Selfdocbook

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Selfdocbook

by Tim Waugh

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Chapter 1. The Selfdocbook itself

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

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

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

You can use the *Selfdocbook* to learn DocBook by example: if you see something that you want to know how to do, you can simply flip to Appendix A 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* was built on 23 May 2003.

Chapter 2. Tools

The *Selfdocbook* is held together by magic **sed** glue, which is activated by some rules in the Makefile in Appendix A. So, in order to build the *Selfdocbook* 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 SGML environment, you will need to have various programs installed. On a Red Hat Linux 7.1 system, the `sgml-common`, `openjade`, `jadetex`, `docbook-style-dsssl`, `perl-SGMLSpm`, and `docbook-utils` packages should be installed, as well as the packages whose names begin with `docbook-dtd`.

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

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

Chapter 3. Structure

DocBook documents are SGML documents. 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 V3.1//EN"[
...
]>
<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 3.1 of the 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.sgml">
]>
...
&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.

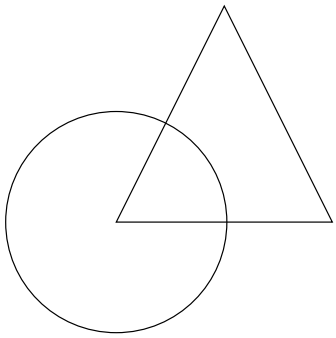
Chapter 4. Tips and examples

This document is an example of a `book`, and a `book` generally contains `chapter`s, which may contain `section`s. A paragraph of text can be put in a `para` tag. There are lots of examples of that in this book (see Appendix A).

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.

The following sections are for example only, and may not actually mean anything.

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.

There are some fairly subtle things going on to make this work properly with openjade. The problem is that we don't go straight from DocBook to PostScript, or from DocBook to PDF. Instead, we go from DocBook to TeX (actually JadeTeX), and then from TeX to either PostScript or PDF.

The complication comes from the fact that included images must be in encapsulated PostScript for PostScript output, and in PNG or PDF for PDF output. But openjade has no way of telling which output format we want! It just knows that we are converting to TeX, as an intermediate stage.

The way around this that I am using is to *miss out* the graphics file extension for EPS altogether, and to tweak the DSSSL stylesheet so that it passes that filename straight through, extension-less, to the TeX output.

So, for HTML output, the PNG format is preferred and `simple.png` is selected. For TeX output (either for PostScript or for PDF), the EPS format is preferred and so `simple` is used: note that it has no file extension. Then, for the second stage of processing, if I am converting to PostScript then the conversion tool will run tex, which will assume an extension of `.eps`. If, however, I am converting to PDF then the conversion tool will run pdfjadetex, which will assume an extension of `.png`.

I also have to make sure that the `Makefile` knows to have a file of the right format around in the current directory too, of course!

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--)
                printf ("Count is now %d\n", count);
}
```

To do this you need to enclose it in a `programlisting` tag, and also make it into `CDATA` (i.e. literal text) so that `<stdio.h>` isn't interpreted as an SGML tag. The tags you need for this are:

```
<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 used to be a bug in openjade that caused incorrect TeX output for "`--`" (i.e. two dashes). This bug is fixed in CVS, and in the `openjade-1.3-17` Red Hat Linux package.

Getting URLs and file names to line wrap

URLs and file names can be quite long, and that can lead to problems when using full justification (so that the left and right hand sides of a paragraph line up). There are certain places in a URL or file name where it is safe to break over two lines, and there is a TeX package that knows how to break URLs and file names properly.

In the stylesheet customization layer (see the Section called *selfdocbook.dsl* in Appendix A) the `ulink` and `filename` elements are redefined to output formatting instructions like `\url{...}` and `\path{...}`.

By default, URLs and file names marked up in this way are rendered magenta. To turn this off, put `\hypersetup{colorlinks=false}` in your `jadetex.cfg` (see the Section called *jadetex.cfg* in Appendix A).

The `ulink` element shown in the Section called *selfdocbook.dsl* in Appendix A handles the case where there are no child elements—such as with `<ulink url="http://..."></ulink>`—as

well as the case where the `ulink` text is the same as the link itself, such as with `<ulink url="http://..."><u>http://...</u></ulink>`.

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 *`selfdocbook.css`* in Appendix A, and the DocBook HTML stylesheet is told about it by our custom DSSSL layer: the `stylesheet` parameter is set to the name of the CSS file we want to use. See the Section called *`selfdocbook.dsl`* in Appendix A for how that's done.

The euro character

There is a bug in versions of jadetex before 3.12 causing euro characters (€, which should look something like "€") to appear as black boxes.

This bug is fixed in the Red Hat Linux jadetex-3.11-8 package, available in rawhide.

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` SGML element.

Appendix A. DocBook SGML source

How to build the Selfdocbook

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

1. Make sure you that have installed the necessary SGML tools.
2. In addition to those tools you will need:
   - fig2dev for converting image formats
   - fold and sed for manipulating SGML files so that they can be included verbatim in a DocBook document.
3. Put all the files in the same directory and type **`make`**. The default target builds PostScript, PDF and HTML output.

selfdocbook.sgml

```
<!-- -*- sgml -*- -->
<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook V4.2//EN" [

<!-- Not sure why we have to do this. -->
<!ENTITY euro   CDATA "&#8364;"  -- euro sign, U+20AC NEW -->

<!ENTITY builddate SYSTEM "builddate">
<!ENTITY intro SYSTEM "intro.sgml">
<!ENTITY tools SYSTEM "tools.sgml">
<!ENTITY structure SYSTEM "structure.sgml">
<!ENTITY tips SYSTEM "tips.sgml">
<!ENTITY source SYSTEM "source.sgml">
<!ENTITY fdl SYSTEM "fdl.sgml">
<!ENTITY makefile SYSTEM "Makefile.sed">
<!ENTITY selfdocbooksgml SYSTEM "selfdocbook.sgml.sed">
<!ENTITY introsgml SYSTEM "intro.sgml.sed">
<!ENTITY toolssgml SYSTEM "tools.sgml.sed">
<!ENTITY structuresgml SYSTEM "structure.sgml.sed">
<!ENTITY tipssgml SYSTEM "tips.sgml.sed">
<!ENTITY sourcesgml SYSTEM "source.sgml.sed">
<!ENTITY fdlsgml SYSTEM "fdl.sgml.sed">
<!ENTITY dsssl SYSTEM "selfdocbook.dsl.sed">
<!ENTITY jadetexcfg SYSTEM "jadetex.cfg.sed">
<!ENTITY selfdocbookcss SYSTEM "selfdocbook.css.sed">

<!ENTITY sdb "<citetitle>Selfdocbook</citetitle>">
]>
```

```
<book id="selfdocbook">
 <bookinfo>
  <title>Selfdocbook</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>

  <legalnotice>
   <para>Permission is granted to copy, distribute and/or modify this
    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;
&tips;
&source;
&fdl;

</book>

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

intro.sgml

```
<!-- -*- sgml -*- -->
 <chapter id="index"> <!-- so generated HTML starts here -->
  <title>The Selfdocbook itself</title>

  <para>The &sdb; is a self-documenting introduction to DocBook DocBook
   book.  It includes its own DocBook SGML 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/selfdocbook/selfdocbook.html"
     >&sdb; web page</ulink>.</para>
   </listitem>

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

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

   <listitem>
    <para>Fetch the <ulink
     url="http://cyberelk.net/tim/docbook/selfdocbook.tar.gz">DocBook
     SGML 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 &sdb; was built on &builddate;.</para>
```

```
 </chapter>

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

tools.sgml

```
<!-- -*- sgml -*- -->
 <chapter id="tools">
  <title>Tools</title>

  <para>The &sdb; 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 &sdb; 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 SGML environment, you will need to have
   various programs installed.  On a Red Hat Linux 7.1 system, the
   <literal>sgml-common</literal>, <literal>openjade</literal>,
   <literal>jadetex</literal>, <literal>docbook-style-dsssl</literal>,
   <literal>perl-SGMLSpm</literal>, and <literal>docbook-utils</literal>
   packages should be installed, as well as the packages whose names
   begin with <literal>docbook-dtd</literal>.</para>

  <para>I use an <command>emacs</command> package called
   <literal>psgml</literal> for editing SGML documents.  The
   keybindings I find most useful are:</para>

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

   <listitem>
    <para>
     <keycombo action="seq">
      <keycombo action="simul">
       <keycap>
        Control
       </keycap>
```

```
        <keycap>
         C
        </keycap>
       </keycombo>
       <keycombo action="simul">
        <keycap>
         Control
        </keycap>
        <keycap>
         T
        </keycap>
       </keycombo>
      </keycombo> lists the valid tags for the current element.</para>
    </listitem>

    <listitem>
     <para>
      <keycombo action="seq">
       <keycombo action="simul">
        <keycap>
         Control
        </keycap>
        <keycap>
         C
        </keycap>
       </keycombo>
       <keycap>
        /
       </keycap>
      </keycombo> closes the current element.</para>
    </listitem>
   </itemizedlist>
  </chapter>

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

structure.sgml

```
<!-- -*- sgml -*- -->
 <chapter id="structure">
  <title>Structure</title>

  <para>DocBook documents are SGML documents.  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 V3.1//EN"[
&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 3.1 of the document type
   declaration (DTD).  The <sgmltag>book</sgmltag> element is also
   shown (although without its content)&mdash;notice that it is opened
   with <quote><literal>&lt;book&gt;</literal></quote> and closed with
   <quote><literal>&lt;/book&gt;</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.sgml">
]&gt;
&hellip;
&amp;includedfile;
&hellip;
  </programlisting>

  <para>Because SGML tags (<literal>&lt;&hellip;&gt;</literal>) and
   entities (<literal>&amp;&hellip;;</literal>) are interpreted
   specially, there are escapes provided to enable you to use these
   marker characters in your DocBook files.
   <quote><literal>&amp;lt;</literal></quote> gives
   <quote>&lt;</quote>; <quote><literal>&amp;gt;</literal></quote>
   gives <quote>&gt;</quote>; and
   <quote><literal>&amp;amp;</literal></quote> gives
   <quote>&amp;</quote>.  There are many other predefined entities
   too.</para>
 </chapter>

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

tips.sgml

```
<!-- -*- sgml -*- -->
 <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
   <keycap>Tab</keycap> 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>

  <para>The following sections are for example only, and may not
   actually mean anything.</para>

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

   <mediaobject>
    <imageobject>
     <imagedata fileref="simple" format="eps" 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>There are some fairly subtle things going on to make this
    work properly with <application>openjade</application>.  The
    problem is that we don't go straight from DocBook to PostScript,
    or from DocBook to PDF.  Instead, we go from DocBook to TeX
    (actually JadeTeX), and then from TeX to either PostScript or
    PDF.</para>

   <para>The complication comes from the fact that included images
    must be in encapsulated PostScript for PostScript output, and in
    PNG or PDF for PDF output.  But
    <application>openjade</application> has no way of telling which
```

```
    output format we want!  It just knows that we are converting to
    TeX, as an intermediate stage.</para>

   <para>The way around this that I am using is to <emphasis>miss
     out</emphasis> the graphics file extension for EPS altogether,
    and to tweak the DSSSL stylesheet so that it passes that filename
    straight through, extension-less, to the TeX output.</para>

   <para>So, for HTML output, the PNG format is preferred and
    <filename>simple.png</filename> is selected.  For TeX output
    (either for PostScript or for PDF), the EPS format is preferred
    and so <filename>simple</filename> is used: note that it has no
    file extension.  Then, for the second stage of processing, if I
    am converting to PostScript then the conversion tool will run
    <application>tex</application>, which will assume an extension of
    <filename>.eps</filename>.  If, however, I am converting to PDF
    then the conversion tool will run
    <application>pdfjadetex</application>, which will assume an
    extension of <filename>.png</filename>.</para>

   <para>I also have to make sure that the
    <filename>Makefile</filename> knows to have a file of the right
    format around in the current directory too, of course!</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]]>&mdash;<![CDATA[)
                printf ("Count is now %d\n", count);
}
    ]]>
    </programlisting>

   <para>To do this you need to enclose it in a
    <sgmltag>programlisting</sgmltag> tag, and also make it into
    <sgmltag>CDATA</sgmltag> (i.e. literal text) so that
    <literal>&lt;stdio.h&gt;</literal> isn't interpreted as an SGML
    tag.  The tags you need for this are:</para>

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

```
 </programlisting>

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

 <warning>
  <para>There used to be a bug in
   <application>openjade</application> that caused incorrect TeX
   output for <quote><literal>&mdash;</literal></quote> (i.e. two
   dashes).  This bug is fixed in CVS, and in the
   <literal>openjade-1.3-17</literal> Red Hat Linux package.</para>
 </warning>
</section>

<section>
 <title>Getting URLs and file names to line wrap</title>

 <para>URLs and file names can be quite long, and that can lead to
  problems when using full justification (so that the left and right
  hand sides of a paragraph line up).  There are certain places in a
  URL or file name where it is safe to break over two lines, and
  there is a TeX package that knows how to break URLs and file names
  properly.</para>

 <para>In the stylesheet customization layer (see <xref
   linkend="selfdocbook.dsl">) the <sgmltag>ulink</sgmltag> and
  <sgmltag>filename</sgmltag> elements are redefined to output
  formatting instructions like <literal>\url{&hellip;}</literal> and
  <literal>\path{&hellip;}</literal>.</para>

 <para>By default, URLs and file names marked up in this way are
  rendered magenta.  To turn this off, put
  <literal>\hypersetup{colorlinks=false}</literal> in your
  <filename>jadetex.cfg</filename> (see <xref
  linkend="jadetex.cfg">).</para>

 <para>The <sgmltag>ulink</sgmltag> element shown in <xref
  linkend="selfdocbook.dsl"> handles the case where there are no
  child elements&mdash;such as with <literal>&lt;ulink
  url="http://&hellip;">&lt;/ulink></literal>&mdash;as
  well as the case where the <sgmltag>ulink</sgmltag> text is the
  same as the link itself, such as with <literal>&lt;ulink
  url="http://&hellip;">http://&hellip;&lt;/ulink></literal>.</para>
</section>

<section id="css">
 <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="selfdocbook.css">, and the
```

```
    DocBook HTML stylesheet is told about it by our custom DSSSL
    layer: the <varname>stylesheet</varname> parameter is set to the
    name of the CSS file we want to use.  See <xref
    linkend="selfdocbook.dsl"> for how that's done.</para>
  </section>

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

   <para>There is a bug in versions of jadetex before 3.12 causing
    euro characters (&amp;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 jadetex-3.11-8
    package, available in rawhide.</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> SGML element.</para>
  </section>
 </chapter>

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

source.sgml

```
<!-- -*- sgml -*- -->
 <appendix id="source">
  <title>DocBook SGML source</title>

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

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

   <orderedlist>
```

```
    <listitem>
     <para>Make sure you that have installed the necessary SGML
      tools.</para>
    </listitem>

    <listitem>
     <para>In addition to those tools you will need:</para>
     <itemizedlist>
      <listitem>
       <para><application>fig2dev</application> 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>
     </itemizedlist>
    </listitem>

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

  <section>
   <title><filename>selfdocbook.sgml</filename></title>

   <programlisting>
&selfdocbooksgml;
   </programlisting>
  </section>

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

   <programlisting>
&introsgml;
   </programlisting>
  </section>

  <section>
   <title><filename>tools.sgml</filename></title>

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

```
  <section>
   <title><filename>structure.sgml</filename></title>

   <programlisting>
&structuresgml;
   </programlisting>
  </section>

   <section>
   <title><filename>tips.sgml</filename></title>

   <programlisting>
&tipssgml;
   </programlisting>
  </section>

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

   <programlisting>
&sourcesgml;
   </programlisting>
  </section>

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

   <programlisting>
&fdlsgml;
   </programlisting>
  </section>

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

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

  <section id="selfdocbook.dsl">
   <title><filename>selfdocbook.dsl</filename></title>

   <programlisting>
&dsssl;
   </programlisting>
  </section>

  <section id="jadetex.cfg">
   <title><filename>jadetex.cfg</filename></title>

   <programlisting>
```

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

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

   <programlisting>
&selfdocbookcss;
   </programlisting>
  </section>
 </appendix>

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

fdl.sgml

```
<!-- -*- sgml -*- -->
 <appendix id="fdl">
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  <literallayout class="monospaced">
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                   Version 1.1, March 2000

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to permit their use in free software.
  </literallayout>
 </appendix>

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

Makefile

```
DOC=selfdocbook
MAIN=$(DOC).sgml
SECTS=intro.sgml tools.sgml structure.sgml tips.sgml \
        source.sgml fdl.sgml
DSSSL=$(DOC).dsl
FIGS=simple.fig
PNGS=$(FIGS:.fig=.png)
EPSS=$(FIGS:.fig=.eps)
SRC=$(MAIN) $(SECTS) $(MAIN).sed $(addsuffix .sed,$(SECTS)) \
        Makefile.sed $(addsuffix .sed,$(DSSSL)) jadetex.cfg.sed builddat
e \
        $(DOC).css.sed

STYLESHEET_IMAGES=/usr/share/sgml/docbook/dsssl-stylesheets/images

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

$(DOC).ps: $(SRC) $(EPSS)
        docbook2ps -d "$(DSSSL)#print" $(MAIN)
```

```
$(DOC).pdf: $(SRC) $(PNGS)
        docbook2pdf -d "$(DSSSL)#print" $(MAIN)

# There is currently a bug in docbook2html, which we work around here.
# See <URL:https://bugzilla.redhat.com/bugzilla/show_bug.cgi?id=53546>.
$(DOC): $(SRC) $(PNGS)
        -$(RM) -r $(DOC)
        docbook2html -d "$$(pwd)/$(DSSSL)#html" -o $(DOC) $(MAIN)
        cp -a $(STYLESHEET_IMAGES) $(DOC)/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:
        -$(RM) *.log *.dvi *.aux *.tex *.sed *.out
        -$(RM) $(GENERATED_IMG) builddate
        -$(RM) -r $(DOC) $(DOC).ps $(DOC).pdf

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 encapsulated PostScript from xfig
%.eps: %.fig
        fig2dev -Leps $< $@

# Make png from xfig
```

```
%.png: %.fig
        fig2dev -Lpng $< $@

.PHONY: distclean clean all builddate
```

selfdocbook.dsl

```
<!DOCTYPE style-sheet PUBLIC
          "-//James Clark//DTD DSSSL Style Sheet//EN" [
<!ENTITY % html "IGNORE">
<![%html;[
<!ENTITY % print "IGNORE">
<!ENTITY docbook.dsl PUBLIC
         "-//Norman Walsh//DOCUMENT DocBook HTML Stylesheet//EN"
         CDATA dsssl>
]]>
<!ENTITY % print "INCLUDE">
<![%print;[
<!ENTITY docbook.dsl PUBLIC
         "-//Norman Walsh//DOCUMENT DocBook Print Stylesheet//EN"
         CDATA dsssl>
]]>
]>

<style-sheet>

<!--      PRINT       -->
<style-specification id="print" use="docbook">
<style-specification-body>

;;; TeX backend can go to PS (where EPS is needed)
;;; or to PDF (where PNG is needed).  So, just
;;; omit the file extension altogether and let
;;; tex/pdfjadetex sort it out on its own.
(define (graphic-file filename)
 (let ((ext (file-extension filename)))
  (if (or (equal? 'backend 'tex) ;; Leave off the extension for TeX
          (not filename)
          (not %graphic-default-extension%)
          (member ext %graphic-extensions%))
      filename
      (string-append filename "." %graphic-default-extension%))))

;;; Full justification.
(define %default-quadding%
 'justify)

;;; To make URLs line wrap we use the TeX 'url' package.
```

```
;;; See also: jadetex.cfg
;; First we need to declare the 'formatting-instruction' flow class.
(declare-flow-object-class formatting-instruction
"UNREGISTERED::James Clark//Flow Object Class::formatting-instruction")
;; Then redefine ulink to use it.
(element ulink
  (make sequence
    (if (node-list-empty? (children (current-node)))
        ; ulink url="...", /ulink
        (make formatting-instruction
          data: (string-append "\\url{"
                               (attribute-string (normalize "url"))
                               "}"))
        (if (equal? (attribute-string (normalize "url"))
                    (data-of (current-node)))
        ; ulink url="http://...", http://..., /ulink
            (make formatting-instruction data:
                  (string-append "\\url{"
                                 (attribute-string (normalize "url"))
                                 "}"))
        ; ulink url="http://...", some text, /ulink
            (make sequence
              ($charseq$)
              (literal " (")
              (make formatting-instruction data:
                    (string-append "\\url{"
                                   (attribute-string (normalize "url"))
                                   "}"))
              (literal ")")))))
;;; And redefine filename to use it too.
(element filename
  (make formatting-instruction
    data: (string-append "\\path{" (data-of (current-node)) "}")))

</style-specification-body>
</style-specification>

<!--      HTML       -->
<style-specification id="html" use="docbook">
<style-specification-body>

(define %stylesheet%
 "selfdocbook.css")

(define %use-id-as-filename%
 #t)

(define %html-ext%
 ".html")

</style-specification-body>
</style-specification>
```

```
<external-specification id="docbook" document="docbook.dsl">

</style-sheet>
```

jadetex.cfg

```
\usepackage{url}
\tolerance=2000
\hypersetup{colorlinks=false}
```

selfdocbook.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;
}
```

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