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Generate PDF Add-On

Generate a PDF from a single Foswiki page

Usage

- The simplest way to activate PDF printing, is to add `genpdf` to front of the `SKIN` setting. This will replace the PatternSkin 'Print Version' action with 'Generate PDF'
    - eg `Set SKIN=genpdf,pattern`
- A page can also be published by substituting `genpdf` for `view` in the topic URL.
- To make it even easier for novice Foswiki users to use, we added a link (like edit and attach) to our `view.tmpl` to publish the current page (using the current topic as the document title). The line we added to our template is:
    - `<a href="%SCRIPTURLPATH%/genpdf%SCRIPTSUFFIX%/%WEB%/%TOPIC%?pdftitle=%T`
- You may also choose to replace the Printable (?skin=print) targets in your favourite skin with

```
[[%SCRIPTURL{genpdf}%/%WEB%/%TOPIC%][Printable]]
```

- You can now generate a PDF document containing all of the descendents of the base topic as separate chapters. For example, if you create a ParentTopic, then create FirstChild and SecondChild with ParentTopic as their parent topic, then create GrandChildOne with FirstChild as its parent (and so on), you get a tree like this:

```
ParentTopic
   - FirstChild
      - GrandChildOne
      - GrandChildTwo
   - SecondChild
      - GrandChildThree
```

If you add `'?pdfrecursive=on'` to the URL parameters, all of the topics will be rolled into the PDF.

Configuring the Script

The script can be configured either via URL parameters or web preference variables. URL parameters have precedence over web preference variables. If neither of these are present, the script will use hard-coded default variables. The general script configuration variables are explained in the next section while header/footer and title page configuration are explained in subsequent sections.

General Configuration

The following table shows the various configuration variables and their meaning. The first column gives the variable to use if passed in the URL. The second column shows the variable to use if using a Foswiki preference variable (i.e. Set VARIABLE =). The third column gives the default value if neither the URL nor Foswiki preference variable is used. Note that URL variables have precedence over Foswiki preference variables. For a more detailed description of the HTMLDOC related variables, see the HTMLDOC documentation at http://www.htmldoc.org.

URL Variable	Foswiki Preference Variable	Default Value	
pdfbanner	GENPDFADDON_BANNER		Foobar
pdftitle	GENPDFADDON_TITLE		Writing
pdfsubtitle	GENPDFADDON_SUBTITLE		A short
pdfheadertopic	GENPDFADDON_HEADERTOPIC		GenPDI
pdftitletopic	GENPDFADDON_TITLETOPIC		GenPDI
pdftitledoc	GENPDFADDON_TITLEDOC		
skin	GENPDFADDON_SKIN	pattern	nat
cover	GENPDFADDON_COVER	print	print
pdfrecursive	GENPDFADDON_RECURSIVE	undef	on
pdfformat	GENPDFADDON_FORMAT	pdf14	pdf12
pdftoclevels	GENPDFADDON_TOCLEVELS	5	3
pdfpagesize	GENPDFADDON_PAGESIZE	a4	lette
pdforientation	GENPDFADDON_ORIENTATION	portrait	lands
pdfwidth	GENPDFADDON_WIDTH	860	1060
pdfheadershift	GENPDFADDON_HEADERSHIFT	0	+3

URL Variable	Foswiki Preference Variable	Default Value	
pdfkeywords	GENPDFADDON_KEYWORDS	%FORMFIELD{"KeyWords"}%	'foo, bar
pdfsubject	GENPDFADDON_SUBJECT	%FORMFIELD{"TopicHeadline"}%	'Foobar
pdftocheader	GENPDFADDON_TOCHEADER	...	l..
pdftocfooter	GENPDFADDON_TOCFOOTER	..i	.i.
pdfheader	GENPDFADDON_HEADER		.1.
pdffooter	GENPDFADDON_FOOTER		.1.
pdfheadfootfont	GENPDFADDON_HEADFOOTFONT		Helvetic
pdfheadfootsize	GENPDFADDON_HEADFOOTSIZE		12
pdfbodyimage	GENPDFADDON_BODYIMAGE		
pdflogoimage	GENPDFADDON_LOGOIMAGE		
pdfnumberedtoc	GENPDFADDON_NUMBEREDTOC	undef	True
pdfduplex	GENPDFADDON_DUPLEX	undef	True
pdfpermissions	GENPDFADDON_PERMISSIONS	undef	print,no
pdfmargins	GENPDFADDON_MARGINS	undef	top:0
pdfbodycolor	GENPDFADDON_BODYCOLOR	undef	#CCff

URL Variable	Foswiki Preference Variable	Default Value	
pdfstruct	GENPDFADDON_STRUCT	book	webpa
pdfcopyright	GENPDFADDON_COPYRIGHT	%WEBCOPYRIGHT%	Copyr
pdfdebug	GENPDFADDON_DEBUG	0	1
pdffirstpage	GENPDFADDON_FIRSTPAGE	toc	
pdfdestination	GENPDFADDON_DESTINATION	view	
pdfpagelayout	GENPDFADDON_PAGELAYOUT	single	
pdfpagemode	GENPDFADDON_PAGEMODE	outline	

If using Foswiki preference variables, copy them to the appropriate web preferences page. This plugin does not read settings from this topic!

- Settings for the GenPDFAddOn Plugin
    - #Set GENPDFADDON_BANNER =
    - #Set GENPDFADDON_TITLE =
    - #Set GENPDFADDON_SUBTITLE =
    - #Set GENPDFADDON_HEADERTOPIC =
    - #Set GENPDFADDON_TITLETOPIC =
    - #Set GENPDFADDON_TITLEDOC =
    - #Set GENPDFADDON_SKIN =
    - #Set GENPDFADDON_COVER =
    - #Set GENPDFADDON_RECURSIVE =
    - #Set GENPDFADDON_FORMAT =
    - #Set GENPDFADDON_TOCLEVELS =
    - #Set GENPDFADDON_PAGESIZE =
    - #Set GENPDFADDON_ORIENTATION =
    - #Set GENPDFADDON_WIDTH =
    - #Set GENPDFADDON_HEADERSHIFT =
    - #Set GENPDFADDON_KEYWORDS =
    - #Set GENPDFADDON_SUBJECT =
    - #Set GENPDFADDON_TOCHEADER =
    - #Set GENPDFADDON_TOCFOOTER =
    - #Set GENPDFADDON_HEADER =
    - #Set GENPDFADDON_FOOTER =
    - #Set GENPDFADDON_HEADFOOTFONT =
    - #Set GENPDFADDON_HEADFOOTSIZE =
    - #Set GENPDFADDON_BODYIMAGE =
    - #Set GENPDFADDON_LOGOIMAGE =
    - #Set GENPDFADDON_NUMBEREDTOC =
    - #Set GENPDFADDON_DUPLEX =
    - #Set GENPDFADDON_PERMISSIONS =
    - #Set GENPDFADDON_MARGINS =
    - #Set GENPDFADDON_BODYCOLOR =
    - #Set GENPDFADDON_STRUCT =
    - #Set GENPDFADDON_COPYRIGHT =
    - #Set GENPDFADDON_DEBUG =
    - #Set GENPDFADDON_FIRSTPAGE =
    - #Set GENPDFADDON_DESTINATION =
    - #Set GENPDFADDON_PAGELAYOUT =
    - #Set GENPDFADDON_PAGEMODE =

Limiting the PDF Generation Region

The add-on allows the user to define the region of the topic that should be included in the PDF generation (much like the Foswiki %STARTINCLUDE% and %STOPINCLUDE% variables. In this case, HTML comments are used instead. Everything between these two comments will be included in the PDF generation. The rest of topic will be excluded.

- Use `<!-- PDFSTART -->` to mark the starting point in the topic for PDF generation.
- Use `<!-- PDFSTOP -->` to mark the stopping point in the topic for PDF generation.

Note that there can be multiple PDFSTART and PDFSTOP comment pairs in a single topic to selectively include/exclude multiple sections of the topic in the PDF document. (If you view this page in `raw` mode or edit it, you'll see an example of multiple PDFSTART/PDFSTOP sections to exclude the Foswiki table of

contents). If no PDFSTART/PDFSTOP comment pair appears in the topic, the entire topic text is used. In general, this should not be a problem except for title topics that include forms as the form meta-data will show up in a fairly illegible manner at the end of the document. Therefore, for topics that reference forms, a PDFSTART comment should be placed at the beginning of the topic and a PDFSTOP should be placed at the end.

NOTE: all %META: tags are removed from the base topic. If you want to display form data, you should add %FORMFIELD{"field"}% tags to the topic or title topic.

Creating and Configuring a Title Page

The add-on allows the user to use a topic as a title page for PDF generation. Earlier versions of the add-on required that the title page be expressed using pure HTML as the title page topic was not Foswiki rendered. The latest version of add-on, however, does full Foswiki rendering of the title topic page like any other Foswiki topic. In addition, the following variables can be passed with the URL to override their settings elsewhere (e.g. in the web preferences or Foswiki preferences pages).

Also note that the PDFSTART and PDFSTOP HTML comments should be placed at the beginning and end of title topic. An example title page can be found at GenPDFExampleTitleTopic.

Creating and Configuring Headers and Footers

The add-on also allows the user to configure header and footer formats for both the main section of the document and the table of contents. Configuring the main header and footer is much like configuring a title page. You can select a Foswiki topic to use for the header and footer. Remember to wrap the HTML comments that HTMLDOC uses for the header and footer between <!-- PDFSTART --> and <!-- PDFSTOP --> tags. The add-on will perform Foswiki common variable substition within the HTMLDOC header/footer HTML comments. This will allow Foswiki variables (such as %REVINFO{web="%WEB%" topic="%BASETOPIC%"}%) to be embedded in the headers and footers.

See the HTMLDOC documentation at http://www.htmldoc.org for details of the format of the header and footers. In addition, the `genpdf` script will perform variable substition for the %GENPDFADDON _BANNER%, %GENPDFADDON _TITLE%, and %GENPDFADDON _SUBTITLE% variables as it does for the title page. Finally, the PDFSTART and PDFSTOP HTML comments should be placed at the beginning and end of header/footer topic. An example header/footer page can be found at GenPDFExampleHeaderFooterTopic.

Frequently Asked Questions

How do I stop the table of contents from being generated?
: For some topics, like User topics, it doesn't make any sense to have a table of contents generated so add `'pdftoclevels=0'` as a URL parameter.

When I do a recursive PDF of WebHome it doesn't include all topics
: That's because some topics distributed with Foswiki don't have a parent association. If you *really* want to include every topic in the web, you should reparent them all with WebHome as the parent.

Ocassionally no PDF document is generated
: The default structure of `book` requires that headings be present in the topic. Try setting `pdfstruct=webpage`

Add-On Installation Instructions

Note: You do not need to install anything on the browser to use this add-on. The following instructions are for the administrator who installs the add-on on the server where Foswiki is running.

- Install htmldoc from http://www.htmldoc.org/ (optionally use the patch in the Addon's zip file for headers on every page)
- Download the ZIP file from the Add-on Home (see below)
- Unzip **`GenPDFAddOn.zip`** in your Foswiki installation directory. Content:

File:	Description:
`bin/genpdf`	
`data/System/GenPDFAddOn.txt`	Add-on topic
`data/System/GenPDFAddOnDemo.txt`	Demonstration topic
`data/System/GenPDFExampleHeaderFooterTopic.txt`	
`data/System/GenPDFExampleTitleTopic.txt`	
`htmldoc_force_header.patch`	
`lib/Foswiki/Contrib/GenPDF.pm`	
`lib/Foswiki/Contrib/GenPDFAddOn/Config.spec`	
`templates/view.genpdf.tmpl`	

- Adjust the script ownership to match your webserver configuration (e.g. `chown nobody genpdf`) if needed.
- Make sure the script is executable (e.g `chmod 755 genpdf`).
- **Adjust the perl path in the genpdf script to match your perl installation location.**
- **BEFORE Foswiki-4** Add the variable `$htmldocCmd = "/path/to/htmldoc";` to your `lib/Foswiki.cfg` file so Foswiki can find the location of the htmldoc executable. Look for $fgrepCmd.
- **Foswiki-4 and later** Configure the `$Foswiki::cfg{Extensions}{GenPDFAddOn}{htmldocCmd} = "/path/to/htmldoc";` using `configure` (in the `Extensions` section)
- Copy the preferences from above and paste them into SitePreferences, or the WebPreferences topic for a single web.
- Test if the installation was successful:
  - Try loading this page
  - If it doesn't work, check your webserver logs for any problems. The most common issue is probably an htmldoc installation problem.

Known Bugs

- **Verbatim text runs off the page.** This is a limitation of HTMLDOC. Preformatted text may run off the edge of the page and be truncated.
- **HTMLDOC crashes with segmentation faults.** Eg it fails to generate CompleteDocumentation. I managed to get it to work a few times, but it generally fails. The error returned is `Conversion failed: 'Inappropriate ioctl for device' at /var/www/Foswiki/lib/Foswiki/Contrib/GenPDF.pm line XXX`
- **Some pages don't have a header.** HTMLDOC breaks the page for every level 1 heading (Eg. <h1>) but it doesn't write a header for the new page, so topics with lots of level 1 headings and not much content don't seem to have any headers. Therefore I patched htmldoc-1.8.24 to force a header for every new page:

```
*** htmldoc-1.8.24/htmldoc/ps-pdf.cxx   Sat Oct 30 05:53:59 2004
--- htmldoc-1.8.24/htmldoc/ps-pdf_force_header.cxx      Tue Jun 13 02:12:28 2005
***************
*** 1465,1471 ****

      pspdf_prepare_heading(page, print_page, pages[page].header, top,
                            page_text, sizeof(page_text),
!                           page > chapter_starts[chapter] ||
                              OutputType != OUTPUT_BOOK);
      pspdf_prepare_heading(page, print_page, pages[page].footer, 0,
                            page_text, sizeof(page_text));
--- 1465,1472 ----

      pspdf_prepare_heading(page, print_page, pages[page].header, top,
                            page_text, sizeof(page_text),
! /*                         page > chapter_starts[chapter] || */
!                           1 || /* force heading onto chapter front page */
                              OutputType != OUTPUT_BOOK);
      pspdf_prepare_heading(page, print_page, pages[page].footer, 0,
                            page_text, sizeof(page_text));
```

Add-On Info

Add-on Author:	Foswiki:Main/BrianSpinar, Foswiki:Main/WadeTurland, Foswiki:Main/GeorgeClark
Change History:	
28 Feb 2009	Added missing Config.spec file Item1161: GenPDFAddOn result in "Not Found" page
Feb 2009	Conversion to Foswiki. Better <a and <img tag handling. Rewrote attachment handling to use Func:: API Rewrote recursive mode to use %SEARCH
24 Dec 2008	Added FIRSTPAGE, DESTINATION, TITLEDOC, PAGELAYOUT & PAGEMODE. fixed tag rendering, again. Now accepts either quote. Incorporated body extraction patch; made it work for title pages. removed outdated comment from example title page. Limited testing; use previous version if that makes you nervous. -- Foswiki:Main/TimotheLitt
02 Jul 2008	added support for `VIEW_TEMPLATE` and `COVER`; fixed rendering of anchor and img tags; added `pdfstruct` parameter to print unstructured webpages as well; Foswiki:Main.MichaelDaum
25 Jun 2008	added `template` activation and Configure script spec file Foswiki:Main.SvenDowideit
25 Jun 2008	security and Foswiki 4.2 fixes Foswiki:Main.SvenDowideit
2 Nov 2007	Added new header and footer control (Bugs:Item4916) and fixed generation of wrong Foswiki page (Bugs:Item4915)
23 Oct 2007	Fixed Bugs:Item4452 & Bugs:Item4885, compatibility with Perl 5.6 and missing images with SSL certificates
31 Aug 2007	Fixed Bugs:Item4530, improper rendering of lists
13196	Removed `nop` tags before sending to htmldoc, fixed Bugs:Item3549
11673	Foswiki:Main/RickMach updated MIME type to pdf from x-pdf, fixed bug preventing disabling the TOC
9716	Foswiki:Main/CrawfordCurrie added content-disposition header to files, so they download using a sensible file name
9683	Foswiki:Main/CrawfordCurrie updated for Foswiki-4
Version 0.6 (28 Jun 2005)	• Less aggressive regex for removing foswikiNewLink spans so it doesn't break when using the Foswiki:Extensions.SpacedWikiWordPlugin • Added 'recursive' preference to include chapters for all descendents of the base topic • Use File::Spec->tmpdir to specify the default directory for temporary files

Version 0.5 (16 Jun 2005)	• Redirect to 'oops' URLs if permission denied or topic does not exist. • Removed foswikiNewLink spans from title page so they render as normal text (without the blue ? mark). • Fully qualify image/href URLs on the title page. • Changed temp files to use OO style 'new File::Temp;' for better code portability.
Version 0.4 (13 Jun 2005)	• Better security (now calls `system($Foswiki::htmldocCmd, @htmldocArgs)`) • Checks return code of htmldoc and returns an error on failure • Validation of preferences • Preferences changed to comply with Plugins standard • Better HTML3.2 compatibility for htmldoc 1.8.24 (downgrades a few elements) • Full integration of PDF META tags (optionally using 2 FORMFIELDs): ♦ ==%FORMFIELD{"TopicHeadine"}%== for PDF Subject field ♦ ==%FORMFIELD{"KeyWords"}%== for PDF Keywords field ♦ all other PDF fields use topic info • More htmldoc options (margins, permissions, numbered TOC, logoimage, headfootfont) using preferences • Removed **`%TOC%`** fields so it only uses HTMLDOC's TOC • Title topic *and* header/footer topics are now fully rendered • Fixed the heading shifting function • Fully qualify links, making the document portable • HTMLDOC output goes to a temp file instead of stdout • Temp files now use 'GenPDFAddOn' prefix. (Eg. /tmp/GenPDFAddOn1wr3C48ibd.html)
Version 0.3 (12 Apr 2005)	• Added full Foswiki rendering to title topic page • Added Foswiki common variable expansion to header/footer topic page
Version 0.2 (26 Mar 2005)	• Fixed bug with table of contents generation (i.e. it was always generated even if `pdftoclevels` was set to 0) • Now allow multiple `PDFSTART/PDFSTOP` pairs within a single page to include/exclude multiple sections of the same page • Added Brent Robert's fix to allow operation with latest version (1.8.24) of HTMLDOC
Version 0.1 (30 Jan 2005)	• Initial version
CPAN Dependencies:	File::Temp (if for some reason you don't already have it installed)
Other Dependencies:	HTMLDOC (http://www.htmldoc.org)
Perl Version:	5.005 or above
License:	GPL
Add-on Home:	http://foswiki.org/Extensions/GenPDFAddOn
Feedback:	http://foswiki.org/Extensions/GenPDFAddOnDev
Appraisal:	http://foswiki.org/Extensions/GenPDFAddOnAppraisal

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