HTMLDOC Users Manual

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### Table of Contents

**Chapter 1 - Introduction**
- History...........................................................................................................................................1-1
- Organization of This Manual ........................................................................................................1-2
- Encryption Support ........................................................................................................................1-2
- Legal Stuff ....................................................................................................................................1-2

**Chapter 2 - Using HTMLDOC**
- Using the HTMLDOC GUI ...........................................................................................................2-1
  - Generating Books ......................................................................................................................2-2
  - Using the HTMLDOC Command ...............................................................................................2-2
- Generating Books ..........................................................................................................................2-3
  - Setting the Title File ..................................................................................................................2-3
- Using HTMLDOC on a Web Server ...............................................................................................2-3
  - CGI Mode ....................................................................................................................................2-3
  - Using HTMLDOC From Server-Side Scripts and Programs ....................................................2-6

**Chapter 3 - Command-Line Reference**
- Basic Usage ......................................................................................................................................3-1
- Options ........................................................................................................................................3-1
  - -d directory................................................................................................................................3-1
  - -f filename................................................................................................................................3-2
  - -t format....................................................................................................................................3-2
  - -v...............................................................................................................................................3-2
  - --batch filename.book...............................................................................................................3-2
  - --bodycolor color......................................................................................................................3-2
  - --bodyfont typeface..................................................................................................................3-3
  - --bodyimage filename...............................................................................................................3-3
  - --book.......................................................................................................................................3-3
  - --bottom margin.........................................................................................................................3-3
  - --browserwidth pixels...............................................................................................................3-3
  - --charset charset......................................................................................................................3-3
  - --charset charset......................................................................................................................3-4
  - --color......................................................................................................................................3-4
  - --compression[=level]...............................................................................................................3-5
  - --continuous..............................................................................................................................3-5
  - --cookies 'name="value with space"; name=value';.................................................................3-5
  - --datadir directory....................................................................................................................3-5
  - --duplex.....................................................................................................................................3-5
  - --effectduration seconds...........................................................................................................3-5
  - --embedfonts.............................................................................................................................3-5
  - --encryption..............................................................................................................................3-5
  - --firstpage page........................................................................................................................3-6
  - --fontsize size............................................................................................................................3-6
  - --fontspacing spacing...............................................................................................................3-6
  - --format format..........................................................................................................................3-7
  - --footer lcr................................................................................................................................3-7
  - --gray.........................................................................................................................................3-8
  - --header lcr...............................................................................................................................3-8
  - --headfoot size..........................................................................................................................3-8
  - --headfootfont font....................................................................................................................3-9
  - --headfootsize size....................................................................................................................3-9
  - --headingfont typeface.............................................................................................................3-10
  - --help.........................................................................................................................................3-10
  - --helpdir directory......................................................................................................................3-10
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>--htmlimage N filename</td>
<td>HTML image file name</td>
</tr>
<tr>
<td>--jpeg [=quality]</td>
<td>JPEG image file name with optional quality parameter</td>
</tr>
<tr>
<td>--landscape</td>
<td>Landscape mode</td>
</tr>
<tr>
<td>--left margin</td>
<td>Left page margin</td>
</tr>
<tr>
<td>--letterhead filename</td>
<td>Letterhead file name</td>
</tr>
<tr>
<td>--linkcolor color</td>
<td>Link color</td>
</tr>
<tr>
<td>--links</td>
<td>Link mode</td>
</tr>
<tr>
<td>--linkstyle style</td>
<td>Link style</td>
</tr>
<tr>
<td>--logimage filename</td>
<td>Log image file name</td>
</tr>
<tr>
<td>--no-compression</td>
<td>No compression</td>
</tr>
<tr>
<td>--no-duplex</td>
<td>No duplex</td>
</tr>
<tr>
<td>--no-embedfonts</td>
<td>No embed fonts</td>
</tr>
<tr>
<td>--no-encryption</td>
<td>No encryption</td>
</tr>
<tr>
<td>--no-jpeg</td>
<td>No JPEG</td>
</tr>
<tr>
<td>--no-links</td>
<td>No links</td>
</tr>
<tr>
<td>--no-localfiles</td>
<td>No local files</td>
</tr>
<tr>
<td>--no-numbered</td>
<td>No numbered pages</td>
</tr>
<tr>
<td>--no-pscommands</td>
<td>No PostScript commands</td>
</tr>
<tr>
<td>--no-strict</td>
<td>No strict</td>
</tr>
<tr>
<td>--no-toc</td>
<td>No table of contents</td>
</tr>
<tr>
<td>--no-xrxcommands</td>
<td>No XRX comments</td>
</tr>
<tr>
<td>--numbered</td>
<td>Numbered pages</td>
</tr>
<tr>
<td>--nup pages</td>
<td>N-up pages</td>
</tr>
<tr>
<td>--outdir directory</td>
<td>Output directory</td>
</tr>
<tr>
<td>--outfile filename</td>
<td>Output file name</td>
</tr>
<tr>
<td>--owner-password</td>
<td>Owner password</td>
</tr>
<tr>
<td>--pageduration seconds</td>
<td>Page duration</td>
</tr>
<tr>
<td>--pageeffect effect</td>
<td>Page effect</td>
</tr>
<tr>
<td>--pagelayout layout</td>
<td>Page layout</td>
</tr>
<tr>
<td>--pagemode mode</td>
<td>Page mode</td>
</tr>
<tr>
<td>--path dir1:dir2:dir3...dirN</td>
<td>Path for output files with multiple directories</td>
</tr>
<tr>
<td>--permissions permission[...permission]</td>
<td>Permissions for output files with multiple permission levels</td>
</tr>
<tr>
<td>--portrait</td>
<td>Portrait mode</td>
</tr>
<tr>
<td>--pscommands</td>
<td>PostScript commands</td>
</tr>
<tr>
<td>--quiet</td>
<td>Quiet mode</td>
</tr>
<tr>
<td>--referer url</td>
<td>Referer URL</td>
</tr>
<tr>
<td>--right margin</td>
<td>Right page margin</td>
</tr>
<tr>
<td>--size size</td>
<td>Page size</td>
</tr>
<tr>
<td>--strict</td>
<td>Strict mode</td>
</tr>
<tr>
<td>--textcolor color</td>
<td>Text color</td>
</tr>
<tr>
<td>--textfont typeface</td>
<td>Text font</td>
</tr>
<tr>
<td>--title</td>
<td>Title</td>
</tr>
<tr>
<td>--titlefile filename</td>
<td>Title file name</td>
</tr>
<tr>
<td>--titleimage filename</td>
<td>Title image file name</td>
</tr>
<tr>
<td>--tocfooter lcr</td>
<td>TOC footer</td>
</tr>
<tr>
<td>--tocheader lcr</td>
<td>TOC header</td>
</tr>
<tr>
<td>--toclevels levels</td>
<td>TOC levels</td>
</tr>
<tr>
<td>--toctitle string</td>
<td>TOC title</td>
</tr>
<tr>
<td>--top margin</td>
<td>Top page margin</td>
</tr>
<tr>
<td>--user-password password</td>
<td>User password</td>
</tr>
<tr>
<td>--verbose</td>
<td>verbose mode</td>
</tr>
</tbody>
</table>

---

**HTMLDOC Users Manual**

**Table of Contents**

Chapter 3 - Command-Line Reference
Table of Contents

Chapter 3 - Command-Line Reference
--version .................................................................................................................. 3-19
--webpage ............................................................................................................. 3-19
--xrxcomments ...................................................................................................... 3-19
Environment Variables .............................................................................................................. 3-20
HTMLDOC_DATA .............................................................................................................. 3-20
HTMLDOC_DEBUG ........................................................................................................... 3-20
HTMLDOC_HELP ............................................................................................................ 3-20
HTMLDOC_NOCGI .......................................................................................................... 3-20
Messages ................................................................................................................... 3-21
BYTES: Message ........................................................................................................... 3-21
DEBUG: Messages ......................................................................................................... 3-21
ERRnnn: Messages ....................................................................................................... 3-21
INFO: Messages ........................................................................................................... 3-21
PAGES: Message ......................................................................................................... 3-21
REMOTEBYTES: Message ............................................................................................ 3-21
TIMING: Message ....................................................................................................... 3-22

Chapter 4 - HTML Reference ....................................................................................... 4-1
General Usage ............................................................................................................ 4-1
Elements ..................................................................................................................... 4-2
Comments .................................................................................................................. 4-4
  Header/Footer Strings ................................................................................................. 4-6
FONT Attributes ......................................................................................................... 4-7
Headings ..................................................................................................................... 4-7
  Numbered Headings ................................................................................................. 4-8
Images ......................................................................................................................... 4-8
Links ............................................................................................................................ 4-8
META Attributes ......................................................................................................... 4-9
Tables .......................................................................................................................... 4-9

Chapter 5 - Markdown Reference ............................................................................... 5-1
General Syntax ............................................................................................................. 5-1
Metadata Syntax .......................................................................................................... 5-2
Link Targets and @ Links ............................................................................................. 5-2
Table Syntax ................................................................................................................ 5-3

Appendix A - License Agreement ................................................................................ A-1

Appendix B - Book File Format .................................................................................. B-1
Introduction ................................................................................................................ B-1
The Header .................................................................................................................. B-1
The Options ................................................................................................................. B-2
The Files ...................................................................................................................... B-2
Putting It All Together ................................................................................................. B-2
This document describes how to use the HTMLDOC software. HTMLDOC reads HTML and Markdown source files or web pages and generates corresponding EPUB, HTML, PostScript, or PDF files with an optional table of contents. HTMLDOC can be used as a standalone application, in a batch document processing environment, or as a web-based report generation application.

HTMLDOC is open source software under the terms of version 2 of the GNU General Public License. No restrictions are placed upon the output produced by HTMLDOC.

History

Like many programs, I developed HTMLDOC in response to a need my company had for generating high-quality documentation in printed and electronic forms. For a while I used FrameMaker® and a package from sgï that generated "compiled" Standard Generalized Markup Language ("SGML") files that could be used by the Electronic Book Technologies ("EBT") documentation products; EBT was bought by INSO who was bought by Stellent™ who apparently has dropped the whole product line. When sgï stopped supporting these tools I turned to INSO, but the cost of their tools was prohibitive to my small business.

In the end I decided to write my own program to generate the documentation. HTML seemed to be the source format of choice since WYSIWYG HTML editors are widely (and freely) available and at worst you can use a plain text editor. I needed HTML output for documentation on my web server, PDF for customers to read and/or print from their computers, and PostScript for printing needs.

The result of my efforts is the HTMLDOC software which runs on Linux®, macOS®, Microsoft® Windows®, and most UNIX® operating systems. Among other things, this software users manual is produced using HTMLDOC.
HTMLDOC used to be available under a commercial end-user license agreement from my former company, Easy Software Products. While that company is no longer in business, I continue to maintain HTMLDOC in my spare time.

**Organization of This Manual**

This manual is organized into tutorial and reference chapters and appendices:

- Chapter 1 - Introduction
- Chapter 2 - Using HTMLDOC
- Chapter 3 - Command-Line Reference
- Chapter 4 - HTML Reference
- Chapter 5 - Markdown Reference
- Appendix A - License Agreement
- Appendix B - Book File Format

**Encryption Support**

HTMLDOC includes code to encrypt PDF document files using the RC4 algorithm with up to a 128-bit key. While this software and code may be freely used and exported under current US laws, other countries may restrict your use and possession of this code and software.

**Legal Stuff**

HTMLDOC is copyright © 1997-2020 by Michael R Sweet. See Appendix A - License Agreement for the terms of use. This software is based in part on the work of the Independent JPEG Group and FLTK project.
This chapter describes the basics of how to use HTMLDOC to convert HTML and Markdown files into PostScript and PDF files.

**Note:** HTMLDOC currently does not support HTML 4.0 features such as stylesheets or the `STYLE` element. For more information, please consult [Chapter 4 - HTML Reference](#).

### Using the HTMLDOC GUI

After opening the HTMLDOC application, the HTMLDOC window will appear with the `Input` tab selected. Click on the `Web Page` radio button to specify that you will be converting a web page file. Then choose a file for conversion by clicking on the `Add Files...` button.

Now that you've chosen a file to be converted, click on the `Output` tab to set the output file and format. Finally, click on the `Generate` button at the bottom of the HTMLDOC window to convert the HTML file.

### Generating Books

While HTMLDOC can convert web pages into PostScript and PDF files, its real strength is generating EPUB, indexed HTML, PostScript, or PDF books. HTMLDOC uses heading elements to delineate chapters and headings in a book. The `H1` element is used for chapters:

```html
<HTML>
<HEAD>
  <TITLE>The Little Computer that Could</TITLE>
</HEAD>
<BODY>
<H1>Chapter 1 - The Little Computer is Born</H1>
```
Sub-headings are marked using the H2 through H6 elements.

Note: When using book mode, HTMLDOC starts rendering with the first H1 element. Any text, images, tables, and other viewable elements that precede the first H1 element are silently ignored. Because of this, make sure you have an H1 element in your HTML file, otherwise HTMLDOC will not convert anything.

Start by clicking on the Book radio button to specify you'll be converting one or more files into a book. Then add one or more HTML or Markdown files by clicking on the Add Files... button.

HTMLDOC will automatically create a title page for you unless you specify a Title File/Image. When the title file is HTML or Markdown, the contents are formatted to produce title page(s). When the title file is an image, the image is centered on the title page with automatically generate content based on the title and other metadata.

After providing all of the input files, click on the Output tab to select the output format and file. Finally, click on the Generate button to generate the book.

Using the HTMLDOC Command

To convert a single web page type:

```
htmldoc --webpage -f output.pdf filename.html ENTER
```

htmldoc is the name of the software.

The --webpage option specifies unstructured files with page breaks between each file.

The -f option specifies the output file name (output.pdf). In this example it is a PDF file.

Filename.html is the name of the file that you want to be converted.

To convert more than one web page with page breaks between each file, list each of the files on the end:

```
htmldoc --webpage -f output.pdf file1.html file2.html ENTER
```

We've been using HTML files, but you can also use URLs. For example:

```
htmldoc --webpage -f output.pdf http://slashdot.org/ ENTER
```
Generating Books

Type one of the following commands to generate a book from one or more files:

```
htmldoc --book -f output.html file1.html file2.html ENTER
htmldoc --book -f output.pdf file1.html file2.html ENTER
htmldoc --book -f output.ps file1.html file2.html ENTER
```

The `--book` option specifies that the input files are structured with headings.

The `-f` option specifies the output filename.

File1.html and file2.html are the files you want to convert.

HTMLDOC will build a table of contents for the book using the heading elements (H1, H2, etc.) in your input files. It will also add a title page using the document TITLE text and other META information you supply in your files. See Chapter 4 - HTML Reference for more information on the META variables that are supported.

**Note:** When using book mode, HTMLDOC starts rendering with the first H1 element. Any text, images, tables, and other viewable elements that precede the first H1 element are silently ignored. Because of this, make sure you have an H1 element in your HTML file, otherwise HTMLDOC will not convert anything.

Setting the Title File

The `--titlefile` option sets the HTML, Markdown, or image file to use on the title page:

```
htmldoc --titlefile filename.bmp ... ENTER
htmldoc --titlefile filename.gif ... ENTER
htmldoc --titlefile filename.jpg ... ENTER
htmldoc --titlefile filename.png ... ENTER
htmldoc --titlefile filename.html ... ENTER
```

HTMLDOC supports GIF, JPEG, and PNG images, as well as generic HTML or Markdown text you supply for the title page(s).

Using HTMLDOC on a Web Server

HTMLDOC can be used in a variety of ways to generate formatted reports on a web server. The most common way is to use HTMLDOC as a CGI program with your web server to provide PDF-formatted output of a web page. Examples are provided for Microsoft IIS and the Apache web servers.

HTMLDOC can also be called from your own server-side scripts and programs. Examples are provided for PHP and Java.

**Warning:** Passing information directly from the web browser to HTMLDOC can potentially expose your system to security risks. Always be sure to "sanitize" any input from the web browser so that filenames, URLs, and options passed to HTMLDOC are not acted on by the shell program or other processes. Filenames with spaces must usually be enclosed with quotes.

CGI Mode

HTMLDOC supports operation as a CGI program. You can copy or symlink the `htmldoc` (all but Windows) or `htmldoc.exe` (Windows) executable to your web server's `cgi-bin` directory and then use it to produce PDF
versions of your web pages.

The CGI converts a page on your local server to PDF and sends it to the client's web browser. For example, to convert a page called superproducts.html at the following URL:

http://servername/superproducts.html

and if you installed HTMLDOC in your server's cgi-bin directory, you would direct your clients to the following URL:

http://servername/cgi-bin/htmldoc/superproducts.html

The boldface portion represents the location of the HTMLDOC executable on the web server. You simply place that path before the page you want to convert.

Form data using the GET method can be passed at the end of the URL, for example:

http://servername/cgi-bin/htmldoc/superproducts.html?name=value

Server-Side Preferences

When run as a CGI program, HTMLDOC will try to read a book file to set any preferences for the conversion to PDF. For the superproducts.html file described previously, HTMLDOC will look at the following URLs for a book file:

http://servername/superproducts.html.book
http://servername/.book
http://servername/cgi-bin/.book

The first book file that is found will be used.

Configuring HTMLDOC with Apache

The Apache web server is easily configured to use HTMLDOC. The simplest way is to copy or symlink the htmldoc executable to the configured cgi-bin directory. For example, if your Apache installation is configured to look for CGI programs in the /var/www/cgi-bin directory, the default for Apache on Red Hat Linux, then the command to install HTMLDOC on your web server would be:

ln -s /usr/bin/htmldoc /var/www/cgi-bin ENTER

If you are using Apache 2.0.30 or higher, you will also need to enable PATH_INFO support by adding the following line to your httpd.conf file:

AcceptPathInfo On

Apache also allows you to associate CGI programs with a specific extension. If you add the following line to your httpd.conf file:

AddHandler cgi-script .cgi

and enable CGI execution with the Options directive for a directory:

Options +ExecCGI

then you can copy or symlink the htmldoc executable to an alternate location. For example, if you have a web directory called /var/www/htdocs/products, you can install HTMLDOC in this directory with the following command:
Configuring HTMLDOC with Microsoft IIS

The IIS web server is configured to run CGI programs by either modifying the permissions of an existing directory or by creating a new virtual directory that allows for execution of programs. Start by running the Internet Services Manager program:

1. Click on Start
2. Click on Settings
3. Click on Control Panel
4. Double-click on Administrative Tools
5. Double-click on Internet Services Manager

After the Internet Services Manager window appears, perform the following steps to add a virtual folder for HTMLDOC:

1. Click on your server in the list to show the default web site service in the list
2. Choose New->Virtual Directory from the Action menu
3. Click Next when the Virtual Directory Creation Wizard window appears
4. Enter the name htmldoc in the Alias field and click Next
5. Enter the HTMLDOC program folder in the Directory field and click Next
6. Check the Execute (such as ISAPI applications or CGI) box and click Next
7. Click Finish to dismiss the wizard
8. Click on Web Service Extensions
9. Click Add a new Web Service Extension
10. Enter the name "HTMLDOC" when the Web Service Extension window appears
11. Click Add... and choose the htmldoc.exe file from the program folder, typically C:\Program Files\msweet.org\HTMLDOC
12. Check the Set extension status to Allowed box
13. Click OK to add the extension and dismiss the window

Finally, double-click the My Computer icon on the desktop or start the Windows Explorer. When the explorer window appears, perform the following steps to provide write access to the Windows temporary folder:

1. Open the windows temporary file folder, typically C:\WINDOWS\TEMP
2. Choose Properties from the File menu
3. Click on the Security tab
4. Click Add..., enter the username for the web server, typically "SERVER\USR_SERVER" where "SERVER" is the name you gave your server, and click OK
5. Click on the username you just added in the list
6. Check the Read and Write permissions
7. Click OK to save the changes

Once configured, the htmldoc.exe program will be available in the web server directory. For example, for a virtual directory called cgi-bin, the PDF converted URL for the superproducts.html page would be as follows:

http://servername/cgi-bin/htmldoc.exe/superproducts.html

The boldface portion represents the location of the HTMLDOC program on the web server.
Using HTMLDOC From Server-Side Scripts and Programs

To make this work the CGI script or program must send the appropriate HTTP attributes, the required empty line to signify the beginning of the document, and then execute the HTMLDOC program to generate the HTML, PostScript, or PDF file as needed. Since HTMLDOC looks for CGI environment variables when it is run, you must also set the HTMLDOC_NOCGI environment variable to a value of 1 before running HTMLDOC from your CGI script or program.

Another way to generate PDF files from your reports is to use HTMLDOC as a "portal" application. When used as a portal, HTMLDOC automatically retrieves the named document or report from your server and passes a PDF version to the web browser. See the next sections for more information.

Calling HTMLDOC from a Shell Script

Shell scripts are probably the easiest to work with, but are normally limited to GET type requests. Here is a script called `topdf` that acts as a portal, converting the named file to PDF:

```bash
#!/bin/sh
#
# Sample "portal" script to convert the named HTML file to PDF on-the-fly.
#
# Usage: http://www.example.com/path/topdf/path/filename.html
#
#
# Tell HTMLDOC not to run in CGI mode...
#
HTMLDOC_NOCGI=1; export HTMLDOC_NOCGI
#
# The "options" variable contains any options you want to pass to HTMLDOC.
#
options='-t pdf --webpage --header ... --footer ...'
#
# Tell the browser to expect a PDF file...
#
echo "Content-Type: application/pdf"
echo ""
#
# Run HTMLDOC to generate the PDF file...
#
htmldoc $options http://${SERVER_NAME}:${SERVER_PORT}$PATH_INFO
```

Users of this CGI would reference the URL "http://www.example.com/topdf.cgi/index.html" to generate a PDF file of the site's home page.

The `options` variable in the script can be set to use any supported command-line option for HTMLDOC; for a complete list see Chapter 3 - Command-Line Reference.
Calling HTMLDOC from Perl

Perl scripts offer the ability to generate more complex reports, pull data from databases, etc. The easiest way to interface Perl scripts with HTMLDOC is to write a report to a temporary file and then execute HTMLDOC to generate the PDF file.

Here is a simple Perl subroutine that can be used to write a PDF report to the HTTP client:

```perl
sub topdf {
  # Get the filename argument...
  my $filename = shift;

  # Make stdout unbuffered...
  select(STDOUT); $| = 1;

  # Tell HTMLDOC not to run in CGI mode...
  $ENV{HTMLDOC_NOCGI} = 1;

  # Write the content type to the client...
  print "Content-Type: application/pdf\n\n";

  # Run HTMLDOC to provide the PDF file to the user...
  system "htmldoc -t pdf --quiet --webpage $filename";
}
```

Calling HTMLDOC from PHP

PHP provides a `passthru()` function that can be used to run HTMLDOC. This combined with the `header()` function can be used to provide on-the-fly reports in PDF format.

Here is a simple PHP function that can be used to convert a HTML report to PDF and send it to the HTTP client:

```php
function topdf($filename, $options = "") {
  # Tell HTMLDOC not to run in CGI mode...
  putenv("HTMLDOC_NOCGI=1");

  # Write the content type to the client...
  header("Content-Type: application/pdf");
  flush();

  # Run HTMLDOC to provide the PDF file to the user...
  passthru("htmldoc -t pdf --quiet --jpeg --webpage $options " . escapeshellarg($filename));
}
```

The function accepts a filename and an optional "options" string for specifying the header, footer, fonts, etc.

To make a "portal" script, add the following code to complete the example:

```php
global $SERVER_NAME;
global $SERVER_PORT;
global $PATH_INFO;
global $QUERY_STRING;

if ($QUERY_STRING != ") {
  $url = "http://${SERVER_NAME}:${SERVER_PORT}${PATH_INFO}?${QUERY_STRING}";
} else {
  $url = "http://${SERVER_NAME}:${SERVER_PORT}${PATH_INFO}";
}

topdf($url);
```
Calling HTMLDOC from C

C programs offer the best flexibility and easily supports on-the-fly report generation without the need for temporary files.

Here are some simple C functions that can be used to generate a PDF report to the HTTP client from a temporary file or pipe:

```c
#include <stdio.h>
#include <stdlib.h>

/* topdf() - convert a HTML file to PDF */
FILE *topdf(const char *filename)       /* I - HTML file to convert */
{
    char command[1024];                  /* Command to execute */

    /*
    * Tell HTMLDOC not to run in CGI mode...
    */
    putenv("HTMLDOC_NOCGI=1");

    /*
    * Write the content type to the client...
    */
    puts("Content-Type: application/pdf\n");

    /*
    * Run HTMLDOC to provide the PDF file to the user...
    */
    sprintf(command, "htmldoc --quiet -t pdf --webpage %s", filename);
    return (popen(command, "w"));
}

/* topdf2() - pipe HTML output to HTMLDOC for conversion to PDF */
FILE *topdf2(void)
{
    /*
    * Tell HTMLDOC not to run in CGI mode...
    */
    putenv("HTMLDOC_NOCGI=1");

    /*
    * Write the content type to the client...
    */
    puts("Content-Type: application/pdf\n");

    /*
    * Open a pipe to HTMLDOC...
    */
    return (popen("htmldoc --quiet -t pdf --webpage -", "w"));
}
```
Calling HTMLDOC from Java

Java programs are a portable way to add PDF support to your web server. Here is a class called `htmldoc` that acts as a portal, converting the named file to PDF. It can also be called by your Java servlets to process an HTML file and send the result to the client in PDF format:

```java
class htmldoc
{
    // Convert named file to PDF on stdout...
    public static int topdf(String filename) // I - Name of file to convert
    {
        String          command;          // Command string
        Process         process;          // Process for HTMLDOC
        Runtime         runtime;          // Local runtime object
        java.io.InputStream input;            // Output from HTMLDOC
        byte                buffer [];        // Buffer for output data
        int                 bytes;            // Number of bytes

        // First tell the client that we will be sending PDF...
        System.out.print("Content-type: application/pdf

        // Construct the command string
        command = "htmldoc --quiet --jpeg --webpage -t pdf --left 36 " +
                   "--header .t. --footer .l. " + filename;

        // Run the process and wait for it to complete...
        runtime = Runtime.getRuntime();
        try
        {
            // Create a new HTMLDOC process...
            process = runtime.exec(command);

            // Get stdout from the process and a buffer for the data...
            input  = process.getInputStream();
            buffer = new byte[8192];

            // Read output from HTMLDOC until we have it all...
            while ((bytes = input.read(buffer)) > 0)
                System.out.write(buffer, 0, bytes);

            // Return the exit status from HTMLDOC...
            return (process.waitFor());
        }
        catch (Exception e)
        {
            // An error occurred - send it to stderr for the web server...
            System.err.print(e.toString() + " caught while running:

            System.err.print(" Command: 

            System.err.print(" Error: 

            return (1);
        }
    }
}

// Main entry for htmldoc class
public static void main(String[] args) // I - Command-line args
{
    String server_name,       // SERVER_NAME env var
        server_port,       // SERVER_PORT env var
        path_info,         // PATH_INFO env var
        query_string,      // QUERY_STRING env var
        filename;          // File to convert

    if ((server_name = System.getProperty("SERVER_NAME")) != null &
```
(server_port = System.getProperty("SERVER_PORT")) != null &&
(path_info = System.getProperty("PATH_INFO")) != null)
{
// Construct a URL for the resource specified...
   filename = "http://" + server_name + ":" + server_port + path_info;

   if ((query_string = System.getProperty("QUERY_STRING")) != null)
   {
      filename = filename + "?" + query_string;
   }
}
else if (args.length == 1)
{
   // Pull the filename from the command-line...
   filename = args[0];
}
else
{
   // Error - no args or env variables!
   System.err.println("Usage: htmldoc.class filename\n");
   return;
}

// Convert the file to PDF and send to the web client...
topdf(filename);"}
This chapter describes all of the command-line options supported by HTMLDOC.

### Basic Usage

The basic command-line usage for HTMLDOC is:

```
% htmldoc options filename.html ... filenameN.md ENTER
% htmldoc options filename.book ENTER
```

The first form converts the named HTML or Markdown files to the specified output format immediately. The second form loads the specified `.book` file and displays the HTMLDOC window, allowing a user to make changes and/or generate the document interactively.

If no output file or directory is specified, then all output is sent to the standard output file.

On return, HTMLDOC returns an exit code of 0 if it was successful and non-zero if there were errors.

### Options

The following command-line options are recognized by HTMLDOC.

- **-d directory**

  The `-d` option specifies an output directory for the document files.

  This option is not compatible with the EPUB or PDF output formats.
-f filename

The -f option specifies an output file for the document.

-t format

The -t option specifies the output format for the document and can be one of the following:

<table>
<thead>
<tr>
<th>Format</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>epub</td>
<td>Generate an EPUB file.</td>
</tr>
<tr>
<td>html</td>
<td>Generate one or more indexed HTML files.</td>
</tr>
<tr>
<td>htmlsep</td>
<td>Generate separate HTML files for each heading in the table-of-contents.</td>
</tr>
<tr>
<td>pdf</td>
<td>Generate a PDF file (default version - 1.4).</td>
</tr>
<tr>
<td>pdf11</td>
<td>Generate a PDF 1.1 file for Acrobat Reader 2.0 and later.</td>
</tr>
<tr>
<td>pdf12</td>
<td>Generate a PDF 1.2 file for Acrobat Reader 3.0 and later.</td>
</tr>
<tr>
<td>pdf13</td>
<td>Generate a PDF 1.3 file for Acrobat Reader 4.0 and later.</td>
</tr>
<tr>
<td>pdf14</td>
<td>Generate a PDF 1.4 file for Acrobat Reader 5.0 and later.</td>
</tr>
<tr>
<td>ps</td>
<td>Generate one or more PostScript files (default level - 2).</td>
</tr>
<tr>
<td>ps1</td>
<td>Generate one or more Level 1 PostScript files.</td>
</tr>
<tr>
<td>ps2</td>
<td>Generate one or more Level 2 PostScript files.</td>
</tr>
<tr>
<td>ps3</td>
<td>Generate one or more Level 3 PostScript files.</td>
</tr>
</tbody>
</table>

-v

The -v option specifies that progress information should be sent/displayed to the standard error file.

--batch filename.book

The --batch option specifies a book file that you would like to generate without the GUI popping up. This option can be combined with other options to generate the same book in different formats and sizes:

% htmldoc --batch filename.book -f filename.ps ENTER
% htmldoc --batch filename.book -f filename.pdf ENTER

--bodycolor color

The --bodycolor option specifies the background color for all pages in the document. The color can be specified by a standard HTML color name or as a 6-digit hexadecimal number of the form #RRGGBB.
--bodyfont typeface

The --bodyfont option specifies the default text font used for text in the document body. The typeface parameter can be one of the following:

<table>
<thead>
<tr>
<th>typeface</th>
<th>Actual Font</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arial</td>
<td>Helvetica</td>
</tr>
<tr>
<td>Courier</td>
<td>Courier</td>
</tr>
<tr>
<td>Helvetica</td>
<td>Helvetica</td>
</tr>
<tr>
<td>Monospace</td>
<td>DejaVu Sans Mono</td>
</tr>
<tr>
<td>Sans</td>
<td>DevaVu Sans</td>
</tr>
<tr>
<td>Serif</td>
<td>DejaVu Serif</td>
</tr>
<tr>
<td>Times</td>
<td>Times</td>
</tr>
</tbody>
</table>

--bodyimage filename

The --bodyimage option specifies the background image for all pages in the document. The supported formats are GIF, JPEG, and PNG.

--book

The --book option specifies that the input files comprise a book with chapters and headings.

--bottom margin

The --bottom option specifies the bottom margin. The default units are points (1 point = 1/72nd inch); the suffixes "in", "cm", and "mm" specify inches, centimeters, and millimeters, respectively.

This option is only available when generating PostScript or PDF files.

--browserwidth pixels

The --browserwidth option specifies the browser width in pixels. The browser width is used to scale images and pixel measurements when generating PostScript and PDF files. It does not affect the font size of text.

The default browser width is 680 pixels which corresponds roughly to a 96 DPI display. Please note that your images and table sizes are equal to or smaller than the browser width, or your output will overlap or truncate in places.
--charset charset

The --charset option specifies the 8-bit character set encoding to use for the entire document. HTMLDOC comes with the following character set files:

<table>
<thead>
<tr>
<th>charset</th>
<th>Character Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>cp-874</td>
<td>Windows code page 874</td>
</tr>
<tr>
<td>cp-1250</td>
<td>Windows code page 1250</td>
</tr>
<tr>
<td>cp-1251</td>
<td>Windows code page 1251</td>
</tr>
<tr>
<td>cp-1252</td>
<td>Windows code page 1252</td>
</tr>
<tr>
<td>cp-1253</td>
<td>Windows code page 1253</td>
</tr>
<tr>
<td>cp-1254</td>
<td>Windows code page 1254</td>
</tr>
<tr>
<td>cp-1255</td>
<td>Windows code page 1255</td>
</tr>
<tr>
<td>cp-1256</td>
<td>Windows code page 1256</td>
</tr>
<tr>
<td>cp-1257</td>
<td>Windows code page 1257</td>
</tr>
<tr>
<td>cp-1258</td>
<td>Windows code page 1258</td>
</tr>
<tr>
<td>iso-8859-1</td>
<td>ISO-8859-1</td>
</tr>
<tr>
<td>iso-8859-2</td>
<td>ISO-8859-2</td>
</tr>
<tr>
<td>iso-8859-3</td>
<td>ISO-8859-3</td>
</tr>
<tr>
<td>iso-8859-4</td>
<td>ISO-8859-4</td>
</tr>
<tr>
<td>iso-8859-5</td>
<td>ISO-8859-5</td>
</tr>
<tr>
<td>iso-8859-6</td>
<td>ISO-8859-6</td>
</tr>
<tr>
<td>iso-8859-7</td>
<td>ISO-8859-7</td>
</tr>
<tr>
<td>iso-8859-8</td>
<td>ISO-8859-8</td>
</tr>
<tr>
<td>iso-8859-9</td>
<td>ISO-8859-9</td>
</tr>
<tr>
<td>iso-8859-14</td>
<td>ISO-8859-14</td>
</tr>
<tr>
<td>iso-8859-15</td>
<td>ISO-8859-15</td>
</tr>
<tr>
<td>koi8-r</td>
<td>KOI8-R</td>
</tr>
<tr>
<td>utf-8</td>
<td>UTF-8</td>
</tr>
</tbody>
</table>

Note: UTF-8 support is limited to the first 128 Unicode characters found in the input.

--color

The --color option specifies that color output is desired.

This option is only available when generating PostScript or PDF files.
--compression[=level]

The --compression option specifies that Flate compression should be performed on the output file(s). The optional level parameter is a number from 1 (fastest and least amount of compression) to 9 (slowest and most amount of compression).

This option is only available when generating PDF or Level 3 PostScript files.

--continuous

The --continuous option specifies that the input files comprise a web page (or site) and that no title page or table-of-contents should be generated. Unlike the --webpage option described later in this chapter, page breaks are not inserted between each input file.

This option is only available when generating PostScript or PDF files.

--cookies 'name="value with space"; name=value'

The --cookies option specifies one or more HTTP cookies that should be sent when converting remote URLs. Each cookie must be separated from the others by a semicolon and a space, and values containing whitespace or the semicolon must be placed inside double-quotes. When specifying multiple cookies, the entire cookie string must be surrounded by single quotes in order for the string to be processed correctly.

--datadir directory

The --datadir option specifies the location of data files used by HTMLDOC.

--duplex

The --duplex option specifies that the output should be formatted for two sided printing.

This option is only available when generating PostScript or PDF files. Use the --pscommands option to generate PostScript duplex mode commands.

--effectduration seconds

The --effectduration option specifies the duration of a page transition effect in seconds.

This option is only available when generating PDF files.

--embedfonts

The --embedfonts option specifies that fonts should be embedded in PostScript and PDF output. This is especially useful when generating documents in character sets other than ISO-8859-1.

--encryption

The --encryption option enables encryption and security features for PDF output.

This option is only available when generating PDF files.
--firstpage page

The --firstpage option specifies the first page that will be displayed in a PDF file. The page parameter can be one of the following:

<table>
<thead>
<tr>
<th>page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>p1</td>
<td>The first page of the document.</td>
</tr>
<tr>
<td>toc</td>
<td>The first page of the table-of-contents.</td>
</tr>
<tr>
<td>c1</td>
<td>The first page of chapter 1.</td>
</tr>
</tbody>
</table>

This option is only available when generating PDF files.

--fontsize size

The --fontsize option specifies the base font size for the entire document in points (1 point = 1/72nd inch).

--fontspacing spacing

The --fontspacing option specifies the line spacing for the entire document as a multiplier of the base font size. A spacing value of 1 makes each line of text the same height as the font.
The `--footer` option specifies the contents of the page footer. The `lcr` parameter is a three-character string representing the left, center, and right footer fields. Each character can be one of the following:

<table>
<thead>
<tr>
<th>lcr</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>.</td>
<td>A period indicates that the field should be blank.</td>
</tr>
<tr>
<td>:</td>
<td>A colon indicates that the field should contain the current and total number of pages in the chapter (n/N).</td>
</tr>
<tr>
<td>/</td>
<td>A slash indicates that the field should contain the current and total number of pages (n/N).</td>
</tr>
<tr>
<td>1</td>
<td>The number 1 indicates that the field should contain the current page number in decimal format (1, 2, 3, ...).</td>
</tr>
<tr>
<td>a</td>
<td>A lowercase &quot;a&quot; indicates that the field should contain the current page number using lowercase letters.</td>
</tr>
<tr>
<td>A</td>
<td>An uppercase &quot;A&quot; indicates that the field should contain the current page number using UPPERCASE letters.</td>
</tr>
<tr>
<td>c</td>
<td>A lowercase &quot;c&quot; indicates that the field should contain the current chapter title.</td>
</tr>
<tr>
<td>C</td>
<td>An uppercase &quot;C&quot; indicates that the field should contain the current chapter page number.</td>
</tr>
<tr>
<td>d</td>
<td>A lowercase &quot;d&quot; indicates that the field should contain the current date.</td>
</tr>
<tr>
<td>D</td>
<td>An uppercase &quot;D&quot; indicates that the field should contain the current date and time.</td>
</tr>
<tr>
<td>h</td>
<td>An &quot;h&quot; indicates that the field should contain the current heading.</td>
</tr>
<tr>
<td>i</td>
<td>A lowercase &quot;i&quot; indicates that the field should contain the current page number in lowercase roman numerals (i, ii, iii, ...)</td>
</tr>
<tr>
<td>I</td>
<td>An uppercase &quot;I&quot; indicates that the field should contain the current page number in uppercase roman numerals (I, II, III, ...)</td>
</tr>
<tr>
<td>l</td>
<td>A lowercase &quot;l&quot; indicates that the field should contain the logo image.</td>
</tr>
<tr>
<td>L</td>
<td>An uppercase &quot;L&quot; indicates that the field should contain the logo image as a letterhead (shown at full size).</td>
</tr>
<tr>
<td>t</td>
<td>A lowercase &quot;t&quot; indicates that the field should contain the document title.</td>
</tr>
<tr>
<td>T</td>
<td>An uppercase &quot;T&quot; indicates that the field should contain the current time.</td>
</tr>
<tr>
<td>u</td>
<td>A lowercase &quot;u&quot; indicates that the field should contain the current filename or URL.</td>
</tr>
</tbody>
</table>

Setting the footer to "..." disables the footer entirely.
The `--format` option specifies the output format for the document and can be one of the following:

<table>
<thead>
<tr>
<th>Format</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>epub</td>
<td>Generate an EPUB file.</td>
</tr>
<tr>
<td>html</td>
<td>Generate one or more indexed HTML files.</td>
</tr>
<tr>
<td>htmlsep</td>
<td>Generate separate HTML files for each heading in the table-of-contents.</td>
</tr>
<tr>
<td>pdf</td>
<td>Generate a PDF file (default version - 1.4).</td>
</tr>
<tr>
<td>pdf11</td>
<td>Generate a PDF 1.1 file for Acrobat Reader 2.0 and later.</td>
</tr>
<tr>
<td>pdf12</td>
<td>Generate a PDF 1.2 file for Acrobat Reader 3.0 and later.</td>
</tr>
<tr>
<td>pdf13</td>
<td>Generate a PDF 1.3 file for Acrobat Reader 4.0 and later.</td>
</tr>
<tr>
<td>pdf14</td>
<td>Generate a PDF 1.4 file for Acrobat Reader 5.0 and later.</td>
</tr>
<tr>
<td>ps</td>
<td>Generate one or more PostScript files (default level - 2).</td>
</tr>
<tr>
<td>ps1</td>
<td>Generate one or more Level 1 PostScript files.</td>
</tr>
<tr>
<td>ps2</td>
<td>Generate one or more Level 2 PostScript files.</td>
</tr>
<tr>
<td>ps3</td>
<td>Generate one or more Level 3 PostScript files.</td>
</tr>
</tbody>
</table>

The `--gray` option specifies that grayscale output is desired.

This option is only available when generating PostScript or PDF files.

The `--header lcr` option specifies the contents of the page header. The `lcr` parameter is a three-character string representing the left, center, and right header fields. See the `--footer` option for the list of formatting characters.

Setting the header to "..." disables the header entirely.

The `--header1 lcr` option specifies the contents of the page header for the first body/chapter page. The `lcr` parameter is a three-character string representing the left, center, and right header fields. See the `--footer` option for the list of formatting characters.

Setting the header to "..." disables the first page header entirely.
--headfootfont font

The `--headfootfont` option specifies the font that is used for the header and footer text. The `font` parameter can be one of the following:

- Courier
- Courier-Bold
- Courier-Oblique
- Courier-BoldOblique
- Helvetica
- Helvetica-Bold
- Helvetica-Oblique
- Helvetica-BoldOblique
- Monospace
- Monospace-Bold
- Monospace-Oblique
- Monospace-BoldOblique
- Sans
- Sans-Bold
- Sans-Oblique
- Sans-BoldOblique
- Serif
- Serif-Roman
- Serif-Bold
- Serif-Italic
- Serif-BoldItalic
- Times
- Times-Roman
- Times-Bold
- Times-Italic
- Times-BoldItalic

This option is only available when generating PostScript or PDF files.

--headfootsize size

The `--headfootsize` option sets the size of the header and footer text in points (1 point = 1/72nd inch).

This option is only available when generating PostScript or PDF files.
**--headingfont typeface**

The `--headingfont` option sets the typeface that is used for headings in the document. The `typeface` parameter can be one of the following:

<table>
<thead>
<tr>
<th>typeface</th>
<th>Actual Font</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arial</td>
<td>Helvetica</td>
</tr>
<tr>
<td>Courier</td>
<td>Courier</td>
</tr>
<tr>
<td>Helvetica</td>
<td>Helvetica</td>
</tr>
<tr>
<td>Monospace</td>
<td>DejaVu Sans Mono</td>
</tr>
<tr>
<td>Sans</td>
<td>DejaVu Sans</td>
</tr>
<tr>
<td>Serif</td>
<td>DejaVu Serif</td>
</tr>
<tr>
<td>Times</td>
<td>Times</td>
</tr>
</tbody>
</table>

**--help**

The `--help` option displays all of the available options to the standard output file.

**--helpdir directory**

The `--helpdir` option specifies the location of the on-line help files.

**--hfimageN filename**

The `--hfimageN` option specifies an image to use in the header and/or footer, where N is a number from 1 to 10. The supported formats are GIF, JPEG, and PNG.

**--jpeg[=quality]**

The `--jpeg` option enables JPEG compression of continuous-tone images. The optional `quality` parameter specifies the output quality from 0 (worst) to 100 (best).

This option is only available when generating PDF or Level 2 and Level 3 PostScript files.

**--landscape**

The `--landscape` option specifies that the output should be in landscape orientation (long edge on top).

This option is only available when generating PostScript or PDF files.

**--left margin**

The `--left` option specifies the left margin. The default units are points (1 point = 1/72nd inch); the suffixes "in", "cm", and "mm" specify inches, centimeters, and millimeters, respectively.

This option is only available when generating PostScript or PDF files.
--letterhead filename

The --letterhead option specifies the letterhead image for the page headers and footers for PostScript and PDF files. The supported formats are GIF, JPEG, and PNG.

Note: You need to use the --header and/or --footer options with the L parameter or use the corresponding HTML page comments to display the logo image in the header or footer.

--linkcolor color

The --linkcolor option specifies the color of links in EPUB, HTML, and PDF output. The color can be specified by name or as a 6-digit hexadecimal number of the form #RRGGBB.

--links

The --links option specifies that PDF output should contain hyperlinks.

--linkstyle style

The --linkstyle option specifies the style of links in EPUB, HTML, and PDF output. The style can be "plain" for no decoration or "underline" to underline links.

--logoimage filename

The --logoimage option specifies the logo image for the HTML navigation bar and page headers and footers for PostScript and PDF files. The supported formats are GIF, JPEG, and PNG.

Note: You need to use the --header and/or --footer options with the L parameter or use the corresponding HTML page comments to display the logo image in the header or footer.

--no-compression

The --no-compression option specifies that Flate compression should not be performed on the output files.

--no-duplex

The --no-duplex option specifies that the output should be formatted for one sided printing.

This option is only available when generating PostScript or PDF files. Use the --pscommands option to generate PostScript duplex mode commands.

--no-embedfonts

The --no-embedfonts option specifies that fonts should not be embedded in PostScript and PDF output.

--no-encryption

The --no-encryption option specifies that no encryption/security features should be enabled in PDF output.

This option is only available when generating PDF files.
The `--no-jpeg` option specifies that JPEG compression should not be performed on large images.

The `--no-links` option specifies that PDF output should not contain hyperlinks.

The `--no-localfiles` option disables access to local files on the system. This option should be used when providing remote document conversion services.

The `--no-numbered` option specifies that headings should not be numbered.

The `--no-pscommands` option specifies that PostScript device commands should not be written to the output files.

The `--no-strict` option turns off strict HTML conformance checking.

The `--no-title` option specifies that the title page should not be generated.

The `--no-toc` option specifies that the table-of-contents pages should not be generated.

The `--no-xrxcomments` option specifies that Xerox PostScript job comments should not be written to the output files. This option is only available when generating PostScript files.

The `--numbered` option specifies that headings should be numbered.

The `--nup pages` option sets the number of pages that are placed on each output page. Valid values for the `pages` parameter are 1, 2, 4, 6, 9, and 16.
--outdir directory

The --outdir option specifies an output directory for the document files.

This option is not compatible with the PDF output format.

--outfile filename

The --outfile option specifies an output file for the document.

--owner-password password

The --owner-password option specifies the owner password for a PDF file. If not specified or the empty string (""), a random password is generated.

This option is only available when generating PDF files.

--pageduration seconds

The --pageduration option specifies the number of seconds that each page will be displayed in the document.

This option is only available when generating PDF files.
The `--pageeffect` option specifies the page effect to use in PDF files. The `effect` parameter can be one of the following:

<table>
<thead>
<tr>
<th>effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>No effect is generated.</td>
</tr>
<tr>
<td>bi</td>
<td>Box Inward</td>
</tr>
<tr>
<td>bo</td>
<td>Box Outward</td>
</tr>
<tr>
<td>d</td>
<td>Dissolve</td>
</tr>
<tr>
<td>gd</td>
<td>Glitter Down</td>
</tr>
<tr>
<td>gdr</td>
<td>Glitter Down and Right</td>
</tr>
<tr>
<td>gr</td>
<td>Glitter Right</td>
</tr>
<tr>
<td>hb</td>
<td>Horizontal Blinds</td>
</tr>
<tr>
<td>hsi</td>
<td>Horizontal Sweet Inward</td>
</tr>
<tr>
<td>hso</td>
<td>Horizontal Sweep Outward</td>
</tr>
<tr>
<td>vb</td>
<td>Vertical Blinds</td>
</tr>
<tr>
<td>vsi</td>
<td>Vertical Sweep Inward</td>
</tr>
<tr>
<td>vso</td>
<td>Vertical Sweep Outward</td>
</tr>
<tr>
<td>wd</td>
<td>Wipe Down</td>
</tr>
<tr>
<td>wl</td>
<td>Wipe Left</td>
</tr>
<tr>
<td>wr</td>
<td>Wipe Right</td>
</tr>
<tr>
<td>wu</td>
<td>Wipe Up</td>
</tr>
</tbody>
</table>

This option is only available when generating PDF files.
--pagelayout layout

The --pagelayout option specifies the initial page layout in the PDF viewer. The layout parameter can be one of the following:

<table>
<thead>
<tr>
<th>layout</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>single</td>
<td>A single page is displayed.</td>
</tr>
<tr>
<td>one</td>
<td>A single column is displayed.</td>
</tr>
<tr>
<td>twoleft</td>
<td>Two columns are displayed with the first page on the left.</td>
</tr>
<tr>
<td>tworight</td>
<td>Two columns are displayed with the first page on the right.</td>
</tr>
</tbody>
</table>

This option is only available when generating PDF files.

--pagemode mode

The --pagemode option specifies the initial viewing mode in the PDF viewer. The mode parameter can be one of the following:

<table>
<thead>
<tr>
<th>mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>document</td>
<td>The document pages are displayed in a normal window.</td>
</tr>
<tr>
<td>outline</td>
<td>The document outline and pages are displayed.</td>
</tr>
<tr>
<td>fullscreen</td>
<td>The document pages are displayed on the entire screen in &quot;slideshow&quot; mode.</td>
</tr>
</tbody>
</table>

This option is only available when generating PDF files.

--path dir1;dir2;dir3;...;dirN

The --path option specifies a search path for files that are loaded by HTMLDOC. It is usually used to get images that use absolute server paths to load.

Directories are separated by the semicolon (;) so that drive letters and URLs can be specified. Quotes around the directory parameter are optional. They are usually used when the directory string contains spaces.

    --path "dir1;dir2;dir3;...;dirN"
--permissions permission[,permission,...]

The --permissions option specifies the document permissions. The available permission parameters are listed below:

<table>
<thead>
<tr>
<th>Permission</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>all</td>
<td>All permissions</td>
</tr>
<tr>
<td>annotate</td>
<td>User can annotate document</td>
</tr>
<tr>
<td>copy</td>
<td>User can copy text and images from document</td>
</tr>
<tr>
<td>modify</td>
<td>User can modify document</td>
</tr>
<tr>
<td>print</td>
<td>User can print document</td>
</tr>
<tr>
<td>no-annotate</td>
<td>User cannot annotate document</td>
</tr>
<tr>
<td>no-copy</td>
<td>User cannot copy text and images from document</td>
</tr>
<tr>
<td>no-modify</td>
<td>User cannot modify document</td>
</tr>
<tr>
<td>no-print</td>
<td>User cannot print document</td>
</tr>
<tr>
<td>none</td>
<td>No permissions</td>
</tr>
</tbody>
</table>

The --encryption option must be used in conjunction with the --permissions parameter.

```
--permissions no-print --encryption
```

Multiple options can be specified by separating them with commas:

```
--permissions no-print,no-copy --encryption
```

This option is only available when generating PDF files.

--portrait

The --portrait option specifies that the output should be in portrait orientation (short edge on top).

This option is only available when generating PostScript or PDF files.

--pscommands

The --pscommands option specifies that PostScript device commands should be written to the output files.

This option is only available when generating Level 2 and Level 3 PostScript files.

--quiet

The --quiet option prevents error messages from being sent to stderr.

--referer url

The --referer option sets the URL that is passed in the Referer: field of HTTP requests.
---right margin

The --right option specifies the right margin. The default units are points (1 point = 1/72nd inch); the suffixes "in", "cm", and "mm" specify inches, centimeters, and millimeters, respectively.

This option is only available when generating PostScript or PDF files.

---size size

The --size option specifies the page size. The size parameter can be one of the following standard sizes:

<table>
<thead>
<tr>
<th>size</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter</td>
<td>8.5x11in (216x279mm)</td>
</tr>
<tr>
<td>A4</td>
<td>8.27x11.69in (210x297mm)</td>
</tr>
<tr>
<td>Universal</td>
<td>8.27x11in (210x279mm)</td>
</tr>
</tbody>
</table>

Custom sizes are specified by the page width and length separated by the letter "x" to select a custom page size. Append the letters "in" for inches, "mm" for millimeters, or "cm" for centimeters.

This option is only available when generating PostScript or PDF files. Use the --pscommands option to generate PostScript page size commands.

---strict

The --strict option turns on strict HTML conformance checking. When enabled, HTML elements that are improperly nested and dangling close elements will produce error messages.

---textcolor color

The --textcolor option specifies the default text color for all pages in the document. The color can be specified by a standard HTML color name or as a 6-digit hexadecimal number of the form #RRGGBB.
--textfont typeface

The --textfont options sets the typeface that is used for text in the document. The typeface parameter can be one of the following:

<table>
<thead>
<tr>
<th>typeface</th>
<th>Actual Font</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arial</td>
<td>Helvetica</td>
</tr>
<tr>
<td>Courier</td>
<td>Courier</td>
</tr>
<tr>
<td>Helvetica</td>
<td>Helvetica</td>
</tr>
<tr>
<td>Monospace</td>
<td>DejaVu Sans Mono</td>
</tr>
<tr>
<td>Sans</td>
<td>DejaVu Sans</td>
</tr>
<tr>
<td>Serif</td>
<td>DejaVu Serif</td>
</tr>
<tr>
<td>Times</td>
<td>Times</td>
</tr>
</tbody>
</table>

--title

The --title option specifies that a title page should be generated.

--titlefile filename

The --titlefile option specifies a HTML or Markdown file to use for the title page.

--titleimage filename

The --titleimage option specifies the title image for the title page. The supported formats are GIF, JPEG, and PNG.

--tocfooter lcr

The --tocfooter option specifies the contents of the table-of-contents footer. The lcr parameter is a three-character string representing the left, center, and right footer fields. See the --footer option for the list of formatting characters.

Setting the TOC footer to "..." disables the TOC footer entirely.

--tocheader lcr

The --tocheader option specifies the contents of the table-of-contents header. The lcr parameter is a three-character string representing the left, center, and right header fields. See the --footer option for the list of formatting characters.

Setting the TOC header to "..." disables the TOC header entirely.

--toclevels levels

The --toclevels options specifies the number of heading levels to include in the table-of-contents pages. The levels parameter is a number from 1 to 6.
The `--toctitle` option specifies the string to display at the top of the table-of-contents; the default string is "Table of Contents".

**--top margin**

The `--top` option specifies the top margin. The default units are points (1 point = 1/72nd inch); the suffixes "in", "cm", and "mm" specify inches, centimeters, and millimeters, respectively.

This option is only available when generating PostScript or PDF files.

**--user-password password**

The `--user-password` option specifies the user password for a PDF file. If not specified or the empty string (""), no password will be required to view the document.

This option is only available when generating PDF files.

**--verbose**

The `--verbose` option specifies that progress information should be sent/displayed to the standard error file.

**--version**

The `--version` option displays the HTMLDOC version number.

**--webpage**

The `--webpage` option specifies that the input files comprise a web page (or site) and that no title page or table-of-contents should be generated. HTMLDOC will insert a page break between each input file.

This option is only available when generating PostScript or PDF files.

**--xrxcomments**

The `--xrxcomments` option specifies that Xerox PostScript job comments should be written to the output files.

This option is only available when generating PostScript files.
Environment Variables

HTMLDOC looks for several environment variables which can override the default directories, display additional debugging information, and disable CGI mode.

**HTMLDOC_DATA**

This environment variable specifies the location of HTMLDOC’s *data* and *fonts* directories, normally `/usr/share/htmldoc` or `C:\Program Files\HTMLDOC`.

**HTMLDOC_DEBUG**

This environment variable enables debugging information that is sent to stderr. The value is a list of keywords separated by spaces:

<table>
<thead>
<tr>
<th>keyword</th>
<th>Information Shown</th>
</tr>
</thead>
<tbody>
<tr>
<td>links</td>
<td>Shows all of the links in a document</td>
</tr>
<tr>
<td>memory</td>
<td>Shows memory usage statistics</td>
</tr>
<tr>
<td>remotebytes</td>
<td>Shows the number of bytes that were transferred via HTTP</td>
</tr>
<tr>
<td>table</td>
<td>Puts a box around each table, row, and cell</td>
</tr>
<tr>
<td>tempfiles</td>
<td>Shows the temporary files that were created, and preserves them for debugging</td>
</tr>
<tr>
<td>timing</td>
<td>Shows the load and render times</td>
</tr>
<tr>
<td>all</td>
<td>All of the above</td>
</tr>
</tbody>
</table>

**HTMLDOC_HELP**

This environment variable specifies the location of HTMLDOC’s documentation directory, normally `/usr/share/doc/htmldoc` or `C:\Program Files\HTMLDOC\doc`.

**HTMLDOC_NOCGI**

This environment variable, when set (the value doesn't matter), disables CGI mode. It is most useful for using HTMLDOC on a web server from a scripting language or invocation from a program.
Messages

HTMLDOC sends error and status messages to stderr unless the --quiet option is provided on the command-line. Applications can capture these messages to relay errors or statistics to the user.

BYTES: Message

The BYTES: message specifies the number of bytes that were written to an output file. If the output is directed at a directory then multiple BYTES: messages will be sent.

DEBUG: Messages

The DEBUG: messages contain debugging information based on the value of the HTMLDOC_DEBUG environment variable. Normally, no DEBUG: messages are sent by HTMLDOC.

ERRnnn: Messages

The ERRnnn: messages specify an error condition. Error numbers 1 to 14 map to the following errors:

1. No files were found or loadable.
2. No pages were generated.
3. The document contains too many files or chapters.
4. HTMLDOC ran out of memory.
5. The specified file could not be found.
6. The comment contains a bad HTMLDOC formatting command.
7. The image file is not in a known format.
8. HTMLDOC was unable to remove a temporary file.
9. HTMLDOC had an unspecified internal error.
10. HTMLDOC encountered a networking error when retrieving a file via a URL.
11. HTMLDOC was unable to read a file.
12. HTMLDOC was unable to write a file.
13. A HTML error was found in a source file.
14. A table, image, or text fragment was too large to fit in the space provided.
15. A hyperlink in the source files was unresolved.

Error numbers 100 to 505 correspond directly to a HTTP status code.

INFO: Messages

The INFO: messages contain general information that is logged when HTMLDOC is running in CGI mode or when you use the --verbose option.

PAGES: Message

The PAGES: message specifies the number of pages that were written to an output file. If the output is directed at a directory then multiple PAGES: messages will be sent. No PAGES: messages are sent when generating HTML or EPUB output.

REMOVBYTE: Message

The REMOBYTE: message specifies the number of bytes that were transferred using HTTP. This message is only displayed if the HTMLDOC_DEBUG environment variable has the keyword remotebytes or all.
TIMING: Message

The TIMING: message specifies the load, render, and total time in seconds for the current command. This message is only displayed if the HTMLDOC_DEBUG environment variable has the keyword timing or all.
This chapter defines all of the HTML elements and attributes that are recognized and supported by HTMLDOC.

**General Usage**

There are two types of HTML files - structured documents using headings (H1, H2, etc.) which HTMLDOC calls "books", and unstructured documents that do not use headings which HTMLDOC calls "web pages".

A very common mistake is to try converting a web page using:

```
htmldoc -f filename.pdf filename.html
```

which will likely produce a PDF file with no pages. To convert web page files you **must** use the `--webpage` option at the command-line or choose **Web Page** in the input tab of the GUI.

**Note:** HTMLDOC does not support HTML 4.0 elements, attributes, stylesheets, or scripting.
Elements

The following HTML elements are recognized by HTMLDOC:

<table>
<thead>
<tr>
<th>Element</th>
<th>Version</th>
<th>Supported?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>!DOCTYPE</td>
<td>3.0</td>
<td>Yes</td>
<td>DTD is ignored</td>
</tr>
<tr>
<td>A</td>
<td>1.0</td>
<td>Yes</td>
<td>See Below</td>
</tr>
<tr>
<td>ACRONYM</td>
<td>2.0</td>
<td>Yes</td>
<td>No font change</td>
</tr>
<tr>
<td>ADDRESS</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>AREA</td>
<td>2.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>1.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>BASE</td>
<td>2.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>BASEFONT</td>
<td>1.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>BIG</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>BLINK</td>
<td>2.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>BLOCKQUOTE</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>BODY</td>
<td>1.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>BR</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>CAPTION</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>CENTER</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>CITE</td>
<td>2.0</td>
<td>Yes</td>
<td>Italic/Oblique</td>
</tr>
<tr>
<td>CODE</td>
<td>2.0</td>
<td>Yes</td>
<td>Courier</td>
</tr>
<tr>
<td>DD</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DEL</td>
<td>2.0</td>
<td>Yes</td>
<td>Strikethrough</td>
</tr>
<tr>
<td>DFN</td>
<td>2.0</td>
<td>Yes</td>
<td>Helvetica</td>
</tr>
<tr>
<td>DIR</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DIV</td>
<td>3.2</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DL</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DT</td>
<td>2.0</td>
<td>Yes</td>
<td>Italic/Oblique</td>
</tr>
<tr>
<td>EM</td>
<td>2.0</td>
<td>Yes</td>
<td>Italic/Oblique</td>
</tr>
<tr>
<td>EMBED</td>
<td>2.0</td>
<td>Yes</td>
<td>HTML Only</td>
</tr>
<tr>
<td>FONT</td>
<td>2.0</td>
<td>Yes</td>
<td>See Below</td>
</tr>
<tr>
<td>FORM</td>
<td>2.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>FRAME</td>
<td>3.2</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Element</td>
<td>Version</td>
<td>Supported?</td>
<td>Notes</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>------------</td>
<td>---------------</td>
</tr>
<tr>
<td>FRAMESET</td>
<td>3.2</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>H1</td>
<td>1.0</td>
<td>Yes</td>
<td>Boldface, See Below</td>
</tr>
<tr>
<td>H2</td>
<td>1.0</td>
<td>Yes</td>
<td>Boldface, See Below</td>
</tr>
<tr>
<td>H3</td>
<td>1.0</td>
<td>Yes</td>
<td>Boldface, See Below</td>
</tr>
<tr>
<td>H4</td>
<td>1.0</td>
<td>Yes</td>
<td>Boldface, See Below</td>
</tr>
<tr>
<td>H5</td>
<td>1.0</td>
<td>Yes</td>
<td>Boldface, See Below</td>
</tr>
<tr>
<td>H6</td>
<td>1.0</td>
<td>Yes</td>
<td>Boldface, See Below</td>
</tr>
<tr>
<td>HEAD</td>
<td>1.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>HR</td>
<td>1.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>HTML</td>
<td>1.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>1.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>IMG</td>
<td>1.0</td>
<td>Yes</td>
<td>See Below</td>
</tr>
<tr>
<td>INPUT</td>
<td>2.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>INS</td>
<td>2.0</td>
<td>Yes</td>
<td>Underline</td>
</tr>
<tr>
<td>ISINDEX</td>
<td>2.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>KBD</td>
<td>2.0</td>
<td>Yes</td>
<td>Courier Bold</td>
</tr>
<tr>
<td>LI</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>LINK</td>
<td>2.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>MAP</td>
<td>2.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>MENU</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>META</td>
<td>2.0</td>
<td>Yes</td>
<td>See Below</td>
</tr>
<tr>
<td>MULTICOL</td>
<td>N3.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>NOBR</td>
<td>1.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>NOFRAMES</td>
<td>3.2</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>OL</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>OPTION</td>
<td>2.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>1.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>PRE</td>
<td>1.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>2.0</td>
<td>Yes</td>
<td>Strikethrough</td>
</tr>
<tr>
<td>SAMP</td>
<td>2.0</td>
<td>Yes</td>
<td>Courier</td>
</tr>
<tr>
<td>SCRIPT</td>
<td>2.0</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
## Comments

HTMLDOC supports many special HTML comments to initiate page breaks, set the header and footer text, and control the current media options:

- <!-- FOOTER LEFT "foo" -->
  Sets the left footer text; the test is applied to the current page if empty, or the next page otherwise.

- <!-- FOOTER CENTER "foo" -->
  Sets the center footer text; the test is applied to the current page if empty, or the next page otherwise.

- <!-- FOOTER RIGHT "foo" -->
  Sets the right footer text; the test is applied to the current page if empty, or the next page otherwise.

- <!-- HALF PAGE -->
  Break to the next half page.

- <!-- HEADER LEFT "foo" -->
  Sets the left header text; the test is applied to the current page if empty, or the next page otherwise.

- <!-- HEADER CENTER "foo" -->
  Sets the center header text; the test is applied to the current page if empty, or the next page otherwise.

---

### Table of Element Support

<table>
<thead>
<tr>
<th>Element</th>
<th>Version</th>
<th>Supported?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELECT</td>
<td>2.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>SMALL</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>SPACER</td>
<td>N3.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>STRIKE</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>STRONG</td>
<td>2.0</td>
<td>Yes</td>
<td>Boldface Italic/Oblique</td>
</tr>
<tr>
<td>SUB</td>
<td>2.0</td>
<td>Yes</td>
<td>Reduced Fontsize</td>
</tr>
<tr>
<td>SUP</td>
<td>2.0</td>
<td>Yes</td>
<td>Reduced Fontsize</td>
</tr>
<tr>
<td>TABLE</td>
<td>2.0</td>
<td>Yes</td>
<td>See Below</td>
</tr>
<tr>
<td>TD</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>TEXTAREA</td>
<td>2.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>TH</td>
<td>2.0</td>
<td>Yes</td>
<td>Boldface Center</td>
</tr>
<tr>
<td>TITLE</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>TR</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>TT</td>
<td>2.0</td>
<td>Yes</td>
<td>Courier</td>
</tr>
<tr>
<td>U</td>
<td>1.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>UL</td>
<td>2.0</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>VAR</td>
<td>2.0</td>
<td>Yes</td>
<td>Helvetica Oblique</td>
</tr>
<tr>
<td>WBR</td>
<td>1.0</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
<!-- HEADER RIGHT "foo" -->
Sets the right header text; the test is applied to the current page if empty, or the next page otherwise.

<!-- MEDIA BOTTOM nnn -->
Sets the bottom margin of the page. The "nnn" string can be any standard measurement value, e.g. 0.5in, 36, 12mm, etc. Breaks to a new page if the current page is already marked.

<!-- MEDIA COLOR "foo" -->
Sets the media color attribute for the page. The "foo" string is any color name that is supported by the printer, e.g. "Blue", "White", etc. Breaks to a new page or sheet if the current page is already marked.

<!-- MEDIA DUPLEX NO -->
Chooses single-sided printing for the page; breaks to a new page or sheet if the current page is already marked.

<!-- MEDIA DUPLEX YES -->
Chooses double-sided printing for the page; breaks to a new sheet if the current page is already marked.

<!-- MEDIA LANDSCAPE NO -->
Chooses portrait orientation for the page; breaks to a new page if the current page is already marked.

<!-- MEDIA LANDSCAPE YES -->
Chooses landscape orientation for the page; breaks to a new page if the current page is already marked.

<!-- MEDIA LEFT nnn -->
Sets the left margin of the page. The "nnn" string can be any standard measurement value, e.g. 0.5in, 36, 12mm, etc. Breaks to a new page if the current page is already marked.

<!-- MEDIA POSITION nnn -->
Sets the media position attribute (input tray) for the page. The "nnn" string is an integer that usually specifies the tray number. Breaks to a new page or sheet if the current page is already marked.

<!-- MEDIA RIGHT nnn -->
Sets the right margin of the page. The "nnn" string can be any standard measurement value, e.g. 0.5in, 36, 12mm, etc. Breaks to a new page if the current page is already marked.

<!-- MEDIA SIZE foo -->
Sets the media size to the specified size. The "foo" string can be "Letter", "Legal", "Universal", or "A4" for standard sizes or "WIDTHxHEIGHTunits" for custom sizes, e.g. "8.5x11in"; breaks to a new page or sheet if the current page is already marked.

<!-- MEDIA TOP nnn -->
Sets the top margin of the page. The "nnn" string can be any standard measurement value, e.g. 0.5in, 36, 12mm, etc. Breaks to a new page if the current page is already marked.

<!-- MEDIA TYPE "foo" -->
Sets the media type attribute for the page. The "foo" string is any type name that is supported by the printer, e.g. "Plain", "Glossy", etc. Breaks to a new page or sheet if the current page is already marked.

<!-- NEED length -->
Break if there is less than length units left on the current page. The length value defaults to lines of text but can be suffixed by in, mm, or cm to convert from the corresponding units.

<!-- NEW PAGE -->
Break to the next page.

<!-- NEW SHEET -->
Break to the next sheet.

<!-- NUMBER-UP nn -->
Sets the number of pages that are placed on each output page. Valid values are 1, 2, 4, 6, 9, and 16.

<!-- PAGE BREAK -->
Break to the next page.
Header/Footer Strings

The HEADER and FOOTER comments allow you to set an arbitrary string of text for the left, center, and right headers and footers. Each string consists of plain text; special values or strings can be inserted using the dollar sign ($):

$$
Inserts a single dollar sign in the header.

$CHAPTER
Inserts the current chapter heading.

$CHAPTERPAGE

$CHAPTERPAGE(format)
Inserts the current page number within a chapter or file. When a format is specified, uses that numeric format (1 = decimal, i = lowercase roman numerals, I = uppercase roman numerals, a = lowercase ascii, A = uppercase ascii) for the page numbers.

$CHAPTERPAGES

$CHAPTERPAGES(format)
Inserts the total page count within a chapter or file. When a format is specified, uses that numeric format (1 = decimal, i = lowercase roman numerals, I = uppercase roman numerals, a = lowercase ascii, A = uppercase ascii) for the page count.

$DATE
Inserts the current date.

$HEADING
Inserts the current heading.

$HFIMAGE1
$HFIMAGE2
$HFIMAGE3
$HFIMAGE4
$HFIMAGE5
$HFIMAGE6
$HFIMAGE7
$HFIMAGE8
$HFIMAGE9
$HFIMAGE10
Inserts the specified header/footer image; all other text in the string will be ignored.

$LETTERHEAD
Inserts the logo image as a letterhead with no down-scaling; all other text in the string will be ignored.

$LOGOIMAGE
Inserts the logo image; all other text in the string will be ignored.

$PAGE

$PAGE(format)
Inserts the current page number. When a format is specified, uses that numeric format (1 = decimal, i = lowercase roman numerals, I = uppercase roman numerals, a = lowercase ascii, A = uppercase ascii) for the page numbers.

$PAGES

$PAGES(format)
Inserts the total page count. When a format is specified, uses that numeric format (1 = decimal, i = lowercase roman numerals, I = uppercase roman numerals, a = lowercase ascii, A = uppercase ascii) for the page count.

$TIME
Inserts the current time.
Limited typeface specification is currently supported to ensure portability across platforms and for older PostScript printers:

<table>
<thead>
<tr>
<th>Requested Font</th>
<th>Actual Font</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arial</td>
<td>Helvetica</td>
</tr>
<tr>
<td>Courier</td>
<td>Courier</td>
</tr>
<tr>
<td>Dingbats</td>
<td>Dingbats</td>
</tr>
<tr>
<td>Helvetica</td>
<td>Helvetica</td>
</tr>
<tr>
<td>Monospace</td>
<td>DejaVu Sans Mono</td>
</tr>
<tr>
<td>Sans</td>
<td>DejaVu Sans</td>
</tr>
<tr>
<td>Serif</td>
<td>DejaVu Serif</td>
</tr>
<tr>
<td>Symbol</td>
<td>Symbol</td>
</tr>
<tr>
<td>Times</td>
<td>Times</td>
</tr>
</tbody>
</table>

All other unrecognized typefaces are silently ignored.

### Headings

Currently HTMLDOC supports a maximum of 1000 chapters (H1 headings). This limit can be increased by changing the `MAX_CHAPTERS` constant in the `config.h` file included with the source code.

All chapters start with a top-level heading (H1) markup. Any headings within a chapter must be of a lower level (H2 to H15). Each chapter starts a new page or the next odd-numbered page if duplexing is selected.

**Note:** Heading levels 7 to 15 are not standard HTML and will not likely be recognized by most web browsers.

The headings you use within a chapter must start at level 2 (H2). If you skip levels the heading will be shown under the last level that was known. For example, if you use the following hierarchy of headings:

```xml
<H1>Chapter Heading</H1>
...
<H2>Section Heading 1</H2>
...
<H2>Section Heading 2</H2>
...
<H3>Sub-Section Heading 1</H3>
...
<H4>Sub-Sub-Section Heading 1</H4>
...
<H4>Sub-Sub-Section Heading 2</H4>
...
<H3>Sub-Section Heading 2</H3>
```
the table-of-contents that is generated will show:

- **Chapter Heading**
  - Section Heading 1
  - Section Heading 2
    - Sub-Section Heading 1
      - Sub-Sub-Section Heading 1
      - Sub-Sub-Section Heading 2
    - Sub-Section Heading 2
      - Sub-Sub-Section Heading 3
  - Section Heading 3

**Numbered Headings**

When the numbered headings option is enabled, HTMLDOC recognizes the following additional attributes for all heading elements:

**VALUE=**"#"

Specifies the starting value for this heading level (default is "1" for all new levels).

**TYPE=**"1"

Specifies that decimal numbers should be generated for this heading level.

**TYPE=**"a"

Specifies that lowercase letters should be generated for this heading level.

**TYPE=**"A"

Specifies that uppercase letters should be generated for this heading level.

**TYPE=**"i"

Specifies that lowercase roman numerals should be generated for this heading level.

**TYPE=**"I"

Specifies that uppercase roman numerals should be generated for this heading level.

**Images**

HTMLDOC supports loading of GIF, JPEG, and PNG image files. BMP image support is deprecated and will be removed in a future version of HTMLDOC. EPS and other types of image files are not supported at this time.

**Links**

External URL and internal (#target and filename.html) links are fully supported for HTML and PDF output.

When generating PDF files, local PDF file links will be converted to external file links for the PDF viewer instead of URL links. That is, you can directly link to another local PDF file from your HTML document with:

```html
<A HREF="filename.pdf">...</A>
```
META Attributes

HTMLDOC supports the following META attributes for the title page and document information:

- `<META NAME="AUTHOR" CONTENT="..."`
  Specifies the document author.
- `<META NAME="COPYRIGHT" CONTENT="..."`
  Specifies the document copyright.
- `<META NAME="DOCNUMBER" CONTENT="..."`
  Specifies the document number.
- `<META NAME="GENERATOR" CONTENT="..."`
  Specifies the application that generated the HTML file.
- `<META NAME="HTMLDOC.filename" CONTENT="..."`
  Specifies the filename that is reported in CGI mode.
- `<META NAME="KEYWORDS" CONTENT="..."`
  Specifies document search keywords.
- `<META NAME="SUBJECT" CONTENT="..."`
  Specifies document subject.

Tables

Currently HTMLDOC supports a maximum of 200 columns within a single table. This limit can be increased by changing the MAX_COLUMNS constant in the config.h file included with the source code.

**HTMLDOC does not support HTML 4.0 table elements or attributes, such as TBODY, THEAD, TFOOT, or RULES.**
Chapter 5 - Markdown Reference

This chapter describes the markdown syntax that is recognized and supported by HTMLDOC.

**General Syntax**

Markdown is a simple plain-text format that uses formatting conventions that are commonly used in email and other text-based communications. Markdown is used by most of the major blogging, web site, and project hosting platforms and is supported by many standalone text editors.

HTMLDOC supports the CommonMark version of markdown syntax with the following exceptions:

- Metadata as used by Jekyll and other web markdown solutions can be placed at the beginning of the file;
- "@" links can be used which resolve to headings within the file;
- Tables can be embedded using the "|" separator;
- Embedded HTML markup and entities are explicitly not supported or allowed;
- Tabs are silently expanded to the markdown standard of four spaces since HTML uses eight spaces per tab; and
- Some pathological nested link and inline style features supported by CommonMark (**Really Strong Text**) are not supported by mmd.

**Note:** HTMLDOC does not support embedded HTML in markdown documents because the version of HTML (or XHTML) cannot be reliably determined, making support of certain character entities and language elements problematic.
Metadata Syntax

Metadata is specified at the top of a markdown file between two lines containing three hyphens, for example:

```---
    title: My Great Novel
    author: John Doe
    copyright: Copyright © 2018 by John Doe
    version: 1.0
    language: en-US
    subject: Fiction
---
```

# Preamble

... 

HTMLDOC supports the "author", "copyright", "language", "subject", "title", and "version" metadata and silently ignores everything else.

Link Targets and @ Links

CommonMark defines no standard for how implementations generate anchors or identifiers for headings in a markdown file - this makes hyperlinking to a named section within a document basically impossible. Jekyll and other markdown implementations allow the special link "@" to be used, which HTMLDOC supports:

```
See [Screwing in a Light Bulb](@) for instructions on installing a light bulb.
...

# Screwing in a Light Bulb

... 
```

To reference a markdown heading from a HTML file, convert the heading to lowercase, replace spaces with the hyphen ("-"), and remove any special characters. Thus, a HTML file would reference the previous heading using the following HTML:

```html
<a href="#screwing-in-a-light-bulb"> ... </a>
```
Table Syntax

CommonMark does not define a syntax for plain-text tables, instead relying on embedded HTML which HTMLDOC does not support. Both Github and Jekyll support a common markdown extension for plain text tables that uses the vertical pipe ("|") character to specify column separations. The first line contains the table header, the second line is a horizontal separator, and the remaining lines contain the table body. For example:

<table>
<thead>
<tr>
<th>Heading 1</th>
<th>Heading 2</th>
<th>Heading 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell 1,1</td>
<td>Cell 1,2</td>
<td>Cell 1,3</td>
</tr>
<tr>
<td>Cell 2,1</td>
<td>Cell 2,2</td>
<td>Cell 2,3</td>
</tr>
<tr>
<td>Cell 3,1</td>
<td>Cell 3,2</td>
<td>Cell 3,3</td>
</tr>
</tbody>
</table>

will produce:

<table>
<thead>
<tr>
<th>Heading 1</th>
<th>Heading 2</th>
<th>Heading 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell 1,1</td>
<td>Cell 1,2</td>
<td>Cell 1,3</td>
</tr>
<tr>
<td>Cell 2,1</td>
<td>Cell 2,2</td>
<td>Cell 2,3</td>
</tr>
<tr>
<td>Cell 3,1</td>
<td>Cell 3,2</td>
<td>Cell 3,3</td>
</tr>
</tbody>
</table>

The outer pipes can be omitted, for example:

<table>
<thead>
<tr>
<th>Heading 1</th>
<th>Heading 2</th>
<th>Heading 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell 1,1</td>
<td>Cell 1,2</td>
<td>Cell 1,3</td>
</tr>
<tr>
<td>Cell 2,1</td>
<td>Cell 2,2</td>
<td>Cell 2,3</td>
</tr>
<tr>
<td>Cell 3,1</td>
<td>Cell 3,2</td>
<td>Cell 3,3</td>
</tr>
</tbody>
</table>

While table headings are always centered, you can control the alignment of the body cells by using the colon ("::") character in the separator line. Put a leading colon to specify left alignment (the default), a trailing colon for right alignment, or both to specify centering. For example:

<table>
<thead>
<tr>
<th>Left Alignment</th>
<th>Center Alignment</th>
<th>Right Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>:-------------</td>
<td>:---------------:</td>
<td>:--------------:</td>
</tr>
<tr>
<td>Cell 1,1</td>
<td>Cell 1,2</td>
<td>1</td>
</tr>
<tr>
<td>Cell 2,1</td>
<td>Cell 2,2</td>
<td>12</td>
</tr>
<tr>
<td>Cell 3,1</td>
<td>Cell 3,2</td>
<td>123</td>
</tr>
</tbody>
</table>

will produce:

<table>
<thead>
<tr>
<th>Left Alignment</th>
<th>Center Alignment</th>
<th>Right Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell 1,1</td>
<td>Cell 1,2</td>
<td>1</td>
</tr>
<tr>
<td>Cell 2,1</td>
<td>Cell 2,2</td>
<td>12</td>
</tr>
<tr>
<td>Cell 3,1</td>
<td>Cell 3,2</td>
<td>123</td>
</tr>
</tbody>
</table>

Table columns do not need to be padded so that they line up - the following (less readable) example is perfectly valid:

<table>
<thead>
<tr>
<th>Left Alignment</th>
<th>Center Alignment</th>
<th>Right Alignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>:-------------</td>
<td>:---------------:</td>
<td>:--------------:</td>
</tr>
<tr>
<td>Cell 1,1</td>
<td>Cell 1,2</td>
<td>1</td>
</tr>
<tr>
<td>Cell 2,1</td>
<td>Cell 2,2</td>
<td>12</td>
</tr>
<tr>
<td>Cell 3,1</td>
<td>Cell 3,2</td>
<td>123</td>
</tr>
</tbody>
</table>
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one line to give the program's name and an idea of what it does.
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This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) yename of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'. This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c': they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright

Appendix A - License Agreement
interest in the program `Gnomovision'
(which makes passes at compilers) written
by James Hacker.

signature of Ty Coon
April 1989
Ty Coon, President of Vice
This appendix describes the HTMLDOC `.book` file format.

**Introduction**

The HTMLDOC `.book` file format is a simple text format that provides the command-line options and files that are part of the document. These files can be used from the GUI interface or from the command-line using the `--batch` option:

```
htmldoc filename.book
htmldoc --batch filename.book
```

The first form will load the book and display the GUI interface, if configured. Windows users should use `ghtmldoc.exe` executable to show the GUI and `htmldoc.exe` for the batch mode:

```
ghtmldoc.exe filename.book
htmldoc.exe --batch filename.book
```

**The Header**

Each `.book` file starts with a line reading:

```
#HTMLDOC 1.9
```

The version number (1.9) is optional.
The Options

Following the header is a line containing the options for the book. You can use any valid command-line option on this line:

```
-f htmldoc.pdf --titleimage htmldoc.png --duplex --compression=9 --jpeg=90
```

Long option lines can be broken using a trailing backslash (\) on the end of each continuation line:

```
-f htmldoc.pdf --titleimage htmldoc.png --duplex \
--compression=9 --jpeg=90
```

The Files

Following the options are a list of files or URLs to include in the document:

- 1-intro.html
- 2-using.html
- 3-cmdref.html
- 4-htmlref.html
- 5-mdref.html
- a-license.html
- b-book.html

Putting It All Together

The following is the complete book file needed to generate this documentation:

```
#HTMLDOC 1.9
-f htmldoc.pdf --titleimage htmldoc.png --duplex --compression=9 --jpeg=90
1-intro.html
2-using.html
3-cmdref.html
4-htmlref.html
5-mdref.html
a-license.html
b-book.html
```