

Selfdocbook (XML edition)

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Selfdocbook (XML edition)

by Tim Waugh

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Table of Contents

1. The Selfdocbook (XML edition) itself	1
2. Tools	2
3. Structure	3
4. Customizing XSL stylesheets	4
5. Tips and examples	5
Images	5
Program listings	5
HTML stylesheets	6
The euro character	6
Creating an index	6
Please send me examples	6
A. DocBook XML source	7
How to build the <i>Selfdocbook (XML edition)</i>	7
selfdocbookx.xml	7
intro.xml	9
tools.xml	10
structure.xml	12
tips.xml	13
source.xml	17
fdl.xml	20
ulink.xsl	27
filename.xsl	28
keycombo.xsl	28
admon.xsl	29
css.xsl	29
selfdocbookx.css	30
Makefile	30
B. GNU Free Documentation License	33
Index	40

Chapter 1. The Selfdocbook (XML edition) itself

The *Selfdocbook (XML edition)* is a self-documenting introduction to DocBook DocBook (XML) book. It includes its own DocBook XML source in the appendix, and so can be used to learn DocBook by example.

You can get a copy of the *Selfdocbook (XML edition)* in various ways; presumably you already know one of them since you are reading the *Selfdocbook (XML edition)* right now. Here are the choices:

- View it using a web browser, by pointing it to the *Selfdocbook (XML edition)* web page [<http://cyberelk.net/tim/docbook/selfdocbookx/index.html>].
- Grab the PostScript version [<http://cyberelk.net/tim/docbook/selfdocbookx.ps>], ready to print out.
- Download the PDF version [<http://cyberelk.net/tim/docbook/selfdocbookx.pdf>], if that's your preferred format.
- Fetch the DocBook XML source [<http://cyberelk.net/tim/docbook/selfdocbookx.tar.gz>] and build it.

You can use the *Selfdocbook (XML edition)* to learn DocBook by example: if you see something that you want to know how to do, you can simply flip to Appendix A, *DocBook XML source* to find out how it is done.

I learned DocBook from the excellent book *DocBook: The Definitive Guide* by O'Reilly Associates, also available online [<http://docbook.org/tdg/html/docbook.html>]. It is probably a good idea to have a glance through that in order to get more of an overview than this book provides.

This *Selfdocbook (XML edition)* was built on 1 June 2010.

Chapter 2. Tools

The *Selfdocbook (XML edition)* is held together by magic **sed** glue, which is activated by some rules in the Makefile in Appendix A, *DocBook XML source*. So, in order to build the *Selfdocbook (XML edition)* you will need **make** and **sed** (and also **fold**). Note that **sed** and **fold** won't be necessary for all SGML projects, but using a Makefile is usually a good idea.

To have a functioning XML environment, you will need to have various programs installed. On a Red Hat Linux 7.3 system, you need to install these packages:

- sgml-common and xml-common
- xmltex
- passivetex
- docbook-style-xsl
- docbook-dtds
- xmlto

See <http://cyberelk.net/tim/docbook/> for more information.

The last package in the list there is `xmlto`, which is just a small shell script which invokes the other tools for you so that you don't have to remember which commands to run, how many times, and so on. It is similar to `jw(1)` from the `docbook-utils` package.

I use an **emacs** package called `psgml` for editing SGML or XML documents. The keybindings I find most useful are:

- Tab indents the current element to a level appropriate to its nesting depth.
- C+c C+t lists the valid tags for the current element.
- C+c / closes the current element.

Chapter 3. Structure

DocBook documents are SGML documents. That includes DocBook XML documents as well; XML is a subset of SGML. The SGML declaration at the top identifies it as a DocBook document, and it should look something like this:

```
<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook XML V4.2//EN"
"http://www.oasis-open.org/docbook/xml/4.2/docbookx.dtd"[
...
]>
<book>
...
</book>
```

The book here specifies the type of the top-level element of the document. This declaration also says that the document conforms to version 4.2 of the DocBook XML document type declaration (DTD). The book element is also shown (although without its content)—notice that it is opened with “<book>” and closed with “</book>”, and everything in between is the content of that element.

Other files can be included by the top-level file by the use of entities. To include a file you first declare an entity and then use it:

```
<!DOCTYPE ...[
<ENTITY includedfile SYSTEM "includedfile.xml">
]>
...
&includedfile;
...
```

Because SGML tags (<...>) and entities (&...;) are interpreted specially, there are escapes provided to enable you to use these marker characters in your DocBook files. “<” gives “<”; “>” gives “>”; and “&” gives “&”. There are many other predefined entities too.

Chapter 4. Customizing XSL stylesheets

It is a lot of work to write your own XSL stylesheet, but it is quite easy to customize an existing one. If you use the tools suggested in Chapter 2, *Tools* then you will have some default XSL stylesheets already installed on your system.

But rather than edit them directly, it is usually preferable to create a *customization layer*. A very simple one is used by this book; for print output, URLs are enclosed in angled brackets rather than square brackets, and for XHTML output the file extension is changed from `.xhtm` to `.html`.

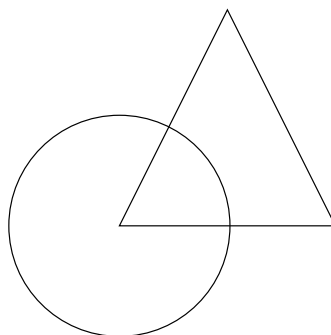
For the URL modification, for example, take a look at the file `ulink.xsl` in Appendix A, *DocBook XML source*. If you are using `xmlto` then it will generate a custom XSL stylesheet for you if you use the `-m` option.

Chapter 5. Tips and examples

This document is an example of a book, and a book generally contains chapters, which may contain sections. A paragraph of text can be put in a para tag. There are lots of examples of that in this book (see Appendix A, *DocBook XML source*).

When you want text to appear with its layout intact (spaces and newlines kept where they are), you can use the `literallayout` tag. Note that Tab characters are *not* expanded. If you also would like a different font for the listed text, you might want to use the `programlisting` tag.

Images



This shows how to handle images for both print and web display; each format is included in one `mediaobject` so the stylesheet, when faced with a limited subset of formats for the current output media, can select the best fit.

I have cheated slightly, in that the for-print version is using a PDF format image even though PDF is not an officially allowed format in this version of DocBook XML. Luckily though, the tools I am using allow it through anyway.

Program listings

There are some things to watch out for when doing program listings. Let's say that we want to put the following fragment of code into DocBook:

```
#include <stdio.h>
int main ()
{
    int count = 3;
    while (count-->0)
        printf ("Count is now %d\n", count);
}
```

The problem is that `<stdio.h>` will be interpreted as an SGML tag. For this small fragment, it is easy to replace the `<`-signs with `<`, but for larger code fragments there could easily be missed SGML entities.

A slightly easier way is to enclose it in a CDATA tag (i.e. literal text), like this:


```
<programlisting><![CDATA[  
...  
]]></programlisting>
```

The next thing to bear in mind is that Tab characters will not be expanded to spaces, so you will need to do all the indenting with spaces.

Warning

There is currently a bug in `xm1tex` that causes incorrect output for “--” (i.e. two dashes). Grab the latest `PassiveTeX` for an `xm1tex.tex` and `PassiveTeX` distribution with this fixed.

Of course, Appendix A, *DocBook XML source* of this book needs to include quite a lot of source code (XML rather than C), and the approach I have taken in order to be sure that I haven't missed anything is to have the `Makefile` run `sed` on the original source, and just include the result as an entity. Take a look at Appendix A, *DocBook XML source* to see how that's done.

HTML stylesheets

The HTML version of this document makes use of a custom CSS stylesheet for rendering HTML elements slightly differently (in fact, in this small example only some colours are changed). The CSS stylesheet is the section called “`selfdocbookx.css`”, and the `DocBook HTML` stylesheet is told about it by our custom XSL layer: the `html.stylesheet` parameter is set to the name of the CSS file we want to use. See the section called “`css.xsl`” for how that's done.

The euro character

There is a bug in older versions (before 1.12) of `PassiveTeX` causing euro characters (`€`, which should look something like “€”) to appear as black boxes.

This bug is fixed in the Red Hat Linux `passivetex-1.11-5` package, available in `rawhide`.

However, you'll need an up to date `marvosym.sty` file, which you can get from CTAN. (The current Red Hat Linux `rawhide` `teTeX` package has this updated already, but `marvosym.sty` is much smaller to download!)

Creating an index

Adding an index to your document is easy; the `DocBook XSL` stylesheets automatically cross-reference your tagged index words to generate the page numbers in the index section. For example, in the source XML of this document you'll see that the index section at the end is indicated by just “`<index />`”. Examples of how to mark up index entries in the document are in this paragraph (the section called “`tips.xml`”) and throughout the section called “`tools.xml`”. The key tag is `indexterm`.

Please send me examples

There are no more examples in this section yet, because I haven't written any. If you would like to see a particular element of `DocBook` demonstrated here, feel free to send me an example, preferably demonstrated inside a section XML element.

Appendix A. DocBook XML source

How to build the *Selfdocbook (XML edition)*

Given a functioning XML environment, all of the necessary files are shown in full in this appendix. All you have to do in order to build the *Selfdocbook (XML edition)* is:

1. Make sure you that have installed the necessary XML tools (see Chapter 2, *Tools*).
2. In addition to those tools you will need:
 - `fig2dev` (from the `transfig` package) for converting image formats
 - `fold` and `sed` for manipulating SGML files so that they can be included verbatim in a DocBook document.
 - For PostScript output I suggest you use `pdftops`, from the `xpdf` package.
3. Put all the files in the same directory and type **make**. The default target builds PDF, PostScript and HTML output.

selfdocbookx.xml

```
<?xml version='1.0' encoding='utf-8'?> <!-- -*- xml -*- -->
<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook XML V4.2//EN"
"http://www.oasis-open.org/docbook/xml/4.2/docbookx.dtd"[
<ENTITY builddate SYSTEM "builddate">
<ENTITY intro SYSTEM "intro.xml">
<ENTITY tools SYSTEM "tools.xml">
<ENTITY structure SYSTEM "structure.xml">
<ENTITY xsl SYSTEM "xsl.xml">
<ENTITY tips SYSTEM "tips.xml">
<ENTITY source SYSTEM "source.xml">
<ENTITY fdl SYSTEM "fdl.xml">
<ENTITY makefile SYSTEM "Makefile.sed">
<ENTITY selfdocbookxml SYSTEM "selfdocbookx.xml.sed">
<ENTITY introxml SYSTEM "intro.xml.sed">
<ENTITY toolxml SYSTEM "tools.xml.sed">
<ENTITY structurexml SYSTEM "structure.xml.sed">
<ENTITY xslxml SYSTEM "xsl.xml.sed">
<ENTITY tipxml SYSTEM "tips.xml.sed">
<ENTITY sourcexml SYSTEM "source.xml.sed">
<ENTITY fdxml SYSTEM "fdl.xml.sed">
<ENTITY ulinkxsl SYSTEM "ulink.xsl.sed">
<ENTITY filenamexsl SYSTEM "filename.xsl.sed">
<ENTITY keycomboxsl SYSTEM "keycombo.xsl.sed">
<ENTITY admonxsl SYSTEM "admon.xsl.sed">
<ENTITY cssxsl SYSTEM "css.xsl.sed">
<ENTITY selfdocbookxcss SYSTEM "selfdocbookx.css.sed">
```

```
<ENTITY sdb "<citetitle>Selfdocbook (XML edition)</citetitle>">
]>

<book>
<bookinfo>
<title>Selfdocbook (XML edition)</title>

<authorgroup>
<author>
<firstname>Tim</firstname>
<surname>Waugh</surname>
<affiliation>
<orgname>Red Hat, Inc.</orgname>
<address>
<email>twaugh@redhat.com</email>
</address>
</affiliation>
</author>
</authorgroup>

<copyright>
<year>2000-3</year>
<holder>Tim Waugh</holder>
</copyright>

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document under the terms of the GNU Free Documentation License,
Version 1.1 or any later version published by the Free Software
Foundation; with no Invariant Sections, with no Front-Cover Texts,
and with no Back-Cover Texts. A copy of the license is included
in the section entitled "GNU Free Documentation License".</para>
</legalnotice>
</bookinfo>

&intro;
&tools;
&structure;
&xsl;
&tips;
&source;
&fdl;

<index />
</book>

<!-- Local Variables: -->
<!-- sgml-indent-step: 1 -->
<!-- sgml-indent-data: 1 -->
<!-- End: -->
```

intro.xml

```
<?xml version='1.0' encoding='utf-8'?> <!-- *- xml -* -->
<chapter>
  <title>
    The Selfdocbook (XML edition) itself
  </title>

  <para>The &sdb; is a self-documenting introduction to DocBook DocBook
  (XML) book. It includes its own DocBook XML source in the <link
  linkend="source">appendix</link>, and so can be used to learn
  DocBook by example.</para>

  <para>You can get a copy of the &sdb; in various ways; presumably you
  already know one of them since you are reading the &sdb; right now.
  Here are the choices:</para>

  <itemizedlist>
    <listitem>
      <para>View it using a web browser, by pointing it to the <ulink
      url="http://cyberelk.net/tim/docbook/selfdocbookx/index.html"
      >&sdb; web page</ulink>.</para>
    </listitem>

    <listitem>
      <para>Grab the <ulink
      url="http://cyberelk.net/tim/docbook/selfdocbookx.ps">PostScript
      version</ulink>, ready to print out.</para>
    </listitem>

    <listitem>
      <para>Download the <ulink
      url="http://cyberelk.net/tim/docbook/selfdocbookx.pdf">PDF
      version</ulink>, if that's your preferred format.</para>
    </listitem>

    <listitem>
      <para>Fetch the <ulink
      url="http://cyberelk.net/tim/docbook/selfdocbookx.tar.gz">DocBook
      XML source</ulink> and build it.</para>
    </listitem>
  </itemizedlist>

  <para>You can use the &sdb; to learn DocBook by example: if you see
  something that you want to know how to do, you can simply flip to
  <xref linkend="source"/> to find out how it is done.</para>

  <para>I learned DocBook from the excellent book <citetitle>DocBook:
  The Definitive Guide</citetitle> by O'Reilly Associates,
  also <ulink url="http://docbook.org/tdg/html/docbook.html">available
  online</ulink>. It is probably a good idea to have a glance
  through that in order to get more of an overview than this book
```

```
provides.</para>

<para>This &sdbs; was built on &builddate;.</para>
</chapter>

<!-- Local Variables: -->
<!-- sgml-indent-step: 1 -->
<!-- sgml-indent-data: 1 -->
<!-- sgml-parent-document: "selfdocbookx.xml" -->
<!-- End: -->
```

tools.xml

```
<?xml version='1.0' encoding='utf-8'?> <!-- -*- xml -*- -->
<chapter id="tools">
<title>Tools</title>

<para>The &sdbs; is held together by magic <command>sed</command>
glue, which is activated by some rules in the <link
linkend="Makefile">Makefile</link> in <xref linkend="source"/>.
So, in order to build the &sdbs; you will need
<command>make</command> and <command>sed</command> (and also
<command>fold</command>). Note that <command>sed</command> and
<command>fold</command> won't be necessary for all SGML projects,
but using a <filename>Makefile</filename> is usually a good
idea.</para>

<para>To have a functioning XML environment, you will need to have
various programs installed. On a Red Hat Linux 7.3 system, you
need to install these packages:</para>

<itemizedlist>
<listitem>
<indexterm>
<primary>sgml-common</primary>
</indexterm>

<indexterm>
<primary>xml-common</primary>
</indexterm>

<para><literal>sgml-common</literal> and
<literal>xml-common</literal></para>
</listitem>

<listitem>
<indexterm>
<primary>xmlltex</primary>
</indexterm>
```

```
<para><literal>xmltex</literal></para>
</listitem>
```

```
<listitem>
<indexterm>
<primary>passivetex</primary>
</indexterm>
```

```
<para><literal>passivetex</literal></para>
</listitem>
```

```
<listitem>
<indexterm>
<primary>docbook-style-xsl</primary>
</indexterm>
```

```
<para><literal>docbook-style-xsl</literal></para>
</listitem>
```

```
<listitem>
<indexterm>
<primary>docbook-dtds</primary>
</indexterm>
```

```
<para><literal>docbook-dtds</literal></para>
</listitem>
```

```
<listitem>
<indexterm>
<primary>xmlto</primary>
</indexterm>
```

```
<para><literal>xmlto</literal></para>
</listitem>
</itemizedlist>
```

```
<para>See <ulink
url="http://cyberelk.net/tim/docbook/">http://cyberelk.net/tim/docboo
k/</ulink>
for more information.</para>
```

```
<para>The last package in the list there is
<literal>xmlto</literal>, which is just a small shell script which
invokes the other tools for you so that you don't have to remember
which commands to run, how many times, and so on. It is similar to
<citerefentry><refentrytitle>jw</refentrytitle><manvolnum>1</manvolnu
m>
</citerefentry> from the <literal>docbook-utils</literal>
package.</para>
```

```
<para><indexterm><primary>emacs</primary>
</indexterm><indexterm><primary>psgml</primary>
</indexterm>I use an <command>emacs</command> package called
<literal>psgml</literal> for editing SGML or XML documents. The
```

```

keybindings I find most useful are:</para>

<itemizedlist>
<listitem>
<para><keySYM>Tab</keySYM> indents the current element to a level
appropriate to its nesting depth.</para>
</listitem>

<listitem>
<para><keyCOMBO action="seq">
<keyCOMBO action="simul">
<keySYM>C</keySYM><keySYM>c</keySYM>
</keyCOMBO>
<keyCOMBO action="simul">
<keySYM>C</keySYM><keySYM>t</keySYM>
</keyCOMBO>
</keyCOMBO> lists the valid tags for the current element.</para>
</listitem>

<listitem>
<para><keyCOMBO action="seq">
<keyCOMBO action="simul">
<keySYM>C</keySYM><keySYM>c</keySYM>
</keyCOMBO>
<keySYM>/</keySYM>
</keyCOMBO> closes the current element.</para>
</listitem>
</itemizedlist>
</chapter>

<!-- Local Variables: -->
<!-- sgml-indent-step: 1 -->
<!-- sgml-indent-data: 1 -->
<!-- sgml-parent-document: "selfdocbookx.xml" -->
<!-- End: -->

```

structure.xml

```

<?xml version='1.0' encoding='utf-8'?> <!-- *- xml -* -->
<chapter id="structure">
<title>Structure</title>

<para>DocBook documents are SGML documents. That includes DocBook
XML documents as well; XML is a subset of SGML. The SGML
declaration at the top identifies it as a DocBook document, and it
should look something like this:</para>

<programlisting>
&lt;!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook XML V4.2//EN"
"http://www.oasis-open.org/docbook/xml/4.2/docbookx.dtd"[

```

```

&hellip;
]&gt;
&lt;book&gt;
&hellip;
&lt;/book&gt;
</programlisting>

```

<para>The <sgmltag>book</sgmltag> here specifies the type of the top-level element of the document. This declaration also says that the document conforms to version 4.2 of the DocBook XML document type declaration (DTD). The <sgmltag>book</sgmltag> element is also shown (although without its content)—notice that it is opened with <quote><literal><book></literal></quote> and closed with <quote><literal></book></literal></quote>, and everything in between is the content of that element.</para>

<para>Other files can be included by the top-level file by the use of entities. To include a file you first declare an entity and then use it:</para>

```

<programlisting>
&lt;!DOCTYPE &hellip;[
&lt;!ENTITY includedfile SYSTEM "includedfile.xml">
]&gt;
&hellip;
&amp;includedfile;
&hellip;
</programlisting>

```

<para>Because SGML tags (<literal><…></literal>) and entities (<literal>&…,</literal>) are interpreted specially, there are escapes provided to enable you to use these marker characters in your DocBook files.

<quote><literal>&lt;</literal></quote> gives
 <quote><</quote>; <quote><literal>&gt;</literal></quote>
 gives <quote>></quote>; and
 <quote><literal>&amp;</literal></quote> gives
 <quote>&</quote>. There are many other predefined entities too.</para>

```

<!-- Local Variables: -->
<!-- sgml-indent-step: 1 -->
<!-- sgml-indent-data: 1 -->
<!-- sgml-parent-document: "selfdocbookx.xml" -->
<!-- End: -->

```

tips.xml

```
<?xml version='1.0' encoding='utf-8'?> <!-- *- xml -* -->
```



```
<chapter id="tips">
<title>Tips and examples</title>
```

```
<para>This document is an example of a <sgmltag>book</sgmltag>, and
a <sgmltag>book</sgmltag> generally contains
<sgmltag>chapter</sgmltag>s, which may contain
<sgmltag>section</sgmltag>s. A paragraph of text can be put in a
<sgmltag>para</sgmltag> tag. There are lots of examples of that in
this book (see <xref linkend="source"/>).</para>
```

```
<para>When you want text to appear with its layout intact (spaces
and newlines kept where they are), you can use the
<sgmltag>literallayout</sgmltag> tag. Note that
<keysym>Tab</keysym> characters are <emphasis>not</emphasis>
expanded. If you also would like a different font for the listed
text, you might want to use the <sgmltag>programlisting</sgmltag>
tag.</para>
```

```
<section id="images">
<title>Images</title>
```

```
<mediaobject>
<imageobject>
  <imagedata fileref="simple.pdf" format="pdf" align="center"/>
</imageobject>
<imageobject>
  <imagedata fileref="simple.png" format="png" align="center"/>
</imageobject>
</mediaobject>
```

```
<para>This shows how to handle images for both print and web
display; each format is included in one
<sgmltag>mediaobject</sgmltag> so the stylesheet, when faced with
a limited subset of formats for the current output media, can
select the best fit.</para>
```

```
<para>I have cheated slightly, in that the for-print version is
using a PDF format image even though PDF is not an officially
allowed format in this version of DocBook XML. Luckily though,
the tools I am using allow it through anyway.</para>
```

```
</section>
```

```
<section id="listing">
<title>Program listings</title>
```

```
<para>There are some things to watch out for when doing program
listings. Let's say that we want to put the following fragment of
code into DocBook:</para>
```

```
<programlisting><![CDATA[
#include <stdio.h>
int main ()
{
    int count = 3;
```

```
    while (count--)\n        printf ("Count is now %d\n", count);\n}\n]]>\n</programlisting>
```

<para>The problem is that <literal><stdio.h></literal> will be interpreted as an SGML tag. For this small fragment, it is easy to replace the <-signs with <literal>&lt;</literal>, but for larger code fragments there could easily be missed SGML entities.</para>

<para>A slightly easier way is to enclose it in a <sgmltag>CDATA</sgmltag> tag (i.e. literal text), like this:</para>

```
<programlisting>\n&lt;programlisting&gt;&lt;!&lsqb;CDATA&lsqb;\n&hellip;\n&rsqb;&rsqb;&gt;&lt;/programlisting&gt;\n</programlisting>
```

<para>The next thing to bear in mind is that <keysym>Tab</keysym> characters will not be expanded to spaces, so you will need to do all the indenting with spaces.</para>

<warning>\n<para>There is currently a bug in\n<application>xmltex</application> that causes incorrect output\nfor <quote><literal>--</literal></quote> (i.e. two\ndashes). Grab the latest PassiveTeX for an\n<filename>xmltex.tex</filename> and PassiveTeX distribution with\nthis fixed.</para>\n</warning>

<para>Of course, <xref linkend="source"/> of this book needs to include quite a lot of source code (XML rather than C), and the approach I have taken in order to be sure that I haven't missed anything is to have the <filename>Makefile</filename> run <application>sed</application> on the original source, and just include the result as an entity. Take a look at <xref linkend="source"/> to see how that's done.</para>\n</section>

<section id="css">\n<title>HTML stylesheets</title>

<para>The HTML version of this document makes use of a custom CSS stylesheet for rendering HTML elements slightly differently (in fact, in this small example only some colours are changed). The CSS stylesheet is <xref linkend="selfdocbookx.css"/>, and the DocBook HTML stylesheet is told about it by our custom XSL layer: the <varname>html.stylesheet</varname> parameter is set to the name of the CSS file we want to use. See <xref

```
linkend="css.xml"/> for how that's done.</para>
</section>
```

```
<section id="euro">
<title>The euro character</title>
```

```
<para>There is a bug in older versions (before 1.12) of PassiveTeX
causing euro characters (&euro;, which should look something
like <quote>&euro;</quote>) to appear as black boxes.</para>
```

```
<para>This bug is fixed in the Red Hat Linux passivetex-1.11-5
package, available in rawhide.</para>
```

```
<para>However, you'll need an up to date
<filename>marvosym.sty</filename> file, which you can get from
CTAN. (The current Red Hat Linux rawhide teTeX package has this
updated already, but <filename>marvosym.sty</filename> is much
smaller to download!)</para>
```

```
</section>
```

```
<section id="indexing">
<title>Creating an index</title>
```

```
<para><indexterm>
<primary>index</primary>
<secondary>adding</secondary>
</indexterm><indexterm>
<primary>index</primary>
<secondary>generating</secondary>
</indexterm><indexterm>
<primary>index entries</primary>
<secondary>marking up</secondary>
</indexterm>Adding an index to your document is easy; the DocBook XS
```

```
L
```

```
stylesheets automatically cross-reference your tagged index words
to generate the page numbers in the index section. For example,
in the source XML of this document you'll see that the index
section at the end is indicated by just
```

```
<quote><literal>&lt;index&nbsp;/></literal></quote>. Examples of
how to mark up index entries in the document are in this paragraph
(<xref linkend="tips.xml" />) and throughout <xref
linkend="tools.xml" />. The key tag is
<sgmltag>indexterm</sgmltag>.</para>
```

```
</section>
```

```
<section id="no-more">
<title>Please send me examples</title>
```

```
<para>There are no more examples in this section yet, because I
haven't written any. If you would like to see a particular
element of DocBook demonstrated here, feel free to send me an
example, preferably demonstrated inside a
<sgmltag>section</sgmltag> XML element.</para>
```

```
</section>
```

```
</chapter>

<!-- Local Variables: -->
<!-- sgml-indent-step: 1 -->
<!-- sgml-indent-data: 1 -->
<!-- sgml-parent-document: "selfdocbookx.xml" -->
<!-- End: -->
```

source.xml

```
<?xml version='1.0' encoding='utf-8'?> <!-- *- xml -* -->
<appendix id="source">
<title>DocBook XML source</title>

<section id="build">
<title>How to build the &sd;,</title>

<para>Given a functioning XML environment, all of the necessary
files are shown in full in this appendix. All you have to do in
order to build the &sd; is:</para>

<orderedlist>
<listitem>
<para>Make sure you that have installed the necessary XML
tools (see <xref linkend="tools"/>).</para>
</listitem>

<listitem>
<para>In addition to those tools you will need:</para>
<itemizedlist>
<listitem>
<para><application>fig2dev</application> (from the
<application>transfig</application> package) for converting
image formats</para>
</listitem>

<listitem>
<para><application>fold</application> and
<application>sed</application> for manipulating SGML files so
that they can be included verbatim in a DocBook
document.</para>
</listitem>

<listitem>
<para>For PostScript output I suggest you use
<application>pdftops</application>, from the
<application>xpdf</application> package.</para>
</listitem>
</itemizedlist>
</listitem>
```

```
<listitem>
  <para>Put all the files in the same directory and type
  <userinput>make</userinput>. The default target builds
  PDF, PostScript and HTML output.</para>
</listitem>
</orderedlist>
</section>

<section>
  <title><filename>selfdocbookx.xml</filename></title>

  <programlisting>
&selfdocbookxxml;
  </programlisting>
</section>

<section>
  <title><filename>intro.xml</filename></title>

  <programlisting>
&introxml;
  </programlisting>
</section>

<section id="tools.xml">
  <title><filename>tools.xml</filename></title>

  <programlisting>
&toolsxml;
  </programlisting>
</section>

<section>
  <title><filename>structure.xml</filename></title>

  <programlisting>
&structurexml;
  </programlisting>
</section>

<section id="tips.xml">
  <title><filename>tips.xml</filename></title>

  <programlisting>
&tipxml;
  </programlisting>
</section>

<section>
  <title><filename>source.xml</filename></title>

  <programlisting>
&sourcexml;
```

```
</programlisting>
</section>

<section>
  <title><filename>fdl.xml</filename></title>

  <programlisting>
&fdlxml;
  </programlisting>
</section>

<section id="ulink.xml">
  <title><filename>ulink.xml</filename></title>

  <programlisting>
&ulinkxsl;
  </programlisting>
</section>

<section>
  <title><filename>filename.xml</filename></title>

  <programlisting>
&filenamexsl;
  </programlisting>
</section>

<section>
  <title><filename>keycombo.xml</filename></title>

  <programlisting>
&keycomboxsl;
  </programlisting>
</section>

<section>
  <title><filename>admon.xml</filename></title>

  <programlisting>
&admonxsl;
  </programlisting>
</section>

<section id="css.xml">
  <title><filename>css.xml</filename></title>

  <programlisting>
&cssxsl;
  </programlisting>
</section>

<section id="selfdocbookx.css">
  <title><filename>selfdocbookx.css</filename></title>
```

```
<programlisting>
&selfdocbookxcss;
</programlisting>
</section>

<section id="Makefile">
<title><filename>Makefile</filename></title>

<programlisting>
&makefile;
</programlisting>
</section>

</appendix>

<!-- Local Variables: -->
<!-- sgml-indent-step: 1 -->
<!-- sgml-indent-data: 1 -->
<!-- sgml-parent-document: "selfdocbookx.xml" -->
<!-- End: -->
```

fdl.xml

```
<?xml version='1.0' encoding='utf-8'?> <!-- -*- xml -*- -->
<appendix id="fdl">
<title>
GNU Free Documentation License
</title>

<literallayout class="monospaced">
GNU Free Documentation License
Version 1.1, March 2000

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```

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```
</literallayout>
</appendix>
```

```
<!-- Local Variables: -->
<!-- sgml-indent-step: 1 -->
<!-- sgml-indent-data: 1 -->
<!-- sgml-parent-document: "selfdocbookx.xml" -->
<!-- End: -->
```

ulink.xsl

```
<?xml version='1.0'?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
  xmlns:fo="http://www.w3.org/1999/XSL/Format"
  version='1.0'>

  <!-- Turn on URL hyphenation. -->
  <xsl:param name="ulink.hyphenate" select="">­" />

  <!-- This alters the rendering of URLs. Let's follow RFC 2396 -->
  <!-- guidelines. -->
  <xsl:template match="ulink">
    <fo:basic-link external-destination="{@url}"
      xsl:use-attribute-sets="xref.properties">
      <xsl:choose>
        <xsl:when test="count(child::node())=0">
          <xsl:text>&lt;</xsl:text>
          <xsl:call-template name="hyphenate-url">
            <xsl:with-param name="url" select="@url"/>
          </xsl:call-template>
          <xsl:text>&gt;</xsl:text>
        </xsl:when>
        <xsl:otherwise>
          <xsl:apply-templates/>
        </xsl:otherwise>
      </xsl:choose>
```

```
</fo:basic-link>
<xsl:if test="count(child::node()) != 0
    and string(.) != @url">
  <fo:inline hyphenate="false">
    <xsl:text> at &lt;</xsl:text>
    <xsl:call-template name="hyphenate-url">
      <xsl:with-param name="url" select="@url"/>
    </xsl:call-template>
    <xsl:text>&gt;</xsl:text>
  </fo:inline>
</xsl:if>
</xsl:template>

</xsl:stylesheet>
```

filename.xsl

```
<?xml version='1.0'?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
    version='1.0'>

  <!-- This sets the extension for HTML files to ".html". -->
  <!-- (The stylesheet's default for XHTML files is ".xhtml".) -->
  <xsl:param name="html.ext" select=".html"/>

  <!-- This sets the filename based on the ID. -->
  <xsl:param name="use.id.as.filename" select="'1'"/>

</xsl:stylesheet>
```

keycombo.xsl

```
<?xml version='1.0'?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
    xmlns:fo="http://www.w3.org/1999/XSL/Format"
    version='1.0'>

  <!-- There is a bug in docbook-xsl-1.45; work around it here. -->
  <!-- Also change it slightly for emacs key descriptions. -->
  <xsl:template match="keycombo">
    <xsl:variable name="action" select="@action"/>
    <xsl:variable name="joinchar">
      <xsl:choose>
        <xsl:when test="$action='seq'"><xsl:text></xsl:text></xsl:when>
```

```
<xsl:when test="$action='simul'"></xsl:when>
<xsl:otherwise></xsl:otherwise>
</xsl:choose>
</xsl:variable>
<xsl:for-each select="/*">
<xsl:if test="position()>1">
<xsl:value-of select="$joinchar"/>
</xsl:if>
<xsl:apply-templates select="."/>
</xsl:for-each>
</xsl:template>

</xsl:stylesheet>
```

admon.xsl

```
<?xml version='1.0'?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
version='1.0'>

<!-- Turn on admonition graphics. -->
<xsl:param name="admon.graphics" select="1"/>
<xsl:param name="admon.graphics.path" select="stylesheet-images"/>

<!-- Callout graphics go in a subdirectory of that. -->
<xsl:param name="callout.graphics.path"
select="stylesheet-images/callouts"/>

</xsl:stylesheet>
```

css.xsl

```
<?xml version='1.0'?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
xmlns:fo="http://www.w3.org/1999/XSL/Format"
version='1.0'>

<!-- Use an HTML CSS stylesheet. -->
<xsl:param name="html.stylesheet" select="selfdocbookx.css"/>

</xsl:stylesheet>
```


selfdocbookx.css

```
html, body {
  background-color: #e5e9e5;
  color: black;
}

a:link {
  color: #0000ee;
  background-color: transparent;
}

a:hover {
  color: #000088;
  background-color: transparent;
}

a:visited {
  color: #551a8b;
  background-color: transparent;
}

a:active {
  color: #ff0000;
  background-color: transparent;
}
```

Makefile

```
DOC=selfdocbookx
MAIN=$(DOC).xml
SECTS=intro.xml tools.xml structure.xml xsl.xml tips.xml \
  source.xml fdl.xml
XSLFOMODS=ulink.xsl keycombo.xsl
XSLHTMLMODS=filename.xsl admon.xsl keycombo.xsl css.xsl
XSLS=$(XSLFOMODS) $(XSLHTMLMODS)
FIGS=simple.fig
PNGS=$(FIGS:.fig=.png)
PDFS=$(FIGS:.fig=.pdf)
SRC=$(MAIN) $(SECTS) $(MAIN).sed $(addsuffix .sed,$(SECTS)) \
  $(addsuffix .sed,$(XSLS)) $(DOC).css.sed builddate Makefile.sed
XMLTO=xmlto --skip-validation

STYLESHEET_IMAGES=`xmlcatalog /etc/xml/catalog \
  http://docbook.sourceforge.net/release/xsl/current | \
  sed -e 's,^file://,,'/images

all: $(DOC).pdf $(DOC).ps $(DOC)
```

```

$(DOC).pdf: $(SRC) $(PDFS) $(XSLFOMODS)
    for mod in $(XSLFOMODS); do \
        MODARGS="$MODARGS -m $$mod"; \
    done; \
    $(XMLTO) pdf -v --extensions $$MODARGS $(MAIN)

$(DOC).fo: $(SRC) $(PDFS) $(XSLFOMODS)
    for mod in $(XSLFOMODS); do \
        MODARGS="$MODARGS -m $$mod"; \
    done; \
    $(XMLTO) fo -v --extensions $$MODARGS $(MAIN)

$(DOC).ps: $(DOC).pdf
    pdftops $< $@

$(DOC): $(SRC) $(PNGS) $(XSLHTMLMODS)
    -rm -rf $@
    for mod in $(XSLHTMLMODS); do \
        MODARGS="$MODARGS -m $$mod"; \
    done; \
    $(XMLTO) html -o $@ $$MODARGS $(MAIN)
    cp -a $(STYLESHEET_IMAGES) $@/stylesheet-images
    cp $(PNGS) $(DOC).css $@

# Since this file would be parsed for SGML markup, we have to
# make a safe version (with &, < and > converted to SGML entities)
# In addition, tabs get ignored for some reason, so for the
# Makefile we have to convert them to spaces.
%.sed: %
    fold -w 72 $< | \
        sed -e "s/$(echo x | tr x \t)/ /g" \
            -e "s/&/\&amp;/g" \
            -e "s/</\&lt;/g" \
            -e "s/>/\&gt;/g" > $@

builddate:
    echo -n "$(date "+%e %B %Y")" > $@

clean:
    -$(RM) *.log *.dvi *.aux *.tex *.sed *.out *.t
    -$(RM) $(PNGS) $(PDFS) builddate *.html
    -$(RM) -r $(DOC) $(DOC).ps $(DOC).pdf $(DOC).fo

distclean: clean
    -$(RM) *~ $(DOC).tar.gz docbook.tar.gz
    -$(RM) -r docbook

$(DOC).tar.gz: distclean
    (cd ..; tar zcf /tmp/$(DOC).tar.gz $(DOC) )
    mv /tmp/$(DOC).tar.gz .

docbook: $(DOC).tar.gz all
    -$(RM) -r $@

```

```
mkdir $@  
cp $(DOC).tar.gz $(DOC).ps $(DOC).pdf $@  
tar cf - $(DOC) | (cd $@; tar xf -)
```

```
docbook.tar.gz: docbook  
tar zcf docbook.tar.gz docbook
```

```
# Make png from xfig  
%.png: %.fig  
fig2dev -Lpng $< $@
```

```
# Make pdf from xfig  
%.pdf: %.fig  
fig2dev -Lpdf $< $@
```

```
.PHONY: distclean clean all builddate
```

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Index

D

docbook-dtds, 2
docbook-style-xsl, 2

E

emacs, 2

I

index
 adding, 6
 generating, 6
index entries
 marking up, 6

P

passivetex, 2
psgml, 2

S

sgml-common, 2

X

xml-common, 2
xmlltex, 2
xmlto, 2