

# ADAMS

Advanced Data mining And Machine learning System

Module: adams-pdf



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*Te Whare Wānanga o Waikato*



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# Chapter 1

## Introduction

The *pdf* module adds PDF authoring capabilities to ADAMS. This is possible thanks to the iText [2] and jPod Renderer [3] libraries for creating, manipulating and viewing of PDF files.



# Chapter 2

## Flow

For manipulating and viewing PDF files, you can use the following actors:

- *PDFCreate* – for creating PDFs, using text files, spreadsheets and images.<sup>1</sup>
- *PDFExtract* – extracts a range of pages.
- *PDFExtractImages* – extracts the images from a PDF.<sup>2</sup>
- *PDFExtractText* – obtaining the plain text of the PDF.<sup>3</sup>
- *PDFMerge* – merges several PDFs into a single one.<sup>4</sup>
- *PDFPageCount* – determines the number of pages in a PDF.<sup>5</sup>
- *PDFViewer* – for viewing PDFs.<sup>6</sup>

### Creating PDFs

Generating a PDF using the *PDFCreate* transformer is really easy. The transformer takes an array of file names as input, which will all get added to the specified output PDF file. Basic options, like page size and orientation, can be set as well. How and what files get added to the PDF, is determined by the “proclefs”, i.e., little processor classes, that you specify and configure:

- *CsvPdfProklet* – for adding CSV files as tables.
- *HeadlinePdfProklet* – for adding a headline.
- *ImagePdfProklet* – for adding images (GIF, JPEG, PNG).
- *PlainTextPdfProklet* – for adding plain text files as paragraphs.

Figure 2.1 shows a flow<sup>7</sup> that adds all files (i.e., three) found in a directory to a single PDF. Figures 2.2, 2.3 and 2.4 show the resulting pages of the PDF in the viewer.

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<sup>1</sup>adams-pdf-create.pdf.flow

<sup>2</sup>adams-pdf-extract.images.flow

<sup>3</sup>adams-pdf-extract.text.flow

<sup>4</sup>adams-pdf-page\_count.flow

<sup>5</sup>adams-pdf-page\_count.flow

<sup>6</sup>adams-pdf-view.pdf.flow

<sup>7</sup>adams-pdf-create.pdf.flow

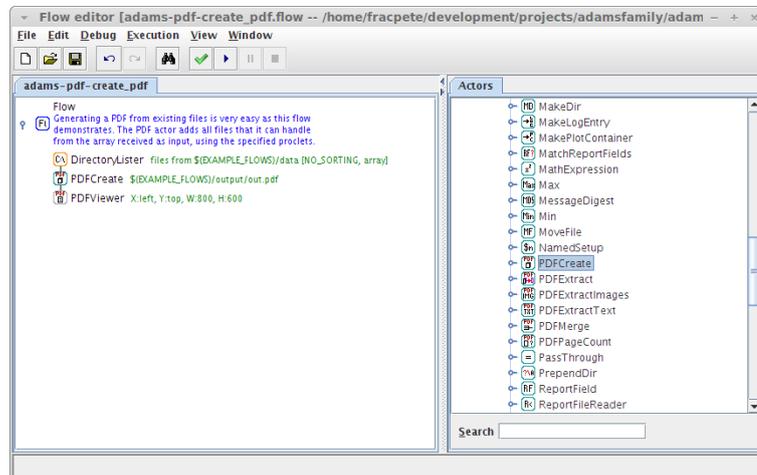


Figure 2.1: Flow for creating a PDF file from various sources.

RUN	SPEED1	TOTAL	SPEED2	NUMBE R2	SENS	TIME	T20BOL T
25.0	2.0	10.0	1.5	0.0	6.0	5.7	11.4
24.0	2.0	10.0	1.5	0.0	10.0	17.6	35.1
30.0	2.0	10.0	1.5	2.0	6.0	11.3	22.6
2.0	2.0	10.0	1.5	2.0	10.0	8.4	16.8
40.0	2.0	10.0	2.5	0.0	6.0	16.7	33.3
37.0	2.0	10.0	2.5	0.0	10.0	12.0	24.1
16.0	2.0	10.0	2.5	2.0	6.0	9.2	18.4
22.0	2.0	10.0	2.5	2.0	10.0	3.9	7.9
33.0	2.0	30.0	1.5	0.0	6.0	27.0	18.0
17.0	2.0	30.0	1.5	0.0	10.0	19.5	13.0
28.0	2.0	30.0	1.5	2.0	6.0	18.5	12.4
27.0	2.0	30.0	1.5	2.0	10.0	25.7	17.1
14.0	2.0	30.0	2.5	0.0	6.0	19.0	12.7
13.0	2.0	30.0	2.5	0.0	10.0	22.4	14.9
4.0	2.0	30.0	2.5	2.0	6.0	23.8	15.9
21.0	2.0	30.0	2.5	2.0	10.0	30.1	20.1
23.0	6.0	10.0	1.5	0.0	6.0	13.4	26.8
35.0	6.0	10.0	1.5	0.0	10.0	34.3	68.5
19.0	6.0	10.0	1.5	2.0	6.0	39.7	79.5
34.0	6.0	10.0	1.5	2.0	10.0	10.6	21.2
31.0	6.0	10.0	2.5	0.0	6.0	28.9	57.8
9.0	6.0	10.0	2.5	0.0	10.0	35.6	71.2
38.0	6.0	10.0	2.5	2.0	6.0	17.2	34.4

Figure 2.2: CSV files get added as tables.

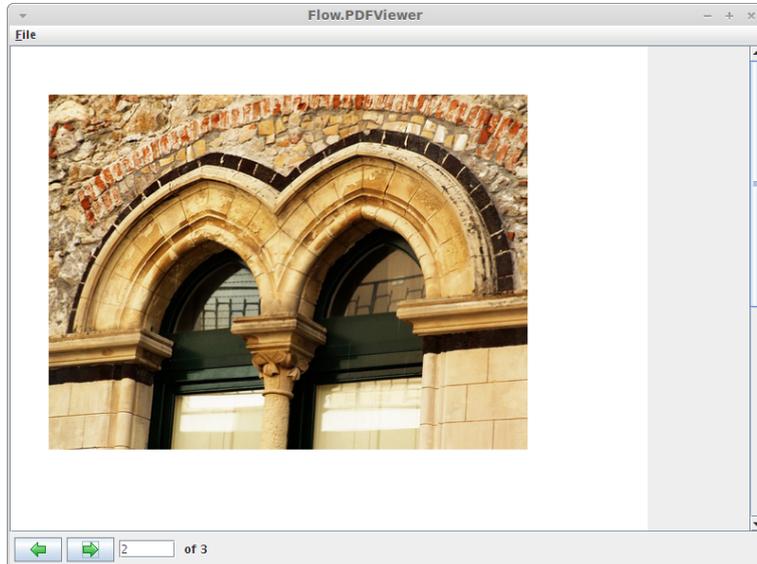


Figure 2.3: Images can get inserted as well.

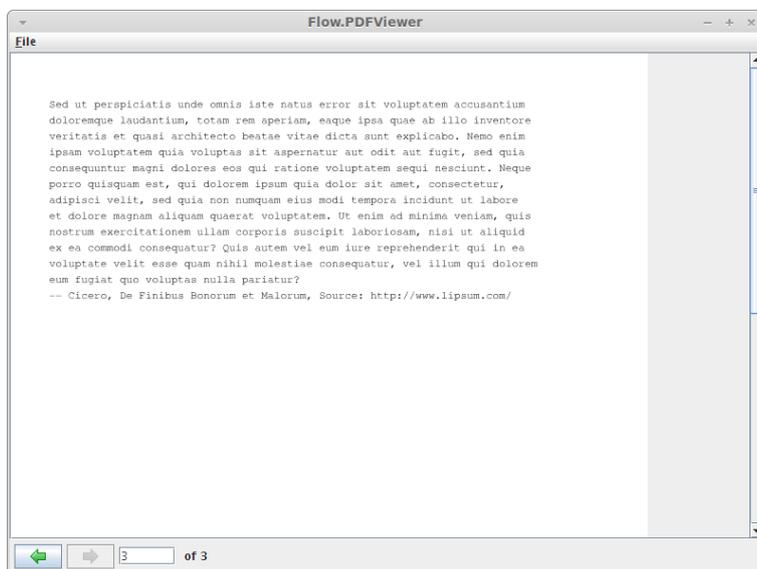


Figure 2.4: Plain text files get added as simple text.



# Chapter 3

## Tools

The *PDF viewer* can be used to load and browse PDF files. Figure 3.1 shows a screenshot of the viewer with a PDF file loaded.

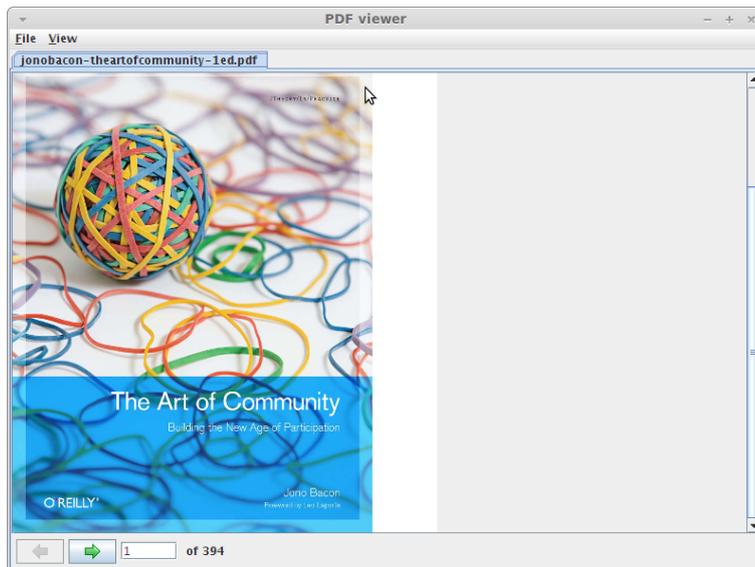


Figure 3.1: Viewer for PDF files.



## Chapter 4

# Troubleshooting

- **Problem:** 64bit Linux shows error message when viewing PDF that 'libfreetype.so' library was not found (“UnsatisfiedLinkError”).  
**Solution:** Make sure that /usr/lib/libfreetype.so exists. If not, add a symbolic link to the 64bit library, using a similar command as follows (for Kubuntu 11.10 or LinuxMint 11, 13):

```
sudo ln -s /usr/lib/x86_64-linux-gnu/libfreetype.so.6 /usr/lib/libfreetype.so
```

And restart the application.



# Bibliography

- [1] *ADAMS* – Advanced Data mining and Machine learning System  
<https://adams.cms.waikato.ac.nz/>
- [2] *iText* – A library that allows you to create and manipulate PDF documents  
<http://itextpdf.com/>
- [3] *jPod Renderer* – A PDF rendering implementation for AWT and SWT.  
<http://opensource.intarsys.de/home/en/index.php?n=JPodRenderer.HomePage>