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# DocBook XML Environment for Windows

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## Summary

This article describes how to install a documentation system based on DocBook XML on a Windows system.

## Introduction

### Purpose

In this paper I describe how to install a professional documentation system on a Windows platform, which is based on the DocBook and XML standards. I will not explain how to write DocBook XML source text. Instead you might want to look up the *DocBook Wiki*<sup>1</sup> as a good source for books, tutorials and other DocBook documentation.

My goal is to describe the environment, including its installation and configuration, and give some examples of its usage.

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<sup>1</sup> <http://wiki.docbook.org/>

This new revision reflects new releases of required packages and updates the hyperlinks to the Internet. Updated versions have been published in 2005 and 2007, the revision history has been shortened. The document is now under subversion control.

## Assumptions and Prerequisites

I assume that you

- want to use the XML variant of DocBook and the XSL stylesheets of DocBook
- have a reasonably current Java Run Time environment installed

You can download the up-to-date version of Java from the *Free Java Download site at Oracle*<sup>2</sup>.

## Formatting process

The same source document written in DocBook XML can be used to produce *pdf* or *HTML* output through the same *formatting objects processor* FOP. Internally this is done in two steps as a *transformation* and a *formatting*.

1. the *transformation* uses DocBook stylesheets provided with DocBook.
2. the *formatting* is only necessary to generate the *pdf* file.

## Licenses

The necessary packages are available under the *Apache License*<sup>3</sup>. The appropriate web sites for downloading these packages will be given below.

## DocBook System based on XML

### Packages needed

The following packages are required

- DocBook DTD in XML and stylesheets in XSL,
- Apache FOP

The latest version of DocBook is 5.1. The release 5.0 was a complete rewrite in RELAX NG. In this paper I will continue to use DocBook V4.5 (released 2006-10-03). The DocBook stylesheets are at version 1.76.1 (released 2010-11-01). The stable release 1.0 of Apache FOP was released 2010-07-21.

## Download the packages

### DocBook packages

The DocBook package for XML can be downloaded from the *DocBook*<sup>4</sup> organisation at their *DocBook XML download site*<sup>5</sup>. Download the *DocBook 4.5 zip archive*<sup>6</sup>.

The DocBook XSL stylesheets are located at Sourceforge *docbook-xsl*<sup>7</sup>, download *version 1.76.1*<sup>8</sup>.

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<sup>2</sup> <http://java.com/en/>

<sup>3</sup> <http://www.apache.org/licenses/LICENSE-2.0>

<sup>4</sup> <http://docbook.org/>

<sup>5</sup> <http://docbook.org/xml/>

<sup>6</sup> <http://docbook.org/xml/4.5/docbook-xml-4.5.zip>

<sup>7</sup> <http://sourceforge.net/projects/docbook/>

<sup>8</sup> <http://sourceforge.net/projects/docbook/files/docbook-xsl/1.76.1/docbook-xsl-1.76.1.zip/download>

## The Apache FOP package

Locate the FOP package from the *Apache XML project*<sup>9</sup>. You may download from an appropriate mirror, depending on your location.

For Germany you may for example access the *FU Berlin ftp mirror*<sup>10</sup>, which is organized by projects. Download the *FOP java version 1.0 binary zip archive*<sup>11</sup>.

## Installing the packages

### Install DocBook and FOP

Unpack the zip archives into some convenient place. On my system I have chosen the directories

- c:\xml\docbook-xml-4.5
- c:\xml\docbook-xsl-1.76.1
- c:\xml\fop-1.0

### Configuring FOP

You need to do three things

1. set the environment variable JAVA\_HOME to the path pointing to your Java installation
2. add the FOP directory to your PATH
3. add the FOP java archive subdirectories to your CLASSPATH

On my system I have set JAVA\_HOME=\PROGRA~1\Java\jre6, and added c:\xml\fop-1.0; to PATH as well as c:\xml\fop-1.0\build;c:\xml\fop-1.0\lib to CLASSPATH.

## FOP processing

### HTML output

The generation of HTML output is performed by

```
fop -xml filename.xml -xsl \xml\docbook-xsl-1.76.1\html\docbook.xsl -foout filename.html
```

### pdf output

The generation of pdf output is performed by

```
fop -xml filename.xml -xsl \xml\docbook-xsl-1.76.1\fo\docbook.xsl -pdf filename.pdf [-param paper.type A4] [-param ulink.footnotes 1] [-param fop1.extensions 1]
```

The last three optional parameters set the paper size to A4 format, set the url references to footnotes and generate pdf bookmarks.

## Makefile example

This is the listing of my makefile `makefile` to generate this very document

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<sup>9</sup> <http://xml.apache.org/>

<sup>10</sup> <ftp://ftp.fu-berlin.de/unix/www/apache/>

<sup>11</sup> <ftp://ftp.fu-berlin.de/unix/www/apache/xmlgraphics/fop/binaries/fop-1.0-bin.zip>

```
# makefile for building xdocenv
# $Date: 2011-04-29 13:25:54 +0200 (Fri, 29 Apr 2011) $ $Revision: 158 $

source = xdocenv.xml xdocgen.xml xdocins.xml xdocfop.xml

all : html pdf
install : all copy
copy :
    cp xdocenv.pdf xdocenv.html \
    c:/progra~1/apache~1/apache2.2/htdocs/doku/xdocenv
html : xdocenv.html
xdocenv.html : $(source)
    fop -xml xdocenv.xml \
    -xsl /xml/docbook-xsl-1.76.1/html/docbook.xsl \
    -foout xdocenv.html
pdf : xdocenv.pdf
xdocenv.pdf : $(source)
    fop -xml xdocenv.xml \
    -xsl /xml/docbook-xsl-1.76.1/fo/docbook.xsl \
    -param paper.type A4 \
    -param ulink.footnotes 1 \
    -param fop1.extensions 1 \
    -pdf xdocenv.pdf
.PHONY : clean
clean :
    rm -f xdocenv.pdf xdocenv.html
```