

5 Creating PDF and Excel Reports

5.1 Introduction

Portable Document Format (PDF) is a file format created by Adobe Systems for electronic information exchange. PDF is widely used to capture, view, and print information from any application and on any platform. PDF documents preserve the source file information including text, drawings, 3D, full-color graphics, photos, and business logic. Adobe has submitted PDF 1.7 to ISO for a formal, open standard ISO 32000. Various tools are available to generate a PDF document with Ruby on Rails. Some of these PDF tools are listed below.

1. HTMLDOC is an application that converts HTML documents to Adobe PostScript or Adobe PDF files.
2. PdfWriter is a function library, available as a pdf_writer.rb file, to generate PDF documents.
3. PDF::Writer is a tool to generate PDF documents.
4. Ruby FPDF is a ruby file that may be used to generate PDF files.
5. JasperReports is a Java reporting tool that may be integrated with Rails.
6. Rails PDF Plugin.

Often data is required to be presented in a spreadsheet. Excel is a spreadsheet program by Microsoft to analyze, exchange, and present information in a row-column-cell format. Ruby provides various libraries to generate an Excel spreadsheet. Some of these Ruby libraries are discussed below.

1. The Builder ruby library may be used to export XML to Excel spreadsheet.
2. Apache POI Ruby Bindings may be used to generate an XML Document
3. The Ruby Spreadsheet library.

In this chapter we shall create PDF and Excel spreadsheet documents using Ruby on Rails. For comparison, we shall also briefly discuss how one would create a PDF document and an Excel spreadsheet in PHP and Java.

5.2 Creating a PDF with PHP

In PHP a PDF document is created using one of the PHP class libraries for PDF such as PDFLib or ClibPDF. For example, with ClibPDF, first one would open a new PDF document using the `cpdf_open()` function.

```
$cpdf=cpdf_open(0);
```

Start a new page using the `cpdf_page_init()` function. In which, page size, page number, and page orientation may be specified. A bookmark may be added using the `cpdf_add_outline()` function. Text is added to the PDF document using the `cpdf_begin_text()` function.

```
cpdf_begin_text($cpdf);
```

Set font using the `cpdf_set_font()` function and text position with the `cpdf_set_text_pos()` function. Specify text rendering mode with the `cpdf_set_text_rendering()` function. Text may be rendered in fill mode or stroke mode. Add text to the PDF document using the `cpdf_text()` function.

```
cpdf_text($cpdf,"PDF Document created with PHP");
```

The text section is ended with the `cpdf_end_text()` function.

```
cpdf_end_text($cpdf);
```

The ClibPDF class library also provides functions to add a line or add a JPEG to the PDF document.

5.3 Creating a PDF with Java

A PDF document is created using the Apache FOP API. The Formatting Objects Processor (FOP) API converts a XSL Formatting Objects (XSL-FO) object to a PDF object. For example, if an XML document is to be converted to a PDF document, first we need to transform the XML document to an XSL-FO file, `foFile`, using a Transformer object. Create a FOP driver object.