

The ltdocinit module

The L^AT_EX Project*

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1 ltdocinit documentation

This small module defines `\DocumentMetadata` and the older alias `\DeclareDocumentMetadata` and the related keys. It also defines commands to store document properties in a global container.

When the kernel will provide `\DocumentMetadata` directly this module will slowly disappear.

1.1 `\DocumentMetadata`/`\DeclareDocumentMetadata`

| | |
|---------------------------------------|--|
| <code>\DocumentMetadata</code> | <code>\DocumentMetadata{<key-value list>}</code> |
| <code>\DeclareDocumentMetadata</code> | <code>\DeclareDocumentMetadata{<key-value list>}</code> (deprecated) |

Currently there is no dedicated location to declare settings concerning a document as a whole. Settings are placed somewhere in the preamble or with the class options or even with some package options. For some settings this can be too late, for example the pdf version can no longer be changed if a package has used code which already opened the PDF.

`\DocumentMetadata` as a new command should unify such settings in one place. It should be used before `\documentclass`. `\DocumentMetadata` can be used more than once.

With a L^AT_EX 2022-06-01 or newer (currently provided as `latex-dev`) the command is provided by the kernel and will load the pdfmanagement, with older L^AT_EX the pdfmanagement must be loaded first manually with `\RequirePackage{pdfmanagement-testphase}`.

The keys defined for `\DocumentMetadata` currently allows to set the PDF version, to set the PDF /Lang, to uncompress a pdf, to set the language and to declare a few PDF standards and to load some colorprofiles.

`\DocumentMetadata` is also used to activate the new PDF management code and it loads a number of required files for the PDF management code. As this forces the loading of the backend files, a backend which can't be detected automatically like `dvipdfmx`, must be set in the first `\DocumentMetadata`.

Currently the following keys are implemented

backend passes the backend name to expl3.

pdfversion e.g. `pdfversion=1.7`

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uncompress no value. Forces an uncompressed pdf.

lang to set the Lang entry in the Catalog. E.g. `lang=de-DE`. The initial value is `en-US`

pdfstandard Choice key to set the pdf standard. Currently `A-1b`, `A-2a`, `A-2b`, `A-2u`, `A-3a`, `A-3b` and `A-3u` are accepted as values. The casing is irrelevant, `a-1b` works too. The underlying code to ensure the requirements (as far as they can be ensured) is incomplete, but a color profile is included and the `/OutputIntent` is set. The `u` variants for example do not force unicode, but they will pass the information to `hyperref` and `hyperxmp`. The `a` variants do *not* enforce (or even test) a tagged pdf yet. More information can be found in the documentation of `l3pdfmeta`.

colorprofiles This allows to load icc-colorprofiles. Details are described in the documentation of `l3pdfmeta`.

testphase This key is used to load testphase code. The values it accepts and their effect will change over time, when testphase packages are added or removed when the code is moved into the kernel. The value `tagpdf` will load the `tagpdf` package. It will also issue `\tagpdfsetup{activate,paratagging,interwordspace}` and so activate tagging. Other values will be added later. The `testphase` key can only be used in the first `\DocumentMetadata`.

activate This key is used to enable some document wide functions. It is currently in an experimental state. The values and their behaviour are subject to change. Currently the only value is `tagging`, which will do `\tagpdfsetup{activate,paratagging,interwordspace}`. It requires that `tagpdf` has been loaded first with the `testphase` key.

debug This key activates some debug options. It takes a list of key-values as value. Currently the following keys are known:

para with the default and only value `show`. It will activate the `paratagging-show` option of `tagpdf`,

log with the values as described in the documentation `tagpdf`,

uncompress which does the same as `uncompress` as main key

pdfmanagement a boolean which allows to deactivate the pdfmanagement.

firsttaidoff This accepts a comma lists of keywords and disables the patches related to them. More information can be found in the documentation of `pdfmanagement-firstaid`.

1.2 Container for document properties

The module provides a container where classes, packages and users can store properties of the document which are perhaps of interest or use for other packages or the author.

The properties are stored with a key `label/property`. The values can be retrieved expandably.

| | |
|---------------------------------------|---|
| <code>\AddToDocumentProperties</code> | <code>\AddToDocumentProperties[⟨label⟩]{⟨property⟩}{⟨value⟩}</code> |
|---------------------------------------|---|

This stores `⟨value⟩` under the key `⟨label⟩/⟨property⟩`. By default `⟨label⟩` is the current package name `\@currname`. If another label is chosen, it should be one which avoids clashes with other packages using the container. The label `document` is reserved.

| | |
|--|---|
| <hr/> <code>\GetDocumentProperties</code> <hr/> | <code>\GetDocumentProperties{⟨label/property⟩}</code> Expands to the <i>⟨value⟩</i> corresponding to <i>⟨label/property⟩</i> in the container. If <i>⟨label/property⟩</i> is missing, this has an empty expansion. The result is returned within <code>\exp_not:n</code> , which means that the <i>⟨value⟩</i> does not expand further when appearing in an x-type argument expansion. |
| <hr/> <code>\ShowDocumentProperties</code> <hr/> | <code>\ShowDocumentProperties</code> This show the current content of the container. |

2 ltdocinit implementation

```

1 <@=pdfmanagement>
2 <*header>
3 \ProvidesExplPackage{ltdocinit}{2021-08-28}{0.95i}
4   {Initialize document metadata}
5 </header>

```

`\DocumentMetadata` will be defined by the kernel in short time. So we define it and the keys here only if it is not already defined.

2.1 The keys for `\DocumentMetadata`

We define the keys first so that we can test if `\DocumentMetadata` exist (testing for the format date would be nice but would fail for the current latex-dev).

`\g_pdfmanagement_firstaidoff_clist` A list to store the firstaid code which should be disabled

```

6 <*package>
7 \clist_new:N \g_pdfmanagement_firstaidoff_clist

```

(End definition for `\g_pdfmanagement_firstaidoff_clist`.)

`\g_pdfmanagement_testphase_tl` a tl to store the testphase loading code so that we can load them at the end of the command.

```

8 \tl_new:N \g_pdfmanagement_testphase_tl

```

(End definition for `\g_pdfmanagement_testphase_tl`.)

```

9 \cs_if_free:NT \DocumentMetadata
10 {
11   \keys_define:nn { document / metadata }
12   {
13     backend .choices:nn =
14       { dvipdfmx , dvips , dvisvgm , luatex , pdftex , pdfmode , xdvipdfmx , xetex }
15     {
16       \sys_load_backend:n {#1}
17     },
18     backend .groups:n = { init } ,
19   }
20
21   \keys_define:nn { document / metadata }
22   {
23     ,pdfversion .code:n =
24     {
25       \pdf_version_gset:n { #1 }

```

```

26         \AddToDocumentProperties[document]{pdfversion}{#1}
27     }
28     ,uncompress .code:n =
29     {
30         \pdf_uncompress:
31     }
32     ,uncompress .value_forbidden:n = true
33     ,lang .code:n =
34     {
35         \pdfmanagement_add:nnn {Catalog} {Lang}{(#1)}
36         \AddToDocumentProperties[document]{lang}{#1}
37     }
38     %,xmpmeta .bool_gset:N = \g_pdfmeta_xmp_bool %see pdfmeta unused and undefined for no
39     % this uses internal command from pdfmeta, it should probably move there ...
40     ,pdfstandard .code:n =
41     {
42         \exp_args:Nnx
43         \keys_set:nn {document / metadata} {_pdfstandard=\str_uppercase:n{#1}}
44     }
45     ,_pdfstandard .choices:nn =
46     {A-1B,A-2A,A-2B,A-2U,A-3A,A-3B,A-3U}
47     {
48         \prop_if_exist:cT { g__pdfmeta_standard_pdf/#1_prop }
49         {
50             \prop_gset_eq:Nc \g__pdfmeta_standard_prop { g__pdfmeta_standard_pdf/#1_prop
51         }
52         \AddToDocumentProperties [document]{pdfstandard}{#1}
53     }
54     ,_pdfstandard / unknown .code:n =
55     {
56         \msg_warning:nnn{pdf}{unknown-standard}{#1}
57     }
58     ,testphase .multichoice:
59     ,testphase / tagpdf .code:n =
60     {
61         \tl_gput_right:Nn\g__pdfmanagement_testphase_tl
62         {
63             \file_if_exist_input:nF {tagpdf-latex-lab-testphase.ltx}
64             {
65                 \RequirePackage{tagpdf}
66                 \AddToDocumentProperties [document]{testphase/tagpdf}{loaded}
67                 \tagpdfsetup{activate,paratagging,interwordspace}
68                 \AddToDocumentProperties [document]{tagging}{active}
69                 \AddToDocumentProperties [document]{tagging/para}{active}
70                 \AddToDocumentProperties [document]{tagging/interwordspace}{active}
71             }
72         }
73     }
74     ,testphase / unknown .code:n =
75     {
76         \tl_gput_right:Nn\g__pdfmanagement_testphase_tl
77         {
78             \file_if_exist_input:nF {#1-latex-lab-testphase.ltx}
79             {

```

```

80         \msg_warning:nnn{document}{latex-lab-pkg-missing}{#1}
81     }
82 }
83 }
84 ,activate .multichoice:
85 ,activate / tagging .code:n =
86 {
87     \PackageWarning{pdfmanagement-testphase}
88     {The~activate~key~is~deprecated.\MessageBreak
89     Tagging~is~activated~with~'testphase=tagpdf'~directly}{ }
90 }
91 ,debug .code:n =
92 {
93     \keys_set:nn { document / metadata / debug } {#1}
94 }
95 ,debug / para .code:n =
96 {
97     \AddToHook
98     {
99         package/tagpdf/after
100     }
101     {
102         \tagpdfsetup{paratagging-show}
103     }
104 }
105 ,debug / log .code:n =
106 {
107     \AddToHook
108     {
109         package/tagpdf/after
110     }
111     {
112         \tagpdfsetup{log=#1}
113     }
114 }
115 ,debug / uncompress .code:n =
116 {
117     \pdf_uncompress:
118 }
119 ,debug / pdfmanagement .bool_gset:N = \g__pdfmanagement_active_bool
120 ,debug / firstaidoff .clist_gset:N = \g__pdfmanagement_firstaidoff_clist
121 }
122 }

```

2.2 \DocumentMetadata/\DeclareDocumentMetadata

At first we have to define the older alias `\DeclareDocumentMetadata` if `\DocumentMetadata` is already defined in a newer LaTeX version. Here we load the latex-lab support (if it hasn't been loaded before) and redefine then `\DeclareDocumentMetadata` to `\DocumentMetadata`

```

123 \cs_if_exist:NT \DocumentMetadata
124 {
125     \cs_new_protected:Npn \DeclareDocumentMetadata

```

```

126     {
127       \cs_if_free:NT \DocumentMetadata
128       {
129         \file_if_exist_input:nF {documentmetadata-support.ltx}%
130         {
131           \@latex@error
132             {No~support~files~for~\noexpand\DeclareDocumentMetadata~found}
133           {
134             Is~the~'LaTeX~lab'~bundle~installed?
135             \MessageBreak
136             Without~it,~the~declaration~is~ignored.
137           }
138           \let\DeclareDocumentMetadata\@gobble
139         }
140       }
141       \RenewDocumentCommand \DeclareDocumentMetadata {}
142       { \DocumentMetadata }
143       \DocumentMetadata
144     }
145   }

```

Now we provide a definition for `\DocumentMetadata` if it doesn't exist yet.

```

146 \cs_if_free:NT \DocumentMetadata
147   {

```

`\DocumentMetadata` should for now not be used after `\documentclass` so we error in this case. It can be used more than once but follow-up calls should not do the initialization code.

```

148   \prop_gput:Nnn \g_msg_module_type_prop { document } { LaTeX }
149   \prop_gput:Nnn \g_msg_module_name_prop { document } { DocumentMetadata }
150   \msg_new:nnn
151     { document } { setup-after-documentclass }
152     {
153       \token_to_str:N \DocumentMetadata \c_space_tl
154       should~be~used~only~before~\token_to_str:N\documentclass
155     }
156   \msg_new:nnn
157     { document } { latex-lab-pkg-missing }
158     {
159       LaTeX-lab~package~'#1'~not~found.
160     }

```

`\DocumentMetadata`

```

161   \NewDocumentCommand\DocumentMetadata { m }
162   {
163     \cs_if_eq:NNTF \documentclass \@twoclasseserror
164     { \msg_error:nn { document } { setup-after-documentclass } }
165     {

```

The wanted backend must be detected first, we read the init key and then force the loading by loading `expl3`. The backend can contains management commands, so the boolean should be set to true first.

```

166       \bool_gset_true:N \g_pdfmanagement_active_bool
167       \keys_set_groups:nnn { document / metadata } {init}{ #1 }
168       %if no backend has been loaded force it now:

```

```

169         \str_if_exist:NF \c_sys_backend_str
170         {
171             \sys_load_backend:n {}
172         }

```

Now we load the extra backend code

```

173         \ExplSyntaxOn\makeatletter
174         \file_input:n {l3backend-testphase-\c_sys_backend_str.def}
175         \ExplSyntaxOff\makeatother

```

set the default language, process the rest of the keys, and setup the generic driver

```

176         \keys_set_filter:nnn { document / metadata } { init } { lang=en-US, #1 }
177         \bool_if:NT \g__pdfmanagement_active_bool
178         {
179             \PassOptionsToPackage{customdriver=hgeneric-testphase}{hyperref}
180         }

```

\pdfmanagement_add:nnn has collected values in this hook.

```

181         \hook_use_once:n {pdfmanagement/add}

```

Redefine \DocumentMetadata so that it only process the keys. We need to update the hyperref option if the active status changes.

```

182         \RenewDocumentCommand\DocumentMetadata { m }
183         {
184             \keys_set_filter:nnn { document / metadata } { init } { ##1 }
185             \bool_if:NTF \g__pdfmanagement_active_bool
186             {
187                 \str_remove_all:cn
188                 {opt@hyperref.sty}{customdriver=hgeneric-testphase}
189                 \PassOptionsToPackage
190                 {customdriver=hgeneric-testphase}{hyperref}
191             }
192             {
193                 \str_remove_all:cn
194                 {opt@hyperref.sty}{customdriver=hgeneric-testphase}
195             }
196         }

```

Load more modules, the testphase code and the firstaid code.

```

197         \g__pdfmanagement_testphase_tl
198         \RequirePackage{pdfmanagement-firstaid}
199     }
200 }

```

At last we need to provide the older alias here too

```

201     \NewDocumentCommand\DeclareDocumentMetadata{}{\DocumentMetadata}
202 }

```

(End definition for \DocumentMetadata. This function is documented on page 1.)

2.3 Container for document Properties

The container for the document properties is a prop

```

\g__pdfmanagement_documentproperties_prop
203 \prop_new:N \g__pdfmanagement_documentproperties_prop %

```

(End definition for `\g__pdfmanagement_documentproperties_prop`.)

`\AddToDocumentProperties`

```

204 \NewDocumentCommand\AddToDocumentProperties{0{\@currname}mm}
205 {
206   \exp_args:NNx
207   \prop_gput:Nnn \g__pdfmanagement_documentproperties_prop
208   {
209     \tl_if_blank:eTF {#1}{top-level/}{#1/} #2
210   }
211   { #3}
212 }

```

(End definition for `\AddToDocumentProperties`. This function is documented on page 2.)

`\GetDocumentProperties`

```

213 \NewExpandableDocumentCommand\GetDocumentProperties{m}
214 {
215   \prop_item:Nn \g__pdfmanagement_documentproperties_prop {#1}
216 }

```

(End definition for `\GetDocumentProperties`. This function is documented on page 3.)

`\ShowDocumentProperties`

```

217 \msg_new:nnn { pdfmanagement } { show-properties }
218 {
219   The~following~document~properties~have~been~stored:
220   #1
221 }
222 \NewDocumentCommand\ShowDocumentProperties {}
223 {
224   \msg_show:nnx {pdfmanagement}{show-properties}
225   {
226     \prop_map_function:NN \g__pdfmanagement_documentproperties_prop \msg_show_item:nn
227   }
228 }

```

(End definition for `\ShowDocumentProperties`. This function is documented on page 3.)

229 `\package`

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