PDFlib Migration Guide

Latest PDFlib version covered in this document: PDFlib 9.3.1

The PDFlib API generally remains compatible among major releases. Sometimes API methods are phased out and replaced with an improved successor which is more general or more powerful than the old method. In these situations the new PDFlib version declares the old method as deprecated without changing the functionality in any way. The new method is always preferable. New code should not use deprecated API methods; existing code should switch to the replacement method as soon as possible. Deprecated methods may be removed in a future release.

This Guide contains recommendations for users who migrate existing PDFlib application code which has been developed with an older PDFlib release. It explains how to identify deprecated API features in application code. Once identified the deprecated features should be replaced with the recommended newer ones.

Note *Since future PDFlib versions will remove deprecated features it is strongly recommended to check your application for deprecated method calls and options with PDFlib 9.3 to ensure forward compatibility.*

1 Check for deprecated PDFlib API Features

1.1 Identify deprecated API Method Calls at Compile Time

Deprecated API calls can be identified at compile time for some language bindings. Note that only warnings are emitted; the code can still be compiled successfully. Nevertheless it is strongly recommended to replace deprecated API methods with the recommended replacement method.

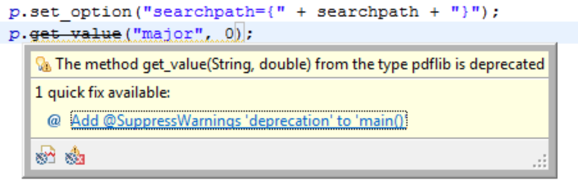
Java binding. The *pdflib.jar* module is created from source code which contains *@Deprecated* annotations and *@deprecated* Javadoc comments for all deprecated API methods so that the compiler can warn about the use of deprecated methods. The Java compiler emits a warning similar to the following:

```
javac -classpath pdflib.jar:.  image.java
Note: image.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.
```

If you supply the compiler option *-Xlint:deprecation* the name and location of the deprecated API methods are shown:

```
javac -classpath pdflib.jar:. -Xlint:deprecation  image.java
image.java:37: warning: [deprecation]
        get_value(String,double) in pdflib has been deprecated
        p.get_value( "major", 0.000000);
         ^
```

The Javadoc documentation for PDFlib lists all deprecated methods along with the recommended replacement method, e.g.



```
p.set_option("searchpath={" + searchpath + "}");
p.~~get_value~~("major", 0);
```

The method get_value(String, double) from the type pdflib is deprecated

1 quick fix available:

@ Add @SuppressWarnings 'deprecation' to 'main()'

Fig. 1.1
Presentation of deprecated Java API methods in Eclipse

```
double get_value(java.lang.String key, double modifier) Deprecated.
Use PDF_get_option().
```

In Eclipse you must attach *pdflib.jar* as library to make information about deprecated API methods available to the integrated Java compiler. If deprecated API methods are found in your code, the name of the deprecated method is displayed with a strike-out, and a pop-up box informs about the method’s status (see Figure 1.1). These messages are also listed in the *Problems* view.

.NET and .NET Core bindings with Visual Studio. The PDFlib package is created from source code which contains »Deprecated« comments for all deprecated API methods so that calls to deprecated methods are marked with an underline, and IntelliSense pop-ups are shown with a warning for calls to deprecated API methods when editing the code.

The PDFlib assembly also contains »Obsolete« attributes for all deprecated API methods so that the compiler can warn about the use of deprecated API methods.

Visual Studio emits warnings for calls to deprecated API methods if warning level 2 is enabled in *Project, Properties, Build, Errors and warnings*. The warning includes the recommended replacement method:

```
image.cs(37,13): warning CS0618: 'PDFlib_dotnet.PDFlib.get_value(string, double)' is
obsolete: 'Deprecated, use PDF_get_option().'
```

.NET Core binding with command-line compiler. The *dotnet run* command also emits warnings for deprecated API methods in the compilation phase, provided the <*WarningLevel*> element in the project file is set to 2 or higher:

```
image.cs(37,13): warning CS0618: 'PDFlib.get_value(string, double)' is obsolete:
'Deprecated, use PDF_get_option().'
```

C++ binding with Visual Studio, GCC or Clang. The header file *pdflib.hpp* contains suitable attributes for all deprecated API methods so that the compiler can warn about the use of deprecated methods.

Visual Studio emits warnings for deprecated API calls if warning level 3 is enabled in *Project, Properties, Configuration Properties, C/C++, General/Warning Level: Level 3 (/W3):*

```
image.cpp(33) : warning C4996: 'pdflib::basic_PDFlib<pstring,conv>::get_value':
was declared deprecated
        with
        [
            pstring=std::wstring,
            conv=pdflib::NoOpConverter<std::wstring>
        ]
```

With GCC and Clang the option *-Wdeprecated-declarations* must be supplied:

```
image.cpp:33:25: warning: 'double pdflib::basic_PDFlib<pstring, conv>::get_value(const
pstring&, double) [with pstring = std::__cxx11::basic_string<wchar_t>; conv =
pdflib::NoOpConverter<std::__cxx11::basic_string<wchar_t> >]' is deprecated
[-Wdeprecated-declarations]
  p.get_value(L"major", 0);
```

C binding with Visual Studio, GCC or Clang. The *pdflib.h* header file contains suitable attributes for all deprecated API methods so that the compiler can warn about the use of deprecated methods.

Visual Studio emits warnings for deprecated API calls if warning level 3 is enabled in *Project, Properties, Configuration Properties, C/C++, General/Warning Level: Level 3 (/W3):*

```
image.c(44): warning C4996: 'PDF_get_value': was declared deprecated
```

With GCC and Clang the option *-Wdeprecated-declarations* must be supplied:

```
image.c:44:2: warning: 'PDF_get_value' is deprecated [-Wdeprecated-declarations]
  PDF_get_value(p, "major", 0);
```

1.2 Identify deprecated API Method Calls at Runtime

Using the methods below you can create a list of deprecated API method calls at runtime. These API methods must be replaced in the application; see Section 2.1, »Deprecated PDFlib API Methods«, for details.

Logging for all language bindings. Calls to deprecated API methods are identified in the log file for all language bindings with logging class *api=1*. It can be set as follows (see PDFlib API Reference for more details on logging):

```
p.set_option("logging={filename=deprecated.log classes={api=1}}");
```

With this setting the log file contains an entry for all calls to deprecated API methods, e.g.

```
PDF_get_value(p_0x2599c20, "major", 0.000000)
[PDF_get_value() is deprecated since PDFlib 9]
```

PHP language binding. The PDFlib extension module for PHP contains information about deprecated API methods so that the PHP interpreter can warn about deprecated methods. Depending on the PHP configuration warnings about deprecated method calls are written to the configured PHP error log file, the Web server log file, the Windows event log/system log, or *stderr/stdout*. The following directive in *php.ini* configures the log file:

```
error_log = /var/log/php.errors
```

The default is empty; see *www.php.net/manual/en/errorfunc.configuration.php* for details.

Whether or not warnings about deprecated calls are written to the log file depends on the *error_reporting* directive which must include *E_DEPRECATED,* e.g.

```
error_reporting = E_ALL
```

See *www.php.net/manual/en/function.error-reporting.php* for details. Once logging for deprecated calls is configured, PHP reports all deprecated calls as follows in the PHP error log file (not the PDFlib log file):

```
PHP Deprecated:  PDFlib::get_value(): Deprecated, use PDF_get_option(). in /home/bind/
php/image.php on line 37
```

Perl language binding. The PDFlib module for Perl emits warnings about deprecated API methods at runtime if the predefined warning category *deprecated* is enabled, which is true by default. Perl emits a warning similar to the following:

```
PDF_get_value(): Deprecated, use PDF_get_option(). at image.pl line 31.
```

Use the following instruction or the *-X* command-line option of the Perl interpreter to disable warnings about deprecated API methods on a module basis:

```
no warnings 'deprecated';
```

Warnings for deprecated API methods can be enabled on a module basis with the following instruction in the application code:

```
use warnings 'deprecated';
```

or by calling the Perl interpreter with the *-W* command-line option.

1.3 Identify deprecated Options

All language bindings. Deprecated options cannot be detected at compile time, but only at runtime. They can be identified in the logging output with the logging class *api=1* which can be set as follows:

```
p.set_option("logging={filename=deprecated.log classes={api=1}}");
```

With this setting the log file contains a message for all API calls with deprecated options, e.g.

```
PDF_create_annotation(p_0x1529c20, 100.000000, 400.000000, 400.000000, 500.000000,
"FileAttachment", "filename=foo.jpg mimetype=image/jpeg")
[Option "filename" is deprecated since PDFlib 9]
[Option "mimetype" is deprecated since PDFlib 9]
```

These options must be replaced in the application; see Section 2.2, »Deprecated Options and Keywords of supported API Methods«, for details.

2 Deprecated PDFlib API Features

2.1 Deprecated PDFlib API Methods

Table 2.1 lists deprecated API methods which will be removed in the future. Applications should use the replacement methods shown in the table.

Table 2.1 Deprecated PDFlib API methods and their replacements

deprecated API method	***deprecated since***	***replacement method***

PDF_add_bookmark( )
PDF_add_bookmark2( )
	PDFlib 6	*PDF_create_bookmark( ); the* parent *and* open *parameters correspond to the same-named options*

PDF_add_launchlink( )	*PDFlib 6*	*PDF_create_action( ) with* type=Launch *and* *PDF_create_annotation( ) with* type=Launch
PDF_add_locallink( )	*PDFlib 6*	*PDF_create_action( ) with* type=GoTo *and* *PDF_create_annotation( ) with* type=Link

PDF_add_note( )
PDF_add_note2( )
	PDFlib 6	*PDF_create_annotation( ) with* type=Text

PDF_add_pdflink( )	*PDFlib 6*	*PDF_create_action( ) with* type=GoToR *and* *PDF_create_annotation( ) with* type=Link
PDF_add_thumbnail( )	*PDFlib 9*	*none; not functional since PDFlib 9*
PDF_add_weblink( )	*PDFlib 6*	*PDF_create_action( ) with* type=URI *and* *PDF_create_annotation( ) with* type=Link

PDF_attach_file( )
PDF_attach_file2( )
	PDFlib 6	*PDF_create_annotation( ) with* type=FileAttachment; *the* description *parameter corresponds to the* contents *option, the* author *parameter to the* title *option and the* icon *parameter to the* iconname *option.*

PDF_begin_glyph( )	*PDFlib 9*	*PDF_begin_glyph_ext( )*
PDF_begin_page( )	*PDFlib 6*	*PDF_begin_page_ext( )*
PDF_begin_pattern( )	*PDFlib 9*	*PDF_begin_pattern_ext( )*
PDF_begin_template( )	*PDFlib 7*	*PDF_begin_template_ext( )*
PDF_boot( ) (only C/C++)	*PDFlib 7*	*none; was never functional*
PDF_close( )	*PDFlib 6*	*PDF_end_document( )*
PDF_close_pdi( )	*PDFlib 7*	*PDF_close_pdi_document( )*
PDF_end_page( )	*PDFlib 6*	*PDF_end_page_ext( )*
PDF_end_template( )	*PDFlib 8*	*PDF_end_template_ext( )*
PDF_findfont( )	*PDFlib 5*	*PDF_load_font( )*

PDF_get_majorversion( )
PDF_get_minorversion( )
	PDFlib 4	*PDF_get_option( ) with keys* major/minor

PDF_get_parameter( )
PDF_get_value( )
	PDFlib 9	*For many keys the same-named option of PDF_get_option( ) can be used; see Table 2.3 for keys which require other replacement methods.*

PDF_get_pdi_parameter( )
PDF_get_pdi_value( )
	PDFlib 7	*PDF_pcos_get_string( ) and PDF_pcos_get_number( ) with pCOS paths according to Table 2.2*

PDF_initgraphics( )	*PDFlib 9*	*PDF_set_graphics_option( ) with option* initgraphicsstate
PDF_open_CCITT( )	*PDFlib 5*	*PDF_load_image( ) with* type=ccitt
PDF_open_file( )	*PDFlib 6*	*PDF_begin_document( ) and PDF_end_document( )*

PDF_open_image( )
PDF_open_image_file( )
	PDFlib 5	*PDF_load_image( )*

PDF_open_mem( )	*PDFlib 6*	*PDF_begin_document( ) with empty* filename *and PDF_get_buffer( )*

Table 2.1 Deprecated PDFlib API methods and their replacements

deprecated API method	**deprecated since**	**replacement method**
PDF_open_pdi( )	PDFlib 7	PDF_open_pdi_document( )
PDF_place_image( )	PDFlib 5	PDF_fit_image( ) with `dpi=none`
PDF_place_pdi_page( )	PDFlib 5	PDF_fit_pdi_page( )
PDF_set_border_color( )	PDFlib 6	PDF_create_annotation( ) with option `annotcolor`
PDF_set_border_dash( )	PDFlib 6	PDF_create_annotation( ) with option `dasharray`
PDF_set_border_style( )	PDFlib 6	PDF_create_annotation( ) with options `borderstyle` and `linewidth`

PDF_set_parameter( )
PDF_set_value( )
	PDFlib 9	For many keys the same-named option of PDF_set_option( ) can be used; see Table 2.3 for keys which require other replacement methods.

PDF_setdash( ) PDF_setdashpattern	PDFlib 9	PDF_set_graphics_option( ) and other methods with graphics appearance options with option `dasharray` and `dashphase`
PDF_setflat( )	PDFlib 9	PDF_set_graphics_option( ) or PDF_create_gstate( ) with option `flatness`

PDF_setgray( )
PDF_setgray_fill( )
PDF_setgray_stroke( )
	PDFlib 4	PDF_set_graphics_option( ) and other methods with color options

PDF_setlinejoin( )	PDFlib 9	PDF_set_graphics_option( ) or PDF_create_gstate( ) with option `linejoin`
PDF_setlinecap( )	PDFlib 9	PDF_set_graphics_option( ) or PDF_create_gstate( ) with option `linecap`
PDF_setmiterlimit( )	PDFlib 9	PDF_set_graphics_option( ) or PDF_create_gstate( ) with option `miterlimit`
PDF_setpolydash( )	PDFlib 5	PDF_set_graphics_option( ) and other methods with graphics appearance options with option `dasharray`

PDF_setrgbcolor( )
PDF_setrgbcolor_fill( )
PDF_setrgbcolor_stroke( )
	PDFlib 4	PDF_set_graphics_option( ) and other methods with color options

PDF_show_boxed( )
PDF_show_boxed2( )
	PDFlib 6	single lines: PDF_fit_textline( )
		multi-line formatting: PDF_add/create_textflow( ) and PDF_fit_textflow( ) with options `minspacing=100% maxspacing=10000% nofitlimit=100% shrinklimit=100%` to achieve similar formatting
		If PDF_show_boxed( ) has been called with `mode=fulljustify` use the following Textflow options: `lastalignment=justify alignment=justify`

PDF_shutdown( ) (only C/C++)	PDFlib 7	none; was never functional

PDF_utf16_to_utf8( )
PDF_utf8_to_utf16( )
PDF_utf32_to_utf8( )
PDF_utf8_to_utf32( )
PDF_utf16_to_utf32( )
PDF_utf32_to_utf16( )
	PDFlib 8.1	PDF_convert_to_unicode( ) with appropriate parameter `inputformat` and option `outputformat`

PDF_xshow( ) (only C/C++)	PDFlib 9	PDF_fit_textline( ) with option `xadvancelist`

pCOS paths for deprecated PDF_get_pdi_value/parameter( ) methods. The deprecated (as of PDFlib 7) methods *PDF_get_pdi_value( )* and *PDF_get_pdi_parameter( )* use custom keys for addressing objects in a PDF documents. When switching to *PDF_pcos_get_number( )* and *PDF_pcos_get_string( )* these keys must be replaced with the corresponding pCOS paths according to Table 2.2 (see pCOS Path Reference for details).

Table 2.2 pCOS paths as replacements for deprecated keys of PDF_get_pdi_value( ) and PDF_get_pdi_parameter( )

key for PDF_get_pdi_value( ) and PDF_get_pdi_parameter( )	***pCOS path for PDF_pcos_get_number( ) and PDF_pcos_get_string( )***
`vdp/blockcount`	`length:pages[...]/blocks`
`/Root/Pages/Count`	`length:pages`
`width`, `height`	`pages[...]/width`, `pages[...]/height`
`/Rotate`	`pages[...]/Rotate`
`version`	`pdfversion`
`/CropBox`, `/BleedBox`, `/ArtBox`, `/TrimBox`, `/MediaBox`	`pages[...]/CropBox[0]` *for* `llx`, `pages[...]/CropBox[1]` *for* `lly`, `pages[...]/CropBox[2]` *for* `urx`, `pages[...]/CropBox[3]` *for* `ury` *etc.*
`vdp/Blocks/<name>/<property>`	`pages[...]/blocks/<name>/<property>`
`vdp/Blocks[...]/<property>`	`pages[...]/blocks[...]/<property>`
`vdp/Blocks/<name>/Custom/<property>`	`pages[...]/blocks/<name>/Custom/<property>` *or* `pages[...]/blocks[...]/Custom/<property>`
`isempty`	`pages[...]/isempty`
`filename`	`filename`
`/Info/<key>`	`/Info/<key>`
`tagged`	`tagged`
`pdfx`	`pdfx`

Replacements for deprecated global values and parameters. In most cases the deprecated methods *PDF_set/get_value( )* and *PDF_set/get_parameter( )* can be replaced with *PDF_set/get_option( )* and the previous parameter *key* as option name. Table 2.3 lists parameters which must be replaced with other methods and options.

Table 2.3 Deprecated global parameters for *PDF_set/get_value( ) and PDF_set/get_parameter( ) and their replacements*

deprecated parameter	*deprecated since*	*replacement method and option*
resource categories		
Encoding, FontAFM, FontOutline, FontPFM, HostFont, ICCProfile, resourcefile, searchpath	*PDFlib 9*	*same-named options of PDF_set_option( ); multiple entries can be set with a single call;* *PDF_get_option( ): use option* resourcenumber *to iterate over all values*
StandardOutputIntent	*PDFlib 9*	*none; use embedded or referenced ICC profile as output intent*
document properties		
compatibility	*PDFlib 6*	*PDF_begin_document( ) with option* compatibility
userpassword, masterpassword permissions	*PDFlib 6*	*PDF_begin_document( ) with options* userpassword, masterpassword, permissions
pdfx	*PDFlib 6*	*PDF_begin_document( ) with option* pdfx
base	*PDFlib 6*	*PDF_begin_document( ) with option* uri
openmode	*PDFlib 6*	*PDF_begin_document( ) with option* openmode
openaction	*PDFlib 6*	*PDF_begin/end_document( ) with option* destination*; the following deprecated option keywords must be replaced:* fitbbox: *use* type=fitvisible fitheight: *use* type=fitheight left=0 fitpage: *use* type=fitwindow fitwidth: *use* type=fitwidth top=10000 retain: *use* type=fixed
hidetoolbar, hidemenubar, hidewindowui, fitwindow, centerwindow, displaydoctitle, nonfullscreenpagemode, direction, viewarea, viewclip, printarea, printclip	*PDFlib 6*	*PDF_begin/end_document( ) with option* viewerpreferences *and respective suboptions;* *the suboptions* viewarea, viewclip, printarea, printclip *are deprecated in PDF 2.0 (see Table 2.5*)
page properties		
pageheight, pagewidth *in PDF_set_parameter( )*	*PDFlib 6*	*PDF_begin/end_page_ext( ) with options* pagewidth *and* pageheight
ArtBox, BleedBox, CropBox, TrimBox	*PDFlib 6*	*PDF_begin/end_page_ext( ) with options* artbox, bleedbox, cropbox, trimbox
duration, transition	*PDFlib 6*	*PDF_begin/end_page_ext( ) with same-named options*
color		
defaultgray, defaultrgb, defaultcmyk	*PDFlib 6*	*PDF_begin/end_page_ext) with options* defaultgray, defaultrgb, defaultcmyk
setcolor:iccprofilegray/rgb/cmyk	*PDFlib 9*	*graphics appearance options* iccprofilegray/rgb/cmyk
preserveoldpantonenames	*PDFlib 9.3*	*none; old-style PANTONE color names are no longer in use*

Table 2.3 Deprecated global parameters for *PDF_set/get_value( ) and PDF_set/get_parameter( ) and their replacements*

deprecated parameter	deprecated since	replacement method and option
font handling		
autosubsetting, subsetlimit, subsetminsize, fontstyle, unicodemap	*PDFlib 7*	*PDF_load_font( ) with same-named options*
ascender, ascenderfaked, capheight, capheightfaked, descender, descenderfaked, fontencoding, fontname, fontmaxcode, xheight, xheightfaked	*PDFlib 7*	*PDF_info_font( ) with same-named keywords; for the numerical values* fontsize=1 *must be supplied;* *parameter* fontencoding: *use keyword* encoding
autocidfont	*PDFlib 8*	*none; not functional since PDFlib 9*
monospace	*PDFlib 7*	*none; only for the obsolete concept of standard CJK fonts*
images		
honoriccprofile	*PDFlib 8.2*	*PDF_load_image( ) with option* honoriccprofile
renderingintent	*PDFlib 8.2*	*PDF_load_image( ) with option* renderingintent
imagewidth, imageheight, image:iccprofile, orientation, resx, resy	*PDFlib 8*	*PDF_info_image( ) with same-named options*
graphics state		
fillrule *in PDF_set_parameter( )*	*PDFlib 9.3*	*PDF_set_graphics_option( ) with option* fillrule
inheritgstate	*PDFlib 6*	*none; not functional*
interactive elements		
bookmarkdest	*PDFlib 6*	*PDF_create_bookmark( ) with options* action, destination, fontstyle *and* textcolor
launchlink:parameters launchlink:operation launchlink:defaultdir	*PDFlib 6*	*PDF_create_action( ) with options* parameters, operation, *and* defaultdir; *however, these are deprecated in PDF 2.0 (see Table 2.5)*
miscellaneous		
flush	*PDFlib 6*	*PDF_begin_document_callback( ) with option* flush
pdiusebox	*PDFlib 6*	*PDF_open_pdi_page( ) with option* pdiusebox
iccwarning, fontwarning, glyphwarning, imagewarning, pdiwarning, warning	*PDFlib 7*	*corresponding API method with option* errorpolicy
openwarning	*PDFlib 6*	*PDF_begin_document( ) with option* errorpolicy
honorlang	*PDFlib 8*	*PDF_set_option( ) with option* filenamehandling=honorlang
trace, tracefile, tracemsg	*PDFlib 7*	*PDF_set_option( ) with option* logging
logmsg	*PDFlib 9*	*PDF_set_option( ) with option* userlog
nodemostamp	*PDFlib 9*	*PDF_set_option( ) with option* avoiddemostamp
string	*PDFlib 9*	*PDF_get_string( )*
version	*PDFlib 9*	*PDF_get_string( ) with option* version *and* idx=-1

2.2 Deprecated Options and Keywords of supported API Methods

Table 2.4 lists API methods for which some options or keywords for an option will be removed in the future.

Table 2.4 Deprecated PDFlib API options or keywords and their replacements

deprecated option or keyword	***deprecated since***	***replacement option or action***
font and text		
PDF_create_textflow( ): textwarning	*PDFlib 7*	errorpolicy
PDF_fit_textline( ): locallink, pdflink, weblink	*PDFlib 7*	matchbox *in PDF_fit_textline( ) and PDF_create_annotation( ) to create links*
PDF_load_font( ): autocidfont	*PDFlib 9*	*none; not functional*
PDF_load_font( ), PDF_info_font( ) and PDF_fill_textblock( ): option and Block property monospace	*PDFlib 9*	*configure TrueType/OpenType fonts or use host fonts*
PDF_load_font( ): fontwarning	*PDFlib 7*	errorpolicy
PDF_load_font( ): kerning	*PDFlib 8*	readkerning
text option glyphwarning	*PDFlib 7*	glyphcheck
PDF_info_textline( ): keywords scalex, scaley	*PDFlib 9*	fitscalex/fitscaley
PDF_info_textline( ): keyword unmappedglyphs	*PDFlib 8*	unmappedchars
PDF_info_textflow( ): keyword remainchars	*PDFlib 8*	*none; worked reliably only under certain conditions*
PDF_fit/info_textline( ), PDF_add/create_textflow( ) and PDF_fill_textblock( ): option features *with keywords* vrt2 *and* vert	*PDFlib 9.3*	*none; these features are enabled automatically for fonts in vertical mode*
interactive elements		
PDF_create_action( ): actionwarning	*PDFlib 7*	errorpolicy
PDF_create_action( ): defaultdir, parameters *and* operation *for* type=Launch[1]	*PDFlib 9.3*	*none*
PDF_create_annotation( ): annotwarning	*PDFlib 7*	errorpolicy
PDF_create_annotation( ): filename *and* mimetype	*PDFlib 9*	attachment *and options* filename *and* mimetype *of PDF_load_asset( )*
PDF_create_field( ), PDF_create_fieldgroup( ): fieldwarning	*PDFlib 7*	*none; didn't have any effect*
PDF_create_field( ), PDF_create_fieldgroup( ): errorpolicy	*PDFlib 9.3*	*none; didn't have any effect*
PDF_create_bookmark( ): option destination with *suboptions* fontstyle *and* color	*PDFlib 6*	*options* fontstyle *and* textcolor *of PDF_create_bookmark( )*
Destination options for PDF_add_nameddest( ) and for the destination *option in PDF_create_action( ), PDF_create_annotation( ), PDF_create_bookmark(), and PDF_begin/end_document( ):*	*PDFlib 7*	
options fitbbox, fitheight, fitpage, fitwidth, retain		type=visible, fitheight, fitwindow, fitwidth, fixed
option filename *and* type=file		action *option with a* GoToR *action*
option name *and* type=nameddest		action *option with a* GoTo *action*
PDF_create_annotation( ): type=Movie[1]	*PDFlib 9.3*	type=RichMedia
PDF_create_action( ): type=Movie[1]	*PDFlib 9.3*	type=RichMediaExecute

Table 2.4 Deprecated PDFlib API options or keywords and their replacements

deprecated option or keyword	***deprecated since***	***replacement option or action***
image and PDF import		
PDF_load_image( ), PDF_fill_imageblock( ): template	*PDFlib 8*	templateoptions
PDF_load_image( ), PDF_fill_imageblock( ): createtemplate, iconname	*PDFlib 9*	templateoptions
PDF_load_image( ), PDF_fill_imageblock( ): downsamplemask	*PDFlib 9.2*	*none; rendering bug fixed in Acrobat X*
PDF_load_image( ), PDF_fill_imageblock( ): imagewarning	*PDFlib 7*	errorpolicy
PDF_open_pdi_document( ), PDF_open_pdi_page( ), PDF_process_pdi( ), PDF_fill_pdfblock( ): pdiwarning	*PDFlib 7*	errorpolicy
ICC profiles		
PDF_load_iccprofile( ): metadata	*PDFlib 9.3*	*none; XMP for profiles no longer supported*
PDF_load_iccprofile( ): iccwarning	*PDFlib 7*	errorpolicy
miscellaneous		
Common XObject options and PDF_begin_page_ext( ): transparencygroup *with suboptions* CS, I, K	*PDFlib 8.1*	*suboptions* colorspace, isolated, knockout
PDF_add_table_cell( ): checkwordsplitting	*PDFlib 8.1*	avoidwordsplitting
PDF_begin_document( ): moddate	*PDFlib 9.2*	*none; Acrobat Preflight bug fixed*
PDF_begin_item( ) and option tag *in many methods:* inline	*PDFlib 9.2*	*tagging option* direct
PDF_set_option( ) and many other API methods: errorpolicy=legacy	*PDFlib 8*	errorpolicy=return *or* errorpolicy=exception
PDF_set_option( ): topdown	*PDFlib 9*	*PDF_begin_page_ext( ), PDF_begin_template_ext( ) or PDF_begin_pattern_ext( ) with option* topdown
PDF_get_option( ): topdown	*PDFlib 9.3*	*none; applications must take care of options specified earlier*
PDF_set_option( ): filenamehandling=legacy	*PDFlib 9.3*	filenamehandling *with explicit encoding name or* honorlang

[1] This feature is deprecated in PDF 2.0 according to ISO 32000-2.

2.3 Deprecated Features in PDF 2.0 and non-ISO Features

Deprecated PDF 2.0 features which are still available in PDF 1.x. PDF 2.0 according to ISO 32000-2 deprecates the features listed in Table 2.5. If any of these features is used, PDFlib emits a warning. It is recommended to avoid these features even in PDF 1.x mode.

Table 2.5 Features deprecated in PDF 2.0 which are still available in PDF 1.x mode

PDFlib features deprecated in PDF 2.0	***notes***
PDF_begin_document( ): `permissions` *with keyword* `noaccessible`	*Restricting document accessibility is deprecated in PDF 2.0.*
PDF_begin/end_document( ): `viewerpreferences`, *suboptions* `printarea`, `printclip`, `viewarea`, `viewclip`	*Prepress viewer preferences are deprecated in PDF 2.0.*
PDF_begin_page_ext( ) and PDF_end_page_ext( ): `separationinfo`	*Separation dictionaries are deprecated in PDF 2.0.*
PDF_create_annotation( ): `type=Movie`	*Use* `type=RichMedia`.
PDF_create_action( ): `type=Movie`	*Use* `type=RichMediaExecute`.
PDF_create_gstate( ): `blendmode` *accepts only a single keyword, but not a list with multiple values*	*Blendmode arrays are deprecated in PDF 2.0.*

Features outside of ISO 32000. The features listed in Table 2.5 were never part of ISO 32000-1. They work only in Acrobat, but not in any third-party viewer. If any of these features is used, PDFlib emits a warning. It is recommended to avoid these features since they are not part of standard PDF.

Table 2.6 Features outside of ISO 32000 which are still available in PDF 1.x mode

features outside of ISO 32000	***notes***
PDF_create_field( ) and PDF_create_fieldgroup( ): `barcode`	*Barcode fields work only in the full version of Acrobat, but neither in Acrobat Reader nor third-party viewers.*
PDF_begin_document( ): `search`	*An attached search index works only in Acrobat, but not in third-party viewers.*
PDF_begin_template_ext( ): `watermark`	*Editable watermarks work only in Acrobat, but not in third-party viewers.*

2.4 Obsolete Concepts which will no longer be supported

Some concepts are obsolete because there is no longer demand in today's workflows or they haven't been accepted in the marketplace. The items listed in Table 2.7 will be removed in the future

Table 2.7 Obsolete PDF concepts which will be removed from PDFlib

deprecated concept	*deprecated since*	*notes*
PDF versions and standards		
PDF 1.3 (1999): PDF_begin_document( ) with option `compatibility=1.3`	*PDFlib 8.1*	*not relevant*
PDF/X-1:2001: PDF_begin_document( ) with option `pdfx=PDF/X-1:2001`	*PDFlib 7*	*superseded by PDF/X-4*
PDF/X-1a:2001, PDF/X-3:2002: PDF_begin_document( ) with option `pdfx=PDF/X-1a:2001` *and* `PDF/X-3:2002`	*PDFlib 8.1*	*superseded by PDF/X-4*
PDF/X-1a:2003: PDF_begin_document( ) with option `pdfx=PDF/X-1a:2003`	*PDFlib 9.3*	*superseded by PDF/X-4*
PDF/X-3 standard output intents without embedded ICC profile and resource category `StandardOutputIntent`	*PDFlib 9*	*superseded by PDF/X-3 and PDF/X-4 with embedded or referenced ICC profile*
PDF/X-5g, PDF/X-5pg: PDF_begin_document( ) with option `pdfx=PDF/X-5g` *and* `PDF/X-5pg`	*PDFlib 9.3*	*not accepted in the marketplace*
PDF/VT-2: PDF_begin_document( ) with option `pdfvt=PDF/VT-2`	*PDFlib 9.3*	*not accepted in the marketplace*
font handling		
PostScript Type 1 fonts	*PDFlib 9.3.1*	*superseded by TrueType and OpenType fonts*
Multiple Master PostScript Type 1 fonts	*PDFlib 9.3*	*not relevant*
resource fork PostScript Type 1 (LWFN) fonts on macOS	*PDFlib 9.3*	*not relevant*
SVG fonts	*PDFlib 9.3*	*deprecated in SVG 2.0 and unsupported in most browsers*
CEF fonts	*PDFlib 9.3*	*not used as stand-alone fonts*
standard CJK fonts and font option/Block property `monospace`	*PDFlib 9*	*configure TrueType/OpenType fonts or use host fonts*
CJK TrueType fonts without Unicode cmap table	*PDFlib 9.3*	*use Unicode-compatible fonts*
UCS-2 CMaps	*PDFlib 9.3*	*use UTF-16 CMaps or* `encoding=unicode`
PANTONE spot colors		
PANTONE Goe coated/uncoated	*PDFlib 9.1*	*no longer supported by Pantone, Inc.*
PANTONE hexachrome coated/uncoated *PANTONE solid in hexachrome coated*	*PDFlib 9.1*	*no longer supported by Pantone, Inc.*
PANTONE solid to process coated *PANTONE solid to process coated EURO*	*PDFlib 9.1*	*replaced by PANTONE color bridge CMYK PC/PANTONE color bridge CMYK Euro*
mapping of deprecated PANTONE spot color name suffixes CV, CVV, CVU, CVC and CVP	*PDFlib 9.3*	*old-style PANTONE spot color names are no longer in use*

Table 2.7 Obsolete PDF concepts which will be removed from PDFlib

deprecated concept	deprecated since	notes
Flash[1]		
PDF_load_asset( ) with type=Flash/Generic/JPEG/PNG *PDF_create_annotation( ) with* type=RichMedia *and option* configuration, *suboption* instances, *suboption* params *PDF_end_document( ) with option* portfolio *and suboptions* navigator *and* initialview=custom	*PDFlib 9.3*	*Flash in RichMedia annotations and Flash-based navigators are no longer supported in Acrobat since December 2020.*
other PDF features		
Reference XObjects: common XObject option reference	*PDFlib 9.3*	*not accepted in the marketplace*
page thumbnails: PDF_add_thumbnail( )	*PDFlib 9*	*not functional since PDFlib 9.1; PDF viewers create page thumbnails automatically*
Open Prepress Interface (OPI)[1]*: common XObject options* OPI-1.3, OPI-2.0	*PDFlib 9.1*	*OPI is a concept of the 1980s which has very rarely been used in PDF.*
PostScript XObjects[1]*: PDF_begin_template_ext( ) with option* postscript	*PDFlib 9.3*	*not relevant*

[1] *This feature is deprecated or not included in PDF 2.0 according to ISO 32000-2.*

3 Required Configuration Changes

In a few situations you must adjust source code and configuration according to Table 3.1.

Table 3.1 PDFlib features which require configuration changes

PDFlib feature	***required change***
names of form fields	*Field names created with PDF_create_field( ) must be unique in the document. Fields with synchronized values can be created with PDF_create_fieldgroup( ) and a suitable* `fieldtype` *option.*
PDF_new2( ): the `errorhandler` *callback no longer uses the* `errortype` *parameter which has been unused since PDFlib 8*	*Remove the* `errortype` *parameter from your custom* `errorhandler`

4 PDFlib History

Table 4.1 Release history of PDFlib, PDFlib+PDI and PPS

PDFlib version	***release date***
PDFlib 4	*2001*
PDFlib 5	*2003*
PDFlib 6	*2004*
PDFlib 7	*2006*
PDFlib 8	*2009*
PDFlib 8.1	*2011*
PDFlib 9	*2013*
PDFlib 9.1	*2016*
PDFlib 9.2	*2019*
PDFlib 9.3	*2020*
PDFlib 9.3.1	*2021*