

# Package ‘xmpdf’

July 21, 2025

**Encoding** UTF-8

**Type** Package

**Title** Edit 'XMP' Metadata and 'PDF' Bookmarks and Documentation Info

**Version** 0.2.1

## Description

Edit 'XMP' metadata <[https://en.wikipedia.org/wiki/Extensible\\_Metadata\\_Platform](https://en.wikipedia.org/wiki/Extensible_Metadata_Platform)> in a variety of media file formats as well as edit bookmarks (aka outline aka table of contents) and documentation info entries in 'pdf' files. Can detect and use a variety of command-line tools to perform these operations such as 'exiftool' <<https://exiftool.org/>>, 'ghostscript' <<https://www.ghostscript.com/>>, and/or 'pdftk' <<https://gitlab.com/pdftk-java/pdftk>>.

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**URL** <https://trevorldavis.com/R/xmpdf/dev/>

**BugReports** <https://github.com/trevorld/r-xmpdf/issues>

**LazyData** true

**LazyLoad** yes

**Imports** brio, datetimeoffset (>= 0.2.1), grDevices, jsonlite, purrr, R6, rlang, stringi, tools, utils

**Suggests** exiftoolr, grid, knitr, qpdf, pdftools, rmarkdown, testthat (>= 3.0.0)

**VignetteBuilder** knitr, rmarkdown

**SystemRequirements** 'ghostscript' or 'pdftk' for editing pdf bookmarks and/or documentation info entries. 'exiftool' for editing pdf documentation info entries and/or xmp metadata.

**RoxygenNote** 7.3.1

**Config/testthat/edition** 3

**NeedsCompilation** no

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<<https://github.com/spdx/license-list-XML>>)

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| as_docinfo | <i>Coerce to docinfo objects</i> |
|------------|----------------------------------|

---

**Description**

as\_docinfo() coerces objects into a [docinfo\(\)](#) object.

**Usage**

```
as_docinfo(x, ...)  
  
## S3 method for class 'xmp'  
as_docinfo(x, ...)
```

**Arguments**

- x                   An object that can reasonably be coerced to a [docinfo\(\)](#) object.
- ...                Further arguments passed to or from other methods.

**Value**

A [docinfo\(\)](#) object.

**Examples**

```
x <- xmp(`dc:Creator` = "John Doe", `dc:Title` = "A Title")
as_docinfo(x)
```

as\_lang\_alt

*Coerce to XMP "language alternative" structure***Description**

as\_lang\_alt() coerces to an XMP "language alternative" structure suitable for use with `xmp()` objects.

**Usage**

```
as_lang_alt(x, ...)

## S3 method for class 'character'
as_lang_alt(x, ..., default_lang = getOption("xmpdf_default_lang"))

## S3 method for class 'lang_alt'
as_lang_alt(x, ...)

## S3 method for class 'list'
as_lang_alt(x, ..., default_lang = getOption("xmpdf_default_lang"))
```

**Arguments**

|              |                                               |
|--------------|-----------------------------------------------|
| x            | Object suitable for coercing                  |
| ...          | Ignored                                       |
| default_lang | Language tag value to copy as the "x-default" |

**Value**

A named list of class "lang\_alt".

**See Also**

`xmp()`, `as_xmp()`, `get_xmp()`, and `set_xmp()`. For more information about the XMP "language alternative" structure see <https://github.com/adobe/xmp-docs/blob/master/XMPNamespaces/XMPDataTypes/CoreProperties.md#language-alternative>.

**Examples**

```
as_lang_alt("A single title")
as_lang_alt(c(en = "An English Title", fr = "A French Title"))
as_lang_alt(c(en = "An English Title", fr = "A French Title"), default_lang = "en")
as_lang_alt(list(en = "An English Title", fr = "A French Title"))
```

---

`as_xmp`*Coerce to xmp objects*

---

**Description**

`as_xmp()` coerces objects into an `xmp()` object.

**Usage**

```
as_xmp(x, ...)  
  
## S3 method for class 'docinfo'  
as_xmp(x, ...)  
  
## S3 method for class 'list'  
as_xmp(x, ...)
```

**Arguments**

|                  |                                                                          |
|------------------|--------------------------------------------------------------------------|
| <code>x</code>   | An object that can reasonably be coerced to a <code>xmp()</code> object. |
| <code>...</code> | Further arguments passed to or from other methods.                       |

**Value**

An `xmp()` object.

**Examples**

```
di <- docinfo(author = "John Doe", title = "A Title")  
as_xmp(di)  
  
l <- list(`dc:creator` = "John Doe", `dc:title` = "A Title")  
as_xmp(l)
```

---

`bookmarks`*Set/get pdf bookmarks*

---

**Description**

`get_bookmarks()` gets pdf bookmarks from a file. `set_bookmarks()` sets pdf bookmarks for a file.

**Usage**

```

get_bookmarks(filename, use_names = TRUE)

get_bookmarks_pdftk(filename, use_names = TRUE)

get_bookmarks_pdftools(filename, use_names = TRUE)

set_bookmarks(bookmarks, input, output = input)

set_bookmarks_pdftk(bookmarks, input, output = input)

set_bookmarks_gs(bookmarks, input, output = input)

```

**Arguments**

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| filename  | Filename(s) (pdf) to extract bookmarks from.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| use_names | If TRUE (default) use filename as the names of the result.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| bookmarks | <p>A data frame with bookmark information with the following columns:</p> <p><b>title</b> Title for bookmark (mandatory, character)</p> <p><b>page</b> Page number for bookmark (mandatory, integer)</p> <p><b>level</b> Level of bookmark e.g. 1 top level, 2 second level, etc. (optional, integer). If missing will be inferred from count column else will be assumed to be 1L.</p> <p><b>count</b> Number of bookmarks immediately subordinate (optional, integer). Excludes subordinates of subordinates. Positive count indicates bookmark should start open while negative count indicates that this bookmark should start closed. If missing will be inferred from level column and (if specified) the open column else will be assumed to be 0L. Note some pdf viewers quietly ignore the initially open/closed feature.</p> <p><b>open</b> Whether the bookmark starts open or closed if it has subordinate bookmarks (optional, logical). If missing will default to open. Ignored if the count column is specified (instead use a negative count if the bookmark should start closed). Note some pdf viewers quietly ignore the initially open/closed feature.</p> <p><b>fontface</b> Font face of the bookmark (optional, integer). If NA_character_ or NA_integer_ will be unset (defaults to "plain"). "plain" or 1 is plain, "bold" or 2 is bold, "italic" or 3 is italic, Note many pdf viewers quietly ignore this feature.</p> <p><b>color</b> Color of the bookmark (optional, character). If NA_character_ will be unset (presumably defaults to "black"). Note many pdf viewers quietly ignore this feature.</p> |
| input     | Input pdf filename.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| output    | Output pdf filename.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Details

`get_bookmarks()` will try to use the following helper functions in the following order:

1. `get_bookmarks_pdftk()` which wraps `pdftk` command-line tool
2. `get_bookmarks_pdftools()` which wraps `pdftools::pdf_toc()`

`set_bookmarks()` will try to use the following helper functions in the following order:

1. `set_bookmarks_gs()` which wraps `ghostscript` command-line tool
2. `set_bookmarks_pdftk()` which wraps `pdftk` command-line tool

## Value

`get_bookmarks()` returns a list of data frames with bookmark info (see `bookmarks` parameter for details about columns) plus "total\_pages", "filename", and "title" attributes. NA values in the data frame indicates that the backend doesn't report information about this pdf feature. `set_bookmarks()` returns the (output) filename invisibly.

## Known limitations

- `get_bookmarks_pdftk()` doesn't report information about bookmarks color, fontface, and whether the bookmarks should start open or closed.
- `get_bookmarks_pdftools()` doesn't report information about bookmarks page number, color, fontface, and whether the bookmarks should start open or closed.
- `set_bookmarks_gs()` supports most bookmarks features including color and font face but only action supported is to view a particular page.
- `set_bookmarks_pdftk()` only supports setting the title, page number, and level of bookmarks.

## See Also

`supports_get_bookmarks()`, `supports_set_bookmarks()`, `supports_gs()`, and `supports_pdftk()` to detect support for these features. For more info about the pdf bookmarks feature see [https://opensource.adobe.com/dc-acrobat-sdk-docs/library/pdfmark/pdfmark\\_Basic.html#bookmarks-out](https://opensource.adobe.com/dc-acrobat-sdk-docs/library/pdfmark/pdfmark_Basic.html#bookmarks-out).

## Examples

```
# Create 2-page pdf using `pdf` and add some bookmarks to it
if (supports_set_bookmarks() && supports_get_bookmarks() && require("grid", quietly = TRUE)) {
  f <- tempfile(fileext = ".pdf")
  pdf(f, onefile = TRUE)
  grid.text("Page 1")
  grid.newpage()
  grid.text("Page 2")
  invisible(dev.off())

  print(get_bookmarks(f)[[1]])
}
```

```

bookmarks <- data.frame(title = c("Page 1", "Page 2"), page = c(1, 2))

set_bookmarks(bookmarks, f)
print(get_bookmarks(f)[[1]])
unlink(f)
}

```

---

|               |                                  |
|---------------|----------------------------------|
| cat_bookmarks | <i>Concatenate pdf bookmarks</i> |
|---------------|----------------------------------|

---

## Description

cat\_bookmarks() concatenates a list of bookmarks into a single bookmarks data frame while updating the page numbers. Useful if wanting to concatenate multiple pdf files together and would like to preserve the bookmarks information.

## Usage

```

cat_bookmarks(
  l,
  method = c("flat", "filename", "title"),
  open = NA,
  color = NA_character_,
  fontface = NA_character_
)

```

## Arguments

- |          |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| l        | A list of bookmark data frames as returned by <a href="#">get_bookmarks()</a> . Each data frame should have a "total_pages" attribute. If method = "filename" each data frame should have a "filename" attribute. If method = "title" each data frame should have a "title" attribute.                                                                                                                                    |
| method   | If "flat" simply concatenate the bookmarks while updating page numbers. If "filename" place each file's bookmarks a level under a new bookmark matching the (base)name of the filename and then concatenate the bookmarks while updating page numbers. If "title" place each file's bookmarks a level under a new bookmark matching the title of the file and then concatenate the bookmarks while updating page numbers. |
| open     | If method = "filename" or method = "title" a logical for whether the new top level bookmarks should start open? If missing will default to open. Note some pdf viewers quietly ignore the initially open/closed feature.                                                                                                                                                                                                  |
| color    | If method = "filename" or method = "title" the color of the new top level bookmarks. If NA_character_ will be unset (presumably defaults to "black"). Note many pdf viewers quietly ignore this feature.                                                                                                                                                                                                                  |
| fontface | If method = "filename" or method = "title" should the fontface of the new top level bookmarks. If NA_character_ or NA_integer_ will be unset (defaults to "plain"). "plain" or 1 is plain, "bold" or 2 is bold, "italic" or 3 is italic, Note many pdf viewers quietly ignore this feature.                                                                                                                               |

**Value**

A data frame of bookmark data (as suitable for use with `set_bookmarks()`). A "total\_pages" attribute will be set for the theoretical total pages of the concatenated document represented by the concatenated bookmarks.

**See Also**

`get_bookmarks()` and `set_bookmarks()` for setting bookmarks. `cat_pages()` for concatenating pdf files together.

**Examples**

```
if (supports_get_bookmarks() &&
    supports_set_bookmarks() &&
    supports_pdftk() &&
    require("grid", quietly = TRUE)) {
# Create two different two-page pdf files
make_pdf <- function(f, title) {
  pdf(f, onefile = TRUE, title = title)
  grid.text(paste(title, "Page 1"))
  grid.newpage()
  grid.text(paste(title, "Page 2"))
  invisible(dev.off())
}
f1 <- tempfile(fileext = "_doc1.pdf")
on.exit(unlink(f1))
make_pdf(f1, "Document 1")

f2 <- tempfile(fileext = "_doc2.pdf")
on.exit(unlink(f2))
make_pdf(f2, "Document 2")

# Add bookmarks to the two two-page pdf files
bookmarks <- data.frame(title = c("Page 1", "Page 2"),
                        page = c(1L, 2L))

set_bookmarks(bookmarks, f1)
set_bookmarks(bookmarks, f2)
l <- get_bookmarks(c(f1, f2))
print(l)

bm <- cat_bookmarks(l, method = "flat")
cat('\nmethod = "flat":\n')
print(bm)

bm <- cat_bookmarks(l, method = "filename")
cat('\nmethod = "filename":\n')
print(bm)

bm <- cat_bookmarks(l, method = "title")
cat('\nmethod = "title":\n')
print(bm)
```

```
# `cat_bookmarks()` is useful for setting concatenated pdf files
# created with `cat_pages()`
if (supports_cat_pages()) {
  fc <- tempfile(fileext = "_cat.pdf")
  on.exit(unlink(fc))
  cat_pages(c(f1, f2), fc)
  set_bookmarks(bm, fc)
  unlink(fc)
}

unlink(f1)
unlink(f2)
}
```

cat\_pages

*Concatenate pdf documents together***Description**

cat\_pages() concatenates pdf documents together.

**Usage**

```
cat_pages(input, output)
```

```
cat_pages_gs(input, output)
```

```
cat_pages_pdftk(input, output)
```

```
cat_pages_qpdf(input, output)
```

**Arguments**

input                Filename(s) (pdf) to concatenate together

output              Filename (pdf) to save concatenated output to

**Details**

cat\_pages() will try to use the following helper functions in the following order:

1. cat\_pages\_qpdf() which wraps [qpdf::pdf\\_combine\(\)](#)
2. cat\_pages\_pdftk() which wraps pdf tk command-line tool
3. cat\_pages\_gs() which wraps ghostscript command-line tool

**Value**

The (output) filename invisibly.

**See Also**

[supports\\_cat\\_pages\(\)](#), [supports\\_gs\(\)](#), and [supports\\_pdftk\(\)](#) to detect support for these features. [cat\\_bookmarks\(\)](#) for generating bookmarks for concatenated files.

**Examples**

```
if (supports_cat_pages() && require("grid", quietly = TRUE)) {
  # Create two different two-page pdf files
  make_pdf <- function(f, title) {
    pdf(f, onefile = TRUE, title = title)
    grid.text(paste(title, "Page 1"))
    grid.newpage()
    grid.text(paste(title, "Page 2"))
    invisible(dev.off())
  }
  f1 <- tempfile(fileext = "_doc1.pdf")
  on.exit(unlink(f1))
  make_pdf(f1, "Document 1")

  f2 <- tempfile(fileext = "_doc2.pdf")
  on.exit(unlink(f2))
  make_pdf(f2, "Document 2")

  fc <- tempfile(fileext = "_cat.pdf")
  on.exit(unlink(fc))
  cat_pages(c(f1, f2), fc)

  # Use `cat_bookmarks()` to create pdf bookmarks for concatenated output files
  if (supports_get_bookmarks() && supports_set_bookmarks()) {
    l <- get_bookmarks(c(f1, f2))
    bm <- cat_bookmarks(l, "title")
    set_bookmarks(bm, fc)
    print(get_bookmarks(fc)[[1]])
  }
  unlink(f1)
  unlink(f2)
  unlink(fc)
}
```

---

docinfo

---

*PDF documentation info dictionary object*


---

**Description**

`docinfo()` creates a PDF documentation info dictionary object. Such objects can be used with [set\\_docinfo\(\)](#) to edit PDF documentation info dictionary entries and such objects are returned by [get\\_docinfo\(\)](#).

**Usage**

```
docinfo(
  author = NULL,
  creation_date = NULL,
  creator = NULL,
  producer = NULL,
  title = NULL,
  subject = NULL,
  keywords = NULL,
  mod_date = NULL
)
```

**Arguments**

|               |                                                                                                                                                                                                     |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| author        | The document's author. Matching xmp metadata tag is dc:creator.                                                                                                                                     |
| creation_date | The date the document was created. Will be coerced by <code>datetimeoffset::as_datetimeoffset()</code> . Matching xmp metadata tag is xmp:CreateDate.                                               |
| creator       | The name of the application that originally created the document (if converted to pdf). Matching xmp metadata tag is xmp:CreatorTool.                                                               |
| producer      | The name of the application that converted the document to pdf. Matching xmp metadata tag is pdf:Producer.                                                                                          |
| title         | The document's title. Matching xmp metadata tag is dc:title.                                                                                                                                        |
| subject       | The document's subject. Matching xmp metadata tag is dc:description.                                                                                                                                |
| keywords      | Keywords for this document (for cross-document searching). Matching xmp metadata tag is pdf:Keywords. Will be coerced into a string by <code>stringi::stri_join(keywords, collapse = ", ")</code> . |
| mod_date      | The date the document was last modified. Will be coerced by <code>datetimeoffset::as_datetimeoffset()</code> . Matching xmp metadata tag is xmp:ModifyDate.                                         |

**Known limitations**

- Currently does not support arbitrary info dictionary entries.

**docinfo R6 Class Methods**

`get_item(key)` Get documentation info value for key `key`. Can also use the relevant active bindings to get documentation info values.

`set_item(key, value)` Set documentation info key `key` with value `value`. Can also use the relevant active bindings to set documentation info values.

`update(x)` Update documentation info key entries using non-NULL entries in object `x` coerced by `as_docinfo()`.

**docinfo R6 Active Bindings**

`author` The document's author.

`creation_date` The date the document was created.

**creator** The name of the application that originally created the document (if converted to pdf).  
**producer** The name of the application that converted the document to pdf.  
**title** The document's title.  
**subject** The document's subject.  
**keywords** Keywords for this document (for cross-document searching).  
**mod\_date** The date the document was last modified.

### See Also

[get\\_docinfo\(\)](#) and [set\\_docinfo\(\)](#) for getting/setting such information from/to PDF files. [as\\_docinfo\(\)](#) for coercing to this object. [as\\_xmp\(\)](#) can be used to coerce docinfo() objects into [xmp\(\)](#) objects.

### Examples

```

if (supports_set_docinfo() && supports_get_docinfo() && require("grid", quietly = TRUE)) {
  f <- tempfile(fileext = ".pdf")
  pdf(f, onefile = TRUE)
  grid.text("Page 1")
  grid.newpage()
  grid.text("Page 2")
  invisible(dev.off())

  cat("\nInitial documentation info\n")
  d <- get_docinfo(f)[[1]]
  print(d)

  d <- update(d,
    author = "John Doe",
    title = "Two Boring Pages",
    keywords = "R, xmpdf")
  set_docinfo(d, f)

  cat("\nDocumentation info after setting it\n")
  print(get_docinfo(f)[[1]])

  unlink(f)
}

```

---

edit\_docinfo

Set/get pdf document info dictionary

---

### Description

[get\\_docinfo\(\)](#) gets pdf document info from a file. [set\\_docinfo\(\)](#) sets pdf document info for a file.

**Usage**

```
get_docinfo(filename, use_names = TRUE)

get_docinfo_pdftools(filename, use_names = TRUE)

get_docinfo_exiftool(filename, use_names = TRUE)

set_docinfo_exiftool(docinfo, input, output = input)

get_docinfo_pdftk(filename, use_names = TRUE)

set_docinfo(docinfo, input, output = input)

set_docinfo_gs(docinfo, input, output = input)

set_docinfo_pdftk(docinfo, input, output = input)
```

**Arguments**

|           |                                                                                            |
|-----------|--------------------------------------------------------------------------------------------|
| filename  | Filename(s) (pdf) to extract info dictionary entries from.                                 |
| use_names | If TRUE (default) use filename as the names of the result.                                 |
| docinfo   | A "docinfo" object (as returned by <code>docinfo()</code> or <code>get_docinfo()</code> ). |
| input     | Input pdf filename.                                                                        |
| output    | Output pdf filename.                                                                       |

**Details**

`get_docinfo()` will try to use the following helper functions in the following order:

1. `get_docinfo_pdftk()` which wraps `pdftk` command-line tool
2. `get_docinfo_exiftool()` which wraps `exiftool` command-line tool
3. `get_docinfo_pdftools()` which wraps `pdftools::pdf_info()`

`set_docinfo()` will try to use the following helper functions in the following order:

1. `set_docinfo_exiftool()` which wraps `exiftool` command-line tool
2. `set_docinfo_gs()` which wraps `ghostscript` command-line tool
3. `set_docinfo_pdftk()` which wraps `pdftk` command-line tool

**Value**

`docinfo()` returns a "docinfo" R6 class. `get_docinfo()` returns a list of "docinfo" R6 classes. `set_docinfo()` returns the (output) filename invisibly.

### Known limitations

- Currently does not support arbitrary info dictionary entries.
- As a side effect `set_docinfo_gs()` seems to also update in previously set matching XPN metadata while `set_docinfo_exiftool()` and `set_docinfo_pdftk()` don't update any previously set matching XPN metadata. Some pdf viewers will preferentially use the previously set document title from XPN metadata if it exists instead of using the title set in documentation info dictionary entry. Consider also manually setting this XPN metadata using `set_xmp()`.
- Old metadata information is usually not deleted from the pdf file by these operations. If deleting the old metadata is important one may want to try `qpdf::pdf_compress(input, linearize = TRUE)`.
- `get_docinfo_exiftool()` will "widen" datetimes to second precision.
- `get_docinfo_pdftools()`'s datetimes may not accurately reflect the embedded datetimes.
- `set_docinfo_pdftk()` may not correctly handle documentation info entries with newlines in them.

### See Also

`docinfo()` for more information about the documentation info objects. `supports_get_docinfo()`, `supports_set_docinfo()`, `supports_gs()`, and `supports_pdftk()` to detect support for these features. For more info about the pdf document info dictionary see [https://opensource.adobe.com/dc-acrobat-sdk-docs/library/pdfmark/pdfmark\\_Basic.html#document-info-dictionary-docinfo](https://opensource.adobe.com/dc-acrobat-sdk-docs/library/pdfmark/pdfmark_Basic.html#document-info-dictionary-docinfo).

### Examples

```
if (supports_set_docinfo() && supports_get_docinfo() && require("grid", quietly = TRUE)) {
  f <- tempfile(fileext = ".pdf")
  pdf(f, onefile = TRUE)
  grid.text("Page 1")
  grid.newpage()
  grid.text("Page 2")
  invisible(dev.off())

  cat("\nInitial documentation info:\n\n")
  d <- get_docinfo(f)[[1]]
  print(d)

  d <- update(d,
              author = "John Doe",
              title = "Two Boring Pages",
              keywords = c("R", "xmpdf"))
  set_docinfo(d, f)

  cat("\nDocumentation info after setting it:\n\n")
  print(get_docinfo(f)[[1]])

  unlink(f)
}
```

---

|          |                             |
|----------|-----------------------------|
| edit_xmp | <i>Set/get xmp metadata</i> |
|----------|-----------------------------|

---

## Description

get\_xmp() gets xmp metadata from a file. set\_xmp() sets xmp metadata for a file.

## Usage

```
get_xmp(filename, use_names = TRUE)
get_xmp_exiftool(filename, use_names = TRUE)
set_xmp(xmp, input, output = input)
set_xmp_exiftool(xmp, input, output = input)
```

## Arguments

|           |                                                            |
|-----------|------------------------------------------------------------|
| filename  | Filename(s) to extract xmp metadata from.                  |
| use_names | If TRUE (default) use filename as the names of the result. |
| xmp       | An <code>xmp()</code> object.                              |
| input     | Input filename.                                            |
| output    | Output filename.                                           |

## Details

get\_xmp() will try to use the following helper functions in the following order:

1. get\_xmp\_exiftool() which wraps exiftool command-line tool

set\_xmp() will try to use the following helper functions in the following order:

1. set\_xmp\_exiftool() which wraps exiftool command-line tool

## Value

get\_xmp() returns a list of `xmp()` objects. set\_xmp() returns the (output) filename invisibly.

## See Also

`xmp()` for more information about xmp metadata objects. `supports_get_xmp()`, `supports_set_xmp()`, and `supports_exiftool()` to detect support for these features. For more info about xmp metadata see <https://www.exiftool.org/TagNames/XMP.html>.

**Examples**

```
x <- xmp(attribution_url = "https://example.com/attribution",
        creator = "John Doe",
        description = "An image caption",
        date_created = Sys.Date(),
        sdx_id = "CC-BY-4.0")

print(x)
print(x, mode = "google_images", xmp_only = TRUE)
print(x, mode = "creative_commons", xmp_only = TRUE)

if (supports_set_xmp() &&
    supports_get_xmp() &&
    capabilities("png") &&
    requireNamespace("grid", quietly = TRUE)) {

  f <- tempfile(fileext = ".png")
  png(f)
  grid::grid.text("This is an image!")
  invisible(dev.off())
  set_xmp(x, f)
  print(get_xmp(f)[[1]])
}
```

---

enable\_feature\_message

*Messages for how to enable feature*


---

**Description**

enable\_feature\_message() returns a character vector with the information needed to install the requested feature. Formatted for use with `rlang::abort()`, `rlang::warn()`, or `rlang::inform()`.

**Usage**

```
enable_feature_message(
  feature = c("cat_pages", "get_bookmarks", "get_docinfo", "get_xmp", "n_pages",
             "set_bookmarks", "set_docinfo", "set_xmp")
)
```

**Arguments**

feature Which xmpdf feature to give information for.

**Value**

A character vector formatted for use with `rlang::abort()`, `rlang::warn()`, or `rlang::inform()`.

**Examples**

```
rlang::inform(enable_feature_message("get_bookmarks"))
```

---

|         |                                          |
|---------|------------------------------------------|
| n_pages | <i>Get number of pages in a document</i> |
|---------|------------------------------------------|

---

## Description

n\_pages() returns the number of pages in the (pdf) file(s).

## Usage

```
n_pages(filename, use_names = TRUE)
n_pages_exiftool(filename, use_names = TRUE)
n_pages_qpdf(filename, use_names = TRUE)
n_pages_pdftk(filename, use_names = TRUE)
n_pages_gs(filename, use_names = TRUE)
```

## Arguments

|           |                                                            |
|-----------|------------------------------------------------------------|
| filename  | Character vector of filenames.                             |
| use_names | If TRUE (default) use filename as the names of the result. |

## Details

n\_pages() will try to use the following helper functions in the following order:

1. n\_pages\_qpdf() which wraps [qpdf::pdf\\_length\(\)](#)
2. n\_pages\_exiftool() which wraps exiftool command-line tool
3. n\_pages\_pdftk() which wraps pdftk command-line tool
4. n\_pages\_gs() which wraps ghostscript command-line tool

## Value

An integer vector of number of pages within each file.

## See Also

[supports\\_n\\_pages\(\)](#) detects support for this feature.

## Examples

```
if (supports_n_pages() && require("grid", quietly = TRUE)) {
  f <- tempfile(fileext = ".pdf")
  pdf(f, onefile = TRUE)
  grid.text("Page 1")
  grid.newpage()
  grid.text("Page 2")
  invisible(dev.off())
  print(n_pages(f))
  unlink(f)
}
```

---

spdx\_licenses

SPDX License List data

---

## Description

spdx\_licenses is a data frame of SPDX License List data.

## Usage

```
spdx_licenses
```

## Format

a data frame with eight variables:

**id** SPDX Identifier.

**name** Full name of license. For Creative Commons licenses these have been tweaked from the SPDX version to more closely match the full name used by Creative Commons Foundation.

**url** URL for copy of license located at `spdx.org`

**fsf** Is this license considered Free/Libre by the FSF?

**osi** Is this license OSI approved?

**deprecated** Has this SPDFX Identifier been deprecated by SPDX?

**url\_alt** Alternative URL for license. Manually created for a subset of Creative Commons licenses. Others taken from <https://github.com/sindresorhus/spdx-license-list>.

**pd** Is this license a "public domain" license? Manually created.

## See Also

See <https://spdx.org/licenses/> for more information.

---

**supports***Detect support for features*

---

## Description

`supports_get_bookmarks()`, `supports_set_bookmarks()`, `supports_get_docinfo()`, `supports_set_docinfo()`, `supports_get_xmp()`, `supports_set_xmp()`, `supports_cat_pages()`, and `supports_n_pages()` detects support for the functions `get_bookmarks()`, `set_bookmarks()`, `get_docinfo()`, `set_docinfo()`, `get_xmp()`, `set_xmp()`, `cat_pages()`, and `n_pages()` respectively. `supports_exiftool()`, `supports_gs()` and `supports_pdftk()` detects support for the command-line tools `exiftool`, `ghostscript` and `pdftk` respectively as used by various lower-level functions.

## Usage

`supports_get_bookmarks()`

`supports_set_bookmarks()`

`supports_get_docinfo()`

`supports_set_docinfo()`

`supports_get_xmp()`

`supports_set_xmp()`

`supports_cat_pages()`

`supports_n_pages()`

`supports_exiftool()`

`supports_gs()`

`supports_pdftk()`

## Details

- `supports_exiftool()` detects support for the command-line tool `exiftool` which is required for `get_docinfo_exiftool()`, `get_xmp_exiftool()`, `set_xmp_exiftool()`, and `n_pages_exiftool()`.
- `supports_gs()` detects support for the command-line tool `ghostscript` which is required for `set_docinfo_gs()`, `set_bookmarks_gs()`, `cat_pages_gs()`, and `n_pages_gs()`.
- `supports_pdftk()` detects support for the command-line tool `pdftk` which is required for `get_bookmarks_pdftk()`, `set_bookmarks_pdftk()`, `get_docinfo_pdftk()`, `set_docinfo_pdftk()`, `cat_pages_pdftk()`, and `n_pages_pdftk()`.

- `requireNamespace("pdftools", quietly = TRUE)` detects support for the R packages `pdftools` which is required for `get_bookmarks_pdftools()` and `get_docinfo_pdftools()`.
- `requireNamespace("qpdf", quietly = TRUE)` detects support for the R packages `qpdf` which is required for `cat_pages_qpdf()` and `n_pages_qpdf()`.

## Examples

```
# Detect for higher-level features
supports_get_docinfo()
supports_set_docinfo()
supports_get_bookmarks()
supports_set_bookmarks()
supports_get_xmp()
supports_set_xmp()
supports_cat_pages()
supports_n_pages()

# Detect support for lower-level helper features
supports_exiftool()
supports_gs()
supports_pdftk()
print(requireNamespace("pdftools", quietly = TRUE))
print(requireNamespace("qpdf", quietly = TRUE))
```

---

xmp

*XMP metadata object*


---

## Description

`xmp()` creates an XMP metadata object. Such objects can be used with `set_xmp()` to edit XMP metadata for a variety of media formats and such objects are returned by `get_xmp()`.

## Usage

```
xmp(
  ...,
  alt_text = NULL,
  attribution_name = NULL,
  attribution_url = NULL,
  create_date = NULL,
  creator = NULL,
  creator_tool = NULL,
  credit = NULL,
  date_created = NULL,
  description = NULL,
  ext_description = NULL,
  headline = NULL,
  keywords = NULL,
```

```

    license = NULL,
    marked = NULL,
    modify_date = NULL,
    more_permissions = NULL,
    producer = NULL,
    rights = NULL,
    subject = NULL,
    title = NULL,
    usage_terms = NULL,
    web_statement = NULL,
    auto_xmp = c("cc:attributionName", "cc:license", "dc:rights", "dc:subject",
        "photoshop:Credit", "xmpRights:Marked", "xmpRights:UsageTerms",
        "xmpRights:WebStatement"),
    spdx_id = NULL
)

```

## Arguments

|                  |                                                                                                                                                                                                                                                                                                                                           |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ...              | Entries of xmp metadata. The names are either the xmp tag names or alternatively the xmp namespace and tag names separated by ":". The values are the xmp values.                                                                                                                                                                         |
| alt_text         | Brief textual description that can be used as its "alt text" (XMP tag Iptc4xmpCore:AltTextAccessibility). Will be coerced by <a href="#">as_lang_alt()</a> . Core IPTC photo metadata.                                                                                                                                                    |
| attribution_name | The name to be used when attributing the work (XMP tag cc:attributionName). Recommended by Creative Commons. If missing and "cc:attributionName" in auto_xmp and and photoshop:Credit non-missing will use that else if dc:creator non-missing then will automatically use <code>stringi::stri_join(creator, collapse = " and ")</code> . |
| attribution_url  | The URL to be used when attributing the work (XMP tag cc:attributionURL). Recommended by Creative Commons.                                                                                                                                                                                                                                |
| create_date      | The date the digital document was created (XMP tag xmp:CreateDate). Will be coerced by <a href="#">datetimeoffset::as_datetimeoffset()</a> . Related pdf documentation info key is CreationDate. Not to be confused with photoshop:DateCreated which is the date the intellectual content was created.                                    |
| creator          | The document's author(s) (XMP tag dc:creator). Related pdf documentation info key is Author. Core IPTC photo metadata used by Google Photos. If credit is missing and "photoshop:Credit" in auto_xmp then we'll also use this for the photoshop:Credit XMP tag.                                                                           |
| creator_tool     | The name of the application that originally created the document (XMP tag xmp:CreatorTool). Related pdf documentation info key is Creator.                                                                                                                                                                                                |
| credit           | Credit line field (XMP tag photoshop:Credit). Core IPTC photo metadata used by Google Photos. If missing and "photoshop:Credit" in auto_xmp and dc:creator non-missing then will automatically use <code>stringi::stri_join(creator, collapse = " and ")</code> .                                                                         |

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| date_created     | The date the intellectual content was created (XMP tag photoshop:DateCreated). Will be coerced by <a href="#">datetimeoffset::as_datetimeoffset()</a> . Core IPTC photo metadata. Not to be confused with xmp:CreateDate for when the digital document was created.                                                                                                                                                                     |
| description      | The document's subject (XMP tag dc:description). Will be coerced by <a href="#">as_lang_alt()</a> . Core IPTC photo metadata. Related pdf documentation info key is Subject.                                                                                                                                                                                                                                                            |
| ext_description  | An extended description (for accessibility) if the "alt text" is insufficient (XMP tag Iptc4xmpCore:ExtDescrAccessibility). Will be coerced by <a href="#">as_lang_alt()</a> . Core IPTC photo metadata.                                                                                                                                                                                                                                |
| headline         | A short synopsis of the document (XMP tag photoshop:Headline). Core IPTC photo metadata.                                                                                                                                                                                                                                                                                                                                                |
| keywords         | Character vector of keywords for this document (for cross-document searching). Related pdf documentation info key is pdf:Keywords. Will be coerced into a string by <code>stringi::stri_join(keywords, collapse = ", ")</code> .                                                                                                                                                                                                        |
| license          | The URL of (open source) license terms (XMP tag cc:license). Recommended by Creative Commons. Note xmpRights:WebStatement set in web_statement is a more popular XMP tag (e.g. used by Google Images) that can also hold the URL of license terms or a verifying web statement. If cc:license in auto_xmp and spdx_id is not NULL then we'll automatically use an URL from <a href="#">spdx_licenses</a> corresponding to that license. |
| marked           | Whether the document is a rights-managed resource (XMP tag xmpRights:Marked). Use TRUE if rights-managed, FALSE if public domain, and NULL if unknown. Creative Commons recommends setting this. If xmpRights:Marked in auto_xmp and spdx_id is not NULL then we can automatically set this for a subset of SPDX licenses (including all Creative Commons licenses).                                                                    |
| modify_date      | The date the document was last modified (XMP tag xmp:ModifyDate). Will be coerced by <a href="#">datetimeoffset::as_datetimeoffset()</a> . Related pdf documentation info key is ModDate.                                                                                                                                                                                                                                               |
| more_permissions | A URL for additional permissions beyond the license (XMP tag cc:morePermissions). Recommended by Creative Commons. Contrast with the LicensorURL property of plus:Licensor XMP tag.                                                                                                                                                                                                                                                     |
| producer         | The name of the application that converted the document to pdf (XMP tag pdf:Producer). Related pdf documentation info key is Producer.                                                                                                                                                                                                                                                                                                  |
| rights           | (copy)right information about the document (XMP tag dc:rights). Will be coerced by <a href="#">as_lang_alt()</a> . Core IPTC photo metadata used by Google Photos that Creative Commons also recommends setting. If dc:rights in auto_xmp and creator and date_created are not NULL then we can automatically generate a basic copyright statement with the help of spdx_id.                                                            |
| subject          | List of description phrases, keywords, classification codes (XMP tag dc:subject). Core IPTC photo metadata. A character vector. Similar but less popular to the XMP tag pdf:Keywords which is a string. If dc:subject in auto_xmp and keywords is not NULL then we can automatically extract the keywords from it using <code>strsplit(keywords, ", ")[[1]]</code> .                                                                    |

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| title         | The document's title (XMP tag dc:title). Will be coerced by <a href="#">as_lang_alt()</a> . Related pdf documentation info key is Title.                                                                                                                                                                                                                                                                                                    |
| usage_terms   | A string describing legal terms of use for the document (XMP tag xmpRights:UsageTerms). Will be coerced by <a href="#">as_lang_alt()</a> . Core IPTC photo metadata and recommended by Creative Commons. If xmpRights:UsageTerms in auto_xmp and spdx_id is not NULL then we can automatically set this with that license's name and URL.                                                                                                   |
| web_statement | Web Statement of Rights (XMP tag xmpRights:WebStatement): a string of a full URL with license information about the page. If xmpRights:WebStatement in auto_xmp and spdx_id is not NULL then we'll automatically use an URL from <a href="#">spdx_licenses</a> corresponding to that license. Core IPTC photo metadata used by Google Photos. Also recommended by Creative Commons (who also recommends using a "verifying" web statement). |
| auto_xmp      | Character vector of XMP metadata we should try to automatically determine if missing from other XMP metadata and spdx_id.                                                                                                                                                                                                                                                                                                                   |
| spdx_id       | The id of a license in the SPDX license list. See <a href="#">spdx_licenses</a> .                                                                                                                                                                                                                                                                                                                                                           |

### Value

An xmp object as can be used with [set\\_xmp\(\)](#). Basically a named list whose names are the (optional) xmp namespace and tag names separated by ":" and the values are the xmp values. Datetimes should be a datetime object such as [POSIXlt\(\)](#).

### xmp R6 Class Methods

[fig\\_process\(..., auto = c\("fig.alt", "fig.cap", "fig.scap"\)\)](#) Returns a function to embed XMP metadata suitable for use with {knitr}'s [fig.process](#) chunk option. ... are local XMP metadata changes for this function. auto are which chunk options should be used to further update metadata values.

[get\\_item\(key\)](#) Get XMP metadata value for key key. Can also use the relevant active bindings to get more common values.

[print\(mode = c\("null\\_omit", "google\\_images", "creative\\_commons", "all"\), xmp\\_only = FALSE\)](#)  
Print out XMP metadata values. If mode is "null\_omit" print out which metadata would be embedded. If mode is "google\_images" print out values for the five fields Google Images uses. If mode is creative\_commons print out the values for the fields Creative Commons recommends be set when using their licenses. If mode is all print out values for all XMP metadata that we provide active bindings for (even if NULL). If xmp\_only is TRUE then don't print out spdx\_id and auto\_xmp values.

[set\\_item\(key, value\)](#) Set XMP metadata key key with value value. Can also use the relevant active bindings to set XMP metadata values.

[update\(x\)](#) Update XMP metadata entries using non-NULL entries in x coerced by [as\\_xmp\(\)](#).

### xmp R6 Active Bindings

[alt\\_text](#) The image's alt text (accessibility).

[attribution\\_name](#) The name to attribute the document.

`attribution_url` The URL to attribute the document.  
`create_date` The date the document was created.  
`creator` The document's author.  
`creator_tool` The name of the application that originally created the document.  
`credit` Credit line.  
`date_created` The date the document's intellectual content was created  
`description` The document's description.  
`ext_description` An extended description for accessibility.  
`headline` A short synopsis of document.  
`keywords` String of keywords for this document (less popular than `subject`).  
`license` URL of (open-source) license terms the document is licensed under.  
`marked` Boolean of whether this is a rights-managed document.  
`modify_date` The date the document was last modified.  
`more_permissions` URL for acquiring additional permissions beyond `license`.  
`producer` The name of the application that converted the document (to pdf).  
`rights` The document's copy(right) information.  
`subject` Vector of key phrases/words/codes for this document (more popular than `keywords`).  
`title` The document's title.  
`usage_terms` The document's rights usage terms.  
`web_statement` A URL string for the web statement of rights for the document.  
`spdx_id` The id of a license in the SPDX license list. See [spdx\\_licenses](#).  
`auto_xmp` Character vector of XMP metadata we should try to automatically determine if missing from other XMP metadata and `spdx_id`.

### XMP tag recommendations

- <https://exiftool.org/TagNames/XMP.html> recommends "dc", "xmp", "Iptc4xmpCore", and "Iptc4xmpExt" schemas if possible
- <https://github.com/adobe/xmp-docs/tree/master/XMPNamespaces> are descriptions of some common XMP tags
- <https://www.iptc.org/std/photometadata/specification/IPTC-PhotoMetadata#xmp-namespaces-and-identifiers> is popular for photos
- <https://developers.google.com/search/docs/appearance/structured-data/image-license-metadata#iptc-photo-metadata> are the subset of IPTC photo metadata which Google Photos uses (if no structured data on web page)
- <https://wiki.creativecommons.org/wiki/XMP> are Creative Commons license recommendations

### See Also

[get\\_xmp\(\)](#) and [set\\_xmp\(\)](#) for getting/setting such information from/to a variety of media file formats. [as\\_xmp\(\)](#) for coercing to this object. [as\\_docinfo\(\)](#) can be used to coerce `xmp()` objects into `docinfo()` objects.

## Examples

```
x <- xmp(attribution_url = "https://example.com/attribution",
        creator = "John Doe",
        description = "An image caption",
        date_created = Sys.Date(),
        spdx_id = "CC-BY-4.0")

print(x)
print(x, mode = "google_images", xmp_only = TRUE)
print(x, mode = "creative_commons", xmp_only = TRUE)

if (supports_set_xmp() &&
    supports_get_xmp() &&
    capabilities("png") &&
    requireNamespace("grid", quietly = TRUE)) {

  f <- tempfile(fileext = ".png")
  png(f)
  grid::grid.text("This is an image!")
  invisible(dev.off())
  set_xmp(x, f)
  print(get_xmp(f)[[1]])
}
```

---

xmpdf

*xmpdf: Edit 'XMP' Metadata and 'PDF' Bookmarks and Documentation Info*


---

## Description

Edit 'XMP' metadata [https://en.wikipedia.org/wiki/Extensible\\_Metadata\\_Platform](https://en.wikipedia.org/wiki/Extensible_Metadata_Platform) in a variety of media file formats as well as edit bookmarks (aka outline aka table of contents) and documentation info entries in 'pdf' files. Can detect and use a variety of command-line tools to perform these operations such as 'exiftool' <https://exiftool.org/>, 'ghostscript' <https://www.ghostscript.com/>, and/or 'pdftk' <https://gitlab.com/pdftk-java/pdftk>.

## Package options

The following xmpdf option may be set globally via `base::options()`:

**xmpdf\_default\_lang** Set new default default\_lang argument value for `as_lang_alt()`.

## Author(s)

**Maintainer:** Trevor L Davis <trevor.l.davis@gmail.com> ([ORCID](#))

Other contributors:

- Linux Foundation (Uses some data from the "SPDX License List" <<https://github.com/spdx/license-list-XML>>) [data contributor]

**See Also**

Useful links:

- <https://trevorldavis.com/R/xmpdf/dev/>
- Report bugs at <https://github.com/trevorld/r-xmpdf/issues>

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