Jasper Reports

Jasper Reports is an open source Java template file reporting tool that can write into PDF, HTML, Microsoft Excel, RTF, ODT, comma-separated values (CSV) or XML files.

It can be used in Java-enabled applications, including Java EE or web applications, to generate dynamic or static content. It reads its instructions from an XML or .jasper file.

Jasper Reports is an open-source reporting library that can be embedded into any Java application.

Jasper Reports are defined in an XML file format, called JRXML, JRXML files have the filename extension .jrxml.

A .jasper file is a compiled version of a .jrxml file. iReport does the compilation on the fly, but the compilation can also get achieved at runtime using the JasperCompileManager class.

⇨ TIBCO Jaspersoft® Studio is editing software for TIBCO Jasper Reports

⇨ It will help you design and run report templates

Generate Dynamic Report[HTML, CSV, PDF, EXCEL].

Q) Jasper reports Tools?
A)

Tools that can be used to generate .jrxml files

1. Eclipse plugin for JasperSoft Studio.

2. IReport.

3. JasperSoft Studio (mostly used)

Jaspersoft Studio download link:

https://community.jaspersoft.com/project/jaspersoft-studio/releases

download:

TIB_js-studiocomm_6.18.1_windows_x86_64.exe

⇨ File extension should be .jrxml

⇨ To work with Jasper Studio tool need to add dependency in pom.xml file:

```
<!-- https://mvnrepository.com/artifact/net.sf.jasperreports/jasperreports -->
                <dependency>
                        <groupId>net.sf.jasperreports</groupId>
                        <artifactId>jasperreports</artifactId>
                        <version>6.18.1</version>
                </dependency>
```

⇨ **Adding Field name in .jrxml file:**

Entity:

```
        private Integer id;
```

.jrmxl file

```
        <field name="id" class="java.lang.Integer"></field>
```

static header:

```
   <staticText>
        <text><![CDATA[ID]]></text>
```

```
  </staticText>
```

dynamic field:

```
<textField>
<textFieldExpression><![CDATA[$F{id}]]></textFieldExpression>
</textField>
```

Here see $F indicates field

Parameter in jasper report:

```
parameters.put("title","Full Stack Developer Sankar");
```

```
<parameter name="title" class="java.lang.String"></parameter>
```

```
<textField>

    <textFieldExpression><![CDATA[$P{title}]]></textFieldExpression>
</textField>
```

Here see $P indicates parameter

Variable in Jasper report:

Syntax: $v{var_name}

```
<variable name="----" class="---- " >
<variableExpression><![CDATA[$V{variName }]]></variableExpression>
</variable>
```

Conditional expression:

```
<conditionalStyle>

<conditionExpression>

<![CDATA[$V{variableName } % 2 == 0]]>

 </conditionExpression>
```

Filtering data:

```
<filterExpression>
<![CDATA[$F{fieldName} < 40000]]>
</filterExpression>
```

Group data:

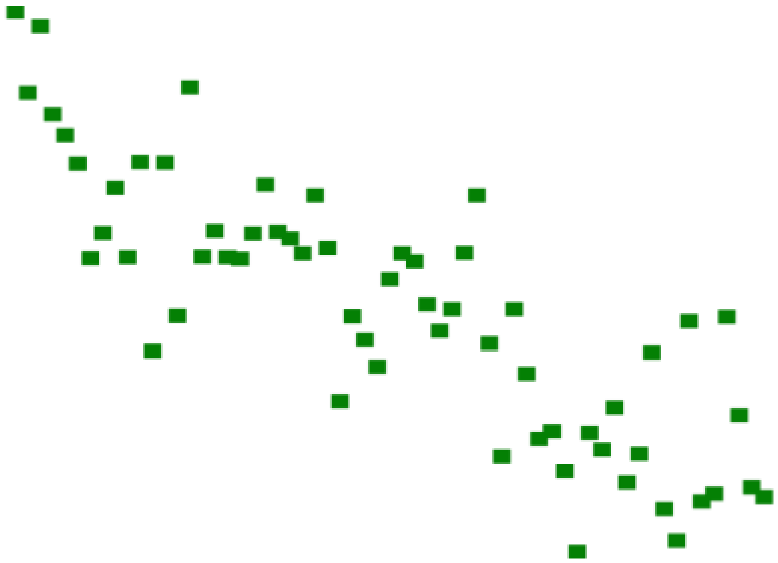
```
<group name="----- “>
<groupExpression>
<![CDATA[$F{FieldName }]]>
</groupExpression>
 <groupHeader>
</groupHeader>
```

Sorting ascending or descending:

```
<sortField name="---- " order="Descending"/>
```

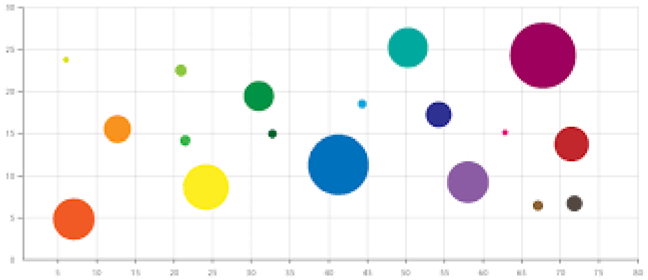
scatter chart:

```
<scatterChart>
<chart>
</chart>
<scatterPlot>
</scatterPlot>
</scatterChart>
```



bubble chart:

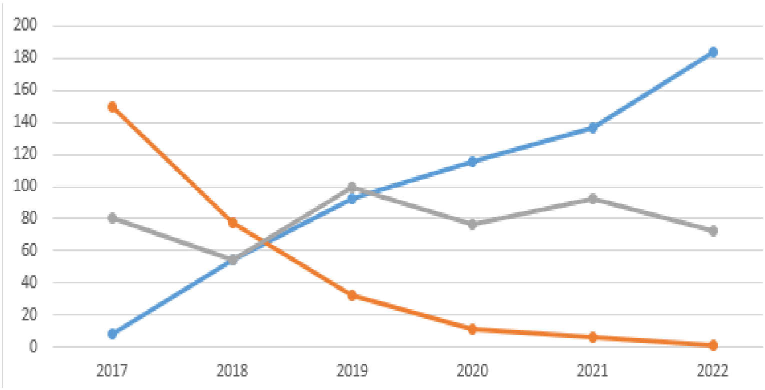
```
<bubbleChart>
<chart>
</chart>
 <bubblePlot>
</bubblePlot>
</bubbleChart>
```



line chart:

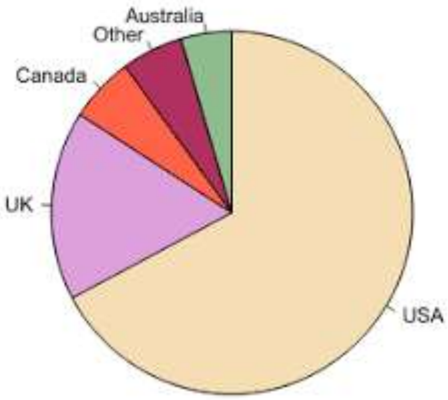
```
<lineChart>
 <chart>
</chart>
```

```
<linePlot>
</linePlot>
 </lineChart>
```

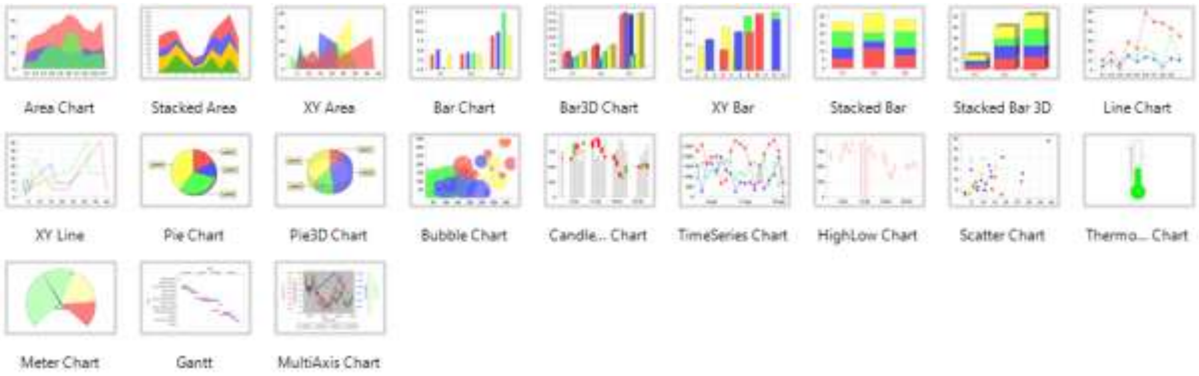

200
180
160
140
120
100
80
60
40
20
0
2017
2018
2019
2020
2021
2022

pie chart:

```
<pieChart>
<chart>
</chart>
<piePlot>
</piePlot>
</pieChart>
```


Australia
Other
Canada
UK
USA

List of charts in Jasper Reports:



All Tags inside .jrxml file:

```
<jasperReport>
<parameter name="" class=""/>

<field name="" class=""/>

<title>

<textField>
<textFieldExpression><![CDATA[$P{parameterName}]]></textFieldExpression>
</textField>

<image>
<imageExpression><![CDATA[".....jpg"]]></imageExpression>
</image>
```

```
</title>
<columnHeader>
<staticText>
<text><![CDATA[Here static data..]]></text
</staticText>
</columnHeader>

<detail>
<textField>
<textFieldExpression><![CDATA[($F{FieldName}
)]]></textFieldExpression>
</textField>
</detail>

<pageFooter>
<textField>
<textFieldExpression><![CDATA[($F{FieldName}
)]]></textFieldExpression>
</textField>
</pageFooter>
</jasperReport>
```

1. <jasperReport></jasperReport>:

    This is a root tag of jasper reports.

2. for jasper reports allowed parameters <parameter name=""/> $P and fields <field name=""/> $F

3. sub tags of <jasperReport>

   1. <title></title>
   2. <columnHeader></columnHeader>
   3. <detail></detail>
   4. <pageFooter> </pageFooter>

4. here pass static data.

```
<staticText>
      <text></text>
</staticText>
```

5. here pass dynamic data.

```
<textField>
     <textFieldExpression</textFieldExpression>
 </textField>
```

6. here pass image path:

```
<image>
<imageExpression><![CDATA[".....jpg"]]></imageExpression>
</image>
```

Import Jasper Reports namespaces:

```
<jasperReport
xmlns="http://jasperreports.sourceforge.net/jasperreports"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://jasperreports.sourceforge.net/jasperreports
```

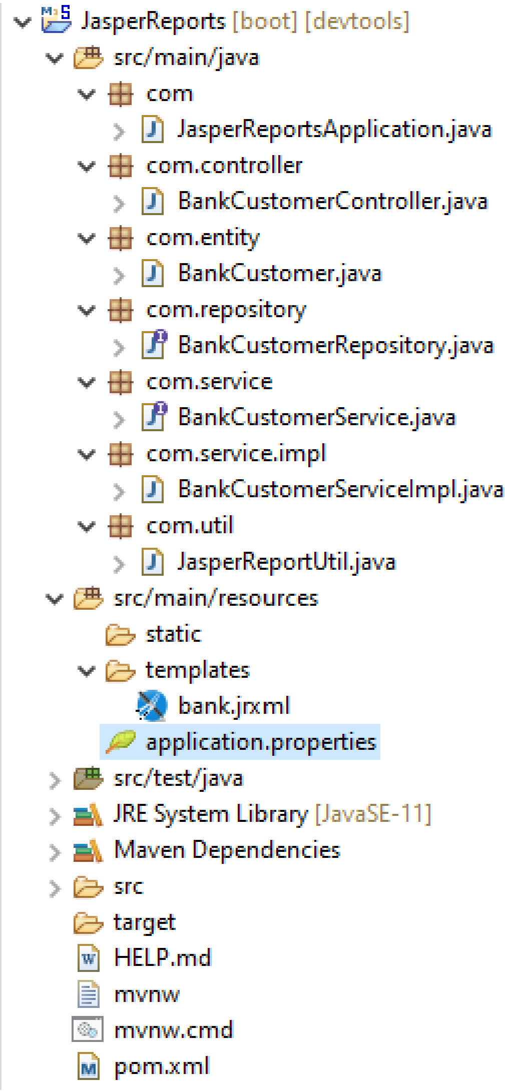
```
http://jasperreports.sourceforge.net/xsd/jasperreport.xsd">
</jasperReports>
```

Column text keep in center:

```
<textElement textAlignment="Center">
        <font size="14"/>
</textElement>
```

Spring Boot with Jasper Reports Example:

Step1: Project Structure:



```
JasperReports [boot] [devtools]
  src/main/java
    com
      JasperReportsApplication.java
    com.controller
      BankCustomerController.java
    com.entity
      BankCustomer.java
    com.repository
      BankCustomerRepository.java
    com.service
      BankCustomerService.java
    com.service.impl
      BankCustomerServiceImpl.java
    com.util
      JasperReportUtil.java
  src/main/resources
    static
    templates
      bank.jrxml
    application.properties
  src/test/java
  JRE System Library [JavaSE-11]
  Maven Dependencies
  src
  target
  HELP.md
  mvnw
  mvnw.cmd
  pom.xml
```

Step2: application.properties:

```
#Server Properties
server.port=9901

#Database properties
spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver
spring.datasource.url=jdbc:mysql://localhost:3306/tiny
spring.datasource.username=root
spring.datasource.password=root

#JPA Properties
spring.jpa.show-sql=true
spring.jpa.hibernate.ddl-auto=update
spring.jpa.database-platform=org.hibernate.dialect.MySQL8Dialect
```

Step3: bank.jrxml file:

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Created with Jaspersoft Studio version 6.17.0.final using JasperReports Library
version 6.17.0-6d93193241dd8cc42629e188b94f9e0bc5722efd  -->
<jasperReport xmlns="http://jasperreports.sourceforge.net/jasperreports"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://jasperreports.sourceforge.net/jasperreports
http://jasperreports.sourceforge.net/xsd/jasperreport.xsd" name="bank"
pageWidth="595" pageHeight="842" columnWidth="535" leftMargin="20"
rightMargin="20" topMargin="20" bottomMargin="20" uuid="fa294386-6a41-404e-
80e4-9e734b4ebce0">
        <property name="com.jaspersoft.studio.data.sql.tables" value=""/>
        <property name="com.jaspersoft.studio.data.defaultdataadapter"
value="Sample DB"/>
        <parameter name="title" class="java.lang.String"></parameter>

        <field name="id" class="java.lang.Integer"></field>
        <field name="name" class="java.lang.String"></field>

        <background>
                <band/>
        </background>
        <title>
                <band height="72">
                        <frame>
                                <reportElement mode="Opaque" x="-20" y="-20"
width="595" height="92" backcolor="#006699" uuid="b4193c49-fe7a-47c5-85b4-
75e6239fb362"/>
                                <textField>
```

```
                    <reportElement x="20" y="20" width="434"
height="43" forecolor="#FFFFFF" uuid="06b993dc-a235-4800-9d04-
1866f942230a"/>
                    <textElement>
                        <font size="24" isBold="true"/>
                    </textElement>

    <textFieldExpression><![CDATA[$P{title}]]></textFieldExpression>
                </textField>
            </frame>
        </band>
    </title>
    <pageHeader>
        <band height="13"/>
    </pageHeader>
    <columnHeader>
        <band height="21">
            <line>
                <reportElement x="-20" y="20" width="595" height="1"
forecolor="#666666" uuid="95a35440-0a5f-4892-80e3-e2a16ae9ca4b"/>
            </line>
            <staticText>
                <reportElement mode="Opaque" x="0" y="0" width="277"
height="20" forecolor="#006699" backcolor="#E6E6E6" uuid="f685a279-6adb-42ba-
a2f5-9f607e6b0bec">
                    <property
name="com.jaspersoft.studio.spreadsheet.connectionID" value="ef0f90a6-2a3a-
42eb-9078-fe7d1f058328"/>
                </reportElement>
                <textElement textAlignment="Center">
                    <font size="14" isBold="true"/>
                </textElement>
                <text><![CDATA[ID]]></text>
            </staticText>
            <staticText>
                <reportElement mode="Opaque" x="277" y="0"
width="277" height="20" forecolor="#006699" backcolor="#E6E6E6"
uuid="44f9d371-5f80-42e0-b852-1211227a076c">
                    <property
name="com.jaspersoft.studio.spreadsheet.connectionID" value="ba4522c3-b35d-
44f4-aea3-2f8bae5c2c2d"/>
                </reportElement>
                <textElement textAlignment="Center">
                    <font size="14" isBold="true"/>
                </textElement>
                <text><![CDATA[NAME]]></text>
            </staticText>
        </band>
    </columnHeader>
    <detail>
```

```
        <band height="20">
            <line>
                <reportElement positionType="FixRelativeToBottom"
x="0" y="19" width="555" height="1" uuid="4875a046-27f9-42cc-848b-
cd4c68dfc66a"/>
            </line>
            <textField textAdjust="StretchHeight">
                <reportElement x="0" y="0" width="277" height="20"
uuid="d4cde7e2-fdac-450c-8387-735481f99935">
                    <property
name="com.jaspersoft.studio.spreadsheet.connectionID" value="ef0f90a6-2a3a-
42eb-9078-fe7d1f058328"/>
                </reportElement>
                <textElement>
                    <font size="14"/>
                </textElement>

    <textFieldExpression><![CDATA[$F{id}]]></textFieldExpression>
            </textField>
            <textField textAdjust="StretchHeight">
                <reportElement x="277" y="0" width="277" height="20"
uuid="3a6105d4-ad8b-4240-901a-9d8706e35af4">
                    <property
name="com.jaspersoft.studio.spreadsheet.connectionID" value="ba4522c3-b35d-
44f4-aea3-2f8bae5c2c2d"/>
                </reportElement>
                <textElement>
                    <font size="14"/>
                </textElement>

    <textFieldExpression><![CDATA[$F{name}]]></textFieldExpression>
            </textField>
        </band>
    </detail>
    <columnFooter>
        <band/>
    </columnFooter>
    <pageFooter>
        <band height="17">
            <textField>
                <reportElement mode="Opaque" x="0" y="4" width="515"
height="13" backcolor="#E6E6E6" uuid="3ede10f5-2d61-4dc6-87e0-
7bb0e7f2e0f4"/>
                <textElement textAlignment="Right"/>
                <textFieldExpression><![CDATA["Page
"+$V{PAGE_NUMBER}+" of"]]></textFieldExpression>
            </textField>
            <textField evaluationTime="Report">
```

```
                                        <reportElement mode="Opaque" x="515" y="4"
width="40" height="13" backcolor="#E6E6E6" uuid="4f2487d4-4b0a-4b74-afd9-
bc5dc53ce833"/>
                                        <textFieldExpression><![CDATA[" " +
$V{PAGE_NUMBER}]]></textFieldExpression>
                              </textField>
                              <textField pattern="EEEEE dd MMMMM yyyy">
                                        <reportElement x="0" y="4" width="100" height="13"
uuid="324b86de-dbb0-41ee-a4d3-9f095bc7103c"/>
                                        <textFieldExpression><![CDATA[new
java.util.Date()]]></textFieldExpression>
                              </textField>
                    </band>
          </pageFooter>
          <summary>
                    <band/>
          </summary>
</jasperReport>
```

Step4:Entity class:

```
package com.entity;

import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.Table;

import lombok.AllArgsConstructor;
import lombok.Data;
import lombok.NoArgsConstructor;

@Data
@AllArgsConstructor
@NoArgsConstructor
@Entity
@Table(name = "bank_customer_tab")
public class BankCustomer {

          @Id
          @GeneratedValue(strategy = GenerationType.AUTO)
          @Column(name = "bank_customer_id_col")
          private Integer id;

          @Column(name = "bank_customer_name_col")
```

```
	private String name;

}
```

Step5: Repository:

```
package com.repository;

import org.springframework.data.jpa.repository.JpaRepository;

import com.entity.BankCustomer;

public interface BankCustomerRepository extends
JpaRepository<BankCustomer,Integer> {

}
```

Step6:Service:

```
package com.service;


import java.util.List;

import com.entity.BankCustomer;

public interface BankCustomerService {

	public BankCustomer saveBankCustomer(BankCustomer bankCustomer);

	public List<BankCustomer> getAllBankCustomer();

}
```

Step7: ServiceImpl:

```
package com.service.impl;

import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;

import com.entity.BankCustomer;
import com.repository.BankCustomerRepository;
import com.service.BankCustomerService;

@Service
public class BankCustomerServiceImpl implements BankCustomerService {

	@Autowired
	private BankCustomerRepository repository;


	@Override
	public BankCustomer saveBankCustomer(BankCustomer bankCustomer) {
		return repository.save(bankCustomer);
	}

	@Override
	public List<BankCustomer> getAllBankCustomer() {
		return  repository.findAll();
	}

}
```

Step8:RestController:

```
package com.controller;

import java.io.FileNotFoundException;
import java.util.List;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.PostMapping;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RestController;

import com.entity.BankCustomer;
import com.service.BankCustomerService;
import com.util.JasperReportUtil;

import net.sf.jasperreports.engine.JRException;

@RestController
@RequestMapping("/bankCustomer")
public class BankCustomerController {

	@Autowired
	private BankCustomerService service;

	@Autowired
	private JasperReportUtil util;

	/**
	 *
	 	http://localhost:9901/bankCustomer/save

	 	request data:
```

```
                  {
                        "name" : "Sankar"
                 }
         * @param bankCustomer
         * @return
         */
        @PostMapping("/save")
        public BankCustomer saveBankCustomer(@RequestBody BankCustomer
bankCustomer) {

                return service.saveBankCustomer(bankCustomer);
        }


//      //http://localhost:9901/bankCustomer/show
        @GetMapping("/show")
        public List<BankCustomer> getAllBankCustomer() {

                return service.getAllBankCustomer();
        }

        @GetMapping("/report/{format}")
   public String generateReport(@PathVariable String format) throws
FileNotFoundException, JRException {
      return util.exportReport(format);
   }

}
```

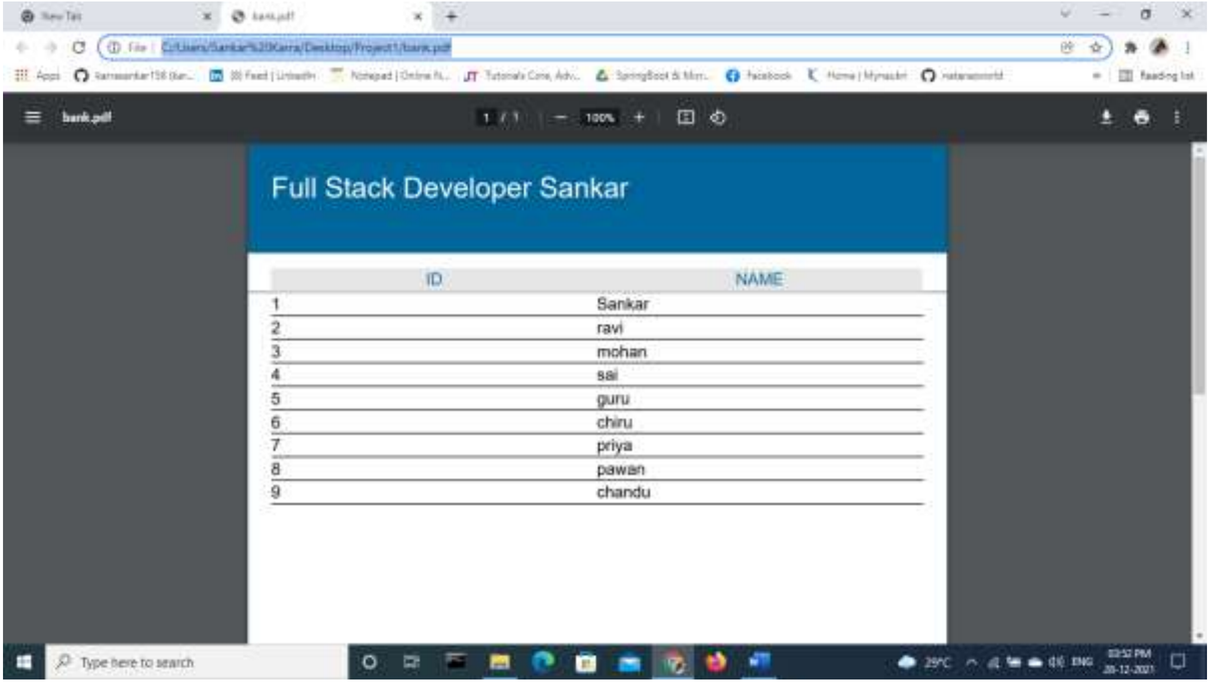
Step9:ReportUtil:

```
package com.util;

import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.util.HashMap;
import java.util.List;
import java.util.Map;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Component;

import com.entity.BankCustomer;
import com.service.BankCustomerService;

import net.sf.jasperreports.engine.JRException;
import net.sf.jasperreports.engine.JasperCompileManager;
import net.sf.jasperreports.engine.JasperExportManager;
import net.sf.jasperreports.engine.JasperFillManager;
import net.sf.jasperreports.engine.JasperPrint;
import net.sf.jasperreports.engine.JasperReport;
import net.sf.jasperreports.engine.data.JRBeanCollectionDataSource;

@Component
public class JasperReportUtil {

        @Autowired
        private BankCustomerService service;

        public String exportReport(String reportFormat) throws
FileNotFoundException, JRException {

                List<BankCustomer> bank=service.getAllBankCustomer();
                /*
                 * //Load file and compile it File
                 * file=ResourceUtils.getFile("Specialization.jrxml");
                 */

                //compile file
                JasperReport
jasperReport=JasperCompileManager.compileReport(new
FileInputStream("src/main/resources/templates/bank.jrxml"));

                JRBeanCollectionDataSource datasource=new
JRBeanCollectionDataSource(bank);

                Map<String,Object> parameters=new HashMap<>();
                parameters.put("title","Full Stack Developer Sankar");

                JasperPrint
jasperPrint=JasperFillManager.fillReport(jasperReport,parameters, datasource);

                if(reportFormat.equalsIgnoreCase("html")) {

        JasperExportManager.exportReportToHtmlFile(jasperPrint,"C:\\Users\\Sankar
Karra\\Desktop\\Project1"+"//bank.html");
                }
                if(reportFormat.equalsIgnoreCase("pdf")) {

        JasperExportManager.exportReportToPdfFile(jasperPrint,"C:\\Users\\Sa
nkar Karra\\Desktop\\Project1"+"//bank.pdf");
                }
                return " Report success fully generated.....";
        }


}
```

Step10:Starter class:

```
package com;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication
public class JasperReportsApplication {

	public static void main(String[] args) {
		SpringApplication.run(JasperReportsApplication.class, args);
	}

}
```

Example pdf format picture:



Full Stack Developer Sankar

ID	NAME
1	Sankar
2	ravi
3	mohan
4	sai
5	guru
6	chiru
7	priya
8	pawan
9	chandu

Download Report: inline

```
package com.util;

import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.util.HashMap;
import java.util.List;
import java.util.Map;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpHeaders;
import org.springframework.http.MediaType;
import org.springframework.http.ResponseEntity;
import org.springframework.stereotype.Component;

import com.entity.BankCustomer;
import com.service.BankCustomerService;

import net.sf.jasperreports.engine.JRException;
import net.sf.jasperreports.engine.JasperCompileManager;
import net.sf.jasperreports.engine.JasperExportManager;
import net.sf.jasperreports.engine.JasperFillManager;
import net.sf.jasperreports.engine.JasperPrint;
import net.sf.jasperreports.engine.JasperReport;
import net.sf.jasperreports.engine.data.JRBeanCollectionDataSource;

@Component
public class JasperReportUtil {

    @Autowired
    private BankCustomerService service;

    //public String exportReport(String reportFormat) throws FileNotFoundException, JRException
{

    public ResponseEntity<byte[]> exportReport(String reportFormat) throws
FileNotFoundException, JRException {

        byte[] data=null;
        HttpHeaders headers=null;

        //set title
        Map<String,Object> parameters=new HashMap<>();
        parameters.put("title","Full Stack Developer");

        //retrieve list of all BankCustomer data
        List<BankCustomer> bank=service.getAllBankCustomer();
        /*
         * //Load file and compile it
         * file=ResourceUtils.getFile("Specialization.jrxml");
         */

        //get list of all BankCustomer data as a constructor parameter.
        JRBeanCollectionDataSource listOfBankCustomers=new
JRBeanCollectionDataSource(bank);

        //locating and compiling jasper .jrxml file
        JasperReport compiledJasperReport=JasperCompileManager.compileReport(new
FileInputStream("src/main/resources/templates/bank.jrxml"));

        //supplied list of BankCustomer  objects
        JasperPrint
jasperPrint=JasperFillManager.fillReport(compiledJasperReport,parameters, listOfBankCustomers);

        //checking which type of report is generating...
        if(reportFormat.equalsIgnoreCase("html")) {

            //local report generation as a HTML
```

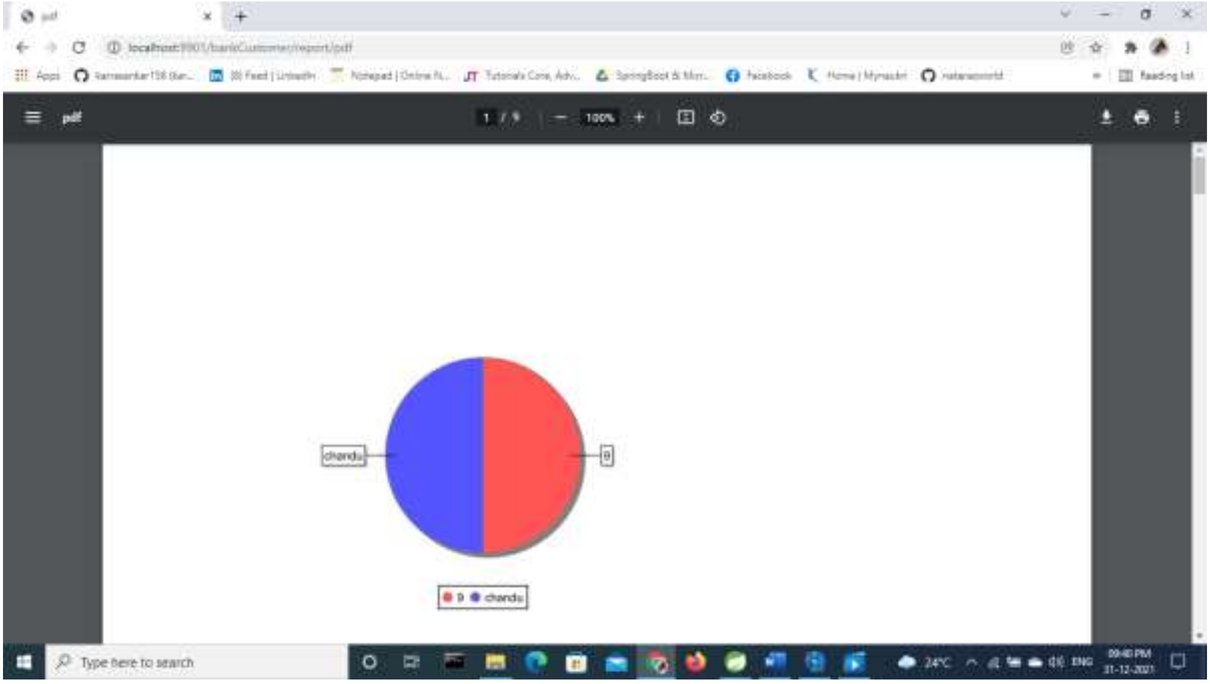
```
	JasperExportManager.exportReportToHtmlFile(jasperPrint,"C:\\Users\\Sankar Karra\\Desktop\\Project1"+"//bank.html");

		}
		if(reportFormat.equalsIgnoreCase("pdf")) {

			//local report generation as a PDF

	//JasperExportManager.exportReportToPdfFile(jasperPrint,"C:\\Users\\Sankar Karra\\Desktop\\Project1"+"//bank.pdf");

			data=JasperExportManager.exportReportToPdf(jasperPrint);

			 //CONTENT-DISPOSITION is displaying PDF report in browser
			 headers=new HttpHeaders();

headers.set(HttpHeaders.CONTENT_DISPOSITION,"inline;filename=BankCustomer.pdf");
		}
		return
ResponseEntity.ok().headers(headers).contentType(MediaType.APPLICATION_PDF).body(data);
	}


}
```

Download Report: attachment

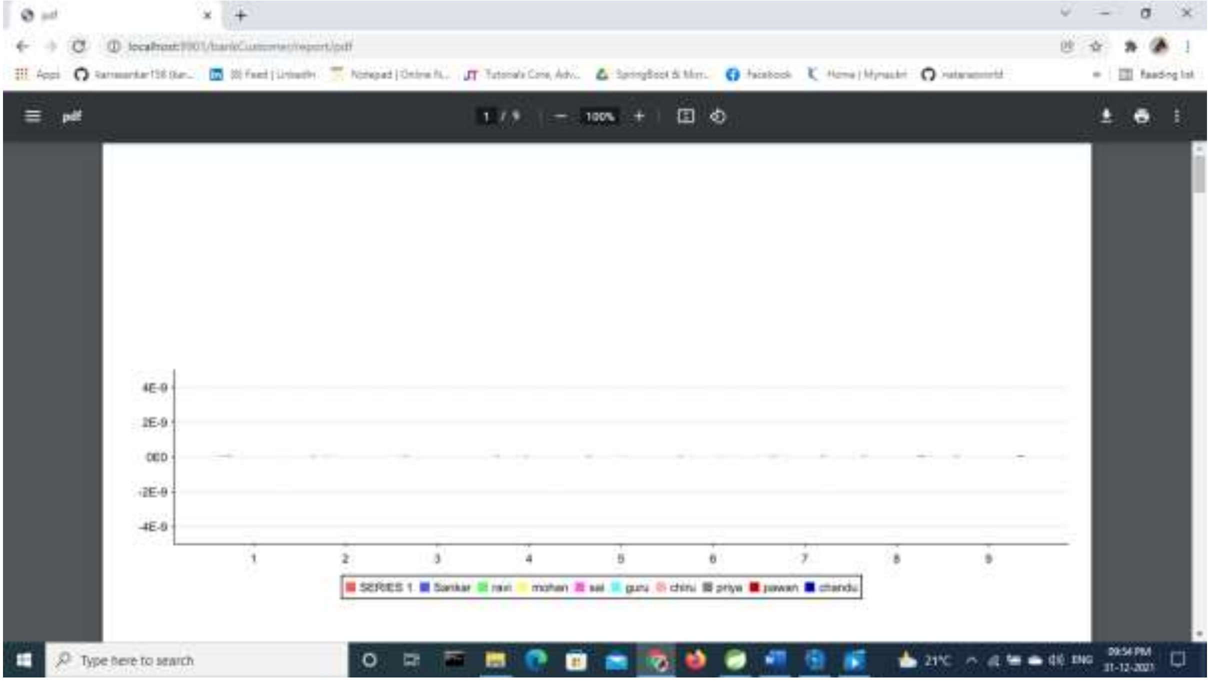
```
package com.util;

import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.util.HashMap;
import java.util.List;
import java.util.Map;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.http.HttpHeaders;
import org.springframework.http.MediaType;
import org.springframework.http.ResponseEntity;
import org.springframework.stereotype.Component;

import com.entity.BankCustomer;
import com.service.BankCustomerService;

import net.sf.jasperreports.engine.JRException;
import net.sf.jasperreports.engine.JasperCompileManager;
import net.sf.jasperreports.engine.JasperExportManager;
import net.sf.jasperreports.engine.JasperFillManager;
import net.sf.jasperreports.engine.JasperPrint;
import net.sf.jasperreports.engine.JasperReport;
import net.sf.jasperreports.engine.data.JRBeanCollectionDataSource;

@Component
public class JasperReportUtil {
    @Autowired
    private BankCustomerService service;

    //public String exportReport(String reportFormat) throws FileNotFoundException,
JRException {

    public ResponseEntity<byte[]> exportReport(String reportFormat) throws
FileNotFoundException, JRException {

        byte[] data=null;
        HttpHeaders headers=null;

        //set title
        Map<String,Object> parameters=new HashMap<>();
        parameters.put("title","Full Stack Developer");

        //retrieve list of all BankCustomer data
        List<BankCustomer> bank=service.getAllBankCustomer();
        /*
         * //Load file and compile it
         * file=ResourceUtils.getFile("Specialization.jrxml");
         */

        //get list of all BankCustomer data as a constructor parameter.
        JRBeanCollectionDataSource listOfBankCustomers=new
JRBeanCollectionDataSource(bank);

        //locating and compiling jasper .jrxml file
        JasperReport
compiledJasperReport=JasperCompileManager.compileReport(new
FileInputStream("src/main/resources/templates/bank.jrxml"));

        //supplied list of BankCustomer  objects
        JasperPrint
jasperPrint=JasperFillManager.fillReport(compiledJasperReport,parameters,
listOfBankCustomers);

        //checking which type of report is generating...
        if(reportFormat.equalsIgnoreCase("html")) {

            //local report generation as a HTML

    JasperExportManager.exportReportToHtmlFile(jasperPrint,"C:\\Users\\Sankar
Karra\\Desktop\\Project1"+"//bank.html");

        }
        if(reportFormat.equalsIgnoreCase("pdf")) {

            //local report generation as a PDF

    //JasperExportManager.exportReportToPdfFile(jasperPrint,"C:\\Users\\Sankar
Karra\\Desktop\\Project1"+"//bank.pdf");

            data=JasperExportManager.exportReportToPdf(jasperPrint);
```

```
                    //CONTENT-DISPOSITION is displaying PDF report in browser
                    headers=new HttpHeaders();

//headers.set(HttpHeaders.CONTENT_DISPOSITION,"inline;filename=BankCustomer.pdf");


headers.set(HttpHeaders.CONTENT_DISPOSITION,"attachment;filename=BankCustomer.pdf");
                }
                return
ResponseEntity.ok().headers(headers).contentType(MediaType.APPLICATION_PDF).body(data);
        }


}
```

Pie Chart



Pie Chart .jrxml::



```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Created with Jaspersoft Studio version 6.17.0.final using
JasperReports Library version 6.17.0-
6d93193241dd8cc42629e188b94f9e0bc5722efd  -->
<jasperReport xmlns="http://jasperreports.sourceforge.net/jasperreports"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://jasperreports.sourceforge.net/jasperreports
http://jasperreports.sourceforge.net/xsd/jasperreport.xsd"
name="Bank12" pageWidth="842" pageHeight="595"
orientation="Landscape" columnWidth="802" leftMargin="20"
rightMargin="20" topMargin="20" bottomMargin="20" uuid="b8094fea-
5bc3-4b2c-b1f8-7bf2fbcc2eca">
	<property name="com.jaspersoft.studio.data.defaultdataadapter"
value="One Empty Record"/>
	<queryString>
		<![CDATA[]]>
	</queryString>
	<field name="id" class="java.lang.Integer"/>
	<field name="name" class="java.lang.String"/>
	<background>
		<band splitType="Stretch"/>
	</background>
	<title>
		<band height="79" splitType="Stretch"/>
	</title>
	<columnHeader>
```

```
        <band height="61" splitType="Stretch"/>
    </columnHeader>
    <detail>
        <band height="236" splitType="Stretch">
            <pieChart>
                <chart evaluationTime="Report">
                    <reportElement x="40" y="0" width="528"
height="236" uuid="d5a7403b-a21d-4c0d-8506-d5e6bc67c9f5"/>
                    <chartTitle/>
                    <chartSubtitle/>
                    <chartLegend/>
                </chart>
                <pieDataset maxCount="5"
minPercentage="5.0">
                    <dataset resetType="Report"
incrementType="Report"/>
                    <pieSeries>

    <keyExpression><![CDATA[$F{id}]]></keyExpression>

    <valueExpression><![CDATA[40]]></valueExpression>
                    </pieSeries>
                    <pieSeries>

    <keyExpression><![CDATA[$F{name}]]></keyExpression>

    <valueExpression><![CDATA[40]]></valueExpression>
                    </pieSeries>
                </pieDataset>
                <piePlot>
                    <plot/>
                    <itemLabel/>
                </piePlot>
            </pieChart>
        </band>
    </detail>
    <pageFooter>
        <band height="54" splitType="Stretch"/>
    </pageFooter>
</jasperReport>
```

Bar Chart:

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Created with Jaspersoft Studio version 6.17.0.final using
JasperReports Library version 6.17.0-
6d93193241dd8cc42629e188b94f9e0bc5722efd  -->
<jasperReport xmlns="http://jasperreports.sourceforge.net/jasperreports"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://jasperreports.sourceforge.net/jasperreports
http://jasperreports.sourceforge.net/xsd/jasperreport.xsd"
name="Blank15" pageWidth="842" pageHeight="595"
orientation="Landscape" columnWidth="802" leftMargin="20"
rightMargin="20" topMargin="20" bottomMargin="20" uuid="7b0cedcf-
1714-4b5a-b447-5e4aea5f2f42">
        <property name="com.jaspersoft.studio.data.defaultdataadapter"
value="One Empty Record"/>
        <queryString>
                <![CDATA[]]>
        </queryString>
        <field name="id" class="java.lang.Integer"/>
        <field name="name" class="java.lang.String"/>
        <background>
                <band splitType="Stretch"/>
        </background>
        <title>
                <band height="79" splitType="Stretch"/>
        </title>
        <pageHeader>
                <band height="35" splitType="Stretch"/>
        </pageHeader>
        <detail>
                <band height="255" splitType="Stretch">
                        <barChart>
                                <chart evaluationTime="Report">
                                        <reportElement x="0" y="55" width="810"
height="200" uuid="cc208e36-c760-4ff6-8218-2b8ef4a5cd2d"/>
                                        <chartTitle/>
                                        <chartSubtitle/>
                                        <chartLegend/>
                                </chart>
                                <categoryDataset>
                                        <dataset resetType="Report"/>
                                        <categorySeries>
```

```
    <seriesExpression><![CDATA["SERIES 1"]]></seriesExpression>

    <categoryExpression><![CDATA[$F{id}]]></categoryExpression>

    <valueExpression><![CDATA[0]]></valueExpression>
                    </categorySeries>
                    <categorySeries>

    <seriesExpression><![CDATA[$F{name}]]></seriesExpression>

    <categoryExpression><![CDATA[$F{id}]]></categoryExpression>

    <valueExpression><![CDATA[0]]></valueExpression>
                    </categorySeries>
                </categoryDataset>
                <barPlot>
                    <plot/>
                    <itemLabel/>
                    <categoryAxisFormat>
                        <axisFormat labelColor="#000000"
tickLabelColor="#000000" axisLineColor="#000000"/>
                    </categoryAxisFormat>
                    <valueAxisFormat>
                        <axisFormat labelColor="#000000"
tickLabelColor="#000000" axisLineColor="#000000"/>
                    </valueAxisFormat>
                </barPlot>
            </barChart>
        </band>
    </detail>
    <pageFooter>
        <band height="54" splitType="Stretch"/>
    </pageFooter>
</jasperReport>
```

---**The End**---