

# The catchfile package

Heiko Oberdiek\*

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## Abstract

This package catches the contents of a file and puts it in a macro. It requires  $\epsilon$ -TeX. Both L<sup>A</sup>T<sub>E</sub>X and plain T<sub>E</sub>X are supported.

## Contents

|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>Documentation</b>                                | <b>2</b>  |
| <b>2</b> | <b>Implementation</b>                               | <b>2</b>  |
| 2.1      | Reload check and package identification . . . . .   | 2         |
| 2.2      | Catcodes . . . . .                                  | 3         |
| 2.3      | Preparations . . . . .                              | 4         |
| 2.4      | Looking for primitive <code>\input</code> . . . . . | 4         |
| 2.5      | Input file check . . . . .                          | 5         |
| 2.6      | Catch file contents . . . . .                       | 6         |
| <b>3</b> | <b>Installation</b>                                 | <b>7</b>  |
| 3.1      | Download . . . . .                                  | 7         |
| 3.2      | Bundle installation . . . . .                       | 8         |
| 3.3      | Package installation . . . . .                      | 8         |
| 3.4      | Refresh file name databases . . . . .               | 8         |
| 3.5      | Some details for the interested . . . . .           | 8         |
| <b>4</b> | <b>History</b>                                      | <b>9</b>  |
|          | [2007/05/30 v1.0] . . . . .                         | 9         |
|          | [2007/09/09 v1.1] . . . . .                         | 9         |
|          | [2007/11/11 v1.2] . . . . .                         | 9         |
|          | [2010/03/01 v1.3] . . . . .                         | 9         |
|          | [2010/04/08 v1.4] . . . . .                         | 9         |
|          | [2010/04/28 v1.5] . . . . .                         | 9         |
|          | [2011/03/01 v1.6] . . . . .                         | 9         |
|          | [2016/05/16 v1.7] . . . . .                         | 9         |
|          | [2019/12/09 v1.8] . . . . .                         | 9         |
| <b>5</b> | <b>Index</b>  | <b>10</b> |

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\*Please report any issues at <https://github.com/ho-tex/catchfile/issues>

# 1 Documentation

The package relies on  $\epsilon$ -TeX's `\everyeof`. Otherwise it aborts with an error message.

```
\CatchFileDef {<cmd>} {<file name>} {<setup>}
\CatchFileEdef {<cmd>} {<file name>} {<setup>}
```

Macro `<cmd>` is defined with the contents of file `<file name>`. `\CatchFileDef` uses `\def`, `\CatchFileEdef` `\edef` for the definition. Additional setup code for setting catcodes or treatment of line ends can be given in code `<setup>`. See the test files for an example.

## 2 Implementation

```
1 (*package)
```

### 2.1 Reload check and package identification

Reload check, especially if the package is not used with L<sup>A</sup>T<sub>E</sub>X.

```
2 \begingroup\catcode61\catcode48\catcode32=10\relax%
3 \catcode13=5 % ^M
4 \endlinechar=13 %
5 \catcode35=6 % #
6 \catcode39=12 % '
7 \catcode44=12 % ,
8 \catcode45=12 % -
9 \catcode46=12 % .
10 \catcode58=12 % :
11 \catcode64=11 % @
12 \catcode123=1 % {
13 \catcode125=2 % }
14 \expandafter\let\expandafter\x\csname ver@catchfile.sty\endcsname
15 \ifx\x\relax % plain-TeX, first loading
16 \else
17 \def\empty{}%
18 \ifx\x\empty % LaTeX, first loading,
19 % variable is initialized, but \ProvidesPackage not yet seen
20 \else
21 \expandafter\ifx\csname PackageInfo\endcsname\relax
22 \def\x#1#2{%
23 \immediate\write-1{Package #1 Info: #2.}%
24 }%
25 \else
26 \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
27 \fi
28 \x{catchfile}{The package is already loaded}%
29 \aftergroup\endinput
30 \fi
31 \fi
32 \endgroup%
```

Package identification:

```
33 \begingroup\catcode61\catcode48\catcode32=10\relax%
34 \catcode13=5 % ^M
35 \endlinechar=13 %
36 \catcode35=6 % #
```

```

37 \catcode39=12 % '
38 \catcode40=12 % (
39 \catcode41=12 % )
40 \catcode44=12 % ,
41 \catcode45=12 % -
42 \catcode46=12 % .
43 \catcode47=12 % /
44 \catcode58=12 % :
45 \catcode64=11 % @
46 \catcode91=12 % [
47 \catcode93=12 % ]
48 \catcode123=1 % {
49 \catcode125=2 % }
50 \expandafter\ifx\csname ProvidesPackage\endcsname\relax
51   \def\x#1#2#3[#4]{\endgroup
52     \immediate\write-1{Package: #3 #4}%
53     \xdef#1{#4}%
54   }%
55 \else
56   \def\x#1#2[#3]{\endgroup
57     #2[#{#3}]%
58     \ifx#1\@undefined
59       \xdef#1{#3}%
60     \fi
61     \ifx#1\relax
62       \xdef#1{#3}%
63     \fi
64   }%
65 \fi
66 \expandafter\x\csname ver@catchfile.sty\endcsname
67 \ProvidesPackage{catchfile}%
68 [2019/12/09 v1.8 Catch the contents of a file (H0)]%

```

## 2.2 Catcodes

```

69 \begingroup\catcode61\catcode48\catcode32=10\relax%
70 \catcode13=5 % ^M
71 \endlinechar=13 %
72 \catcode123=1 % {
73 \catcode125=2 % }
74 \catcode64=11 % @
75 \def\x{\endgroup
76   \expandafter\edef\csname CatchFile@AtEnd\endcsname{%
77     \endlinechar=\the\endlinechar\relax
78     \catcode13=\the\catcode13\relax
79     \catcode32=\the\catcode32\relax
80     \catcode35=\the\catcode35\relax
81     \catcode61=\the\catcode61\relax
82     \catcode64=\the\catcode64\relax
83     \catcode123=\the\catcode123\relax
84     \catcode125=\the\catcode125\relax
85   }%
86 }%
87 \x\catcode61\catcode48\catcode32=10\relax%
88 \catcode13=5 % ^M
89 \endlinechar=13 %
90 \catcode35=6 % #
91 \catcode64=11 % @

```

```

92 \catcode123=1 % {
93 \catcode125=2 % }
94 \def\TMP@EnsureCode#1#2{%
95   \edef\CatchFile@AtEnd{%
96     \CatchFile@AtEnd
97     \catcode#1=\the\catcode#1\relax
98   }%
99   \catcode#1=#2\relax
100 }
101 \TMP@EnsureCode{39}{12}% '
102 \TMP@EnsureCode{44}{12}% ,
103 \TMP@EnsureCode{45}{12}% -
104 \TMP@EnsureCode{46}{12}% .
105 \TMP@EnsureCode{47}{12}% /
106 \TMP@EnsureCode{91}{12}% [
107 \TMP@EnsureCode{93}{12}% ]
108 \TMP@EnsureCode{96}{12}% '
109 \edef\CatchFile@AtEnd{\CatchFile@AtEnd\noexpand\endinput}

```

## 2.3 Preparations

```

110 \begingroup\expandafter\expandafter\expandafter\endgroup
111 \expandafter\ifx\csname RequirePackage\endcsname\relax
112   \input infwarerr.sty\relax
113   \input ltxcmds.sty\relax
114 \else
115   \RequirePackage{infwarerr}[2007/09/09]%
116   \RequirePackage{ltxcmds}[2010/03/09]%
117 \fi

```

Check for  $\varepsilon$ -TeX's `\everyeof`.

```

118 \begingroup
119   \escapechar=92\relax
120   \edef\TestString{\string\everyeof}%
121   \edef\TestMeaning{\meaning\everyeof}%
122   \ifx\TestString\TestMeaning
123     \else
124       \@PackageError{catchfile}{%
125         Cannot find e-TeX's \string\everyeof, \MessageBreak
126         package loading is aborted%
127       } \@ehd
128     \endgroup
129     \expandafter\CatchFile@AtEnd
130   \fi%
131 \endgroup

```

## 2.4 Looking for primitive `\input`

`\CatchFile@Input` The package needs the expandable primitive `\input`. However there are formats that redefine it. For example,  $\LaTeX$ 's `\input` is not expandable, but it stores the primitive in `\@@input`. The third possibility is `\pdfprimitive`, introduced in pdfTeX 1.40.0.

Thus we try to find the primitive and store it in `\CatchFile@Input`. If it is used, it must be expanded twice (because of the solution with `\pdfprimitive`).

```

132 \begingroup
133   \def\Check#1#2#3#4\endgroup{%
134     \edef\TestString{\string#1}%
135     \edef\TestMeaning{\meaning#2}%
136     \ifx\TestString\TestMeaning
137       \endgroup

```

```

138     \let\CatchFile@Primitive#2%
139     \def\CatchFile@Input{\CatchFile@Primitive#3}%
140     \else
141     #4\endgroup
142     \fi
143 }%
144 \Check\input\input{%
145 \Check\input\@@input{%
146 \Check\pdfprimitive\pdfprimitive\input
147 \@PackageError{%
148     Cannot find primitive \string\input,\MessageBreak
149     package loading is aborted%
150 }\@ehd
151 \csname endgroup\endcsname
152 \CatchFile@AtEnd%
153 \endgroup

```

## 2.5 Input file check

\CatchFile@CheckFileExists

```

154 \begingroup\expandafter\expandafter\expandafter\endgroup
155 \expandafter\ifx\csname IfFileExists\endcsname\relax
156 \input pdftexcmds.sty\relax
157 \begingroup\expandafter\expandafter\expandafter\endgroup
158 \expandafter\ifx\csname pdf@filesize\endcsname\relax
159 \def\CatchFile@CheckFileExists#1{%
160     \expandafter\ifx\csname @inputcheck\endcsname\relax
161     \csname newread\endcsname\@inputcheck
162     \fi
163     \openin\@inputcheck#1\relax
164     \expandafter\closein\expandafter\@inputcheck
165     \ifeof\@inputcheck
166     \let\CatchFile@File\relax
167     \else
168     \def\CatchFile@File{#1}%
169     \fi
170 }%
171 \else
172 \def\CatchFile@CheckFileExists#1{%
173     \expandafter\expandafter\expandafter\ifx
174     \expandafter\expandafter\expandafter\relax\pdf@filesize{#1}\relax
175     \let\CatchFile@File\relax
176     \else
177     \def\CatchFile@File{#1}%
178     \fi
179 }%
180 \fi
181 \else
182 \def\CatchFile@CheckFileExists#1{%
183     \IfFileExists{#1}{%
184     \expandafter\CatchFile@DefFile\@filef@und\@nil
185     \begingroup\expandafter\expandafter\expandafter\endgroup
186     \expandafter\ifx\csname @addtofilelist\endcsname\relax
187     \else
188     \@addtofilelist\CatchFile@File
189     \fi
190 }{%
191     \let\CatchFile@File\relax

```

```

192   }%
193 }%
194 \def\CatchFile@DefFile#1 \@nil{%
195   \def\CatchFile@File{#1}%
196 }%
197 \fi

```

\CatchFile@NotFound

```

198 \def\CatchFile@NotFound#1#2{%
199   \def#1{%
200     \@PackageError{catchfile}{%
201       File ‘#2’ not found%
202     }\@ehc
203 }

```

## 2.6 Catch file contents

```

204 \ltx@ifundefined{RequirePackage}{%
205   \input etexcmds.sty\relax
206 }{%
207   \RequirePackage{etexcmds}[2010/01/28]%
208 }

```

\CatchFileEdef

```

209 \long\def\CatchFileEdef#1#2#3{%
210   \CatchFile@CheckFileExists{#2}%
211   \ifx\CatchFile@File\relax
212     \CatchFile@NotFound{#1}{#2}%
213   \else
214     \begingroup
215       \everyeof{\noexpand}%
216       #3%
217       \xdef\CatchFile@Contents{\CatchFile@Input\CatchFile@File\space}%
218     \endgroup
219     \let#1\CatchFile@Contents
220 \fi
221 }

```

\CatchFileDef

```

222 \long\def\CatchFileDef#1#2#3{%
223   \CatchFile@CheckFileExists{#2}%
224   \ifx\CatchFile@File\relax
225     \CatchFile@NotFound{#1}{#2}%
226   \else
227     \begingroup
228       \everyeof\expandafter{%
229         \CatchFile@EOF
230         \expandafter\CatchFile@Finish
231         \noexpand
232       }%
233     \ltx@ifundefined{etex@unexpanded}{%
234       \expandafter\long\expandafter\def\expandafter\CatchFile@Do
235         \expandafter##\expandafter1\CatchFile@EOF{%
236         \toks\ltx@zero{##1}%
237         \xdef\CatchFile@gtemp{\the\toks\ltx@zero}%
238         \def\CatchFile@Finish{%
239           \endgroup
240           \let#1\CatchFile@gtemp

```

```

241     \global\let\CatchFile@gttemp\ltx@undefined
242   }%
243 }%
244 }{%
245   \expandafter\long\expandafter\def\expandafter\CatchFile@Do
246     \expandafter##\expandafter1\CatchFile@EOF{%
247     \edef\CatchFile@Finish{%
248     \endgroup
249     \etex@unexpanded{%
250     \edef#1{\etex@unexpanded{##1}}%
251     }%
252   }%
253 }%
254 }%
255   #3\relax
256 \expandafter\expandafter\expandafter\CatchFile@Do
257 \CatchFile@Input\CatchFile@File\relax
258 \fi
259 }

```

`\relax` after #3 was added to make it more robust in case the user uses something like

```
\CatchFileDef{\content}{\jobname.tt}{\endlinechar=-1}
```

that expands the following `\expandafter` after #3 prematurely (contribution of Martin Scharrer).

`\CatchFile@EOF` If the file is read the catcode mappings are fixed. This means that the same character cannot occur inside the file with different catcodes. Thus we use as end of file marker the at sign twice with different catcodes.

```

260 \begingroup
261   \lccode65=64 % lowercase('A') = '@'
262   \lccode66=64 % lowercase('B') = '@'
263   \catcode65=8 % catcode('A') = subscript
264   \catcode66=3 % catcode('B') = math shift
265 \lowercase{\endgroup
266   \def\CatchFile@EOF{AB}%
267 }

268 \CatchFile@AtEnd%
269 </package>

```

## 3 Installation

### 3.1 Download

**Package.** This package is available on CTAN<sup>1</sup>:

[CTAN:macros/latex/contrib/catchfile/catchfile.dtx](https://ctan.org/ctan/packages/macros/latex/contrib/catchfile/catchfile.dtx) The source file.

[CTAN:macros/latex/contrib/catchfile/catchfile.pdf](https://ctan.org/ctan/packages/macros/latex/contrib/catchfile/catchfile.pdf) Documentation.

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

<sup>1</sup>[CTAN:pkg/catchfile](https://ctan.org/ctan/packages/pkg/catchfile)

[CTAN:install/macros/latex/contrib/catchfile.tds.zip](#)

*TDS* refers to the standard “A Directory Structure for T<sub>E</sub>X Files” ([CTAN:pkg/tds](#)). Directories with `texmf` in their name are usually organized this way.

## 3.2 Bundle installation

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

```
unzip catchfile.tds.zip -d ~/texmf
```

## 3.3 Package installation

**Unpacking.** The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain T<sub>E</sub>X:

```
tex catchfile.dtx
```

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

```
catchfile.sty → tex/generic/catchfile/catchfile.sty
catchfile.pdf → doc/latex/catchfile/catchfile.pdf
catchfile.dtx → source/latex/catchfile/catchfile.dtx
```

If you have a `docstrip.cfg` that configures and enables `docstrip`'s TDS installing feature, then some files can already be in the right place, see the documentation of `docstrip`.

## 3.4 Refresh file name databases

If your T<sub>E</sub>X distribution (T<sub>E</sub>X Live, mikT<sub>E</sub>X, ...) relies on file name databases, you must refresh these. For example, T<sub>E</sub>X Live users run `texhash` or `mktexlsr`.

## 3.5 Some details for the interested

**Unpacking with L<sup>A</sup>T<sub>E</sub>X.** The `.dtx` chooses its action depending on the format:

**plain T<sub>E</sub>X:** Run `docstrip` and extract the files.

**L<sup>A</sup>T<sub>E</sub>X:** Generate the documentation.

If you insist on using L<sup>A</sup>T<sub>E</sub>X for `docstrip` (really, `docstrip` does not need L<sup>A</sup>T<sub>E</sub>X), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{catchfile.dtx}
```

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

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

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfL<sup>A</sup>T<sub>E</sub>X:



```
pdflatex catchfile.dtx
makeindex -s gind.ist catchfile.idx
pdflatex catchfile.dtx
makeindex -s gind.ist catchfile.idx
pdflatex catchfile.dtx
```

## 4 History

**[2007/05/30 v1.0]**

- First version.

**[2007/09/09 v1.1]**

- Catcode section rewritten.

**[2007/11/11 v1.2]**

- Use of package `pdftexcmds` for LuaTeX support.

**[2010/03/01 v1.3]**

- Fix for unknown `\@PackageErrorNoLine`.

**[2010/04/08 v1.4]**

- `\closein` also added if `\ifeof` is true.

**[2010/04/28 v1.5]**

- `\CatchFileDef`: Getting rid of warning ‘end of semi simple group entered at line ... of a different file (Florent Chervet).
- `\CatchFileDef`: Fix for error ‘Illegal parameter number in definition of ...’ (HO) including improvement that uses `\unexpanded` if available (Florent Chervet).

**[2011/03/01 v1.6]**

- `\relax` added after the setup argument of `\CatchFileDef` to prevent premature file reading (Martin Scharrer).

**[2016/05/16 v1.7]**

- Documentation updates.

**[2019/12/09 v1.8]**

- Documentation updates.

## 5 Index

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

| Symbols                                       |   |
|---|---|
| <code>\@input</code> .....                    | 145   |
| <code>\@PackageError</code> .....             | 124, 147, 200   |
| <code>\@addtofilelist</code> .....            | 188   |
| <code>\@ehc</code> .....                      | 202   |
| <code>\@ehd</code> .....                      | 127, 150  |
| <code>\@filef@und</code> .....                | 184   |
| <code>\@inputcheck</code> .....               | 161, 163, 164, 165  |
| <code>\@nil</code> .....                      | 184, 194  |
| <code>\@undefined</code> .....                | 58  |
| <b>A</b>                                      |   |
| <code>\aftergroup</code> .....                | 29  |
| <b>C</b>                                      |   |
| <code>\CatchFile@AtEnd</code> .....           | 95, 96, 109, 129, 152, 268  |
| <code>\CatchFile@CheckFileExists</code> ..... | 154, 210, 223   |
| <code>\CatchFile@Contents</code> .....        | 217, 219  |
| <code>\CatchFile@DefFile</code> .....         | 184, 194  |
| <code>\CatchFile@Do</code> .....              | 234, 245, 256   |
| <code>\CatchFile@EOF</code> .....             | 229, 235, 246, <u>260</u>   |
| <code>\CatchFile@File</code> .....            | 166, 168, 175, 177, 188, 191, 195, 211, 217, 224, 257   |
| <code>\CatchFile@Finish</code> .....          | 230, 238, 247   |
| <code>\CatchFile@gtemp</code> .....           | 237, 240, 241   |
| <code>\CatchFile@Input</code> .....           | <u>132</u> , 217, 257   |
| <code>\CatchFile@NotFound</code> .....        | <u>198</u> , 212, 225   |
| <code>\CatchFile@Primitive</code> .....       | 138, 139  |
| <code>\CatchFileDef</code> .....              | <u>2</u> , <u>222</u>   |
| <code>\CatchFileEdef</code> .....             | <u>209</u>  |
| <code>\catcode</code> .....                   | 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 69, 70, 72, 73, 74, 78, 79, 80, 81, 82, 83, 84, 87, 88, 90, 91, 92, 93, 97, 99, 263, 264 |
| <code>\Check</code> .....                     | 133, 144, 145, 146  |
| <code>\closein</code> .....                   | 164   |
| <code>\csname</code> .....                    | 14, 21, 50, 66, 76, 111, 151, 155, 158, 160, 161, 186   |
| <b>E</b>                                      |   |
| <code>\empty</code> .....                     | 17, 18  |
| <code>\endcsname</code> .....                 | 14, 21, 50, 66, 76, 111, 151, 155, 158, 160, 161, 186   |
| <code>\endinput</code> .....                  | 29, 109   |
| <code>\endlinechar</code> .....               | 4, 35, 71, 77, 89   |
| <code>\escapechar</code> .....                | 119   |
| <code>\etex@unexpanded</code> .....           | 249, 250  |
| <code>\everyeof</code> .....                  | 120, 121, 125, 215, 228   |
| <b>I</b>                                      |   |
| <code>\ifeof</code> .....                     | 165   |
| <code>\IfFileExists</code> .....              | 183   |
| <code>\ifx</code> .....                       | 15, 18, 21, 50, 58, 61, 111, 122, 136, 155, 158, 160, 173, 186, 211, 224  |
| <code>\immediate</code> .....                 | 23, 52  |
| <code>\input</code> .....                     | 112, 113, 144, 145, 146, 148, 156, 205  |
| <b>L</b>                                      |   |
| <code>\lccode</code> .....                    | 261, 262  |
| <code>\lowercase</code> .....                 | 265   |
| <code>\ltx@ifundefined</code> .....           | 204   |
| <code>\ltx@undefined</code> .....             | 233   |
| <code>\ltx@undefined</code> .....             | 241   |
| <code>\ltx@zero</code> .....                  | 236, 237  |
| <b>M</b>                                      |   |
| <code>\meaning</code> .....                   | 121, 135  |
| <code>\MessageBreak</code> .....              | 125, 148  |
| <b>O</b>                                      |   |
| <code>\openin</code> .....                    | 163   |
| <b>P</b>                                      |   |
| <code>\PackageInfo</code> .....               | 26  |
| <code>\pdf@filesize</code> .....              | 174   |
| <code>\pdfprimitive</code> .....              | 146   |
| <code>\ProvidesPackage</code> .....           | 19, 67  |
| <b>R</b>                                      |   |
| <code>\RequirePackage</code> .....            | 115, 116, 207   |
| <b>S</b>                                      |   |
| <code>\space</code> .....                     | 217   |
| <b>T</b>                                      |   |
| <code>\TestMeaning</code> .....               | 121, 122, 135, 136  |
| <code>\TestString</code> .....                | 120, 122, 134, 136  |
| <code>\the</code> .....                       | 77, 78, 79, 80, 81, 82, 83, 84, 97, 237   |
| <code>\TMP@EnsureCode</code> .....            | 94, 101, 102, 103, 104, 105, 106, 107, 108  |
| <code>\toks</code> .....                      | 236, 237  |
| <b>W</b>                                      |   |
| <code>\write</code> .....                     | 23, 52  |
| <b>X</b>                                      |   |
| <code>\x</code> .....                         | 14, 15, 18, 22, 26, 28, 51, 56, 66, 75, 87  |