The \texttt{bookmark} package

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Abstract

This package implements a new bookmark (outline) organization for package \texttt{hyperref}. Bookmark properties such as style and color can now be set. Other action types are available (URI, GoToR, Named). The bookmarks are generated in the first compile run. Package \texttt{hyperref} uses two runs.

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\(^*\)Please report any issues at https://github.com/ho-tex/oberdiek/issues
1 Documentation

1.1 Introduction

This package \texttt{bookmark} tries to provide a more modern management for bookmarks:

- The bookmarks are already generated in the first \TeX{} compile run.
- The font style and color of the bookmarks can be changed.
- More actions than simple \texttt{GoTo} actions are possible.

In the same way as \texttt{hyperref} the bookmarks are generated in the order of the bookmark generating macros (\texttt{\href{}}). A level number is used to define the tree structure of the bookmarks. The restrictions are less strict:

- The level values may jump and omit values. A \texttt{\subsubsection} may follow a \texttt{\chapter}. This was an error in \texttt{hyperref}, that prints a warning and tries to fix this.

- Several bookmarks may point to the same destination. In \texttt{hyperref} this would mess up the bookmark tree completely, because the algorithm assumes that the destination names are keys (unique).

Note that this package is intended as experimentation platform for bookmark management. Feedback is welcome. Also the interfaces may change in future versions.

1.2 Options

Options can be given at four places:

1. \texttt{\usepackage[\textit{options}]{bookmark}}
   \hspace*{1em}This is the only place for driver options and option \texttt{atend}.

2. \texttt{\bookmarksetup{\textit{options}}}
   \hspace*{1em}This command is just for setting options.

3. \texttt{\bookmarksetupnext{\textit{options}}}
   \hspace*{1em}The options are stored and called after the options of the next \texttt{\bookmark} command.

4. \texttt{\bookmark[\textit{options}]{\textit{title}}}
   \hspace*{1em}This command sets the bookmark. The option settings remain limited to this bookmark.

Exception: Driver options, option \texttt{atend} and options \texttt{draft}/\texttt{final} cannot be changed after the package is loaded.

1.2.1 Options draft and final

If a \LaTeX{} file is compiled several times, then a little time can be saved, if option \texttt{draft} is used to disable the bookmark stuff of this package. Default is \texttt{final}. Both options are boolean options, without value the value \texttt{true} is used. \texttt{draft=true} is the same as \texttt{final=false}.

Options of package \texttt{bookmark} are local options with the exception of driver options. Therefore \texttt{draft} or \texttt{final} given as class option is not seen by this package. If you want to optimize first \LaTeX{} runs depending on a global \texttt{draft}, then package \texttt{idraft} and \LaTeX{}'s \texttt{\PassOptionsToPackage} might help in the organization of the preamble, for example:
1.2.2 Driver options

Supported drivers are pdftex, dvips, dvipsone, textures, dvipdfm (xetex), and vtex. The \TeX engines pdf\TeX, X\TeX, and V\TeX are automatically detected. The default for the DVI drivers is dvips. This can be changed in the configuration file bookmark.cfg by \texttt{\BookmarksDefaultDriver}, e.g.:

\texttt{\def\BookmarksDefaultDriver{dvipdfm}}

Open bookmarks with dvipdfmx. Since 2007-04-25 the cvs version of dvipdfmx contains a patch that extends the $\texttt{\special}$ for bookmarks in order to specify the open status of an outline entry. Option \texttt{dvipdfmx-outline-open} notifies the package that the dvi driver program understands this kind of $\texttt{\special}$. Alternatively \texttt{\SpecialDvipdfmxOutlineOpen} can be defined as number one in the configuration file or before the package is loaded, e.g.:

\texttt{\chardef\SpecialDvipdfmxOutlineOpen=1\relax}

1.2.3 Layout options

Font options.

\textbf{bold}: The bookmark is shown with a bold font if the PDF viewer supports this (since PDF 1.4).

\textit{italic}: An italic font is used (since PDF 1.4).

Both \textbf{bold} and \textit{italic} can be used together. Using value \texttt{false} disables the font option.

Color option. Colored bookmarks are a feature of PDF 1.4, they are not supported by all PDF viewers.

\texttt{color}: Here the color can be given as color specification of packages \texttt{color} or \texttt{xcolor}. An empty value means that the color property is not set. Without package \texttt{xcolor} the recognized values are restricted to

- Empty value, no color is set, example: \texttt{color=\{}\texttt{\}
- Explicit color specification of color model rgb, example for red: \texttt{color=[rgb]\{1,0,0\}}
- Explicit color specification of color model gray, example for dark gray: \texttt{color=[gray]\{0.25\}}

Note that this restriction also holds if package \texttt{color} is loaded. With \texttt{xcolor}, however, the full range of color specifications can be used.

1.2.4 Action options

\texttt{dest}: Destination name.

\texttt{page}: Page number, first page is 1.
**view**: View specification, examples:

```latex
view={FitB}, view={FitH 842}, view={XYZ 0 100 null}
```

Some view specification parameters expect numbers as parameters with unit bp. They can be given either as plain numbers or as length expressions inside \texttt{\calc}. Expressions of package \texttt{calc} are supported if the package is loaded. Otherwise \texttt{\vTeX}'s \texttt{\dimexpr} is used. Example:

```latex
view={FitH \calc{\paperheight-\topmargin-1in}}
view={XYZ 0 \calc{\paperheight} null}
```

Note that \texttt{\calc} cannot be used for the third parameter of \texttt{XYZ}. This parameter is the zoom value, not a length.

**named**: Named action name:

FirstPage, LastPage, NextPage, PrevPage

**gotor**: Name of the external PDF file.

**uri**: URI specification.

**rawaction**: Raw action specification. Because these specification depends on the driver this option should not be used.

The appropriate action for the bookmark is selected by analyzing the specified options. The actions are distinguished by different sets of options:

<table>
<thead>
<tr>
<th>Action</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>GoTo:</td>
<td>dest</td>
</tr>
<tr>
<td>GoTo:</td>
<td>page + view</td>
</tr>
<tr>
<td>GoToR:</td>
<td>gotor + dest</td>
</tr>
<tr>
<td>GoToR:</td>
<td>gotor + page + view</td>
</tr>
<tr>
<td>Named:</td>
<td>named</td>
</tr>
<tr>
<td>URI:</td>
<td>uri</td>
</tr>
</tbody>
</table>

**Missing actions.** If the action is missing package \texttt{bookmark} throws an error message. Depending on the driver (\texttt{pdftex}, \texttt{dvips} and friends) the package detects it quite late at the end of the document. Since version 2011/04/21 v1.21 the package tries printing the line number and file name of the corresponding occurrence of \texttt{\bookmark}. However, \texttt{T\LaTeX} does provide the line number, but unhappily the file name is a secret. The package supports some ways to get the file name:

- If \texttt{Lua\TeX} (independently from DVI or PDF modus) is running, then its \texttt{status.filename} is used automatically.
- Package \texttt{\currfile} \texttt{\[2\]} redefines \texttt{\LaTeX} internals to keep track of the file name. If the package is loaded, then its \texttt{\currfilepath} is detected and used automatically by package \texttt{bookmark}.
- The file name can be set manually by option \texttt{scrfile} in \texttt{\bookmarksetup} or \texttt{\bookmark}. But be careful, manual setting disables the previous ways for file name detection. And a wrong or missed file name setting might get you a wrong source location in the error message.

1.2.5 **Level options**

The order of the bookmark entries are defined by the appearance order of \texttt{\bookmark} commands. The tree structure is constructed by the property level of the bookmark nodes. The values of level are integers. If the level of a bookmark entry has a higher value than the previous node, then the entry becomes a child of the previous node. The absolute value of the difference does not matter.

Package \texttt{bookmark} remembers the level of the previous bookmark entry in a global property ‘current level’.

The behaviour of the level system can be configured by following options:
level: Sets the level, see the description above. If option level is given without value, then the default behaviour is restored, that the 'current level' is used as level value. Since version 2010/10/19 v1.16 package bookmark also supports names part, section and other, if the macros \toclevel@part, \toclevel@sec-
tion are defined (done by package hyperref, see option bookmarksdepth).

rellevel: Sets the level relative to the previous level. A positive value means that the bookmark entry become a child of the previous one.

keeplevel: Use the level, set by level or rellevel, but do not change the global property 'current level'. The option can be disabled by setting to false.

startatroot: At this time the bookmark tree starts at the top level again. The next bookmark entry is not sorted as child to a previous entry. Example scenario: A document uses part. However there are last chapters that should not be put below the last part:

\documentclass{book}
\begin{document}
\part{First part}
\chapter{First chapter in first part}
\part{Second part}
\chapter{First chapter in second part}
\bookmarksetup{startatroot}
\chapter{Index}% does not belong to second part
\end{document}

1.2.6 Style definitions
A style is a group of option settings. It can be defined by macro \bookmarkde-
finestyle and is used by option style.

\bookmarkdefinestyle {⟨name⟩} {⟨key value list⟩}

The ⟨key value list⟩ of option settings is assigned the style ⟨name⟩.

style: The value of option style is the name of a previously defined style. Its option
settings are now executed. The options may include option style. Endless
recursion by calling the same style recursively is prevented and throws an
error.

1.2.7 Hook support
A hook is called right after the processing the optional options of macro \book-
mark.

addtohook: Code, given as value to this option is added to the hook.

\bookmarkget {⟨option⟩}

Macro \bookmarkget extracts the value of the latest option setting of option
⟨option⟩. In case of boolean options number one is returned, if the boolean option
is enabled, otherwise the result is zero. The resulting numbers can directly be
used in ifnum or ifcase. If you want to have the digits 0 and 1, then prefix
\bookmarkget with \number. Macro \bookmarkget is expandable. In case of
unsupported options an empty string is returned. Supported boolean options are
bold, italic, open
Other supported options:

- depth, dest, color, gotor, level, named, openlevel, page, rawaction, uri, view,

Additionally the following key is available:

- text

It returns the text of the outline entry.

**Option setting.** Inside the hook an option can be set using `\bookmarksetup`.

### 1.3 Compatibility with `hyperref`

Package `bookmark` automatically disables `hyperref`'s bookmarks. However the package uses some of the code of `hyperref`. For example, the package redefines the hook `\Hy@writebookmark` that `hyperref` inserts in `\addcontentsline` and other commands. Therefore `hyperref`'s bookmarks should not be disabled.

Package `bookmark` uses `hyperref`'s `\pdfstringdef` and does not provide a replacement.

Some options of `hyperref` are also implemented in package `bookmark`:

<table>
<thead>
<tr>
<th><code>hyperref</code></th>
<th><code>bookmark</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>bookmarksdepth</td>
<td>depth</td>
</tr>
<tr>
<td>bookmarksopen</td>
<td>open</td>
</tr>
<tr>
<td>bookmarksopenlevel</td>
<td>openlevel</td>
</tr>
<tr>
<td>bookmarksnumbered</td>
<td>numbered</td>
</tr>
</tbody>
</table>

The following commands are also available:

- `\pdfbookmark`
- `\currentpdfbookmark`
- `\subpdfbookmark`
- `\belowpdfbookmark`

### 1.4 Adding bookmarks at the end

Package option `atend` enables the following macro:

```latex
\BookmarkAtEnd {⟨stuff⟩}
```

Macro `\BookmarkAtEnd` puts `⟨stuff⟩` at the end of the document. `⟨stuff⟩` means bookmark commands. Example:

```latex
\usepackage[atend]{bookmark}
\BookmarkAtEnd(%
  \bookmarksetup{startatroot}%
  \bookmark[named=LastPage, level=0]{Last page}%
)
```

Alternatively, option `startatroot` can be given in `\bookmark`:

```latex
\BookmarkAtEnd(%
  \bookmark{
    startatroot, 
    named=LastPage, 
    level=0, 
  }{Last page}%
)
```
Remarks.

- \BookmarkAtEnd hides the fact that the method for adding bookmarks at the end of the document depends on the driver.

Some drivers (pdftex, dvips, dvipsone, textures) use package atveryend’s for this purpose. \AtEndDocument is too early, the last page might not been shipped out. Because the .aux file is needed, these drivers use \AfterLastShipout.

The implementation of the other drivers (dvipdfm, xetex, vtex) depends on \special that does not have an effect after the last page. In this case \AtEndDvi of package atenddvi helps. It puts its argument on last page of the document. Two \LaTeX runs are necessary at least, because the last page is detected by a reference.

- The time of expansion of the argument of \BookmarkAtEnd is not specified. This can happen immediately or at the end of the document.

1.5 Limitations/ToDos

- Support for missing actions (Launch, ...).
- Better design for hyperref’s option bookmarktype.

2 Example

```latex
\documentclass{article}
\usepackage{xcolor}[2007/01/21]
\usepackage{hyperref}
\usepackage[open, openlevel=2, atend]{bookmark}[2016/05/17]
\bookmarksetup{color=blue}
\begin{document}
\section{First section}
\subsection{Subsection A}
\begin{figure}
\hypertarget{fig}{}% A figure.
\bookmark[rellevel=1,keeplevel,dest=fig]{A figure}%
\subsubsection{Subsubsection C}
\subsection{Umlauts: "A"Ö"U"ä"o"üß}
\newpage
\bookmarksetup{
`````````
\section{Very important section}
\bookmarksetup{italic, bold=false, color=blue}

\subsection{Italic section}
\bookmarksetup{italic=false}

\part{Misc}
\section{Diverse}
\subsection{Subsubsection, omitting subsection}
\bookmarksetup{startatroot}

\section{Last section outside part}
\subsection{Subsection}
\bookmarksetup{color={}}

\begingroup
\bookmarksetup{level=0, color=green!80!black}
\bookmark[named=FirstPage]{First page}
\bookmark[named=LastPage]{Last page}
\bookmark[named=PrevPage]{Previous page}
\bookmark[named=NextPage]{Next page}
\endgroup

\bookmark[page=2, view=FitH 800]{Page 2, FitH 800}
\bookmark[page=2, view=FitBH \calc{\paperheight-\topmargin-1in-\headheight-\headsep}]{Page 2, FitBH top of text body}

\uri{(http://www.dante.de/), color=magenta}
\{Dante homepage\}
\bookmark[gotor={t.pdf}, page=1, view={XYZ 0 1000 null}, color=cyan!75!black]{File t.pdf}

\bookmark[named=FirstPage]{First page}
\bookmark[rellevel=1, named=LastPage]{Last page (rellevel=1)}
\bookmark[named=PrevPage]{Previous page}
\bookmark[level=0, named=FirstPage]{First page (level=0)}
\bookmark[rellevel=1, keeplevel, named=LastPage]{Last page (rellevel=1, keeplevel)}
\bookmark[named=PrevPage]{Previous page}
\end{document}

\langle/example\rangle
3 Implementation

3.1 Package

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{bookmark} % [2016/05/17 v1.26 PDF bookmarks (HO)]

3.1.1 Requirements

\-TEX.

\RequirePackage{pdfescape} % [2007/03/20]

Escape features of pdf\-TEX.

\BKM@CalcExpr

\begingroup\expandafter\expandafter\expandafter\endgroup
\ifx\csname numexpr\endcsname\relax
\def\BKM@CalcExpr#1#2#3#4{\begingroup\count@=#2\relax
\advance\count@ by#3#4\relax\edef\x{\endgroup\def\noexpand#1{\the\count@}}%
\x\}%\else
\def\BKM@CalcExpr#1#2#3#4{\edef#1{\the\numexpr#2#3#4\relax}\}%\fi
\fi

\BKM@EscapeName
\ifx#1\@empty\else\EdefEscapeName#1#1\fi
\BKM@EscapeString
\ifx#1\@empty\else\EdefEscapeString#1#1\fi
\BKM@EscapeHex
\ifx#1\@empty\else\EdefEscapeHex#1#1\fi
\BKM@UnescapeHex
\ifx#1\@empty\else\EdefUnescapeHex#1#1\fi

\BKM@EscapeName
\ifx\BKM@EscapeName#1\@empty
\else\EdefEscapeName#1#1\fi
\BKM@EscapeString
\ifx\BKM@EscapeString#1\@empty
\else\EdefEscapeString#1#1\fi
\BKM@EscapeHex
\ifx\BKM@EscapeHex#1\@empty
\else\EdefEscapeHex#1#1\fi
\BKM@UnescapeHex
\ifx\BKM@UnescapeHex#1\@empty
\else\EdefUnescapeHex#1#1\fi
Packages.

\usepackage{ifpdf}[2009/04/10]
\usepackage{ifxetex}
\usepackage{ifvtex}[2008/11/04]
\usepackage{ifluatex}[2010/03/01]
\usepackage{pdftexcmds}[2010/11/04]
\usepackage{hyperref}[2010/06/18]
\usepackage{auxhook}[2007/04/06]
\usepackage{kvsetkeys}[2010/03/01]
\usepackage{kvoptions}[2009/08/13]
\usepackage{hycolor}[2008/09/08]
\usepackage{bitset}[2011/01/30]
\usepackage{ltxcmds}[2011/04/14]

3.1.2 Package options

\SetupKeyvalOptions{family=BKM,prefix=BKM@}
\DeclareLocalOptions{atend,%,
bold,%,
color,%,
depth,%,
dest,%,
draft,%,
final,%,
gotor,%,
italic,%,
keeplevel,%,
level,%,
named,%,
numbered,%,
open,%,
openlevel,%,
page,%,
rawaction,%,
rellevel,%,
srcline,%,
srcfile,%,
srcline,%,
startatroot,%,
uri,%,
view,%,}

\bookmarksetup
\newcommand*{\bookmarksetup}{\kvsetkeys{BKM}}

\BKM@setup

\def\BKM@setup#1{%
\bookmarksetup{#1}%
\ifx\BKM@HookNext\ltx@empty
\else
\expandafter\bookmarksetup\expandafter{\BKM@HookNext}%
\BKM@HookNextClear
\fi
\BKM@hook
\if\BKM@keeplevel
\else
\xdef\BKM@currentlevel{\BKM@level}%
\fi
}

\bookmarksetupnext
\newcommand\BKM@setupnext{
  \ltx@GlobalAppendToMacro\BKM@HookNext{,#1}\%
}

\BKM@setupnext

\BKM@HookNextClear
\def\BKM@HookNextClear{\global\let\BKM@HookNext\ltx@empty}

\BKM@HookNext
\BKM@HookNextClear
\DeclareBoolOption\[true\]{draft}
\DeclareComplementaryOption\[false\]{final}{draft}

\BKM@DisableOptions
\def\BKM@DisableOptions{\DisableKeyvalOption\[action=warning,package=bookmark\]{BKM}{draft}\
  \DisableKeyvalOption\[action=warning,package=bookmark\]{BKM}{final}\
}

\DeclareBoolOption\[true\]{open}
\bookmark@open
\def\bookmark@open{\ifBKM@open\ltx@one\else\ltx@zero\fi}

\DeclareStringOption\[\maxdimen\]{openlevel}
\BKM@openlevel
\edef\BKM@openlevel{\number\@bookmarksopenlevel}
\DeclareStringOption\[\c@tocdepth\]{depth}
\ltx@IfUndefined{Hy@bookmarksdepth}{\def\BKM@depth{\c@tocdepth}}{\let\BKM@depth\Hy@bookmarksdepth}
\define@key{BKM}{depth}{\edef\BKM@param{#1}\
  \ifx\BKM@param\@empty\def\BKM@depth{\c@tocdepth}\else\
    \ltx@IfUndefined{toclevel@\BKM@param}{\PackageWarning{bookmark}{Unknown document division name (\BKM@param)\MessageBreak
      for option `depth'\MessageBreak
    )\%}{\@onelevel@sanitize\BKM@param}\
    \edef\BKM@depth{\c@tocdepth}
  \fi}
}

\bookmark@open
\def\bookmark@open{%\ifBKM@open\ltx@one\else\ltx@zero\fi}
\DeclareStringOption\[\maxdimen\]{openlevel}
\BKM@SetDepthOrLevel\BKM@depth\BKM@param
\fi
}\fi
\BKM@SetDepthOrLevel\BKM@depth{%}
\csname toclevel@\BKM@param\endcsname
}%
}%
\fi

\bookmark@depth
\def\bookmark@depth{\BKM@depth}
\BKM@SetDepthOrLevel
\def\BKM@SetDepthOrLevel#1#2{%
\begingroup
\setbox\z@=\hbox{%
\count@=#2\relax
\expandafter
}%
\expandafter\endgroup
\expandafter\def\expandafter#1\expandafter{\the\count@}%
}
\DeclareStringOption{\BKM@currentlevel}{level}{\BKM@currentlevel}
\define@key{BKM}{level}{\edef\BKM@param{#1}\ifx\BKM@param\BKM@MacroCurrentLevel\let\BKM@level\BKM@param\else\ltx@ifundefined{toclevel@\BKM@param}{\@onelevel@sanitize\BKM@param}{\edef\BKM@temp{\expandafter\@car\BKM@param\@nil}\ifcase0\expandafter\ifx\BKM@temp-1\fi\expandafter\ifnum\expandafter`\BKM@temp>47 \expandafter\ifnum\expandafter`\BKM@temp<58 1\relax\PackageWarning{bookmark}{Unknown document division name (\BKM@param)\MessageBreak for option `level'}%\else\fi\fi\relax\PackageWarning{bookmark}{Unknown document division name (\BKM@param)\MessageBreak for option `level'}%\else\fi\BKM@SetDepthOrLevel\BKM@level\BKM@param}
\fi
\expandafter\def\expandafter\BKM@currentlevel\expandafter{\BKM@level}
\DeclareBoolOption{keeplevel}
\DeclareBoolOption{startatroot}
\BKM@startatrootfalse

\BKM@MacroCurrentLevel
\def\BKM@MacroCurrentLevel{\BKM@currentlevel}
\DeclareBoolOption{keeplevel}
\DeclareBoolOption{startatroot}

\BKM@startatrootfalse
\def\BKM@startatrootfalse{%
\global\let\ifBKM@startatroot\iffalse
}

\BKM@startatroottrue{%
\global\let\ifBKM@startatroot\iftrue
}

\define@key{BKM}{rellevel}{%
\BKM@CalcExpr\BKM@level{#1}+\BKM@currentlevel
}

\bookmark@level
\def\bookmark@level{\BKM@level}

\BKM@currentlevel
\def\BKM@currentlevel{0}

Make bookmark's option numbered an alias for hyperref's bookmarksnumbered.
\DeclareBoolOption[%
\ifHy@bookmarksnumbered true\else false\fi
]{numbered}
\g@addto@macro\BKM@numberedtrue{%
\let\ifHy@bookmarksnumbered\iftrue
}
\g@addto@macro\BKM@numberedfalse{%
\let\ifHy@bookmarksnumbered\iffalse
}
\g@addto@macro\Hy@bookmarksnumberedtrue{%
\let\ifBKM@numbered\iftrue
}
\g@addto@macro\Hy@bookmarksnumberedfalse{%
\let\ifBKM@numbered\iffalse
}

\bookmark@numbered
\def\bookmark@numbered{%
\ifBKM@numbered\ltx@one\else\ltx@zero\fi
}

Redefinitions hyperref’s options
\BKM@PatchHyperrefOption
\def\BKM@PatchHyperrefOption#1{%
\expandafter\BKM@@PatchHyperrefOption\csname KV@Hyp@#1\endcsname%
}

\BKM@@PatchHyperrefOption
\def\BKM@@PatchHyperrefOption#1\BKM@nil#2#3{%
\def#2##1{%
#1%
\bookmarksetup{#3={##1}}%
}
%
}

\BKM@PatchHyperrefOption{bookmarksopen}{open}
\BKM@PatchHyperrefOption{bookmarksopenlevel}{openlevel}
\BKM@PatchHyperrefOption{bookmarksdepth}{depth}
Font style options. Caution: Package bitset is zero-based, the PDF specifications starts with one.

```
\bitsetReset{BKM@FontStyle}\
\define@key{BKM}{italic}[true]{% 
  \expandafter\ifx\csname if#1\endcsname\iftrue 
  \bitsetSet{BKM@FontStyle}{0}\
  \else 
  \bitsetClear{BKM@FontStyle}{0}\
  \fi 
}% 
\define@key{BKM}{bold}[true]{% 
  \expandafter\ifx\csname if#1\endcsname\iftrue 
  \bitsetSet{BKM@FontStyle}{1}\
  \else 
  \bitsetClear{BKM@FontStyle}{1}\
  \fi 
}%
\bookmark@italic 
\def\bookmark@italic{\ifnum\bitsetGet{BKM@FontStyle}{0}=1 \ltx@one\else\ltx@zero\fi}
\bookmark@bold 
\def\bookmark@bold{\ifnum\bitsetGet{BKM@FontStyle}{1}=1 \ltx@one\else\ltx@zero\fi}
\BKM@PrintStyle 
\def\BKM@PrintStyle{\bitsetGetDec{BKM@FontStyle}}%

Options for color.
\define@key{BKM}{color}{% 
  \HyColor@BookmarkColor{#1}\BKM@color{bookmark}{color}\
}%
\BKM@color 
\let\BKM@color\@empty
\bookmark@color 
\def\bookmark@color{\BKM@color}

3.1.3 Action options
\define{BKM@temp#1}{% 
  \DeclareStringOption{#1}% 
  \expandafter\edef\csname bookmark@#1\endcsname{\csname BKM@#1\endcsname}%
  \expandafter\noexpand\csname BKM@#1\endcsname}%
\bookmark@dest 
\BKM@temp{dest}
\bookmark@named 
\BKM@temp{named}
\bookmark@uri 
\BKM@temp{uri}
```
\def\BKM@CheckView#1{\BKM@CheckViewType#1 \@nil}\
\BKM@CheckViewType\
\def\BKM@CheckViewType#1 #2\@nil{\ifx#1\@empty\else\edef#1{\number\@ne}\ifnum#1>\z@\else\PackageError{bookmark}{Page must be positive}\@ehc\def\BKM@page{1}\fi\fi}\
\let\BKM@page\@empty\
\BKM@page\
\def\BKM@page{\BKM@@page}\
\let\BKM@view\@empty\
\BKM@view\
\def\BKM@CheckView#1{\BKM@CheckViewType#1 \@nil}\
\BKM@CheckViewType\
\def\BKM@CheckViewType#1 #2\@nil{\ifx#1\@empty\else\edef#1{\number\@ne}\ifnum#1>\z@\else\PackageError{bookmark}{Page must be positive}\@ehc\def\BKM@page{1}\fi\fi}\
\let\BKM@page\@empty\
\BKM@page
\let\BKM@view\@empty\
\BKM@view
\let\BKM@page\@empty
\BKM@page
\def\BKM@CheckView#1{\BKM@CheckViewType#1 \@nil}\
\BKM@CheckViewType\
\def\BKM@CheckViewType#1 #2\@nil{\ifx#1\@empty\else\edef#1{\number\@ne}\ifnum#1>\z@\else\PackageError{bookmark}{Page must be positive}\@ehc\def\BKM@page{1}\fi\fi}\
\let\BKM@page\@empty
\BKM@page
\BKM@CheckXYZ{#2}{ }\%
\@car{%}
\PackageError{bookmark}{{}
Unknown view type `\BKM@type',
using `FitH' instead%
}@ehc
\def\BKM@view{FitH}%
}%
}\@nil
\BKM@TestViewType
\def\BKM@TestViewType#1{%
\def\BKM@temp{#1}%
@onelevel@sanitize\BKM@temp
@if\BKM@type\BKM@temp
\let\BKM@view\BKM@temp
\expandafter\@car
\else
\expandafter\@gobble
\fi
\edef\BKM@view{\BKM@view\space\BKM@param}%
\def\BKM@param{#2}%
@if\BKM@param\@empty
\PackageWarning{bookmark}{{}
Missing parameter (#3) for `\BKM@type',
using 0%
}%
\def\BKM@param{0}%
\def\BKM@temp{1}%
\else
\BKM@CalcParam
\fi
\edef\BKM@view{\BKM@view\space\BKM@param}%
\BKM@CheckParam
\def\BKM@CheckParam#1 #2\@nil#3{%
\def\BKM@param{#1}%
@if\BKM@param\@empty
\def\BKM@param{0}%
\def\BKM@temp{1}%
\else
\BKM@CalcParam
\fi
\BKM@CheckRect
\def\BKM@CheckRect#1#2#3#4#5\@nil{%}
\BKM@CalcParam
\fi
\edef\BKM@view{\BKM@view\space\BKM@param}%
\BKM@CheckRect
\def\BKM@CheckRect#1 #2 #3 #4 #5\@nil{%}
\BKM@CalcParam
\fi
\edef\BKM@view{\BKM@view\space\BKM@param}%
3.1.4 Option atend

\DeclareBoolOption{atend}
\g@addto@macro\BKM@DisableOptions{% 
\DisableKeyvalOption[action=warning,package=bookmark]{BKM}{atend}%
}

3.1.5 Option style

\bookmarkdefinestyle
\newcommand*{\bookmarkdefinestyle}[2]{% 
\@ifundefined{BKM@style@#1}{% 
\PackageInfo{bookmark}{Redefining style `#1'}% 
\@namedef{BKM@style@#1}{#2}% 
}\% 
\edef\BKM@StyleCurrent{#1}%
\ifBKM@ok
\BKM@StyleCall{#1}%
\fi
}
\ifBKM@oktrue
\edef\BKM@StyleCurrent{#1}%
\fi
\ifBKM@okfalse
\PackageError{bookmark}{Undefined style `#1'}% 
\@ehc
\fi
Check style stack.
\BKM@oktrue
\edef\BKM@StyleCurrent{#1}%
\@oneline\@sanitize\BKM@StyleCurrent
\let\BKM@StyleEntry\BKM@StyleEntryCheck
\BKM@StyleStack
@if\BKM@ok
\expandafter\@firstofone
\else
\PackageError{bookmark}{Ignoring recursive call of style \BKM@StyleCurrent}{@ehc}
\expandafter\@gobble
\fi
\{%
Push current style on stack.
\let\BKM@StyleEntry\relax
\edef\BKM@StyleStack{\BKM@StyleEntry{\BKM@StyleCurrent}\BKM@StyleStack}%

Call style.
\expandafter\expandafter\expandafter\bookmarksetup
\expandafter\expandafter\expandafter{%
\csname BKM@style@\BKM@StyleCurrent\endcsname%
%
Pop current style from stack.
\BKM@StyleStackPop
\}%
%
\BKM@StyleStackPop
\def\BKM@StyleStackPop{%
\let\BKM@StyleEntry\relax
\edef\BKM@StyleStack{%
\expandafter\@gobbletwo\BKM@StyleStack%
}%
%
\BKM@StyleEntryCheck
\def\BKM@StyleEntryCheck#1{%
\def\BKM@temp{#1}%
\ifx\BKM@temp\BKM@StyleCurrent
\BKM@okfalse
\fi
%
\BKM@StyleStack
\def\BKM@StyleStack{}%

3.1.6 Options for source file location
\DeclareStringOption{srcline}
\DeclareStringOption{srcfile}

3.1.7 Hook support
\BKM@hook
\def\BKM@hook{}%
\define@key{BKM}{addtohook}{%
\ltx@LocalAppendToMacro\BKM@hook{#1}%
}%
3.1.8 Driver setup and loading

Driver detection.

Lua\TeX{} and pdf\TeX{} share driver.

\ifpdf
\def\BKM@driver{pdftex}
\else
\def\BKM@driver{dvi}
\fi
Process options.
\ProcessKeyvalOptions*
\BKM@DisableOptions

Option draft
\ifBKM@draft
\PackageWarningNoLine{bookmark}{Draft mode on}%
\let\bookmarksetup\ltx@gobble
\let\BookmarkAtEnd\ltx@gobble
\let\bookmarkdefinestyle\ltx@gobbletwo
\let\bookmarkget\ltx@gobble
\let\pdfbookmark\ltx@undefined
\newcommand*{\pdfbookmark}[3][{}]{%}
\let\currentpdfbookmark\ltx@gobbletwo
\let\subpdfbookmark\ltx@gobbletwo
\let\belowpdfbookmark\ltx@gobbletwo
\newcommand*{\bookmark}[2][{}]{%}
\renewcommand*{\Hy@writebookmark}[5]{%}
\let\ReadBookmarks\relax
\let\BKM@DefGotoNameAction\ltx@gobbletwo % package `hypdestopt'
\expandafter\endinput
\fi

Driver validation and loading.
\ifBKM@DvipdfmxOutlineOpen
\iftx@ifUndefined{SpecialDvipdfmxOutlineOpen}{%}
\ifxetex
\ifdim\number\XeTeXversion\XeTeXrevision<0.9995in %
\else
\chardef\SpecialDvipdfmxOutlineOpen\ltx@one
\BKM@DvipdfmxOutlineOpentrue
\fi
\fi
\def\BKM@temp{dvipdfmx}%
\if\BKM@temp\BKM@driver
\fi
\def\BKM@temp{pdftex}%
\ifpdf
\if\BKM@temp\BKM@driver
\PackageWarningNoLine{bookmark}{Wrong driver \BKM@driver, using \pdftex instead}%
\else
\PackageWarningNoLine{bookmark}{Wrong driver \BKM@driver, using \pdftex instead}%
\fi
\fi
\fi
\fi
\expandafter\endinput
\fi
3.1.9 Compatibility for hyperref

\pdfbookmark
\let\pdfbookmark\ltx@undefined  
\newcommand*{\pdfbookmark}[3][0]{\bookmark[#1,dest={#3.#1}]{#2}}  
\hyper@anchorstart{#3.#1}\hyper@anchorend
\currentpdfbookmark
\def\currentpdfbookmark{\pdfbookmark[\BKM@currentlevel]}
Section number, text, label, level, file

3.2 Driver for dvipdfm

\NeedsTeXFormat{LaTeX2e}
\ProvidesFile{bkm-dvipdfm.def}[2016/05/17 v1.26 bookmark driver for dvipdfm (HO)]
\newcommand*{\bookmark}{\if@filesw\begingroup
\def\bookmark@text{#2}%
\BKM@setup{#1}%
\edef\BKM@prev{\the\BKM@id}%
\advance\BKM@id\@ne
\BKM@swtrue
\@whilesw\ifBKM@sw
\def\BKM@abslevel{1}%
\ifnum\ifBKM@startatroot\z@\else\BKM@prev\fi=\z@
\BKM@startatrootfalse
\expandafter\expandafter\expandafter\BKM@getx
\csname BKM@\BKM@prev\endcsname
\ifnum\BKM@level>\BKM@x@level\relax
\BKM@CalcExpr\BKM@abslevel\BKM@x@abslevel+1%
\expandafter\xdef\csname BKM@the\BKM@id\endcsname{%
0{\BKM@level}\BKM@abslevel
}%
\BKM@swfalse
\else
\let\BKM@prev\BKM@x@parent
\fi
\fi
\csname HyPsd@XeTeXBigCharstrue\endcsname
\pdfstringdef\BKM@title{\bookmark@text}%
\edef\BKM@FLAGS{\BKM@PrintStyle}%
\let\BKM@action\@empty
\ifx\BKM@gotor\@empty
\ifx\BKM@dest\@empty
\ifx\BKM@named\@empty
\ifx\BKM@rawaction\@empty
\ifx\BKM@uri\@empty
\PackageError{bookmark}{Missing action}{@ehc
\edef\BKM@action{/Dest[@page1/Fit]}%
\else
\BKM@EscapeString\BKM@uri
\edef\BKM@action{%/A<<%}
\else
\edef\BKM@action{/A<<\BKM@rawaction>>}%
\else
\fi
\fi
\fi
\fi
\fi
\fi
\fi
\else
\BKM@EscapeString\BKM@uri
\edef\BKM@action{%/A<<%/S/URI%}
\else
\edef\BKM@action{%/URI(\BKM@uri)%}
\edef\BKM@action{%/A<</S/Named/N/\BKM@named>>%
}\
\fi\
\else\
\BKM@EscapeString\BKM@dest\
\edef\BKM@action{%/A<</S/GoTo/(\BKM@dest)>>%
}\
\fi\
\else\
\ifx\BKM@dest\@empty\
\ifx\BKM@page\@empty\
\def\BKM@page{0}\
\else\
\BKM@CalcExpr\BKM@page\BKM@page-1\
\fi\
\ifx\BKM@view\@empty\
\def\BKM@view{Fit}\
\fi\
\edef\BKM@action{/D(\BKM@page/\BKM@view)}\
\else\
\BKM@EscapeString\BKM@dest\
\edef\BKM@action{/D(\BKM@dest)}\
\fi\
\BKM@EscapeString\BKM@gotor\
\edef\BKM@action{%/A<</S/GoToR%/F(\BKM@gotor)\BKM@action>>%
}\
\fi\
\special{pdf:out \ifBKM@DvipdfmxOutlineOpen
\[\if\BKM@open
\ifnum\BKM@level<\expandafter\ltx@firstofone\expandafter\number\BKM@openlevel \%
\else
-\%
\fi
\else
-\%
\fi
\BKM@abslevel<</Title(\BKM@title)
\ifx\BKM@color\@empty
\else
/C(\BKM@color)%
\fi
\fi
\fi
\fi
\fi
\edef\BKM@action{/F \BKM@FLAGS}
3.3 Driver for VTeX

\NeedsTeXFormat{LaTeX2e}
\ProvidesFile{bkm-vtex.def}[2016/05/17 v1.26 bookmark driver for VTeX (HO)]
\iffontefi
\else
\PackageWarningNoLine{bookmark}{The VTeX driver only supports PDF mode}%
\fi
\BKM@id
\newcount\BKM@id
\BKM@id=\z@
\BKM@0
\@namedef{BKM@0}{00}
\ifBKM@sw
\newif\ifBKM@sw
\bookmark
\newcommand*{\bookmark}[2]{%}
\if@filesw
\begingroup
\def\bookmark@text{#2}\
\BKM@setup{#1}\
\edef\BKM@prev{\the\BKM@id}\
\global\advance\BKM@id\@ne\
\BKM@swtrue
\@whilesw\ifBKM@sw\fi{%
\ifnum\ifBKM@startatroot\z@\else\BKM@prev\fi=\z@
\BKM@startatrootfalse
\edef\BKM@parent{\BKM@prev}%
\expandafter\expandafter\expandafter\BKM@getx
\csname BKM@\BKM@prev\endcsname%
\ifnum\BKM@level>\BKM@x@level\relax
\BKM@swfalse
\else%
\let\BKM@parent{\BKM@prev}
\fi}
\fi}
\fi\fi
\BKM@EscapeString\BKM@gotor
\edef\BKM@action{\texttt{<u=\textbackslash S/GoToR%\textbackslash F(\BKM@gotor)\textbackslash BKM@action}}\texttt{>>}}\fi\ifx\BKM@color\@empty\let\BKM@RGBcolor\@empty\else\expandafter\BKM@toRGB\BKM@color\@nil\fi\special{\texttt{!outline \BKM@action;}}\p\BKM@parent, \i\number\BKM@id, \s=\if\BKM@open\if\BKM@level<\BKM@openlevel\if\BKM@c\else\c\fi\else\c\fi\else\c\fi, \c=\BKM@RGBcolor, \f=\BKM@FLAGS, \t=\BKM@title}\endgroup
\BKM@getx\def\BKM@getx#1#2{\def\BKM@x@parent{#1}\def\BKM@x@level{#2}}\BKM@toRGB\def\BKM@toRGB#1 #2 #3\@nil{\let\BKM@RGBcolor\@empty\BKM@toRGBComponent{#1}\BKM@toRGBComponent{#2}\BKM@toRGBComponent{#3}}\BKM@toRGBComponent\def\BKM@toRGBComponent#1{\dimen@=#1pt\relax\ifdim\dimen@>\z@\ifdim\dimen@<\p@\dimen@=255\dimen@\advance\dimen@ by 32768sp\relax\advance\dimen@ by 32768\relax\fi\fi\ifnum\BKM@FLAGS>\z@\fi\if\BKM@open\if\BKM@level<\BKM@openlevel\if\BKM@c\else\c\fi\else\c\fi, \c=\BKM@RGBcolor, \f=\BKM@FLAGS, \t=\BKM@title}
\divide\dimen@ by 65536\relax
\divide\dimen@ii by 16\relax
\edef\BKM@RGBcolor{% \BKM@RGBcolor \BKM@toHexDigit\dimen@ii }
\divide\dimen@ii by 16\dimen@ii
\edef\BKM@RGBcolor{% \BKM@RGBcolor \BKM@toHexDigit\dimen@ii }
\edef\BKM@RGBcolor{% \BKM@RGBcolor FF }
\else
\edef\BKM@RGBcolor{% \BKM@RGBcolor00 }
\fi
\else
\edef\BKM@RGBcolor{% \BKM@RGBcolor }
\fi
\BKM@toHexDigit
\def\BKM@toHexDigit#1{% \ifcase\expandafter\@firstofone\expandafter{\number#1} \or 1 \or 2 \or 3 \or 4 \or 5 \or 6 \or 7 \or 8 \or 9 \or A \or B \or C \or D \or E \or F \else \fi
\begingroup
\catcode`\|=0 \catcode`\=12
\BKM@vtex@title
\gdef\BKM@vtex@title{\@onelevel@sanitize\BKM@title \edef\BKM@title{\expandafter\BKM@vtex@leftparen\BKM@title\(|\nil}
\edef\BKM@title{\expandafter\BKM@vtex@rightparen\BKM@title\)|\nil}
\edef\BKM@title{\expandafter\BKM@vtex@zero\BKM@title\0\nil}
\edef\BKM@title{\expandafter\BKM@vtex@one\BKM@title\1\nil}
\edef\BKM@title{\expandafter\BKM@vtex@two\BKM@title\2\nil}
\edef\BKM@title{\expandafter\BKM@vtex@three\BKM@title\3\nil}
\BKM@vtex@title
\gdef\BKM@vtex@leftparen#1\(#2\nil{\ifx\nil#2\nil#1\else)(\% \ltx@ReturnAfterFi(\% \BKM@vtex@leftparen#2\nil\% \ifx\nil#2\nil#1\else)(\% \ltx@ReturnAfterFi(\% \BKM@vtex@rightparen\BKM@vtex@rightparen
\gdef\BKM@vtex@rightparen#1\)#2\nil{\ifx\nil#2\nil#1\else)(\% \ltx@ReturnAfterFi(\% \BKM@vtex@rightparen#2\nil\% \ifx\nil#2\nil#1\else)(\% \ltx@ReturnAfterFi(\%
\BKM@vtex@three
1199 | gdef|BKM@vtex@three#1\3\#2|@nil{%
1200 | #1%
1201 | ltx@ReturnAfterFi{%'
1202 | else
1203 | noexpand|hv@pdf@char3%
1204 | ltx@ReturnAfterFi{%'
1205 | BKM@vtex@three#2|@nil
1206 | %
1207 | fi
1208 | %

1209 |endgroup
1210 |</vtex>

3.4 Driver for pdf\TeX
1211 |(*pdftex)
1212 |\NeedsTeXFormat{LaTeX2e}
1213 |\ProvidesFile{bkm-pdftex.def}%
\BKM@DO@entry
\def\BKM@DO@entry#1#2{%
\begingroup
\kvsetkeys{BKM@DO}{#1}%
\def\BKM@DO@title{#2}%
\ifx\BKM@DO@srcfile\@empty
\else
\BKM@UnescapeHex\BKM@DO@srcfile
\fi
\expandafter\expandafter\expandafter\BKM@getx\csname BKM@DO@id\endcsname\@empty\@empty
\let\BKM@attr\@empty
\ifx\BKM@DO@flags\@empty
\else
\edef\BKM@attr{\BKM@attr/F \BKM@DO@flags}%
\fi
\ifx\BKM@DO@color\@empty
\else
\edef\BKM@attr{\BKM@attr/C[\BKM@DO@color]}%
\fi
\ifx\BKM@attr\@empty
\else
\edef\BKM@attr{attr{\BKM@attr}}%
\fi
\let\BKM@action\@empty
\ifx\BKM@DO@gotor\@empty
\ifx\BKM@DO@dest\@empty
\ifx\BKM@DO@named\@empty
\ifx\BKM@DO@rawaction\@empty
\ifx\BKM@DO@uri\@empty
\PackageError{bookmark}{% Missing action\BKM@SourceLocation}{@ehc}
\edef\BKM@action{goto page1{/Fit}}%
\else
\BKM@UnescapeHex\BKM@DO@uri
\BKM@EscapeString\BKM@DO@uri
\edef\BKM@action{user{<</S/URI/URI(\BKM@DO@uri)>>}}%
\else
\BKM@UnescapeHex\BKM@DO@rawaction
\PackageError{bookmark}{% Missing action\BKM@SourceLocation}{@ehc}
\edef\BKM@action{goto page\BKM@DO@page{/\BKM@DO@view}}%
\else
\fi
\fi
\fi
\else
\edef\BKM@DO@action{goto page\BKM@DO@page{/\BKM@DO@view}}%
\fi
\fi
\else
\BKM@EscapeName\BKM@DO@named
\edef\BKM@DO@action{%
user{<</S/URI/URI(\BKM@DO@uri)>>}}%
\fi
\fi
\else
\BKM@UnescapeHex\BKM@DO@rawaction
\edef\BKM@DO@action{%
user{<</S/Named/N/\BKM@DO@named>>}}%
\fi
\else
\BKM@EscapeName\BKM@DO@named
\edef\BKM@DO@action{%
user{<</S/Named/N/\BKM@DO@named>>}}%
\fi
\fi
\BKM@UnescapeHex\BKM@DO@dest
\BKM@DefGotoNameAction\BKM@action\BKM@DO@dest
\fi
\else
  \ifx\BKM@DO@dest@empty
    \fi
  \else
    \BKM@CalcExpr\BKM@DO@page\BKM@DO@page-1%
  \fi
\else
  \ifx\BKM@DO@view@empty
    \def\BKM@DO@view{Fit}%
  \fi
\else
  \edef\BKM@action{/D[\BKM@DO@page/\BKM@DO@view]}%
\else
  \BKM@UnescapeHex\BKM@DO@dest
  \BKM@EscapeString\BKM@DO@dest
  \edef\BKM@action{/D(\BKM@DO@dest)}%
\fi
\BKM@UnescapeHex\BKM@DO@gotor
\BKM@EscapeString\BKM@DO@gotor
\edef\BKM@action{%
  user{%
    /S/GoToR%
    /F(\BKM@DO@gotor)%
    \BKM@action
  }%
}%
\pdfoutline\BKM@attr\BKM@action
count\if\BKM@DO@open\else-\fi\BKM@x@childs
{\BKM@DO@title}%
\endgroup

\BKM@DefGotoNameAction Macro \BKM@DefGotoNameAction is a hook for package hypdestopt.
\BKM@DefGotoNameAction\BKM@DO@dest\BKM@DO@dest
\BKM@EscapeString\BKM@DO@gotor
\edef\BKM@DO@action{%
  user{%
    /S/GoToR%
    /F(\BKM@DO@gotor)%
    \BKM@action
  }%
}%
\pdfoutline\BKM@attr\BKM@action
count\if\BKM@DO@open\else-\fi\BKM@x@childs
{\BKM@DO@title}%
\endgroup

\BKM@SourceLocation Macro \BKM@SourceLocation is a hook for package hypdestopt.
\BKM@SourceLocation\BKM@DO@srcfile\empty
\BKM@DO@srcfile\empty
\else
  \MessageBreak
  Source: line \BKM@DO@srcline
\fi
\else
  \MessageBreak
  Source: file `\BKM@DO@srcfile'%
\else

3.5 Drivers with pdfmark specials

3.5.1 Driver dvips

\NeedsTeXFormat{LaTeX2e}
\ProvidesFile{bkm-dvips.def}[2016/05/17 v1.26 bookmark driver for dvips (HO)]
\def\BKM@PSHeaderFile#1{\special{header=#1}}

3.5.2 Driver dvipsone

\NeedsTeXFormat{LaTeX2e}
\ProvidesFile{bkm-dvipsone.def}[2016/05/17 v1.26 bookmark driver for dvipsone (HO)]
\def\BKM@PSHeaderFile#1{\special{prePostScriptfile #1}}

3.5.3 Driver textures

\NeedsTeXFormat{LaTeX2e}
\ProvidesFile{bkm-textures.def}[2016/05/17 v1.26 bookmark driver for textures (HO)]
\def\BKM@PSHeaderFile#1{\special{prePostScriptfile #1}}

3.5.4 Common part

\def\BKM@filename{\jobname.out.ps}
\BKM@PSHeaderFile\BKM@filename
\RequirePackage{atveryend}[2009/12/07]
\AfterLastShipout{\BKM@pdfmark@out}
\BKM@pdfmark@out Do not use package \texttt{rerunfilecheck} here, because the file \texttt{\BKM@filename} is not read during the \TeX run.

\begin{verbatim}
1367 \def\BKM@pdfmark@out{%
1368  \if@filesw
1369  \newwrite\BKM@file
1370  \immediate\openout\BKM@file=\BKM@filename\relax
1371  \BKM@write{\@percentchar!}%
1372  \BKM@write{/pdfmark where{pop}}%
1373  \BKM@write{%
1374    (/globaldict where{pop globaldict}{userdict}felse%}
1375    /pdfmark/clearmark load put%
1376  }%
1377 }%
1378 \BKM@write{felse}%
1379 \else
1380 \let\BKM@write\@gobble
1381 \let\BKM@DO@entry\@gobbletwo
1382 \fi
1383 \BKM@write
1384 \def\BKM@write#1#2{%
1385  \begingroup
1386  \kvsetkeys{BKM@DO}{#1}%
1387  \ifx\BKM@DO@srcfile\@empty
1388  \else
1389  \BKM@UnescapeHex\BKM@DO@srcfile\@empty
1390  \fi
1391  \def\BKM@DO@title{#2}%
1392  \BKM@UnescapeHex\BKM@DO@title
1393  \expandafter\expandafter\expandafter\BKM@getx
1394  \csname BKM@\BKM@DO@id\endcsname\@empty\@empty
1395  \let\BKM@attr\@empty
1396  \ifx\BKM@DO@flags\@empty
1397  \else
1398  \edef\BKM@attr{\BKM@attr/F \BKM@DO@flags}%
1399  \fi
1400  \ifx\BKM@DO@color\@empty
1401  \else
1402  \edef\BKM@attr{\BKM@attr/C[\BKM@DO@color]}%
1403  \fi
1404  \ifx\BKM@DO@flags\@empty
1405  \else
1406  \edef\BKM@attr{\BKM@attr/C[\BKM@DO@color]}%
1407  \fi
1408 \let\BKM@action\@empty
1409 \ifx\BKM@DO@gotor\@empty
1410 \else
1411 \fx\BKM@DO@gotor\@empty
1412 \fi
1413 \fx\BKM@DO@flags\@empty
1414 \fx\BKM@DO@dest\@empty
1415 \fx\BKM@DO@named\@empty
1416 \fx\BKM@DO@rawaction\@empty
1417 \fx\BKM@DO@uri\@empty
1418 \fx\BKM@DO@page\@empty
1419 \PackageError{bookmark}{Missing action\BKM@SourceLocation}
1420 )\@ehc
1421 \edef\BKM@action{\Action/GoTo%}
1422 \Action/GoTo%
1423 \Page 1%
1424 \endgroup
\end{verbatim}

\BKM@write entry The specification for pdfmark says that /\texttt{Color} is the name of the key for color, however ghostscript only passes the key into the PDF file, thus the key name must be /\texttt{C}.

\begin{verbatim}
1388 \def\BKM@DO@entry#1#2{%
1389  \begingroup
1390  \kvsetkeys{BKM@DO}{#1}%
1391  \ifx\BKM@DO@srcfile\@empty
1392  \else
1393  \BKM@UnescapeHex\BKM@DO@srcfile\@empty
1394  \fi
1395  \def\BKM@DO@title{#2}%
1396  \BKM@UnescapeHex\BKM@DO@title
1397  \expandafter\expandafter\expandafter\BKM@getx
1398  \csname BKM@\BKM@DO@id\endcsname\@empty\@empty
1399  \let\BKM@attr\@empty
1400  \ifx\BKM@DO@flags\@empty
1401  \else
1402  \edef\BKM@attr{\BKM@attr/F \BKM@DO@flags}%
1403  \fi
1404  \ifx\BKM@DO@color\@empty
1405  \else
1406  \edef\BKM@attr{\BKM@attr/C[\BKM@DO@color]}%
1407  \fi
1408 \let\BKM@action\@empty
1409 \ifx\BKM@DO@gotor\@empty
1410 \else
1411 \fx\BKM@DO@gotor\@empty
1412 \fi
1413 \fx\BKM@DO@flags\@empty
1414 \fx\BKM@DO@dest\@empty
1415 \fx\BKM@DO@named\@empty
1416 \fx\BKM@DO@rawaction\@empty
1417 \fx\BKM@DO@uri\@empty
1418 \fx\BKM@DO@page\@empty
1419 \PackageError{bookmark}{Missing action\BKM@SourceLocation}
1420 )\@ehc
1421 \edef\BKM@action{\Action/GoTo%}
1422 \Action/GoTo%
1423 \Page 1%
1424 \endgroup
\end{verbatim}

\BKM@DO@entry
3.6 Common part for pdftex and pdfmark

3.6.1 Write auxiliary file

\RequirePackage{auxhook}
\AddLineBeginMainAux{%\string\providecommand\string\BKM@entry[2]{}%}
\BKM@id
\newcount\BKM@id
\BKM@id=\z@
\BKM@0
\@namedef{BKM@0}{000}
\ifBKM@sw
\newif\ifBKM@sw
\bookmark
\newcommand*{%\bookmark*[2][2][]}%
\if@filesw
\begin{group}
\BKM@InitSourceLocation
\def\BKM@bookmark@text{$\#2$}%
\BKM@setup{$\#1$}%
\ifx\BKM@srcfile\@empty
\else
\BKM@EscapeHex\BKM@srcfile
\fi
\fi
\edef\BKM@prev{\the\BKM@id}%
\global\advance\BKM@id\@ne
\BKM@swtrue
\def\BKM@x@parent{#1}\
\def\BKM@x@level{#2}\
\def\BKM@x@childs{#3}\
}
\BKM@auxentry
\def\BKM@auxentry#1{\expandafter\ifx\csname BKM@#1\endcsname\@empty\else\csname BKM@#1\endcsname\fi}
\BKM@InitSourceLocation
\def\BKM@InitSourceLocation{\edef\BKM@srcline{\the\inputlineno}\BKM@LuaTeX@InitFile\ifx\BKM@srcfile\@empty\ltx@IfUndefined{currfilepath}{}{\edef\BKM@srcfile{\currfilepath}}\fi}
\BKM@LuaTeX@InitFile
\ifluatex\ifnum\luatexversion>36 \def\BKM@LuaTeX@InitFile{\begingroup\ltx@LocToksA={}\edef\x{\endgroup\def\noexpand\BKM@srcfile{\the\expandafter\ltx@LocToksA}\directlua{\if status and status.filename then \tex.settoks('ltx@LocToksA', status.filename)\else\end\x\}\else\let\BKM@LuaTeX@InitFile\relax\fi}\else\let\BKM@LuaTeX@InitFile\relax\fi\fi\else\let\BKM@LuaTeX@InitFile\relax\fi

3.6.2 Read auxiliary data
\SetupKeyvalOptions{family=\texttt{BKM@DO},prefix=\texttt{BKM@DO@}}
\DeclareStringOption[0]{id}
\DeclareBoolOption{open}
\DeclareStringOption{flags}
\DeclareStringOption{color}
\DeclareStringOption{dest}
\DeclareStringOption{named}
\DeclareStringOption{uri}
\DeclareStringOption{gotor}
\DeclareStringOption{page}
\DeclareStringOption{view}
\DeclareStringOption{rawaction}
\DeclareStringOption{srcline}
\DeclareStringOption{srcfile}
\AtBeginDocument{\let\BKM@entry\BKM@DO@entry}
⟨/pdftex j pdfmark⟩

3.7 Option atend

3.7.1 Hook

This is a dummy definition that generates a warning if option atend has not been given.

\newcommand\BookmarkAtEnd[1]{\PackageWarning{bookmark}{Ignored, because option `atend' is missing}}%
\expandafter\endinput

\BookmarkAtEnd

The following drivers use package atveryend's \AfterLastShipout, because they still need the .aux file.

- Driver pdftex uses \pdfoutline that can be used after the last page.
- PostScript drivers such as dvips use an external PostScript header file for the bookmarks. File writing can be done after the last shipout page, but before the .aux file is closed.

\AfterLastShipout{\BKM@EndHook}
⟨/pdftex j pdfmark⟩

3.7.2 Drivers using hooks at end of document

The other drivers implement \bookmark using \special commands. Thus the last bookmarks must be put on the last page, not afterwards. \AtEndDocument cannot be used, because it is too late, the last page can already be output. Therefore we use package atenddvi that uses the help of packages atbegshi and zref. The argument of \AtEndDvi is put at the end of the last page. At least two \LaTEX runs are necessary.

\AtEndDvi
⟨/pdftex j pdfmark⟩

3.7.3 Drivers using \AtEndDvi

The other drivers implement \bookmark using \special commands. Thus the last bookmarks must be put on the last page, not afterwards. \AtEndDocument cannot be used, because it is too late, the last page can already be output. Therefore we use package atenddvi that uses the help of packages atbegshi and zref. The argument of \AtEndDvi is put at the end of the last page. At least two \LaTEX runs are necessary.

\AtEndDvi
⟨/pdftex j pdfmark⟩
4 Installation

4.1 Download

Package. This package is available on CTAN:\footnote{\url{http://ctan.org/pkg/bookmark}}:


Bundle. All the packages of the bundle ‘oberdiek’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

CTAN:install/macros/latex/contrib/oberdiek.tds.zip

*TDS* refers to the standard “A Directory Structure for \LaTeX\ Files” (CTAN:tds/tds.pdf). Directories with texmf in their name are usually organized this way.

4.2 Bundle installation

Unpacking. Unpack the oberdiek.tds.zip in the TDS tree (also known as texmf tree) of your choice. Example (linux):

unzip oberdiek.tds.zip -d ~/texmf

Script installation. Check the directory TDS:scripts/oberdiek/ for scripts that need further installation steps. Package attachfile2 comes with the Perl script pdfatfi.pl that should be installed in such a way that it can be called as pdfatfi. Example (linux):

chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/

4.3 Package installation

Unpacking. The .dtx file is a self-extracting docstrip archive. The files are extracted by running the .dtx through plain \LaTeX:

tex bookmark.dtx

TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as texmf tree):

<table>
<thead>
<tr>
<th>File</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>bookmark.sty</td>
<td>tex/latex/oberdiek/bookmark.sty</td>
</tr>
<tr>
<td>bkm-dvipdfm.def</td>
<td>tex/latex/oberdiek/bkm-dvipdfm.def</td>
</tr>
<tr>
<td>bkm-dvips.def</td>
<td>tex/latex/oberdiek/bkm-dvips.def</td>
</tr>
<tr>
<td>bkm-dvipsone.def</td>
<td>tex/latex/oberdiek/bkm-dvipsone.def</td>
</tr>
<tr>
<td>bkm-textures.def</td>
<td>tex/latex/oberdiek/bkm-textures.def</td>
</tr>
<tr>
<td>bkm-pdftex.def</td>
<td>tex/latex/oberdiek/bkm-pdftex.def</td>
</tr>
<tr>
<td>bkm-vtex.def</td>
<td>tex/latex/oberdiek/bkm-vtex.def</td>
</tr>
<tr>
<td>bookmark.pdf</td>
<td>doc/latex/oberdiek/bookmark.pdf</td>
</tr>
<tr>
<td>bookmark-example.tex</td>
<td>doc/latex/oberdiek/bookmark-example.tex</td>
</tr>
<tr>
<td>bookmark.dtx</td>
<td>source/latex/oberdiek/bookmark.dtx</td>
</tr>
</tbody>
</table>
If you have a docstrip.cfg that configures and enables docstrip’s TDS installing feature, then some files can already be in the right place, see the documentation of docstrip.

4.4 Refresh file name databases
If your TeX distribution (teTeX, miktex, ...) relies on file name databases, you must refresh these. For example, teTeX users run texhash or mktexlsr.

4.5 Some details for the interested
Unpacking with LATEX. The .dtx chooses its action depending on the format:

plain TeX: Run docstrip and extract the files.

LATEX: Generate the documentation.

If you insist on using LATEX for docstrip (really, docstrip does not need LATEX), then inform the autodetect routine about your intention:

\texttt{latex \let\install=y\input{bookmark.dtx}}

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the .dtx or the .drv to generate the documentation. The process can be configured by the configuration file ltxdoc.cfg. For instance, put this line into this file, if you want to have A4 as paper format:

\texttt{\PassOptionsToClass{a4paper}{article}}

An example follows how to generate the documentation with pdflatex:

\begin{verbatim}
pdflatex bookmark.dtx
makeindex -s gind.ist bookmark.idx
pdflatex bookmark.dtx
makeindex -s gind.ist bookmark.idx
pdflatex bookmark.dtx
\end{verbatim}

5 Catalogue
The following XML file can be used as source for the TeX Catalogue. The elements caption and description are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is bookmark.xml.

```
<?xml version='1.0' encoding='us-ascii'?>
<!DOCTYPE entry SYSTEM 'catalogue.dtd'>
<entry datestamp='$Date$' modifier='$Author$' id='bookmark'>
  <name>bookmark</name>
  <caption>A new bookmark (outline) organization for hyperref.</caption>
  <authorref id='auth:oberdiek'/>
  <copyright owner='Heiko Oberdiek' year='2007-2011'/>
  <license type='lppl1.3'/>
  <version number='1.26'/>
  <description>
    This package implements a new bookmark (outline) organization for
    package \texttt{\textless xref refid='hyperref'\textgreater hyperref</xref>. Bookmark properties such
    as style and color can now be set. Other action types
    are available (URI, GoToR, Named). The bookmarks are
    generated in the first compile run. Package
    \texttt{\textless xref refid='hyperref'\textgreater hyperref</xref> uses two runs.
  </description>
```

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The package is part of the oberdiek bundle.

<description>
<ctan file='true' path='/macros/latex/contrib/oberdiek/bookmark.dtx'/>
<miktex location='oberdiek'/>
texlive location='oberdiek'/>
<install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
</entry>
⟨/catalogue⟩

6 References


7 History

[2007/02/19 v0.1]
• First experimental version.

[2007/02/20 v0.2]
• Option startatroot added.
• Dummies for \pdf(un)escape... commands added to get the package basically work for non-pdfTEX users.

[2007/02/21 v0.3]
• Dependency from pdfTEX 1.30 removed by using package pdfescape.

[2007/02/22 v0.4]
• hyperref’s bookmarktype respected.

[2007/03/02 v0.5]
• Driver options vtex (PDF mode), dvipsone, and textures added.
• Implementation of option depth completed. Division names are supported, see hyperref’s option bookmarksdepth.
• hyperref’s options bookmarksopen, bookmarksopenlevel, and bookmarksdepth respected.

[2007/03/03 v0.6]
• Option numbered as alias for hyperref’s bookmarksnumbered.

[2007/03/07 v0.7]
• Dependency from \vTeX removed.
[2007/04/09 v0.8]

- Option atend added.

- Option rgbcolor removed. rgbcolor=<r> <g> <b> can be replaced by color=[rgb]{<r>,<g>,<b>}. 

- Support of recent cvs version (2007-03-29) of dvipdfmx that extends the \special for bookmarks to specify open outline entries. Option dvipdfmx-outline-open or \SpecialDvipdfmxOutlineOpen notify the package.

[2007/04/25 v0.9]

- The syntax of \special of dvipdfmx, if feature dvipdfmx-outline-open is enabled, has changed. Now cvs version 2007-04-25 is needed.

[2007/05/29 v1.0]

- Bug fix in code for second parameter of XYZ.

[2007/07/13 v1.1]

- Fix for pdfmark with GoToR action.

[2007/09/25 v1.2]

- pdfmark driver respects \nofiles.

[2008/08/08 v1.3]

- Package flags replaced by package bitwise. Now flags are also supported without e-TEX.

- Hook for package hypdestopt added.

[2008/09/13 v1.4]

- Fix for bug introduced in v1.3, package flags is one-based, but package bitwise is zero-based. Thus options bold and italic are wrong in v1.3. (Daniel Müllner)

[2009/08/13 v1.5]

- Except for driver options the other options are now local options. This resolves a problem with KOMA-Script v3.00 and its option open.

[2009/12/06 v1.6]

- Use of package atveryend for drivers pdftex and pdfmark.

[2009/12/07 v1.7]

- Use of package atveryend fixed.

[2009/12/17 v1.8]

- Support of hyperref 2009/12/17 v6.79v for XeTeX.
[2010/03/30 v1.9]

- Package name in an error message fixed.

[2010/04/03 v1.10]

- Option style and macro \bookmarkdefinestyle added.
- Hook support with option addtohook added.
- \bookmarkget added.

[2010/04/04 v1.11]

- Bug fix (introduced in v1.10).

[2010/04/08 v1.12]

- Requires ltxcmds 2010/04/08.

[2010/07/23 v1.13]

- Support for memoir’s \booknumberline added.

[2010/09/02 v1.14]

- (Local) options draft and final added.

[2010/09/25 v1.15]

- Fix for option dvipdfmx-outline-open.
- Option dvipdfmx-outline-open is set automatically, if XeTeX ≥ 0.9995 is detected.

[2010/10/19 v1.16]

- Option ‘startatroot’ now acts globally.
- Option ‘level’ also accepts names the same way as option ‘depth’.

[2010/10/25 v1.17]

- \bookmarksetupnext added.
- Using \kvsetkeys of package \ksetkeys, because \setkeys of package \keyval is not reentrant. This can cause problems (unknown keys) with older versions of hyperref that also uses \setkeys (found by GL).

[2010/11/05 v1.18]

- Use of \pdf@idraftedmode of package pdftexcmds for the default of option draft.

[2011/03/20 v1.19]

- Use of \dimexpr fixed, if \LaTeX is not used. (Bug found by Martin Münch.)
- Fix in documentation. Also layout options work without \LaTeX.
• Bug fix: \BKM@SetDepth renamed to \BKM@SetDepthOrLevel.

• Some support for file name and line number in error messages at end of document (pdfTeX and pdfmark based drivers).

• Change of version 2010/11/05 v1.18 reverted, because otherwise draftmode disables some .aux file entries.

• Some \renewcommand\s changed to \def\ to avoid trouble if the commands are not defined, because hyperref stopped early.

• Small optimization in \BKM@toHexDigit.

• Documentation updates.

• define \pdfbookmark\ to allow pdftex driver to be used with LuaT\TeX. 

8 Index

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; plain numbers refer to the code lines where the entry is used.