edition

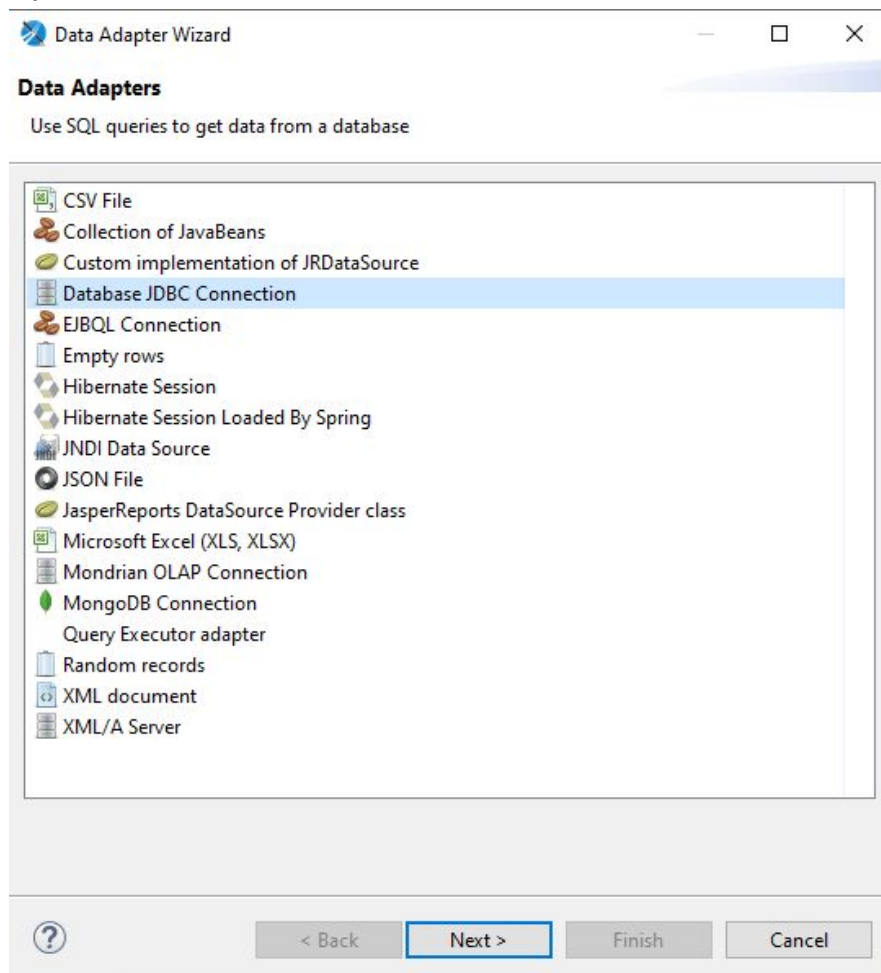
<https://community.jaspersoft.com/project/jaspersoft-studio>



Criando Data Adapters



Tipo JDBC



Data Adapter Wizard

Data Adapter
Database JDBC Connection

Name:

JDBC Driver:

JDBC Url:

Username:

Password:

Attention! Passwords are saved in clear text

Database Location | Connection Properties | Driver Classpath

? Test < Back Next > Finish Cancel

Data Adapter Wizard

Data Adapter
Database JDBC Connection

Name:

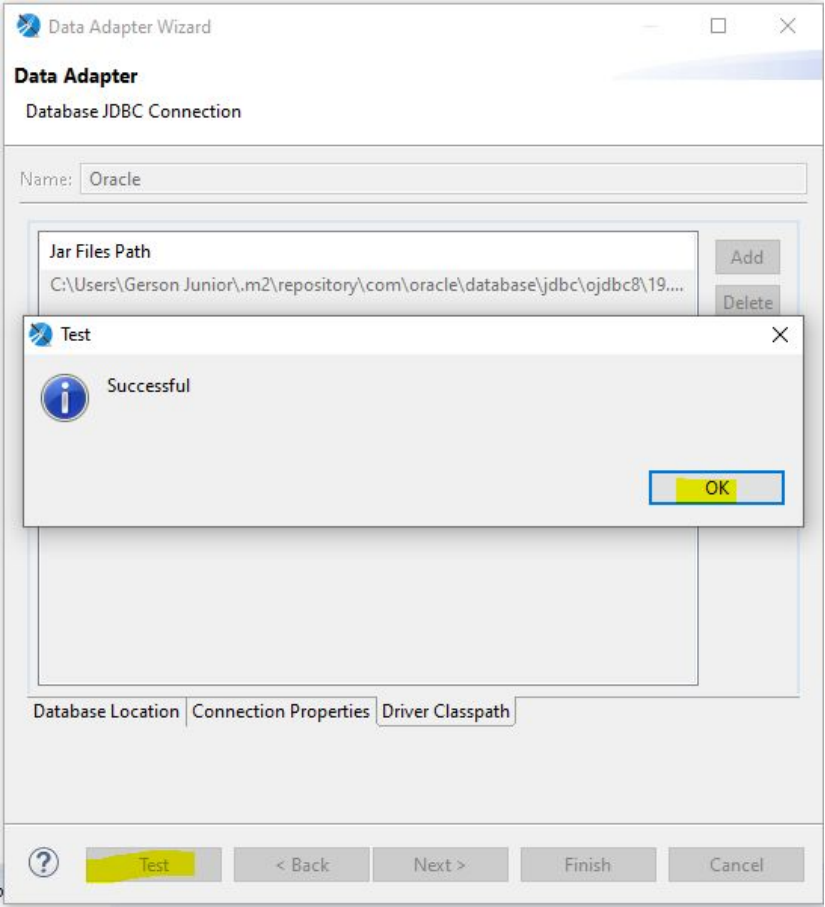
Jar Files Path

C:\Users\Gerson Junior\.m2\repository\com\oracle\database\jdbc\ojdbc8\19...

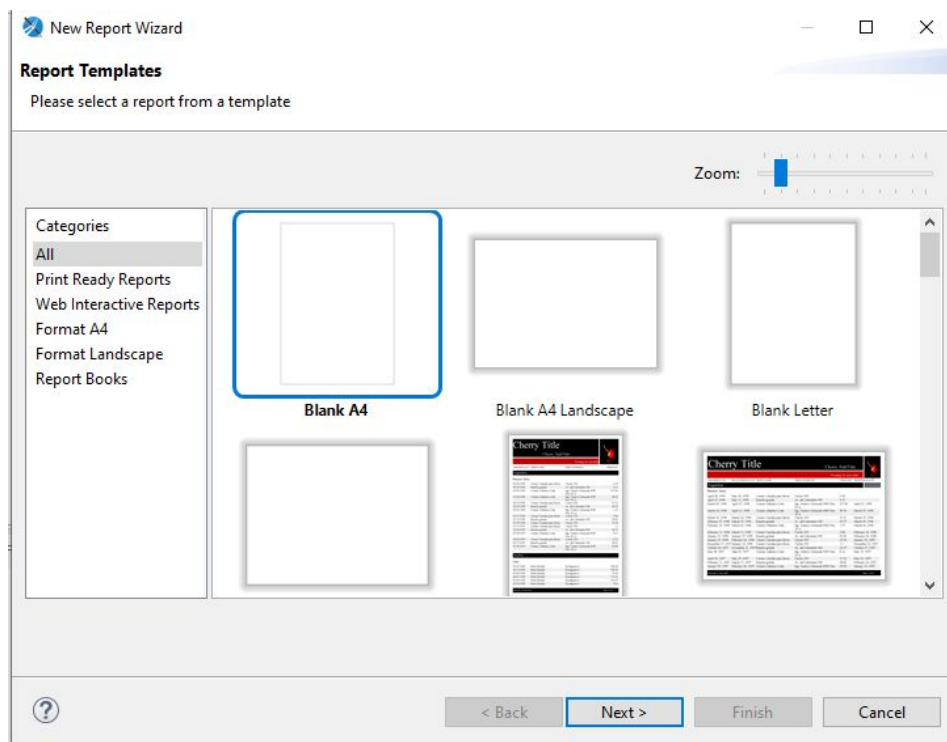
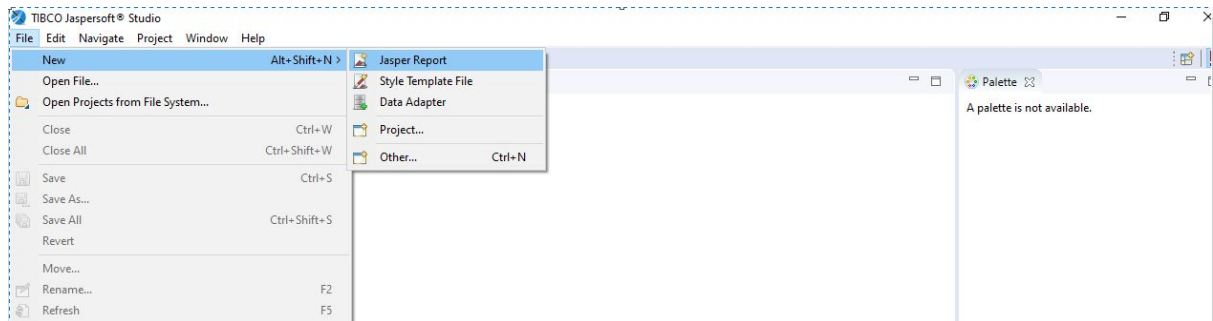
Add
Delete

Database Location | Connection Properties | Driver Classpath

? Test < Back Next > Finish Cancel



Criando novo projeto



New Report Wizard

Report file

Please select your reports file name with .jxml extension.

Enter or select the parent folder:

MyReports

MyReports

File name: relatorio_employees.jxml

< Back Next > Finish Cancel

New Report Wizard

Data Source

Select a Data Source and design the query.

Data Adapter Oracle - Database JDBC Connection New...

This data adapter does not provide any facility to retrieve the fields

< Back Next > Finish Cancel

New Report Wizard

Data Source

Select a Data Source and design the query.

Data Adapter

Oracle - Database JDBC Connection

New...

> ANONYMOUS

> APEX_PUBLIC_USER

> APEX_040000

> CTXSYS

> FLOWS_FILES

> HR

> MDSYS

> OUTLN

> SYS

> SYSTEM (CURRENT)

> XDB

> XSSNULL

1 select

2 e.first_name,

3 e.last_name,

4 e.phone_number,

5 e.hire_date,

6 e.salary

7 from employees e

Texts

Outline

Diagram

?

< Back

Next >

Finish

Cancel

New Report Wizard

Fields

Please select dataset fields

Dataset Fields

>

>>

<

<<

Fields

☐ FIRST_NAME

☐ LAST_NAME

☐ PHONE_NUMBER

☐ HIRE_DATE

☐ SALARY

Up

Down

?

< Back

Next >

Finish

Cancel

New Report Wizard

Finish

We are ready to create your report

Congratulations!

All the information to create your new report have been successfully acquired.

Press Finish to generate the report.

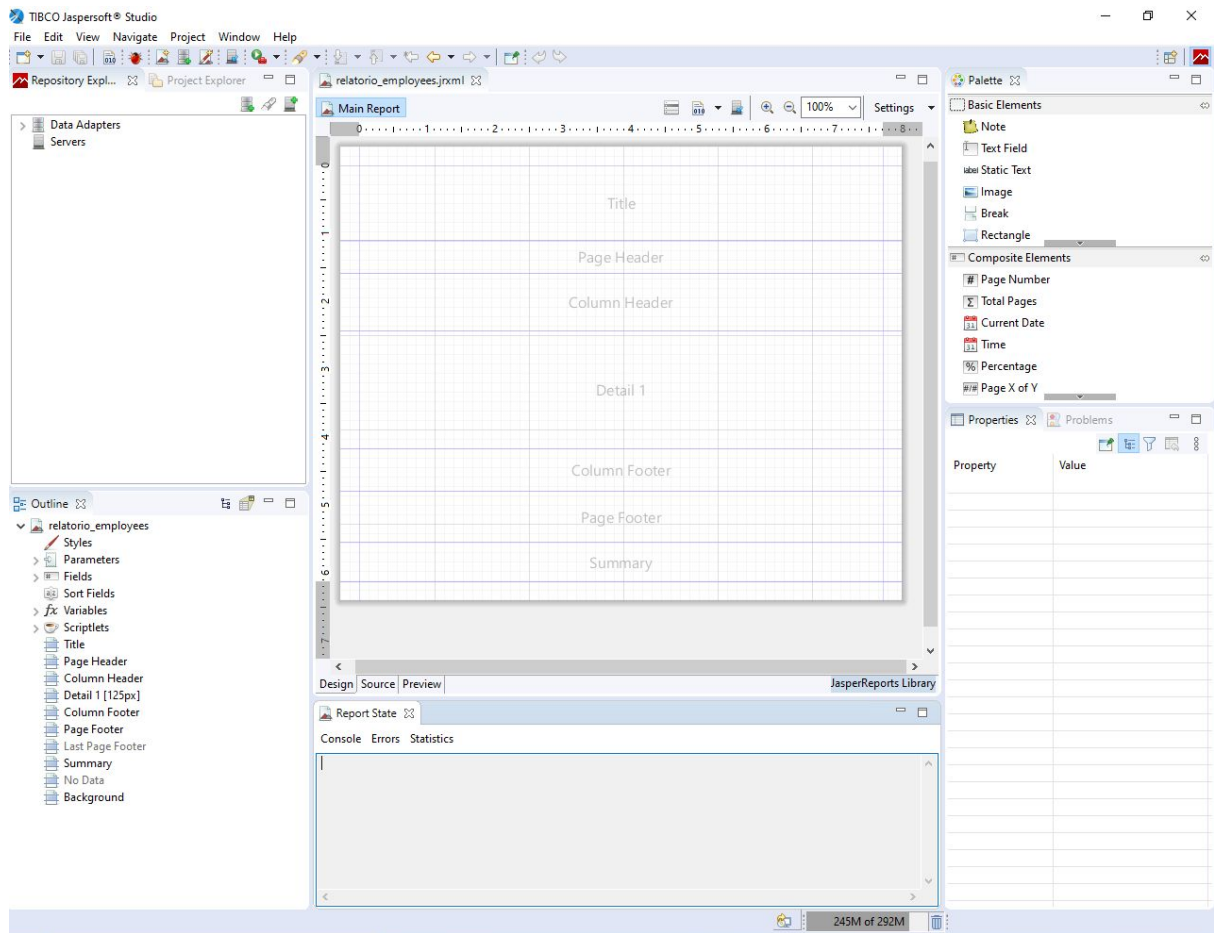
?

< Back

Next >

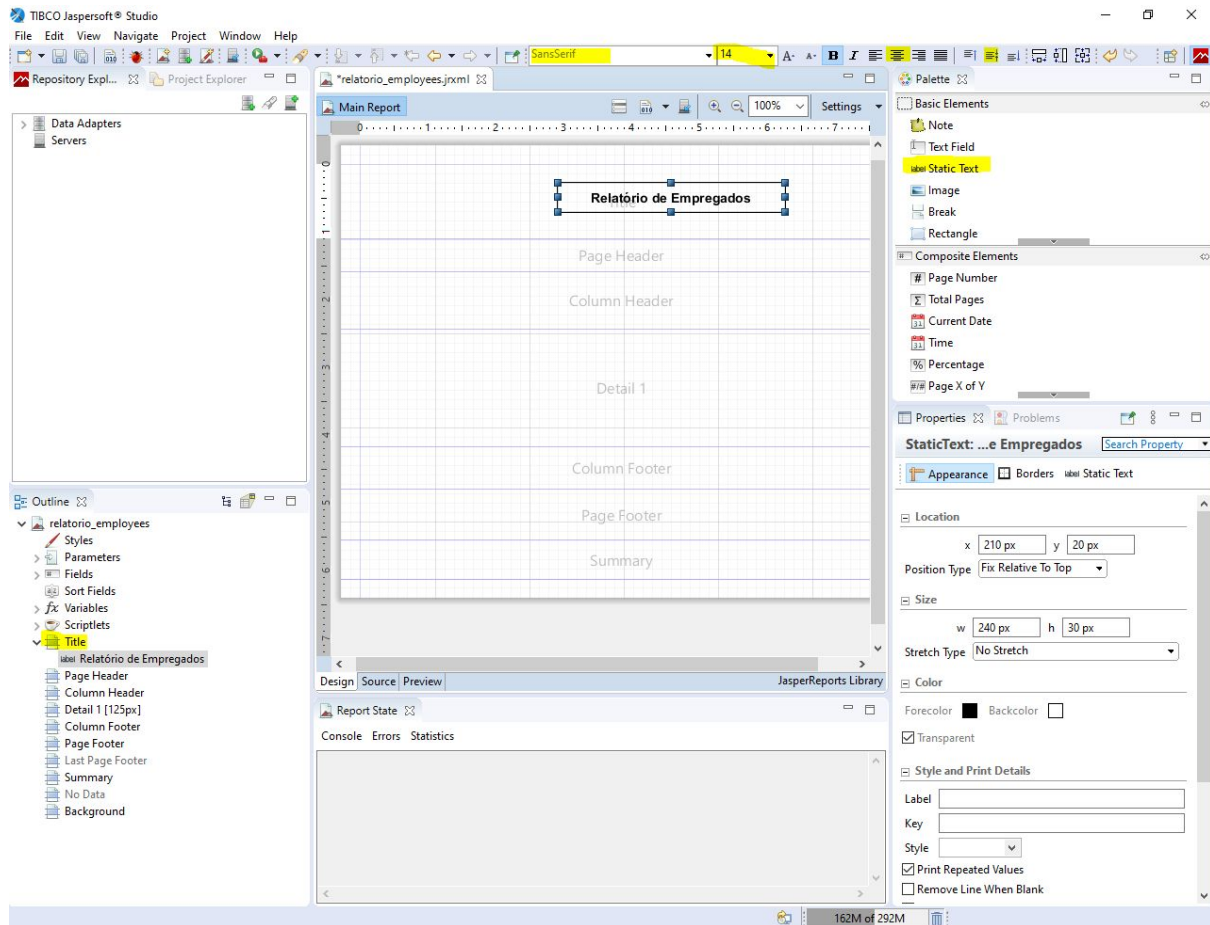
Finish

Cancel



Configurando relatório

bundle Title



bundle detail, column header

The screenshot displays the TIBCO JasperSoft Studio interface for a report named "Relatório de Empregados". The central design area shows a table structure with a header row containing fields: FIRST_NAME, LAST_NAME, PHONE_NUMBER, HIRE_DATE, and SALARY. Below the header is a large area labeled "Detail 1 [32px]", which is the main data bundle. The report is divided into sections: Page Header, Column Header, Page Footer, and Summary. The left sidebar shows the Outline pane with a tree view of the report structure, including Fields, Column Header, and Detail 1. The right sidebar shows the Properties pane for the selected element, with tabs for Appearance, Borders, and Static Text. The bottom pane shows the Report State and Console, displaying statistics such as Compilation Time (0.271 sec), Filling Time (0.894 sec), Report Execution Time (1.358 sec), Total Pages (6 pages), Processed Records Count (107 records), and Data Queried At (Mon Jan 11 09:17:32 GMT-03:00 2021).

Obs: A principal bundle é a detail, pois ela que itera os valores dos fields.

Vamos colocar o número de cada página na bundle page footer.

The screenshot shows the TIBCO JasperSoft Studio interface. The main report design area displays a report titled "Relatório de Empregados" with a table structure. The table has columns: FIRST_NAME, LAST_NAME, PHONE_NUMBER, HIRE_DATE, and SALARY. The report is divided into sections: Page Header, Column Header, Column Footer, Page Footer, and Summary. The Page Footer section is highlighted in yellow, and a text field is being added to it with the expression `*Page * + $V{PAGE_NUMBER}`. The Properties panel on the right shows the configuration for the text field, including its location (x: 430 px, y: 4 px), size (w: 100 px, h: 30 px), and stretch type (No Stretch). The Outline panel on the left shows the report structure, with the Page Footer section expanded. The Report State panel at the bottom shows the report execution statistics.

Relatório de Empregados

FIRST_NAME	LAST_NAME	PHONE_NUMBER	HIRE_DATE	SALARY
\$F{FIRST_NAME}	\$F{LAST_NAME}	\$F{PHONE_NUMBER}	\$F{HIRE_DATE}	\$F{SALARY}

Page Footer

`*Page * + $V{PAGE_NUMBER}`

Properties Panel:

- Text Field: `...AGE_NUMBER`
- Location: x: 430 px, y: 4 px
- Position Type: Fix Relative To Top
- Size: w: 100 px, h: 30 px
- Stretch Type: No Stretch
- Color: Forecolor: ☒ Backcolor: ☐
- Transparent: ☒
- Style and Print Details: Label: Key: Style:

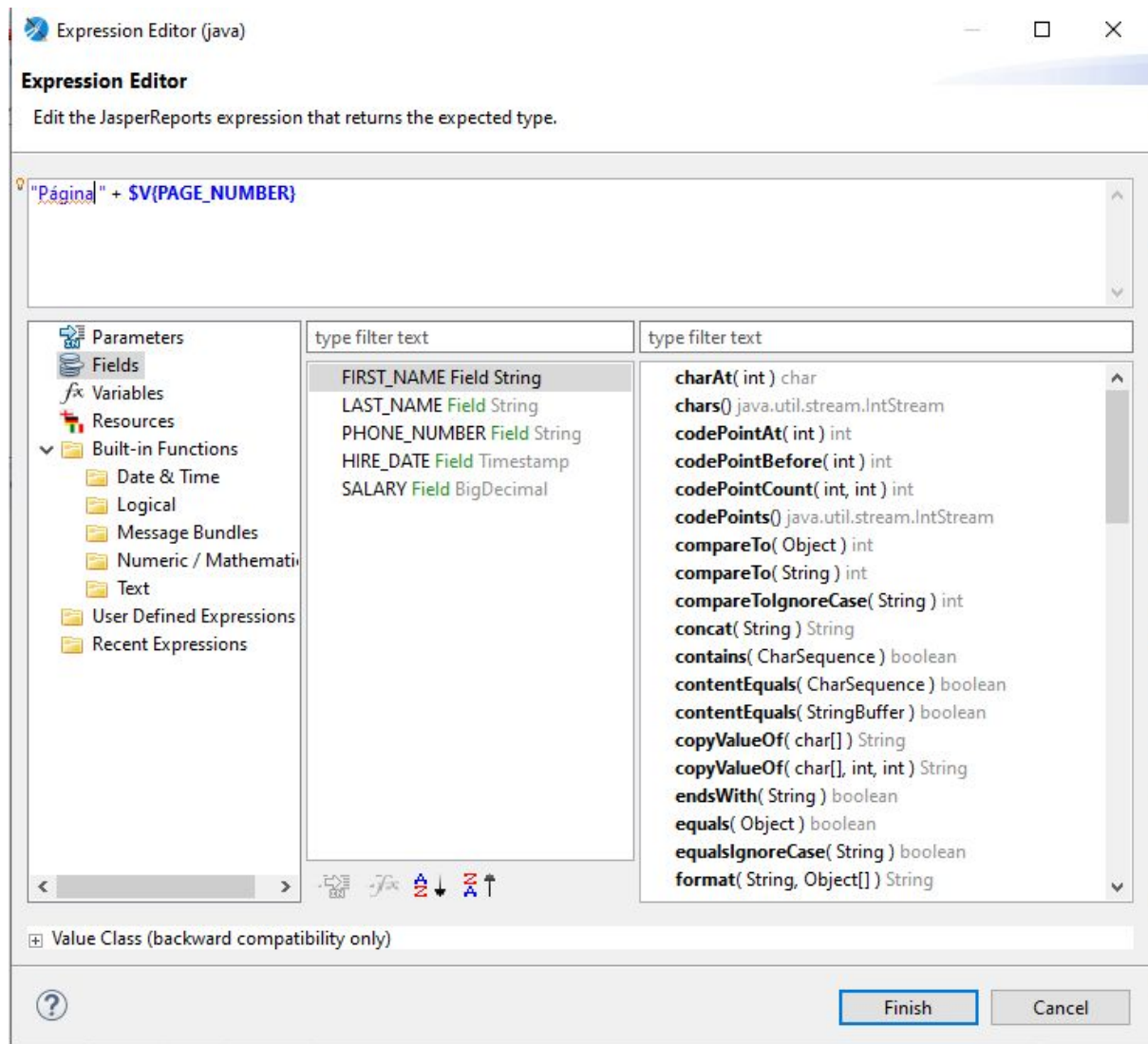
Report State:

Compilation Time	0,349 sec
Filling Time	0,915 sec
Report Execution Time	1,398 sec
Export Time	0 sec
Total Pages	6 pages
Processed Records Count	107 records
Fill Size	0 bytes
Data Queried At	Mon Jan 11 09:21:42 GMT-03:00 2021

Editar fields do relatório

Clique duas vezes no elemento

Exemplo contador de páginas na banda page footer



Criando total de salários

Após criar uma variável adicione o tipo no caso do exemplo BigDecimal e coloque o tipo de cálculo que ele irá fazer “Sum”, na expression referência o field que será somado, após isso adicione a variável total a bundle summary.

The screenshot displays the TIBCO JasperSoft Studio interface. The central workspace shows a report titled "Relatório de Empregados" with a table structure. The table has columns: FIRST_NAME, LAST_NAME, PHONE_NUMBER, HIRE_DATE, and SALARY. The report includes sections for Page Header, Column Footer, Page Footer, and Summary. The Summary section contains a row for "Total" with the expression `$(TOTAL)`.

On the left, the Outline pane shows the report structure, with the "Summary" section expanded, highlighting the `$(TOTAL)` variable.

On the right, the Properties pane shows the configuration for the variable `Variable: TOTAL`. The Name is set to "TOTAL", the Value Class Name is `java.math.BigDecimal`, the Calculation is set to "Sum", and the Expression is `$(SALARY)`.

At the bottom, the Console pane displays the Report State statistics:

Report State	Statistics
Compilation Time	0,086 sec
Filling Time	1,016 sec
Report Execution Time	1,499 sec
Export Time	0 sec
Total Pages	6 pages
Processed Records Count	107 records
Fill Size	0 bytes
Data Queried At	Mon Jan 11 09:40:55 GMT-03:00 2021

Desativar bundles que não iremos usar

The screenshot shows the TIBCO JasperSoft Studio interface. The main workspace displays a report design for 'Relatório de Empregados'. The report structure includes a Title band, a Page Header band, a Column Header band, a Detail band, a Column Footer band, a Page Footer band, and a Summary band. The Detail band contains a table with columns: FIRST_NAME, LAST_NAME, PHONE_NUMBER, HIRE_DATE, and SALARY. The Summary band contains a 'Total' row with a calculated field \$V(TOTAL). The Page Footer band contains a field for page number: "Página " + \$V(PAGE_NUMBER). The Outline pane on the left shows the report structure, and a context menu is open over the 'Page Header' band, highlighting the 'Hide the band content' option. The context menu also includes options like 'Undo Resize Band', 'Redo', 'Delete', 'Show Properties', and 'Show the band content of the band, can be used to improve the performances'.

TIBCO JasperSoft® Studio

File Edit View Navigate Project Window Help

Reposito... Project E... *relatorio_employees.jrxml

Main Report

0 1 2 3 4 5 6 7 8

Relatório de Empregados

Page Header

FIRST_NAME	LAST_NAME	PHONE_NUMBER	HIRE_DATE	SALARY
\$F{FIRST_NAME}	\$F{LAST_NAME}	\$F{PHONE_NUMBER}	\$F{HIRE_DATE}	\$F{SALARY}

Column Footer

Page Footer

Summary

Total

\$V(TOTAL)

"Página " + \$V(PAGE_NUMBER)

Outline

- relatorio_employees
 - Styles
 - Parameters
 - Fields
 - Sort Fields
 - Variables
 - Scriptlets
 - Title
 - Page Header
 - Column Header
 - Detail
 - Column Footer
 - Page Footer
 - Last Page
 - Summary
 - No Data
 - Background

Context Menu:

- Undo Resize Band
- Redo
- Delete
- Show Properties
- Hide the band content
- Show the band content of the band, can be used to improve the performances

Design Source Preview

Report State

JasperReports Library

Visualizando relatório

The screenshot displays the TIBCO JasperSoft Studio interface. The main window shows a report titled "relatorio_employees.jrxml" in the "Preview" tab. The report content is a table with the following data:

FIRST_NAME	LAST_NAME	PHONE_NUMBER	HIRE_DATE	SALARY
Steven	King	515.123.4567	17/06/87 00:00	R\$24.000
Neena	Kochhar	515.123.4568	21/09/89 00:00	R\$17.000
Lex	De Haan	515.123.4569	13/01/93 00:00	R\$17.000
Alexander	Hunold	590.423.4567	03/01/90 00:00	R\$9.000
Bruce	Emet	590.423.4568	21/05/91 00:00	R\$6.000
David	Austin	590.423.4569	25/06/97 00:00	R\$4.800
Valli	Pataballa	590.423.4560	05/02/98 00:00	R\$4.800
Diana	Lorentz	590.423.5567	07/02/99 00:00	R\$4.200
Nancy	Greenberg	515.124.4569	17/08/94 00:00	R\$12.000
Daniel	Faviet	515.124.4169	16/08/94 00:00	R\$9.000
John	Chen	515.124.4269	28/09/97 00:00	R\$8.200
Ismael	Sciarra	515.124.4369	30/09/97 00:00	R\$7.700
Jose Manuel	Urman	515.124.4469	07/03/98 00:00	R\$7.800
Luis	Popp	515.124.4567	07/12/99 00:00	R\$6.900

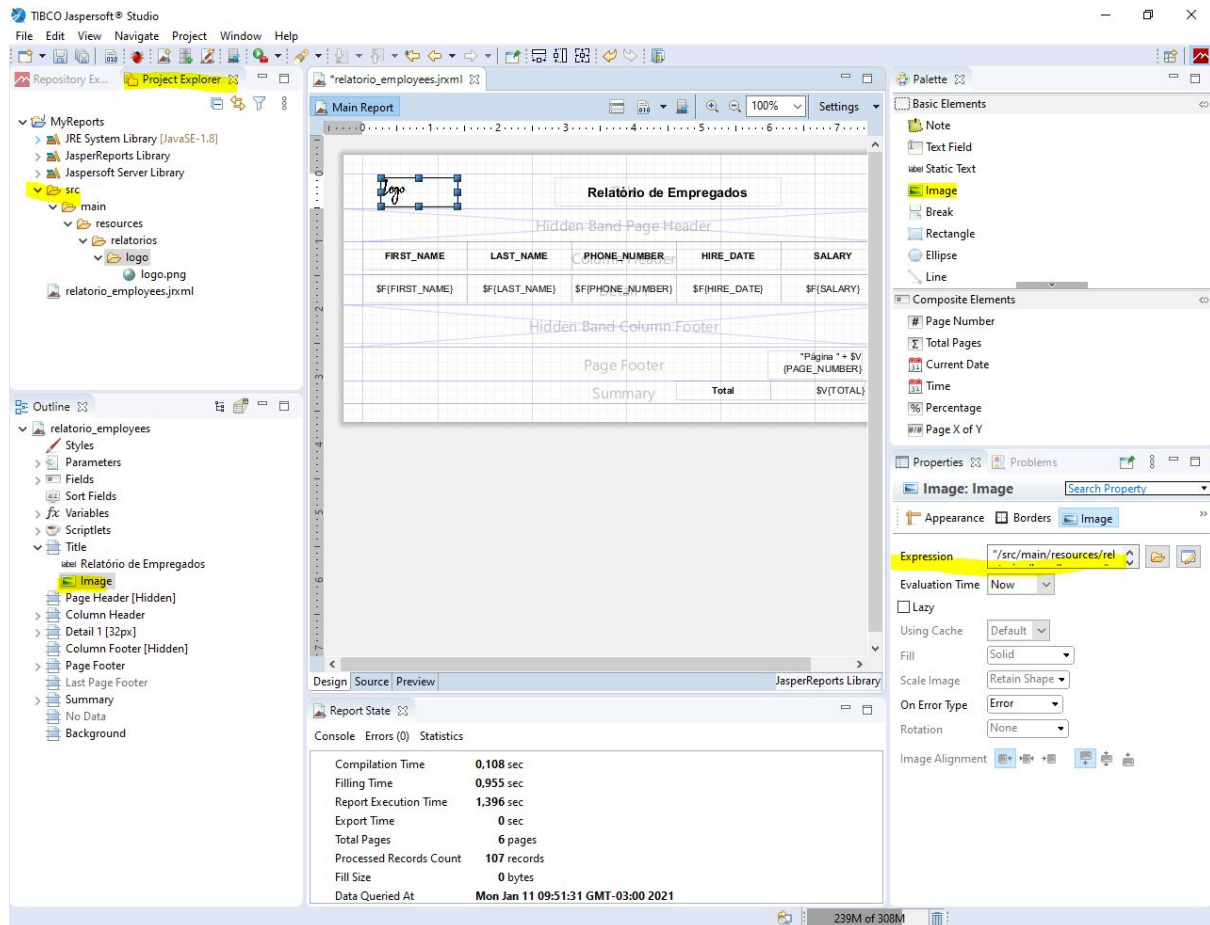
The interface includes a "Report State" window at the bottom left showing statistics:

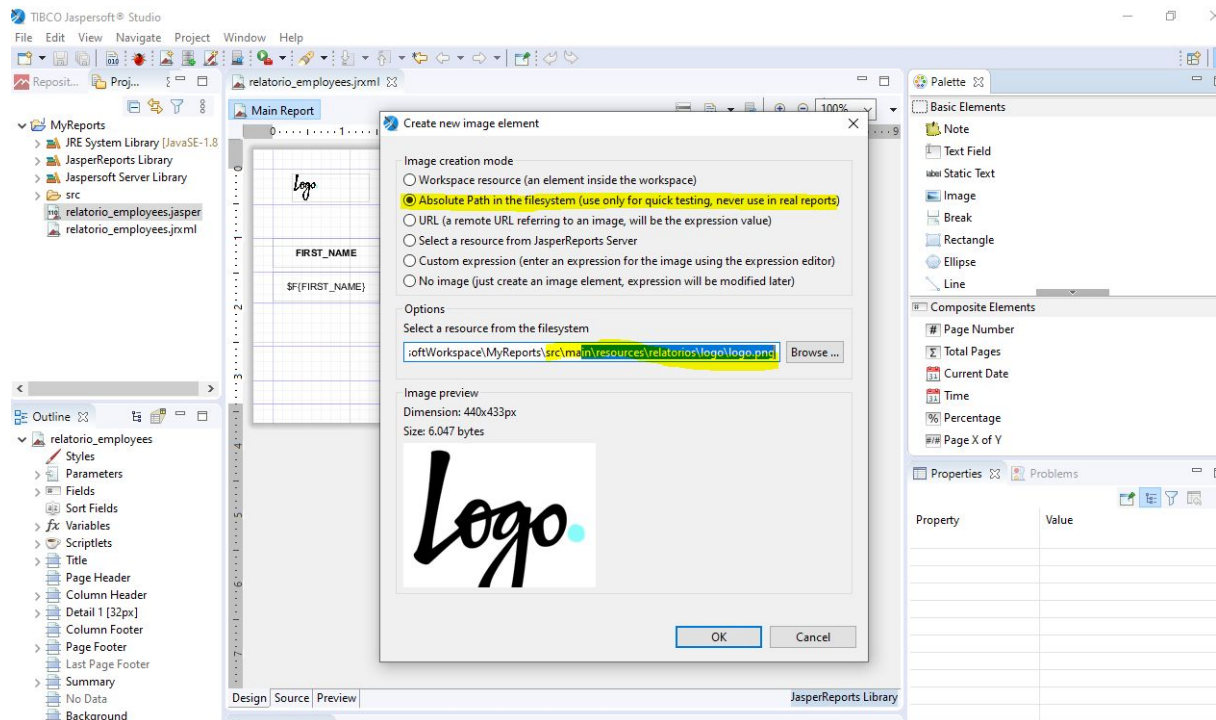
- Compilation Time: 0,086 sec
- Filling Time: 1,016 sec
- Report Execution Time: 1,499 sec
- Export Time: 0 sec
- Total Pages: 6 pages
- Processed Records Count: 107 records
- Fill Size: 0 bytes
- Data Queried At: Mon Jan 11 09:40:55 GMT-03:00 2021

The right sidebar contains a "Palette" with "Basic Elements" and "Composite Elements", and a "Properties" window for the selected element, showing "Layout" (Free Layout) and "Band Properties" (Height: 35 px, Split Type: Stretch).

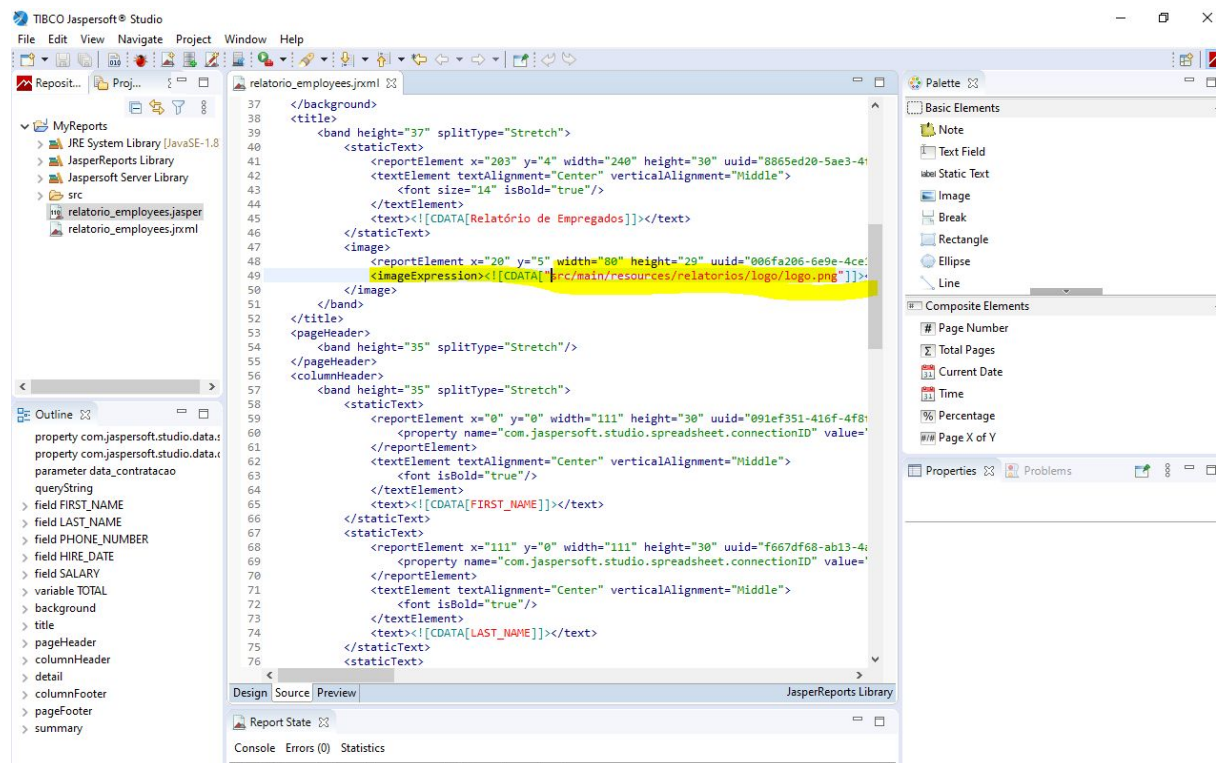
Adicionando imagem logo

Crie a estrutura de pasta no workspace do JasperSoft Studio
src/main/resources/relatorios/logo e cole a imagem em png nesse diretório.



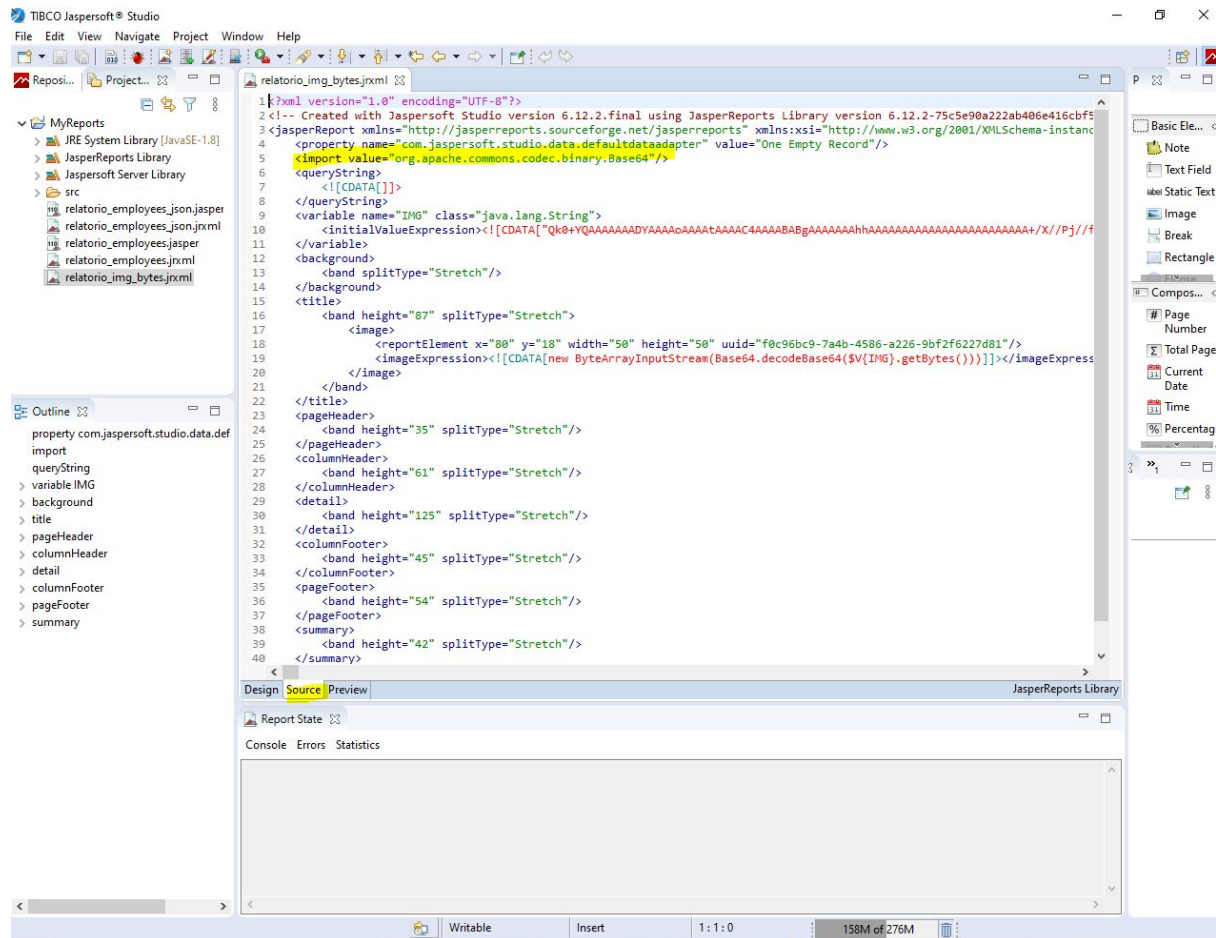


Retire a primeira barra antes do "src"

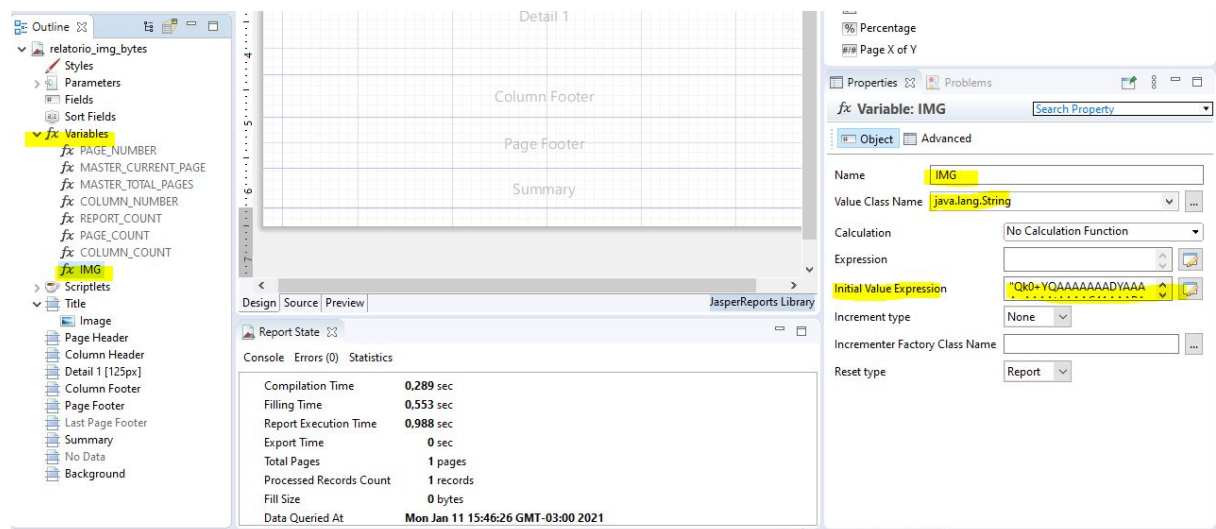


Adicionando imagem/logo em base64

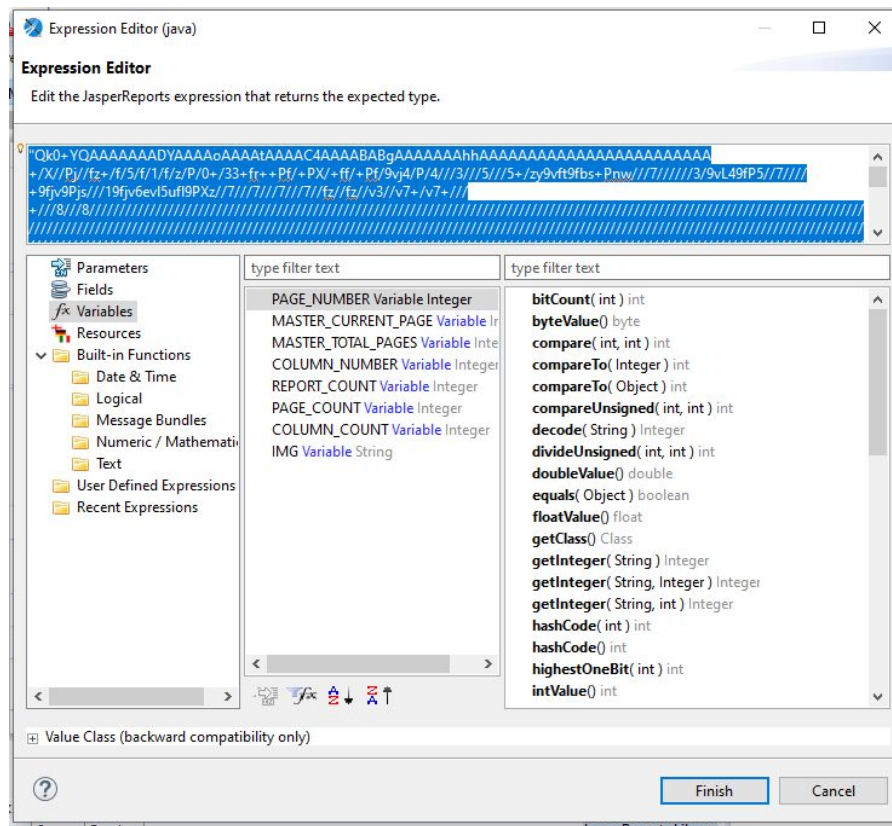
<import value="org.apache.commons.codec.binary.Base64"/>



Crie uma variável do tipo String



Cole o base64



TIBCO JasperSoft® Studio

File Edit View Navigate Project Window Help

Repository Project... relatorio_img_bytes.jrxml

MyReports

- JRE System Library [JavaSE-1.8]
- JasperReports Library
- Jaspersoft Server Library
- src
 - relatorio_employees_json.jasper
 - relatorio_employees_json.jrxml
 - relatorio_employees.jasper
 - relatorio_employees.jrxml
 - relatorio_img_bytes.jrxml

Outline

- relatorio_img_bytes
 - Styles
 - Parameters
 - Fields
 - Sort Fields
 - Variables
 - fx: PAGE_NUMBER
 - fx: MASTER_CURRENT_PAGE
 - fx: MASTER_TOTAL_PAGES
 - fx: COLUMN_NUMBER
 - fx: REPORT_COUNT
 - fx: PAGE_COUNT
 - fx: COLUMN_COUNT
 - fx: IMG
 - Scriptlets
 - Title
 - Image
 - Page Header
 - Column Header
 - Detail 1 [125px]
 - Column Footer
 - Page Footer
 - Last Page Footer
 - Summary
 - No Data
 - Background

Main Report

0 1 2 3 4 5 6 7

Title

Page Header

Column Header

Detail 1

Column Footer

Page Footer

Summary

Design Source Preview JasperReports Library

Report State

Console Errors (0) Statistics

Compilation Time	0.289 sec
Filling Time	0.553 sec
Report Execution Time	0.988 sec
Export Time	0 sec
Total Pages	1 pages
Processed Records Count	1 records
Fill Size	0 bytes
Data Queried At	Mon Jan 11 15:46:26 GMT-03:00 2021

Properties

Image: Image

Expression: new ByteArrayInputStream

Evaluation Time: Now

Lazy: ☐

Using Cache: Default

Fill: Solid

Scale Image: Retain Shape

On Error Type: Error

Rotation: None

Image Alignment: [Icons]

Definition of the expression that will be used to determine the image to be displayed.

211M of 254M

Create new image element

×

Image creation mode

☐ Workspace resource (an element inside the workspace)

☐ Absolute Path in the filesystem (use only for quick testing, never use in real reports)

☐ URL (a remote URL referring to an image, will be the expression value)

☐ Select a resource from JasperReports Server

☒ Custom expression (enter an expression for the image using the expression editor)

☐ No image (just create an image element, expression will be modified later)

Options

Enter a custom expression for the resource:

⬆⬇




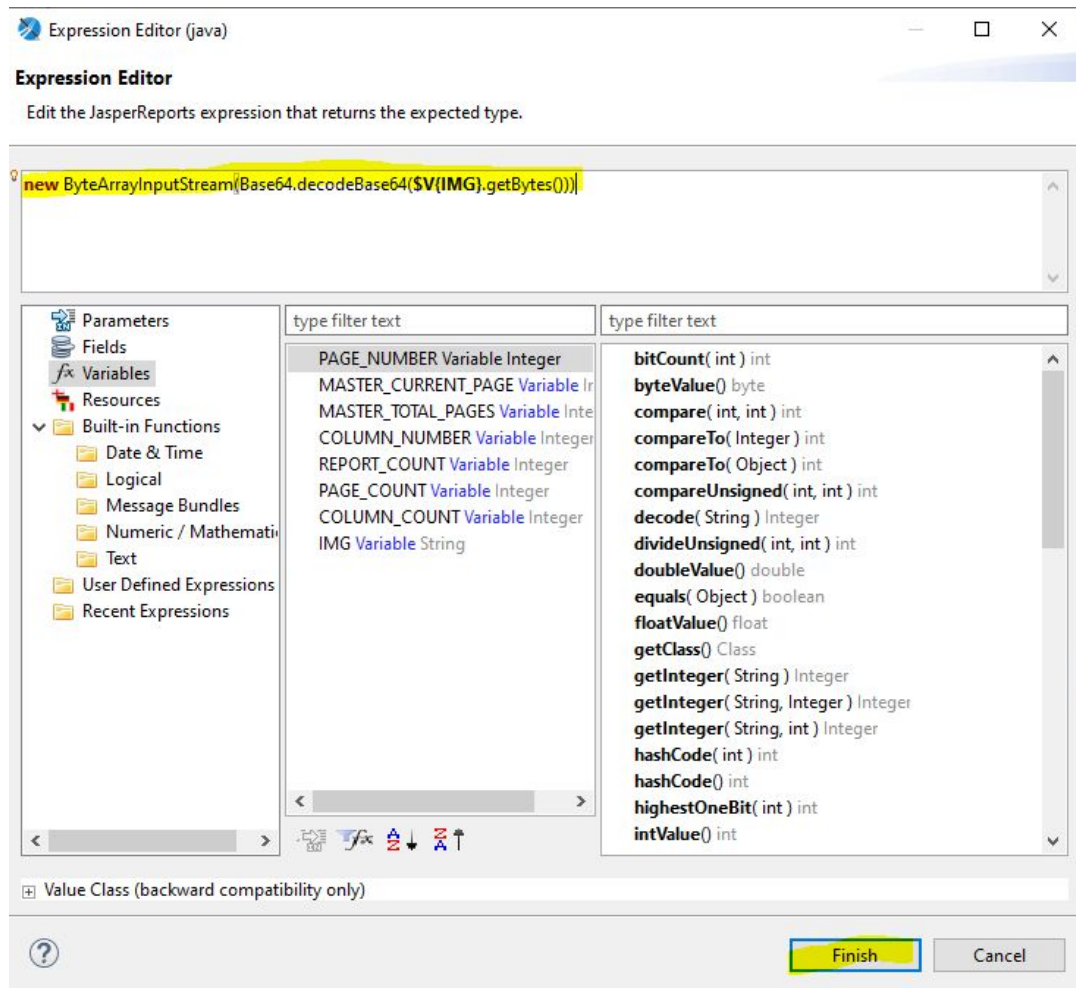
Image preview

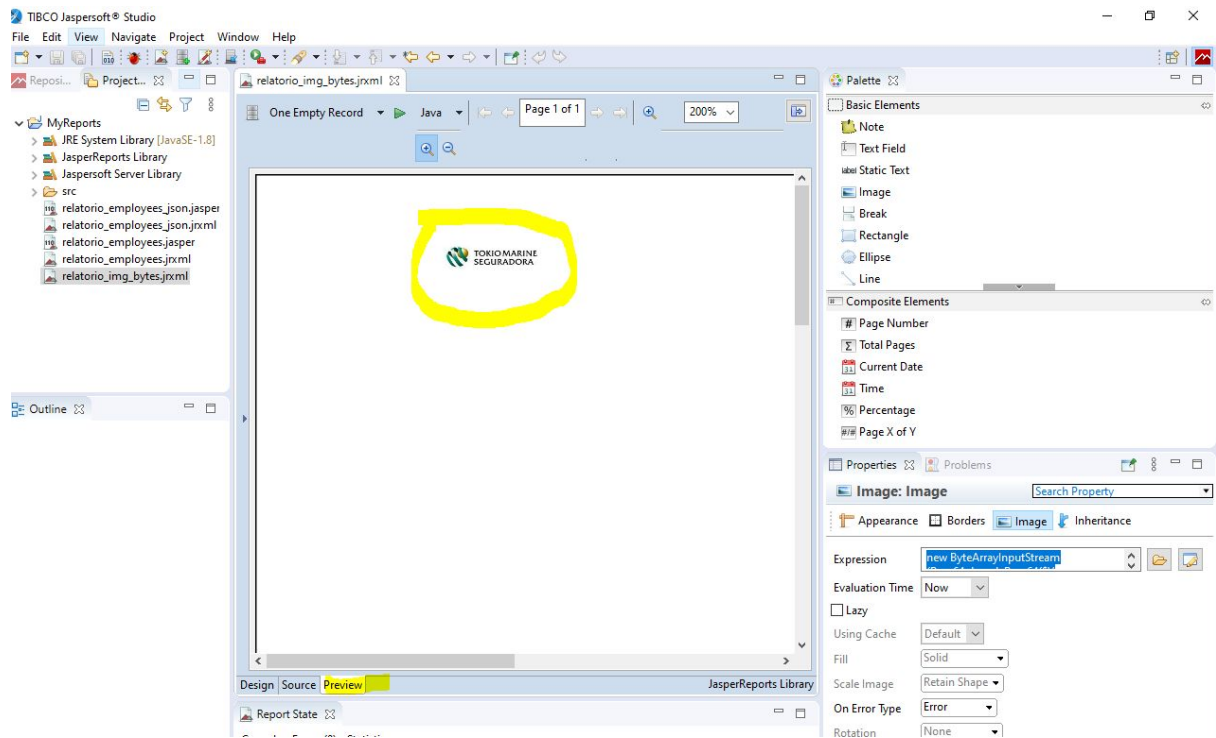
<No preview image available>

OK

Cancel

```
new ByteArrayInputStream(Base64.decodeBase64($V{IMG}.getBytes()))
```





Formatando field de Dados

The screenshot displays the TIBCO JasperSoft Studio interface. The central workspace shows a report titled "Relatório de Empregados" with a table structure. The table has columns for FIRST_NAME, LAST_NAME, PHONE_NUMBER, HIRE_DATE, and SALARY. The HIRE_DATE field is highlighted in yellow, and its properties are being configured in the right-hand Properties panel.

Report Structure:

- Hidden Band-Page Header
- Column Header
- Table Body:
 - Row 1: FIRST_NAME, LAST_NAME, PHONE_NUMBER, HIRE_DATE, SALARY
 - Row 2: \$F{FIRST_NAME}, \$F{LAST_NAME}, \$F{PHONE_NUMBER}, \$F{HIRE_DATE}, \$F{SALARY}
- Hidden Band-Column Footer
- Page Footer
- Summary

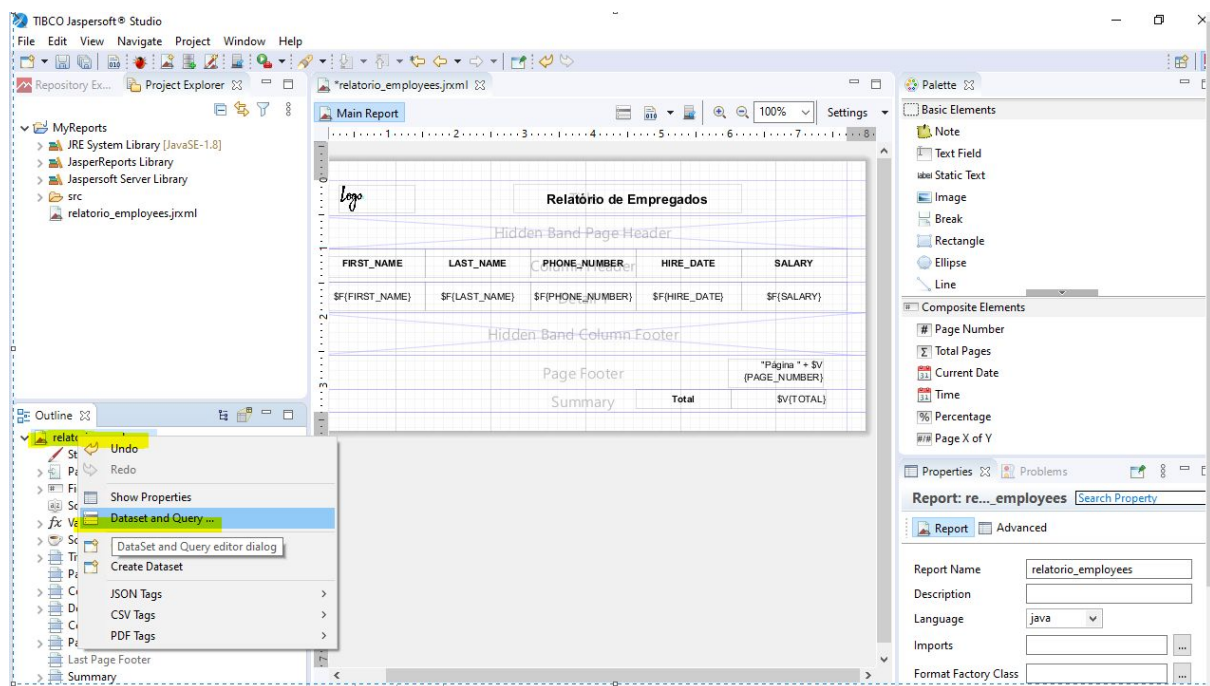
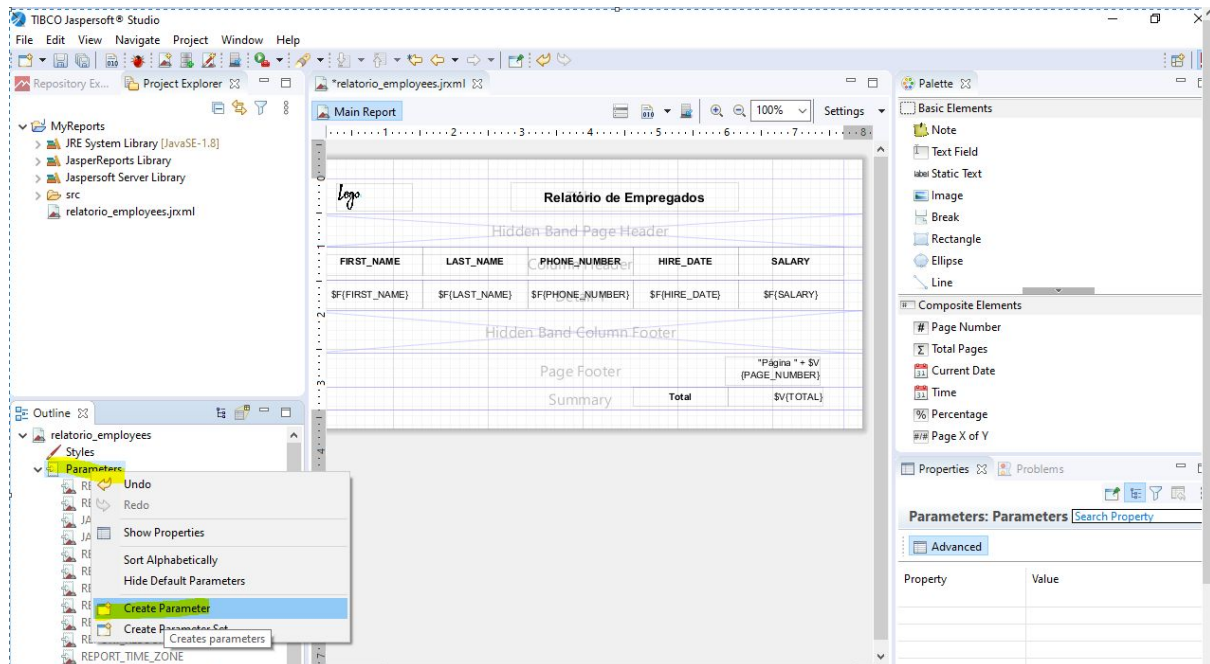
Properties Panel (TextField...HIRE_DATE):

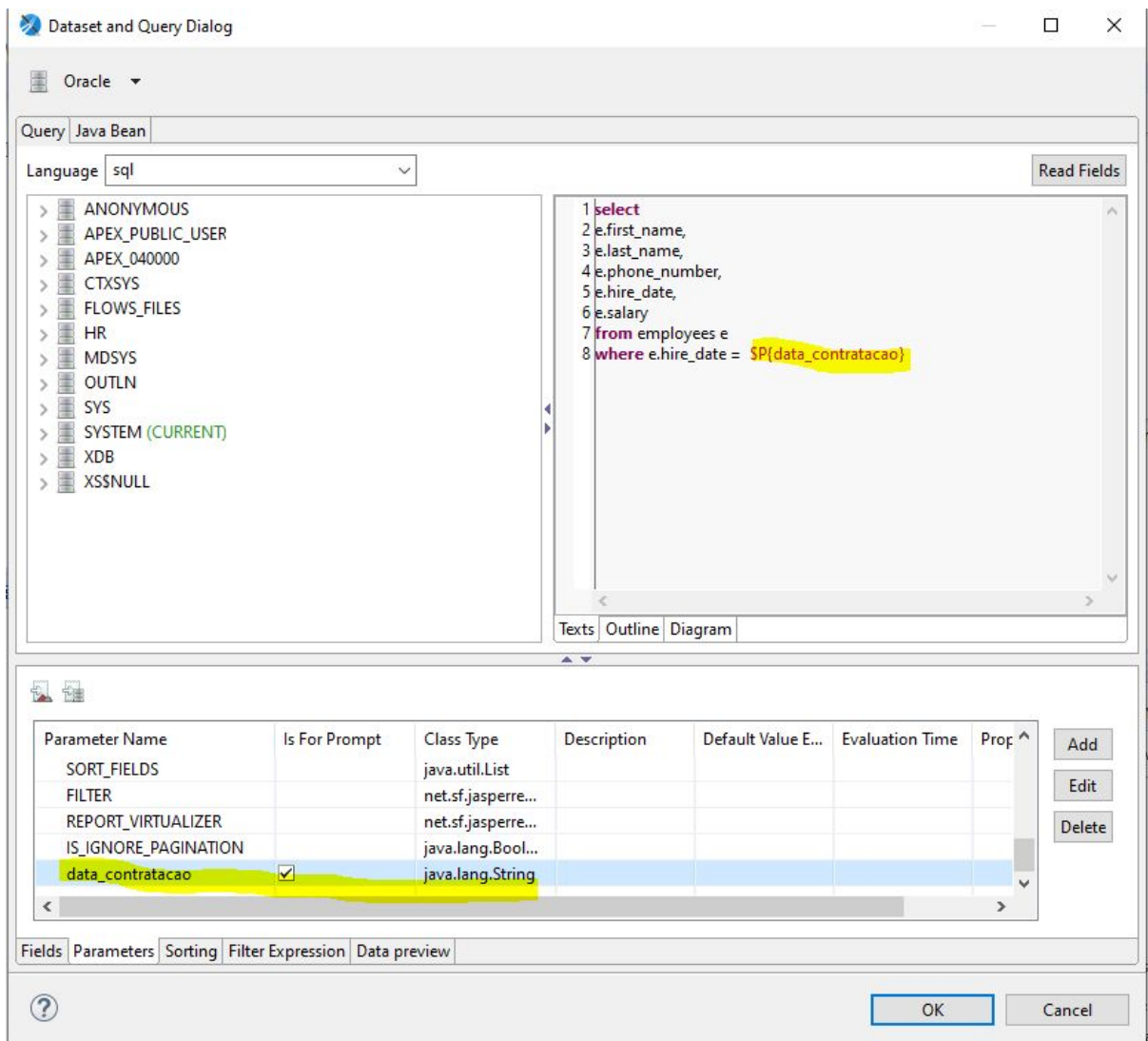
- Expression: \$F{HIRE_DATE}
- Evaluation Time: Now
- Text Adjust: CutText
- Blank When NULL: ☐
- Pattern: dd/MM/yyyy
- Pattern Expression: (empty)
- Text Alignment: Left
- Rotation: 0°
- Font: SansSerif, 10
- Markup: none

Report State Console:

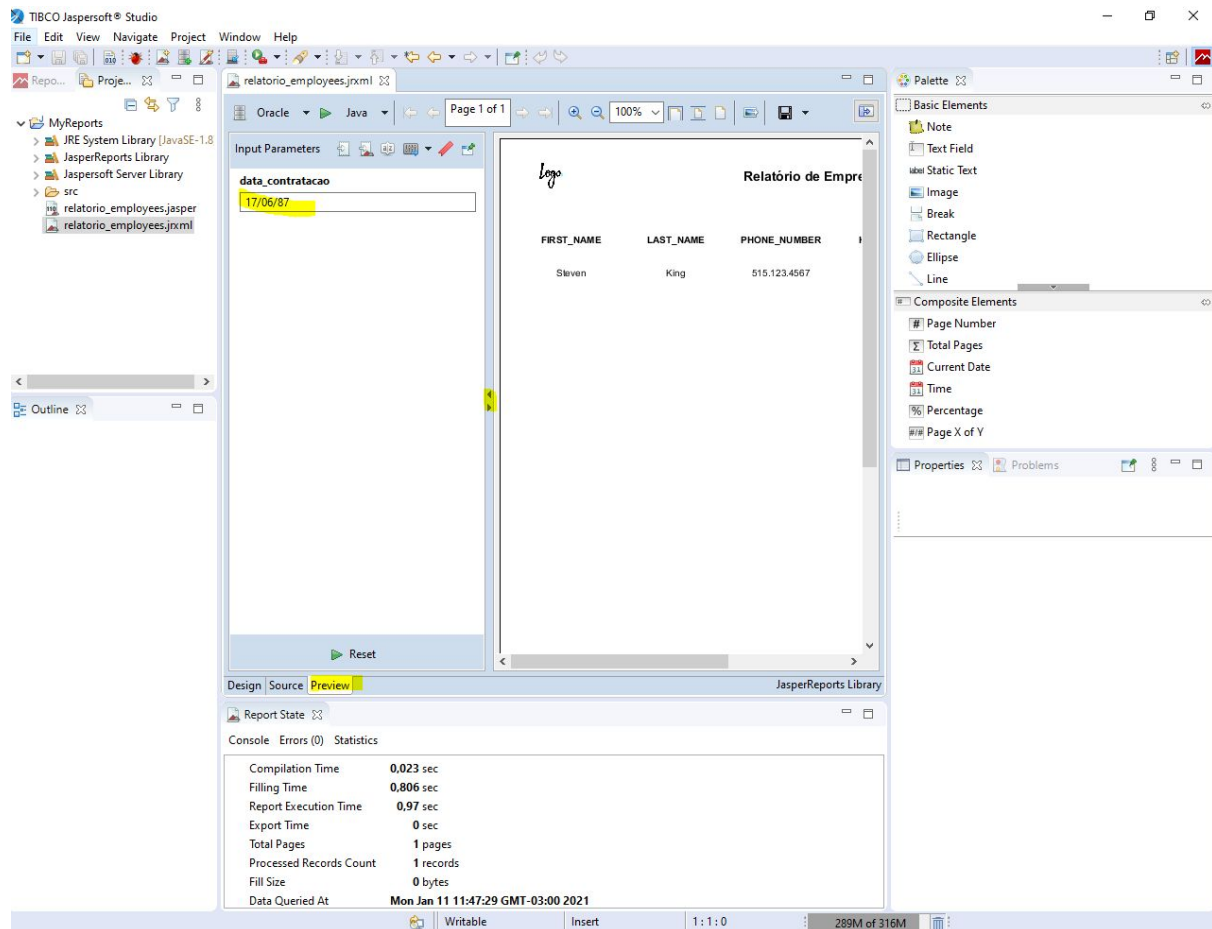
Compilation Time	0.042 sec
Filling Time	0.97 sec
Report Execution Time	1.389 sec
Export Time	0 sec
Total Pages	6 pages
Processed Records Count	107 records
Fill Size	0 bytes
Data Queried At	Mon Jan 11 10:15:48 GMT-03:00 2021

adicionando parâmetros

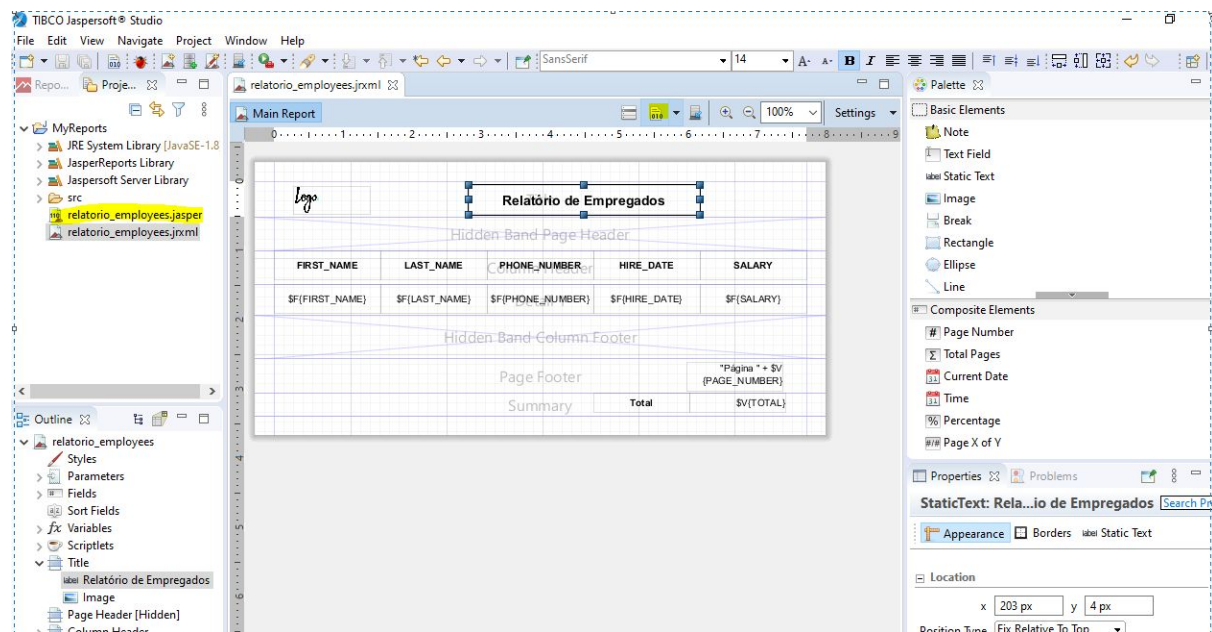




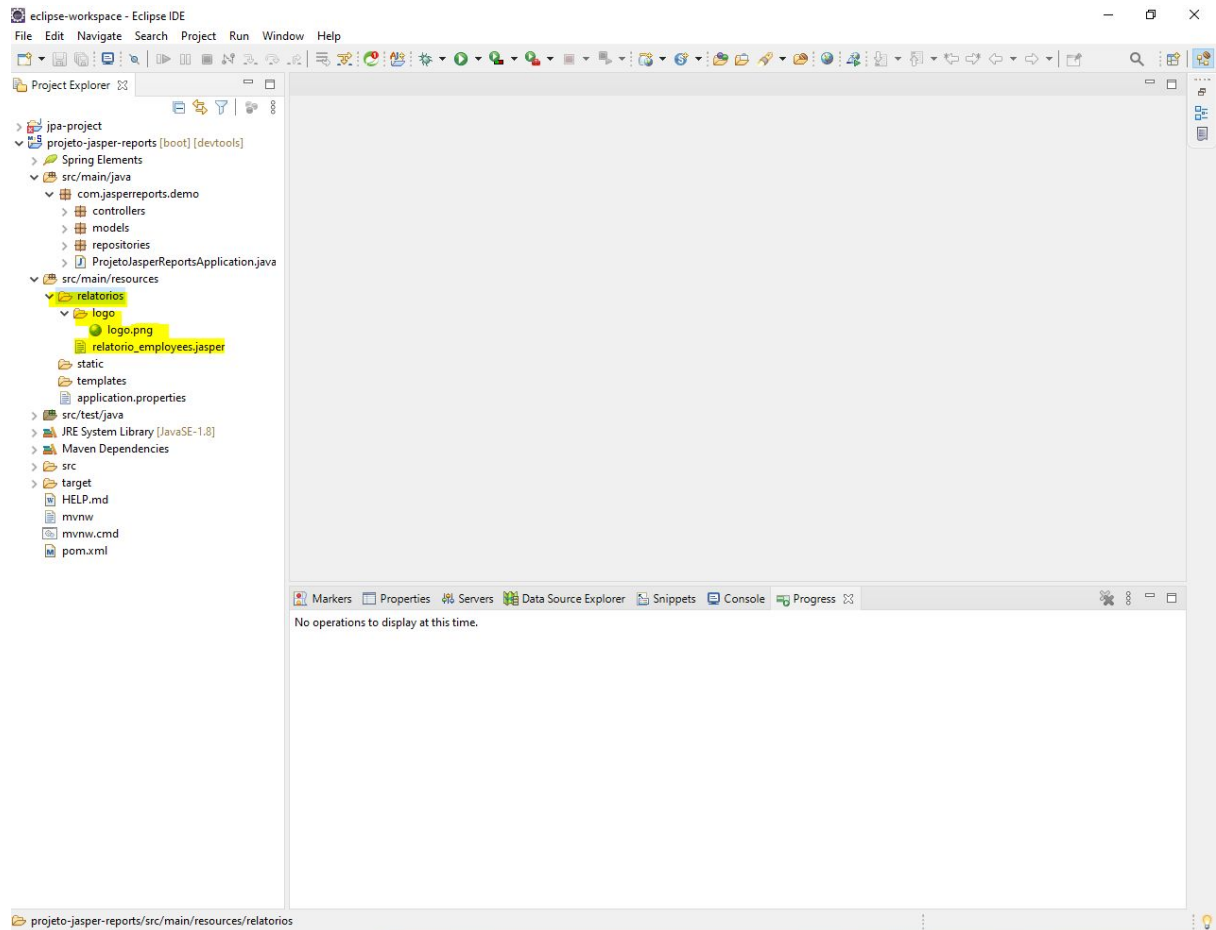
Testando parâmetros



Compilando projeto



Exportar relatórios usando java/spring



```
<!-- JasperReports -->
```

```
<dependency>
```

```
    <groupId>net.sf.jasperreports</groupId>
```

```
    <artifactId>jasperreports</artifactId>
```

```
    <version>6.6.0</version>
```

```
</dependency>
```

```
<!-- JasperReports Fonts -->
```

```
<dependency>
```

```
    <groupId>net.sf.jasperreports</groupId>
```

```
    <artifactId>jasperreports-fonts</artifactId>
```

```
    <version>6.0.0</version>
```

```
    <scope>compile</scope>
```

```
</dependency>
```

Controller

```
@PostMapping("/db")
public ResponseEntity<byte[]> relatorioDb(@RequestBody ParametrosDTO
dto) throws Exception {

    byte[] relatorio = relatorioService.exportRelatorioDb(dto);
    return ResponseEntity.ok()
        .header("Content-Disposition", "attachment;
filename=relatorio_employees_"+LocalDate.now()+".pdf")
        .body(relatorio);

}
```

Service

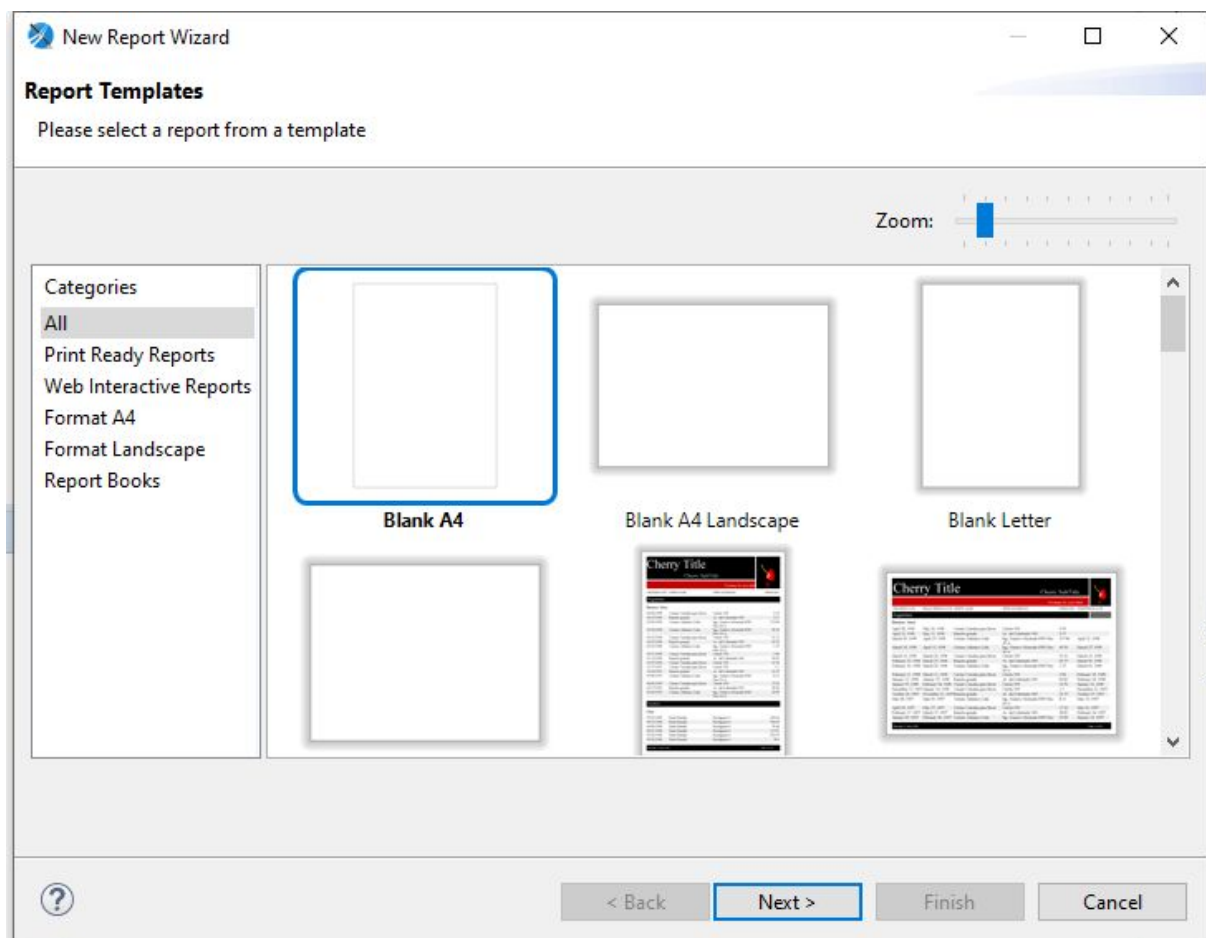
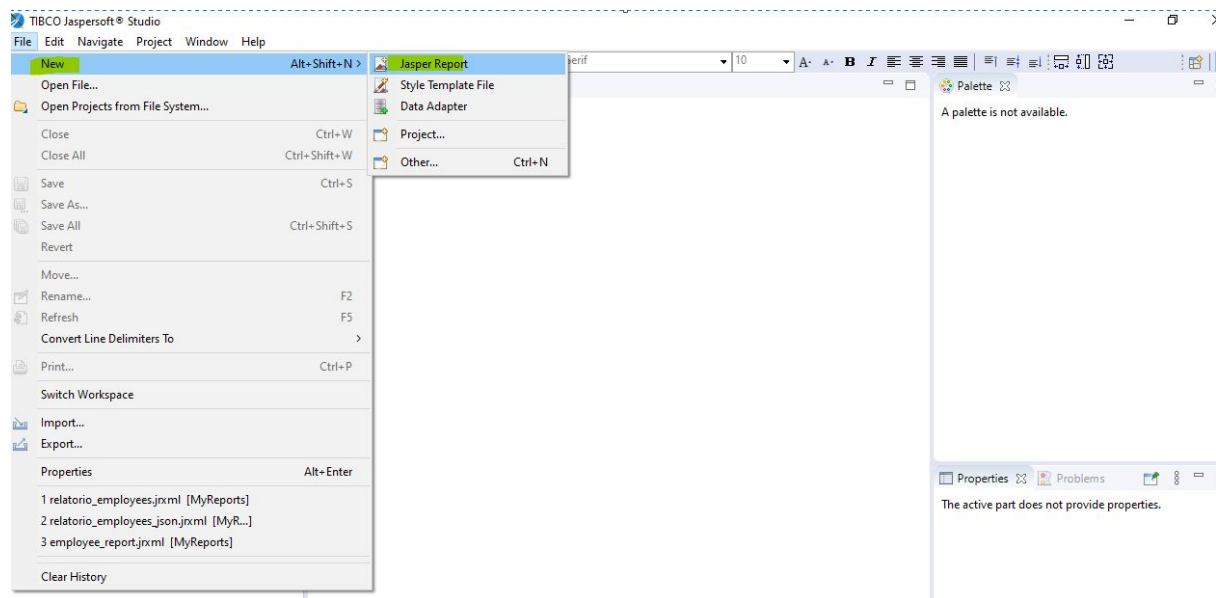
```
public byte[] exportRelatorioDb(ParametrosDTO dto) throws SQLException,
JRException {

    Map<String, Object> parametros = new HashMap<>();
    parametros.put("data_contratacao", dto.getDataContratacao());
    parametros.put("REPORT_LOCALE", new Locale("pt", "BR"));

    InputStream inputStream =
this.getClass().getResourceAsStream("/relatorios/relatorio_employees.jasper");

    Connection con = this.dataSource.getConnection();
    JasperPrint jasperPrint = JasperFillManager.fillReport(inputStream,
parametros, con);
    con.close();
    return JasperExportManager.exportReportToPdf(jasperPrint);
}
```

Relatório com informações vindas de uma requisição rest



New Report Wizard

Report file

Please select your reports file name with .jrxml extension.

Enter or select the parent folder:

MyReports

MyReports

File name: relatorio_teste.jrxml

< Back Next > Finish Cancel

New Report Wizard

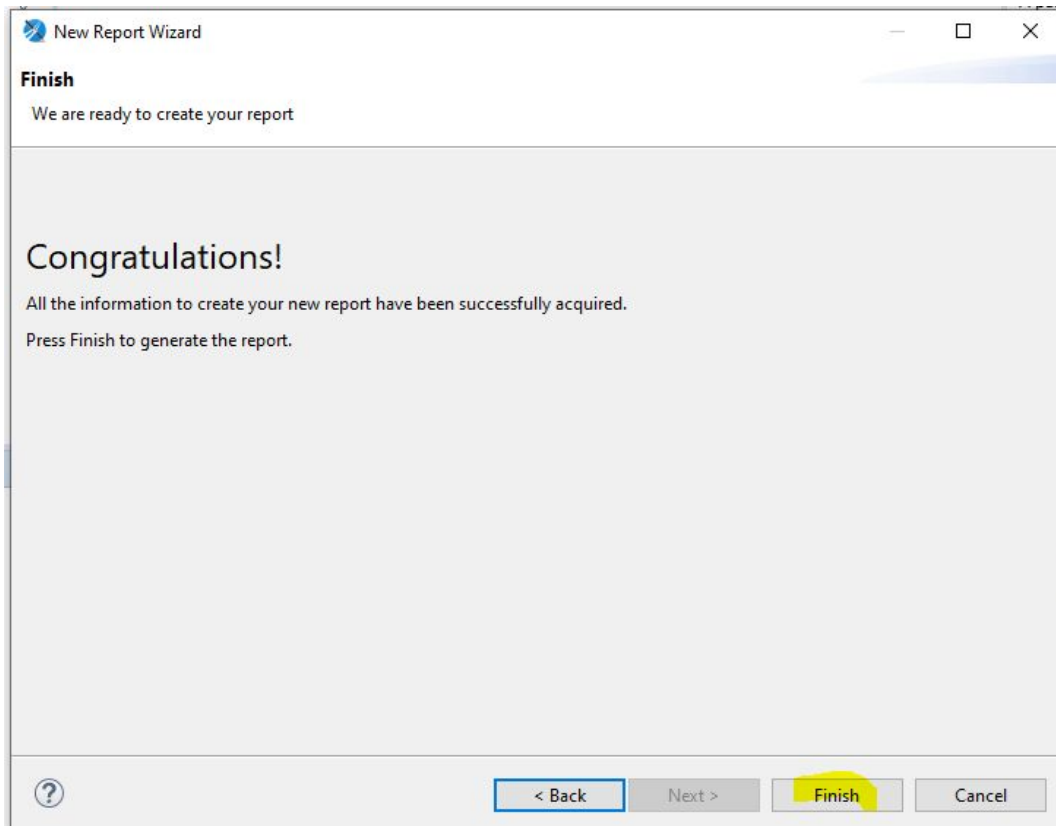
Data Source

Select a Data Source and design the query.

Data Adapter One Empty Record - Empty rows New...

This data adapter does not provide any facility to retrieve the fields

< Back Next > Finish Cancel



Crie os fields com tipo e nome de acordo com os dados retornados

The screenshot displays the TIBCO JasperSoft Studio interface. The central workspace shows a report design for 'Relatório de Empregados - 2'. The report includes a logo, a title, and a table with columns: FIRST_NAME, LAST_NAME, PHONE_NUMBER, HIRE_DATE, and SALARY. The table rows are populated with data using the syntax `$F{fieldName}`. The report also features a 'Hidden Band Page Header', a 'Hidden Band Column Footer', a 'Page Footer', and a 'Summary' section. The 'Summary' section includes a 'Total' row with the value `$V{TOTAL}`.

On the left, the 'Outline' pane shows the report structure, including 'Fields' (firstName, hireDate, lastName, phoneNumber, salary) and 'Page Header [Hidden]', 'Column Header', 'Detail 1 [24px]', 'Column Footer [Hidden]', 'Page Footer', 'Last Page Footer', 'Summary', 'No Data', and 'Background'.

On the right, the 'Properties' pane shows the 'Field: firstName' properties. The 'Name' is 'firstName', the 'Description' is empty, and the 'Class' is 'java.lang.String'.

At the bottom, the 'Report State' pane shows the console output: 'Started the compilation of the resource relatorio_employees_json.xml' and 'Report binary file generated in C:\Users\Gerson Junior\Jaspersoft\workspace\MyReports\relatorio_employees_json.ja'.

Controller

```
@PostMapping("/json")
public ResponseEntity<byte[]> relatorioJson(@RequestBody ParametrosDTO dto)
throws Exception {

    byte[] relatorio = relatorioService.exportRelatorioJson(dto);
    return ResponseEntity.ok()
        .header("Content-Disposition", "attachment;
filename=relatorio_employees_"+LocalDate.now()+".pdf")
        .body(relatorio);

}
```

Service

```
public byte[] exportRelatorioJson(ParametrosDTO dto) throws SQLException,
JRException, ParseException {

    List<Employee> listEmployee = new ArrayList<Employee>();
    List<EmployeeDTO> listEmployeeDTOs = new ArrayList<EmployeeDTO>();

    if(dto.getDataContratacao() == null) {
        listEmployee = employeeRepository.findAll();
    }else {
        SimpleDateFormat formato = new SimpleDateFormat("dd/MM/yy");
        Date data = formato.parse(dto.getDataContratacao());
        listEmployee = employeeRepository.findByHireDate(data);
    }

    listEmployee.forEach(employee -> {
        listEmployeeDTOs.add(modelMapper.map(employee,
EmployeeDTO.class));
    });

    Map<String, Object> parametros = new HashMap<>();
    parametros.put("REPORT_LOCALE", new Locale("pt", "BR"));

    InputStream inputStream =
this.getClass().getResourceAsStream("/relatorios/relatorio_employees_json.jasper");

    JasperPrint jasperPrint = JasperFillManager.fillReport(inputStream,
parametros,
        new JRBeanCollectionDataSource(listEmployeeDTOs));

    return JasperExportManager.exportReportToPdf(jasperPrint);
}
```

