PDP
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Word, Excel va Pdf fayllari bilan ishlash

Reja:

1. Apache POI kutubxonasi
2. Word fayli bilan ishlash
3. Excel fayli bilan ishash
4. Pdf fayli bilan ishlash

Apache POI kutubxonasi

- Apache POI – Microsoft Office formatidagi fayllar bilan ishlashga mo’ljallangan java kutubxonadir. U yordamida Microsoft office formatidagi turli fayllarni, ochish, yaratish, o’qish va o’zgartirish mumkin.
- Masalan, Javaning o’zida Excel fayllari bilan ishlash uchun ichki kutubxonasi yo’q. bunday fayllar bn ishlash uchun tashqi kutubxonalarga murojat qilamiz va bu boradi bizga Apache POI Java API kutubxonasi qo’l keladi.
- Apache POI Java API-ni Office Open XML (OOXML) va Microsoft-ning OLE2 standartlari asosida turli xil fayl formatlari bilan ishlashni ta'minlaydi.
- Oxirgi versiyasi Apache POI » 4.1.2

Installation

```
<!-- https://mvnrepository.com/artifact/org.apache.poi/poi-ooxml -->
<dependency>
   <groupId>org.apache.poi</groupId>
   <artifactId>poi-ooxml</artifactId>
   <version>4.1.2</version>
</dependency>
```

```
<!-- https://mvnrepository.com/artifact/org.apache.poi/poi -->
<dependency>
   <groupId>org.apache.poi</groupId>
   <artifactId>poi</artifactId>
   <version>4.1.2</version>
</dependency>
```

Apache POI Componentlari

- **HPSF (Horrible Property Set Format)** − It is used to extract property sets of the MS-Office files.
- **HWPF (Horrible Word Processor Format)** − It is used to read and write .doc extension files of MS-Word.
- **HSSF (Horrible SpreadSheet Format)** − It is used to read and write .xls format of MS-Excel files.
- **XSSF (XML SpreadSheet Format)** − It is used for .xlsx file format of MS-Excel.
- **XWPF (XML Word Processor Format)** − It is used to read and write **.docx** extension files of MS-Word.
- **HSLF (Horrible Slide Layout Format)** − It is used to read, create, and edit PowerPoint presentations.
- **HDGF (Horrible DiaGram Format)** − It contains classes and methods for MS-Visio binary files.
- **HPBF (Horrible PuBlisher Format)** − It is used to read and write MS-Publisher files.

Word fayli bilan ishlash

- Create Blank Document
- Create a Paragraph
- Create Table
- Insert Image

Create Blank Document

```
//Blank Document
XWPFDocument document = new XWPFDocument();

//Write the Document in file system
FileOutputStream out = new FileOutputStream(new File("document.docx"));
document.write(out);
out.close();
System.out.println("document.docx written successully");
```

Create Paragraph

```
//create Paragraph

XWPFParagraph paragraph = document.createParagraph();

XWPFRun run = paragraph.createRun();

run.setText(“PDP- IT akademiyasining Java-development kursi");
```

Create Table

```
//create table
XWPFTable table = document.createTable();

//create first row
XWPFTableRow tableRowOne = table.getRow(0);
tableRowOne.getCell(0).setText("row1, col1");
tableRowOne.addNewTableCell().setText("row1, col2");
tableRowOne.addNewTableCell().setText("("row1, col3");

//create second row
XWPFTableRow tableRowTwo = table.createRow();
tableRowTwo.getCell(0).setText("("row2, col1"");
tableRowTwo.getCell(1).setText("("row2, col2");
tableRowTwo.getCell(2).setText("("row2, col3"");
```

Insert Image

```
XWPFDocument doc = new XWPFDocument();
XWPFParagraph title = doc.createParagraph();
XWPFRun run = title.createRun();
run.setText("Fig.1 Image");
run.setBold(true);
title.setAlignment(ParagraphAlignment.CENTER);
String imgFile = "d://copyTest.jpg";
FileInputStream is = new FileInputStream(imgFile);
run.addBreak();
run.addPicture(is, XWPFDocument.PICTURE_TYPE_JPEG, imgFile,
Units.toEMU(200), Units.toEMU(200)); // 200x200 pixels
is.close();
FileOutputStream fos = new FileOutputStream("d://test4.docx");
doc.write(fos);
fos.close();
```

Excel fayli bilan ishlash

- Create Blank Workbook
- Create a Spreadsheet
- Create Rows and Cells
- Formula

Create Blank Workbook

```
//Create Blank workbook
XSSFWorkbook workbook = new XSSFWorkbook();

//Create file system using specific name
FileOutputStream out = new FileOutputStream(new File("workbook.xlsx"));

//write operation workbook using file out object
workbook.write(out);
out.close();
System.out.println("workbook.xlsx written successfully");
```

Create Spreadsheet

```
//Create Blank workbook
    XSSFWorkbook workbook = new XSSFWorkbook();

//Create a blank spreadsheet
    XSSFSheet spreadsheet = workbook.createSheet("Sheet Name");
```

Create Rows and Cells

```
XSSFWorkbook workbook = new XSSFWorkbook();
XSSFSheet spreadsheet = workbook.createSheet("Sheet Name");

XSSFRow row = spreadsheet.createRow((short) 2);
row.createCell(0).setCellValue("Type of Cell");
row.createCell(1).setCellValue("cell value");

row = spreadsheet.createRow((short) 3);
row.createCell(0).setCellValue("set cell type BLANK");
row.createCell(1);

FileOutputStream out = new FileOutputStream(new File("workbook.xlsx"));
workbook.write(out);
out.close();
System.out.println("workbook.xlsx written successfully");
```

Formula

```
XSSFWorkbook workbook = new XSSFWorkbook();
XSSFSheet spreadsheet = workbook.createSheet("formula");
XSSFRow row = spreadsheet.createRow(1);
XSSFCell cell = row.createCell(1);

// Create POWER formula
cell.setCellFormula("SUM(4,5)");
cell = row.createCell(2);
cell.setCellValue("SUM(4,5)");
row = spreadsheet.createRow(2);
cell = row.createCell(1);

FileOutputStream out = new FileOutputStream(new File("d://workbook.xlsx"));
workbook.write(out);
out.close();
System.out.println("workbook.xlsx written successfully");
```

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PDF fayli bilan ishlash

- Create a PDF Document
- Create a Paragraph
- Create Table
- Create Image

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Creating a PDF Document

```
// Creating a PdfWriter
PdfWriter writer = new PdfWriter( “d:/sample.pdf”);

// Creating a PdfDocument
PdfDocument pdfDoc = new PdfDocument(writer);

// Adding a new page
pdfDoc.addNewPage();

// Creating a Document
Document document = new Document(pdfDoc);

// Closing the document
document.close();
System.out.println("PDF Created");
```

Creating Paragraph

```
PdfWriter writer = new PdfWriter( “d:/sample.pdf”);
PdfDocument pdfDoc = new PdfDocument(writer);
pdfDoc.addNewPage();
Document document = new Document(pdfDoc);

// Creating Paragraphs
Paragraph paragraph1 = new Paragraph("Paragraf1");
Paragraph paragraph2 = new Paragraph("Paragraf2");

// Adding paragraphs to document
document.add(paragraph1);
document.add(paragraph2);

document.close();
System.out.println("PDF Created");
```

Create Table

```
// Creating a table
float [] pointColumnWidths = {150F, 150F, 150F};
Table table = new Table(pointColumnWidths);

// Adding cells to the table
table.addCell(new Cell().add("Name"));
table.addCell(new Cell().add("Raju"));
table.addCell(new Cell().add("Id"));
table.addCell(new Cell().add("1001"));
table.addCell(new Cell().add("Designation"));
table.addCell(new Cell().add("Programmer"));

// Adding Table to document
document.add(table);
```

Create Image

```
// Creating an ImageData object
String imFile = "C:/pdf.jpg";
ImageData data = ImageDataFactory.create(imFile);

// Creating an Image object
Image image = new Image(data);

// Adding image to the document
document.add(image);
```

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E’TIBORINGIZ UCHUN RAXMAT